AL-KO

QUALITY FOR LIFE

COMPREHENSIVE CATALOGUE TRAILER COMPONENTS

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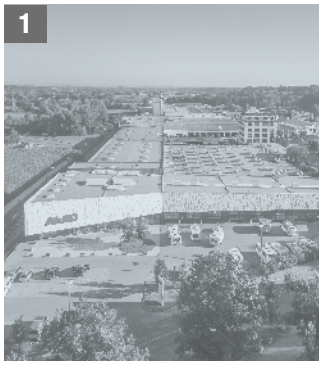

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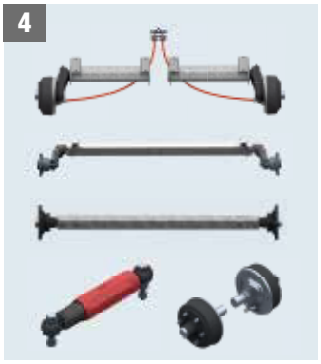

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DIRECTIVES / ORDERING INFORMATION

RESTRICTION OF HAZARDOUS SUBSTANCES DIRECTIVE

The braked axles in this vehicle technology catalogue comply with the Restriction of Hazardous Substances Directive Article 47 (2) number 3 (asbestos-free brake pads).

ECE DIRECTIVE

The overrun devices and wheel brakes comply with ECE R 13 with all supplements.

GERMANY 100 KM/H

All listed vehicle components are designed for at least 100 km/h (see German Vehicle Licensing Regulations StVZO 15th Amendment regulation Article 30a paragraph 2).

EUROPE 140 KM/H

All listed vehicle components are designed for at least 140 km/h.

ORDERING INFORMATION

Please always quote the part number in your orders.

1.) Parts with part numbers printed in red:
Delivery time 2 days

2.) Part numbers printed in black:
Delivery time 10 or 20 days

3.) Please request the delivery time for quantities of more than 10 units.

4.) Subject to technical modifications in response to progress and further development.

Your advantage

Scope of supply

Delivery time in working days

Operation

Technology

Installation

Accessories

Surface treatment

Maintenance-free

Net weight

Minimum purchase quantity in units

Small packaging in units

Large packaging in units

GiBo – pallet cage in units

EWP – one-way pallet in units

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1. SERVICE PACKAGE

SERVICE PACKAGE

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BETTER TOGETHER - PART OF DEXKO

LEADING QUALITY ACROSS THE GLOBE TOGETHER

DexKo Global has customers on all six continents, is regarded as a quality leader among its supplied markets and thanks to intensive research and development work stands for continual improvements and innovations.

With the two subsidiaries Dexter Axle and AL-KO Vehicle Technology boasting decades of experience, the company is on course for an annual turnover of 2 billion US dollars.

OUR BRANDS

Our brands are aligned with AL-KO Vehicle Technology Group's guidelines and values with their work, aspirations and conduct.

HOW WE THINK ABOUT QUALITY

SAFETY. COMFORT. JOY.

Our thoughts and actions centre on what is good for people.

What makes their lives safer and easier or brings them joy.

QUALITY FOR LIFE

OUR DRIVE: HOW WE THINK ABOUT QUALITY

Our drive is to improve people's lives through quality. From our roots in a small village forge to a global corporation, our DNA has always remained the same: Quality for life.

The highest degree of product quality resulting from the pursuit for consistent optimisation, well-founded knowledge and assurance of reliability. Innovations are the product of proven development and our test competence. Continual change drives our solutions. The readiness and competence for change enables us to have solutions for any challenges. In our development centres, we produce market-ready innovations and further developments, thanks to proven development and test competence.

TRAILER COMPONENTS IN THE LIGHT SECTOR

WE CARRY WHAT MATTERS

In the commercial trailer sector we offer premium products such as axles, hitches, overrun devices, cable winches and brakes. The focus is on durability, ergonomics and safety.

AL-KO ACADEMY

In order to provide the best possible service and be able to overcome any situation confidently as a competent contact, permanent further training is the key to our success. In our seminars, we impart a diverse range of specialist knowledge on all aspects of our products.

TECHNOLOGY CENTRE

At AL-KO, research and development are firmly involved in the product creation process from the initial idea right through to production. The result: Innovative solutions that satisfy the most demanding requirements.

AL-KO PRODUCTS IN BASIC, PLUS AND PREMIUM PROFI

ADDRESSING CUSTOMER REQUESTS IN A MORE TARGET-DRIVEN MANNER

"One size fits all" was yesterday.
Every customer in the market has different requirements for their relevant products. A trailer for the hobby area differs accordingly from a trailer in commercial use when it comes to utilisation, loading and function. To give our customers an overview and selection of the desired product as quickly as possible, in future we will break our products down into three categories: BASIC, PLUS and PREMIUM PROFI.

The big advantage of this product differentiation is that our customers can find precisely the product that suits them perfectly and optimally meets their requirements.

The top priority here is our philosophy: Quality for Life. To us, this guiding principle means that we offer high-quality products and services which deliver comfort, safety and joy to our customers – for a lifetime.

BASIC PRODUCT LINE

The **AL-KO BASIC** products are entirely solid and robust. They are characterised by their very good finish quality for the respective application, and are essential in day-to-day trailer use, as they fulfil the basic needs of the trailer users.
We ensure that these Basic variants also meet the high AL-KO quality standards and exceed the minimum statutory requirements.

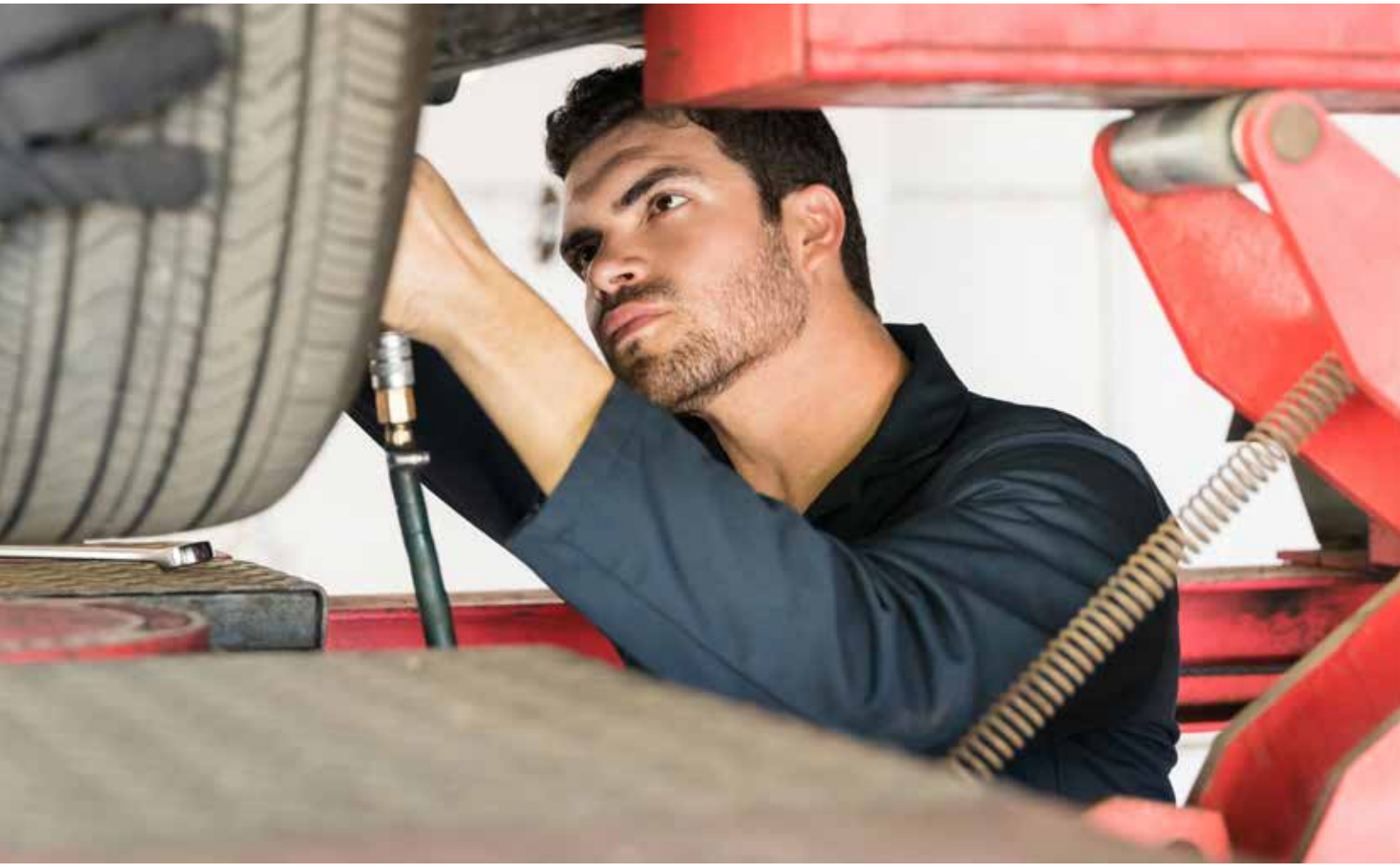
PLUS PRODUCT LINE

The products from the **AL-KO PLUS** category impress with their high finish quality, reliability, high-quality materials and longevity. Their high stability and clever technical details meet the increased demands of day-to-day work with trailers. All products have extended functions and are nevertheless user-friendly and have an attractive design.

PREMIUM PROFI PRODUCT LINE

The **PREMIUM PROFI** products from **AL-KO** are characterised by their trail-blazing design, ingenious functions and top quality. They are innovative and traditional products for the highest demands and challenging areas of application. They are the gold standard in terms of processing, material and design. Their longevity ensures that you will have many years of joy with these products.

OUR PROMISE: TOP SERVICE



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We offer all of our customers **exceptional production quality, solutions and services**, which are specially tailored to their requirements. In doing so, we are always competent, committed and approachable.

The **international marketing** of our products and services demands continuous contacts. Continuous presence on the ground is ensured by our **global network of branches**, with which we combine our strengths and exploit synergy effects.

Customers and suppliers can find **direct contacts,** reliable **AL-KO quality** and comprehensive, **expert service** here!

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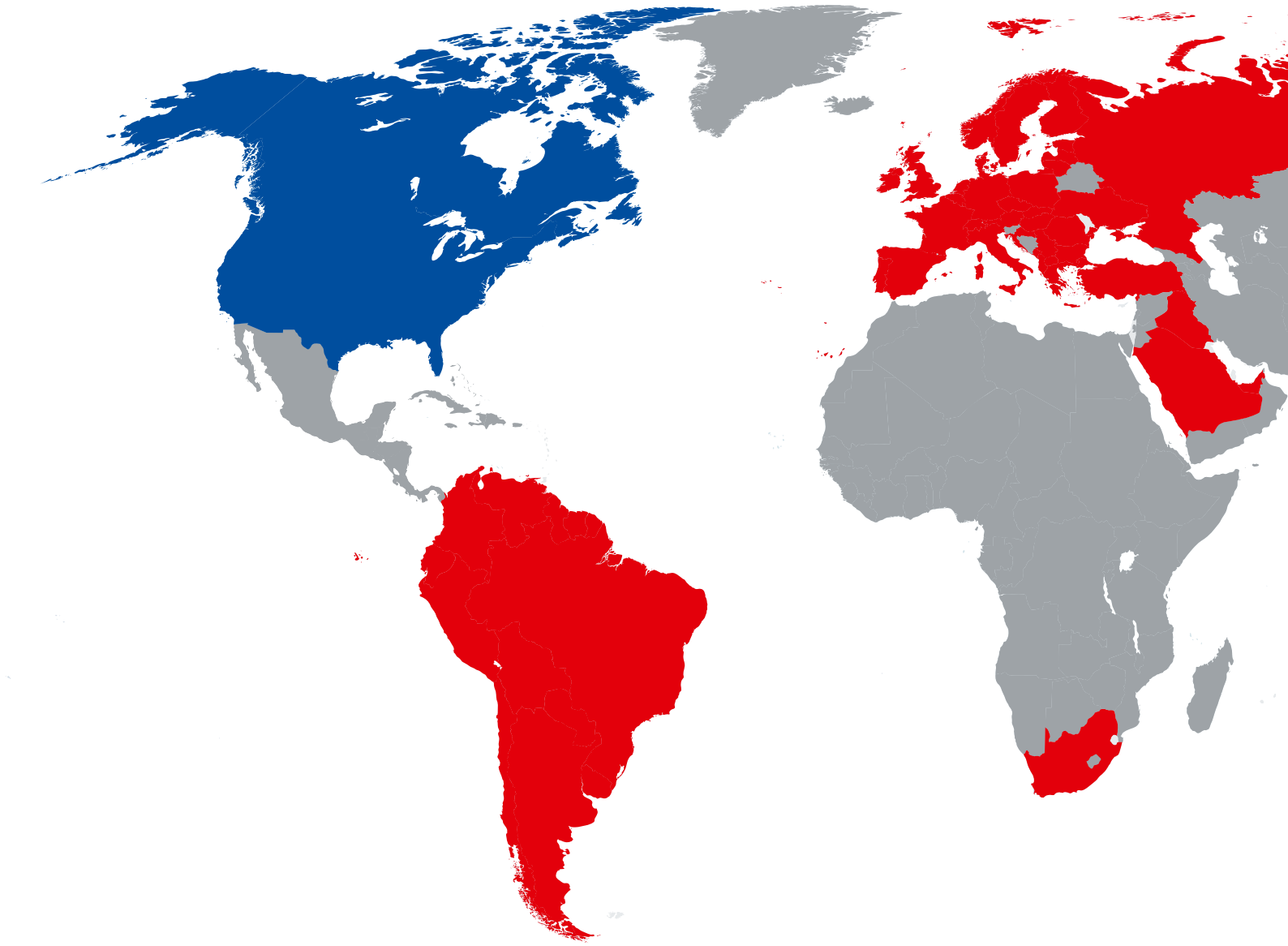
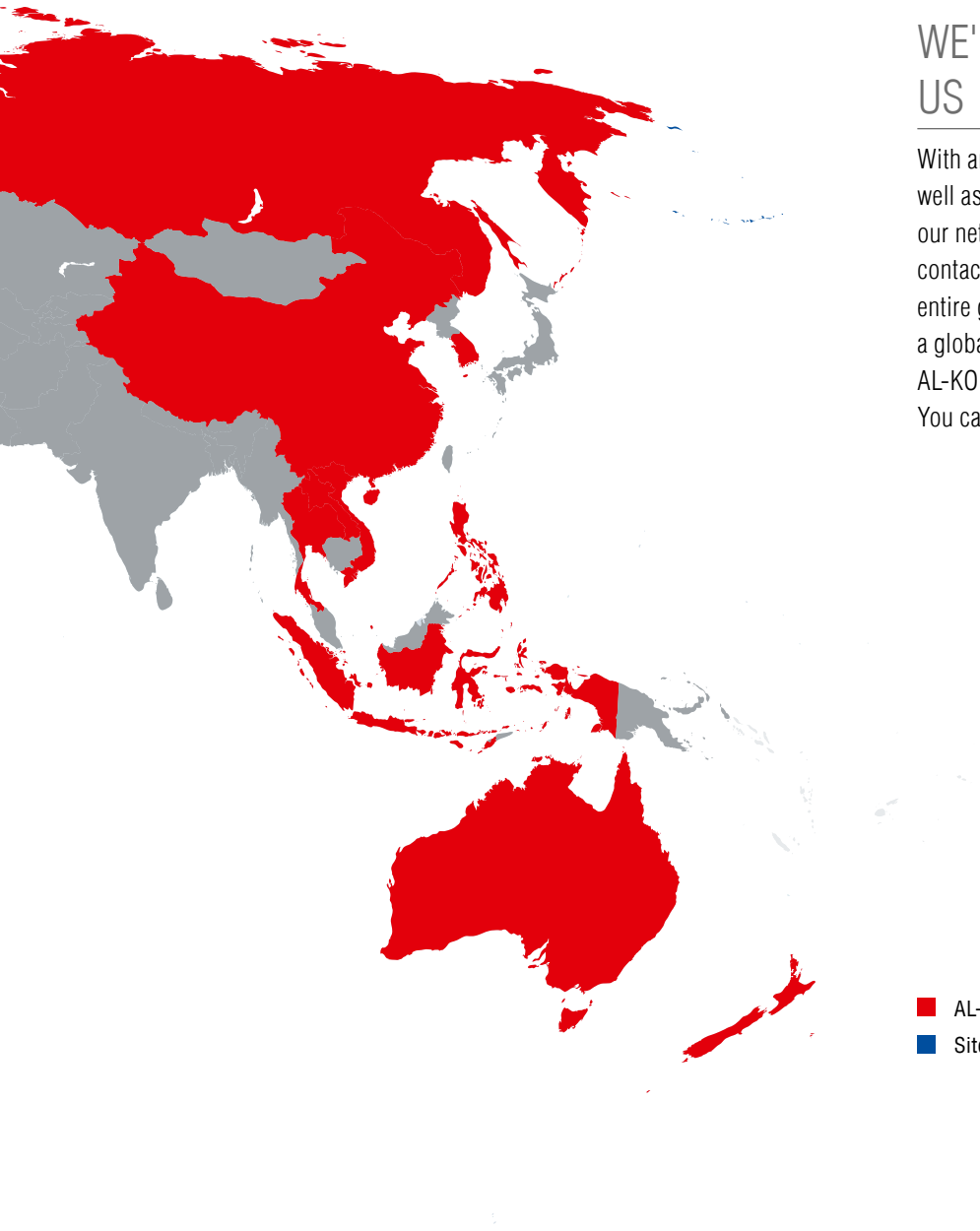
IN GOOD HANDS – WORLDWIDE





WE'RE RIGHT WHERE YOU NEED US

With around 30 production sites and sales offices as well as roughly 1,000 service stations around the world, our network guarantees constant presence and personal contact. Our sophisticated logistics network around the entire globe optimises our flow of goods and guarantees a global 'just-in-time' presence.
AL-KO quality and service are assured everywhere.
You can count on that!

- AL-KO sites and sales partners
- Sites of the Dexter Axle Company

AL-KO LOGISTICAL COMPETENCE

FOCUS IS ON THE CUSTOMER

At AL-KO, we not only attach great value to the top quality of our products, we also focus on the customer. Service quality and a smooth and efficient delivery process are vital so that each customer order is completed quickly and reliably. More than ever before in this age of globalisation.

As an internationally operating company, we know what we are talking about. Effectiveness and logistical competence are required from order processing, production and procurement up to and including distribution.

PROCESS-OPTIMISED, INTEGRATIVE ORDER PROCESSING SCM

(Supply chain management)

Not only close cooperation with our customers is an important concern to us. As a globally operating customer, we focus on efficiency and customer orientation. Process-optimised, integrative order processing (supply chain management) means the optimisation of procedures and the integration of important business processes along the supply chain. The synergy effects that result within the company and also within the individual supply chain companies ensure not only the commercial success, but also the joint success, of all involved business partners.

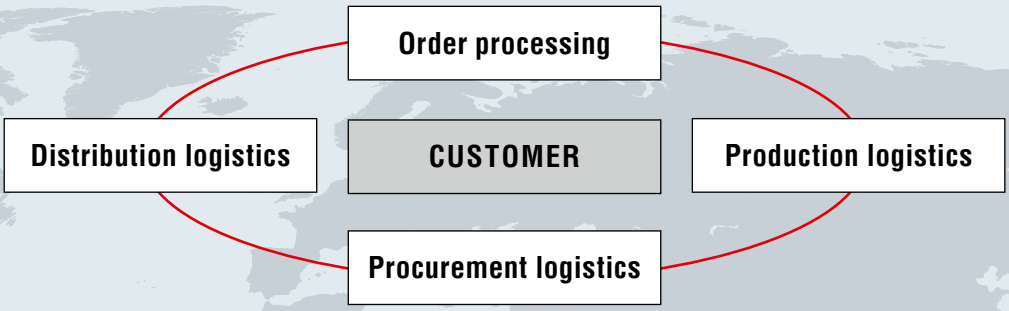
CLOSE COOPERATION BETWEEN AL-KO AND THE CUSTOMER

Our primary concern is close cooperation between AL-KO and our customers, because only this enables the effective and satisfactory implementation of individual projects. Together with our customers, we plan individual cooperation models, in the B2B/EDI sector, for instance, or offer process audits or tailored support in process design.

Because we believe that close and partnership-based cooperation is the foundation for a trusting business relationship.

RELIABLE CUSTOMER PLANNING CAPABILITY

Effective supply chain management enables our customers to plan precisely. Vendor-managed inventory (VMI), process reliability and our AL-KO timeline: we always guarantee reliable delivery. The use of customer forecast data also enables the optimum definition of stocking levels; short lead times optimise the supply process - you can always rely on high delivery performance, flexibility and responsiveness from us.



- Close cooperation between AL-KO and the customer
- Process-optimised, integrative order processing SCM
- High delivery performance, flexibility and responsiveness
- Consideration of special customer wishes
- Customer-oriented solutions and concepts
- High level of service and expertise

CONSIDERATION OF SPECIAL CUSTOMER WISHES

Whether just-in-time delivery (JIT), labelling or special packaging, we are happy to take account of your special customer wishes. Do you have a special requirement situation? No problem. Together with you, we will work out tailored solutions and individual concepts that optimally meet your requirement profile. Talk to us.

AL-KO TECHNICAL DEVELOPMENT TESTING

In close coordination and collaboration with the state-of-the-art testing department, our engineers at the new technology centre push individual components, assemblies and even finished products to the limit every day. We are proud of our customised, state-of-the-art testing facilities that enable the most stringent endurance and wear tests under real operating conditions. In our market environment, they offer unique opportunities for the testing of individual components and entire vehicles. Only what is assessed as flawless finally receives our "Quality for Life" award!

TEST EQUIPMENT

- Roller and brake dynamometer
- Vibration platform
- Servo-hydraulic test rig
- Measurement trailer
- Salt spray chamber (environmental simulation)
- Various component test rigs for validating the AL-KO portfolio
- Prototype/sample construction
- 3 post-type hydraulic ramps
- 2 concertina-type hydraulic ramps
- State-of-the-art measurement technology
- …

Roller dynamometer

Brake dynamometer

TRAILER / CARAVAN SECTOR:

Test trailer construction
- Caravan
- Commercial

Customer test – e.g.
- Endurance test
- Special test (e.g. driving stability at 140 km/h)
- Professional test (e.g. for CCC)

Vehicle measurement
- Pendulum test up to 2.0 t
- Trailer stiffness (bending)

Trailer component test
- Durability and operating stability
- Active safety (Vcrit caravan, ATC, etc.)
- MAMMUT manoeuvring system
- Brake performance
- Homologation test
- etc.

Sample construction
- Trade fair samples (e.g. for CSD coil spring axle, etc.)
- Test samples for customer tests
- Test trailer
- etc.

MOTORHOME / SPECIAL VEHICLE SECTOR

Test vehicle construction
- Motorhome
- Light commercial vehicles / special vehicles

Customer test – e.g.
- Endurance test
- Special test (e.g. driving response, etc.)
- Professional test (e.g. for RMI)

Vehicle measurements
- Centre of gravity position
- Torsional stiffness
- Bending resistance

Motor chassis testing
- Durability and operating stability
- Active safety →AL-KO ESP Certificate of Compliance
- Ride & Handling → Chassis tuning
- Brake performance
- Homologation test
- etc.

Prototyping
- Trade fair samples (e.g. all-wheel drive demonstrator, etc.)
- Test vehicles for customers
- etc.

SERVO-HYDRAULIC TEST RIG

Execution of ECE R55 test for towbar connection parts such as
- Hitches
- Drawbars

Component and system tests
- Swing arm
- 13" twist-beam axle
- Safety belt system
- ISOFIX

Customer tests
- Floor bracket system
- Fitting systems
- Sandwich material test
- etc.

- Latest control/regulation system technology
- Video monitored tests
- 24 h – 7 days a week – 352 days a year

AL-KO TECHNICAL DEVELOPMENT VARIANT CONSTRUCTION

At our technology centre, our design engineers develop components and complex assemblies up to production maturity, and implement your individual customer wishes.

RANGE OF TASKS

1. Variant construction
Construction + design of caravan chassis, product variant creation, installation space analysis, low-loaders + high-loaders, attachment/body advice

2. Aftersales
Technical advice on retrofitting chassis components and accessories, homologation advice for the AL-KO product range

3. Service
Provision of brake calculations and type reports for our customers, technical sales, service and product management support

PRODUCT RANGE

AS DIVERSE AS OUR CUSTOMERS – VARIABLE AND FLEXIBLE FOR ALL APPLICATIONS

Chassis dimensioning
- Length, width, height
- Perm. gross weight

Cable routing
- Bowden cables
- Handbrake cable

Manoeuvring and positioning systems
- MAMMUT/RANGER
- Jockey wheels
- Steadies (manual, electric)
- Wheel chocks

Safety systems
- AL-KO Trailer Control (ATC)
- Anti-snaking hitch (AKS)
- Theft protection (safety)

Axles / axle bracket
- Weight
- BC and OHF
- Variable swing arm position (driving comfort)
- Lowering function
- Braked
- Unbraked

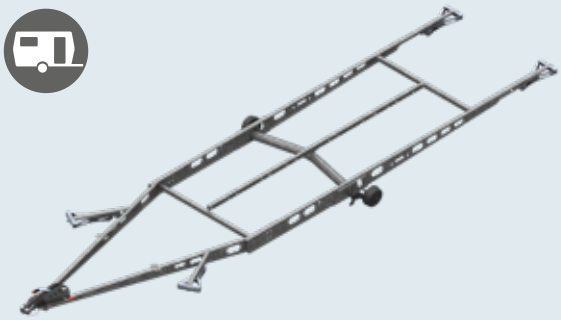
Towbar connection
- Drawbar (rigid, removable, height-adjustable)
- Overrun devices
- Hitches

Chassis tuning
- Suspension
- Shock absorber systems

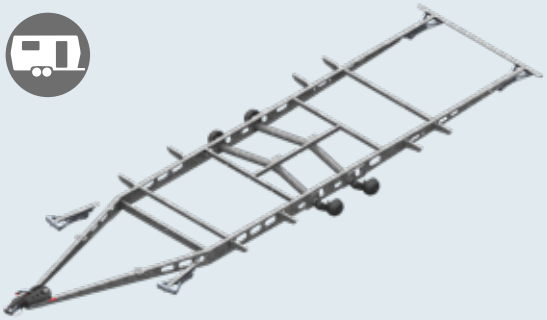
LEISURE TRAILER SECTOR

Caravan chassis

- Single axle



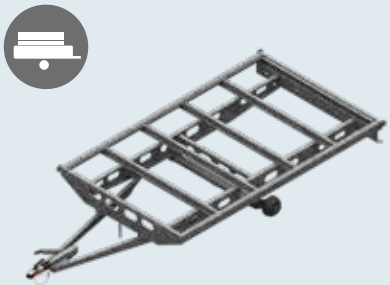
- Tandem axle



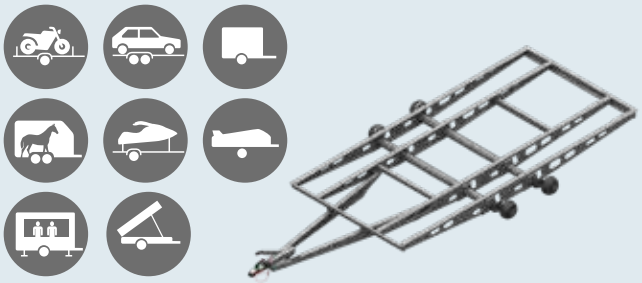
COMMERCIAL TRAILER SECTOR

A-frame chassis

- High-loader

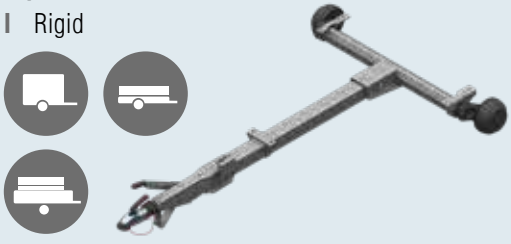


- Low-loader

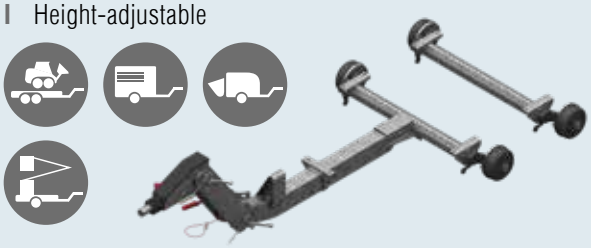


T-pole chassis

- Rigid



- Height-adjustable



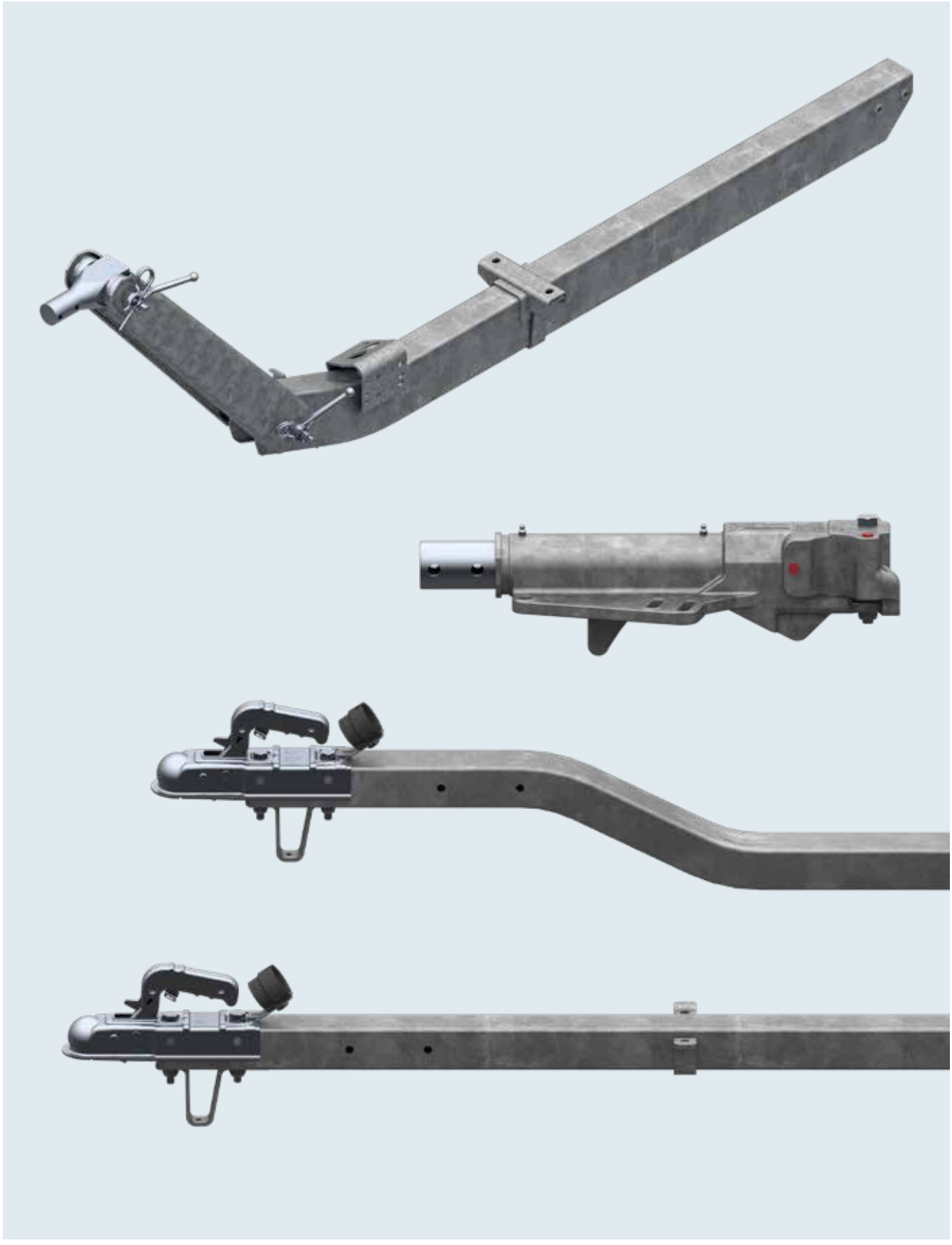
Individual components

- Lowering axles

- Standard axles

- Axles with pneumatic brakes

2. DRAWBARS / TOWBAR CONNECTIONS



DRAWBARS / TOWBAR CONNECTIONS

Drawbars square tube

straight up to 750 kg 26

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DRAWBARS SQUARE TUBE

straight up to 750 kg

TECHNOLOGY

Type R4 - vers. A1

GA max. 750 kg
Perm. nose load 75 kg
Coupling head type AK 7

ECE type approval no.:
E1 55R-01 0388

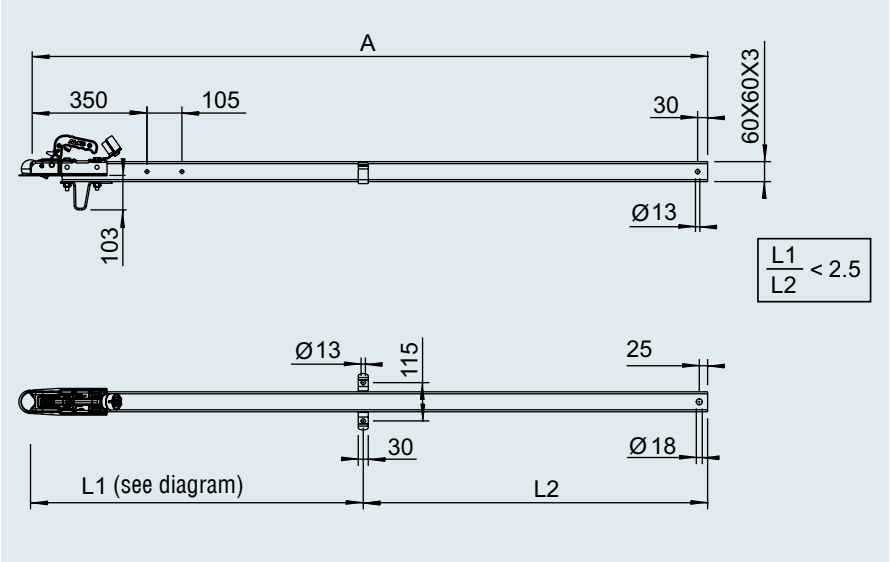
YOUR ADVANTAGE

- Standard safety indicator
- Clamp for jockey wheel, can be retrofitted

SCOPE OF SUPPLY

See drawing, inclusive

- Skid bracket 203 037
- Clamping bracket 589 087
- Plug holder 218 260 00 04



SURFACE TREATMENT

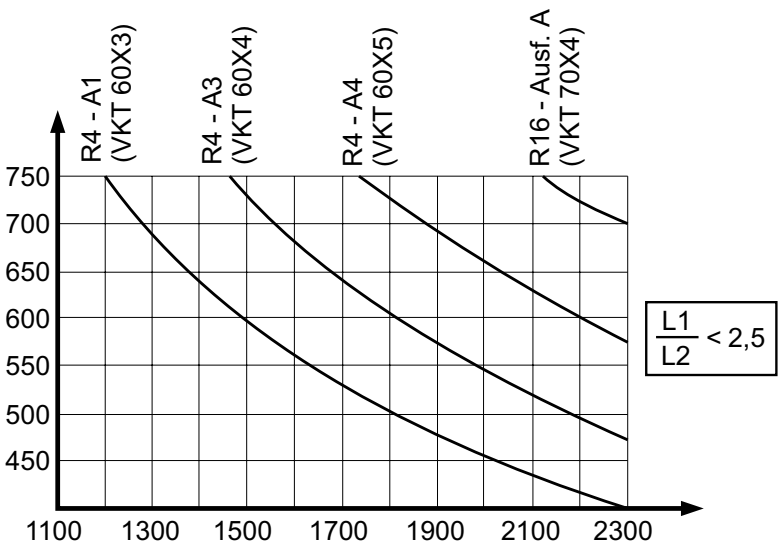
- Hot-dip galvanised

Vers. R4 - A1: square tube 60 x 60 x 3 ST 52-3
Vers. R4 - A3: Square tube 60 x 60 x 4 ST 52-3
Vers. R4 - A4: Square tube 60 x 60 x 5 ST 52-3
R16 - vers. A: Square tube 70 x 70 x 4 ST 52-3

SAP: ZUGVERBNDG VKT R4/A1

Version A1

Part No.	Dimension A in mm				
20035001	1,395	8.02	–	50	10
247960	1,555	8.89	–	50	10
20035002	1,715	9.76	–	50	10
20035003	1,875	10.63	–	50	10
247961	2,035	11.50	–	50	2
20035004	2,195	12.37	–	50	10
20035005	2,355	13.24	–	50	10
249096	2,515	14.00	–	50	2
20035006	2,675	14.87	–	50	10
20035007	2,835	15.74	–	50	10
247962	2,995	16.61	–	50	10



DRAWBARS SQUARE TUBE

cranked up to 750 kg

TECHNOLOGY

Type K4 - vers. A1

GA max. 750 kg
Perm. nose load 75 kg
Coupling head type AK 7

ECE type approval no.:
E1 55R-01 0914

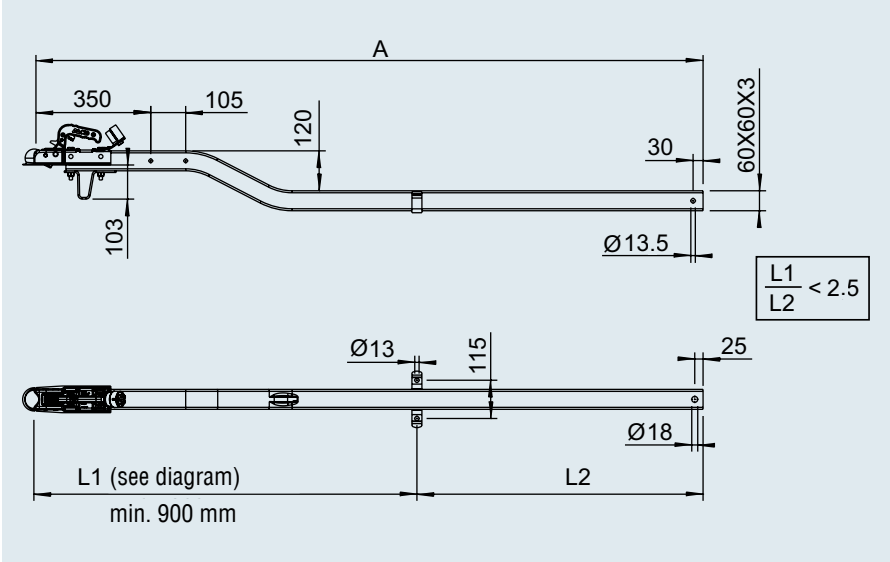
YOUR ADVANTAGE

- Standard safety indicator
- Clamp for jockey wheel, can be retrofitted

SCOPE OF SUPPLY

See drawing, inclusive

- Skid bracket 203 037
- Clamping bracket 589 087
- Plug holder 218 260 00 04



SURFACE TREATMENT

- Hot-dip galvanised

Vers. K4 - A1: Square tube 60 x 60 x 3 ST 52-3

On request:

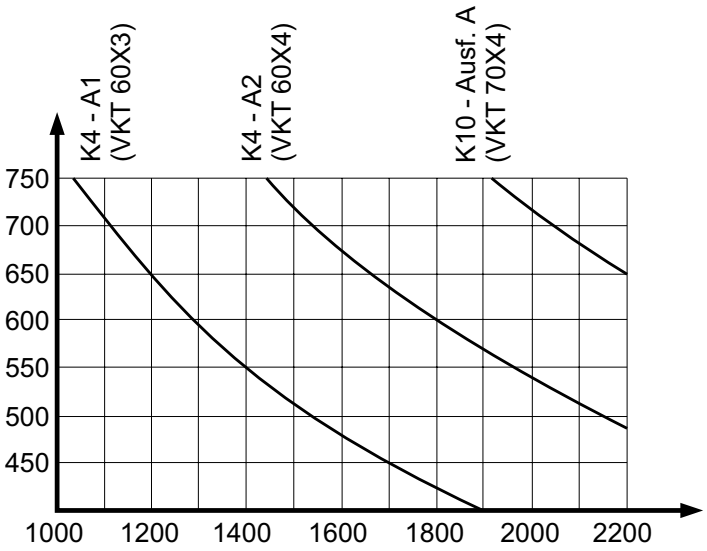
Vers. K4 - A2: Square tube 60 x 60 x 4 ST 52-3

K1 0 - vers. A: Square tube 70 x 70 x 4 ST 52-3

SAP: ZUGVERBNDG VKT K4/A1

Version A1

Part No.	Dimension A in mm				
20035101	1,370	8.02	–	50	10
20035102	1,530	8.89	–	50	10
20035103	1,690	9.76	–	50	10
20035104	1,850	10.63	–	50	10
1211300	2,010	11.50	–	50	10
20035105	2,170	12.37	–	50	10
20035106	2,330	13.24	–	50	10
20035107	2,490	14.00	–	50	10
20035108	2,650	14.87	–	50	10
20035109	2,810	15.74	–	50	10
20035110	2,970	16.61	–	50	10



HEIGHT-ADJUSTABLE TOWBAR CONNECTION

PROFESSIONALS RELY ON QUALITY FOR LIFE FROM AL-KO

Commercial operators make high demands on man and machine. Unproductive time costs money. This is why machines and trailers have to operate round the clock. Manufacturers rely on the experience and expertise of AL-KO, the leading supplier of chassis for trailers up to 3,500 kg permitted gross weight.

The height-adjustable drawbar installation can be easily hitched to any car or truck. The quick-change system for different hitches and eyes is available for almost all European country versions.

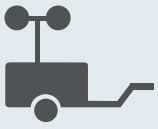
Type	Intermediate piece Length mm	With tyre size	For axle type	Swing arm length mm	Hitching heights "guidance values" mm min.	Max. at angle of 0°	Max. at angle of +3°
75 VU	750	155 R 13	UBR 700	145	165	870	1,000
70.1 VO	750	155 R 13	UBR 700	145	234	939	1,070
102 VB	750	175 R 13	UBR 1200	161.5	255	960	1,090
162 VB	750	215/70 R 14	UBR 1800	175	307	1,012	1,140
353 VB	750	185 R 14 C	BL 1800	175	140	845	975
501 VB	750	215/75 R 17.5	BL 2700	200	185	890	1,017
751 VB	600	215/75 R 17.5	BL 3000	175	70	775	905

ATTENTION!

All values have been determined in loaded condition at nominal load. Permissible deviation in hitching heights according to the Professional Association of Vehicle Operators in Germany less than 3° horizontally.

SAMPLE APPLICATIONS

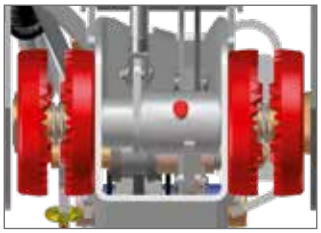
Light tower, generator, compressor, high-pressure cleaner, mortar pumps, mini diggers and lifting platforms

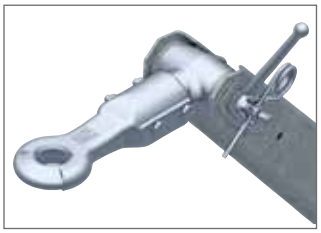


Product line	PREMIUM PROFI
Product name	**Height-adjustable towbar connection**
Suitable for trailers with mobile equipment (so there is no danger of overloading)	Yes
Suitable for professionally used transport trailers (Danger of overloading)	Yes
Max. permitted gross weights	750 kg, 1,100 kg, 1,600 kg, 3,500 kg, 5,000 kg, 6,500 kg
Surface treatment	Hot-dip galvanised, chrome VI-free
Mounting of the drawbar eyes	External mounting – the eyes can be pushed onto the pull bar from the front
Drawbar section	Stable rectangular section with welded-in toothed washers
Number of tooth profiles on the upper and lower adjusting point (areas exposed to high load)	2 pairs (toothed washers) = reinforced version
Hitching far below the loading platform (truck according to standard)	Possible
Park/transport position of the overrun device at 90°	Possible
Height adjustment by 1 person	Not possible
Time requirement for adjusting	Guide value approx. 2 minutes
Time required for changing the hitch components	Guide value approx. 2 minutes
Minimum hitch height	See table
Maximum hitch height	See table

Adjustment range top

Adjustment range bottom





reinforced by two pairs of toothed lock washers

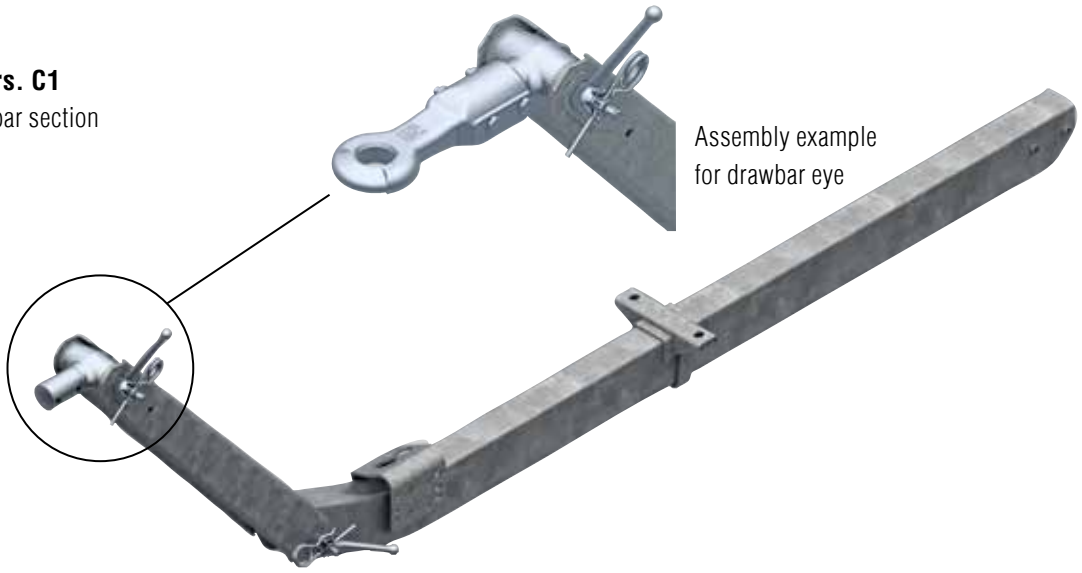
HEIGHT-ADJUSTABLE TOWBAR CONNECTION

with drawbar section up to 750 kg

TECHNOLOGY
Drawbar type 70.1 VO vers. C1
Intermediate piece with drawbar section
Permitted nose load 100 kg

ECE type approval no.:
E1 55R-01 1135

Scope of supply:
without drawbar eye,
with tooth head adapter



Assembly example
for drawbar eye

SAP: ZUGV ZSHB 70.1VO M DEICHSELPR

Drawbar cpl. with drawbar section mounted (without hitch components)

Part No.	Drawbar length E in mm	Total length K (at 0°) mm with DIN drawbar eye D40				
20057401	930	1,939	31.6	9	–	10
20057402	1,010	2,019	32.5	9	–	10
20057403	1,090	2,099	33.4	9	–	10
20057404	1,170	2,179	34.3	9	–	10
20057405	1,250	2,259	35.2	9	–	10
20057406	1,330	2,339	36.1	9	–	10
20057407	1,410	2,419	37	9	–	10
20057408	1,490	2,499	37.9	9	–	10
20057409	1,570	2,579	38.8	9	–	10
20057410	1,650	2,659	39.7	9	–	10
20057411	1,730	2,739	40.6	9	–	10
20057412	1,810	2,819	41.5	9	–	10
20057413	1,890	2,899	42.4	9	–	10
20057414	1,970	2,979	43.3	9	–	10
20057415	2,050	3,059	44.2	9	–	10
20057416	2,130	3,139	45.1	9	–	10
20057417	2,210	3,219	46	9	–	10
20057418	2,290	3,299	46.9	9	–	10
20057419	2,370	3,379	47.8	9	–	10
20057420	2,450	3,459	48.7	9	–	10
20057421	2,530	3,539	49.6	9	–	10
20057422	2,610	3,619	50.5	9	–	10
20057423	2,690	3,699	51.4	9	–	10
20057424	2,770	3,779	52.3	9	–	10
20057425	2,850	3,859	53.2	9	–	10

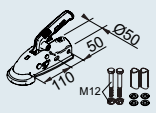
Drawbar cpl. with drawbar section mounted (without hitch components), special variant with parking brake mounted

20057426	1,970	2,979	45.3	9	–	10

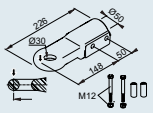
Push-on hitch components: Drawbar eye connection D50 / 70.1 VO

Refer to chapter 6 for drawbar eye illustrations and descriptions

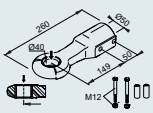
Hitch
AK 161 - Ø 50
Part No.
1730808



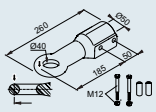
Drawbar eye
England E30/A
Part No.
1224106



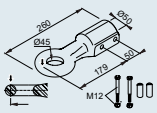
Drawbar eye
DIN D40/F
Part No.
1213350



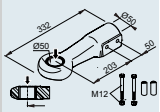
Drawbar eye
England E40/A
Part No.
1224107



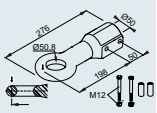
Drawbar eye
Italy I45/F
Part No.
1224108



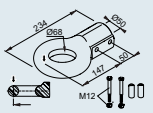
Drawbar eye
DIN D50
Part No.
1730612



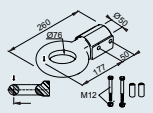
Drawbar eye
England E50/A
Part No.
1224109



Drawbar eye
France F68/E
Part No.
1224110



Drawbar eye
NATO N76/E
Part No.
1224111

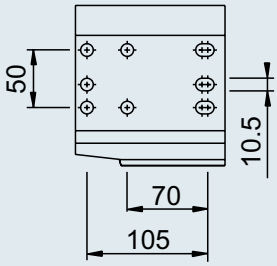


ATTENTION!

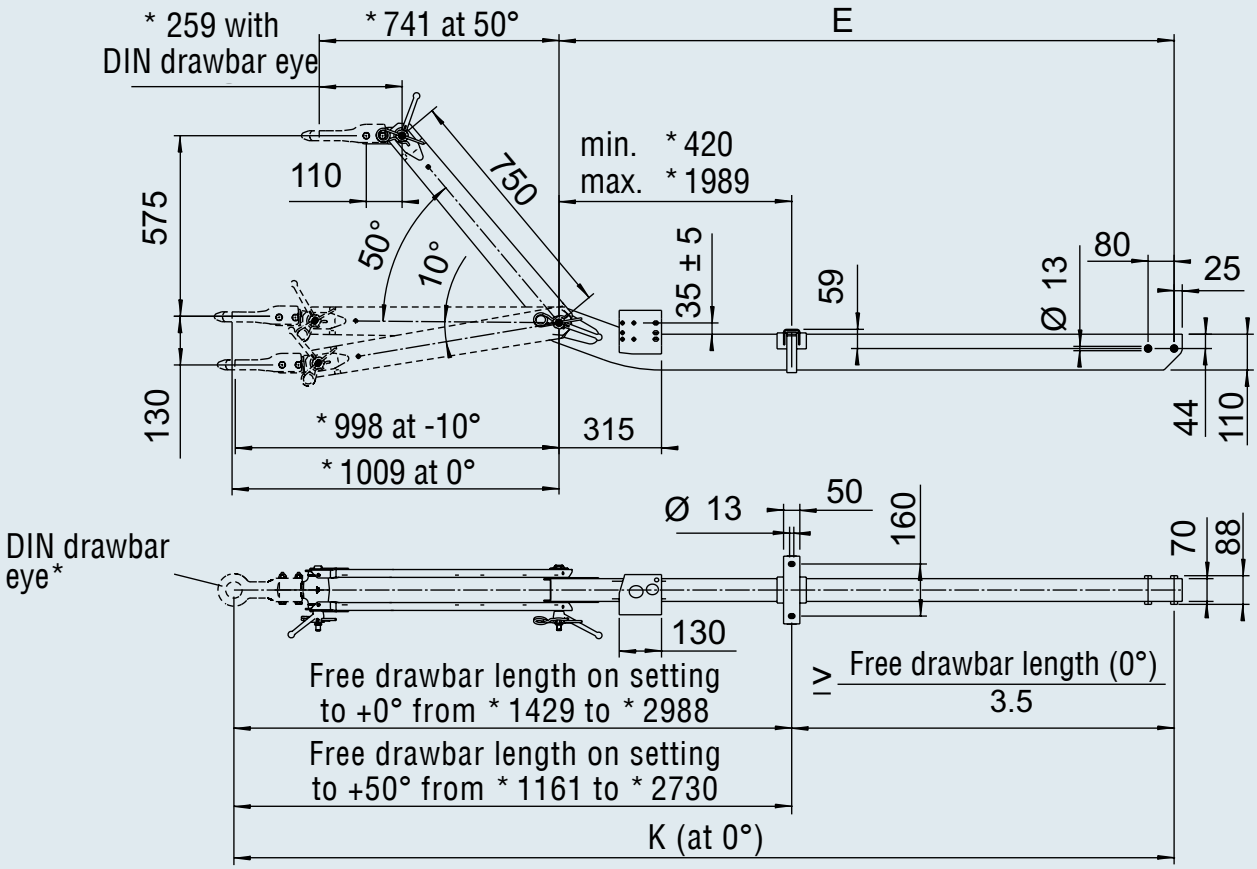
The hitch components and drawbar eyes have multiple uses. With this unbraked drawbar, the spacer sleeves included in the scope of delivery can be disregarded during assembly.

SURFACE TREATMENT

- Hot-dip galvanised
- Hitches, eyes and small parts galvanised



Jockey wheel flange



* = DIN drawbar eye (the dimensions must be recalculated for other hitch components)

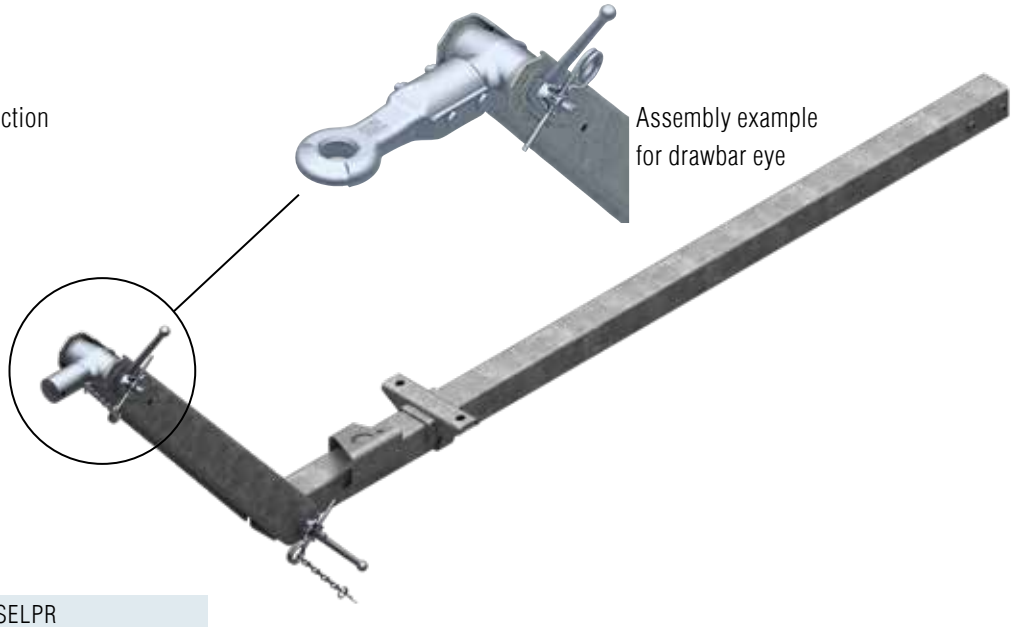
HEIGHT-ADJUSTABLE TOWBAR CONNECTION

with drawbar section up to 750 kg

TECHNOLOGY
Drawbar type 75 VU vers. A 1
Intermediate piece with drawbar section
Permitted nose load 100 kg

ECE type approval no.:
E1 55R-01 0266

Scope of supply:
without drawbar eye,
with tooth head adapter



Assembly example
for drawbar eye

SAP: ZUGV ZSHB 75VU M DEICHSELPR

Drawbar cpl. with drawbar section mounted (without hitch components)

Part No.	Drawbar length E in mm	Total length K (at 0°) mm with DIN drawbar eye D40				
20057501	920	1,929	19.9	9	–	10
20057502	1,000	2,009	20.6	9	–	10
20057503	1,080	2,089	21.3	9	–	10
20057504	1,160	2,169	22	9	–	10
20057505	1,240	2,249	22.6	9	–	10
20057506	1,320	2,329	23.3	9	–	10
20057507	1,400	2,409	24.0	9	–	10
20057508	1,480	2,489	24.7	9	–	10
20057509	1,560	2,569	25.4	9	–	10
20057510	1,640	2,649	26.1	9	–	10
20057511	1,720	2,729	26.7	9	–	10
20057512	1,800	2,809	27.4	9	–	10
20057513	1,880	2,889	28.1	9	–	10
20057514	1,960	2,969	28.8	9	–	10
20057515	2,040	3,049	29.5	9	–	10
20057516	2,120	3,129	30.1	9	–	10
20057517	2,200	3,209	30.8	9	–	10
20057518	2,280	3,289	31.5	9	–	10
20057519	2,360	3,369	32.2	9	–	10
20057520	2,440	3,449	32.9	9	–	10
20057521	2,520	3,529	33.6	9	–	10
20057522	2,600	3,609	34.2	9	–	10
20057523	2,680	3,689	34.9	9	–	10
20057524	2,760	3,769	35.6	9	–	10
20057525	2,840	3,849	36.3	9	–	10

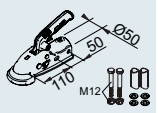
Drawbar cpl. with drawbar section mounted (without hitch components), special variant with parking brake mounted

20057526	1,960	2,969	30.8	9	–	10

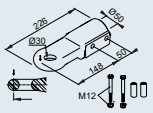
Push-on hitch components: Drawbar eye connection D50 / 75 VU

Refer to chapter 6 for drawbar eye illustrations and descriptions

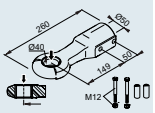
Hitch AK 161 - Ø 50
Part No. 1730808



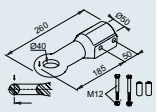
Drawbar eye England E30/A
Part No. 1224106



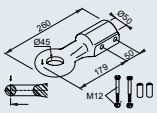
Drawbar eye DIN D40/F
Part No. 1213350



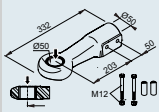
Drawbar eye England E40/A
Part No. 1224107



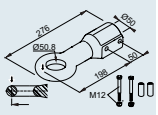
Drawbar eye Italy I45/F
Part No. 1224108



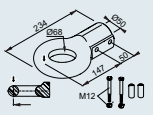
Drawbar eye DIN D50
Part No. 1730612



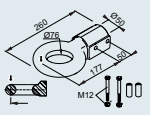
Drawbar eye England E50/A
Part No. 1224109



Drawbar eye France F68/E
Part No. 1224110



Drawbar eye NATO N76/E
Part No. 1224111

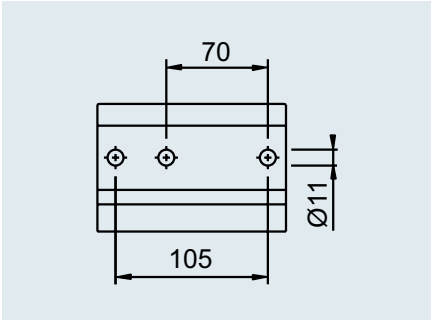


ATTENTION!

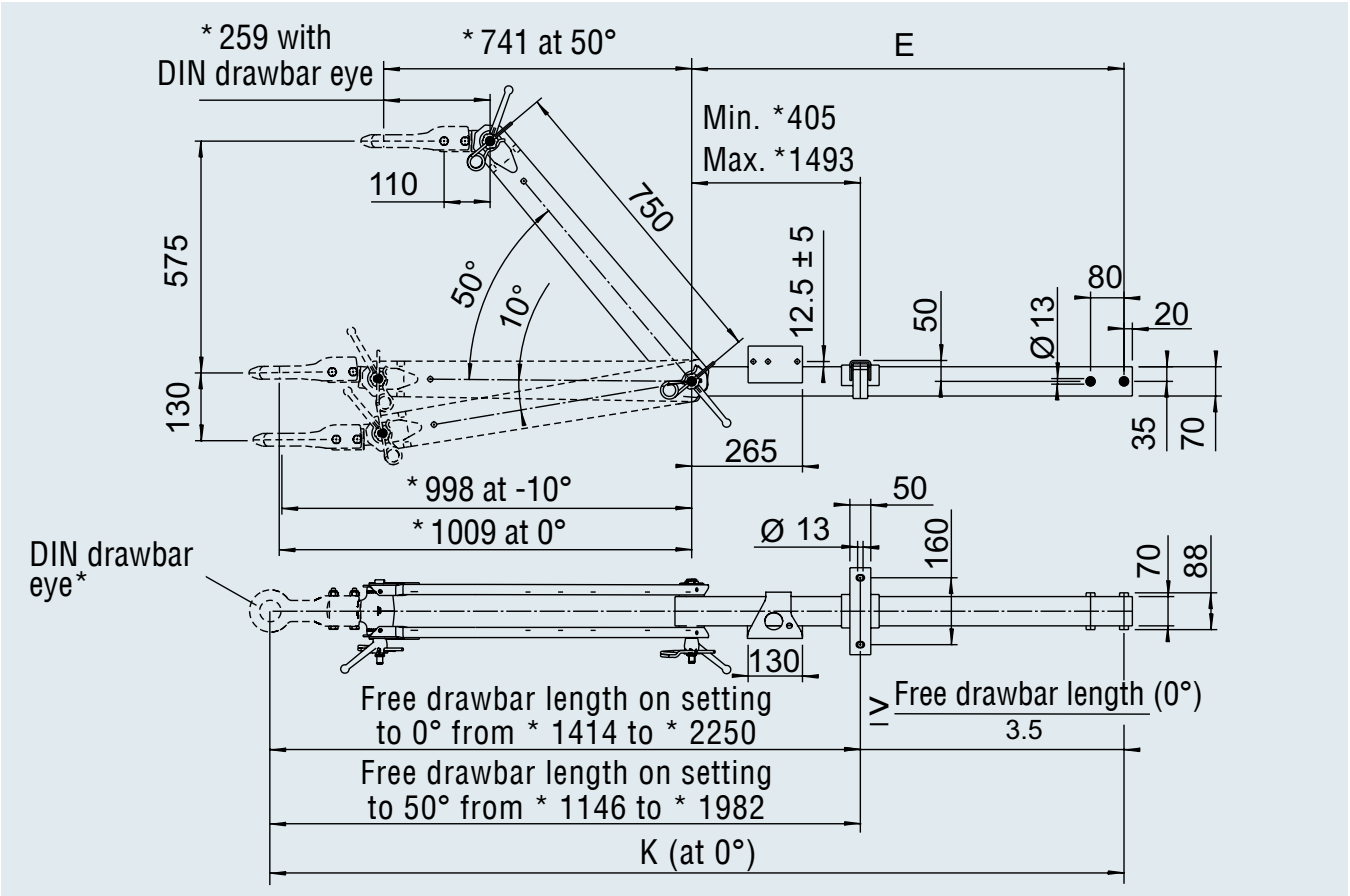
The hitch components and drawbar eyes have multiple uses. With this unbraked drawbar, the spacer sleeves included in the scope of delivery can be disregarded during assembly.

SURFACE TREATMENT

- Hot-dip galvanised
- Hitches, eyes and small parts galvanised



Jockey wheel flange



* = DIN drawbar eye (the dimensions must be recalculated for other hitch components)

HEIGHT-ADJUSTABLE TOWBAR CONNECTION

with drawbar section up to 1,100 kg

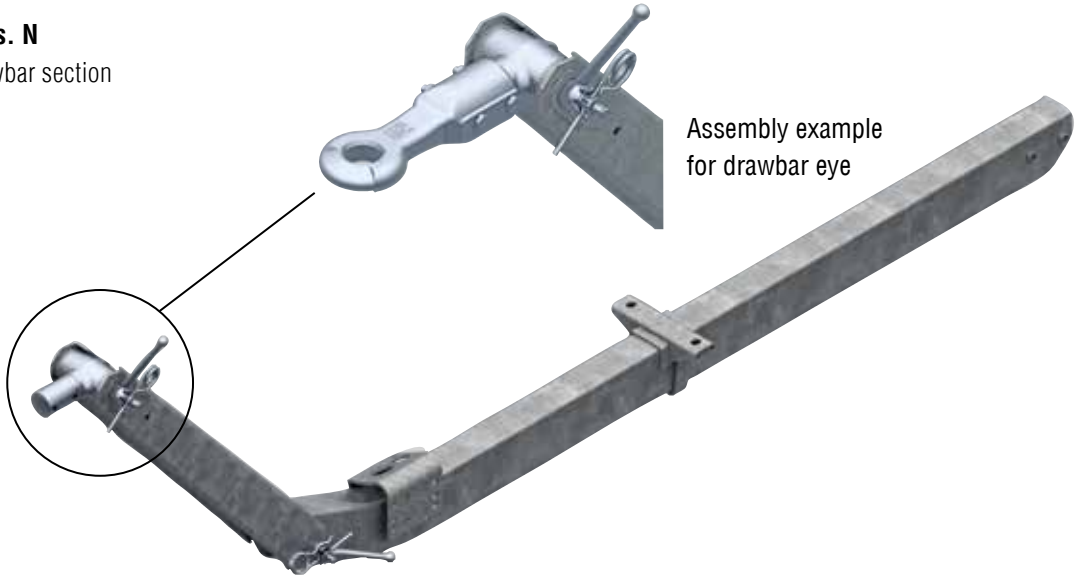
TECHNOLOGY

Drawbar type 102 VB vers. N

Intermediate piece with drawbar section
Permitted nose load 100 kg

ECE type approval no.:
E1 55R-01 0211

Scope of supply:
without drawbar eye,
with tooth head adapter



SAP: ZUGV ZSHB 102VB M DEICHSELPR

Drawbar cpl. with drawbar section mounted (without hitch components)

Part No.	Drawbar length E in mm	Total length K (at 0°) mm with DIN drawbar eye D40				
20057601	1,010	2,019	34.8	9	–	10
20057602	1,090	2,099	35.6	9	–	10
20057603	1,170	2,179	36.4	9	–	10
20057604	1,250	2,259	37.2	9	–	10
20057605	1,330	2,339	38.1	9	–	10
20057606	1,410	2,419	38.9	9	–	10
20057607	1,490	2,499	39.7	9	–	10
20057608	1,570	2,579	40.5	9	–	10
20057609	1,650	2,659	41.3	9	–	10
20057610	1,730	2,739	42.1	9	–	10
20057611	1,810	2,819	42.9	9	–	10
20057612	1,890	2,899	43.7	9	–	10
20057613	1,970	2,979	44.5	9	–	10
20057614	2,050	3,059	45.3	9	–	10
20057615	2,130	3,139	46.1	9	–	10
20057616	2,210	3,219	46.9	9	–	10
20057617	2,290	3,299	47.7	9	–	10
20057618	2,370	3,379	48.5	9	–	10
20057619	2,450	3,459	49.3	9	–	10
20057620	2,530	3,539	50.2	9	–	10
20057621	2,610	3,619	51	9	–	10
20057622	2,690	3,699	51.8	9	–	10
20057623	2,770	3,779	52.6	9	–	10
20057624	2,850	3,859	53.4	9	–	10

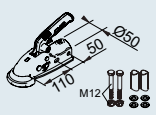
Drawbar cpl. with drawbar section mounted (without hitch components), special variant with parking brake mounted

20057626	1,970	2,979	46.5	9	–	10

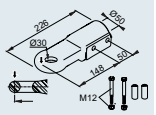
Push-on hitch components: Drawbar eye connection D50 / 102 VB

Refer to chapter 6 for drawbar eye illustrations and descriptions

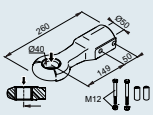
Hitch
AK 161 - Ø 50
Part No.
1730808



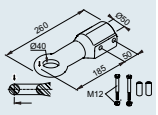
Drawbar eye
England E30/A
Part No.
1224106



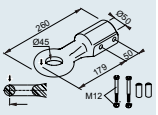
Drawbar eye
DIN D40/F
Part No.
1213350



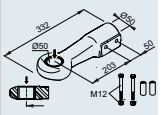
Drawbar eye
England E40/A
Part No.
1224107



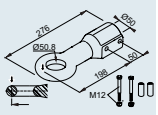
Drawbar eye
Italy I45/F
Part No.
1224108



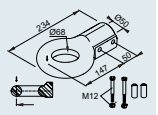
Drawbar eye
DIN D50
Part No.
1730612



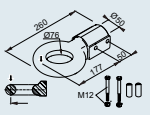
Drawbar eye
England E50/A
Part No.
1224109



Drawbar eye
France F68/E
Part No.
1224110



Drawbar eye
NATO N76/E
Part No.
1224111



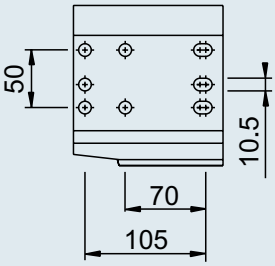
ATTENTION!

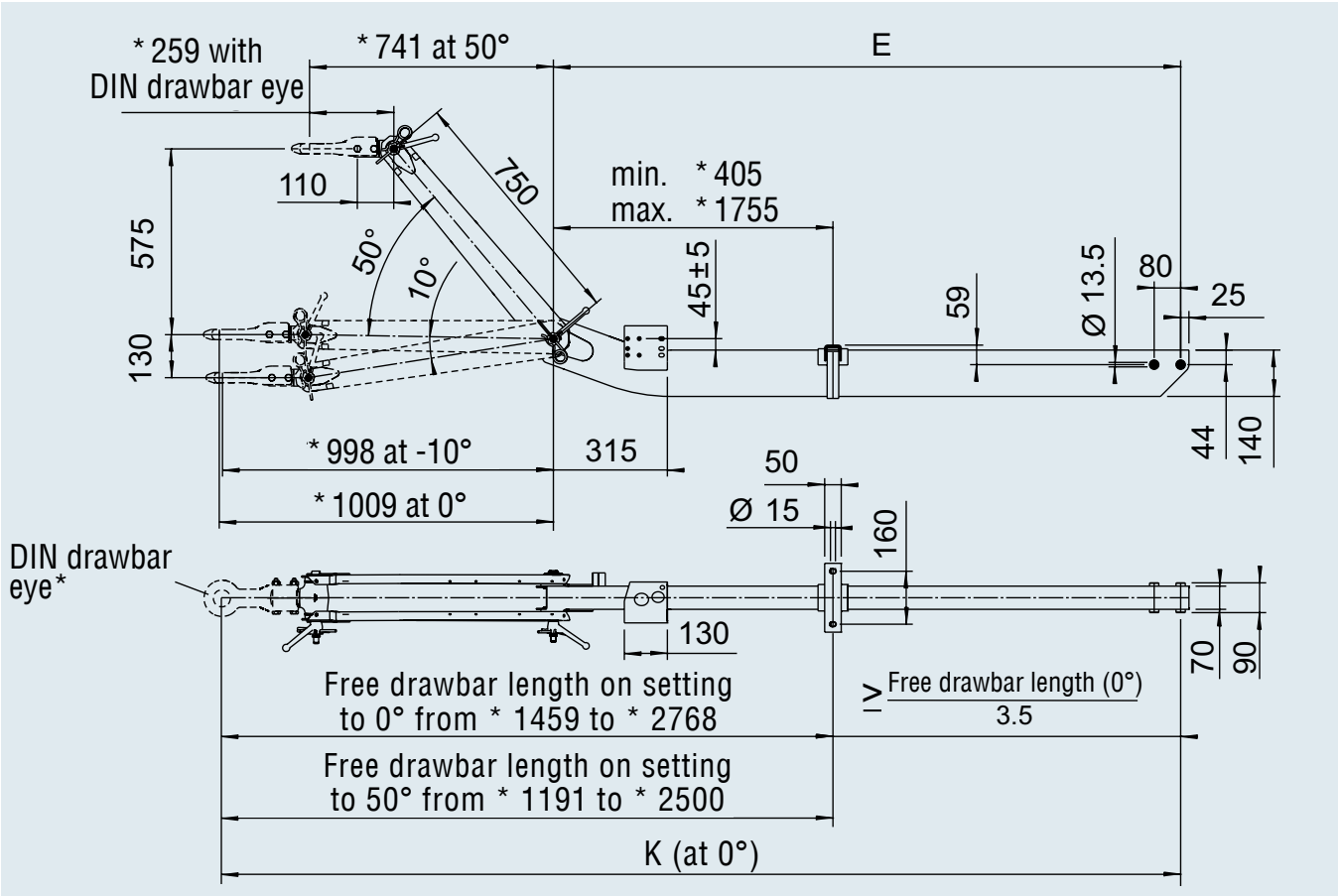
1. The hitch components and drawbar eyes have multiple uses.
   In unbraked drawbars, the spacer sleeves supplied can be dispensed with during assembly.
2. In the EC, the maximum permitted gross weight with an unbraked trailer is 750 kg. The respective regulations in countries outside of the EC must be heeded.

SURFACE TREATMENT

- Hot-dip galvanised
- Hitches, eyes and small parts galvanised

Jockey wheel flange





* = DIN drawbar eye (the dimensions must be recalculated for other hitch components)

HEIGHT-ADJUSTABLE TOWBAR CONNECTION

with drawbar section up to 1,600 kg

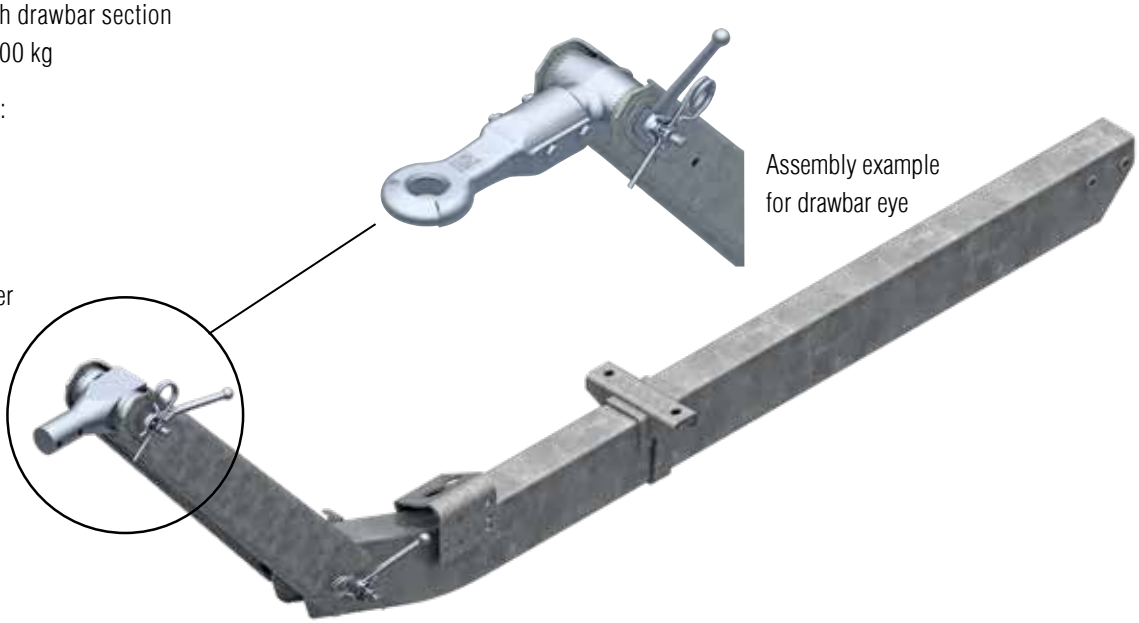
TECHNOLOGY

Drawbar type 162 VB vers. M

Intermediate piece with drawbar section
Permitted nose load 100 kg

ECE type approval no.:
E1 55R-01 0212

Scope of supply:
without drawbar eye,
with tooth head adapter



Assembly example
for drawbar eye

SAP: ZUGV ZSHB 162VB M DEICHSELPR

Drawbar cpl. with drawbar section mounted (without hitch components)

Part No.	Drawbar length E in mm	Total length K (at 0°) mm with DIN drawbar eye D40				
20057701	1,250	2,302	54.1	9	–	10
20057702	1,330	2,382	55.2	9	–	10
20057703	1,410	2,462	56.3	9	–	10
20057704	1,490	2,542	57.4	9	–	10
20057705	1,570	2,622	58.6	9	–	10
20057706	1,650	2,702	59.7	9	–	10
20057707	1,730	2,782	60.8	9	–	10
20057708	1,810	2,862	61.9	9	–	10
20057709	1,890	2,942	63	9	–	10
20057710	1,970	3,022	64.1	9	–	10
20057711	2,050	3,102	65.2	9	–	10
20057712	2,130	3,182	66.3	9	–	10
20057713	2,210	3,262	67.4	9	–	10
20057714	2,290	3,342	68.6	9	–	10
20057715	2,370	3,422	69.7	9	–	10
20057716	2,450	3,502	70.8	9	–	10
20057717	2,530	3,582	71.9	9	–	10
20057718	2,610	3,662	73	9	–	10
20057719	2,690	3,742	74.1	9	–	10
20057720	2,770	3,822	75.2	9	–	10
20057721	2,850	3,902	76.3	9	–	10

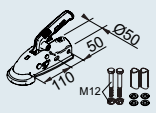
Drawbar cpl. with drawbar section mounted (without hitch components), special variant with parking brake mounted

20057722	1,970	3,022	69.1	9	–	10

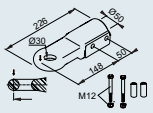
Push-on hitch components: Drawbar eye connection D50 / 162 VB

Refer to chapter 6 for drawbar eye illustrations and descriptions

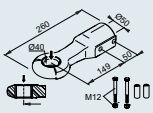
Hitch
AK 161 - Ø 50
Part No.
1730808



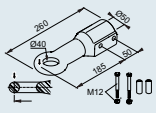
Drawbar eye
England E30/A
Part No.
1224106



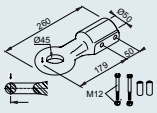
Drawbar eye
DIN D40/F
Part No.
1213350



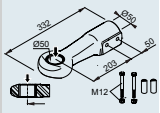
Drawbar eye
England E40/A
Part No.
1224107



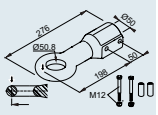
Drawbar eye
Italy I45/F
Part No.
1224108



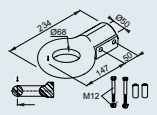
Drawbar eye
DIN D50
Part No.
1730612



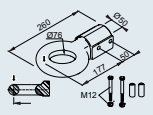
Drawbar eye
England E50/A
Part No.
1224109



Drawbar eye
France F68/E
Part No.
1224110



Drawbar eye
NATO N76/E
Part No.
1224111

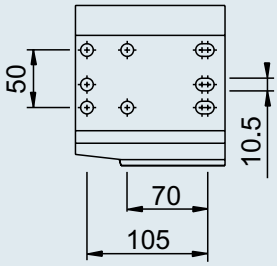


ATTENTION!

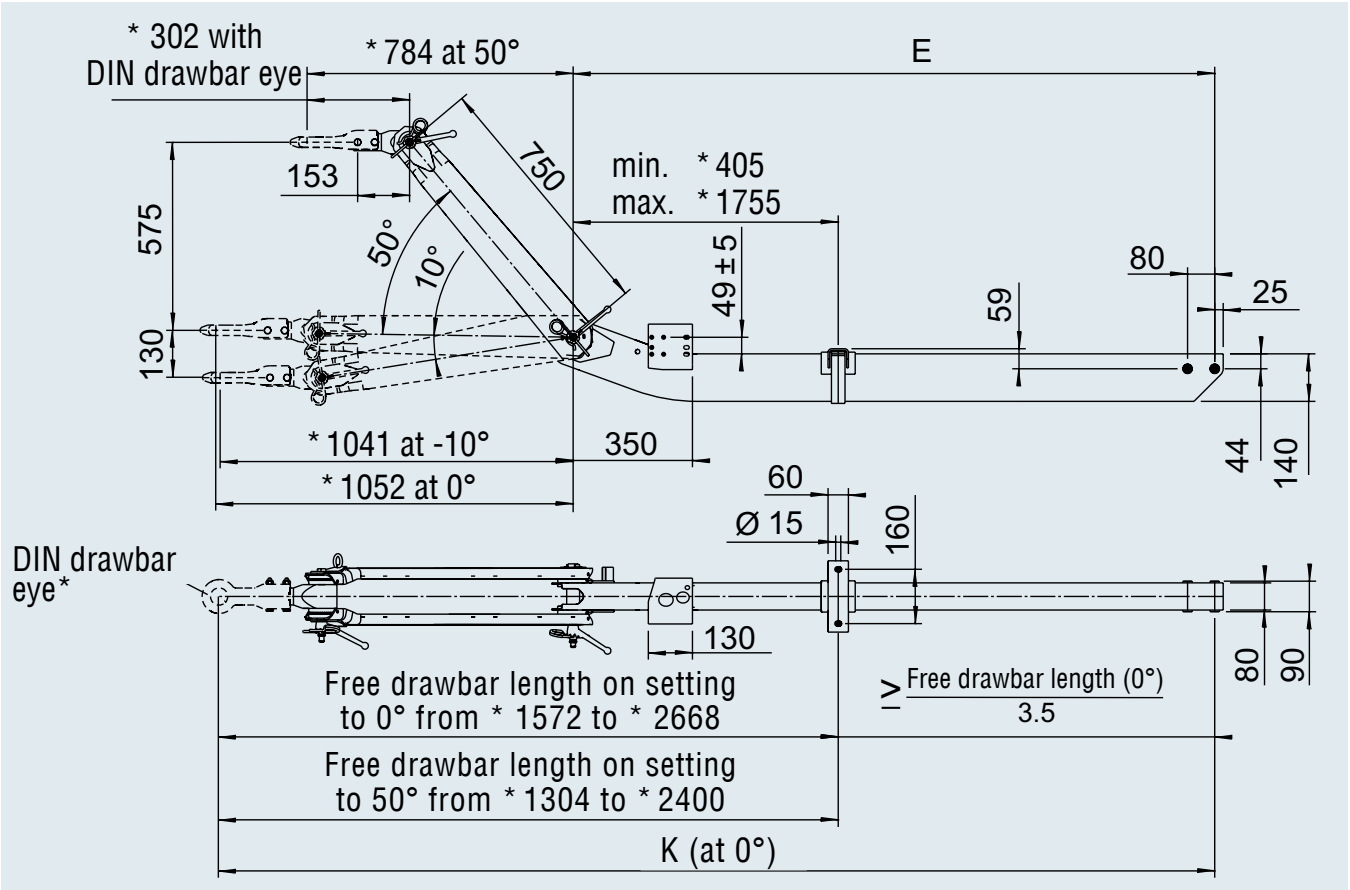
1. The hitch components and drawbar eyes have multiple uses.
   In unbraked drawbars, the spacer sleeves supplied can be dispensed with during assembly.
2. In the EC, the maximum permitted gross weight with an unbraked trailer is 750 kg. The respective regulations in countries outside of the EC must be heeded.

SURFACE TREATMENT

- Hot-dip galvanised
- Hitches, eyes and small parts galvanised



Jockey wheel flange



* = DIN drawbar eye (the dimensions must be recalculated for other hitch components)

HEIGHT-ADJUSTABLE TOWBAR CONNECTION

with drawbar section, for trailers with pneumatic brakes up to 3,500 kg

TECHNOLOGY

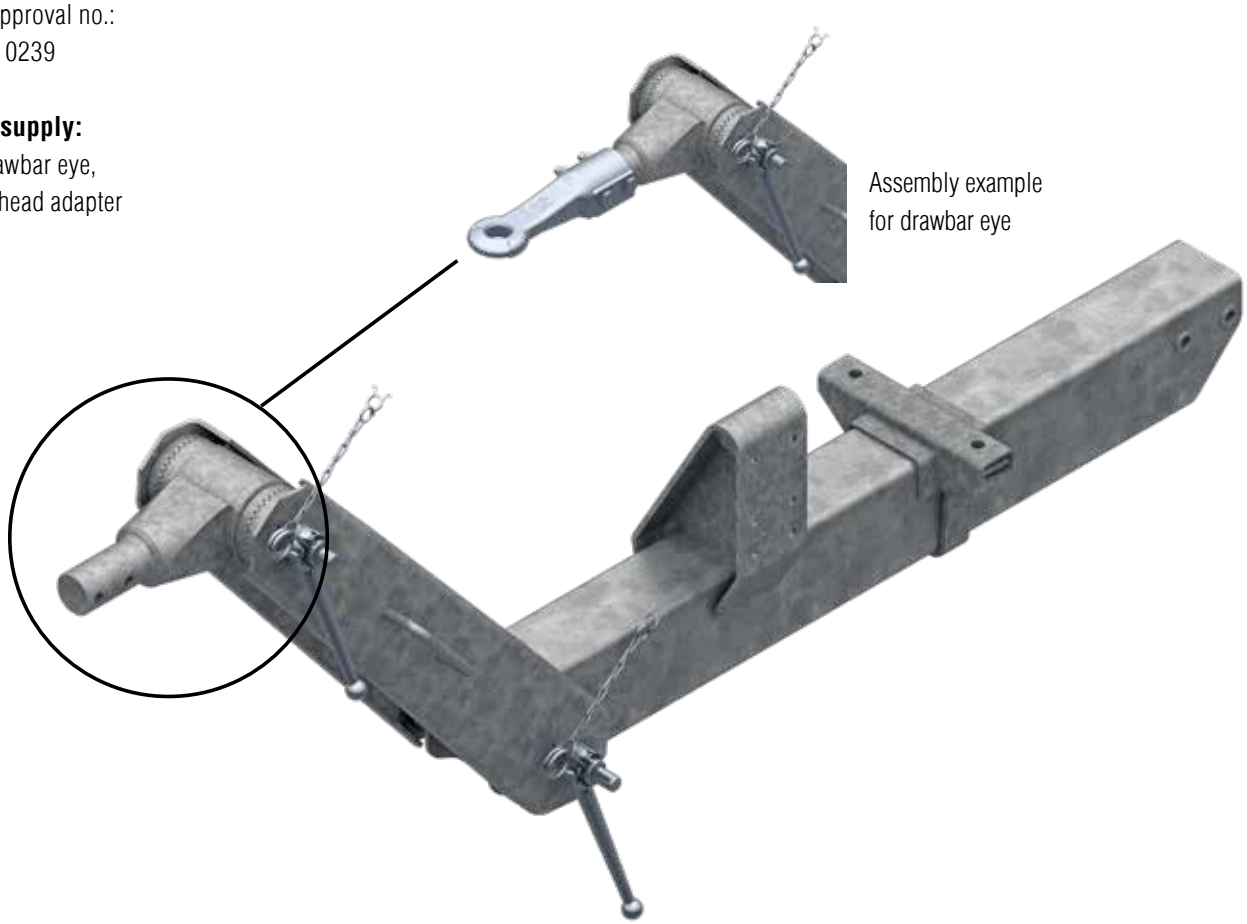
Drawbar type 353 VB vers. G

Intermediate piece with drawbar section

Permitted nose load 150 kg

ECE type approval no.:
E1 55R-01 0239

Scope of supply:
without drawbar eye,
with tooth head adapter



Assembly example
for drawbar eye

SURFACE TREATMENT

- Hot-dip galvanised
- Hitches, eyes and small parts galvanised

SAP: ZUGDEICHS KPL 353VB

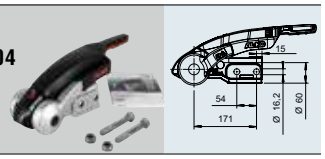
Drawbar cpl. with drawbar section mounted (without hitch components)

Part No.	Drawbar length E in mm	Total length K (at 0°) mm with DIN drawbar eye D40				
20061541	1,970	3,190	151	10	–	10
20061542	2,130	3,350	155	10	–	10
20061543	2,290	3,510	159	10	–	10
20061544	2,450	3,670	163	10	–	10
20061545	2,610	3,830	167	10	–	10

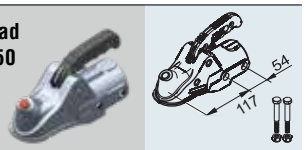
Push-on hitch components: Drawbar eye connection D60 / 353 VB

Refer to chapter 6 for drawbar eye illustrations and descriptions

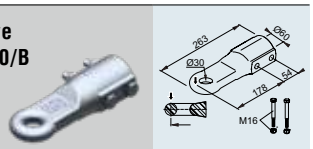
Hitch AKS™ 3504
Part No. 1225761



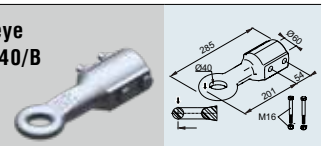
Coupling head AK 351 – Ø 50
Part No. 1224391



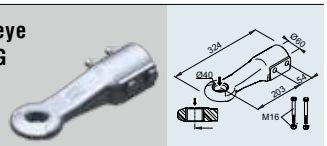
Drawbar eye England E30/B
Part No. 1224112



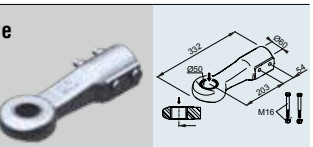
Drawbar eye England E40/B
Part No. 1224113



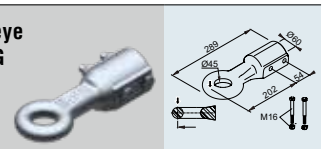
Drawbar eye DIN D40/G
Part No. 1224114



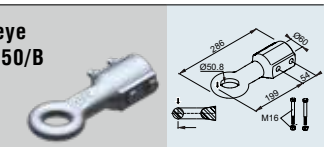
Drawbar eye DIN D50
Part No. 1730613



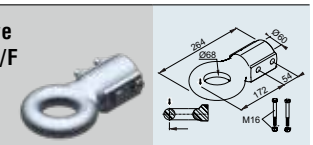
Drawbar eye Italy I45/G
Part No. 1224115



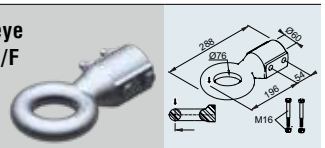
Drawbar eye England E50/B
Part No. 1224116

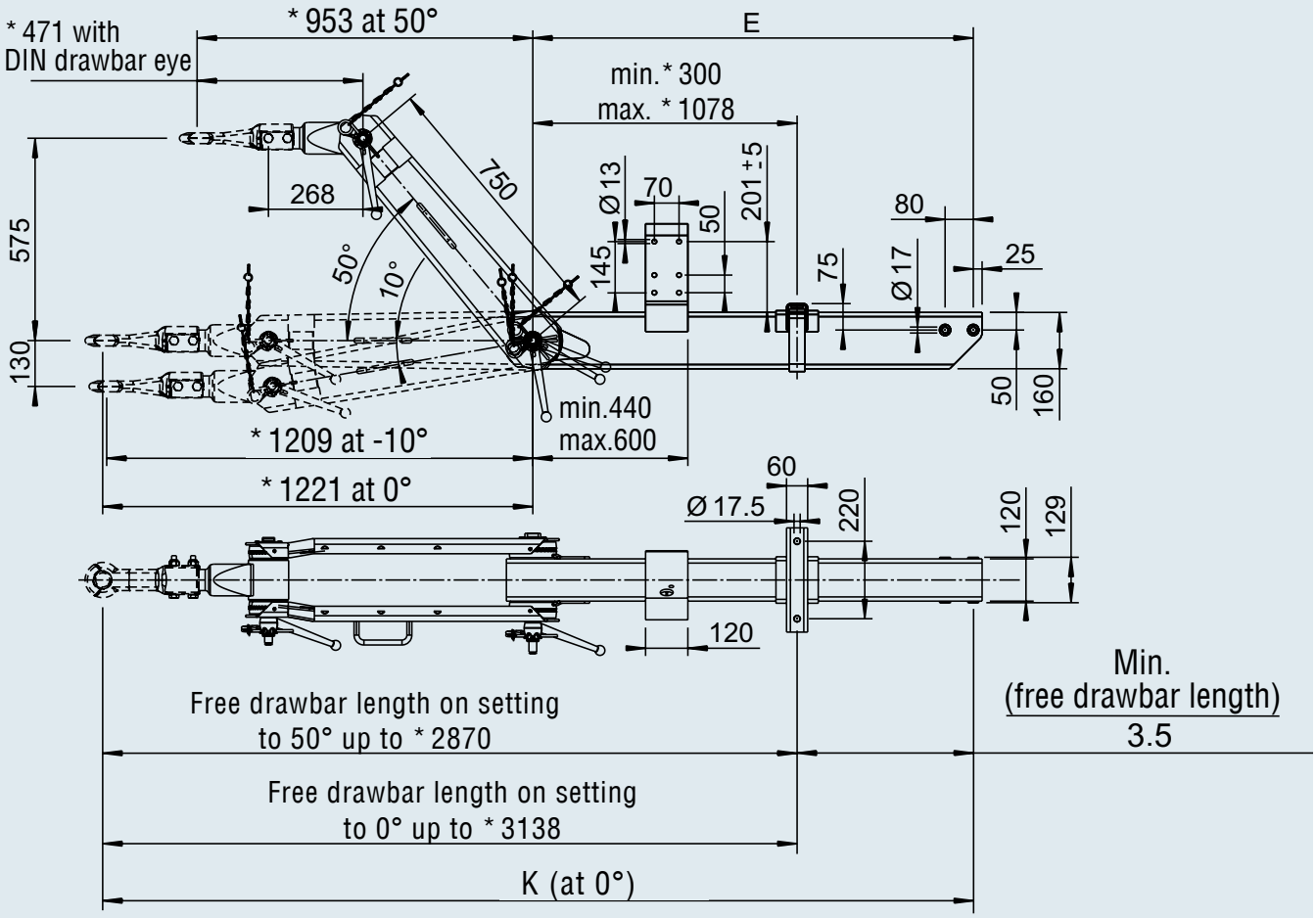


Drawbar eye France F68/F
Part No. 1224117



Drawbar eye NATO N76/F
Part No. 1224118





* = DIN drawbar eye (the dimensions must be recalculated for other hitch components)

HEIGHT-ADJUSTABLE TOWBAR CONNECTION

with drawbar section, for trailers with pneumatic brakes up to 5,000 kg

TECHNOLOGY

Drawbar type 501 VB vers. A

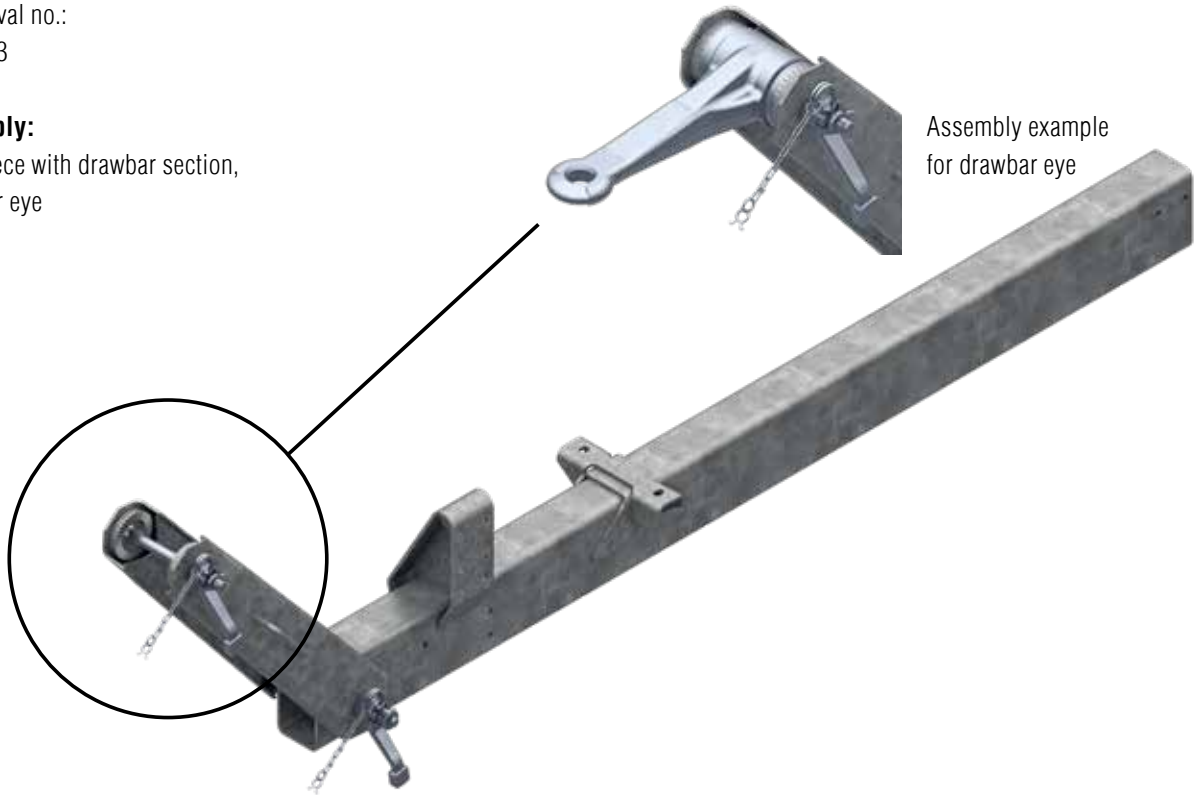
Intermediate piece with drawbar section

Permitted nose load 500 kg

ECE type approval no.:
E1 55R-01 0883

Scope of supply:

Intermediate piece with drawbar section, without drawbar eye



Assembly example for drawbar eye

SURFACE TREATMENT

- Hot-dip galvanised
- Hitches, eyes and small parts galvanised

SAP: ZUGDEICHS KPL 501VB

Drawbar cpl. with drawbar section mounted (without hitch components)

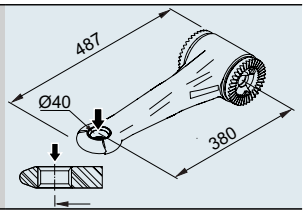
Part No.	Drawbar length E in mm	Total length K (at 0°) mm with DIN drawbar eye D40				
20061521	1,970	3,100	155	10	–	10
20061522	2,130	3,260	162	10	–	10
20061523	2,290	3,420	169	10	–	10
20061524	2,450	3,580	176	10	–	10
20061525	2,610	3,740	183	10	–	10

Hitch components: Drawbar eye connection D60 / 501 VB

Drawbar eye DIN Ø 40

Part No.

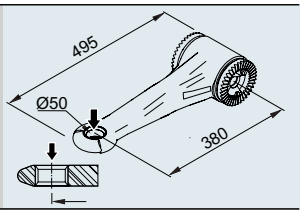
1335412



Drawbar eye DIN Ø 50

Part No.

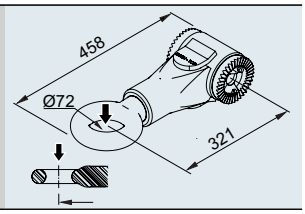
1213569

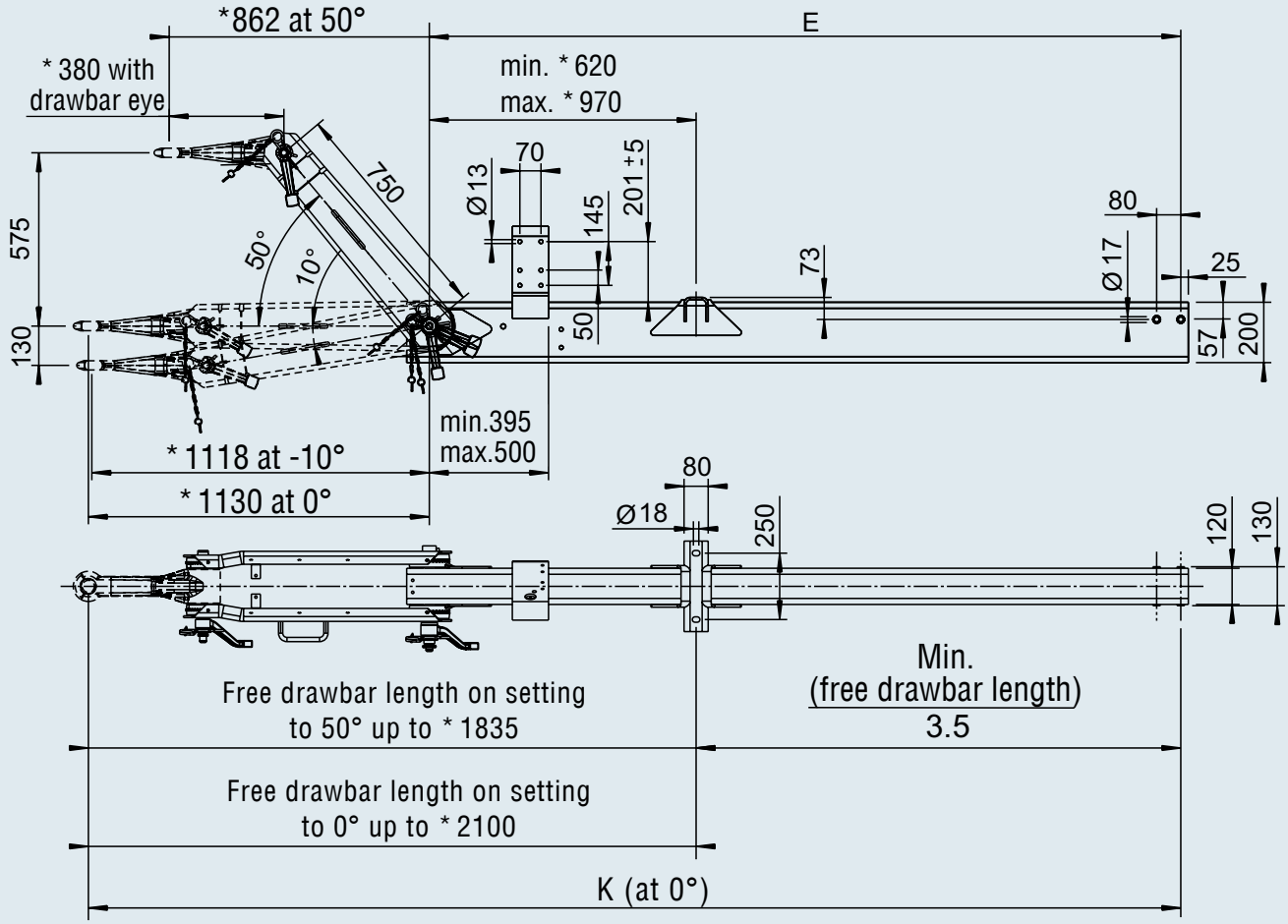


Drawbar eye NATO Ø 76

Part No.

1360185





* = DIN drawbar eye (the dimensions must be recalculated for other hitch components)

HEIGHT-ADJUSTABLE TOWBAR CONNECTION

with drawbar section, for trailers with pneumatic brakes up to 6,500 kg

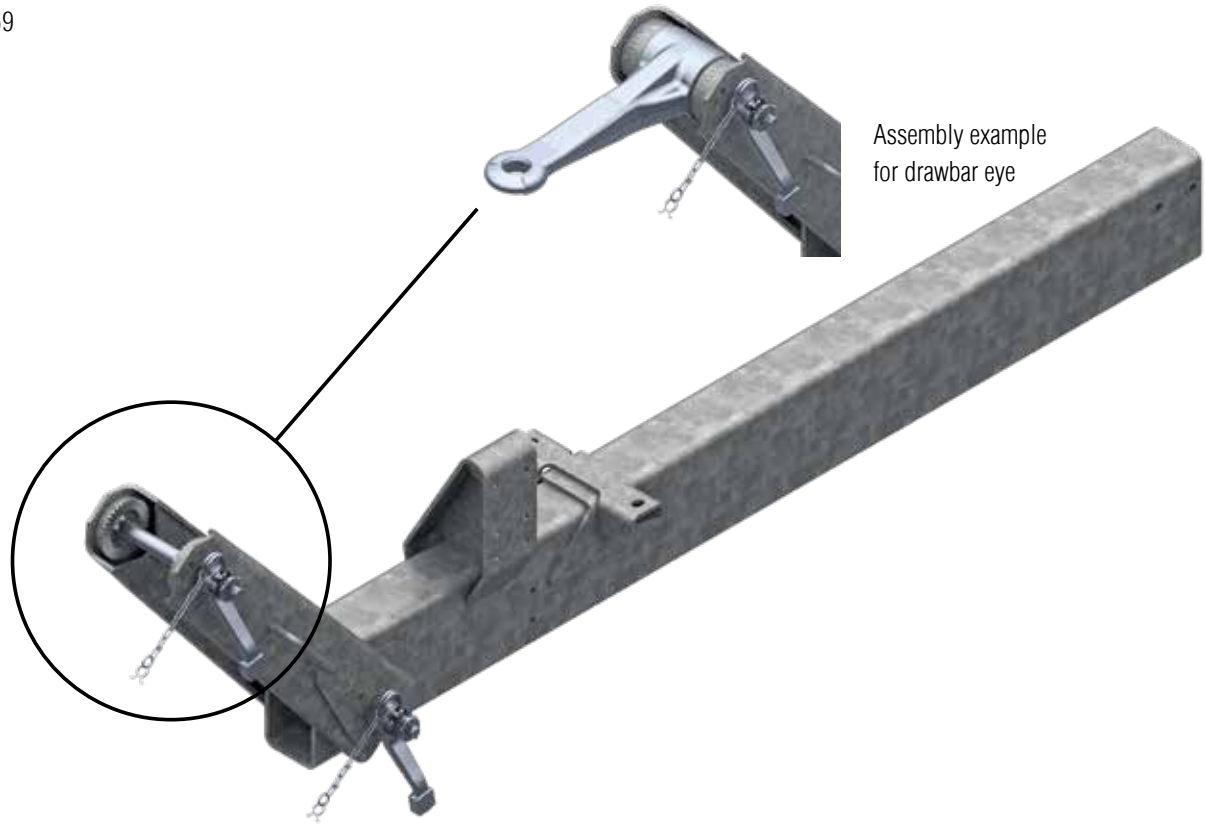
TECHNOLOGY

Drawbar type 751 VB vers. A1

Intermediate piece with drawbar section

Permitted nose load 650 kg

ECE type approval no.:
E1 55R-01 0259



Assembly example
for drawbar eye

SURFACE TREATMENT

- Hot-dip galvanised
- Hitches, eyes and small parts galvanised

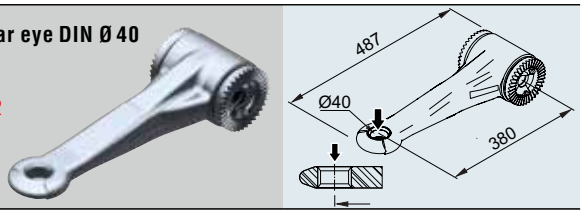
SAP: ZUGDEICHS KPL 751VB

Drawbar cpl. with drawbar section mounted (without hitch components)

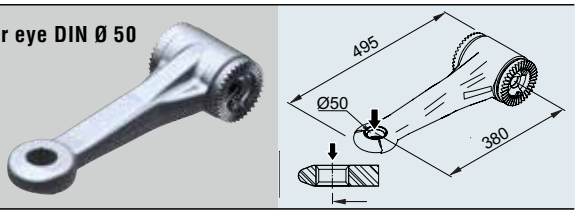
Part No.	Drawbar length E in mm	Total length K (at 0°) mm with DIN drawbar eye D40				
20061501	1,970	2,950	180	10	–	10
20061502	2,130	3,110	190	10	–	10
20061503	2,290	3,270	200	10	–	10
20061504	2,450	3,430	210	10	–	10
20061505	2,610	3,590	220	10	–	10

Hitch components: Drawbar eye connection D60 / 751 VB

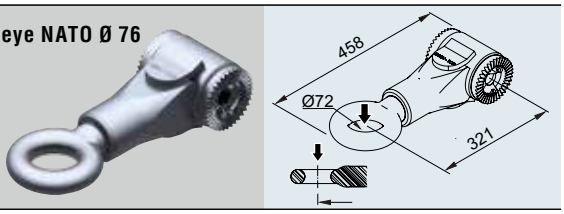
Drawbar eye DIN Ø 40
Part No.
1335412

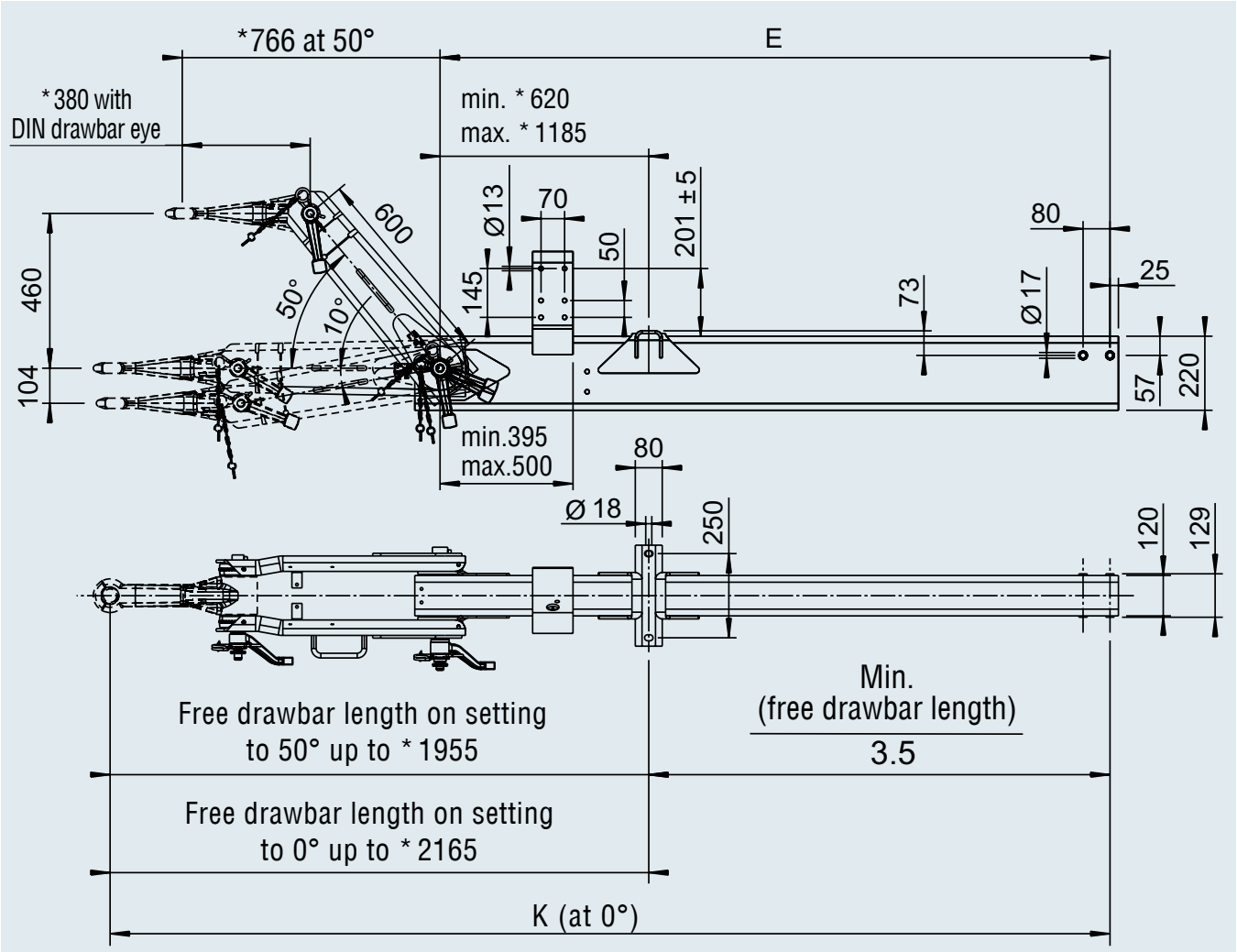


Drawbar eye DIN Ø 50
Part No.
1213569



Drawbar eye NATO Ø 76
Part No.
1360185





* = DIN drawbar eye (the dimensions must be recalculated for other hitch components)

DRAWBAR INSTALLATION V

for trailers with pneumatic brakes up to 3,500 kg

SAP: ZE KPL V DREHBAR PROFI 3500
SAP: ZE KPL V STARR PROFI 3500

Drawbar installation V PROFI 3,500 kg without hitch

Part No.	Type	Gross weight in kg	Nose load in kg	Installation	Drawbar tube rotating	Hitch mounted				
1730936	ZE 3500	0 – 3,500	350	top + bottom	Yes (360°)	without	19	–	15	30
1730996	ZE 3500	0 – 3,500	350	top + bottom	No	without	20	–	15	30

SCOPE OF SUPPLY

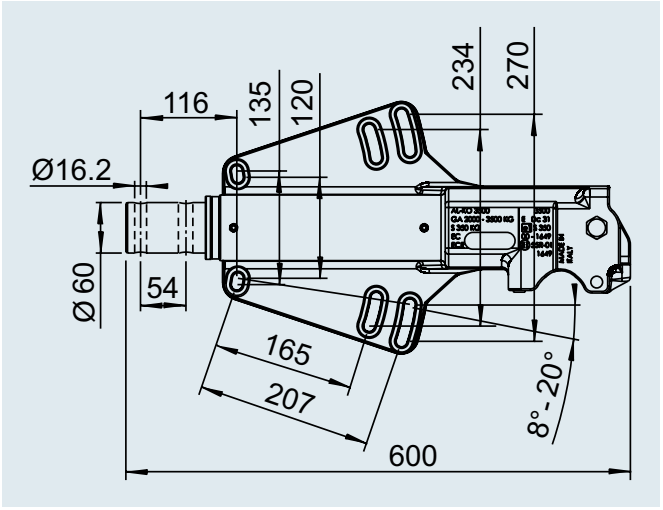
- Drawbar installation (see illustration)
- Plug holder (loose)
- Installation guidelines part no. (not included in scope of delivery)

ECE type approval no.

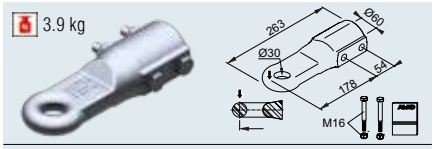
Drawbar installation: E1 55R-01 1649

ACCESSORIES

(Please order separately!)
Refer to table of contents for hitch components. Clamp Ø 48 / Ø 60 mm part no. 1 224 196. Centre flange cannot be attached!

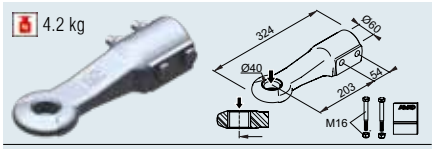


3.9 kg



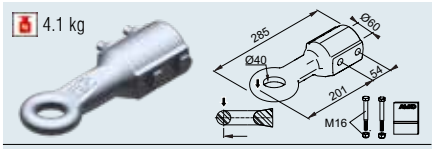
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ
Drawbar eye UK E30/B **Part No.** 1224112

4.2 kg



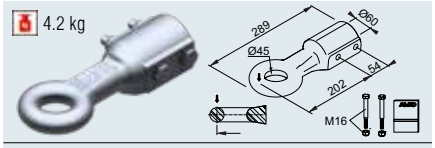
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ
Drawbar eye DIN D40/G **Part No.** 1224114

4.1 kg



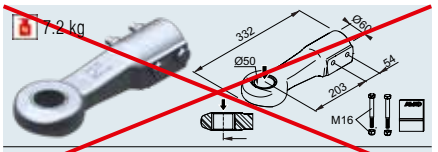
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ
Drawbar eye England E40/B **Part No.** 1224113

4.2 kg



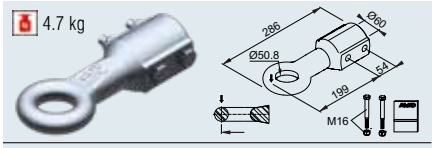
SAP: ZUGÖSE I45 M SCHRAUBMAT VZ
Drawbar eye Italy I45/G **Part No.** 1224115

7.2 kg



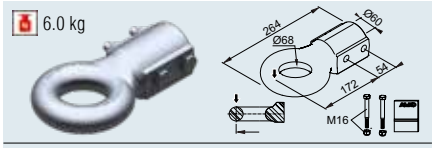
SAP: ZUGÖSE D50 M SCHRAUBMAT VZ
Drawbar eye DIN D50 CANNOT BE USED

4.7 kg



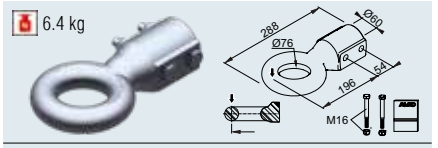
SAP: ZUGÖSE E50 M SCHRAUBMAT VZ
Drawbar eye England E50/B **Part No.** 1224116

6.0 kg



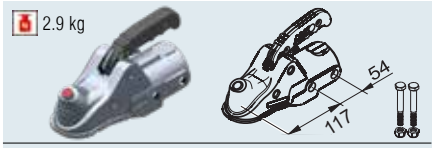
SAP: ZUGÖSE F68 M SCHRAUBMAT VZ
Drawbar eye France F68/F **Part No.** 1224117

6.4 kg



SAP: ZUGÖSE N76 M SCHRAUBMAT VZ
Drawbar eye NATO N76/F **Part No.** 1224118

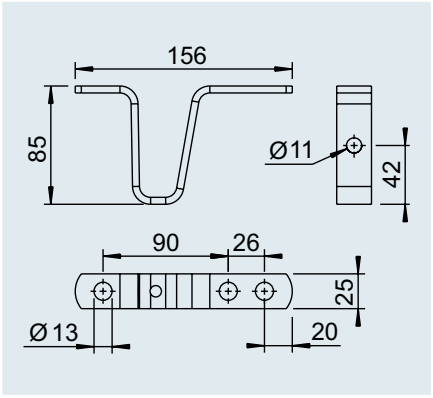
2.9 kg



SAP: KUPLNG KUGL AK351 M MONTTEILE
Coupling head AK 351 – Ø 60 **Part No.** 1224391

ACCESSORIES

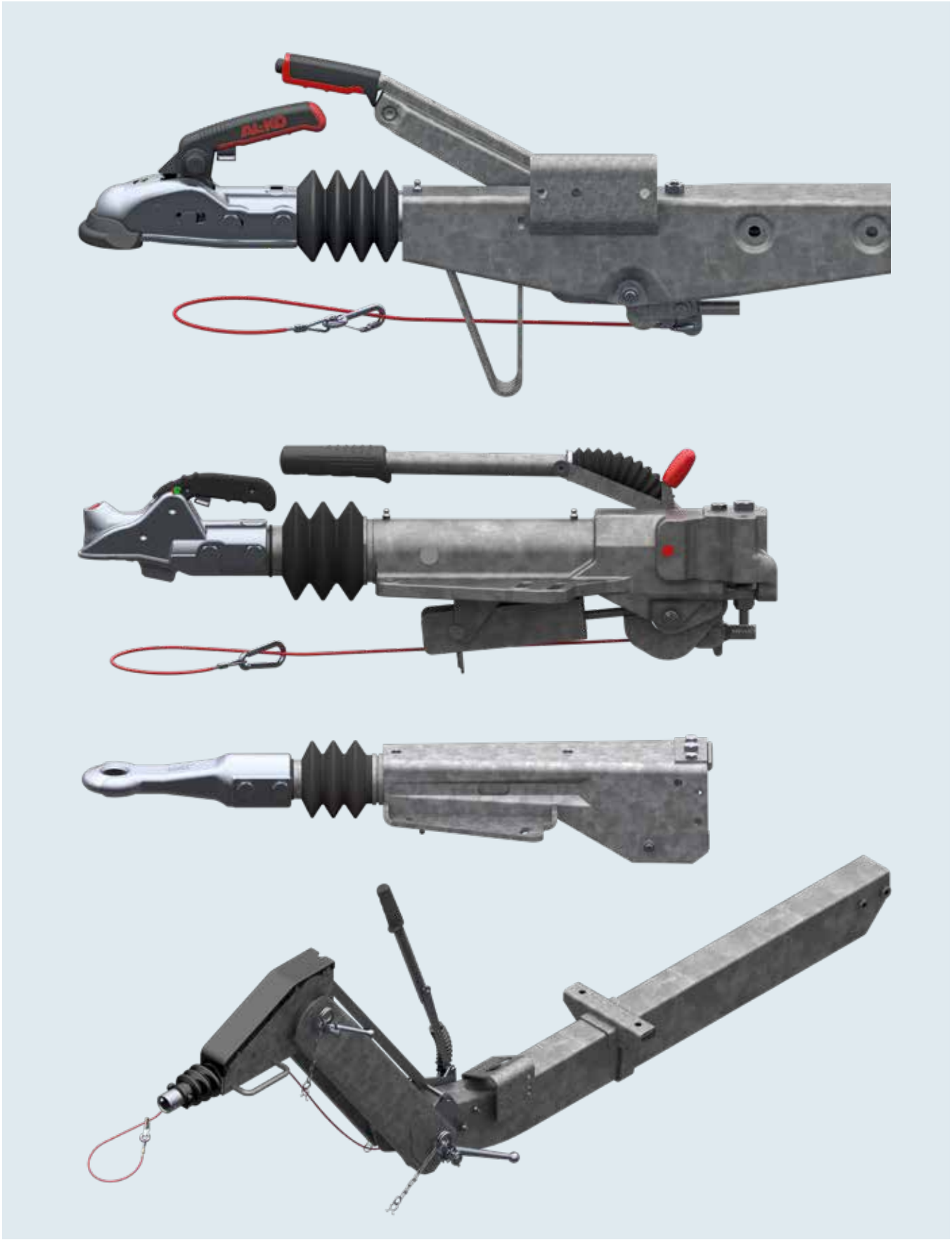
for drawbars



Skid bracket for unbraked tubular drawbars	
SAP: ABSTUETZBUEGEL ROHR UNGEB	
Part No.	203037
	0.28 kg
–	200 units
	2

2

3. OVERRUN DEVICES



OVERRUN DEVICES

Overrun devices – AL-KO brake system	48 – 51
Overrun devices square	
without drawbar section, 450 to 1,000 kg	52 – 53
without drawbar section 950 to 1,600 kg	54 – 55
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with drawbar section 1,600 to 2,200 kg	67
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Accessories	
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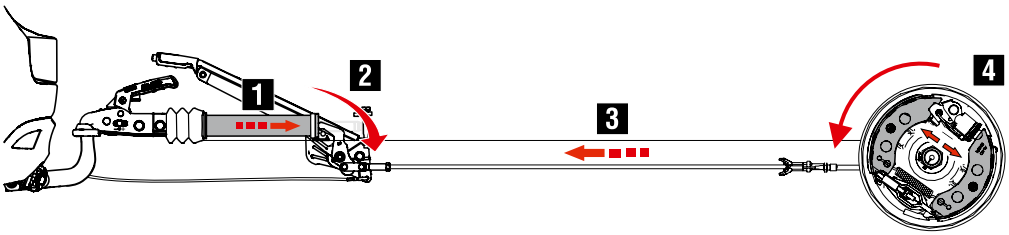
Breakaway cable guide	158 – 159

OVERRUN DEVICES

AL-KO brake system

TECHNOLOGY

1. Drawbar tube (pushing force)
2. Relay lever
3. Brake rod (pulling force)
4. Wheel brake



Function of the overrun device

The overrun device can be designated as the control unit of the overrun brake system. Braking the towing vehicle generates a drawbar force at the coupling point. Once the response threshold of the shock absorber has been exceeded, the drawbar tube is pushed in and at the same time the relay lever actuated; this means the wheel brake is operated by means of the transmission device.

Breakaway brake (emergency brake)

Regulation: The applied handbrake must be able to hold the trailer on an incline / slope of 18%.

AL-KO achieves these braking values!

Automatic reverse

Regulation: The maximum permitted residual braking force during reversing may be max. 8% of the permitted trailer gross weight.

The AL-KO braking system has a minimum residual braking force of approx. 1%.

Handbrake forwards

Regulation: The handbrake must be able to hold the trailer on an incline of 18%.

Here, a max. manual force of 60 kg is permitted to apply the handbrake.

AL-KO only requires approx. 30 kg manual force!

Handbrake backwards

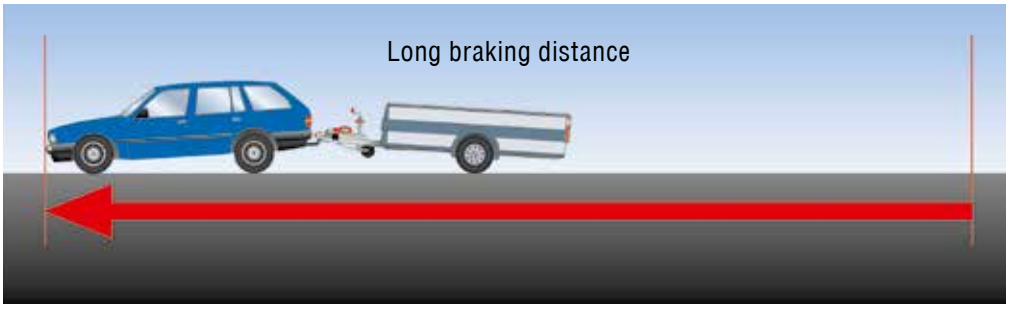
Regulation: The handbrake must be able to hold the trailer on an incline of 18%.

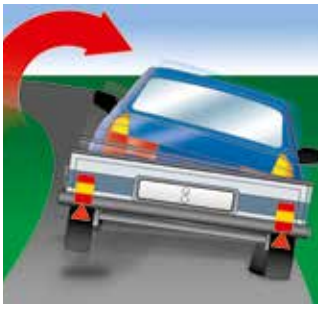
Here, a max. manual force of 60 kg is permitted to apply the handbrake.

AL-KO only requires approx. 15 kg manual force!

AL-KO brake systems for trailers – the comparison reveals the difference!

Test unbraked

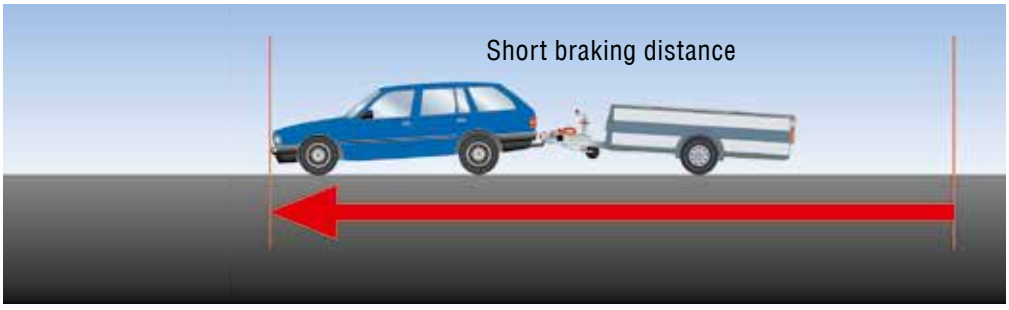




What does unbraked mean?
The trailer does not have its own brakes, i.e. the necessary braking effort for the trailer must be provided by the towing vehicle in full.

The test vehicle combination with an unbraked trailer loses traction during emergency braking on a corner, skids and cannot be controlled.

Test braked



The test vehicle combination with a braked trailer remains **precisely in the track on a bend, even during emergency braking.**

Vehicle combination unbraked	Vehicle combination braked	Result
Braking distance		
53.50 m	**45.50 m**	The test vehicle combination with a braked trailer would thus have a braked distance shorter by **approx. 8 m (17%) at 90 km/h!**
Braking deceleration		
6.46 m/s²	**8.52 m/s²**	The test vehicle combination with a braked trailer decelerates more, i.e. it comes to a halt **approx. 25% sooner!**

These braking values are achieved with completely run-in linings with a 100% contact area.

CONCLUSION
Safety for everyone using public roads has to take top priority. No compromises are allowed here. Consequently, AL-KO recommends **braked** trailers.

OVERRUN DEVICES V / SQUARE

GENERAL NOTES

Combine AL-KO overrun devices with AL-KO wheel brakes
AL-KO overrun devices comply with the latest ECE Directives. They may only be combined with the corresponding AL-KO wheel brakes. Please note that the brake system will not function with other combinations.

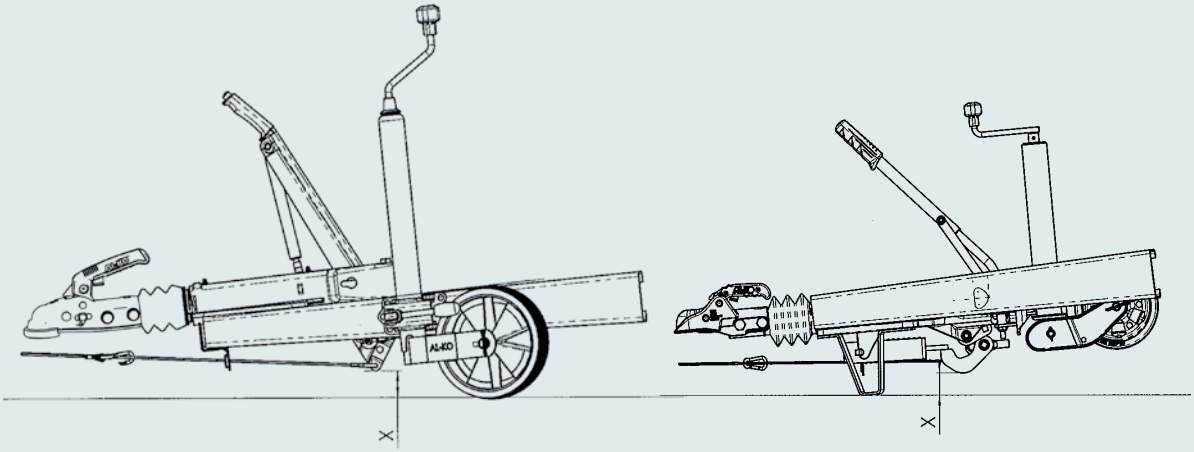
Excessive nose loads
lead to an increase in plain bearing friction forces. This results in a drop in braking effect. Consequently, please comply with the prescribed nose loads.

Type plates
Type plates must not be rendered illegible by painting or covered by attachments.

Reinforced overrun devices
Reinforced overrun devices, drawbars and hitch components must be installed on trucks, buses or towing vehicles with hard suspension.
Please contact us.

The vehicle manufacturer is responsible for the structure and function of the emergency brake. So that the breakaway cable really functions in an emergency, certain preconditions must be met when building the trailer.

1. The breakaway cable must be cleanly guided with a breakaway cable guide
A defined cable guide must be provided so the breakaway cable can activate the handbrake lever in an emergency.
AL-KO consequently recommends installing a corresponding guide and including a note in the trailer's operating instructions regarding its correct use.



2. The handbrake lever is not allowed to make contact in an emergency
In an emergency, it must be ensured that after the breakaway cable has been used to engage the handbrake lever (handbrake in the closed position), the lever remains accessible. If the handbrake were to make contact with the road surface, the functioning of the emergency brake could no longer be assured. Consequently, corresponding clearances must be observed without fail.

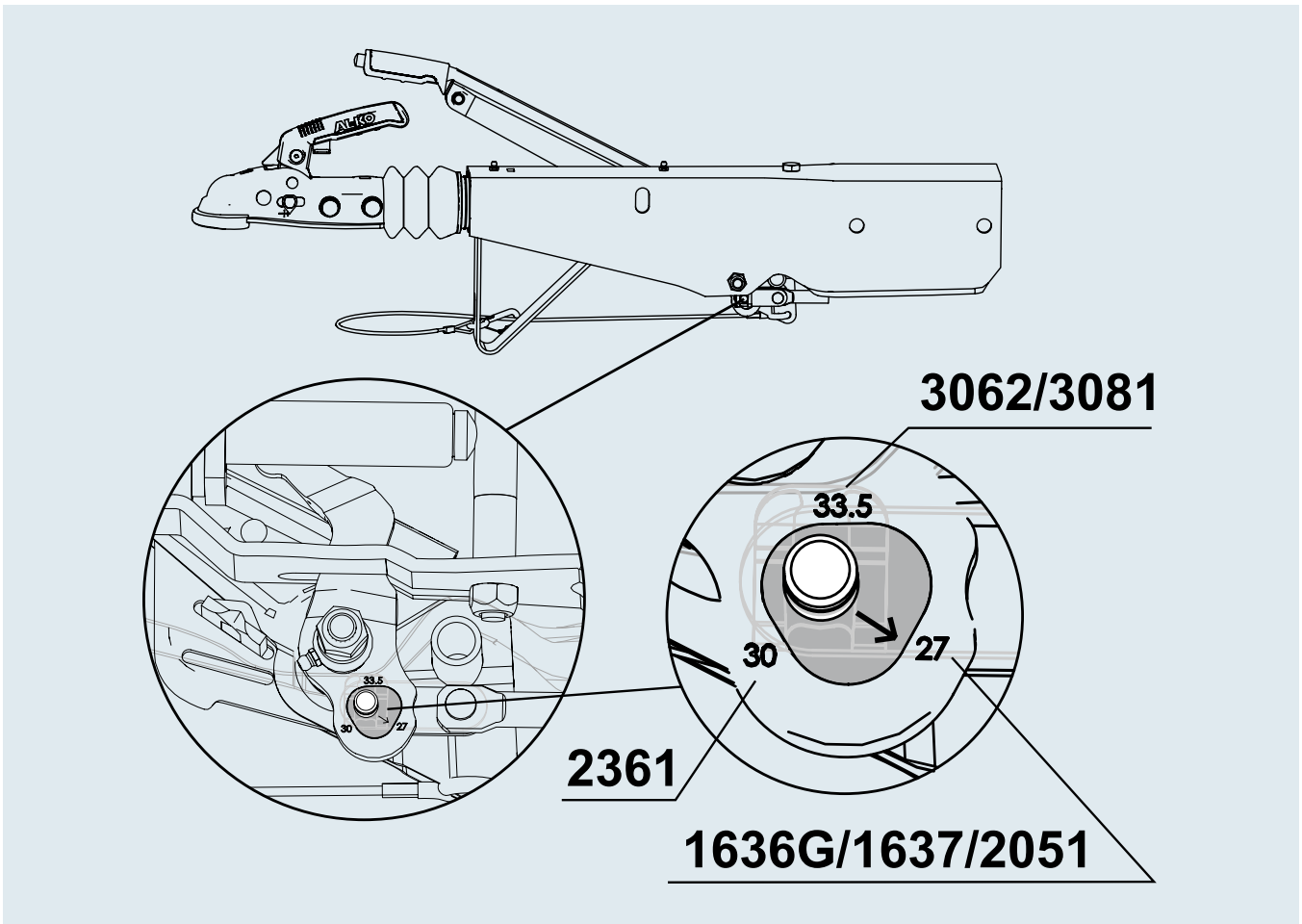
AL-KO recommends a clearance check with fully applied handbrake lever (emergency brake is activated) and, if necessary, the introduction of remedial measures (e.g. installing a skid bracket).

SCOPE OF SUPPLY
See figure on the relevant pages. Incl. plug holder (loose accessory or as a hole in the housing of the overrun device) incl. operating instructions

SURFACE TREATMENT
Hot-dip galvanised housing

CHANGEOVER RELAY LEVER

With certain overrun devices, the relay lever can be adapted to the corresponding AL-KO wheel brake. You will see which type offers this additional benefit on the catalogue pages for overrun devices.



OVERRUN DEVICE SQUARE

without drawbar section, 450 to 750 kg

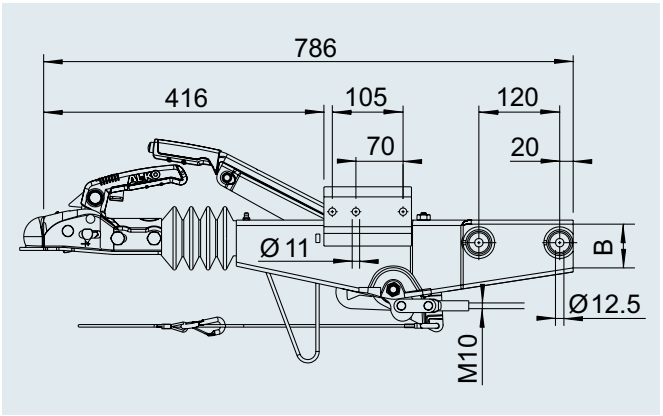
SAP: AE KPL VKT 60 60S/2 AK161 GASF

AE VKT 60S/2 with AK 161 with Soft-Dock

Part No.	Type	Gross weight in kg	Nose load in kg	Dimension B ⍁ mm	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251900	60S/2	450 – 750	75	60	No	1636G / 1637	AK 161	10	–	50	2

ECE test report no.
Overrun device: 361-0126-97

ECE type approval no.
Drawbar installation: E1 55R-01 0234



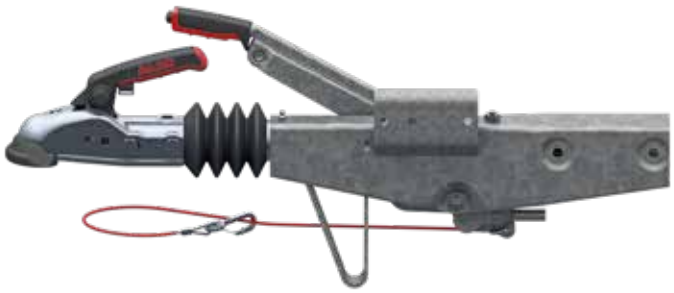
SAP: AE KPL VKT 70 60S/2 AK161 GASF

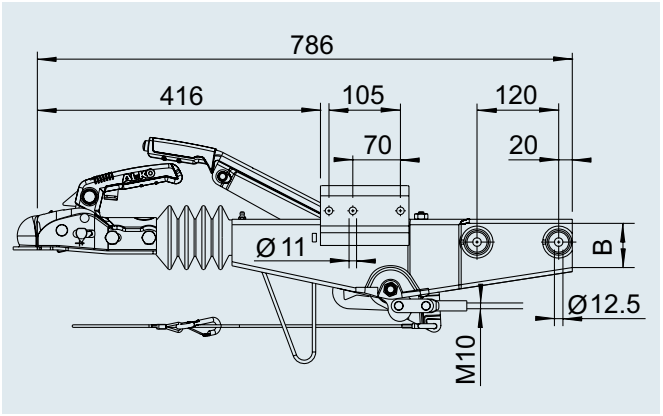
AE VKT 60S/2 with AK 161 with Soft-Dock

Part No.	Type	Gross weight in kg	Nose load in kg	Dimension B ⍁ mm	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251901	60S/2	450 – 750	75	70	No	1636G / 1637	AK 161	11	–	50	20

ECE test report no.
Overrun device: 361-0126-97

ECE type approval no.
Drawbar installation: E1 55R-01 0234





OVERRUN DEVICE SQUARE

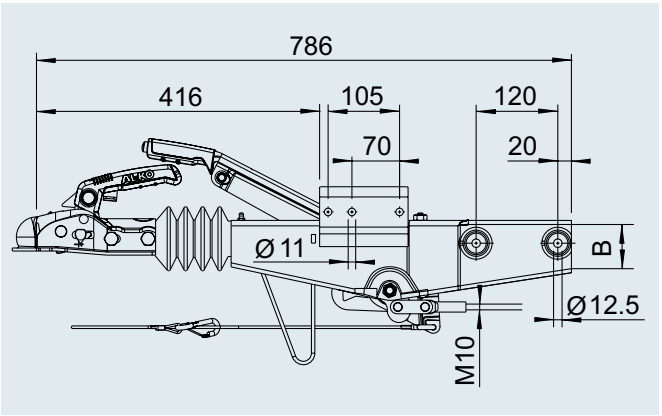
without drawbar section, 700 to 1,000 kg

SAP: AE KPL VKT 60 90S/3 AK161 GASF

AE VKT 90S/3 with AK 161 with Soft-Dock

Part No.	Type	Gross weight in kg	Nose load in kg	Dimension B ⌀ mm	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251902	90S/3	700 – 1,000	75	60	No	1637 / 2051	AK 161	11	–	50	2

ECE test report no.	ECE type approval no.
Overrun device: 361-033-92	Drawbar installation: E1 55R-01 0233

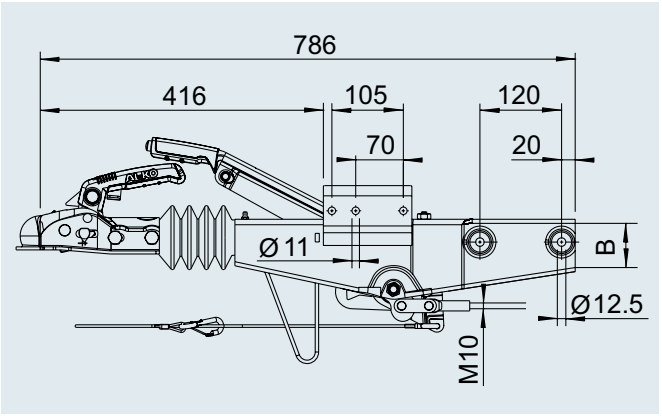


SAP: AE KPL VKT 70 90S/3 AK161 GASF

AE VKT 90S/3 with AK 161 with Soft-Dock

Part No.	Type	Gross weight in kg	Nose load in kg	Dimension B ⌀ mm	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251903	90S/3	700 – 1,000	75	70	No	1637 / 2051	AK 161	11	–	50	2

ECE test report no.	ECE type approval no.
Overrun device: 361-033-92	Drawbar installation: E1 55R-01 0233



OVERRUN DEVICE SQUARE

without drawbar section, 950 to 1,600 kg

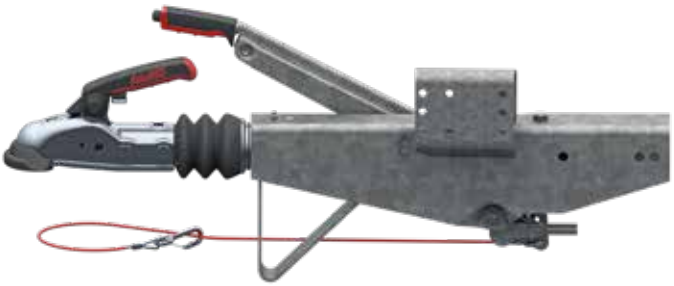
SAP: AE KPL VKT 70 161S AK161 GASF

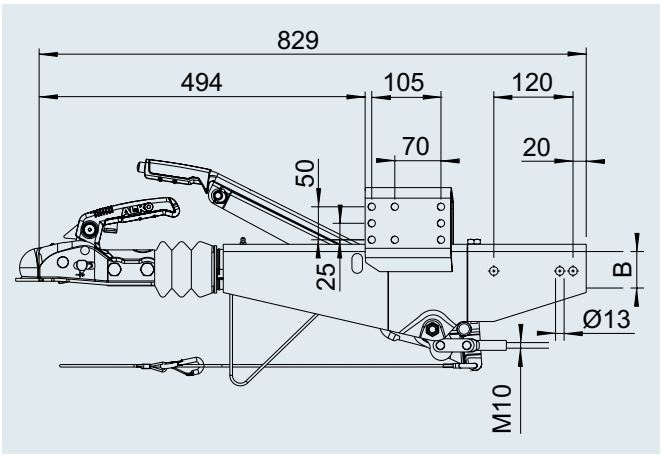
AE VKT 161 S – VKT 70 with AK 161 and Soft-Dock

Part No.	Type	Gross weight in kg	Nose load in kg	Dimension B ⌀ mm	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251904	161S	950 – 1,600	100	70	No	1636G/1637/2051	AK 161	15	–	40	2
1251905	161S	950 – 1,600	100	70	No	2361	AK 161	15	–	40	2

ECE test report no.
Overrun device: 361-0047-97

ECE type approval no.
Drawbar installation: E1 55R-01 0267





with lowering handbrake lever; 950 to 1,600 kg

SAP: AE KPL VKT 70 AK161 TOTP

Overrun device square 161 S with AK 161

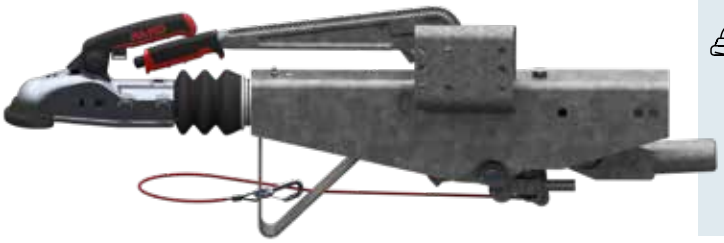
Part No.	Type	Gross weight in kg	Nose load in kg	Dimension B ⌀ mm	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1253083	161 S	950 – 1,600	100	70	Yes	2051 / 2361	AK 161	17	–	15	20

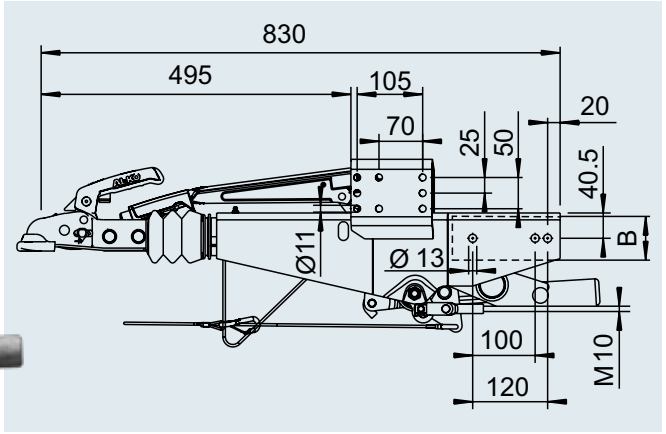
SCOPE OF SUPPLY

- Overrun device (see Fig.)
- Plug holder (loose)
- Instructions for use (loose)

ECE test report no.
Overrun device: 361-0047-97

ECE type approval no.
Drawbar installation: E1 55R-01 0267





OVERRUN DEVICE SQUARE

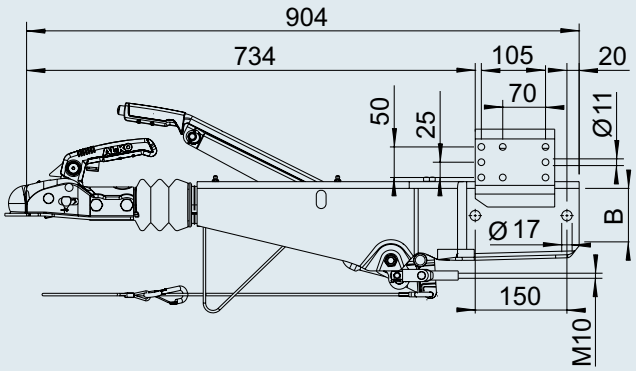
without drawbar section, 950 to 1,600 kg

SAP: AE KPL VKT 100 161S AK161 GASF

AE VKT 161S – VKT 100 with AK 161 and Soft-Dock

Part No.	Type	Gross weight in kg	Nose load in kg	Dimension B ⍁ mm	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251906	161S	950 – 1,600	100	100	Yes	1637 / 2051	AK 161	16	–	40	2
1251907	161S	950 – 1,600	100	100	Yes	2361	AK 161	16	–	40	2

ECE test report no.	ECE type approval no.
Overrun device: 361-0047-97	Drawbar installation: E1 55R-01 0267

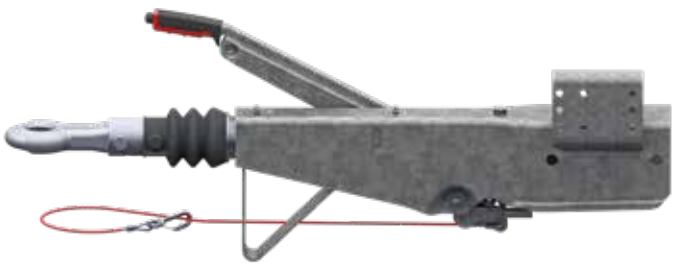


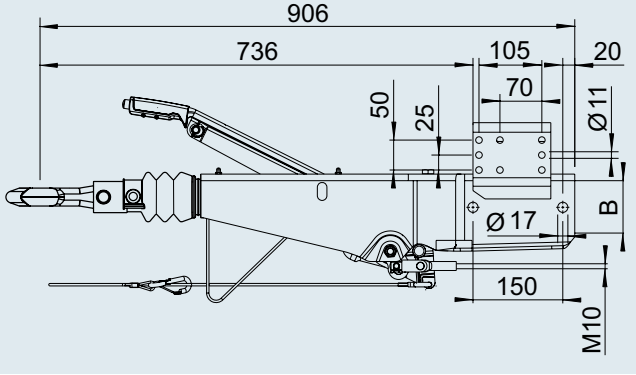
SAP: AE KPL VKT 100 161S DINÖSE GASF

AE VKT 161 S - VKT 100 with DIN eye

Part No.	Type	Gross weight in kg	Nose load in kg	Dimension B ⍁ mm	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
299416	161S	950 – 1,600	100	100	Yes	1637 / 2051	DIN eye	17	–	40	20
242958	161S	950 – 1,600	100	100	Yes	2361	DIN eye	17	–	40	20

ECE test report no.	ECE type approval no.
Overrun device: 361-0047-97	Drawbar installation: E1 55R-01 0267





OVERRUN DEVICE SQUARE

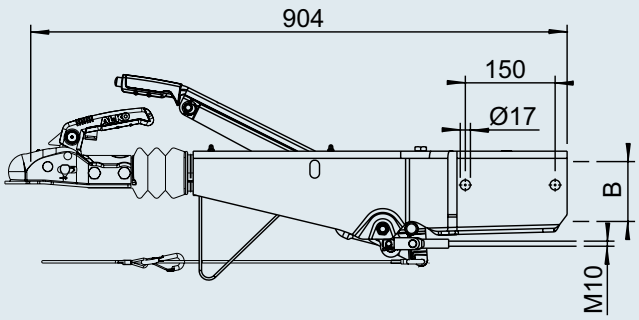
without drawbar section, 1,500 to 2,600 kg

SAP: AE KPL VKT 100 251S AK270 GASF

AE VKT 251S – VKT 100 with AK 270 and Soft-Dock

Part No.	Type	Gross weight in kg	Nose load in kg	Dimension B ⌀ mm	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1253078	251S	1,500 – 2,600	100	100	Yes	1637 / 2051	AK 270	14	–	10	20
1253080	251S	1,500 – 2,600	100	100	Yes	2361	AK 270	14	–	10	20

ECE test report no.	ECE type approval no.
Overrun device: 361-0044-97	Drawbar installation: E1 55R-01 0268

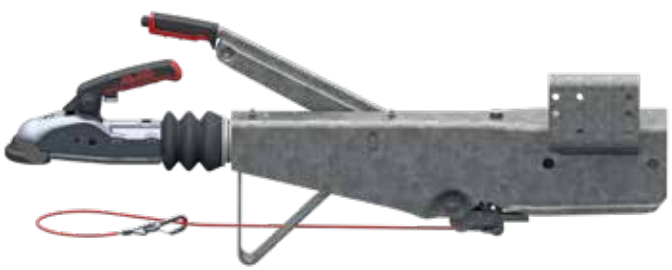


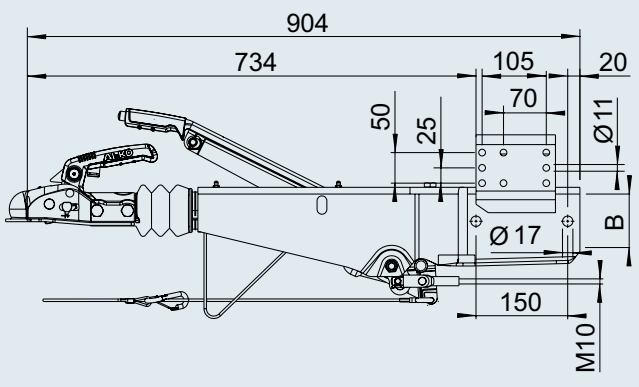
SAP: AE KPL VKT 100 251S AK270 GASF

AE VKT 251S with AK 270 and Soft-Dock

Part No.	Type	Gross weight in kg	Nose load in kg	Dimen-sion B ⌀ mm	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251908	251S	1,500 – 2,600	100	100	Yes	1637 / 2051	AK 270	20	–	25	2
1251909	251S	1,500 – 2,600	100	100	Yes	2361	AK 270	20	–	25	20

ECE test report no.	ECE type approval no.
Overrun device: 361-0044-97	Drawbar installation: E1 55R-01 0268





OVERRUN DEVICE SQUARE

without drawbar section, 1,500 to 2,600 kg

SAP: AE KPL VKT 100 251S DINÖSE GASF

AE VKT 251S with DIN eye

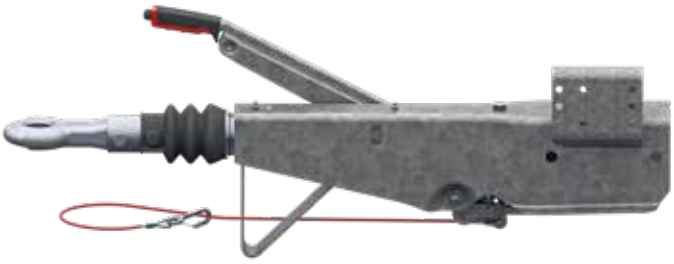
Part No.	Type	Gross weight in kg	Nose load in kg	Dimension B ⌀ mm	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
240010	251S	1,500 – 2,600	100	100	Yes	1637 / 2051	DIN eye	21	–	25	20
242960	251S	1,500 – 2,600	100	100	Yes	2361	DIN eye	21	–	25	20

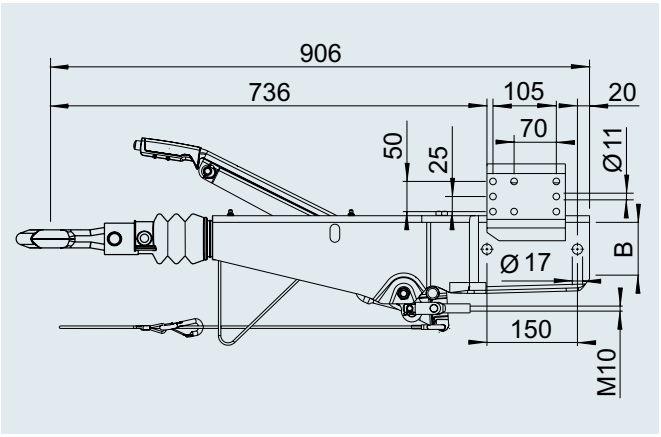
ECE test report no.

Overrun device: 361-0044-97

ECE type approval no.

Drawbar installation: E1 55R-01 0268





OVERRUN DEVICE SQUARE

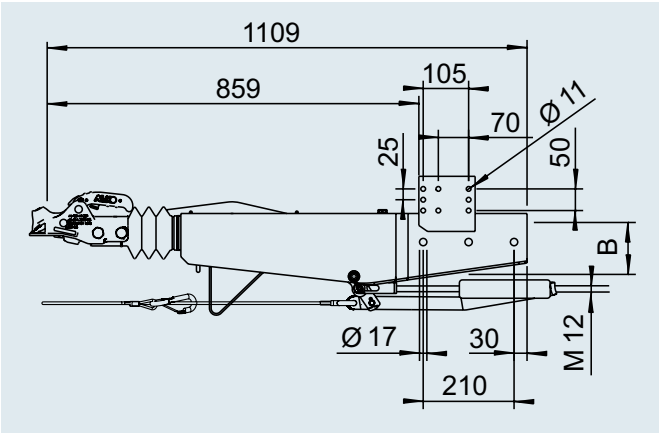
without drawbar section 2,500 to 3,500 kg

SAP: AE KPL VKT 120 2,8VB AK351 FEDS

AE VKT 2.8 VB with coupling head AK 351

Part No.	Type	Gross weight in kg	Nose load in kg	Dimension ⍁ B	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251876	2.8VB1/-C	2,500 – 3,500	150	120	No	2051	AK 351	31	–	10	20
1251581	2.8VB1/-C	2,500 – 3,500	150	120	No	2361	AK 351	31	–	10	2
1251579	2.8VB1/-C	2,500 – 3,500	150	120	No	3062 / 3081	AK 351	31	–	10	20

ECE test report no.	ECE type approval no.
Overrun device: 361-0045-97	Drawbar installation: E1 55R-01 0378

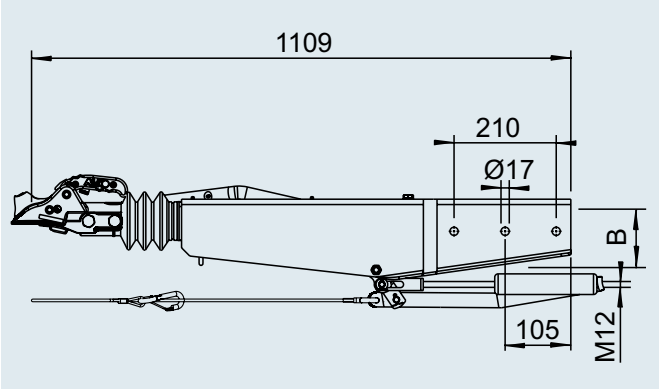


SAP: AE KPL VKT 120 2,8VB AK351 FEDS

AE VKT 2.8 VB with coupling head AK 351

Part No.	Type	Gross weight in kg	Nose load in kg	Dimension ⍁ B	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251945	2.8VB1/-C	2,500 / 3,500	150	120	No	1637 / 2051	AK 351	26	–	10	20
1251578	2.8VB1/-C	2,500 / 3,500	150	120	No	2361	AK 351	26	–	10	2
1251895	2.8VB1/-C	2,500 / 3,500	150	120	No	3062 / 3081	AK 351	26	–	10	20

ECE test report no.	ECE type approval no.
Overrun device: 361-0045-97	Drawbar installation: E1 55R-01 0378



OVERRUN DEVICE SQUARE

without drawbar section 2,500 to 3,500 kg

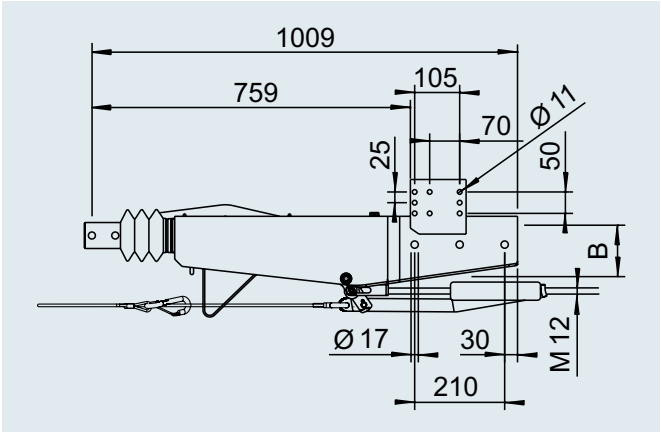
SAP: AE KPL VKT 120 2,8VB OHNE KUP FEDS

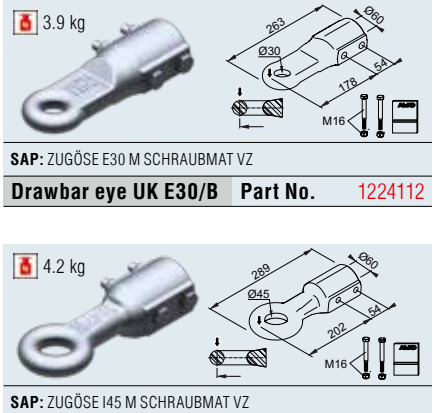
AE VKT 2.8 VB without hitch (see table of contents for appropriate coupling heads or drawbar eyes)

Part No.	Type	Gross weight in kg	Nose load in kg	Dimension ⌀ B	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251882	2.8VB1/-C	2,500 – 3,500	150	120	No	2051	without	28	–	10	20
1251621	2.8VB1/-C	2,500 – 3,500	150	120	No	2361	without	28	–	10	2
1251576	2.8VB1/-C	2,500 – 3,500	150	120	No	3062 / 3081	without	28	–	10	20

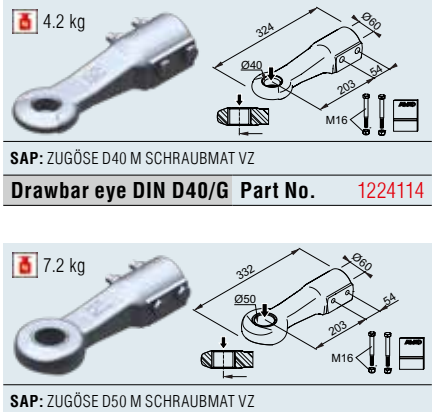
ECE test report no.
Overrun device: 361-0045-97

ECE type approval no.
Drawbar installation: E1 55R-01 0378

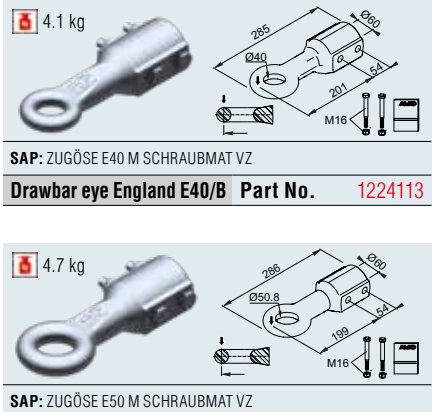




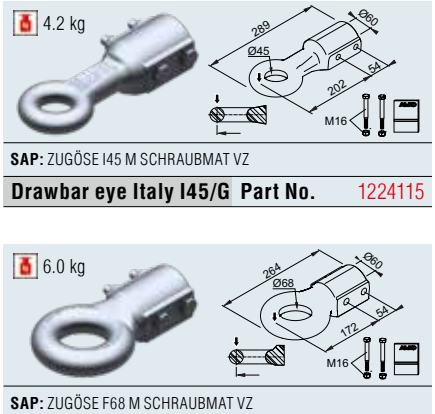
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ
Drawbar eye UK E30/B **Part No.** 1224112



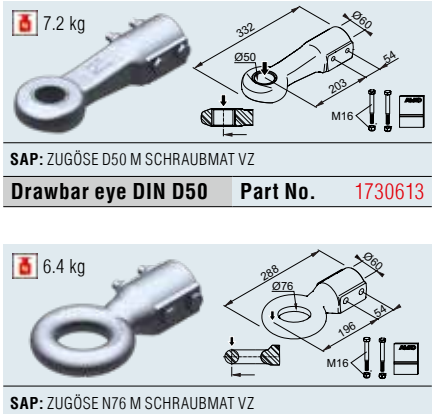
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ
Drawbar eye DIN D40/G **Part No.** 1224114



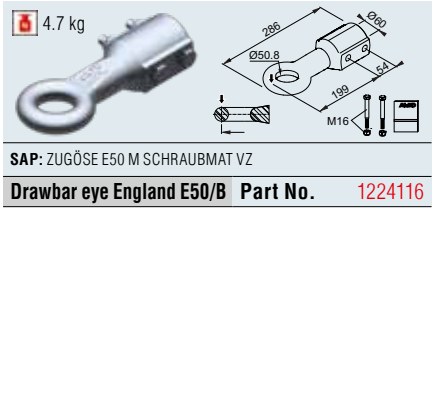
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ
Drawbar eye England E40/B **Part No.** 1224113



SAP: ZUGÖSE I45 M SCHRAUBMAT VZ
Drawbar eye Italy I45/G **Part No.** 1224115



SAP: ZUGÖSE D50 M SCHRAUBMAT VZ
Drawbar eye DIN D50 **Part No.** 1730613



SAP: ZUGÖSE E50 M SCHRAUBMAT VZ
Drawbar eye England E50/B **Part No.** 1224116

SAP: ZUGÖSE F68 M SCHRAUBMAT VZ
Drawbar eye France F68/F **Part No.** 1224117

SAP: ZUGÖSE N76 M SCHRAUBMAT VZ
Drawbar eye NATO N76/F **Part No.** 1224118

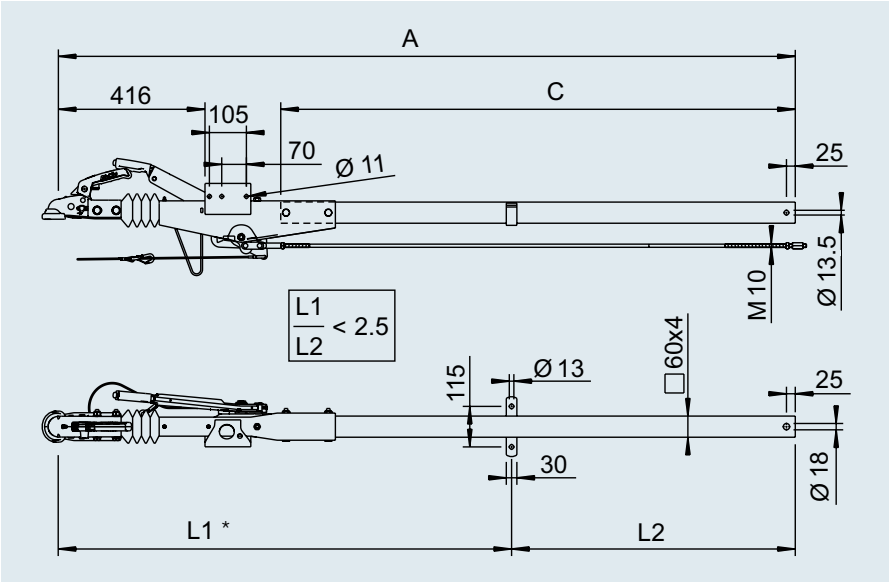
OVERRUN DEVICE SQUARE

with drawbar section straight 450 to 750 kg

TECHNOLOGY
Type 60 S/2 - R 4 vers. B 3
GA 450 to 750 kg
Perm. nose load 75 kg
Changeover relay lever:
☐ Yes ☒ No

ECE test report no.:
Overrun device: 361-0126-97
ECE type approval no.:
Drawbar installation: E1 55R-01 0234
Drawbar: E1 55R-01 0388

Max. free drawbar length at GA 750 kg:
1,470 mm



* For diagram, see table of contents

SAP: AE KPL VKT 60S/2 M ZUGVERBNDG R4/B3

With coupling head AK 161 for wheel brake 1636G / 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20061701	730	1,357	19.9	–	25	10
20061702	980	1,607	20.8	–	25	10
20061703	1,140	1,767	21.7	–	25	10
20061704	1,300	1,927	22.6	–	25	10
20061705	1,460	2,087	23.5	–	25	10
20061706	1,620	2,247	24.4	–	25	10
20061707	1,780	2,407	25.3	–	25	10
20061708	1,940	2,567	26.2	–	25	10
20061709	2,100	2,727	27.1	–	25	10
20061710	2,260	2,887	28.0	–	25	10
20061711	2,420	3,047	28.9	–	25	10
20061712	2,580	3,207	29.8	–	25	10
20061713	2,740	3,367	30.7	–	25	10
20061714	2,900	3,527	31.6	–	25	10

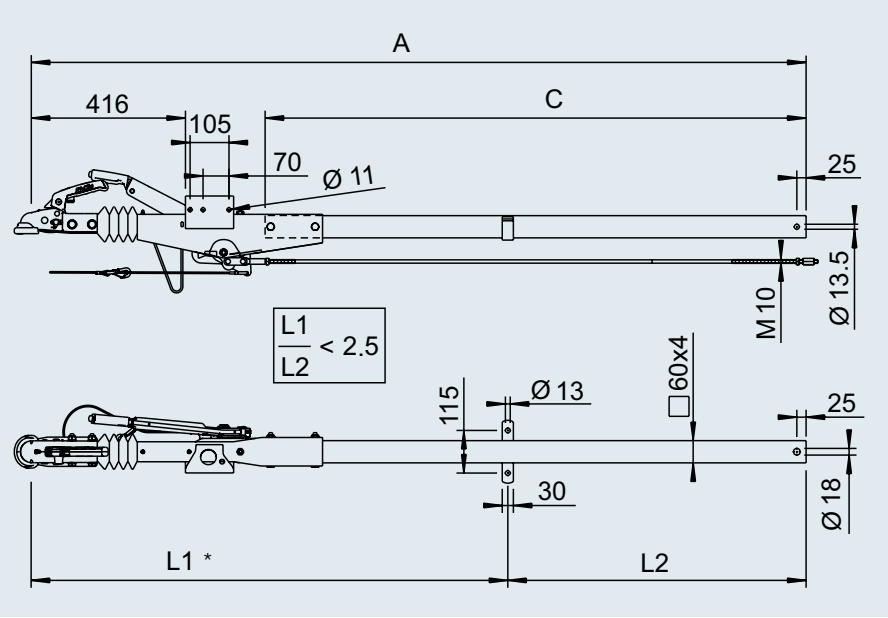
OVERRUN DEVICE SQUARE

with drawbar section straight 700 to 1,000 kg

TECHNOLOGY
Type 90 S/3 - R 4 vers. B 3
GA 700 to 1,000 kg
Perm. nose load 75 kg
Changeover relay lever:
☐ Yes ☒ No

ECE test report no.:
Overrun device: 361-033-92
ECE type approval no.:
Drawbar installation: E1 55R-01 0233
Drawbar: E1 55R-01 0388

Max. free drawbar length at GA 1,000 kg:
1,100 mm



* For diagram, see table of contents

SAP: AE KPL VKT 90S/3 M ZUGVERBNDG R4/B3

With coupling head AK 161 for wheel brake 1636G / 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20061801	730	1,357	20.3	–	25	10
20061802	980	1,607	21.2	–	25	10
20061803	1,140	1,767	22.1	–	25	10
20061804	1,300	1,927	23.0	–	25	10
20061805	1,460	2,087	23.9	–	25	10
20061806	1,620	2,247	24.8	–	25	10
20061807	1,780	2,407	25.7	–	25	10
20061808	1,940	2,567	26.6	–	25	10
20061809	2,100	2,727	27.5	–	25	10
20061810	2,260	2,887	28.4	–	25	10
20061811	2,420	3,047	29.3	–	25	10
20061812	2,580	3,207	30.2	–	25	10
20061813	2,740	3,367	31.1	–	25	10
20061814	2,900	3,527	32.0	–	25	10

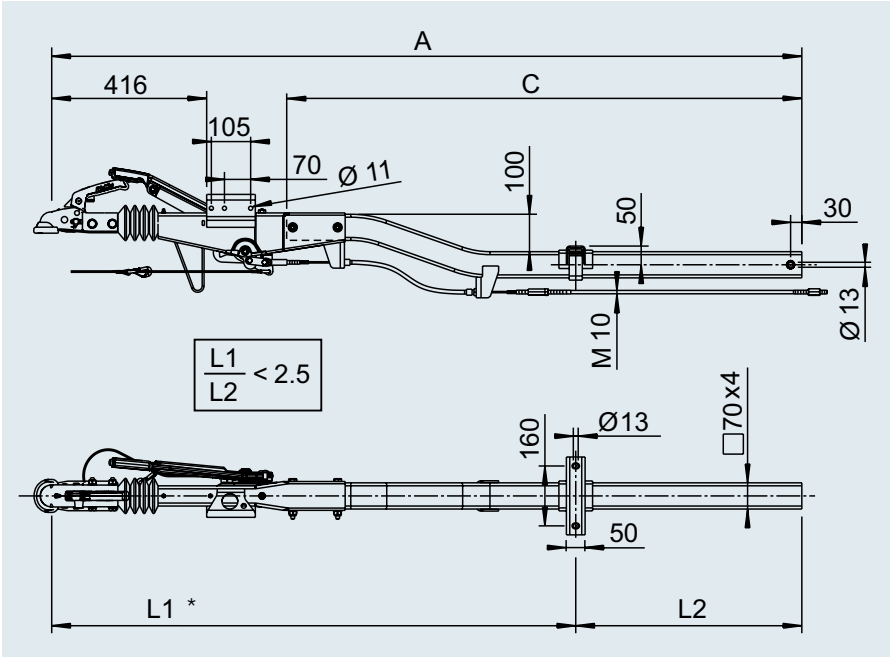
OVERRUN DEVICE SQUARE

with drawbar section cranked 700 to 1,000 kg

TECHNOLOGY
Type 90 S/3 - K10 vers. A
GA 700 to 1,000 kg
Perm. nose load 75 kg
Changeover relay lever:
☐ Yes ☒ No

ECE test report no.:
Overrun device: 361-0033-92
ECE type approval no.:
Drawbar installation: E1 55R-01 0233
Drawbar: E1 55R-01 2390

Max. free drawbar length at GA 1,000 kg:
1,450 mm



* For diagram, see table of contents

SAP: AE VKT 90S/3 M ZUGVER K10

With coupling head AK 161 for wheel brake 1636 G / 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20061401	1,380	2,005	26.5	–	20	10
20061402	1,540	2,165	27.8	–	20	10
20061403	1,700	2,325	29.2	–	20	10
20061404	1,860	2,485	30.5	–	20	10
20061405	2,020	2,645	31.9	–	20	10
20061406	2,180	2,805	33.2	–	20	10
20061407	2,340	2,965	34.5	–	20	10
20061408	2,500	3,125	35.8	–	20	10
20061409	2,660	3,285	37.2	–	20	10
20061410	2,820	3,445	38.5	–	20	10

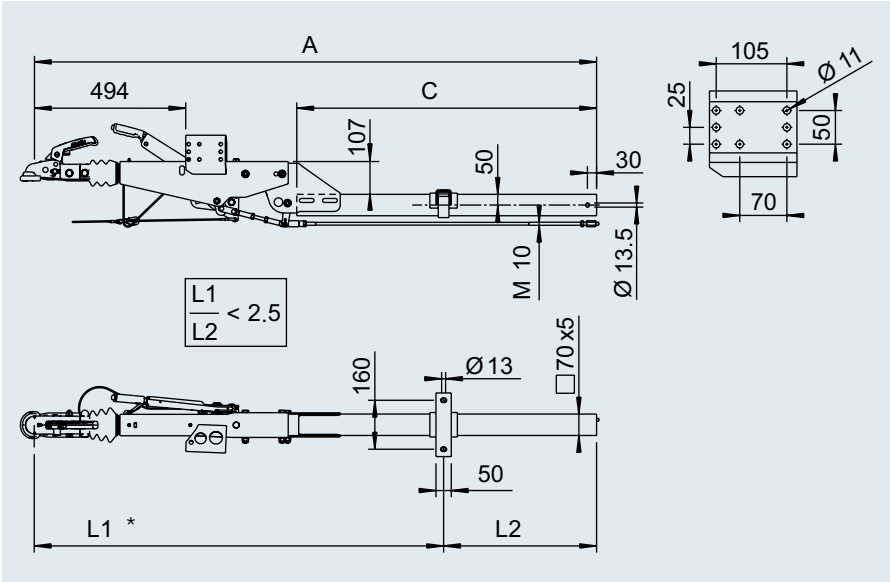
OVERRUN DEVICE SQUARE

with drawbar section cranked 700 to 1,350 kg

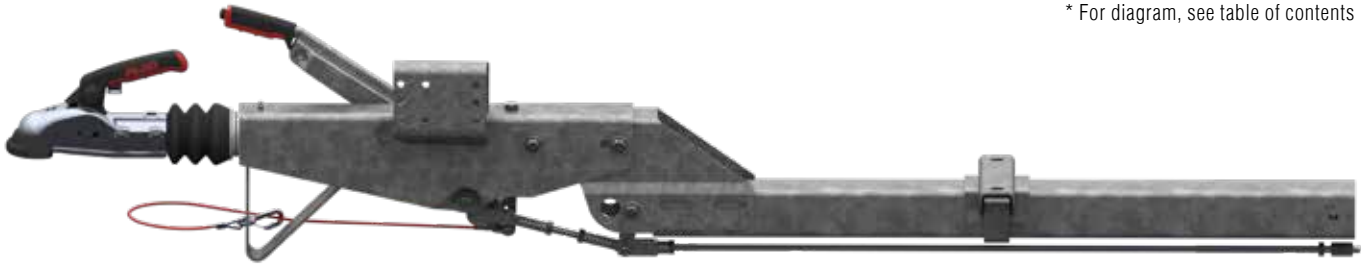
TECHNOLOGY
Type 161 S/B - K16
GA 700 to 1,350 kg
Perm. nose load 100 kg
Changeover relay lever:
☐ Yes ☒ No

ECE test report no.:
Overrun device: 361-0047-97
ECE type approval no.:
Drawbar installation: E1 55R-01 0267
Drawbar: E1 55R-01 1469

Max. free drawbar length at GA 1,350 kg:
1,300 mm



* For diagram, see table of contents



SAP: AE KPL VKT 161S/B M ZUGVERBNDG K16

With coupling head AK 161 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20061901	980	1,830	35.7	–	20	10
20061902	1,140	1,990	37.3	–	20	10
20061903	1,300	2,150	38.9	–	20	10
20061904	1,460	2,310	40.5	–	20	10
20061905	1,620	2,470	42.1	–	20	10
20061906	1,780	2,630	43.7	–	20	10
20061907	1,940	2,790	45.3	–	20	10
20061908	2,100	2,950	46.9	–	20	10
20061909	2,260	3,110	48.5	–	20	10
20061910	2,420	3,270	50.1	–	20	10
20061911	2,580	3,430	51.7	–	20	10
20061912	2,740	3,590	53.3	–	20	10
20061913	2,900	3,750	54.9	–	20	10

With DIN drawbar eye Ø 40 for wheel brake 1637 / 2051 (90/27)

On request

OVERRUN DEVICE SQUARE

with drawbar section straight 950 to 1,600 kg

TECHNOLOGY

Type 161 S - R16 vers. A

GA 950 to 1,600 kg

Perm. nose load 100 kg

Changeover relay lever:

☐ Yes ☒ No

ECE test report no.:

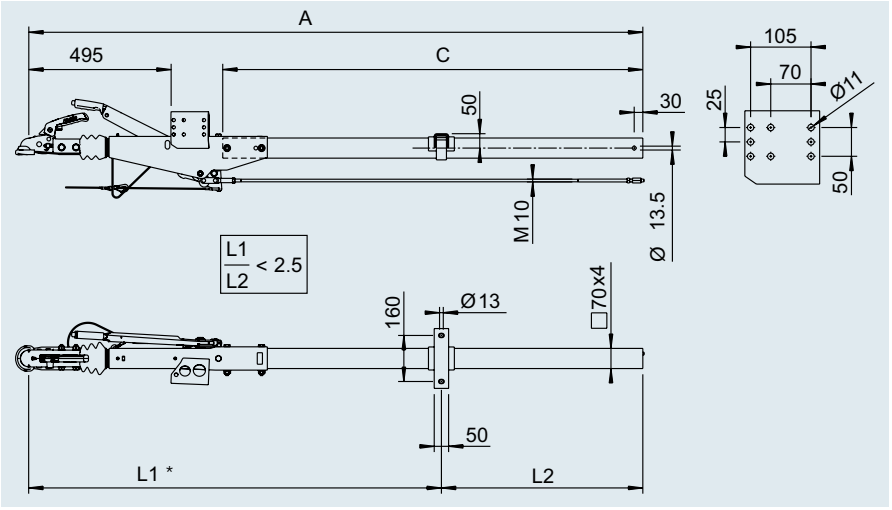
Overrun device: 361-0047-97

ECE type approval no.:

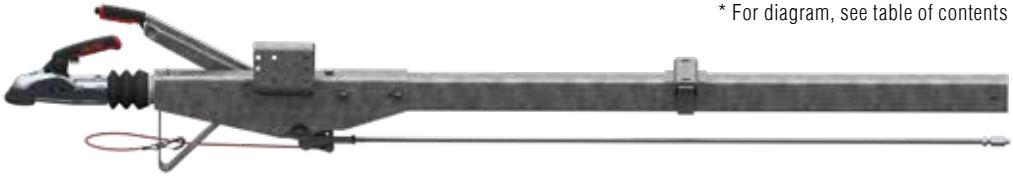
Drawbar installation: E1 55R-01 0267

Drawbar: E1 55R-01 0274

Max. free drawbar length at GA 1,500 kg: 1,100 mm



* For diagram, see table of contents



SAP: AE KPL VKT 161S M ZUGVERBNDG R16/A

With coupling head AK 161 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20062001	730	1,397	28.6	–	20	10
20062002	980	1,647	30.0	–	20	10
20062003	1,140	1,807	31.4	–	20	10
20062004	1,300	1,967	32.8	–	20	10
20062005	1,460	2,127	34.2	–	20	10
20062006	1,620	2,287	35.6	–	20	10
20062007	1,780	2,447	37.0	–	20	10
20062008	1,940	2,607	38.4	–	20	10
20062009	2,100	2,767	39.8	–	20	10
20062010	2,260	2,927	41.2	–	20	10
20062011	2,420	3,087	42.6	–	20	10
20062012	2,580	3,247	44.0	–	20	10
20062013	2,740	3,407	45.4	–	20	10
20062014	2,900	3,567	46.8	–	20	10

With coupling head AK 161 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20062101	730	1,397	28.6	–	20	10
20062102	980	1,647	30.0	–	20	10
20062103	1,140	1,807	31.4	–	20	10
20062104	1,300	1,967	32.8	–	20	10
20062105	1,460	2,127	34.2	–	20	10
20062106	1,620	2,287	35.6	–	20	10
20062107	1,780	2,447	37.0	–	20	10
20062108	1,940	2,607	38.4	–	20	10
20062109	2,100	2,767	39.8	–	20	10
20062110	2,260	2,927	41.2	–	20	10
20062111	2,420	3,087	42.6	–	20	10
20062112	2,580	3,247	44.0	–	20	10
20062113	2,740	3,407	45.4	–	20	10
20062114	2,900	3,567	46.8	–	20	10

With DIN drawbar eye Ø 40 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20035725	730	1,397	28.6	–	20	10
20035726	980	1,647	30.0	–	20	10
20035727	1,140	1,807	31.4	–	20	10
20035728	1,300	1,967	32.8	–	20	10
20035729	1,460	2,127	34.2	–	20	10
20035730	1,620	2,287	35.6	–	20	10
20035731	1,780	2,447	37.0	–	20	10
20035732	1,940	2,607	38.4	–	20	10
20035733	2,100	2,767	39.8	–	20	10
20035734	2,260	2,927	41.2	–	20	10
20035735	2,420	3,087	42.6	–	20	10
20035736	2,580	3,247	44.0	–	20	10
20035737	2,740	3,407	45.4	–	20	10
20035738	2,900	3,567	46.8	–	20	10

With DIN drawbar eye Ø 40 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20035739	730	1,397	28.6	–	20	10
20035740	980	1,647	30.0	–	20	10
20035741	1,140	1,807	31.4	–	20	10
20035742	1,300	1,967	32.8	–	20	10
20035743	1,460	2,127	34.2	–	20	10
20035744	1,620	2,287	35.6	–	20	10
20035745	1,780	2,447	37.0	–	20	10
20035746	1,940	2,607	38.4	–	20	10
20035747	2,100	2,767	39.8	–	20	10
20035748	2,260	2,927	41.2	–	20	10
20035749	2,420	3,087	42.6	–	20	10
20035750	2,580	3,247	44.0	–	20	10
20035751	2,740	3,407	45.4	–	20	10
20035752	2,900	3,567	46.8	–	20	10

OVERRUN DEVICE SQUARE

with drawbar section straight 950 to 1,600 kg

TECHNOLOGY

Type 161 S - R26 vers. A

GA 950 to 1,600 kg

Perm. nose load 100 kg

Changeover relay lever:

☒ Yes ☐ No

ECE test report no.:

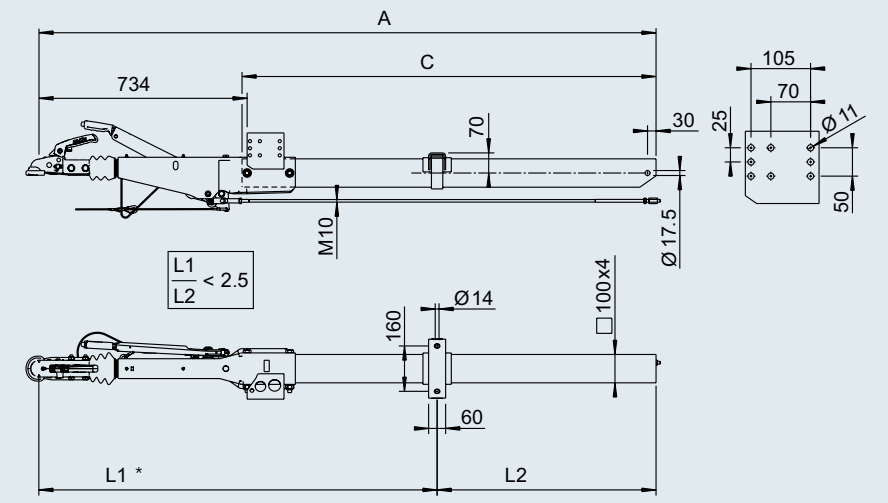
Overrun device: 361-0047-97

ECE type approval no.:

Drawbar installation: E1 55R-01 0267

Drawbar: E1 55R-01 0280

Max. free drawbar length at GA 1,600 kg: 2,250 mm



* For diagram, see table of contents

SAP: AE KPL VKT 161S M ZUGVERBNDG R26/A

With coupling head AK 161 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20062201	980	1,690	37.8	–	20	10
20062202	1,140	1,850	39.8	–	20	10
20062203	1,300	2,010	41.8	–	20	10
20062204	1,460	2,170	43.8	–	20	10
20062205	1,620	2,330	45.8	–	20	10
20062206	1,780	2,490	47.8	–	20	10
20062207	1,940	2,650	49.8	–	20	10
20062208	2,100	2,810	51.8	–	20	10
20062209	2,260	2,970	53.8	–	20	10
20062210	2,420	3,130	55.8	–	20	10
20062211	2,580	3,290	57.8	–	20	10
20062212	2,740	3,450	59.8	–	20	10
20062213	2,900	3,610	61.8	–	20	10

With coupling head AK 161 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20062301	980	1,690	37.8	–	20	10
20062302	1,140	1,850	39.8	–	20	10
20062303	1,300	2,010	41.8	–	20	10
20062304	1,460	2,170	43.8	–	20	10
20062305	1,620	2,330	45.8	–	20	10
20062306	1,780	2,490	47.8	–	20	10
20062307	1,940	2,650	49.8	–	20	10
20062308	2,100	2,810	51.8	–	20	10
20062309	2,260	2,970	53.8	–	20	10
20062310	2,420	3,130	55.8	–	20	10
20062311	2,580	3,290	57.8	–	20	10
20062312	2,740	3,450	59.8	–	20	10
20062313	2,900	3,610	61.8	–	20	10

With DIN drawbar eye Ø 40 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20035824	980	1,690	37.8	–	20	10
20035825	1,140	1,850	39.8	–	20	10
20035826	1,300	2,010	41.8	–	20	10
20035827	1,460	2,170	43.8	–	20	10
20035828	1,620	2,330	45.8	–	20	10
20035829	1,780	2,490	47.8	–	20	10
249285	1,940	2,650	49.8	–	20	10
20035830	2,100	2,810	51.8	–	20	10
20035831	2,260	2,970	53.8	–	20	10
20035832	2,420	3,130	55.8	–	20	10
20035833	2,580	3,290	57.8	–	20	10
20035834	2,740	3,450	59.8	–	20	10
20035835	2,900	3,610	61.8	–	20	10

With DIN drawbar eye Ø 40 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20035836	980	1,690	37.8	–	20	10
20035837	1,140	1,850	39.8	–	20	10
20035838	1,300	2,010	41.8	–	20	10
20035839	1,460	2,170	43.8	–	20	10
20035840	1,620	2,330	45.8	–	20	10
20035841	1,780	2,490	47.8	–	20	10
20035842	1,940	2,650	49.8	–	20	10
20035843	2,100	2,810	51.8	–	20	10
20035844	2,260	2,970	53.8	–	20	10
20035845	2,420	3,130	55.8	–	20	10
20035846	2,580	3,290	57.8	–	20	10
20035847	2,740	3,450	59.8	–	20	10
20035848	2,900	3,610	61.8	–	20	10

OVERRUN DEVICE SQUARE

with drawbar section cranked 950 to 1,600 kg

TECHNOLOGY

Type 161 S - K26 vers. A

GA 950 to 1,600 kg

Perm. nose load 100 kg

Changeover relay lever:

☒ Yes ☐ No

ECE test report no.:

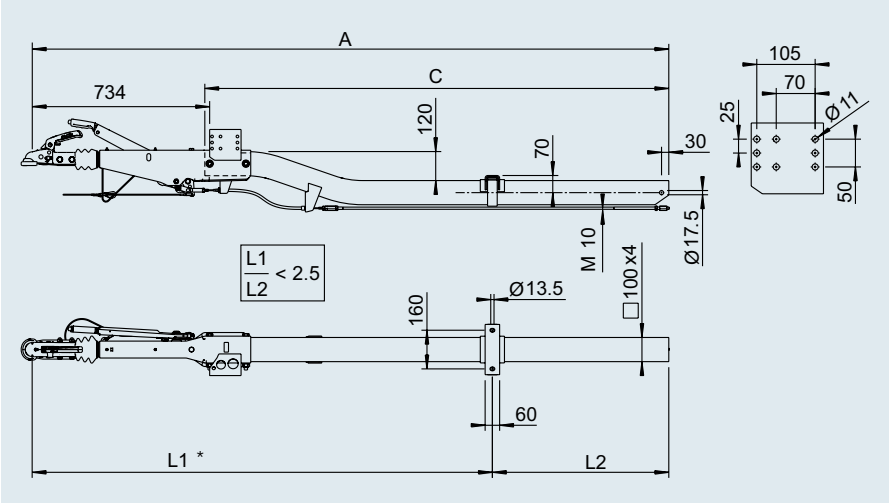
Overrun device: 361-0047-97

ECE type approval no.:

Drawbar installation: E1 55R-01 0267

Drawbar: E1 55R-01 0925

Max. free drawbar length at GA 1,600 kg: 2,130 mm



* For diagram, see table of contents

SAP: AE KPL VKT 161S M ZUGVERBNDG K26/A

With coupling head AK 161 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20062401	1,280	1,990	44	–	20	10
20062402	1,440	2,150	46	–	20	10
20062403	1,600	2,310	48	–	20	10
20062404	1,760	2,470	50	–	20	10
20062405	1,920	2,630	52	–	20	10
20062406	2,080	2,790	54	–	20	10
20062407	2,240	2,950	56	–	20	10
20062408	2,400	3,110	58	–	20	10
20062409	2,560	3,270	60	–	20	10
20062410	2,720	3,430	62	–	20	10
20062411	2,880	3,590	64	–	20	10

With coupling head AK 161 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20062501	1,280	1,990	44	–	20	10
20062502	1,440	2,150	46	–	20	10
20062503	1,600	2,310	48	–	20	10
20062504	1,760	2,470	50	–	20	10
20062505	1,920	2,630	52	–	20	10
20062506	2,080	2,790	54	–	20	10
20062507	2,240	2,950	56	–	20	10
20062508	2,400	3,110	58	–	20	10
20062509	2,560	3,270	60	–	20	10
20062510	2,720	3,430	62	–	20	10
20062511	2,880	3,590	64	–	20	10

With DIN drawbar eye Ø 40 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20035922	1,280	1,990	44	–	20	10
20035923	1,440	2,150	46	–	20	10
20035924	1,600	2,310	48	–	20	10
20035925	1,760	2,470	50	–	20	10
20035926	1,920	2,630	52	–	20	10
20035927	2,080	2,790	54	–	20	10
20035928	2,240	2,950	56	–	20	10
20035929	2,400	3,110	58	–	20	10
20035930	2,560	3,270	60	–	20	10
20035931	2,720	3,430	62	–	20	10
20035932	2,880	3,590	64	–	20	10

With DIN drawbar eye Ø 40 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20035933	1,280	1,990	44	–	20	10
20035934	1,440	2,150	46	–	20	10
20035935	1,600	2,310	48	–	20	10
20035936	1,760	2,470	50	–	20	10
20035937	1,920	2,630	52	–	20	10
20035938	2,080	2,790	54	–	20	10
20035939	2,240	2,950	56	–	20	10
20035940	2,400	3,110	58	–	20	10
20035941	2,560	3,270	60	–	20	10
20035942	2,720	3,430	62	–	20	10
20035943	2,880	3,590	64	–	20	10

OVERRUN DEVICE SQUARE

with drawbar section cranked 1,600 to 2,200 kg

TECHNOLOGY

Type 251 S - K26 vers. A

GA 1,500 to 2,200 kg

Perm. nose load 100 kg

Changeover relay lever:

☒ Yes ☐ No

ECE test report no.:

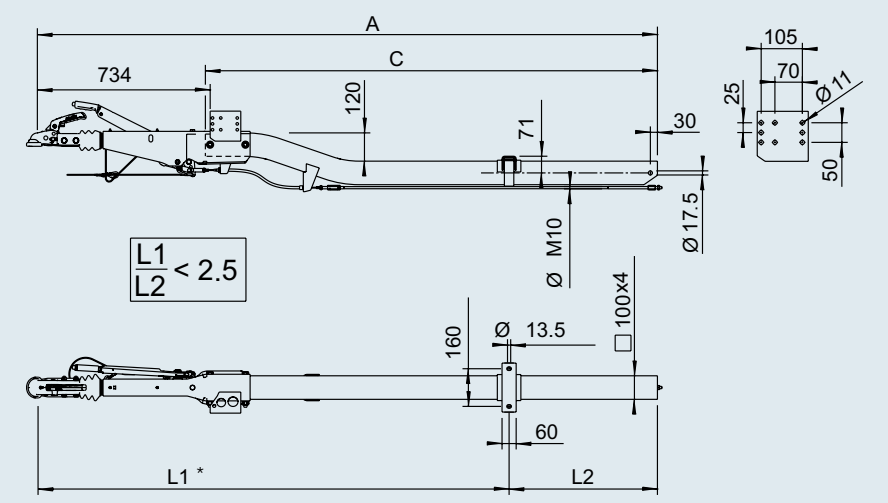
Overrun device: 361-0044-97

ECE type approval no.:

Drawbar installation: E1 55R-01 0268

Drawbar: E1 55R-01 0925

Max. free drawbar length at GA 1,600 kg: 2,200 mm



* For diagram, see table of contents

SAP: AE KPL VKT 251S M ZUGVERBNDG K26/A

With coupling head AK 270 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20062801	1,280	1,990	44	–	20	10
20062802	1,440	2,150	46	–	20	10
20062803	1,600	2,310	48	–	20	10
20062804	1,760	2,470	50	–	20	10
20062805	1,920	2,630	52	–	20	10
20062806	2,080	2,790	54	–	20	10
20062807	2,240	2,950	56	–	20	10
20062808	2,400	3,110	58	–	20	10
20062809	2,560	3,270	60	–	20	10
20062810	2,720	3,430	62	–	20	10
20062811	2,880	3,590	64	–	20	10

With coupling head AK 270 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20062901	1,280	1,990	44	–	20	10
20062902	1,440	2,150	46	–	20	10
20062903	1,600	2,310	48	–	20	10
20062904	1,760	2,470	50	–	20	10
20062905	1,920	2,630	52	–	20	10
20062906	2,080	2,790	54	–	20	10
20062907	2,240	2,950	56	–	20	10
20062908	2,400	3,110	58	–	20	10
20062909	2,560	3,270	60	–	20	10
20062910	2,720	3,430	62	–	20	10
20062911	2,880	3,590	64	–	20	10

With DIN drawbar eye Ø 40 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20036022	1,280	1,990	44	–	20	10
20036023	1,440	2,150	46	–	20	10
20036024	1,600	2,310	48	–	20	10
20036025	1,760	2,470	50	–	20	10
20036026	1,920	2,630	52	–	20	10
20036027	2,080	2,790	54	–	20	10
20036028	2,240	2,950	56	–	20	10
20036029	2,400	3,110	58	–	20	10
20036030	2,560	3,270	60	–	20	10
20036031	2,720	3,430	62	–	20	10
20036032	2,880	3,590	64	–	20	10

With DIN drawbar eye Ø 40 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20036033	1,280	1,990	44	–	20	10
20036034	1,440	2,150	46	–	20	10
20036035	1,600	2,310	48	–	20	10
20036036	1,760	2,470	50	–	20	10
20036037	1,920	2,630	52	–	20	10
20036038	2,080	2,790	54	–	20	10
20036039	2,240	2,950	56	–	20	10
20036040	2,400	3,110	58	–	20	10
20036041	2,560	3,270	60	–	20	10
20036042	2,720	3,430	62	–	20	10
20036043	2,880	3,590	64	–	20	10

OVERRUN DEVICE SQUARE

with drawbar section straight 1,500 to 2,600 kg

TECHNOLOGY

Type 251 S - R26 vers. A

GA 1,500 to 2,600 kg

Perm. nose load 100 kg

Changeover relay lever:

☒ Yes ☐ No

ECE test report no.:

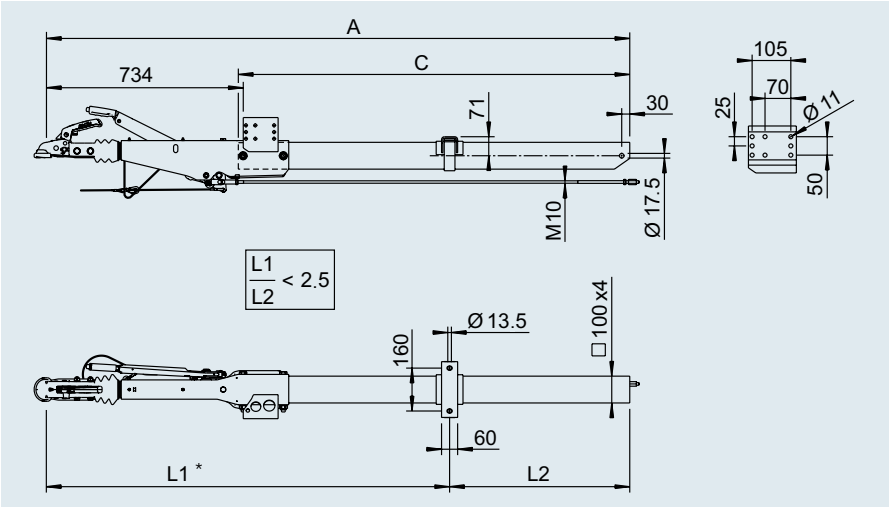
Overrun device: 361-0044-97

ECE type approval no.:

Drawbar installation: E1 55R-01 0268

Drawbar: E1 55R-01 0280

Max. free drawbar length at GA 2,600 kg: 1,400 mm



* For diagram, see table of contents

SAP: AE KPL VKT 251S M ZUGVERBNDG R26/A

With coupling head AK 270 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20062601	980	1,690	41.5	–	20	10
20062602	1,140	1,850	43.4	–	20	10
20062603	1,300	2,010	45.3	–	20	10
20062604	1,460	2,170	47.2	–	20	10
20062605	1,620	2,330	49.1	–	20	10
20062606	1,780	2,490	51.0	–	20	10
20062607	1,940	2,650	52.9	–	20	10
20062608	2,100	2,810	54.8	–	20	10
20062609	2,260	2,970	56.7	–	20	10
20062610	2,420	3,130	58.6	–	20	10
20062611	2,580	3,290	60.5	–	20	10
20062612	2,740	3,450	62.4	–	20	10
20062613	2,900	3,610	64.3	–	20	10

With coupling head AK 270 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20062701	980	1,690	41.5	–	20	10
20062702	1,140	1,850	43.4	–	20	10
20062703	1,300	2,010	45.3	–	20	10
20062704	1,460	2,170	47.2	–	20	10
20062705	1,620	2,330	49.1	–	20	10
20062706	1,780	2,490	51.0	–	20	10
20062707	1,940	2,650	52.9	–	20	10
20062708	2,100	2,810	54.8	–	20	10
20062709	2,260	2,970	56.7	–	20	10
20062710	2,420	3,130	58.6	–	20	10
20062711	2,580	3,290	60.5	–	20	10
20062712	2,740	3,450	62.4	–	20	10
20062713	2,900	3,610	64.3	–	20	10

With DIN drawbar eye Ø 40 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20036124	980	1,690	41.5	–	20	10
20036125	1,140	1,850	43.4	–	20	10
20036126	1,300	2,010	45.3	–	20	10
20036127	1,460	2,170	47.2	–	20	10
20036128	1,620	2,330	49.1	–	20	10
20036129	1,780	2,490	51.0	–	20	10
249275	1,940	2,650	52.9	–	20	10
20036130	2,100	2,810	54.8	–	20	10
20036131	2,260	2,970	56.7	–	20	10
20036132	2,420	3,130	58.6	–	20	10
20036133	2,580	3,290	60.5	–	20	10
20036134	2,740	3,450	62.4	–	20	10
20036135	2,900	3,610	64.3	–	20	10

With DIN drawbar eye Ø 40 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20036136	980	1,690	41.5	–	20	10
20036137	1,140	1,850	43.4	–	20	10
20036138	1,300	2,010	45.3	–	20	10
20036139	1,460	2,170	47.2	–	20	10
20036140	1,620	2,330	49.1	–	20	10
20036141	1,780	2,490	51.0	–	20	10
20036142	1,940	2,650	52.9	–	20	10
20036143	2,100	2,810	54.8	–	20	10
20036144	2,260	2,970	56.7	–	20	10
20036145	2,420	3,130	58.6	–	20	10
20036146	2,580	3,290	60.5	–	20	10
20036147	2,740	3,450	62.4	–	20	10
20036148	2,900	3,610	64.3	–	20	10

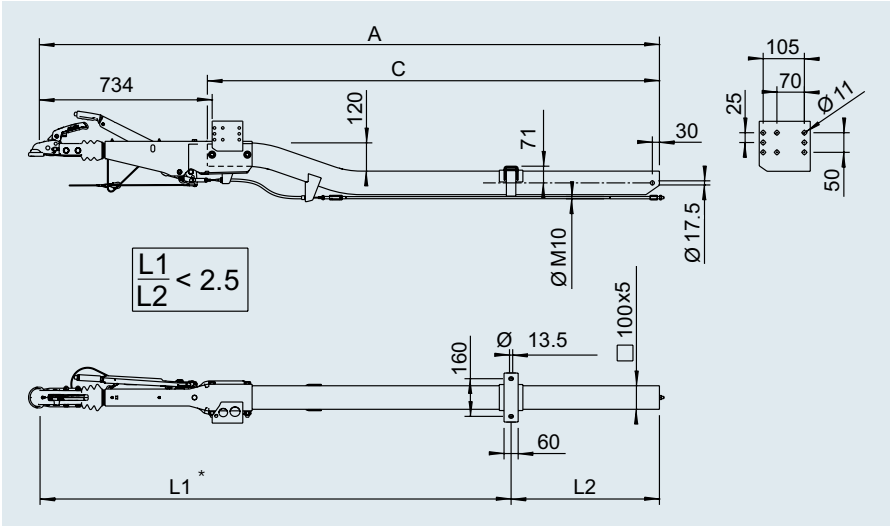
OVERRUN DEVICE SQUARE

with drawbar section cranked 1,500 to 2,600 kg

TECHNOLOGY
Type 251 S - K26 vers. B
GA 1,500 to 2,600 kg
Perm. nose load 100 kg
Changeover relay lever:
☒ Yes ☐ No

ECE test report no.:
Overrun device: 361-0044-97
ECE type approval no.:
Drawbar installation: E1 55R-01 0268
Drawbar: E1 55R-01 0925

Max. free drawbar length at GA 2,600 kg:
1,650 mm



* For diagram, see table of contents

SAP: AE KPL VKT 251S M ZUGVERBNDG K26/B

With coupling head AK 270 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20063001	1,280	1,990	53	–	20	10
1731022	1,440	2,150	55	–	20	10
20063002	1,600	2,310	57	–	20	10
20063003	1,760	2,470	59	–	20	10
20063004	1,920	2,630	61	–	20	10
20063005	2,080	2,790	63	–	20	10
20063006	2,240	2,950	65	–	20	10
20063007	2,400	3,110	67	–	20	10
20063008	2,560	3,270	69	–	20	10
20063009	2,720	3,430	71	–	20	10
20063010	2,880	3,590	73	–	20	10

With coupling head AK 270 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20063101	1,280	1,990	53	–	20	10
20063102	1,440	2,150	55	–	20	10
20063103	1,600	2,310	57	–	20	10
20063104	1,760	2,470	59	–	20	10
20063105	1,920	2,630	61	–	20	10
20063106	2,080	2,790	63	–	20	10
20063107	2,240	2,950	65	–	20	10
20063108	2,400	3,110	67	–	20	10
20063109	2,560	3,270	69	–	20	10
20063110	2,720	3,430	71	–	20	10
20063111	2,880	3,590	73	–	20	10

With DIN drawbar eye Ø 40 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20036222	1,280	1,990	53	–	20	10
20036223	1,440	2,150	55	–	20	10
20036224	1,600	2,310	57	–	20	10
20036225	1,760	2,470	59	–	20	10
20036226	1,920	2,630	61	–	20	10
20036227	2,080	2,790	63	–	20	10
20036228	2,240	2,950	65	–	20	10
20036229	2,400	3,110	67	–	20	10
20036230	2,560	3,270	69	–	20	10
20036231	2,720	3,430	71	–	20	10
20036232	2,880	3,590	73	–	20	10

With DIN drawbar eye Ø 40 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20036233	1,280	1,990	53	–	20	10
20036234	1,440	2,150	55	–	20	10
20036235	1,600	2,310	57	–	20	10
20036236	1,760	2,470	59	–	20	10
20036237	1,920	2,630	61	–	20	10
20036238	2,080	2,790	63	–	20	10
20036239	2,240	2,950	65	–	20	10
20036240	2,400	3,110	67	–	20	10
20036241	2,560	3,270	69	–	20	10
20036242	2,720	3,430	71	–	20	10
20036243	2,880	3,590	73	–	20	10

OVERRUN DEVICE SQUARE

with drawbar section straight 2,500 to 3,500 kg

TECHNOLOGY

Type 2.8 VB/1-C - R35 vers. B

GA 2,500 to 3,500 kg

Perm. nose load 150 kg

Changeover relay lever:

☐ Yes ☒ No

ECE test report no.:

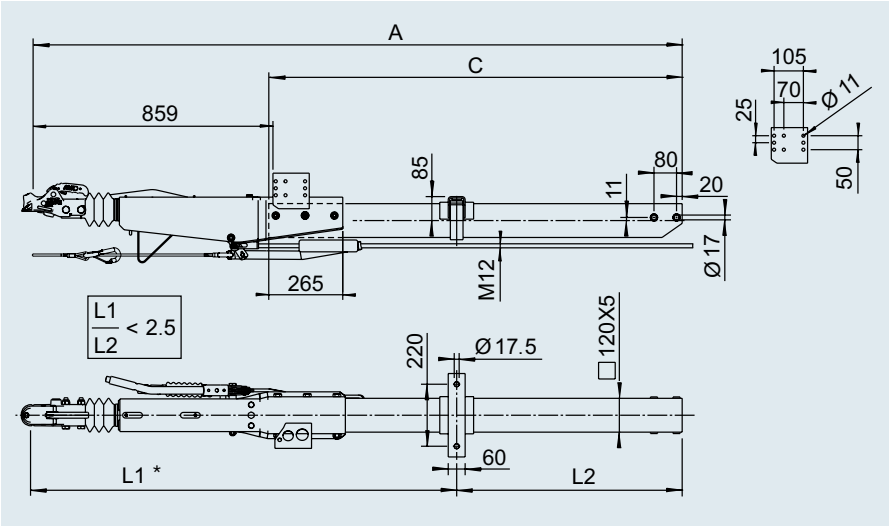
Overrun device: 361-0045-97

ECE type approval no.:

Drawbar installation: E1 55R-01 0378

Drawbar: E1 55R-01 0762

Max. free drawbar length at GA 3500 kg: 1,820 mm



* For diagram, see table of contents

SAP: AE KPL VKT 251S M ZUGVERBNDG K26/B

With coupling head AK 351 for wheel brake 2051 / 2361 (90/32)

Part No. 2051	Part No. 2361	Dimension C in mm	Dimension A in mm				
20036463	20036350	980	1,815	47.0	–	20	10
20036464	20036351	1,140	1,975	49.6	–	20	10
20036465	20036352	1,300	2,135	52.2	–	20	10
20036466	20036353	1,460	2,295	54.8	–	20	10
20036467	20036354	1,620	2,455	57.4	–	20	10
20036468	20036355	1,780	2,615	60.0	–	20	10
20036469	20036356	1,940	2,775	62.6	–	20	10
20036470	20036357	2,100	2,935	65.2	–	20	10
20036471	20036358	2,260	3,095	67.8	–	20	10
20036472	20036359	2,420	3,255	70.4	–	20	10
20036473	20036360	2,580	3,415	73.0	–	20	10
20036474	20036361	2,740	3,575	75.6	–	20	10
20036475	20036362	2,900	3,735	78.2	–	20	10

With coupling head AK 351 for wheel brake 3081

On request

OVERRUN DEVICE SQUARE

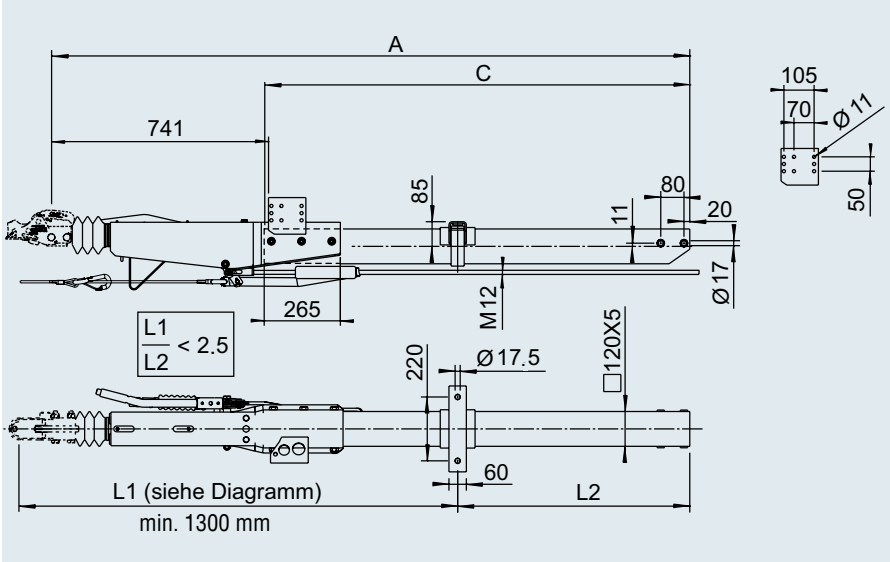
with drawbar section straight 2,500 to 3,500 kg without hitch component

TECHNOLOGY
Type 2.8 VB/1-C - R35 vers. B
GA 2,500–3,500 kg
Perm. nose load 150 kg
Changeover relay lever:
☐ Yes ☒ No

ECE test report no.:
Overrun device: 361-0045-97
ECE type approval no.:
Drawbar installation: E1 55R-01 0378
Drawbar: E1 55R-01 0762

Max. free drawbar length at GA 3500 kg:
1,820 mm

See table of contents for appropriate drawbar eyes



* For diagram, see table of contents

SAP: AE VKT 2,8VB OHNE VKT 120 RB2051

without hitch component for wheel brake 2051 / 2361 (90/32)

Part No. 2051	Part No. 2361	Dimension C in mm	Dimension A in mm				
20036450	20036363	980	1,700	45.4	–	20	10
20036451	20036364	1,140	1,860	48.0	–	20	10
20036452	20036365	1,300	2,020	50.6	–	20	10
20036453	20036366	1,460	2,180	53.2	–	20	10
20036454	20036367	1,620	2,340	55.8	–	20	10
20036455	20036368	1,780	2,500	58.4	–	20	10
20036456	20036369	1,940	2,660	61.0	–	20	10
20036457	20036370	2,100	2,820	63.6	–	20	10
20036458	20036371	2,260	2,980	66.2	–	20	10
20036459	20036372	2,420	3,140	68.8	–	20	10
20036460	20036373	2,580	3,300	71.4	–	20	10
20036461	20036374	2,740	3,460	74.0	–	20	10
20036462	20036375	2,900	3,620	76.6	–	20	10

OVERRUN DEVICE SQUARE

Sideways swivelling

YOUR ADVANTAGE

Pays for itself twice

Parking space is expensive. Sales vehicles, for instance, are therefore invoiced according to the occupied sales space. With the new AL-KO pivoting drawbar, you cannot only reduce the trailer size by about 1.20 m, you can also save money on your stall fee or when transporting new vehicles.

Incredibly easy to operate

SURFACE TREATMENT

- Hot-dip galvanised

OPERATION OF THE PIVOTING DRAWBAR

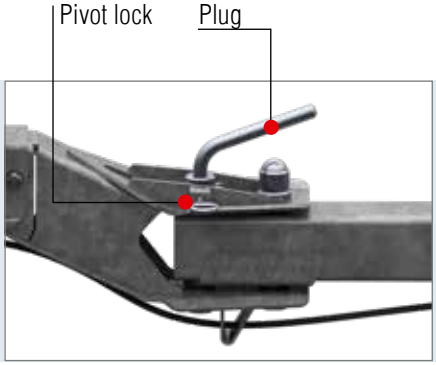
Without significant effort, one person can pivot the drawbar.

Step 1: Move the vehicle to a safe standing position using the four corner steadies and raise the jockey wheel by turning.

Step 2: Open the pivot lock and pull out the plug. Pivot the drawbar either to the right or left.

Step 3: Insert the plug again and secure the drawbar to prevent it from pivoting back inadvertently.

Note: If the drawbar projects beyond the width of the trailer when pivoted, the projection will have to be marked (e.g. with a red flag).



TELESCOPIC HANDBRAKE LEVER

with lowering function for the weight range 2,700 to 3,500 kg

THE AL-KO TELESCOPIC HANDBRAKE LEVER

AL-KO PATENT

- **Flat design**
  For greater clearance between the lever and tailgate of a car
- **Precisely adjustable**
  A toothed segment with pushbutton has been dispensed with to make the handbrake easier to adjust. On a slope, this means the trailer can be braked and manoeuvred more precisely using the handbrake
- **Minimum hand force**
  The maximum possible lever length (140 mm) is available for releasing the handbrake, i.e. reduced hand force
- **Short design**
  When released, the handbrake lever is very short, giving greater clearance between the car and trailer
- **Ergonomic**
  The lever position, particularly when stationary forwards, is highly ergonomic, i.e. the user can apply his or her bodyweight to the lever, and releasing the handbrake is given noticeable additional support

Handbrake lever opened (driving)

Handbrake lever closed (parking brake forwards)

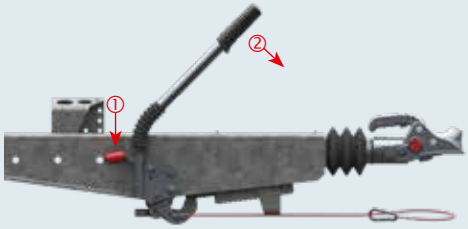
Handbrake lever closed (parking brake backwards, brake optimally set)

THE LOWERING FUNCTION

- **Lowering handbrake lever**
- **After the handbrake has been applied, the lever can be lowered**

ATTENTION!
The lowered handbrake position could result in the incorrect conclusion that the handbrake has already been released.
For this reason, the future user will have to be specifically informed about this function on handover of the trailer.

Handbrake lever opened = brake rod not clamped



Handbrake lever applied = brake rod clamped
Press the locking lever ① and simultaneously lower the handbrake lever ②

Handbrake lever applied = brake rod clamped, handbrake lever lowered

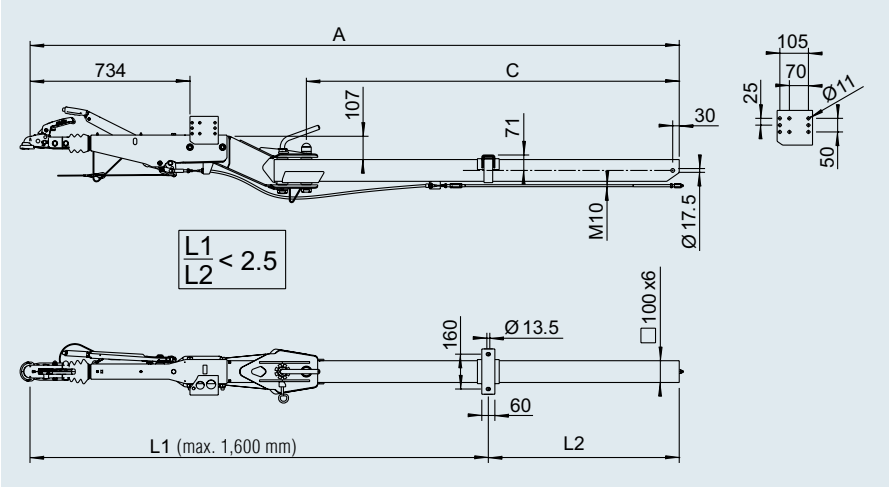
OVERRUN DEVICE SQUARE

with sideways swivelling drawbar section from 950 to 1,600 kg

TECHNOLOGY
Type 161 S - K 26-S
GA 950 to 1,600 kg
Perm. nose load 100 kg
Changeover relay lever:
☒ Yes ☐ No

ECE test report no.:
Overrun device: 361-0047-97
ECE type approval no.:
Drawbar installation: E1 55R-01-0267
Drawbar: E1 55R-01-1551

Max. free drawbar length: 1,600 mm



SAP: AE KPL VKT 161S M SCHWENKDEICH K26-S

With coupling head AK 161 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20063201	1,150	2,410	65	–	20	15
20063202	1,230	2,490	67	–	20	15
20063203	1,310	2,570	69	–	20	15
20063204	1,390	2,650	71	–	20	15
20063205	1,470	2,730	73	–	20	15
20063206	1,550	2,810	75	–	20	15
20063207	1,630	2,890	77	–	20	15
20063208	1,710	2,970	79	–	20	15
20063209	1,790	3,050	81	–	20	15
20063210	1,870	3,130	83	–	20	15
20063211	1,950	3,210	85	–	20	15
20063212	2,030	3,290	87	–	20	15
20063213	2,110	3,370	89	–	20	15
20063214	2,190	3,450	91	–	20	15
20063215	2,270	3,530	93	–	20	15
20063216	2,350	3,610	95	–	20	15
20063217	2,430	3,690	97	–	20	15
20063218	2,510	3,770	99	–	20	15
20063219	2,590	3,850	101	–	20	15
20063220	2,670	3,930	103	–	20	15
20063221	2,750	4,010	105	–	20	15

With coupling head AK 161 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20063301	1,150	2,410	65	–	20	15
20063302	1,230	2,490	67	–	20	15
20063303	1,310	2,570	69	–	20	15
20063304	1,390	2,650	71	–	20	15
20063305	1,470	2,730	73	–	20	15
20063306	1,550	2,810	75	–	20	15
20063307	1,630	2,890	77	–	20	15
20063308	1,710	2,970	79	–	20	15
20063309	1,790	3,050	81	–	20	15
20063310	1,870	3,130	83	–	20	15
20063311	1,950	3,210	85	–	20	15
20063312	2,030	3,290	87	–	20	15
20063313	2,110	3,370	89	–	20	15
20063314	2,190	3,450	91	–	20	15
20063315	2,270	3,530	93	–	20	15
20063316	2,350	3,610	95	–	20	15
20063317	2,430	3,690	97	–	20	15
20063318	2,510	3,770	99	–	20	15
20063319	2,590	3,850	101	–	20	15
20063320	2,670	3,930	103	–	20	15
20063321	2,750	4,010	105	–	20	15

With DIN drawbar eye Ø 40 for wheel brake 2051 (90/27)

On request

With DIN drawbar eye Ø 40 for wheel brake 2361 (90/30)

On request

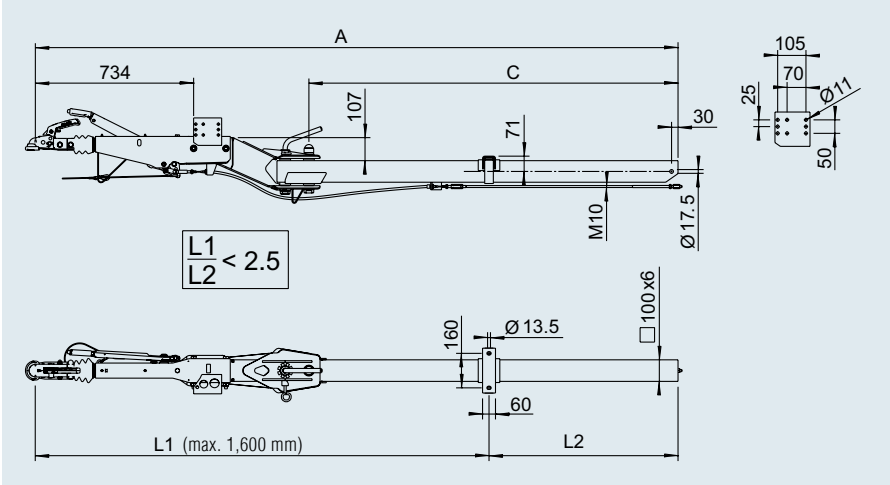
OVERRUN DEVICE SQUARE

with sideways swivelling drawbar section from 1,500 to 2,600 kg

TECHNOLOGY
Type 251 S - K 26-S
GA 1,500 to 2,600 kg
Perm. nose load 100 kg
Changeover relay lever:
☒ Yes ☐ No

ECE test report no.:
Overrun device: 361-0044-97
ECE type approval no.:
Drawbar installation: E1 55R-01-0268
Drawbar: E1 55R-01-1551

Max. free drawbar length: 1,600 mm



SAP: AE KPL VKT 251S M SCHWENKDEICH K26-S

With coupling head AK 270 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20063601	1,150	2,410	70	–	20	15
20063602	1,230	2,490	72	–	20	15
20063603	1,310	2,570	74	–	20	15
20063604	1,390	2,650	76	–	20	15
20063605	1,470	2,730	78	–	20	15
20063606	1,550	2,810	80	–	20	15
20063607	1,630	2,890	82	–	20	15
20063608	1,710	2,970	84	–	20	15
20063609	1,790	3,050	86	–	20	15
20063610	1,870	3,130	88	–	20	15
20063611	1,950	3,210	90	–	20	15
20063612	2,030	3,290	92	–	20	15
20063613	2,110	3,370	94	–	20	15
20063614	2,190	3,450	96	–	20	15
20063615	2,270	3,530	98	–	20	15
20063616	2,350	3,610	100	–	20	15
20063617	2,430	3,690	102	–	20	15
20063618	2,510	3,770	104	–	20	15
20063619	2,590	3,850	106	–	20	15
20063620	2,670	3,930	108	–	20	15
20063621	2,750	4,010	110	–	20	15

With DIN drawbar eye Ø 40 for wheel brake 2051 (90/27)

On request

With coupling head AK 270 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20063701	1,150	2,410	70	–	20	15
20063702	1,230	2,490	72	–	20	15
20063703	1,310	2,570	74	–	20	15
20063704	1,390	2,650	76	–	20	15
20063705	1,470	2,730	78	–	20	15
20063706	1,550	2,810	80	–	20	15
20063707	1,630	2,890	82	–	20	15
20063708	1,710	2,970	84	–	20	15
20063709	1,790	3,050	86	–	20	15
20063710	1,870	3,130	88	–	20	15
20063711	1,950	3,210	90	–	20	15
20063712	2,030	3,290	92	–	20	15
20063713	2,110	3,370	94	–	20	15
20063714	2,190	3,450	96	–	20	15
20063715	2,270	3,530	98	–	20	15
20063716	2,350	3,610	100	–	20	15
20063717	2,430	3,690	102	–	20	15
20063718	2,510	3,770	104	–	20	15
20063719	2,590	3,850	106	–	20	15
20063720	2,670	3,930	108	–	20	15
20063721	2,750	4,010	110	–	20	15

With DIN drawbar eye Ø 40 for wheel brake 2361 (90/30)

On request

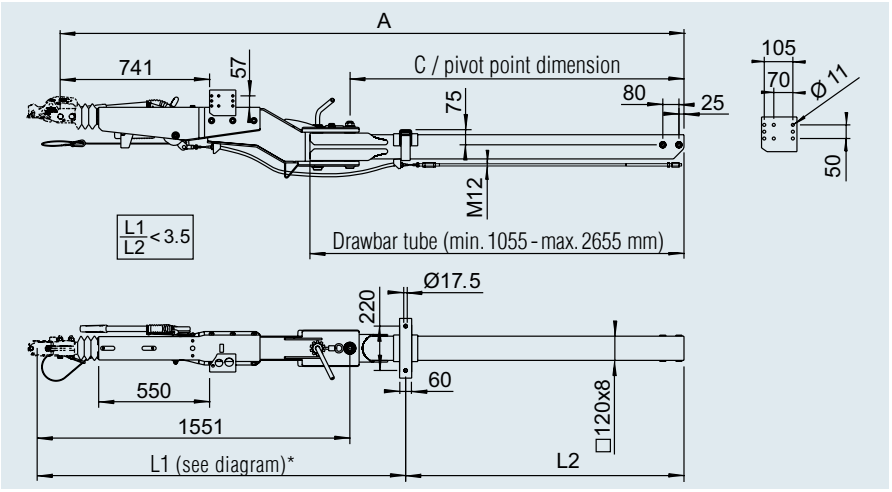
OVERRUN DEVICE SQUARE

with sideways swivelling drawbar section from 2,500 to 3,500 kg

TECHNOLOGY
Type 2.8 VB/1-C - K35-S
GA 2,500 to 3,500 kg
Perm. nose load 150 kg
Changeover relay lever:
☐ Yes ☒ No

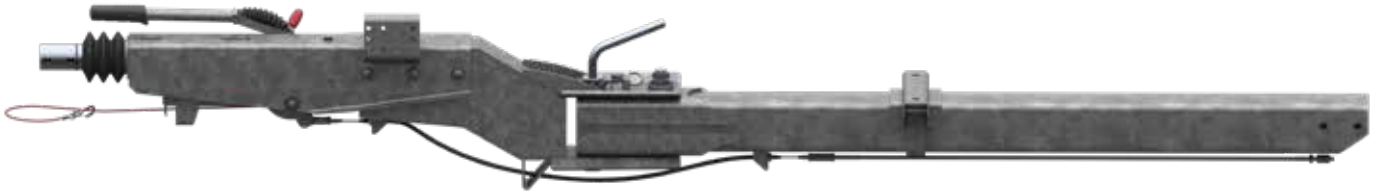
ECE test report no.:
Overrun device: 361-0045-97
ECE type approval no.:
Drawbar installation: E1 55R-01 0378
Drawbar: E1 55R-01 2415

Max. free drawbar length: 2,900 mm



See table of contents for appropriate hitches and drawbar eyes

* For diagram, see table of contents



SAP: AE VKT 2,8VB M SCHWENKDEICH K35-S

Without hitch component for								
Wheel brakes 2051 (90/30)	Wheel brakes 2361 (90/32)	Wheel brakes 3062/3081 (90/35.5)	Dimension					
Part No.	Part No.	Part No.	C in mm	A in mm				
20057322	20057301	20057343	857	2,410	118	–	20	15
20057323	20057302	20057344	937	2,490	120	–	20	15
20057324	20057303	20057345	1,017	2,570	122	–	20	15
20057325	20057304	20057346	1,097	2,650	125	–	20	15
20057326	20057305	20057347	1,177	2,730	127	–	20	15
20057327	20057306	20057348	1,257	2,810	129	–	20	15
20057328	20057307	20057349	1,337	2,890	131	–	20	15
20057329	20057308	20057350	1,417	2,970	133	–	20	15
20057330	20057309	20057351	1,497	3,050	136	–	20	15
20057331	20057310	20057352	1,577	3,130	138	–	20	15
20057332	20057311	20057353	1,657	3,210	140	–	20	15
20057333	20057312	20057354	1,737	3,290	142	–	20	15
20057334	20057313	20057355	1,817	3,370	144	–	20	15
20057335	20057314	20057356	1,897	3,450	147	–	20	15
20057336	20057315	20057357	1,977	3,530	149	–	20	15
20057337	20057316	20057358	2,057	3,610	151	–	20	15
20057338	20057317	20057359	2,137	3,690	153	–	20	15
20057339	20057318	20057360	2,217	3,770	155	–	20	15
20057340	20057319	20057361	2,297	3,850	158	–	20	15
20057341	20057320	20057362	2,377	3,930	160	–	20	15
20057342	20057321	20057363	2,457	4,010	162	–	20	15

OVERRUN DEVICE SQUARE

with removable drawbar section

YOUR ADVANTAGE

Sales vehicles are charged according to the space they take up. By removing the overrun device, the trailer length can be reduced by up to 1.20 m.
You save sales space and reduce your stall fees.

OPERATION

Step 1
Move the vehicle to a safe standing position using the four corner steadies and raise the jockey wheel by turning.

Step 2 (2 people required)
Remove the safety plug and release the t-bar. The bearing screw can now be knocked out by one person, while the second person secures the overrun device to prevent it from falling down.

Step 3
The overrun device can now be pivoted sideways under the vehicle.

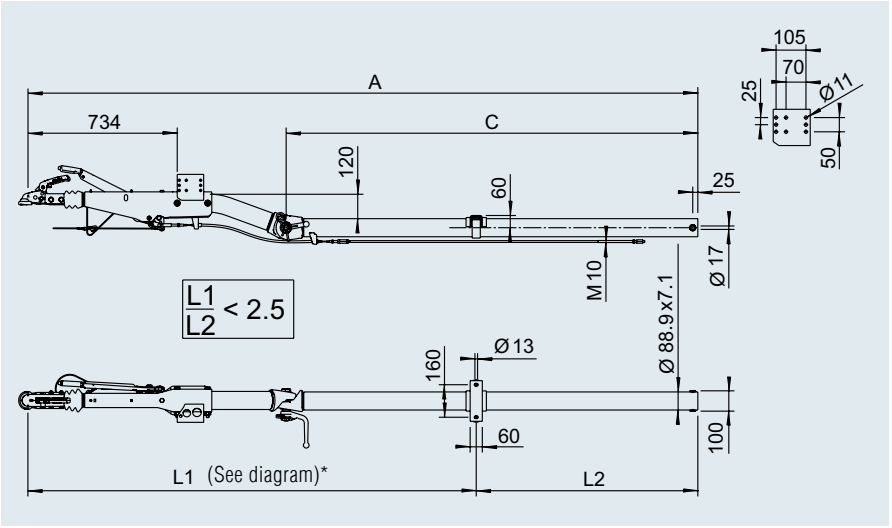
OVERRUN DEVICE SQUARE

with removable drawbar section from 950 to 1,600 kg

TECHNOLOGY
Type 161 S - ZE 252R
GA 950 to 1,600 kg
Perm. nose load 100 kg
Changeover relay lever:
☒ Yes ☐ No

ECE test report no.:
Overrun device 161S: 361-0047-97
ECE type approval no.:
Drawbar installation 161K: E1 55R-01 0267
Drawbar installation 252R: E1 55R-01 0536

Max. free drawbar length at GA 1,600 kg:
1,640 mm



* For diagram, see table of contents

SAP: AE KPL 161S VKT M ZUGEINRICHTUNG 252R

With coupling head AK 161 for wheel brake 1637 / 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20063401	895	2,165	71	–	20	20
20063402	1,055	2,325	75	–	20	20
20063403	1,215	2,485	79	–	20	20
20063404	1,375	2,645	83	–	20	20
20063405	1,535	2,805	87	–	20	20
20063406	1,695	2,965	91	–	20	20
20063407	1,855	3,125	95	–	20	20
20063408	2,015	3,285	99	–	20	20
20063409	2,175	3,445	103	–	20	20
20063410	2,335	3,605	107	–	20	20
20063411	2,495	3,765	111	–	20	20

With coupling head AK 161 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20063501	895	2,165	71	–	20	20
20063502	1,055	2,325	75	–	20	20
20063503	1,215	2,485	79	–	20	20
20063504	1,375	2,645	83	–	20	20
20063505	1,535	2,805	87	–	20	20
20063506	1,695	2,965	91	–	20	20
20063507	1,855	3,125	95	–	20	20
20063508	2,015	3,285	99	–	20	20
20063509	2,175	3,445	103	–	20	20
20063510	2,335	3,605	107	–	20	20
20063511	2,495	3,765	111	–	20	20

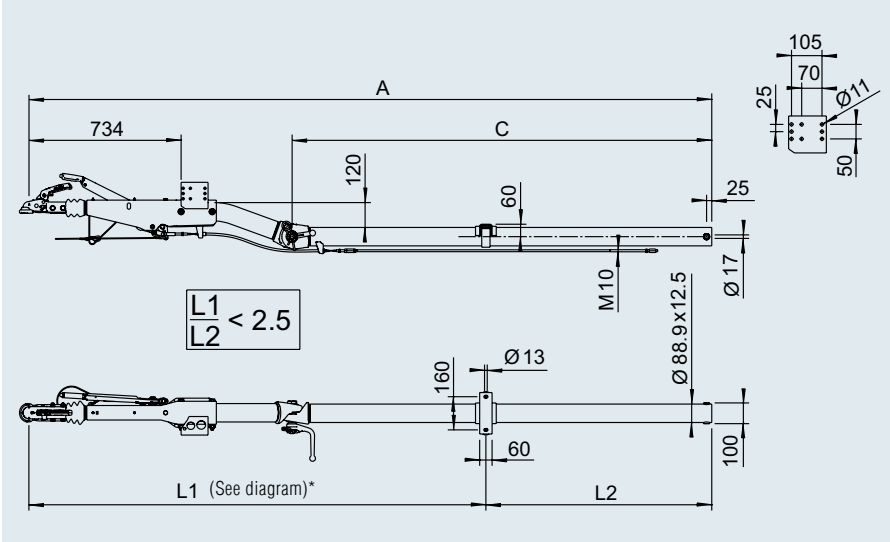
OVERRUN DEVICE SQUARE

with removable drawbar section from 1,500 to 2,600 kg

TECHNOLOGY
Type 251 S - ZE 252R
GA 1,500 to 2,600 kg
Perm. nose load 100 kg
Changeover relay lever:
☒ Yes ☐ No

ECE test report no.:
Overrun device 251S: 361-0044-97
ECE type approval no.:
Drawbar installation 251K: E1 55R-01 0268
Drawbar installation 252R: E1 55R-01 0536

Max. free drawbar length min. 1,440 mm)
At GA 2,600 kg: max. 1,480 mm)



* For diagram, see table of contents

SAP: AE KPL 251S VKT M ZUGEINRICHTUNG 252R

With coupling head AK 270 for wheel brake 2051 (90/27)

Part No.	Dimension C in mm	Dimension A in mm				
20063801	905	2,175	74.4	–	20	20
20063802	1,065	2,335	78.4	–	20	20
20063803	1,225	2,495	82.4	–	20	20
20063804	1,385	2,655	86.4	–	20	20
20063805	1,545	2,815	90.4	–	20	20
20063806	1,705	2,975	94.4	–	20	20
20063807	1,865	3,135	98.4	–	20	20
20063808	2,025	3,295	102.4	–	20	20
20063809	2,185	3,455	106.4	–	20	20
20063810	2,345	3,615	110.4	–	20	20
20063811	2,505	3,775	114.4	–	20	20

With coupling head AK 270 for wheel brake 2361 (90/30)

Part No.	Dimension C in mm	Dimension A in mm				
20063901	905	2,175	74.4	–	20	20
20063902	1,065	2,335	78.4	–	20	20
20063903	1,225	2,495	82.4	–	20	20
20063904	1,385	2,655	86.4	–	20	20
20063905	1,545	2,815	90.4	–	20	20
20063906	1,705	2,975	94.4	–	20	20
20063907	1,865	3,135	98.4	–	20	20
20063908	2,025	3,295	102.4	–	20	20
20063909	2,185	3,455	106.4	–	20	20
20063910	2,345	3,615	110.4	–	20	20
20063911	2,505	3,775	114.4	–	20	20

OVERRUN DEVICE SQUARE – DIAGRAMS

for determining the maximum possible free drawbar length

Straight version

Diagram type R4 vers. B3
Square 60 x 60 x 4

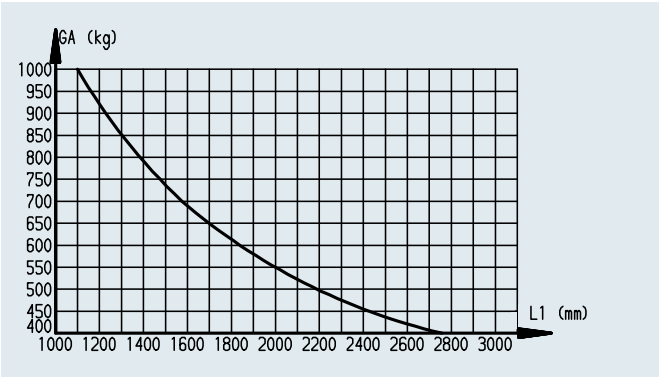


Diagram type R16 vers. A
Square 70 x 70 x 4

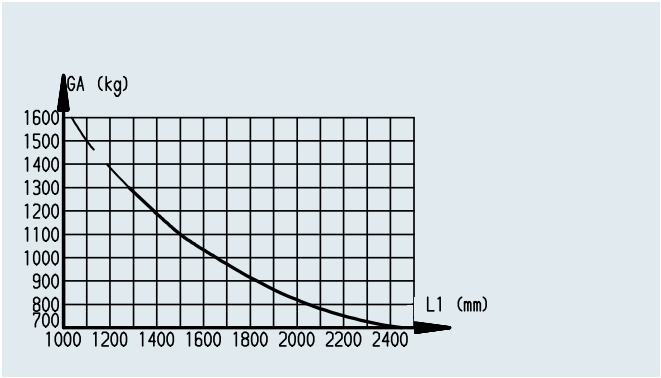


Diagram type R26 vers. A
Square 100 x 100 x 4

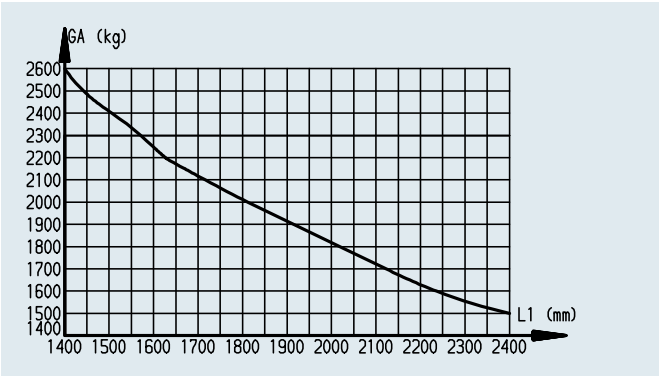
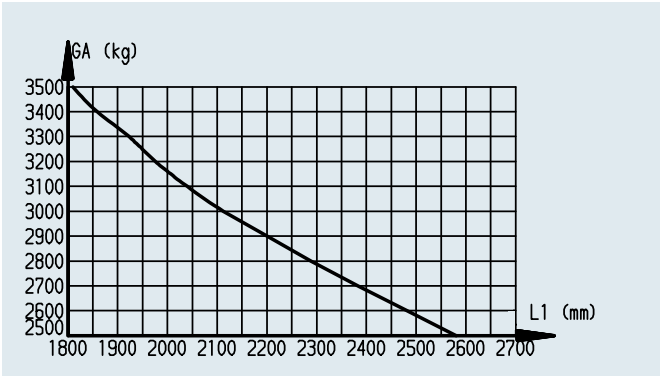


Diagram type R35 vers. B
Square 120 x 120 x 5



Cranked version

Diagram type K16
Square 70 x 70 x 5

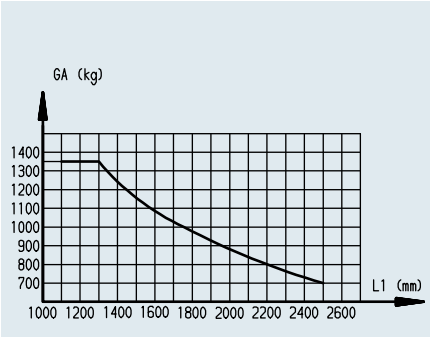


Diagram type K26 vers. A
Square 100 x 100 x 4

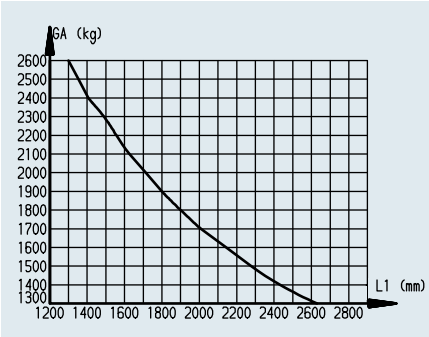
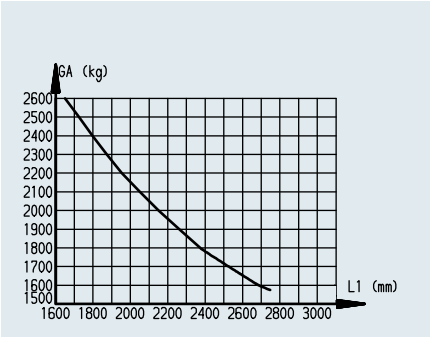


Diagram type K26 vers. B
Square 100 x 100 x 5



OVERRUN DEVICE SQUARE – DIAGRAMS

for determining the maximum possible free drawbar length

Cranked version

Diagram type K10 vers. A
Tube 70 x 70 x 4

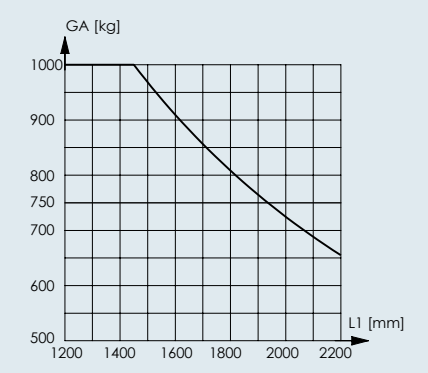


Diagram type K35-S
Tube 120 x 120 x 8

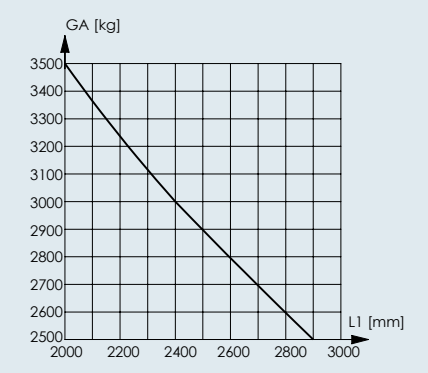


Diagram type 252R vers. T1
Tube Ø 88.9 x 7.1

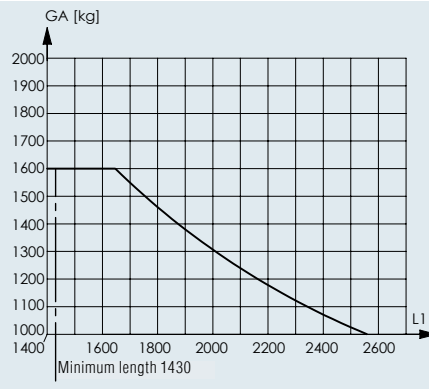
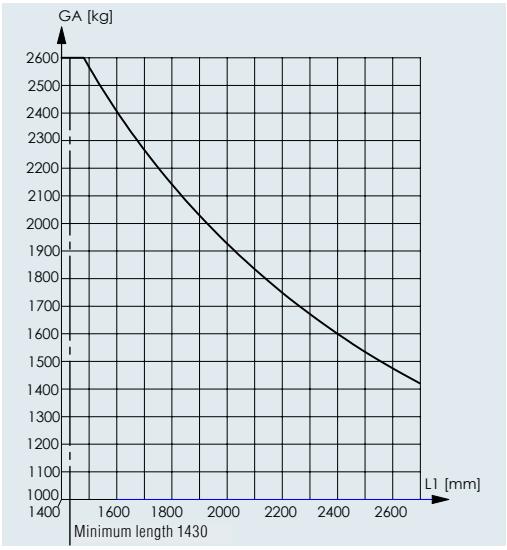


Diagram type 252R vers. Q1
Tube Ø 88.9 x 12.5



OVERRUN DEVICES V

Product lines / differences / application areas

Product line	BASIC
Product name	Overrun device V BASIC
Overrun device housing	Steel
Design	Classic
Top and bottom installation in one variant	No
Mounting of the pull bar	Plastic slide bearing with normal play
Changeover relay lever	Yes, see catalogue for types
Coupling head with protection against unsuccessful locking	Yes, as standard
Coupling head with hitching indicator	Yes, as standard
Coupling head with wear indicator	Yes, as standard
Coupling head with flat hand grip	Yes, as standard
Handbrake lever released (hitched condition) very flat	No
Handbrake lever without pushbutton, i.e. easy to dose	No
Handbrake lever manual force on releasing	Medium
Handbrake lever clearance from the jockey wheel crank and hitch handle	Satisfactory
Handbrake lever ergonomics, operation	Good, pushbutton actuation necessary, steeper lever position
Breakaway cable guide on the overrun device	Yes, as standard or accessories
Optional manoeuvring handle	Yes, up to 3 t, as accessories
Optional skid bracket	Yes, accessories
Optional clamp can be mounted at the side	Yes, accessories
Optional jockey wheel flange at the rear	Yes, see catalogue for types
Optional plug-in drawbar eyes	No
Optional lock on the coupling head, "lock"	Yes, accessories
Optional lock on the coupling head, "box lock"	Yes, accessories
Optional lock on the coupling head, "Safety AK161/270"	Yes, accessories

Overrun devices are required for diverse trailer types and application areas. Each application area has individual requirements in terms of benefit and price.

With our clear overrun device product differentiation, we offer the optimal solution for each purpose. This also enables you to clearly differentiate your products with optimal value creation.

PLUS	PREMIUM PROFI
Overrun device V PLUS	Overrun device V PREMIUM PROFI
Steel	High-quality cast iron
Modern	Modern
Yes	Yes
Plastic slide bearing with reduced play	Low-wear grey cast-iron mounting with minimal play
Yes, see catalogue for types	No
Yes, as standard	Yes, as standard
Yes, as standard	Yes, as standard
Yes, as standard	Yes, as standard
Yes, as standard	Yes, as standard
Yes	Yes
Yes	Yes
Low	Very low, telescopic lever
Good	Excellent
Very good, no pushbutton, flatter lever position, large, soft hand grip	Very good, no pushbutton, flatter lever position, large, soft hand grip
Yes, as standard	Yes, as standard
Yes, up to 3 t, as accessories	Yes, accessories
Yes, as standard, also additionally as accessories	Yes, accessories
Yes, accessories	Yes, accessories
Yes, see catalogue for types	Yes, see catalogue for types
Yes, see catalogue for types (not with 251 G)	Yes, see catalogue for types
Yes, accessories	Yes, accessories
Yes, accessories	Yes, accessories
Yes, accessories	No

OVERRUN DEVICE V

750 to 3,000 kg

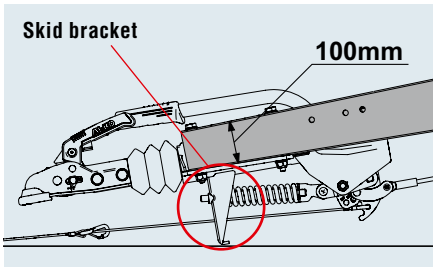
Mounting on the chassis

The drawbar struts can be installed at the top and bottom.

Top installation

Bottom installation

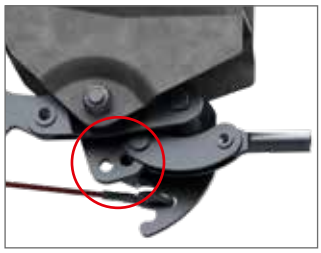
Cable guide

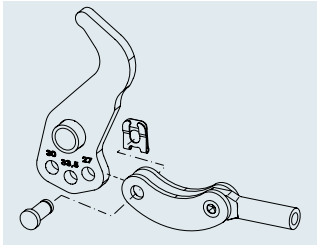


A cable guide is integrated in the skid bracket as standard so that the breakaway cable can activate the handbrake lever in an emergency.

- In bottom installation, the maximum permissible handlebar height is 100 mm.
- The skid bracket integrated in the housing of the drawbar installation prevents any contact of the handbrake lever and the hitch/drawbar eye in an emergency.

Relay lever

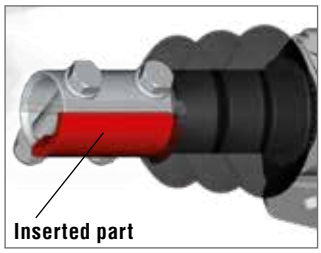




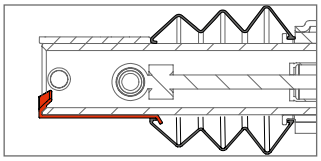
The relay lever can be simply changed over through existing holes as necessary.

- 90:27 = 1636G, 1637, 2051
- 90:30 = 2361
- 90:33.5 = 3062, 3081

Bellows

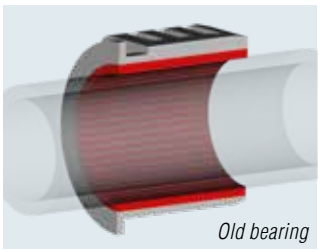


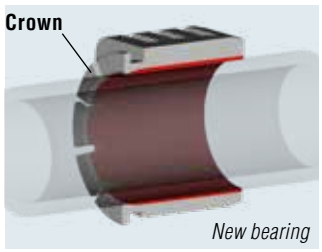
- The inserted part at the bottom of the pull bar secures the bellows against slipping backwards.



The bellows are suitable for all coupling heads or drawbar eyes that can be used on this new overrun device.

Drawbar tube bearing


Old bearing



New bearing

The optimised bearing bush geometry (crown in the front bearing bush with preload) and the modified machining process made it possible to reduce the bearing clearance.

Optional coupling heads and plug-in drawbar eyes can be used (installed externally on the drawbar tube)

With the **AE 161S** (700 – 1,600 kg) and the **AE 251S** (1,500 – 2,700 kg) selected/diverse drawbar eyes can be used for the Ø 50 mm pull bar.

AK 270

AKS 3004

Plug-in drawbar eyes

With the **AE 251G** (1,550 – 3,000 kg), no plug-in drawbar eyes (installed externally on the drawbar tube) can be used. We recommend using the "Profi" 3,000 kg overrun device here as necessary.

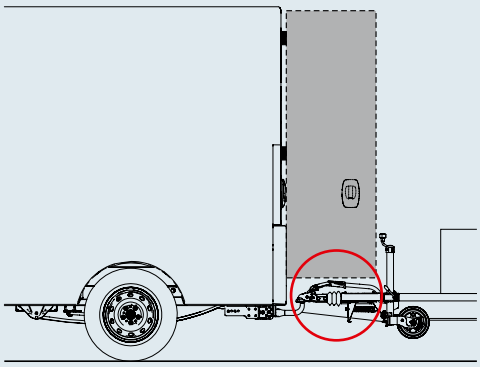
AK 301

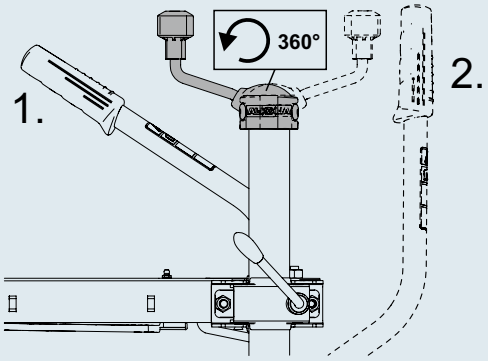
AKS 3004

Plug-in drawbar eyes

§ Your existing trailer reports do not have to be adapted. AL-KO was able to implement the improvements through updates to implement the reports that already exist.

Parking brake/handbrake

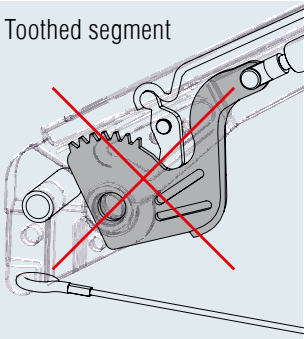




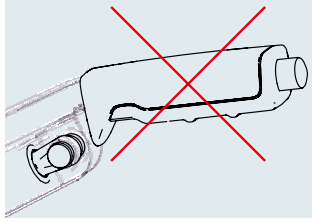
Handbrake not active:
In this position, the handbrake lever is very flat. For cars and vans, the loading door can usually be opened as a result.

Handbrake active:
Despite the active handbrake, the jockey wheel crank can be moved freely.
1. Parking brake forwards
2. Parking brake backwards

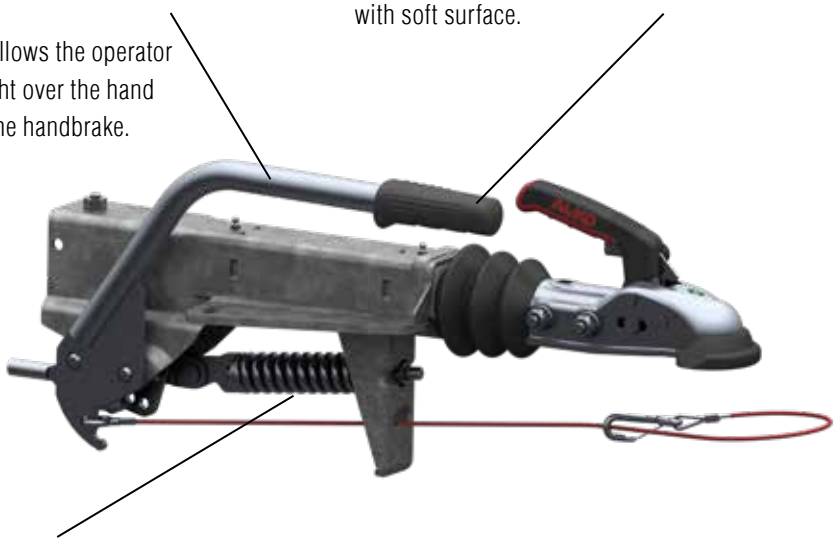
Toothed segment



Pushbutton

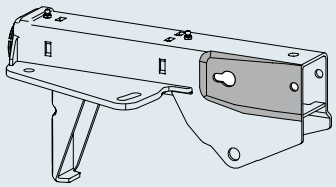


- Sturdy tubular handbrake lever, galvanised.
- The flat arrangement allows the operator to place his body weight over the hand lever when releasing the handbrake.
- Ergonomic, extended hand grip with soft surface.

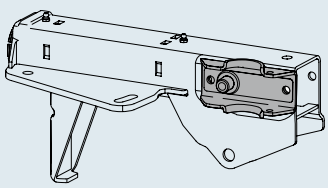


The pressure spring dead-point mechanism eliminates the need for a toothed segment and pushbutton. This enables sensitive adjustment when coupling the trailer, e.g. on downhill gradients.

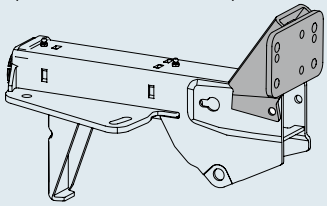
As standard with mounting holes for the Ø 48 mm clamp (for AE 161S, AE 251S and AE 251G)



Optionally with welded-on bottom part of the clamp for Ø 48 mm jockey wheel (for AE 161S, 251S and 251G)



Optionally with welded-on jockey wheel centre flange (for AE 251S and 251G)



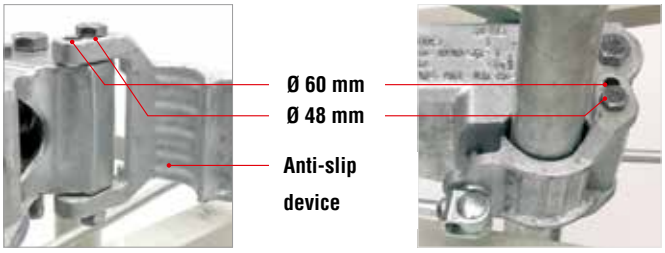
OVERRUN DEVICE V

1,600 to 3,500 kg

YOUR ADVANTAGE

The requirements for functional trailer solutions in the commercial sector are particularly strict.
AL-KO Profi overrun devices are produced from high-quality cast iron, making them ideally suitable for tough applications.
The AL-KO AE Profi V is available in the weight ranges GA 1,600 to 3,000 kg and GA 2,000 to 3,500 kg.

- **Clamp can be optionally used for**
  jockey wheels with Ø 48 and Ø 60 mm.
  The top part of the clamp is provided with recesses for grooved jockey wheels (anti-slip device). In bottom installation, the jockey wheel must be mounted over the centre flange at the rear.



- **Jockey wheel mounting from the outside**
  (No feeding in from below)
- **Can be used for top and bottom installation**
  Maximum handlebar height on bottom installation 100 mm.
- **Low-wear grey cast iron mounting**
  The pull bar is guided in a robust, low-play and low-wear cast iron mounting.
- **Breakaway cable guide as standard**
  So that the emergency brake really will function in an emergency.

TELESCOPIC HANDBRAKE LEVER

adjustable in length (AL-KO patent)

YOUR ADVANTAGE

- **When closing long lever**
  140 mm longer; i.e. reduced force application
- **Closed short lever**
  For more clearance between the towing vehicle and trailer (when manoeuvring)
- **Handbrake lever without pushbutton**
  On downhill gradients, the trailer can be moved and braked with specific handbrake control.
- **Ergonomically favourable hand lever position**
- **Handbrake lever very flat when closed**
  Tailgate vehicles can usually be opened without problems.

Handbrake lever opened (driving)

Handbrake lever closed (parking brake forwards)

Handbrake lever closed (parking brake backwards, brake optimally set)

OVERRUN DEVICE V AND SQUARE

with lowering handbrake lever; 950 to 3,500 kg

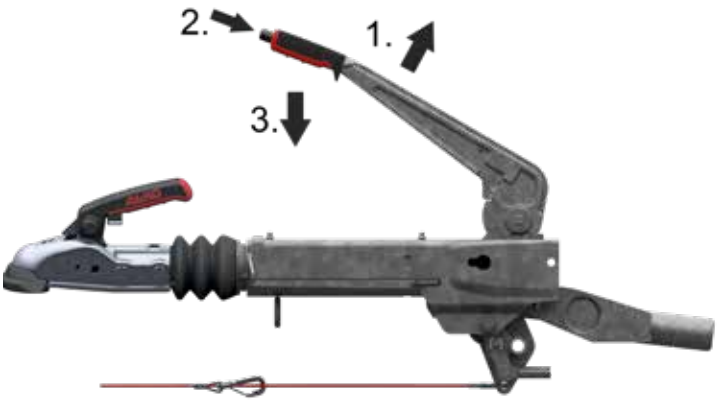
YOUR ADVANTAGE

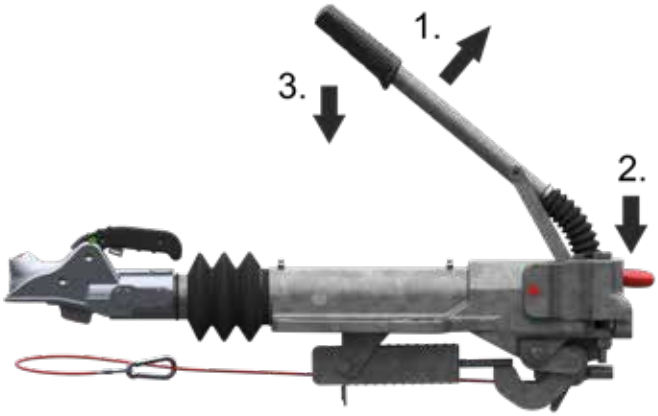
After the handbrake has been applied, the handbrake lever can be lowered. The space created above the overrun device is now free and can be used.

Attention: This handbrake position could lead to the mistaken assumption that the handbrake has already been released.
For this reason the retailer should inform the user about this special function.

SAMPLE APPLICATIONS

Trailers in which the area above the overrun device must be free.





OPERATION OF STEEL OVERRUN DEVICE

Brake the trailer when stationary.
Pull the handbrake lever (1) up = parking brake is active and the brake rod is tensioned.

Lower handbrake lever
Press the pushbutton (2) on the handbrake lever and, at the same time, lower the handbrake lever (3) slowly and carefully towards the overrun device.
Attention: Perform the lowering carefully once there is little room left in this position between your hand and the overrun device.

Release the parking brake on the trailer again
Press the pushbutton (2) on the handbrake lever and, at the same time, pull the handbrake lever (1) upwards.
Let out the pushbutton (2) and then press the handbrake (3) down, thereby releasing the parking brake again.

OPERATION OF OVERRUN DEVICE PROFI AND SWIVELLING 3.5 t

Brake the trailer when stationary.
Pull the handbrake lever (1) up = parking brake is active and the brake rod is tensioned.

Lower handbrake lever
Press the small locking lever (2) on the bottom of the handbrake lever and, at the same time, slowly and carefully lower the handbrake lever (3) towards the overrun device.
Attention: Perform the lowering carefully once there is little room left in this position between your hand and the overrun device.

Release the parking brake on the trailer again
Press the small locking lever (2) on the bottom of the handbrake lever and, at the same time, pull the handbrake lever (1) back up. Let out the small locking lever (2) and then push the handbrake (3) back down. The parking brake is released again.

OVERRUN DEVICE V

450 to 1,000 kg

SAP: AE KPL V OB 60S/2 AK161 GASF

AE V 60S/2 and 90S/3 with AK 161 and Soft-Dock

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251910	60S/2	450 – 750	75	top	No	1636G / 1637	AK 161	9	–	50	2
1251911	90S/3	700 – 1,000	75	top	No	1636G / 1637 / 2051	AK 161	9	–	50	2

AE V 60S/2 ECE test report no.

Overrun device: 361-0126-97

AE V 90S/3 ECE test report no.

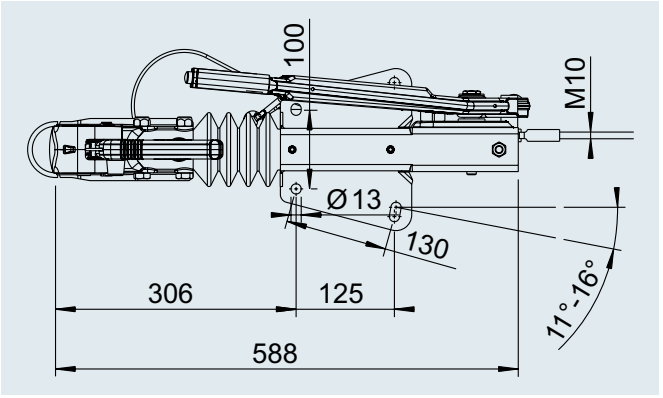
Overrun device: 361-033-92

ECE type approval no.

Drawbar installation: E1 55R-01 0225

ECE type approval no.

Drawbar installation: E1 55R-01 0226



OVERRUN DEVICE V

700 to 1,600 kg

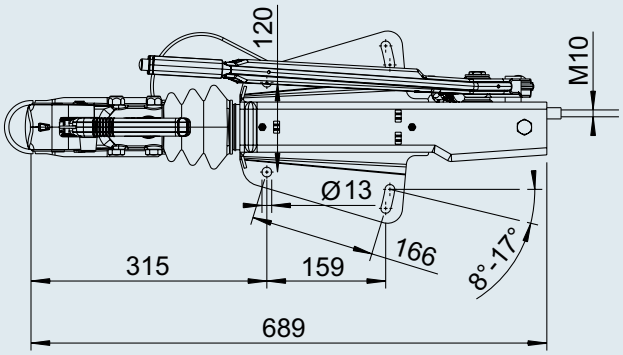
SAP: AE KPL V OB 161S AK161 GASF

AE V 161S with AK 161 and Soft-Dock

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1253068	161 S	700 – 1,350	100	top	No	1637 / 2051	AK 161	13	–	40	2
1251912	161 S	950 – 1,600	100	top	No	1637 / 2051	AK 161	13	–	40	2
1251913	161 S	950 – 1,600	100	top	No	2361	AK 161	13	–	40	2

ECE test report no.
Overrun device: 361-0047-97

ECE type approval no.
Drawbar installation: E1 55R-01 0229



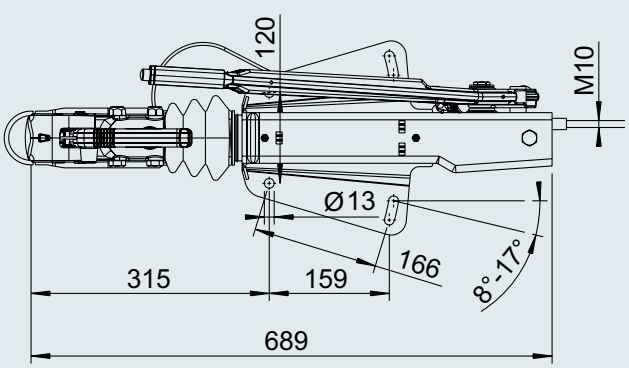
SAP: AE KPL V UN 161S AK161 GASF

AE V 161S with AK 161 and Soft-Dock

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251914	161 S	950 – 1,600	100	bottom	No	1637 / 2051	AK 161	13	–	20	2
1251915	161 S	950 – 1,600	100	bottom	No	2361	AK 161	13	–	20	2

ECE test report no.
Overrun device: 361-0047-97

ECE type approval no.
Drawbar installation: E1 55R-01 0229



OVERRUN DEVICE V

950 to 1,600 kg

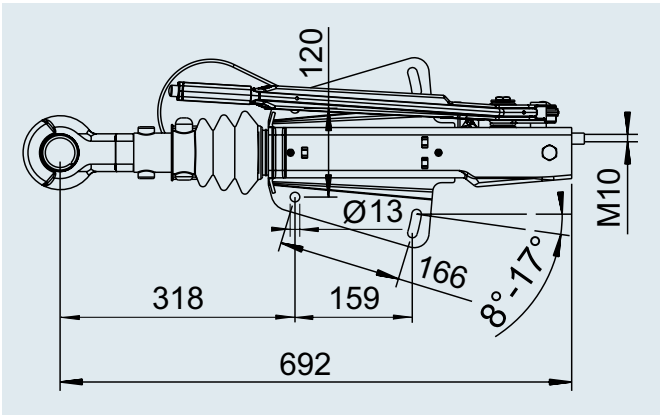
SAP: AE KPL V OB 161S DINÖSE GASF

AE V 161S with DIN eye

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
299319	161 S	950 – 1,600	100	top	No	1637 / 2051	DIN eye	15	–	40	2
242935	161 S	950 – 1,600	100	top	No	2361	DIN eye	15	–	40	2

ECE test report no.
Overrun device: 361-0047-97

ECE type approval no.
Drawbar installation: E1 55R-01 0229



with short, flat spring accumulator lever; 950 to 1,600 kg

SAP: AE KPL V OB 161S AK161 FEDS

Overrun device V 161S with AK 161

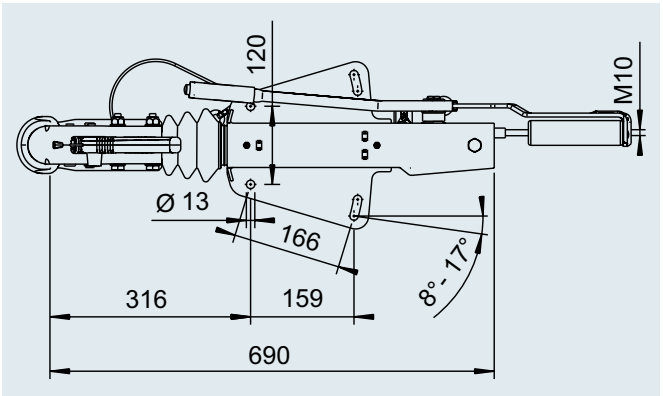
Part No.	Type	gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1253077	161 S	950 – 1,600	100	top	No	1637 / 2051	AK 161	17	–	15	20

SCOPE OF SUPPLY

- Overrun device (see Fig.)
- Plug holder (loose)
- Instructions for use (loose)

ECE test report no.
Overrun device: 361-0047-97

ECE type approval no.
Drawbar installation: E1 55R-01 0229



OVERRUN DEVICE V

with lowering handbrake lever 950 to 1,600 kg

SAP: AE KPL V OB AK161 TOTP

Overrun device V 161 S with AK 161

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1253076	161 S	950 – 1,600	100	top	Yes	2051 / 2361	AK 161	14	–	15	20

SCOPE OF SUPPLY

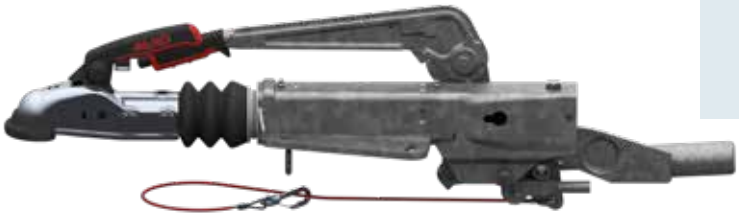
- Overrun device (see Fig.)
- Plug holder (loose)
- Instructions for use (loose)

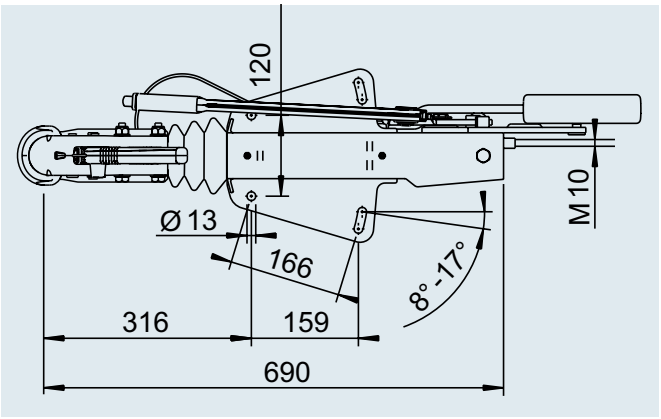
ECE test report no.

Overrun device: 361-0047-97

ECE type approval no.

Drawbar installation: E1 55R-01 0227





OVERRUN DEVICE V

700 to 1,600 kg

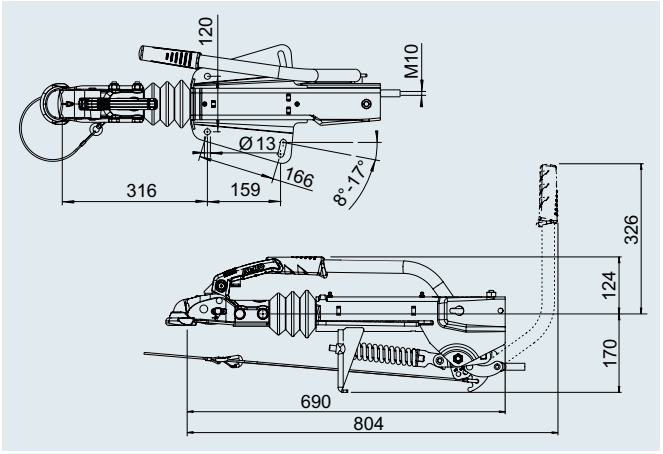
SAP: AE KPL V 161S TOTP AK161

AE V

Part No.	Type	Gross weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1733094	161 S	700 – 1,350	100	top + bottom	Yes	1637 / 2051	AK 161	13	–	24	20
1733092	161 S	950 – 1,600	100	top + bottom	Yes	1637 / 2051	AK 161	13	–	24	2
1733093	161 S	950 – 1,600	100	top + bottom	Yes	2361	AK 161	13	–	24	2

ECE test report no.
Overrun device: 361-0047-97

ECE type approval no.
Drawbar installation: E1 55R-01 0229



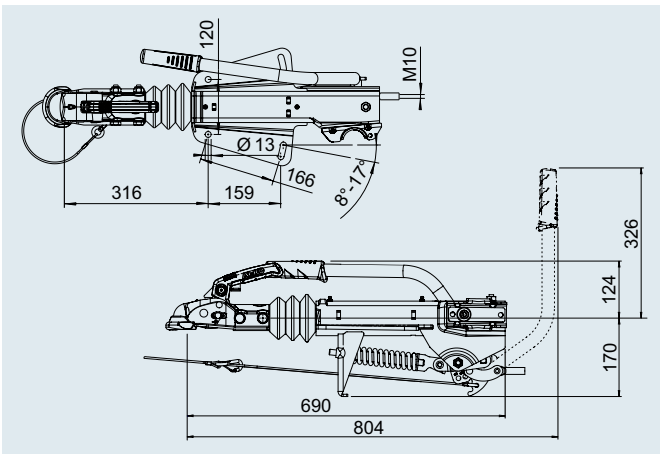
SAP: AE KPL V 161S TOTP AK161

AE V

Part No.	Type	Total weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1733099	161 S	700 – 1,350	100	top + bottom	Yes	1637 / 2051	AK 161	14	–	21	20
1733100	161 S	950 – 1,600	100	top + bottom	Yes	1637 / 2051	AK 161	14	–	21	20
1733101	161 S	950 – 1,600	100	top + bottom	Yes	2361	AK 161	14	–	21	20

ECE test report no.
Overrun device: 361-0047-97

ECE type approval no.
Drawbar installation: E1 55R-01 0229



OVERRUN DEVICE V

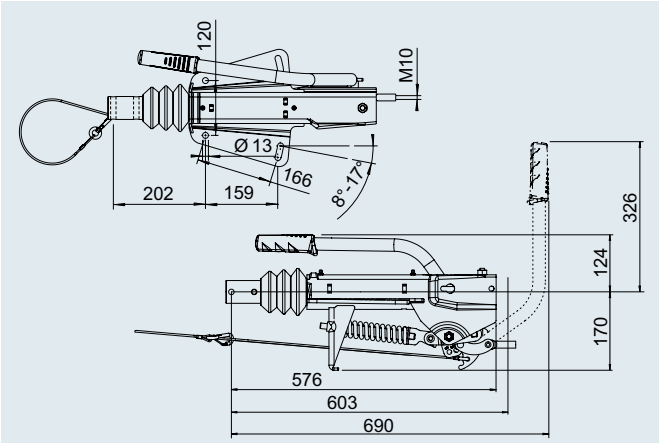
950 to 1,600 kg

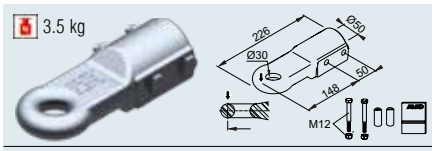
SAP: AE KPL V 161S TOTP AK161

AE V

Part No.	Type	Gross weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1733104	161 S	950 – 1,600	100	top + bottom	Yes	1637 / 2051	without	12	–	24	20
1733105	161 S	950 – 1,600	100	top + bottom	Yes	2361	without	12	–	24	20

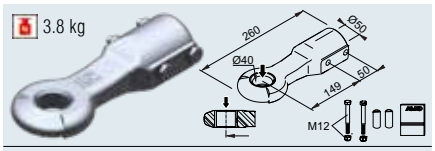
ECE test report no.	ECE type approval no.
Overrun device: 361-0047-97	Drawbar installation: E1 55R-01 0229





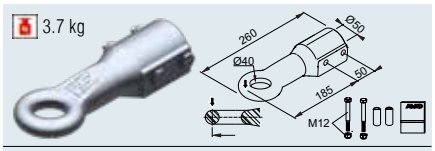
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ

Drawbar eye UK E30/A **Part No.** 1224106



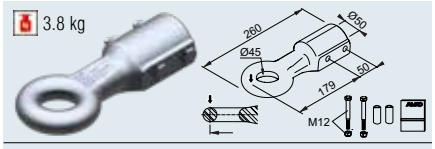
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ

Drawbar eye DIN D40/F **Part No.** 1213350



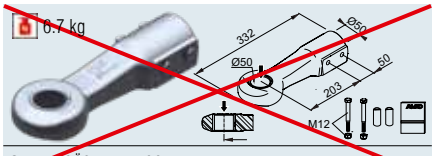
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ

Drawbar eye England E40/A **Part No.** 1224107



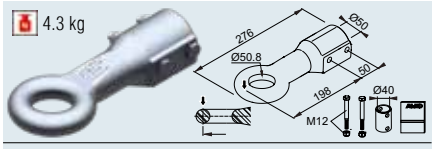
SAP: ZUGÖSE I45 M SCHRAUBMAT VZ

Drawbar eye Italy I45/F **Part No.** 1224108



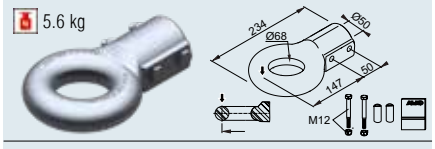
SAP: ZUGÖSE D50 M SCHRAUBMAT VZ

Drawbar eye DIN D50 CANNOT BE USED



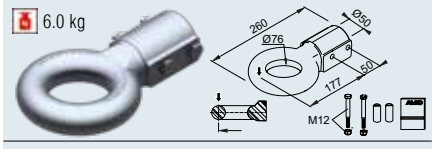
SAP: ZUGÖSE E50 M SCHRAUBMAT VZ

Drawbar eye England E50/A **Part No.** 1224109



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ

Drawbar eye France F68/E **Part No.** 1224110



SAP: ZUGÖSE N76 M SCHRAUBMAT VZ

Drawbar eye NATO N76/E **Part No.** 1224111

OVERRUN DEVICE V

1,500 to 2,700 kg

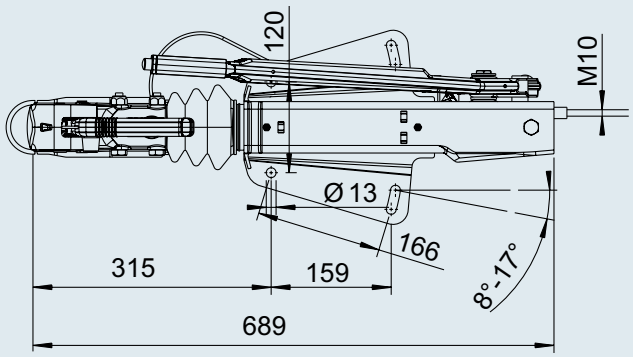
SAP: AE KPL V OB 251S AK270 GASF

AE V 251S with AK 270 and Soft-Dock

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251916	251S	1,500 – 2,700	120	top	Yes	1637 / 2051	AK 270	14	–	40	2
1251917	251S	1,500 – 2,700	120	top	Yes	2361	AK 270	14	–	40	20
1251918	251S	1,500 – 2,700	120	top	Yes	3062 / 3081	AK 270	14	–	40	20

ECE test report no.
Overrun device: 361-0044-97

ECE type approval no.
Drawbar installation: E1 55R-01 0227



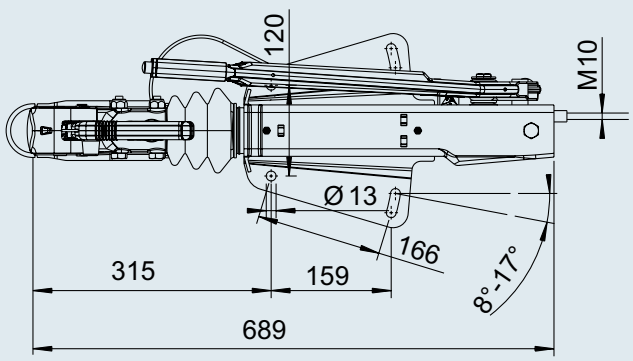
SAP: AE KPL V UN 251S AK270 GASF

AE V 251S with AK 270 and Soft-Dock

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251919	251S	1,500 – 2,700	120	bottom	Yes	1637 / 2051	AK 270	14	–	40	2
1251920	251S	1,500 – 2,700	120	bottom	Yes	2361	AK 270	14	–	40	20
1251921	251S	1,500 – 2,700	120	bottom	Yes	3062 / 3081	AK 270	14	–	40	20

ECE test report no.
Overrun device: 361-0044-97

ECE type approval no.
Drawbar installation: E1 55R-01 0227



OVERRUN DEVICE V

1,500 to 2,700 kg

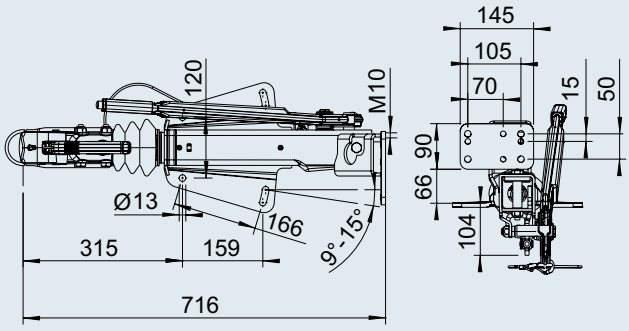
SAP: AE KPL V ST OB 251S AK270 GASF

AE V 251S with AK 270 and Soft-Dock, 1,500 – 2,700 kg

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251922	251S	1,500 – 2,700	120	top	Yes	1637 / 2051	AK 270	18	–	35	2
1251923	251S	1,500 – 2,700	120	bottom	Yes	1637 / 2051	AK 270	18	–	35	20
1251924	251S	1,500 – 2,700	120	top	Yes	2361	AK 270	18	–	35	20
1251925	251S	1,500 – 2,700	120	bottom	Yes	2361	AK 270	18	–	35	20
1251926	251S	1,500 – 2,700	120	top	Yes	3062 / 3081	AK 270	18	–	35	20
1251927	251S	1,500 – 2,700	120	bottom	Yes	3062 / 3081	AK 270	18	–	35	20

ECE test report no.
Overrun device: 361-0044-97

ECE type approval no.
Drawbar installation: E1 55R-01 0227



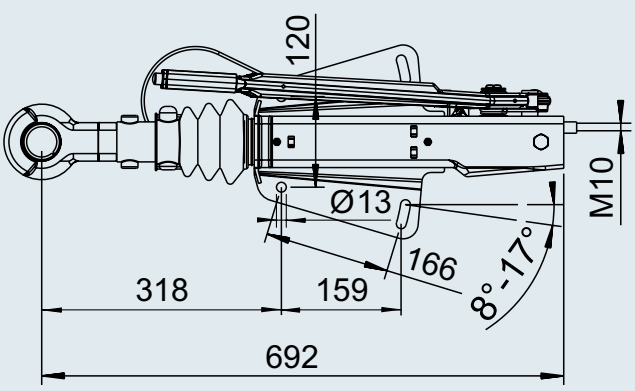
SAP: AE KPL V OB 251S DINÖSE GASF

AE V 251S with DIN eye

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
240007	251S	1,500 – 2,700	120	top	Yes	1637 / 2051	DIN eye	16	–	40	2
242942	251S	1,500 – 2,700	120	top	Yes	2361	DIN eye	16	–	40	20
242938	251S	1,500 – 2,700	120	top	Yes	3062 / 3081	DIN eye	16	–	40	20

ECE test report no.
Overrun device: 361-0044-97

ECE type approval no.
Drawbar installation: E1 55R-01 0227



OVERRUN DEVICE V

1,500 to 2,700 kg

SAP: AE KPL V OB 251S AK270 FEDS

Overrun device V 251S with AK 270

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1253084	251 S	1,500 – 2,700	120	top	No	1637 / 2051	AK 270	19	–	15	20

SCOPE OF SUPPLY

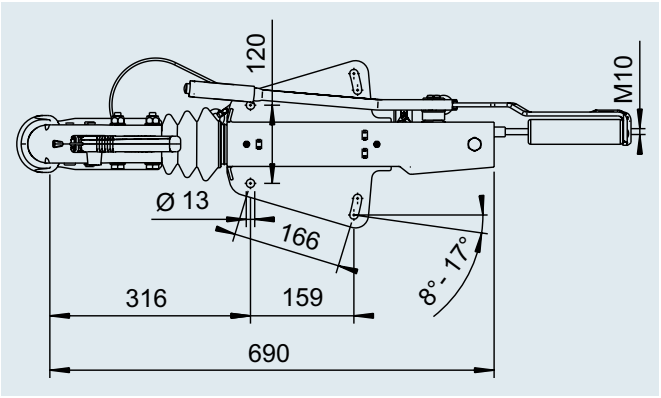
- Overrun device (see Fig.)
- Plug holder (loose)
- Instructions for use (loose)

ECE test report no.

Overrun device: 361-0044-97

ECE type approval no.

Drawbar installation: E1 55R-01 0227



SAP: AE KPL V 251S TOTP AK270

AE V 251S dead centre HBH with AK 270, without clamp

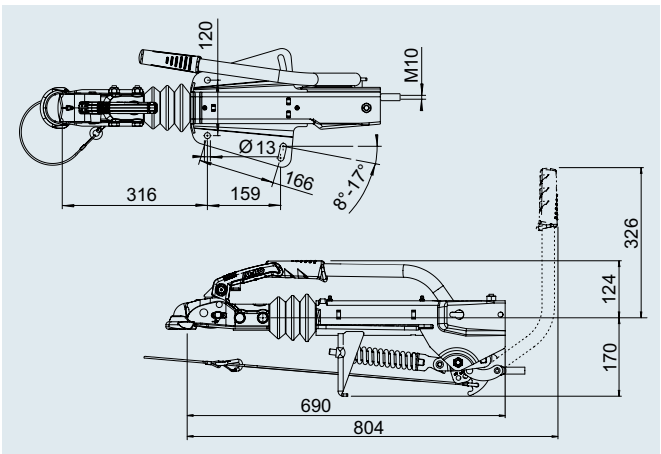
Part No.	Type	Total weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1731104	251 S	1,500 – 2,700	120	top + bottom	Yes	1637 / 2051	AK 270	13	–	24	2
1731336	251 S	1,500 – 2,700	120	top + bottom	Yes	2361	AK 270	13	–	24	20
1731337	251 S	1,500 – 2,700	120	top + bottom	Yes	3062 / 3081	AK 270	13	–	24	20

ECE test report no.

Overrun device: 361-0044-97

ECE type approval no.

Drawbar installation: E1 55R-01 0227



OVERRUN DEVICE V

1,500 to 2,700 kg

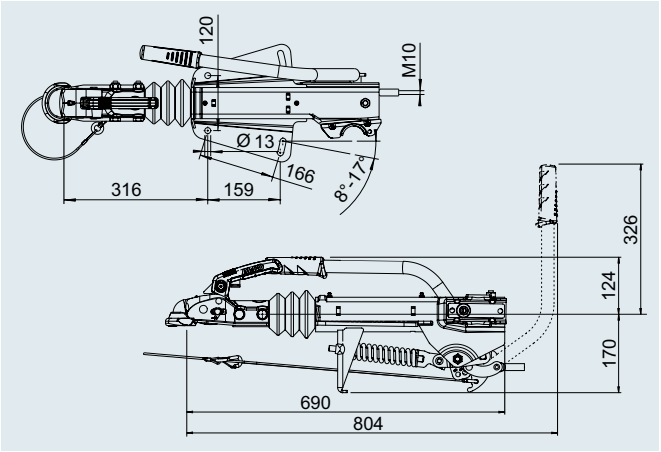
SAP: AE KPL V 251S TOTP AK270

AE V 251S dead centre HBH with AK 270, with bottom part of the clamp

Part No.	Type	Total weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1731762	251 S	1,500 – 2,700	120	top + bottom	Yes	1637/2051	AK 270	13	–	21	20
1731763	251 S	1,500 – 2,700	120	top + bottom	Yes	2361	AK 270	13	–	21	20
1731764	251 S	1,500 – 2,700	120	top + bottom	Yes	3062/3081	AK 270	13	–	21	20

ECE test report no.
Overrun device: 361-0044-97

ECE type approval no.
Drawbar installation: E1 55R-01 0227



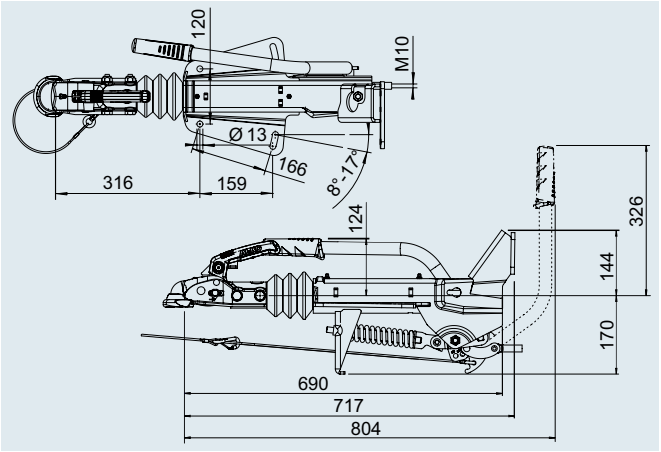
SAP: AE KPL V 251S TOTP AK270

AE V 251S dead centre HBH with AK 270, with elevated jockey wheel flange

Part No.	Type	Total weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1731720	251 S	1,500 – 2,700	120	top + bottom	Yes	1637/2051	AK 270	18	–	19	2
1731721	251 S	1,500 – 2,700	120	top + bottom	Yes	2361	AK 270	18	–	19	20
1731722	251 S	1,500 – 2,700	120	top + bottom	Yes	3062/3081	AK 270	18	–	19	20

ECE test report no.
Overrun device: 361-0044-97

ECE type approval no.
Drawbar installation: E1 55R-01 0227



OVERRUN DEVICE V

1,500 to 2,700 kg

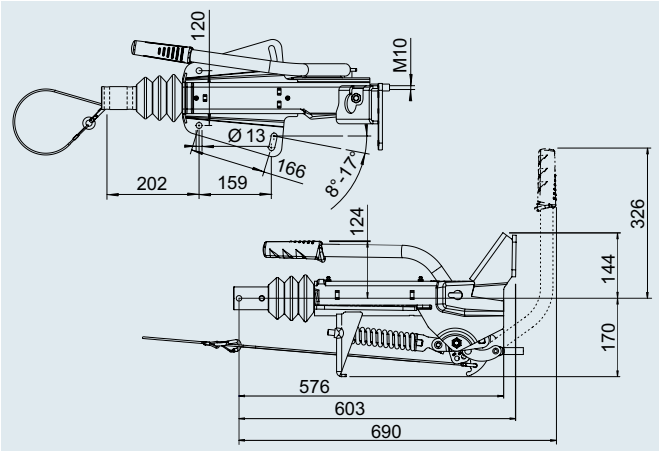
SAP: AE KPL V 251S TOTP

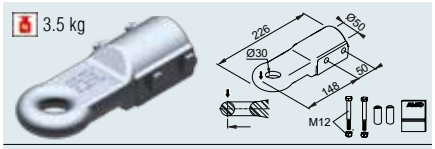
AE V 251S dead centre HBH without coupling head, with elevated jockey wheel flange

Part No.	Type	Total weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1731724	251 S	1,500 – 2,700	120	top + bottom	Yes	1637/2051	without	16	–	19	2
1731725	251 S	1,500 – 2,700	120	top + bottom	Yes	2361	without	16	–	19	20
1731726	251 S	1,500 – 2,700	120	top + bottom	Yes	3062/3081	without	16	–	19	20

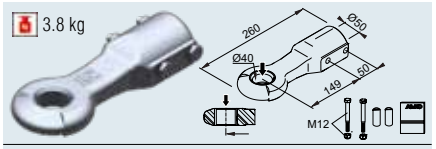
ECE test report no.
Overrun device: 361-0044-97

ECE type approval no.
Drawbar installation: E1 55R-01 0227

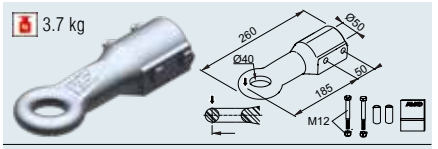




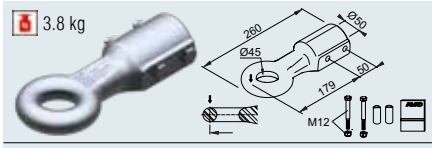
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ
Drawbar eye UK E30/A **Part No.** 1224106



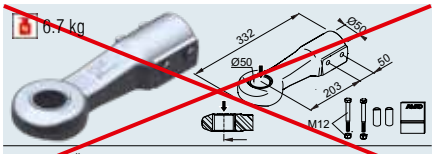
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ
Drawbar eye DIN D40/F **Part No.** 1213350



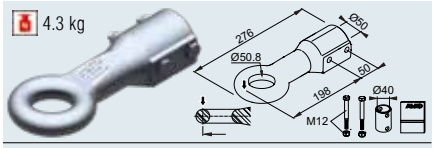
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ
Drawbar eye England E40/A **Part No.** 1224107



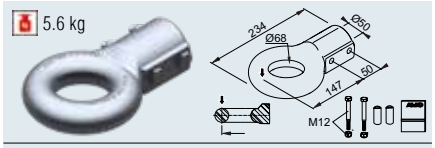
SAP: ZUGÖSE I45 M SCHRAUBMAT VZ
Drawbar eye Italy I45/F **Part No.** 1224108



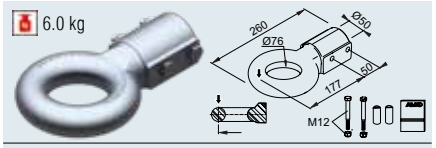
SAP: ZUGÖSE D50 M SCHRAUBMAT VZ
Drawbar eye DIN D50 CANNOT BE USED



SAP: ZUGÖSE E50 M SCHRAUBMAT VZ
Drawbar eye England E50/A **Part No.** 1224109



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ
Drawbar eye France F68/E **Part No.** 1224110



SAP: ZUGÖSE N76 M SCHRAUBMAT VZ
Drawbar eye NATO N76/E **Part No.** 1224111

OVERRUN DEVICE V

1,550 to 3,000 kg

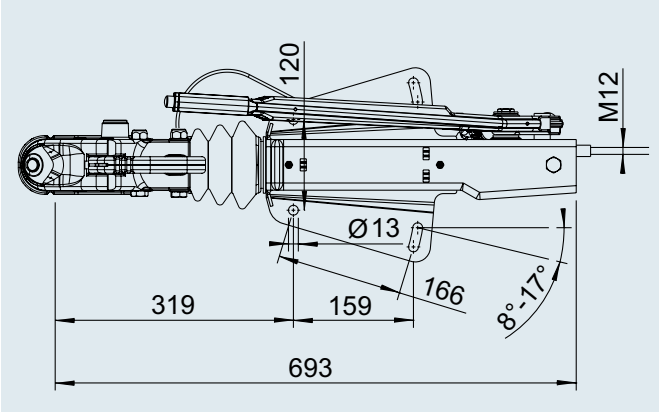
SAP: AE KPL V ST OB 251G AK301 GASF

AE V 251G steel with PROFI V AK 301

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251097	251G Steel	1,550 – 3,000	120	top	No	1637 / 2051	AK 301	17	–	40	2
1251600	251G Steel	1,550 – 3,000	120	top	No	2361	AK 301	17	–	40	20
1251601	251G Steel	1,550 – 3,000	120	top	No	3062 / 3081	AK 301	17	–	40	20

ECE test report no.
Overrun device: 361-0043-97

ECE type approval no.
Drawbar installation: E1 55R-01 0466



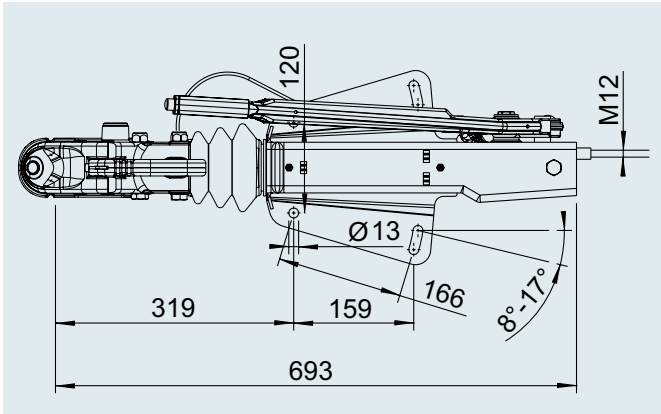
SAP: AE KPL V ST UN 251G AK301 GASF

AE V 251G steel with PROFI V AK 301

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251288	251G Steel	1,550 – 3,000	120	bottom	No	1637 / 2051	AK 301	17	–	40	20

ECE test report no.
Overrun device: 361-0043-97

ECE type approval no.
Drawbar installation: E1 55R-01 0466



OVERRUN DEVICE V

1,550 to 3,000 kg

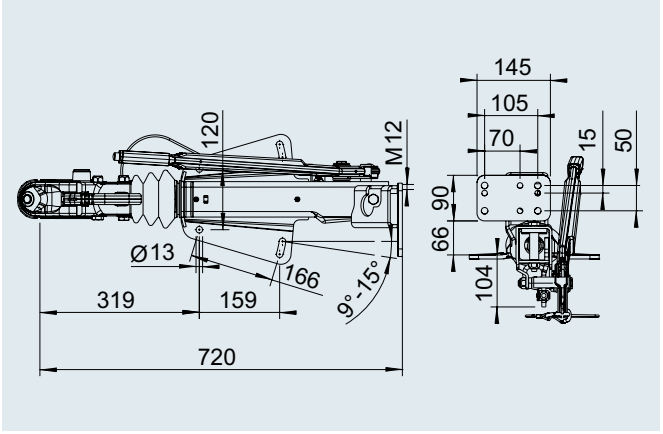
SAP: AE KPL V ST OB 251G AK301 GASF

AE V 251G with PROFI V AK 301

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251500	251G	1,550 – 3,000	120	top	No	1637 / 2051	AK 301	20	–	20	2
1251602	251G	1,550 – 3,000	120	top	No	2361	AK 301	20	–	20	20
1251603	251G	1,550 – 3,000	120	top	No	3062 / 3081	AK 301	20	–	20	20

ECE test report no.
Overrun device: 361-0043-97

ECE type approval no.
Drawbar installation: E1 55R-01 0466



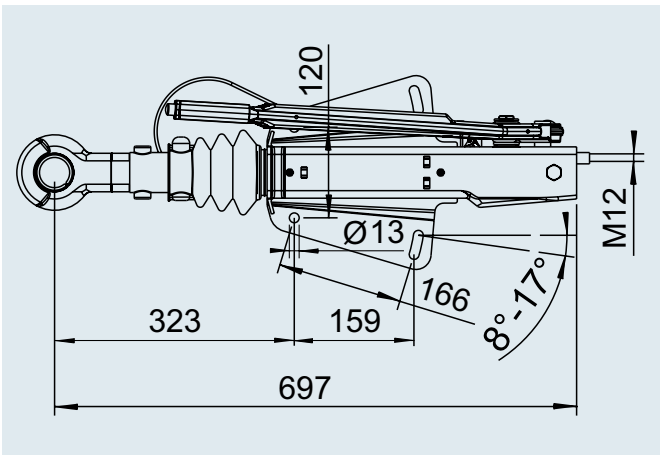
SAP: AE KPL V ST OB 251G DINÖSE GASF

AE V 251G steel with DIN eye

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
249250	251G Steel	1,550 – 3,000	120	top	No	1637 / 2051	DIN eye	18	–	40	20

ECE test report no.
Overrun device: 361-0043-97

ECE type approval no.
Drawbar installation: E1 55R-01 0466



OVERRUN DEVICE V

with lowering handbrake lever, 1,550 to 3,000 kg

SAP: AE KPL V ST OB 251G AK301 TOTP

Overrun device V 251 G with AK 301

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251332	251 G	1,550 – 3,000	120	top	Yes	3062 / 3081	AK 301	19	–	15	20

SCOPE OF SUPPLY

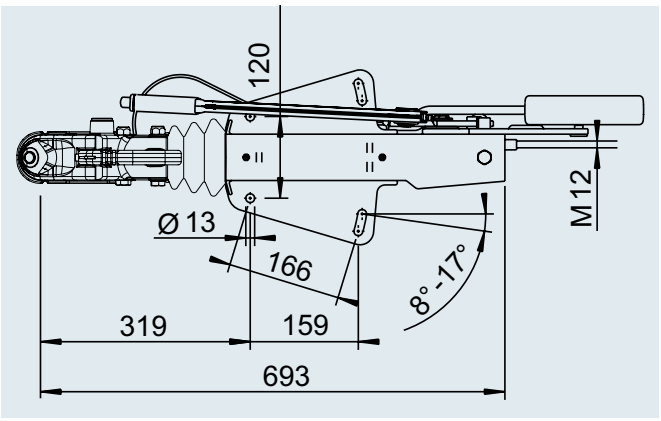
- Overrun device (see Fig.)
- Plug holder (loose)
- Instructions for use (loose)

ECE test report no.

Overrun device: 361-0043-97

ECE type approval no.

Drawbar installation: E1 55R-01 0466



OVERRUN DEVICE V

1,550 to 3,000 kg

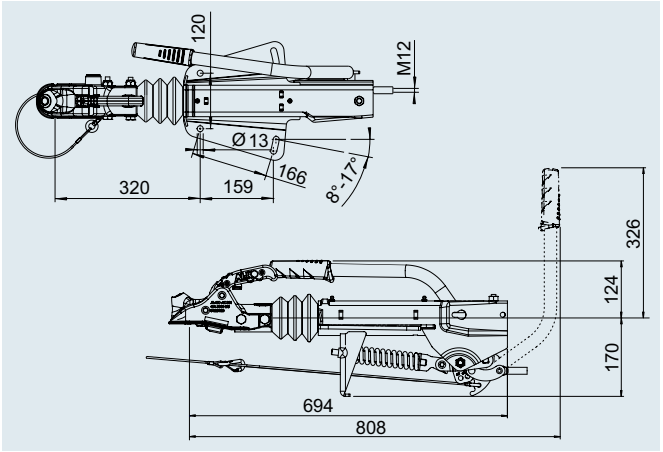
SAP: AE KPL V 251G TOTP AK301

AE V 251G dead centre HBH with AK 301, without clamp

Part No.	Type	Total weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1731344	251 G	1,550 – 3,000	120	top + bottom	Yes	1637/2051	AK 301	14	–	24	2
1731727	251 G	1,550 – 3,000	120	top + bottom	Yes	2361	AK 301	14	–	24	20
1731728	251 G	1,550 – 3,000	120	top + bottom	Yes	3062/3081	AK 301	14	–	24	20

ECE test report no.
Overrun device: 361-0043-97

ECE type approval no.
Drawbar installation: E1 55R-01 0466



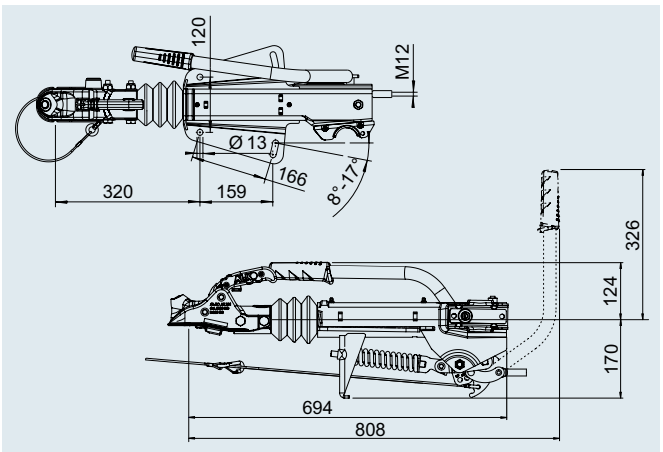
SAP: AE KPL V 251G TOTP AK301

AE V 251G dead centre HBH with AK 301, with bottom part of the clamp

Part No.	Type	Total weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1731768	251 G	1,550 – 3,000	120	top + bottom	Yes	1637/2051	AK 301	14	–	21	20
1731769	251 G	1,550 – 3,000	120	top + bottom	Yes	2361	AK 301	14	–	21	20
1731770	251 G	1,550 – 3,000	120	top + bottom	Yes	3062/3081	AK 301	14	–	21	20

ECE test report no.
Overrun device: 361-0043-97

ECE type approval no.
Drawbar installation: E1 55R-01 0466



OVERRUN DEVICE V

1,550 to 3,000 kg

SAP: AE KPL V 251G TOTP AK301

AE V 251G dead centre HBH with AK 301, with elevated jockey wheel flange

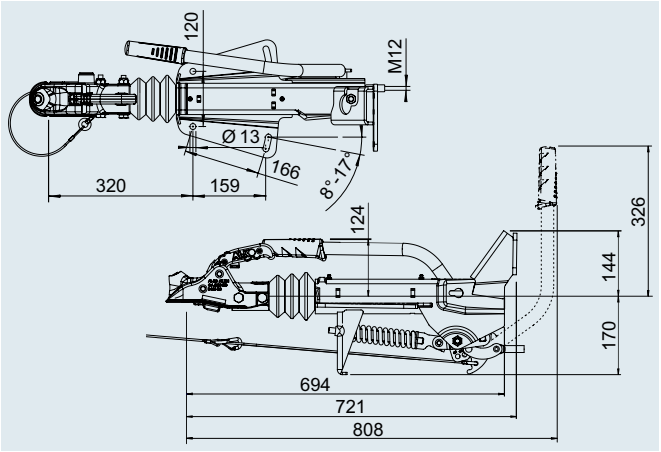
Part No.	Type	Total weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1731729	251 G	1,550 – 3,000	120	top + bottom	Yes	1637/2051	AK 301	19	–	19	2
1731730	251 G	1,550 – 3,000	120	top + bottom	Yes	2361	AK 301	19	–	19	20
1731731	251 G	1,550 – 3,000	120	top + bottom	Yes	3062/3081	AK 301	19	–	19	20

ECE test report no.

Overrun device: 361-0043-97

ECE type approval no.

Drawbar installation: E1 55R-01 0466



3

OVERRUN DEVICE V

1,600 to 3,000 kg

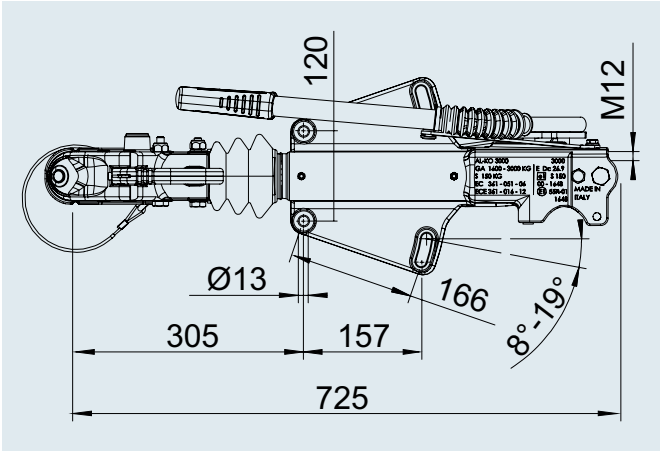
SAP: AE KPL V PROFI 3000 AK301

AE Profi V 3,000 kg with coupling head

Part No.	Type	Gross weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1224121	AE 3000	1,600/3,000	150	top+bottom	No	1637/2051	AK 301	22.5	–	25	2
1224122	AE 3000	1,600/3,000	150	top+bottom	No	2361	AK 301	22.5	–	25	20
1224123	AE 3000	1,600/3,000	150	top+bottom	No	3062/3081	AK 301	22.5	–	25	20

ECE test report no.
Overrun device: 361-016-12

ECE type approval no.
Drawbar installation: E1 55R-01 1648



SAP: AE KPL V PROFI3000 AK301 ASB-HB G

Overrun device Profi V with AK 301

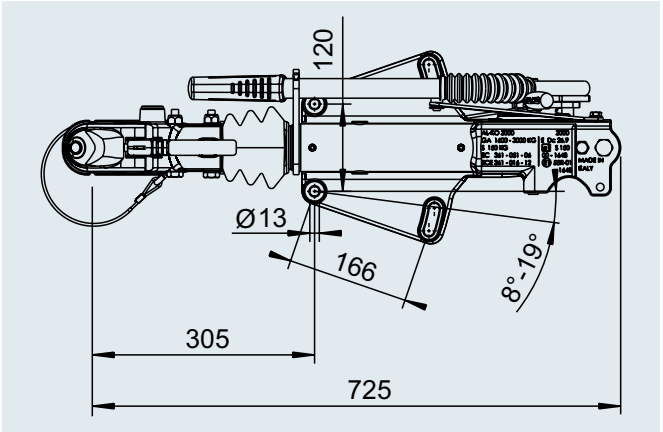
Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1224654	AE 3000	1,600/3,000	150	top + bottom	No	3062 / 3081	AK 301	23	–	15	20
1251464	AE 3000	1,600/3,000	150	top + bottom	No	2361	AK 301	23	–	15	20
1251465	AE 3000	1,600/3,000	150	top + bottom	No	2051	AK 301	23	–	15	20

SCOPE OF SUPPLY

- Overrun device (see Fig.)
- Plug holder (loose)
- Instructions for use (loose)

ECE test report no.
Overrun device: 361-016-12

ECE type approval no.
Drawbar installation: E1 55R-01 1648



OVERRUN DEVICE V

1,600 to 3,000 kg

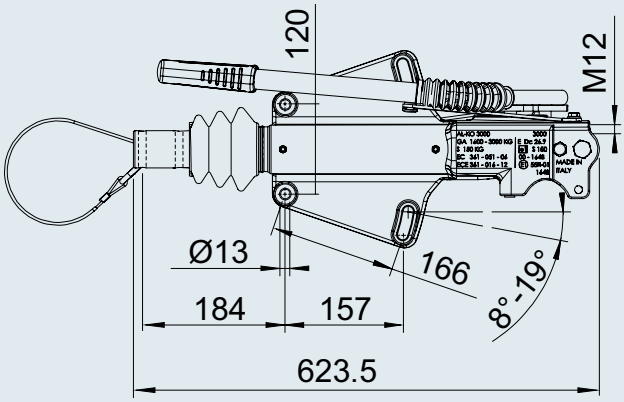
SAP: AE KPL V PROFI 3000 OHNE

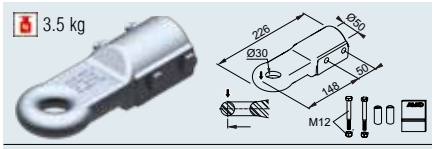
AE Profi V 3,000 kg without coupling head

Part No.	Type	Gross weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1224124	AE 3000	1,600/3,000	150	top+bottom	No	1637/2051	without	19.5	–	25	2
1224125	AE 3000	1,600/3,000	150	top+bottom	No	2361	without	19.5	–	25	20
1224126	AE 3000	1,600/3,000	150	top+bottom	No	3062/3081	without	19.5	–	25	20

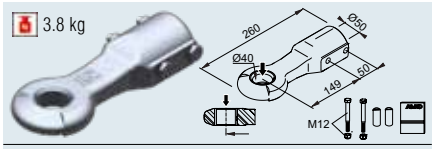
ECE test report no.
Overrun device: 361-016-12

ECE type approval no.
Drawbar installation: E1 55R-01 1648

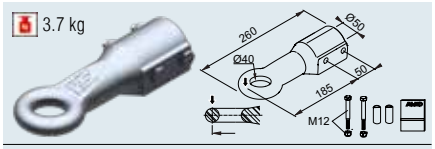




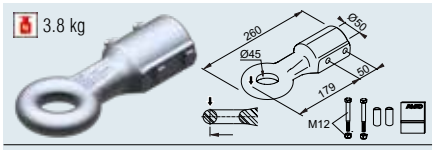
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ
Drawbar eye UK E30/A Part No. 1224106



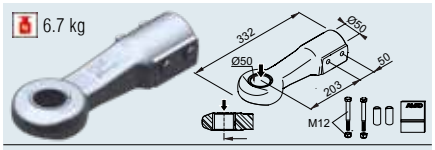
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ
Drawbar eye DIN D40/F Part No. 1213350



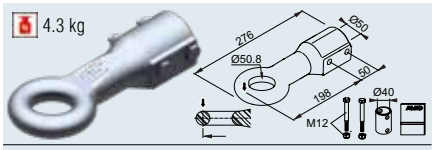
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ
Drawbar eye England E40/A Part No. 1224107



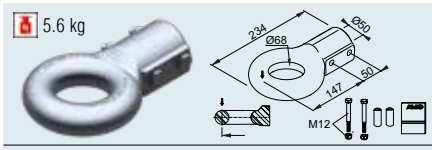
SAP: ZUGÖSE I45 M SCHRAUBMAT VZ
Drawbar eye Italy I45/F Part No. 1224108



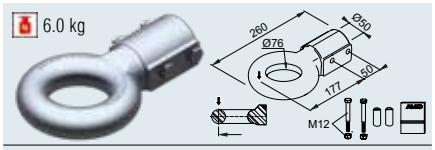
SAP: ZUGÖSE D50 M SCHRAUBMAT VZ
Drawbar eye DIN D50 Part No. 1730612



SAP: ZUGÖSE E50 M SCHRAUBMAT VZ
Drawbar eye England E50/A Part No. 1224109



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ
Drawbar eye France F68/E Part No. 1224110



SAP: ZUGÖSE N76 M SCHRAUBMAT VZ
Drawbar eye NATO N76/E Part No. 1224111

OVERRUN DEVICE V

2,000 to 3,500 kg

SAP: AE KPL V PROFI 3500 AK351

AE Profi V 3,500 kg with coupling head

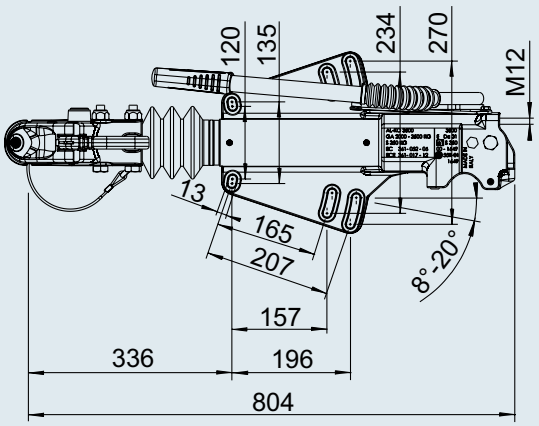
Part No.	Type	Gross weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1224136	AE 3500	2,000 – 3,500	350	top+bottom	No	1637/2051	AK 351	28.5	–	15	20
1224137	AE 3500	2,000 – 3,500	350	top+bottom	No	2361	AK 351	28.5	–	15	2
1224138	AE 3500	2,000 – 3,500	350	top+bottom	No	3062/3081	AK 351	28.5	–	15	20

ECE test report no.

Overrun device: 361-017-12

ECE type approval no.

Drawbar installation: E1 55R-01 1649



SAP: AE KPL V PROFI3500 AK351 ASB-HB

Overrun device Profi V with AK 351

Part No.	Type	Gross weight in kg	Nose load in kg	Version of drawbar installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1224995	AE 3500	2,000 – 3,500	350	top + bottom	No	2361	AK 351	29	–	15	20
1224996	AE 3500	2,000 – 3,500	350	top + bottom	No	3062 / 3081	AK 351	29	–	15	20

SCOPE OF SUPPLY

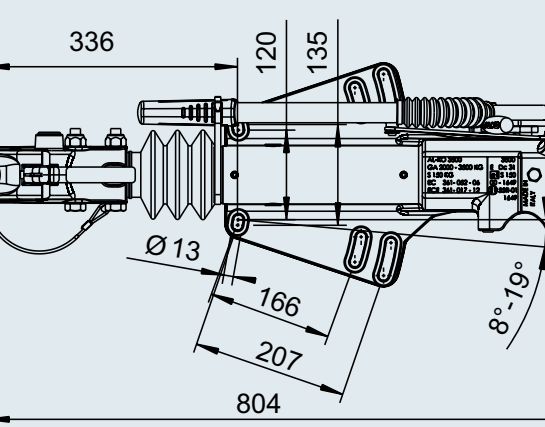
- Overrun device (see Fig.)
- Plug holder (loose)
- Instructions for use (loose)

ECE test report no.

Overrun device: 361-016-12

ECE type approval no.

Drawbar installation: E1 55R-01 1649



OVERRUN DEVICE V

2,000 to 3,500 kg

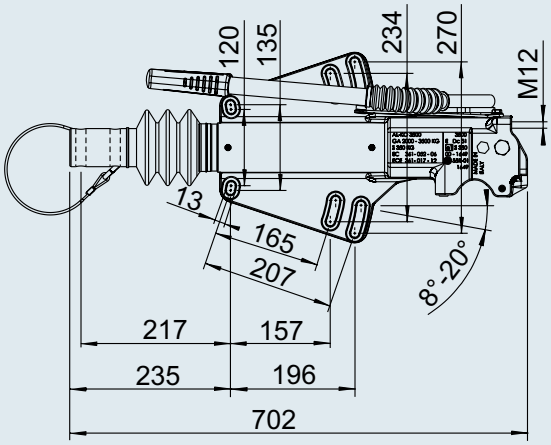
SAP: AE KPL V PROFI 3500 OHNE

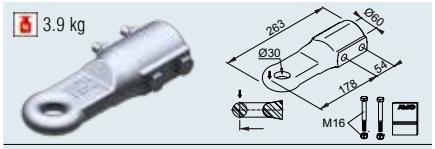
AE Profi V 3,500 kg without coupling head

Part No.	Type	Gross weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1224139	AE 3500	2,000 – 3,500	350	top+bottom	No	1637/2051	without	25.5	–	15	20
1224140	AE 3500	2,000 – 3,500	350	top+bottom	No	2361	without	25.5	–	15	2
1224141	AE 3500	2,000 – 3,500	350	top+bottom	No	3062/3081	without	25.5	–	15	20

ECE test report no.
Overrun device: 361-017-12

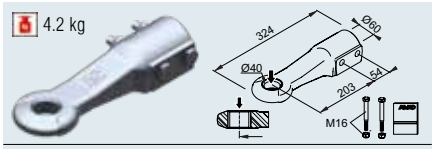
ECE type approval no.
Drawbar installation: E1 55R-01 1649





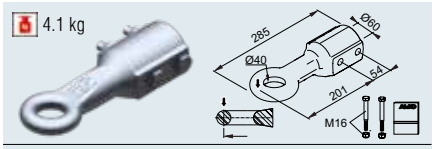
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ

Drawbar eye UK E30/B **Part No.** 1224112



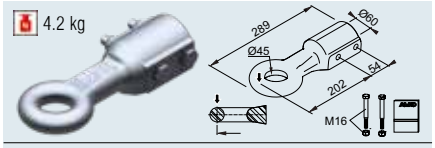
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ

Drawbar eye DIN D40/G **Part No.** 1224114



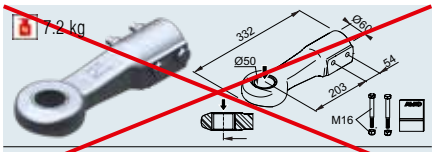
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ

Drawbar eye England E40/B **Part No.** 1224113



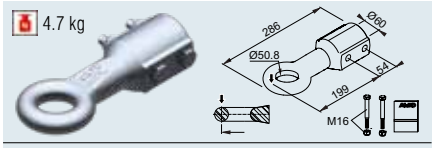
SAP: ZUGÖSE I45 M SCHRAUBMAT VZ

Drawbar eye Italy I45/G **Part No.** 1224115



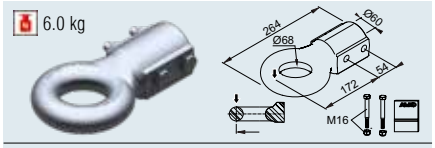
SAP: ZUGÖSE D50 M SCHRAUBMAT VZ

Drawbar eye DIN D50 CANNOT BE USED



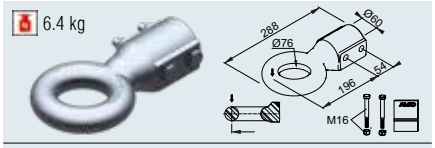
SAP: ZUGÖSE E50 M SCHRAUBMAT VZ

Drawbar eye England E50/B **Part No.** 1224116



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ

Drawbar eye France F68/F **Part No.** 1224117



SAP: ZUGÖSE N76 M SCHRAUBMAT VZ

Drawbar eye NATO N76/F **Part No.** 1224118

OVERRUN DEVICE V

2,500 to 3,500 kg

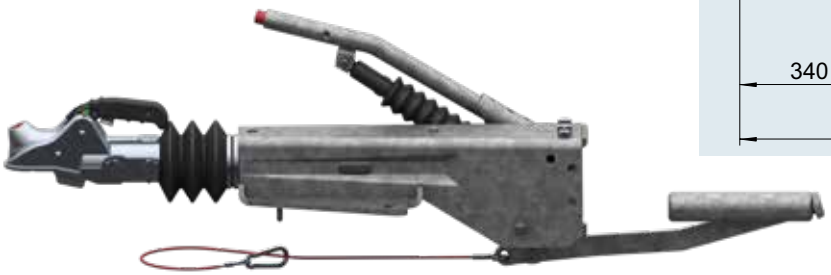
SAP: AE KPL V OB 2,8VB/1 AK351 GASF 3500

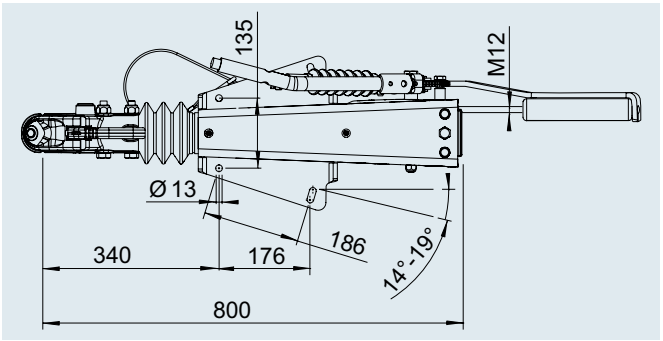
AE V 2.8 VB with coupling head AK 351

Part No.	Type	Gross weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251875	2.8VB1/-C	2,500 – 3,500	150	top and bottom	No	2051	AK 351	33	–	10	20
1251555	2.8VB1/-C	2,500 – 3,500	150	top and bottom	No	2361	AK 351	33	–	10	2
1251565	2.8VB1/-C	2,500 – 3,500	150	top and bottom	No	3062 / 3081	AK 351	33	–	10	2

ECE test report no.
Overrun device: 361-0045-97

ECE type approval no.
Drawbar installation: E1 55R-01 0384





OVERRUN DEVICE V

2,500 to 3,500 kg

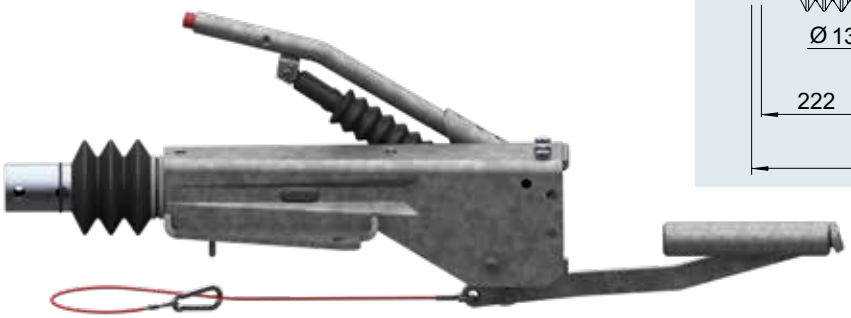
SAP: AE KPL V OB 2,8VB/1 OHNE KUPP 3500

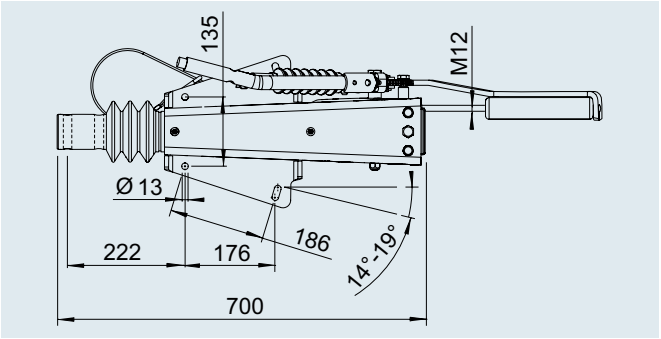
AE V 2.8 VB without hitch (see table of contents for appropriate coupling heads or drawbar eyes)

Part No.	Type	Gross weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	Hitch mounted				
1251881	2.8VB1/-C	2,500 – 3,500	150	top and bottom	No	2051	without	30	–	10	20
1251563	2.8VB1/-C	2,500 – 3,500	150	top and bottom	No	2361	without	30	–	10	2
1251564	2.8VB1/-C	2,500 – 3,500	150	top and bottom	No	3062 / 3081	without	30	–	10	2

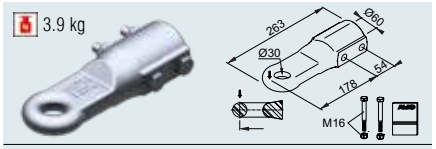
ECE test report no.
Overrun device: 361-0045-97

ECE type approval no.
Drawbar installation: E1 55R-01 0384





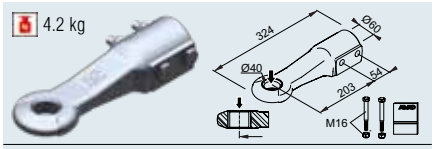
3.9 kg



SAP: ZUGÖSE E30 M SCHRAUBMAT VZ

Drawbar eye UK E30/B **Part No.** 1224112

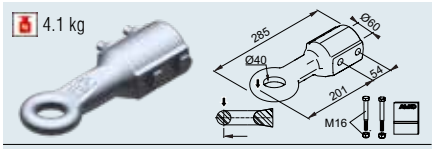
4.2 kg



SAP: ZUGÖSE D40 M SCHRAUBMAT VZ

Drawbar eye DIN D40/G **Part No.** 1224114

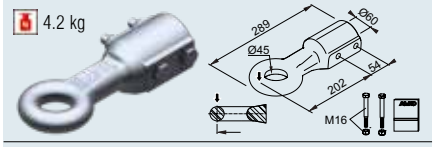
4.1 kg



SAP: ZUGÖSE E40 M SCHRAUBMAT VZ

Drawbar eye England E40/B **Part No.** 1224113

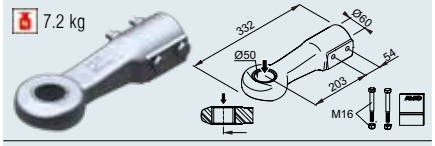
4.2 kg



SAP: ZUGÖSE I45 M SCHRAUBMAT VZ

Drawbar eye Italy I45/G **Part No.** 1224115

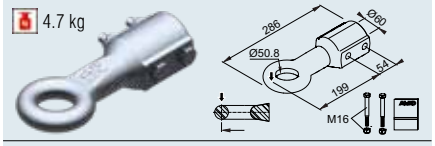
7.2 kg



SAP: ZUGÖSE D50 M SCHRAUBMAT VZ

Drawbar eye DIN D50 **Part No.** 1730613

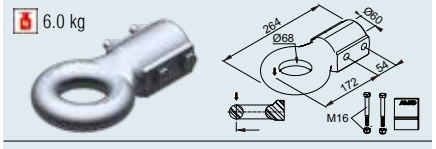
4.7 kg



SAP: ZUGÖSE E50 M SCHRAUBMAT VZ

Drawbar eye England E50/B **Part No.** 1224116

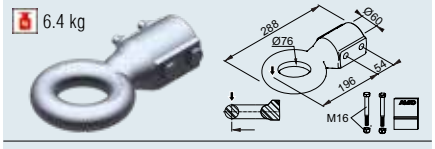
6.0 kg



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ

Drawbar eye France F68/F **Part No.** 1224117

6.4 kg



SAP: ZUGÖSE N76 M SCHRAUBMAT VZ

Drawbar eye NATO N76/F **Part No.** 1224118

OVERRUN DEVICE V AND SQUARE

with hydraulic brake transmission device

YOUR ADVANTAGE

- Soft, comfortable overrun procedure, no overrun shock.
- Minimum transmission losses = better braking values.

SAMPLE APPLICATIONS

- Hydraulic ramp trailer
- Transport trailer for sensitive goods (electronics, glass, etc.)
- Animal trailers, especially horse boxes

Figure 1

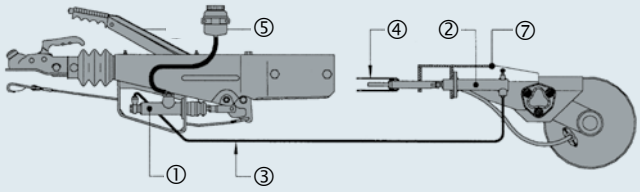
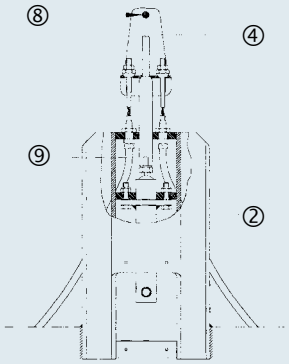


Figure 2



1 = main brake cylinder
2 = slave cylinder
3 = hydraulic lines
4 = compensation profile
5 = expansion tank
6 = handbrake lever
7 = bracket
8 = connection for parking brake
9 = Bowden cable

SERVICE BRAKE/EMERGENCY BRAKE

On the service brake, the drawbar tube pushes the overrun device via the relay lever onto the main brake cylinder (Fig. 1 ①). In the emergency brake, the same thing happens via the handbrake lever operated by the breakaway cable.

Hydraulic lines (or hoses Fig. 1 ③) transfer the pressure to the slave cylinder (Fig. 1 ②) on the axle.

The slave cylinder (Fig. 1 ②) pulls on the Bowden cable and the expanding joint lock via the compensation profile (Fig. 1 ④). This expands the brake shoes and the trailer is braked.

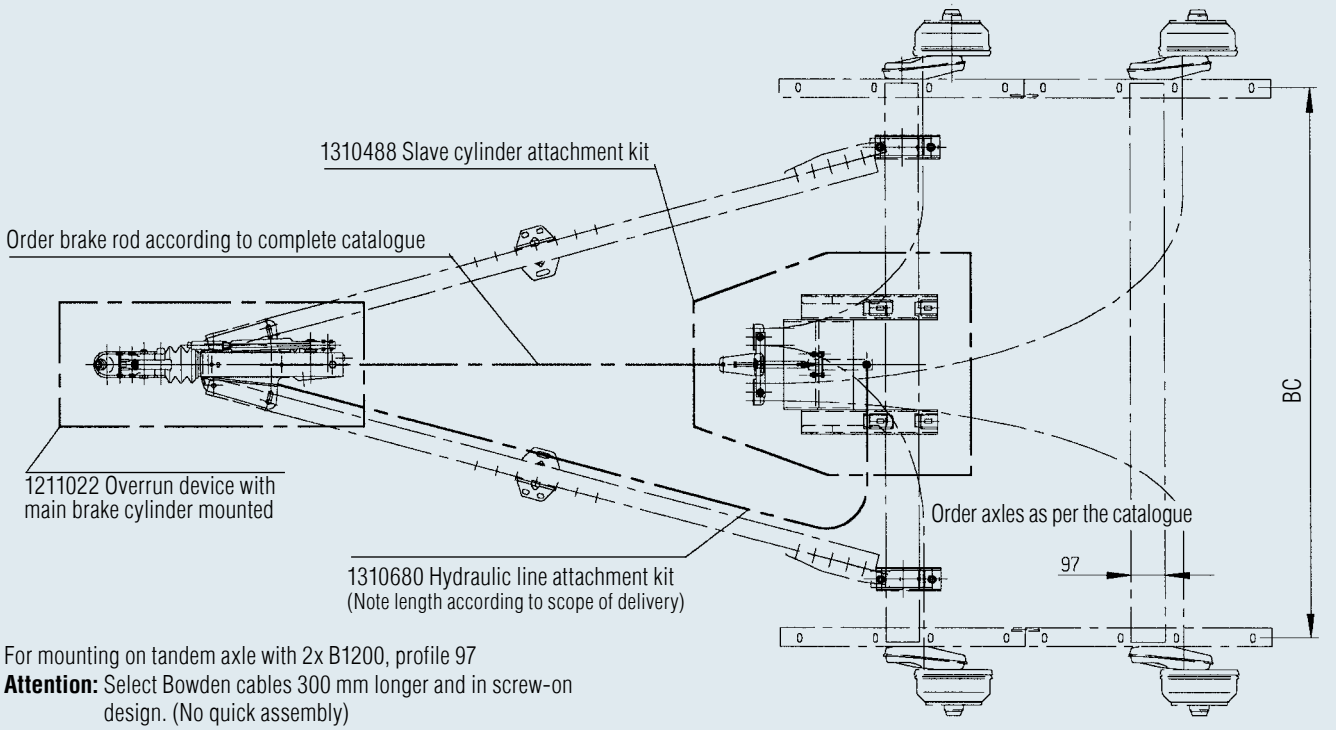
HANDBRAKE/PARKING BRAKE

Installation situation **Slave cylinder** is mounted in driving direction **in front of the axle** :
In V overrun devices, the attachment kit for the slave cylinder is mounted in front of the axle in the driving direction. The handbrake in the hydraulic overrun device can thus brake the vehicle via the brake rod (see Fig. 3):

Installation situation **Slave cylinder** is mounted in driving direction **behind the axle** :
If the slave cylinder is mounted behind the axle, the handbrake of the overrun device can no longer be used. In this installation case, an additional handbrake/parking brake will have to be mounted at a suitable point on the vehicle (see Fig. 4).

Example: Trailer with V drawbar, tandem, max. 2,600 kg permitted gross weight

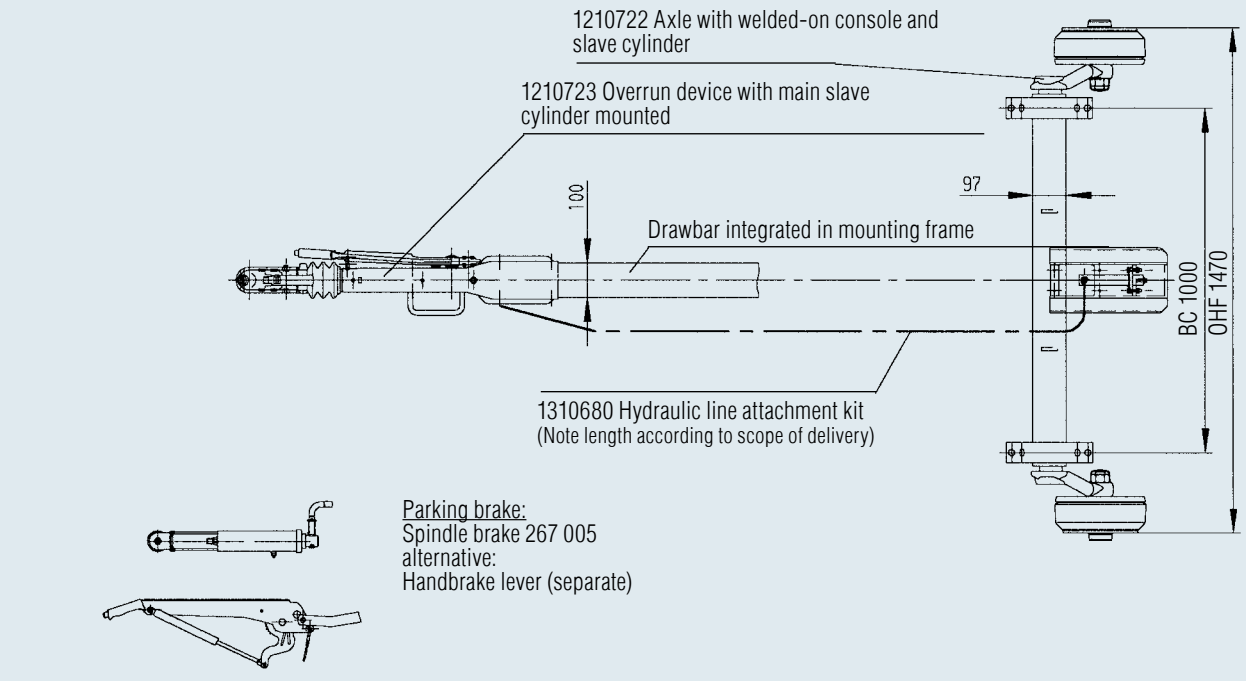
Figure 3



For mounting on tandem axle with 2x B1200, profile 97
Attention: Select Bowden cables 300 mm longer and in screw-on design. (No quick assembly)

Example: Trailer with square overrun device, single axle trailer, max. 1,600 kg permitted gross weight (special variant)

Figure 4



OVERRUN DEVICE V

with hydraulic brake transmission device

MOUNTING

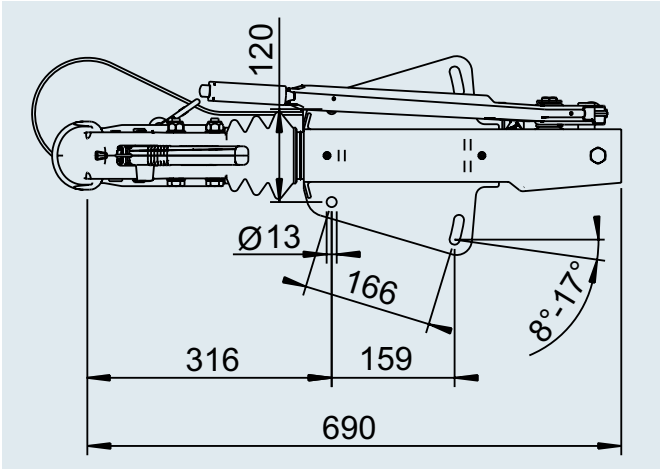
The following are required to mount the hydraulic brake transmission:

- Ventilating device (with adapter for expansion tank)
- Flaring unit for brake line (with pin 4 x 7.5)

After mounting the chassis, fill and bleed the brake system. **Attention!** The braking effect will not be sufficient if the brake system has not been bled or only bled insufficiently! **Risk of accidents!**

An independent mechanical parking brake is specified for trailers with a hydraulic brake transmission device.

The axles offered cannot be connected centrally with a central tube drawbar. A central tube drawbar must be integrated in the mounting frame or, alternatively, the offered axles must be connected using a V drawbar.



SAP: AE KPL V OB 251S HYD AK270 GASF

1. Overrun device V

Part No.	Type	Gross weight kg	Nose load kg	Installation	Can be combined with AL-KO wheel brake	Change-over relay lever?	Hand-brake lever	ECE test report no. overrun device	ECE type approval no. drawbar installation	Coupling head mounted type/version
1253082	-V- 251 S	1,500 – 2,600	100	Top	2051	Yes 2361/3081	Gas spring	361-0044-97 251 S/A	E1 55R-01 0227 251 S	AK 270
1211677	-V- 2.8 VB	2,500 – 3,500	150	Top	2361	No	Gas spring	361-0045-97	E1 55R-01 0384 351 S	AK 351

2. Hydraulic lines attachment kit

Part No.	Description/content
1310680	Brake line 2 x 2,000 mm + small parts (see scope of delivery)

3. Slave cylinder attachment kit for tandem axle A-frame chassis

Part No.	Description/content	For axle beam Ø mm
1310488	Screw-on bracket, slave cylinder + small parts (see technical drawing)	97 (= max. GA tandem 2600 kg)
1310907	Screw-on bracket, slave cylinder + small parts (see technical drawing)	110 (= max. GA tandem 3500 kg)

OVERRUN DEVICE SQUARE

with hydraulic brake transmission device

MOUNTING

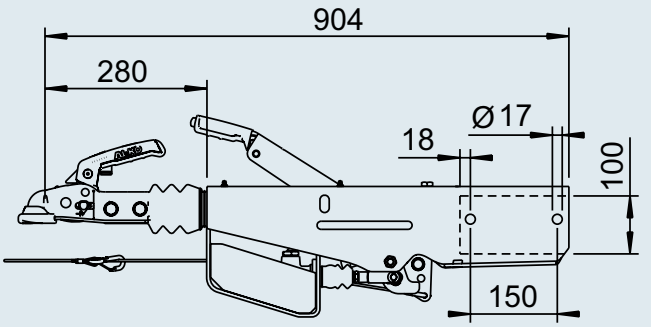
The following are required to mount the hydraulic brake transmission:

- Ventilating device (with adapter for expansion tank)
- Flaring unit for brake line (with pin 4 x 7.5)

After mounting the chassis, fill and bleed the brake system. **Attention!** The braking effect will not be sufficient if the brake system has not been bled or only bled insufficiently! **Risk of accidents!**

An independent mechanical parking brake is specified for trailers with a hydraulic brake transmission device.

The axles offered cannot be connected centrally with a central tube drawbar. A central tube drawbar must be integrated in the mounting frame or, alternatively, the offered axles must be connected using a V drawbar.



SAP: AE KPL VKT100 161S/HYD AK161 SOND

1. Overrun device V

Part No.	Type	Gross weight kg	Nose load kg	Instal-lation	Can be combined with AL-KO wheel brake	Change-over relay lever?	Hand-brake lever	ECE test report no. overrun device	ECE type approval no. drawbar installation	Coupling head mounted type/version
1253079	Square 161 S	950 – 1,600	100	☒100	2051	yes 2361/3081	Gas spring	361-0047-97 161 S/A	E1 55R-01-267 161 K	AK 161
1253081	Square 251 S	1,500 – 2,600	100	☒100	2051	yes 2361/3081	Gas spring	361-0044-97 251 S/A	E1 55R-01-268 251 K	AK 270

2. Hydraulic lines attachment kit

Part No.	Description/content
1310680	Brake line 2 x 2,000 mm + small parts (see scope of delivery)

3. Slave cylinder attachment kit for tandem axle A-frame chassis

Part No.	Description/content	For axle beam Ø mm
1310488	Screw-on bracket, slave cylinder + small parts (see technical drawing)	97 (= max. GA tandem 2600 kg)
1310907	Screw-on bracket, slave cylinder + small parts (see technical drawing)	110 (= max. GA tandem 3500 kg)

OVERRUN DEVICE V

2,500 to 4,500 kg – up to 40 km/h

SAP: AE KPL V OB 44 V DINÖSE 4400

Overrun device 44 V and 45 ZA with DIN drawbar eye Ø 40

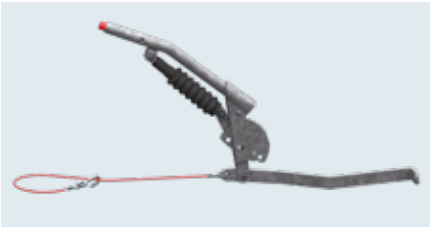
Part No.	Central axle trailer	Pivoting drawbar trailer	Type	Gross weight in kg	Nose load in kg	Installation	Change-over relay lever?	Can be combined with AL-KO wheel brake	DIN drawbar eye				
1251725	X		44 V	2,500 – 4,400	300	Top Bottom from 16°	No	2051 / 2361	Ø 40	32	–	10	25
1251724	X		44 V	2,500 – 4,400	300	Top Bottom from 16°	No	3062 / 3081	Ø 40	32	–	10	25
1251745		X	45 ZA	3,500 – 4,500	–	Top Bottom from 16°	No	3062 / 3081	Ø 40	32	–	10	25

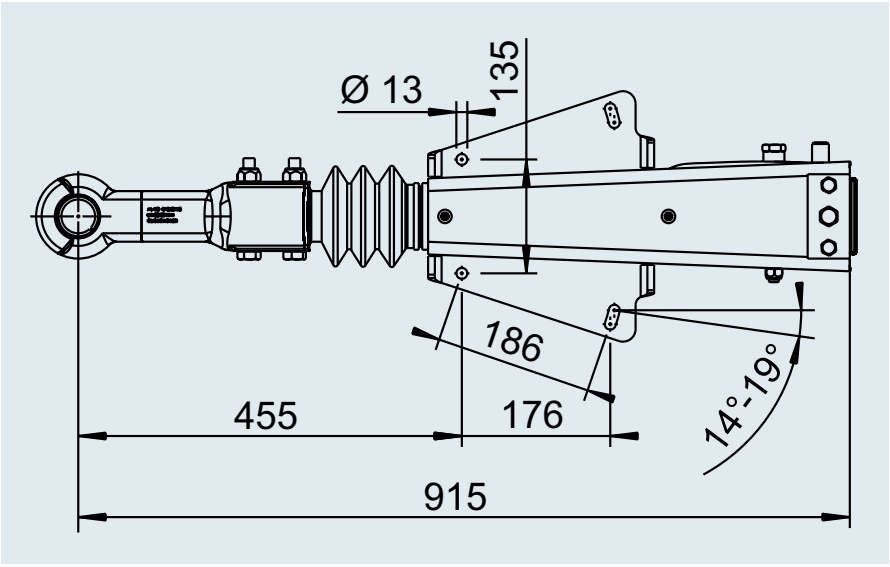
SCOPE OF SUPPLY

- Overrun device (see Fig.)
- Plug holder (loose)
- Instructions for use (loose)
- Handbrake lever (loose)

ECE test report

with individual acceptance





OVERRUN DEVICE V

4,400 to 6,000 kg – up to 40 km/h

SAP: AE KPL V OB 50 V DINÖSE

Overrun device 50 V and 60 ZA with DIN drawbar eye Ø 40

Part No.	Central axle trailer	Pivoting drawbar trailer	Type	Gross weight in kg	Nose load in kg	Instal-lation	Change-over relay lever?	Can be combined with AL-KO wheel brake	DIN dra-wbar eye				
1730502	X		50 V	4,400–5,000	300	Top	No	2361 / 3062 / 3081	Ø 40	38	–	10	30
1225966		X	60 ZA	4,700–6,000	–	Top	No	2361 / 3062 / 3081	Ø 40	38	–	10	30

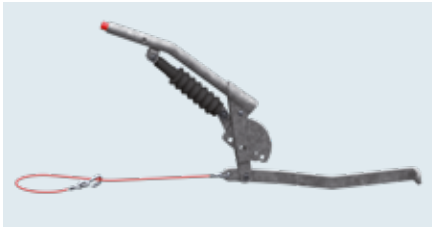
3

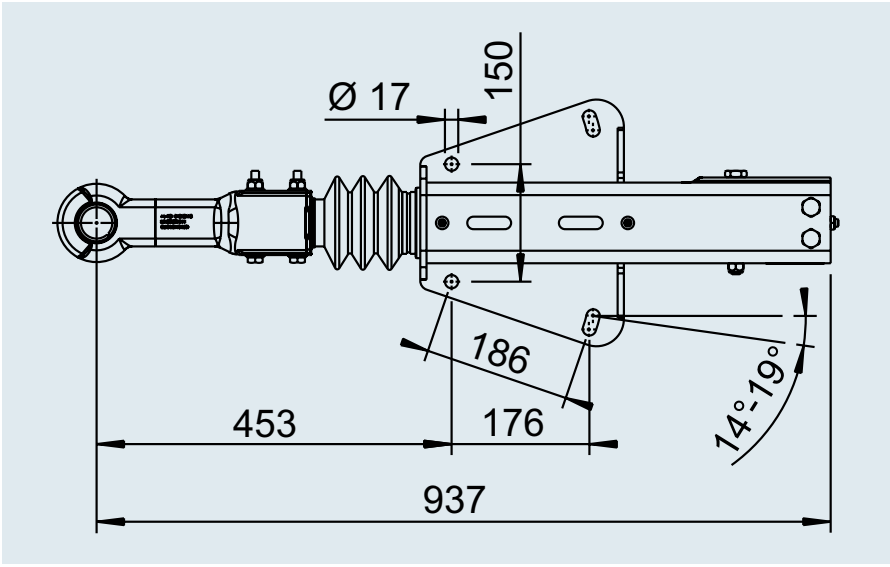
SCOPE OF SUPPLY

- Overrun device (see Fig.)
- Plug holder (loose)
- Instructions for use (loose)
- Handbrake lever (loose)

ECE test report

with individual acceptance





TOWBAR CONNECTIONS V

1,000 to 3,500 kg

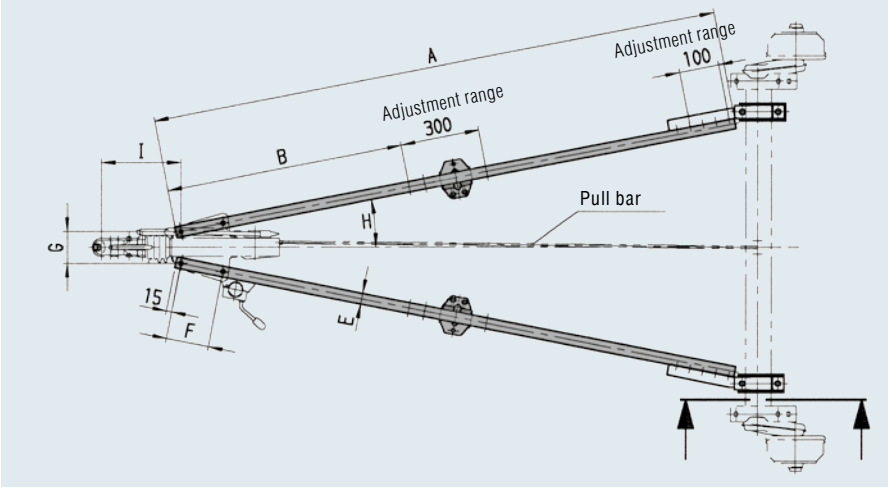
YOUR ADVANTAGE

A-frame chassis from stock!

Select: Towbars with jockey wheel attachment, suitable linkage with bolted fasteners, connecting parts from towbar to axle, overrun device and axle. Everything from stock!

Attention!

Special dimensions (lengths, connections, etc.) are possible on request.
Please contact us!



SURFACE TREATMENT

I Hot-dip galvanised

101 T

SAP: ZUGVERBNDG V

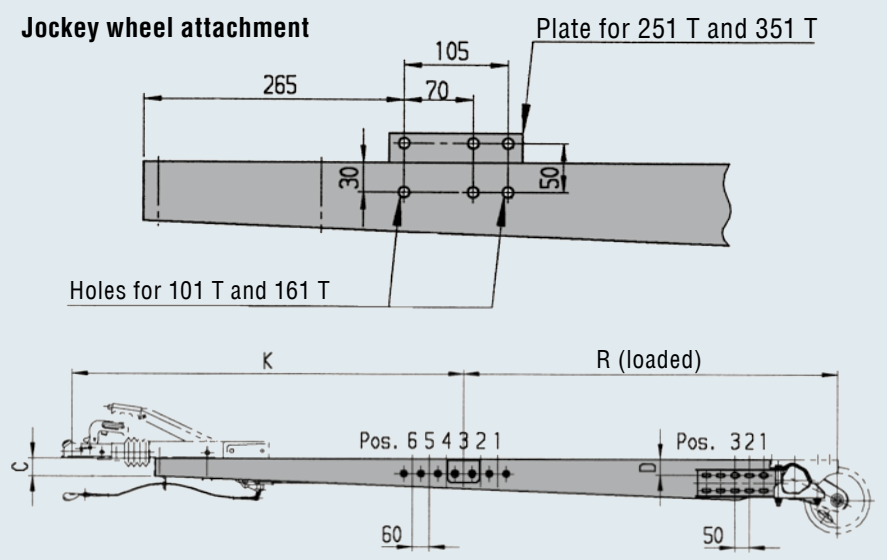
Towbar connection													Overrun device			
Part No. per pair	Type	Test code E1 55R-01	Gross weight trailer kg	Nose load kg	Dimensions Length A	B	C	D	E	F	G	H with top installation	H with bottom installation	I	K with
249377 249378 249379 249380	101 T	ECE: E1 55R-01 0538	1,000	100	1850 2000 2150 2300	900 to 1200	60	53	40	130	100	11° to 13.5°	11° to 13.5°	302	H 11° 1170 to 1465
249381 249382 249383	161T	ECE: E1 55R-01 0540	1,600	100	1800 2000 2500	900 to 1200	60	53	40	166	120	8° to 15°	12° to 15°	303	H 11° 1170 to 1465
249384 249385 249386	251T	ECE: E1 55R-01 0535	2,800	100	1800 2000 2500	900 to 1200	60	53	50	166	120	8° to 15°	13.5° to 15°	303	H 11° 1170 to 1465
249387 249388 249389	351T	ECE: E1 55R-01 0539	3,000	150	2000 2300 2500	1100 to 1400 1100 to 1400 1100 to 1400	80	53	50	166	120	12° to 15°	13.5° to 15°	308	H 12° 1180 to 1475
249390 249392 244100	351T	ECE: E1 55R-01 0539	3,500	150	2000 2300 2500	900 to 1200 1100 to 1400 1100 to 1400	80	53	50	186	135	13° to 17°	16° to 17°	330	H 14° 1190–1485 H 14° 1385–1680
1224330 1224331 1224332	351T	ECE: E1 55R-01 0539	3,500	150	2000 2300 2500	900 to 1200 1100 to 1400 1100 to 1400	80	53	50	208	135	8° to 20°	8° to 20°	330	H 14° 1385–1680 H 14° 1385–1680

SCOPE OF SUPPLY

A) Towbar connections (pair) including:
- Fixing bolts
- Jockey wheel attachment

B) Towbar connection (pair)
(please order separately):
- Mounting instructions

C) Pull bar (please order separately):
- Fixing bolts



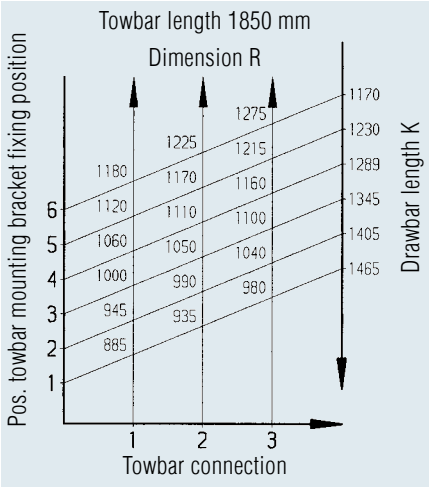
351 T

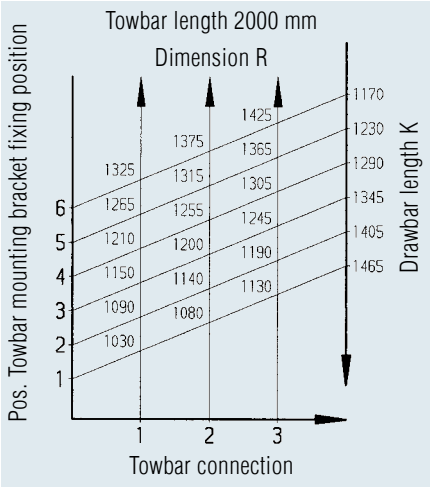
R	K max. permitted acc. to report	Matching overrun device top installation Type			Draw-bar (pair)	Pull bar with fixing bolts Part No.	Pull bar with fixing bolts Ø mm x length mm x thread length	Towbar connection with fixing bolts for attachment to the axle Part No. (pair)	Towbar connection with fixing bolts for attachment to the axle for axle beam COMPACT and PLUS
885–1175	1820	60S/2	-	50	13	249434	9x1650x230/90 M10	249079 1225292 249998 1225293	97 Ø; 25° 97 Ø; 5° 80 Ø; 25° 80 Ø; 5°
1030–1425		and 90S/3			14	249436	9x1800x230/90 M10		
1175–1570					16	249437	9x1925x230/90 M10		
1325–1720					17	249439	9x2075x230/90 M10		
835–1225	1820	161 S	-	40	15	249433	9x1550x230/90 M10	249079 1225292 249998 1225293	97 Ø; 25° 97 Ø; 5° 80 Ø; 25° 80 Ø; 5°
1030–1425					17	249435	9x1725x230/90 M10		
1520–1915					21	249440	9x2250x230/90 M10		
835–1225	1800	251S and 251G	-	30	20	249433	9x1550x230/90 M10	249079 1225292 249998 1225293	97 Ø; 25° 97 Ø; 5° 80 Ø; 25° 80 Ø; 5°
1030–1425					23	249435	9x1725x230/90 M10		
1520–1915					30	249440	9x2225x230/90 M10		
830–1220	1945	AE 3000	-	20	31	267364	12x1725x170	249079 1225292 267022 1223528	97 Ø; 25° 97 Ø; 5° 110 Ø; 25° 110 Ø; 5°
1125–1515		251G			34	267365	12x2025x170		
1320–1710					36	267366	12x2225x170		
	1945	2.8VB/1-C	-	20	31	267367	12x1650x170	267022 1223528	110 Ø; 25° 110 Ø; 5°
					34	267368	12x1950x170		
					36	267369	12x2150x170		
	1945	AE 3500	-	20	31	267367	12x1650x170	267022 1223528	110 Ø; 25° 110 Ø; 5°
					34	267368	12x1950x170		
					36	267369	12x2150x170		

TOWBAR CONNECTIONS

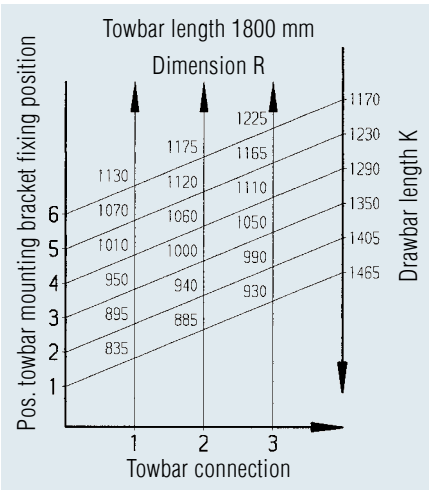
Calculation diagram and setting values

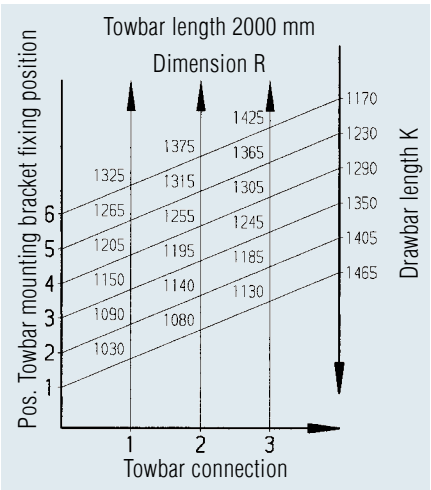
Drawbar strut
Type 101 T
(Diagram values where
H=11° towbar angle)



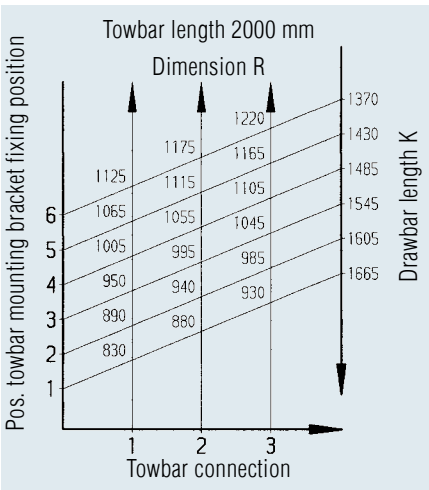


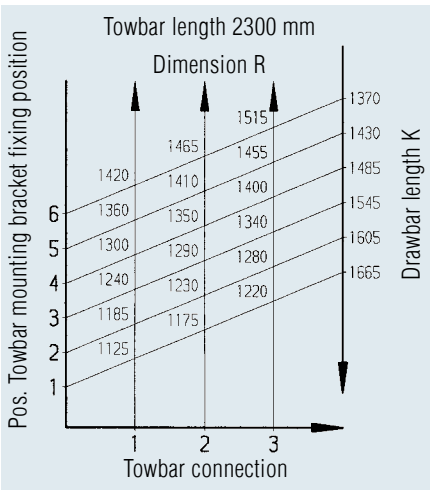
Drawbar strut
Type 161 T / 251 T
(Diagram values where
H=11° towbar angle)

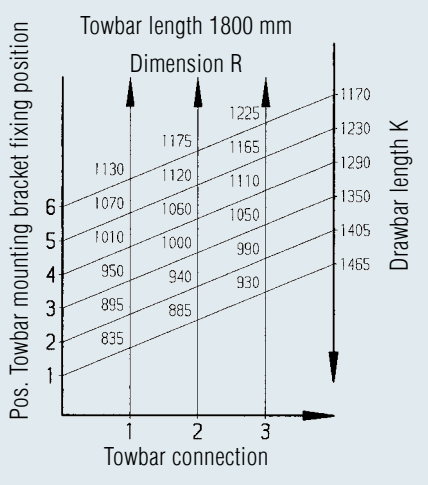


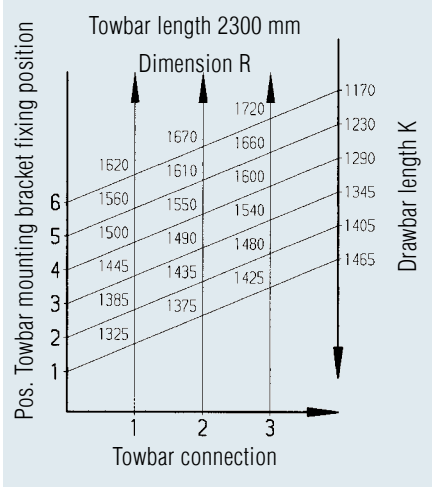


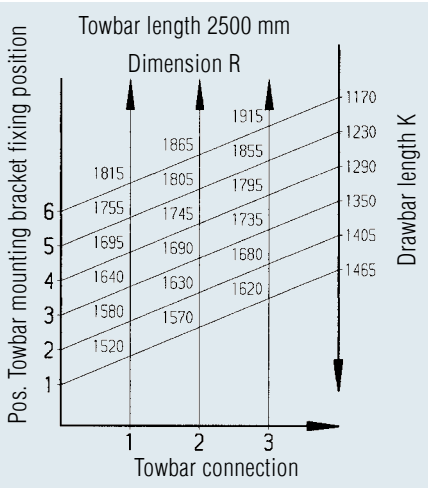
Drawbar strut
Type 351 T
(Diagram values where
H=11° towbar angle)



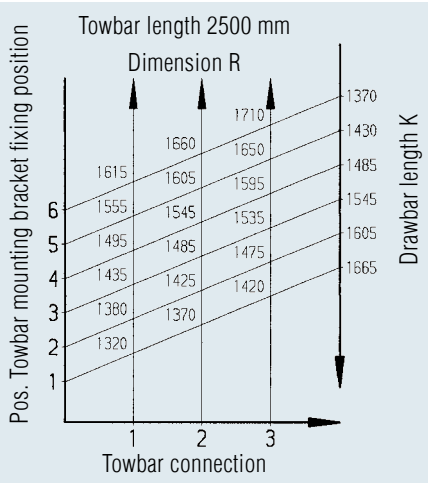








Towbar mounting bracket fixing position



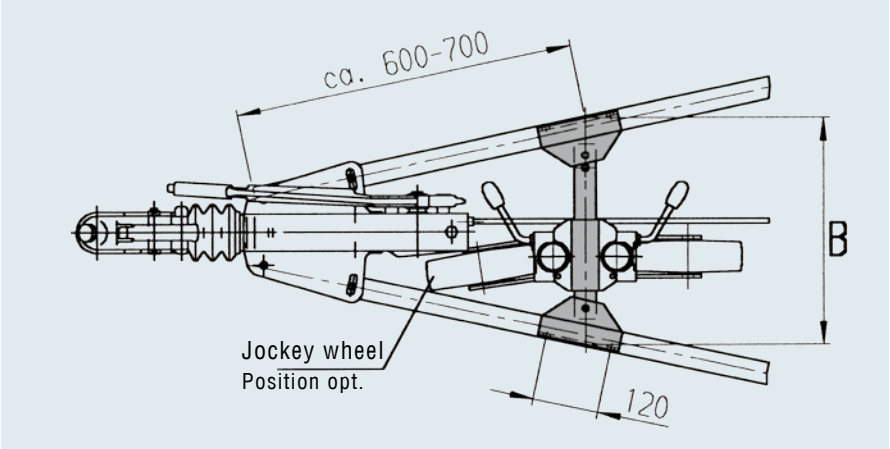
Towbar connection

JOCKEY WHEEL CROSSMEMBER

for towbar connections V up to 3,500 kg

YOUR ADVANTAGE

- No twisting of the drawbars if the nose load is exceeded, as was previously sometimes the case with external mounting of the jockey wheel
- Installation of the jockey wheel between the drawbars permits safer and easier manoeuvring by hand
- The crossmember adapts to the respective towbar position due to movable fastening brackets
- Delivered pre-assembled thereby permitting quick and easy installation
- Three standard lengths permit a wide range of mounting positions

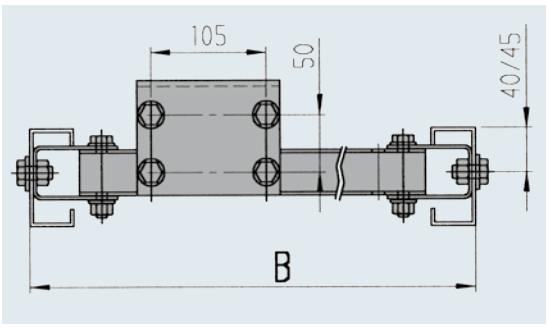


APPLICATION AREA

- A-frame chassis

MOUNTING

The crossmember can be mounted on AL-KO towbar connections (mounting position see diagram). For this purpose, it is necessary to have 2 holes 12.5 or 13 mm each in the neutral area of the towbars (see operating instructions for TÜV authorisation).
Attention! Jockey wheel crossmember must make contact with the upper edge of the towbar connection.
The jockey wheel can be installed either before or after the crossmember in the driving direction.



SURFACE TREATMENT

- Hot-dip galvanised, bolts galvanised

SAP: TRAVERSE STÜTZRAD 390-410 KPL

Part No.	Length B mm	Static load max.				
1212991	390/410	300 kg	4.71	–	50	10
1212992	440/460	300 kg	4.91	–	50	10
1212993	515/535	300 kg	5.38	–	50	10

SCOPE OF SUPPLY

- Crossmember with pre-installed fastening brackets and pre-installed counter-flange for clamp Ø 48mm and Ø 60mm or AL-KO flange jockey wheel (without packaging).

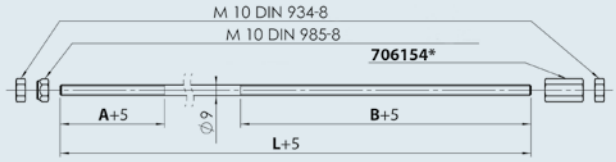
BRAKE ROD

Brake rod adapter / brake rod holder

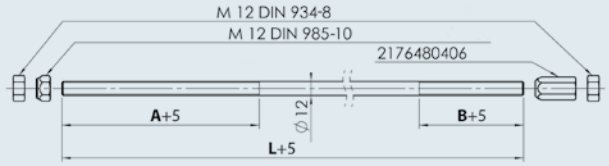
SURFACE TREATMENT
- galvanised

SCOPE OF SUPPLY
complete with fixing bolts
(see technical drawing)

Brake rod Ø 9



Brake rod Ø 12



*When using brake rod M10 for tandem, ball nut 2088890006 must also be ordered and exchanged for nut 706154.

SAP: ZUGSTANGE M10x1550 M MONT

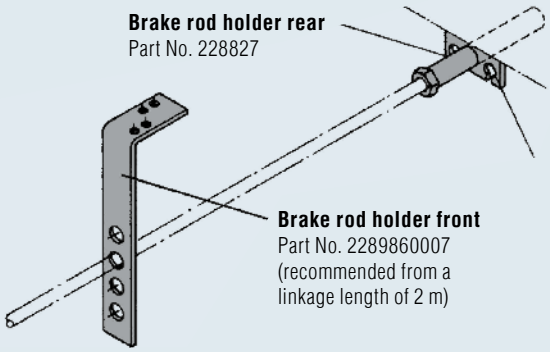
Part No.	Ø	Brake rod / thread	L (mm)	A (mm)	B (mm)	
1733142	Ø 9	M10	1.200	90	430	0,6
1733143	Ø 9	M10	1.400	90	425	0,7
1733144	Ø 9	M10	1.600	90	425	0,8
1733145	Ø 9	M10	1.800	90	425	0,9
1733146	Ø 9	M10	2.000	90	425	1,0
1733147	Ø 9	M10	2.400	90	625	1,3
1733148	Ø 9	M10	2.800	90	625	1,5
1733149	Ø 9	M10	3.285	90	710	1,7
1733150	Ø 9	M10	3.610	90	550	1,9
1733151	Ø 9	M10	4.000	90	615	2,1
1733152	Ø 9	M10	4.500	90	725	2,4
240126	Ø 12	M12	1.975	170	90	1,8
240127	Ø 12	M12	2.450	170	90	2,4
240128	Ø 12	M12	2.950	170	90	3,0
240129	Ø 12	M12	4.000	170	90	4,0

SAP: GESTÄNGEADAPTER M12-M10 VERP

Part No.	Brake rod adapter	Perm. gross weight	suitable for
1224412	M12 to M10	up to 2,700 kg	AL-KO overrun devices with M12 rod connection

SURFACE TREATMENT
- Galvanised (front)
- Plastic (rear)

SCOPE OF SUPPLY
(see technical drawing)

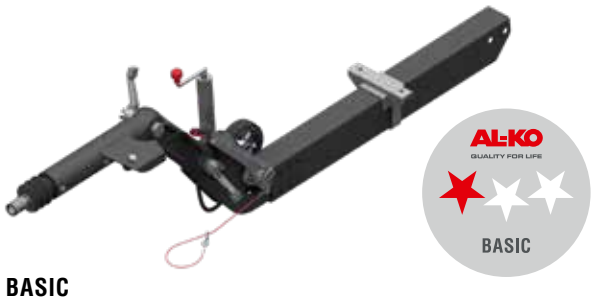


SAP: GESTÄNGEHALTER-FÜHRUNG M10

Part No.	Brake rod holder front	Brake rod holder rear	Brake rod Ø mm	
2289860007	X		Ø 10 and Ø 12	0.2
228827		X	Ø 10	0.1
28867601		X	Ø 12	0.1

HEIGHT-ADJUSTABLE OVERRUN DEVICES

Product lines / differences / application areas



Product line	BASIC
Product name	Height-adjustable overrun device VB BASIC
Suitable for trailers with mobile equipment (so there is no danger of overloading)	Yes
Suitable for professionally used transport trailers (Danger of overloading)	Less suitable. However, the system meets legal requirements
Suitable for bus trailers	No. The bus trailer has requirements that are significantly greater than the statutory specifications
Max. permitted gross weights	1,600 kg, 2,700 kg, 3,500 kg
Surface treatment	Black-primed
Minimum hitch height (guidance values)	Approx. 320 mm
Maximum hitching height (guidance values)	Approx. 920 mm
Hitching far below the loading platform (truck according to standard) without collision	Possible
Park/transport position of the AE at 90°	Possible (without additional disconnection of screwed connections)
Parallel adjustment	No
Mounting of the pull bar	Low-wear grey cast-iron mounting with minimum play and easy to exchange
Securing the shock absorber in the pull bar	Separate by a clamping pin. This means the shock absorber cannot move out when the bolts are removed
Overrun and towing damping	Yes
Mounting of the drawbar eyes	External mounting. The eyes can be pushed onto the pull bar from the front
Time required for changing the hitch components	Guide value approx. 2 minutes
One-person height adjustment assisted by a gas spring	No
Time requirement for adjusting	Guide value approx. 2 minutes (2 persons)
Handbrake lever ergonomics	Restricted. The lever must be pressed and pushed to release
Handbrake lever release force forwards	Approx. 25-30 kg
Handbrake lever release force backwards	30-45 kg
Roll-away protection with trailer on an incline (incompletely pulled handbrake)	The gas spring handbrake lever increases the tension automatically. No rolling away (comply with operating manual)
Number of tooth profiles on the upper and lower adjusting point (areas exposed to high load)	1 tooth head pair top and bottom
Drawbar section	Sturdy rectangular section
Brake rod routed protected in the drawbar section	Yes
Force transmission from overrun device to drawbar section	Relay lever, Bowden cable i.e. good efficiency

Height-adjustable hitching heights for overrun devices

Attention:

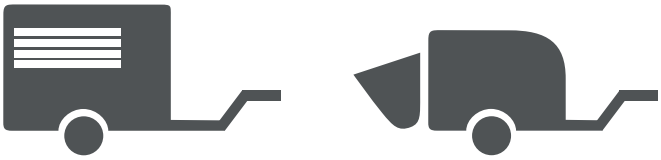
- All figures refer to tyre size 185/75 R 14
- All figures apply to models with curved drawbar section
- All figures apply to the use of axle types B1800/B2000/B2700 with a swing arm length of 175 mm
- All figures have been determined under load (nominal load)
- Permissible deviation in hitching heights according to the Professional Association of Vehicle Operators in Germany less than ± 3° horizontally

PLUS	PREMIUM PROFI
Height-adjustable overrun device VB-2	Height-adjustable overrun device VB-2 OPTIMA
Yes	Yes
Suitable. The system provides a high level of stability and safety, and can cope with short-term overload situations as well	Suitable. The system provides a high level of stability and safety, and can cope with short-term overload situations as well
No. The bus trailer has requirements that are significantly greater than the statutory specifications	Suitable
1,600 kg, 2,700 kg, 3,500 kg	1,600 kg, 2,700 kg, 3,500 kg
Hot-dip galvanised and chrome VI-free	Hot-dip galvanised and chrome VI-free
Approx. 420 mm	Approx. 280 mm
Approx. 1,210 mm	Approx. 1,040 mm
Possible	Possible
Possible (without additional disconnection of screwed connections)	No
Yes. This means the overrun device always remains in a horizontal position when adjusting.	Yes. This means the overrun device always remains in a horizontal position when adjusting.
Low-wear grey cast-iron mounting with minimum play and easy to exchange	Low-wear grey cast-iron mounting with minimum play and easy to exchange
Separate by a clamping pin. This means the shock absorber cannot move out when the bolts are removed	Separate by a clamping pin. This means the shock absorber cannot move out when the bolts are removed
Yes	Yes
External mounting. The eyes can be pushed onto the pull bar from the front	External mounting. The eyes can be pushed onto the pull bar from the front
Guide value approx. 2 minutes	Guide value approx. 2 minutes
Yes	Yes
Guide value approx. 1 minute (1 person)	Guide value approx. 2 minutes (1 person)
Restricted. The lever must be pressed and pushed to release	Very good. Slack point lever without pushbutton, body weight can be used.
Approx. 25-30 kg	Approx. 20-25 kg
30-45 kg	25-35 kg
The gas spring handbrake lever increases the tension automatically. No rolling away (comply with operating manual)	The slack point handbrake lever automatically increases the tension. No rolling away (comply with operating manual)
2 toothed washer pairs bottom	2 toothed washer pairs top and bottom
Sturdy rectangular section	Sturdy rectangular section
Yes	Yes
Relay lever, brake rod i.e. very good efficiency	Relay lever, brake rod i.e. very good efficiency

Type	Intermediate piece	Hitching height "standard values" mm		
	Length mm	min.	max. at 0°	max. at angle of +3°
AE 161/251/351 VB-2	700	420	1,080	1,210
	600	439	1,003	1,130
	400	474	849	970
AE 161/251/351 VB-2 Optima	700	277	911	1,041
	600	286	829	955
	400	303	666	786
AE 160/270 VB Basic	350	320	794	924
AE 350 VB Basic	400	295	819	949

HEIGHT-ADJUSTABLE OVERRUN DEVICES VB BASIC

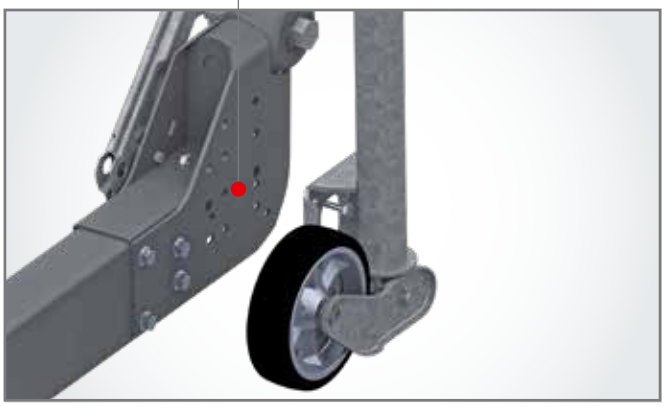
for trailers with mobile equipment



PROVEN TECHNOLOGY WITH INTERMEDIATE PIECE ROUND TUBE AND WELD-ED-IN TOOTH HEAD

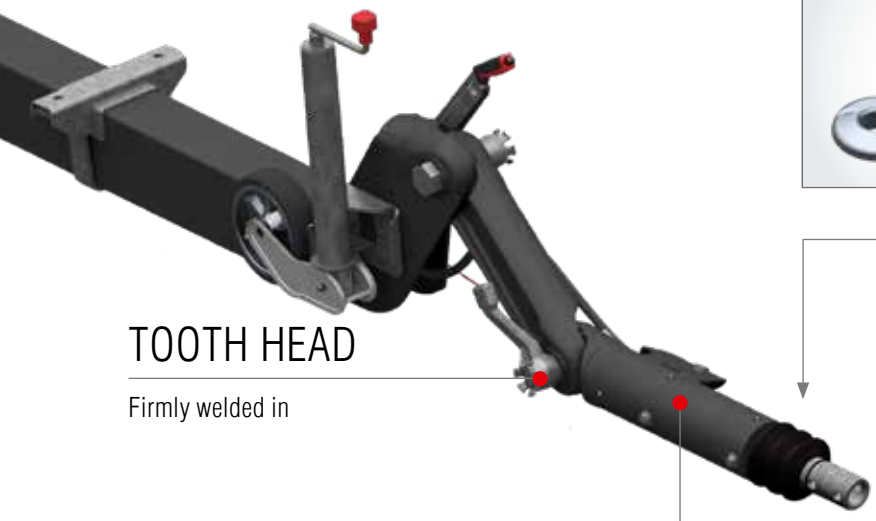
- The flat construction of the overrun device permits:
  – Minimum hitching height of approx. 280 mm
  – Low hitching under the truck loading platform
- Brake rod routed protected in the drawbar section
- Quick-change system drawbar eyes for almost all European country versions
- Optimum force transmission by AL-KO Bowden cables
- Range: 1,600 kg, 2,700 kg, 3,500 kg
- Surface treatment: black-primed

Hole pattern for jockey wheel



STANDARD MOUNTING HOLES FOR THE JOCKEY WHEEL

Mounting holes for the jockey wheel are already provided on the adapter, see hole pattern.



TOOTH HEAD

Firmly welded in

FLAT DESIGN

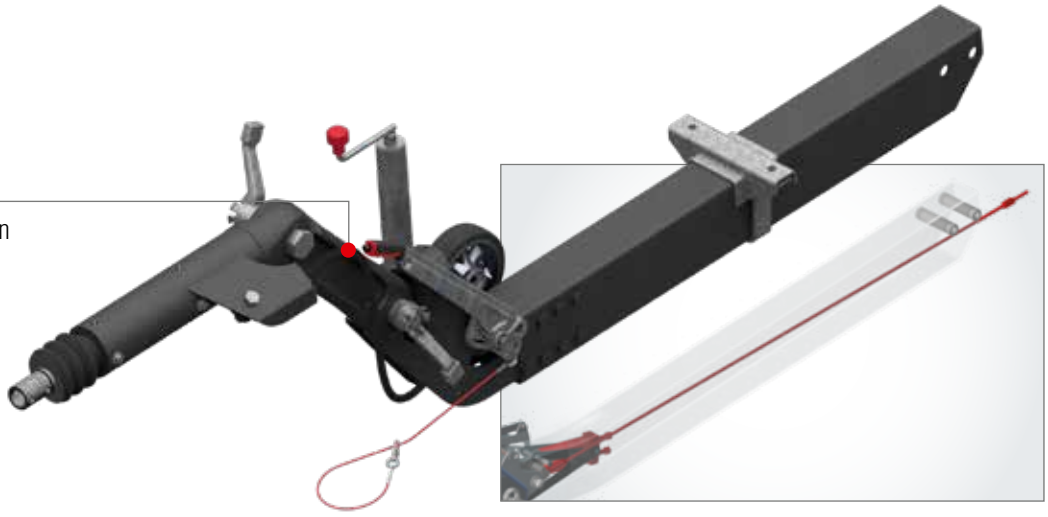
Makes low hitching possible

QUICK-CHANGE SYSTEM

For 11 different hitches and eyes.

BOWDEN CABLE

For optimum force transmission



BRAKE ROD ROUTING

Protected in the drawbar section

HEIGHT-ADJUSTABLE OVERRUN DEVICES VB-2 OPTIMA

For professionally used transport trailers

RB 2051 I RB 2361 I RB 3081

TYPE PLATE

The respective AL-KO wheel brake with which this overrun device can be combined is listed in this field

MODERN, ROBUST TECHNOLOGY WITH STURDY RECTANGULAR SECTION

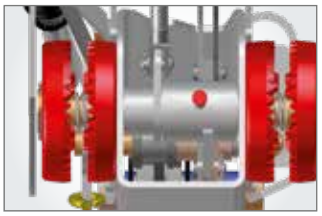
- One-person height adjustment assisted by a gas spring
- Two pairs of toothed lock washers reinforce the highly stressed adjustment range at the top and bottom
- Easy-extending telescopic handbrake lever (AL-KO patent) without pushbutton, i.e. easily adjusted
- The flat construction of the overrun device permits:
  – Minimum hitching height of approx. 280 mm
  – Low hitching under the truck loading platform
- The spring pack for the handbrake lever and the brake rod is positioned protected in the drawbar section
- Quick-change system drawbar eyes for almost all European country versions
- Range: 1,600 kg, 2,700 kg, 3,500 kg
- Surface treatment: hot-dip galvanised

GAS SPRING

permits one-person height adjustment

ADJUSTMENT RANGE TOP

reinforced by two pairs of toothed lock washers

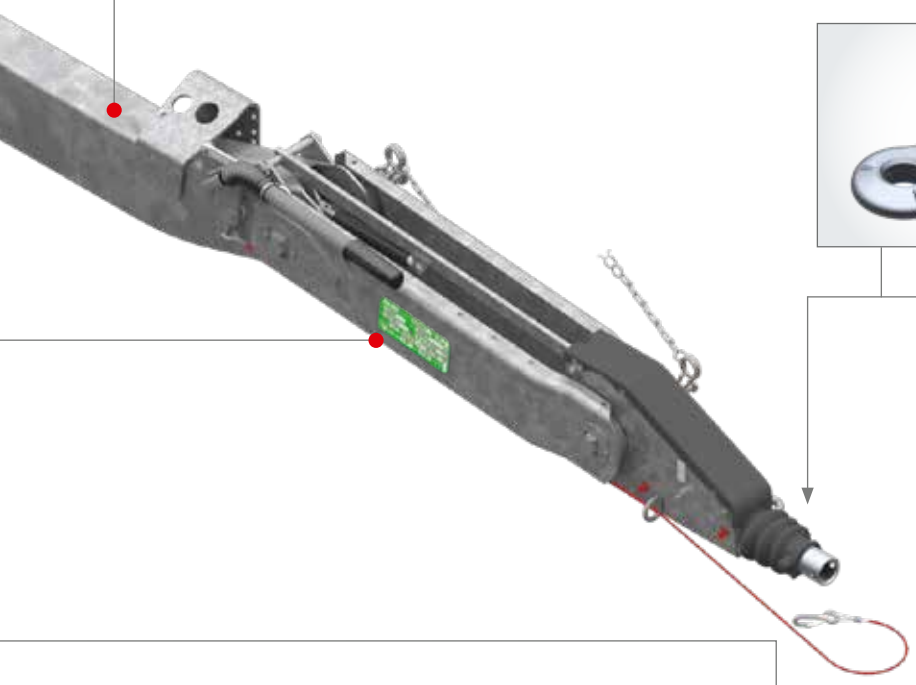


ADJUSTMENT RANGE BOTTOM

reinforced by two pairs of toothed lock washers

RECTANGULAR SECTION

Robust and sturdy technology



QUICK-CHANGE SYSTEM

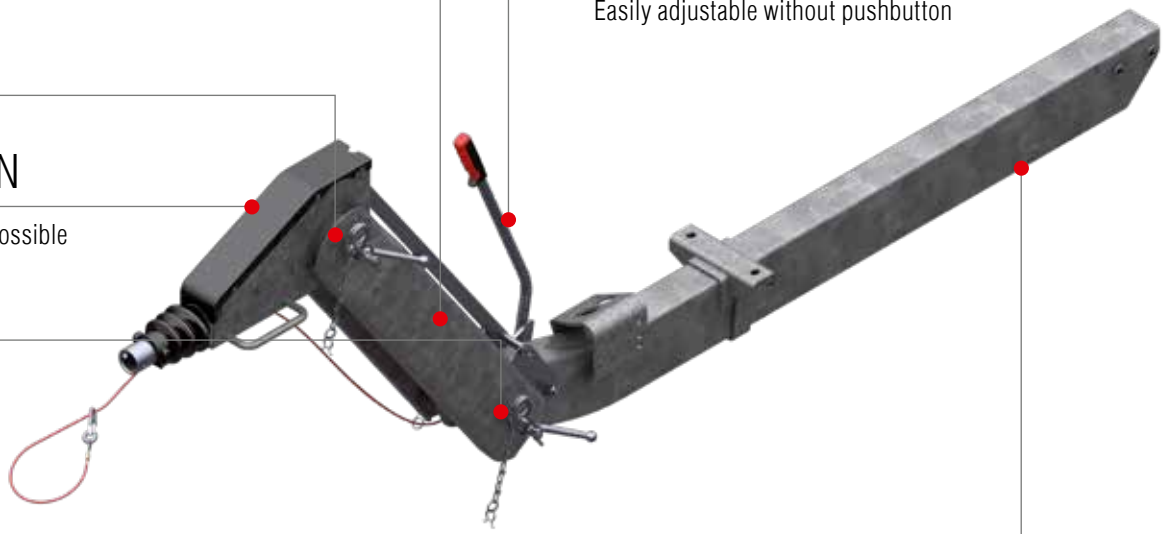
For different hitches and eyes

HANDBRAKE LEVER

Easily adjustable without pushbutton

FLAT DESIGN

Makes low hitching possible



BRAKE ROD ROUTING

Protected in the drawbar section

HEIGHT-ADJUSTABLE OVERRUN DEVICES

with drawbar section cranked 510 to 1,000 kg

TECHNOLOGY

Overrun device type 101 VB COMPACT

Intermediate piece with drawbar section 102 VB Compact
Optional: Intermediate piece 400 mm / 600 mm
Permitted nose load 100 kg

ECE test report no.:

Overrun device: 361-0127-97

ECE type approval no.:

Drawbar installation: E1 55R-01 0211

Changeover relay lever:
☐ Yes ☒ No

SAP: AE ZSHB 101 VB M DEICHSPR

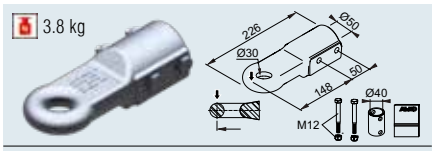
Overrun device cpl. with drawbar section mounted (without hitch components)

Drawbar length E in mm	Total length K at 0° DIN drawbar eye	OD cpl. with drawbar section for wheel brake 1637/2051				
1,010	2,150	20056601	44.0	–	9	10
1,090	2,230	20056602	44.7	–	9	10
1,170	2,310	20056603	45.4	–	9	10
1,250	2,390	20056604	46.1	–	9	10
1,330	2,470	20056605	46.8	–	9	10
1,410	2,550	20056606	47.5	–	9	10
1,490	2,630	20056607	48.2	–	9	10
1,570	2,710	20056608	48.9	–	9	10
1,650	2,790	20056609	49.6	–	9	10
1,730	2,870	20056610	50.3	–	9	10
1,810	2,950	20056611	51.0	–	9	10
1,890	3,030	20056612	51.7	–	9	10
1,970	3,110	20056613	52.4	–	9	10
2,050	3,190	20056614	53.1	–	9	10
2,130	3,270	20056615	53.8	–	9	10
2,210	3,350	20056616	54.5	–	9	10
2,290	3,430	20056617	55.2	–	9	10
2,370	3,510	20056618	55.9	–	9	10
2,450	3,590	20056619	56.6	–	9	10
2,530	3,670	20056620	57.3	–	9	10
2,610	3,750	20056621	58.0	–	9	10
2,690	3,830	20056622	58.7	–	9	10
2,770	3,910	20056623	59.4	–	9	10
2,850	3,990	20056624	60.1	–	9	10

Push-on hitch components: Drawbar eye nose load 100 kg, connection D40 / 101 VB

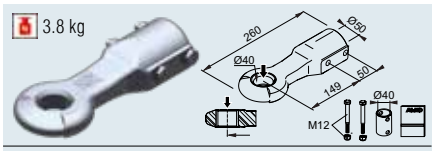
SAP: KUPLNG KUGL AK 161 D40 M SCHRAUBMAT

Hitch AK161 Ø35–Ø50 **Part No.** 1730810



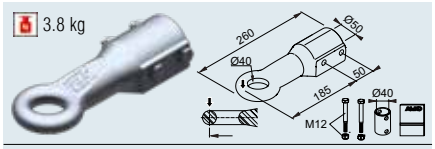
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ

Drawbar eye UK E30/A **Part No.** 1224661



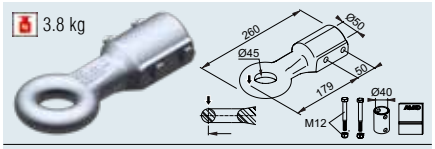
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ

Drawbar eye DIN D40/F **Part No.** 1224660



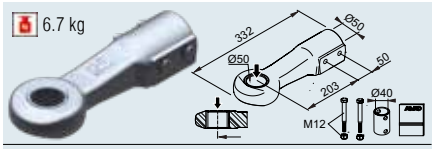
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ

Drawbar eye England E40/A **Part No.** 1224662



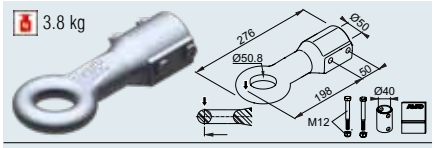
SAP: ZUGÖSE I45 M SCHRAUBMAT VZ

Drawbar eye Italy I45/F **Part No.** 1224663



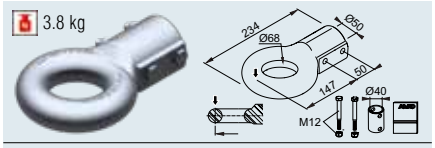
SAP: ZUGÖSE D50 M SCHRAUBMAT VZ

Drawbar eye DIN D50 / D40 **Part No.** 1730611



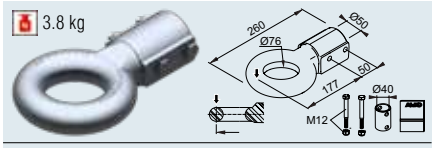
SAP: ZUGÖSE E50 M SCHRAUBMAT VZ

Drawbar eye England E50/A **Part No.** 1224664



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ

Drawbar eye France F68/E1 **Part No.** 1224665

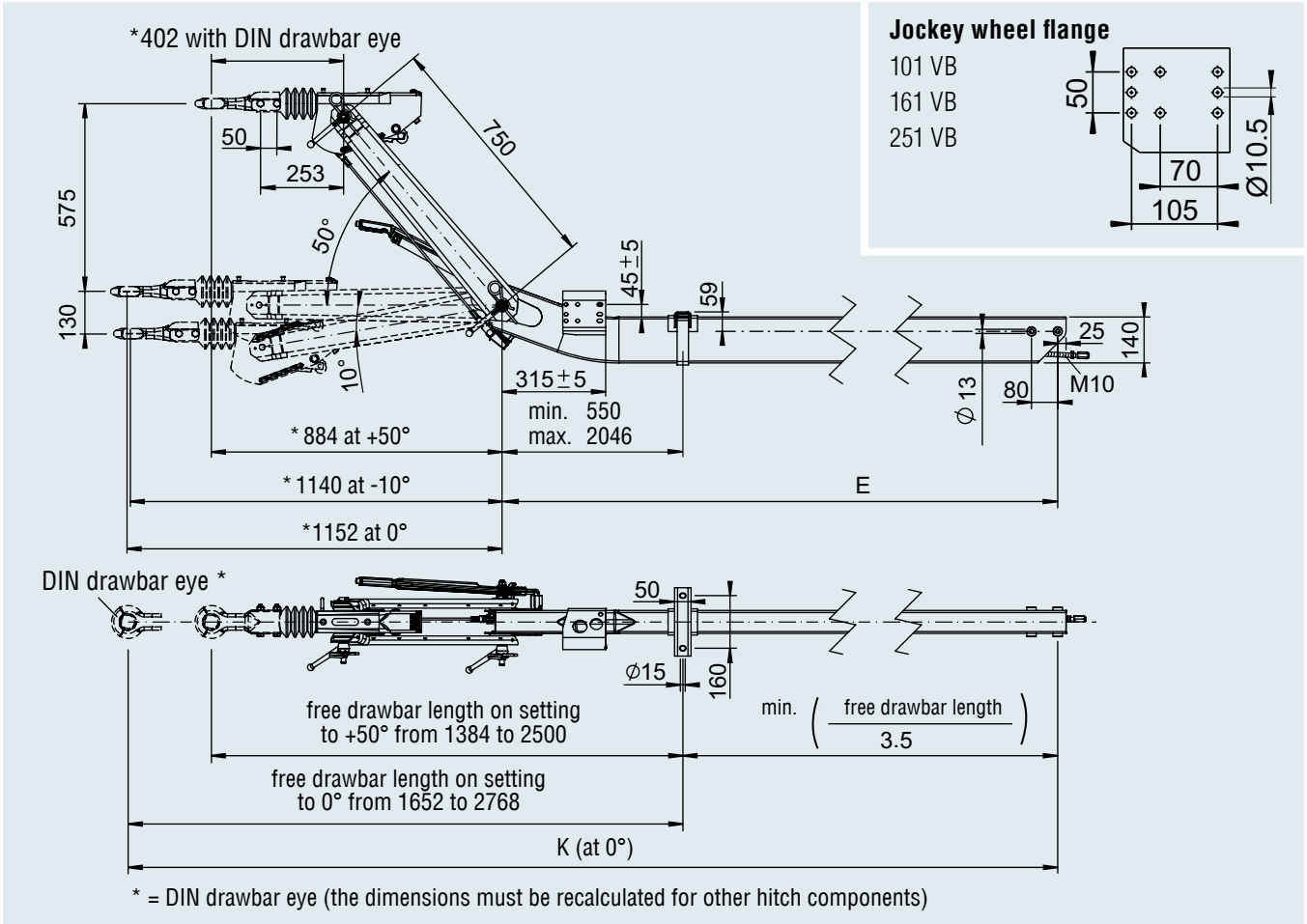


SAP: ZUGÖSE N76 M SCHRAUBMAT VZ

Drawbar eye NATO N76/E **Part No.** 1224666

3

Overrun device cpl. with drawbar section mounted (without hitch components)



Jockey wheel flange

101 VB
161 VB
251 VB

HEIGHT-ADJUSTABLE OVERRUN DEVICES

with drawbar section 850 to 1,600 kg

TECHNOLOGY

Overrun device type 160 VB BASIC

Intermediate piece with drawbar section 160 VB BASIC
Permitted nose load for DIN drawbar eye 100 kg for coupling head 100 kg

ECE test report no.:

Overrun device: 361-068-14

ECE type approval no.:

Drawbar installation: E1 55R-01 2489

Changeover relay lever:
☒ Yes ☐ No

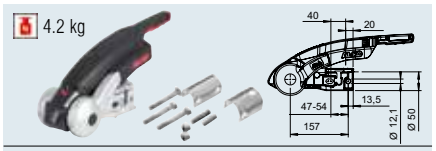
Surface treatment:
black-primed

SAP: AE ZKF 160VB BASIC M DEICHSPR

Overrun device cpl. with drawbar section mounted (without hitch components)

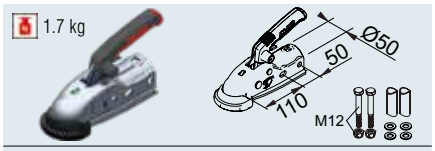
Drawbar length E in mm	Total length K at 0° DIN drawbar eye	OD cpl. with drawbar section for wheel brake 1637 / 2051	OD cpl. with drawbar section for wheel brake 2361				
1,310	2,418	20059701	20059723	61.3	–	3	20
1,390	2,498	20059702	20059724	61.7	–	3	20
1,470	2,578	20059703	20059725	62.0	–	3	20
1,550	2,658	20059704	20059726	62.3	–	3	20
1,630	2,738	20059705	20059727	62.6	–	3	20
1,710	2,818	20059706	20059728	63.0	–	3	20
1,790	2,898	20059707	20059729	63.3	–	3	20
1,870	2,978	20059708	20059730	63.6	–	3	20
1,950	3,058	20059709	20059731	63.9	–	3	20
2,030	3,138	20059710	20059732	64.3	–	3	20
2,110	3,218	20059711	20059733	64.6	–	3	20
2,190	3,298	20059712	20059734	64.9	–	3	20
2,270	3,378	20059713	20059735	65.2	–	3	20
2,350	3,458	20059714	20059736	65.6	–	3	20
2,430	3,538	20059715	20059737	65.9	–	3	20
2,510	3,618	20059716	20059738	66.2	–	3	20
2,590	3,698	20059717	20059739	66.5	–	3	20
2,670	3,778	20059718	20059740	66.9	–	3	20
2,750	3,858	20059719	20059741	67.2	–	3	20
2,830	3,938	20059720	20059742	67.5	–	3	20
2,910	4,018	20059721	20059743	67.8	–	3	20
2,990	4,098	20059722	20059744	68.2	–	3	20

Push-on hitch components: Drawbar eye nose load 100 kg, connection D50 / 160 VB



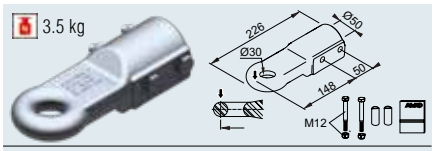
SAP: AKS3004 VERP GA 3000 FL

Hitch AKS™ 3004 | **Part No.** 1225158



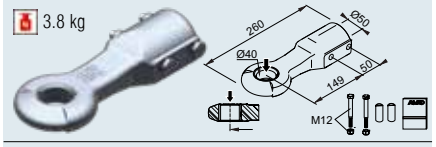
SAP: KUPLNG KUGL AK161 D50 M MONTTEILE

Hitch AK 161 - Ø 50 | **Part No.** 1730808



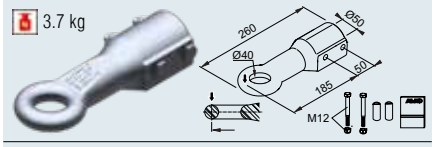
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ

Drawbar eye UK E30/A | **Part No.** 1224106



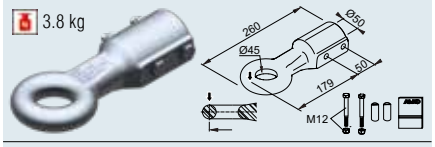
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ

Drawbar eye DIN D40/F | **Part No.** 1213350



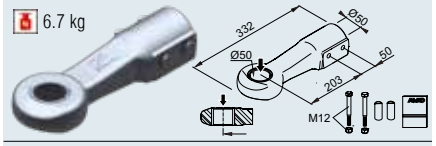
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ

Drawbar eye England E40/A | **Part No.** 1224107



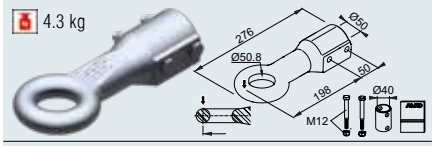
SAP: ZUGÖSE I45 M SCHRAUBMAT VZ

Drawbar eye Italy I45/F | **Part No.** 1224108



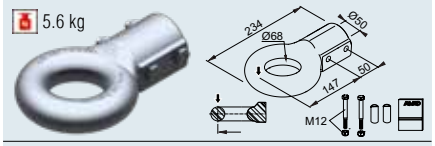
SAP: ZUGÖSE D50 M SCHRAUBMAT VZ

Drawbar eye DIN D50 | **Part No.** 1730612



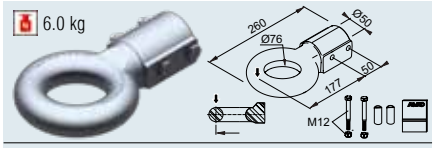
SAP: ZUGÖSE E50 M SCHRAUBMAT VZ

Drawbar eye England E50/A | **Part No.** 1224109



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ

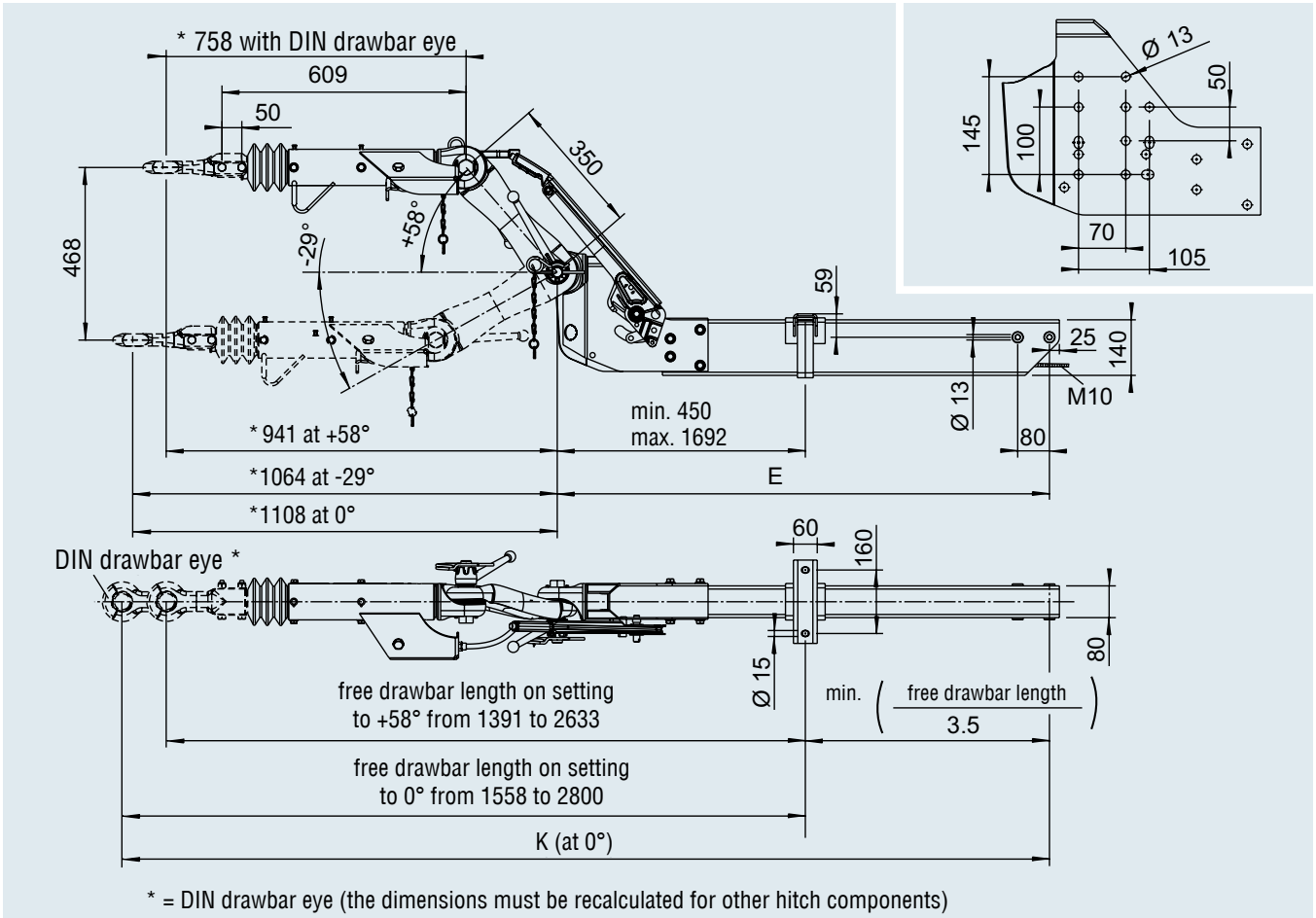
Drawbar eye France F68/E | **Part No.** 1224110



SAP: ZUGÖSE N76 M SCHRAUBMAT VZ

Drawbar eye NATO N76/E | **Part No.** 1224111

Overrun device cpl. with drawbar section mounted (without hitch components)



* = DIN drawbar eye (the dimensions must be recalculated for other hitch components)

HEIGHT-ADJUSTABLE OVERRUN DEVICES

with drawbar section cranked 850 to 1,600 kg

TECHNOLOGY

Overrun device type 161 VB-2

Intermediate piece with drawbar section 162 VB-2

Permitted nose load for DIN drawbar eye 100 kg

for coupling head 100 kg

ECE test report no.:

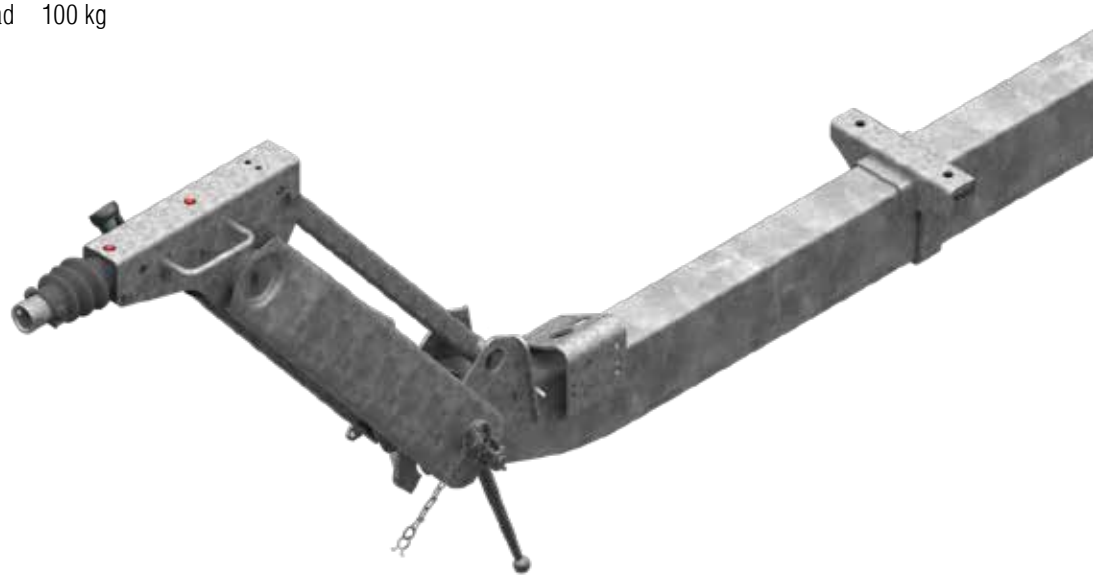
Overrun device: 361-117-12

ECE type approval no.:

Drawbar installation: E1 55R-01 1157

Changeover relay lever:

☒ Yes ☐ No

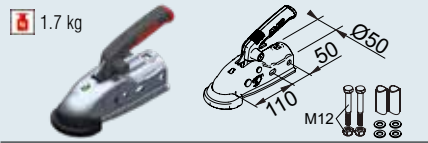


SAP: AE ZSHB 161VB-2 M DEICHSPR

Overrun device cpl. with drawbar section mounted (without hitch components)

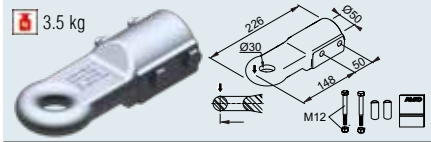
Drawbar length E in mm	Total length K at 0° DIN drawbar eye	OD cpl. with drawbar section for wheel brake 1637 / 2051	OD cpl. with drawbar section for wheel brake 2361				
1250	2556	1212782	20053801	72	–	3	10
1330	2636	1213148	20053802	73	–	3	10
1410	2716	1212783	20053803	74	–	3	10
1490	2796	1213149	20053804	75	–	3	10
1570	2876	1213150	20053805	76	–	3	10
1650	2956	1213151	20053806	77	–	3	10
1730	3036	1213152	20053807	78	–	3	10
1810	3116	1213153	20053808	79	–	3	10
1890	3196	1213051	20053809	80	–	3	10
1970	3276	1213154	20053810	81	–	3	10
2050	3356	1213155	20053811	82	–	3	10
2130	3436	1213156	20053812	83	–	3	10
2210	3516	1213157	20053813	84	–	3	10
2290	3596	1213158	20053814	85	–	3	10
2370	3676	1213159	20053815	86	–	3	10
2450	3756	1213160	20053816	87	–	3	10
2530	3836	1213161	20053817	88	–	3	10
2610	3916	1213162	20053818	89	–	3	10
2690	3996	1213163	20053819	90	–	3	10
2770	4076	1213164	20053820	91	–	3	10
2850	4156	1212831	20053821	92	–	3	10

Push-on hitch components: Drawbar eye nose load 100 kg, connection D50 / 161 VB-2



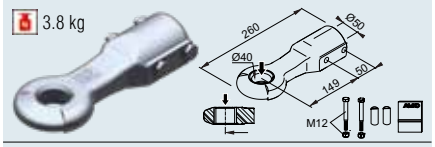
SAP: KUPLNG KUGL AK161 D50 M MONTTEILE

Hitch AK 161 - Ø 50	**Part No.**	1730808



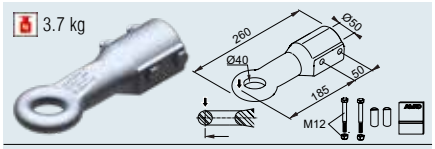
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ

Drawbar eye UK E30/A	**Part No.**	1224106



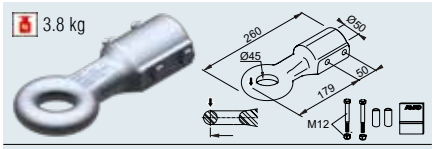
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ

Drawbar eye DIN D40/F	**Part No.**	1213350



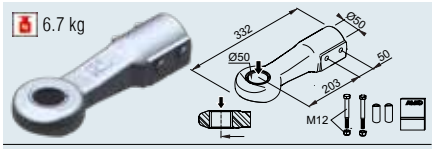
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ

Drawbar eye England E40/A	**Part No.**	1224107



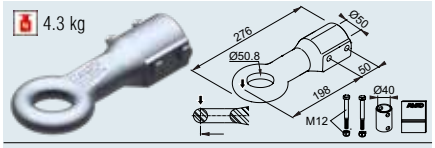
SAP: ZUGÖSE I45 M SCHRAUBMAT VZ

Drawbar eye Italy I45/F	**Part No.**	1224108



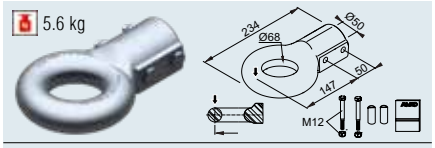
SAP: ZUGÖSE D50 M SCHRAUBMAT VZ

Drawbar eye DIN D50	**Part No.**	1730612



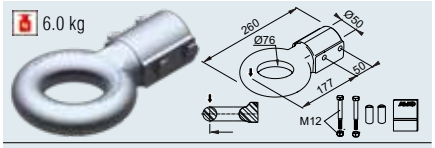
SAP: ZUGÖSE E50 M SCHRAUBMAT VZ

Drawbar eye England E50/A	**Part No.**	1224109



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ

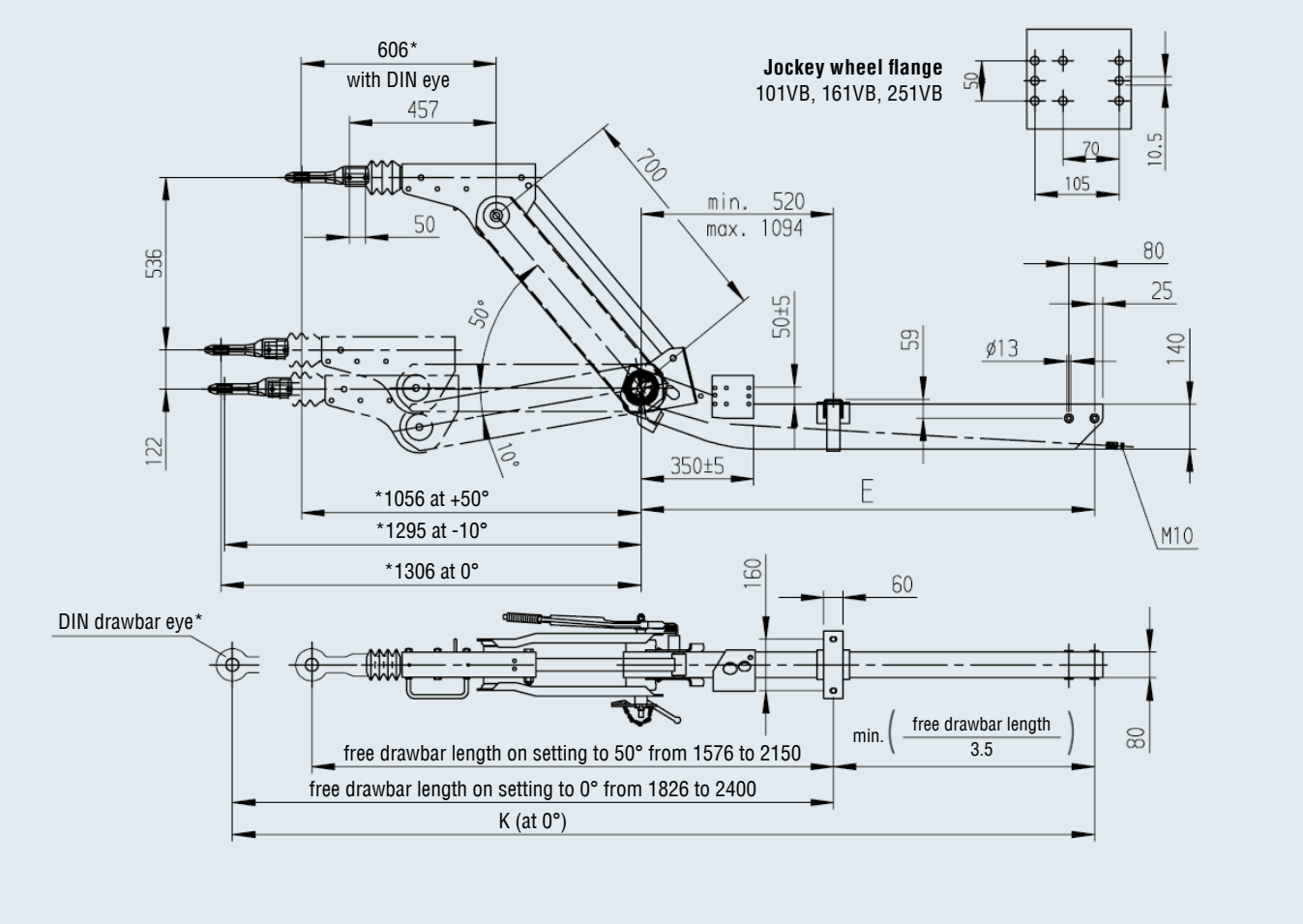
Drawbar eye France F68/E	**Part No.**	1224110



SAP: ZUGÖSE N76 M SCHRAUBMAT VZ

Drawbar eye NATO N76/E	**Part No.**	1224111

Overrun device cpl. with drawbar section mounted (without hitch components)



* = the dimensions must be recalculated for other hitch components

HEIGHT-ADJUSTABLE OVERRUN DEVICES

with drawbar section cranked 850 to 1,600 kg

TECHNOLOGY

Overrun device type 161 VB-2 OPTIMA

Intermediate piece with drawbar section 162 VB-2 OPTIMA
Permitted nose load for DIN eye 100 kg
for coupling head 100 kg

ECE test report no.:

Overrun device: 361-117-12

ECE type approval no.:

Drawbar installation: E1 55R-01 1157

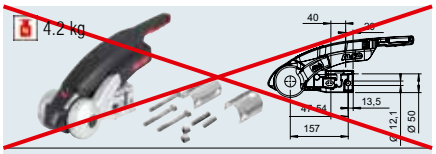
Changeover relay lever:
☐ Yes ☒ No

SAP: AE ZHSB 161VB-2 OPTIMA M DEICHSPR

Overrun device cpl. with drawbar section mounted (without hitch components)

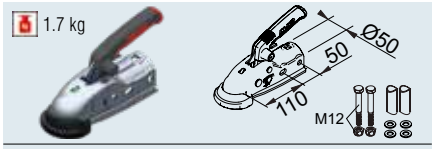
Intermediate piece in mm	Drawbar length E in mm Cranked	Total length K at -5° DIN drawbar eye Cranked	OD cpl. with drawbar section for wheel brake 1637/2051 Cranked	OD cpl. with drawbar section for wheel brake 2361 Cranked				
700	1,250	2,552	20059101	20059124	74	–	3	10
700	1,330	2,632	20059102	20059125	75	–	3	10
700	1,410	2,712	20059103	20059126	76	–	3	10
700	1,490	2,792	20059104	20059127	77	–	3	10
700	1,570	2,872	20059105	20059128	78	–	3	10
700	1,650	2,952	20059106	20059129	80	–	3	10
700	1,730	3,032	20059107	20059130	81	–	3	10
700	1,810	3,112	20059108	20059131	82	–	3	10
700	1,890	3,192	20059109	20059132	83	–	3	10
700	1,970	3,272	20059110	20059133	84	–	3	10
700	2,050	3,352	20059111	20059134	85	–	3	10
700	2,130	3,432	20059112	20059135	87	–	3	10
700	2,210	3,512	20059113	20059136	88	–	3	10
700	2,290	3,592	20059114	20059137	89	–	3	10
700	2,370	3,672	20059115	20059138	90	–	3	10
700	2,450	3,752	20059116	20059139	91	–	3	10
700	2,530	3,832	20059117	20059140	92	–	3	10
700	2,610	3,912	20059118	20059141	93	–	3	10
700	2,690	3,992	20059119	20059142	95	–	3	10
700	2,770	4,072	20059120	20059143	96	–	3	10
700	2,850	4,152	20059121	20059144	97	–	3	10
600	1,250	2,453	20059122	20059145	71	–	3	10
400	1,250	2,253	20059123	20059146	65	–	3	10

Push-on hitch components: Drawbar eye nose load 100 kg, connection D50 / 161 VB-2 OPTIMA



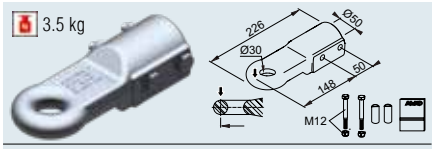
SAP: AKS3004 VERP GA 3000 FL

Hitch AKS™ 3004 CANNOT BE USED



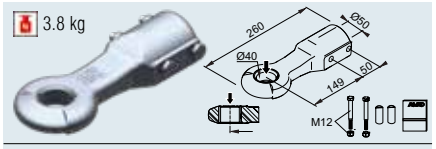
SAP: KUPLNG KUGL AK161 D50 M MONTTEILE

Hitch AK 161 - Ø 50 **Part No.** 1730808



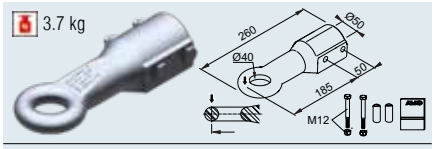
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ

Drawbar eye UK E30/A **Part No.** 1224106



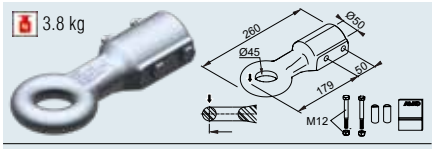
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ

Drawbar eye DIN D40/F **Part No.** 1213350



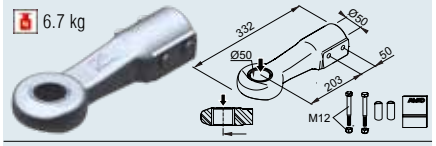
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ

Drawbar eye England E40/A **Part No.** 1224107



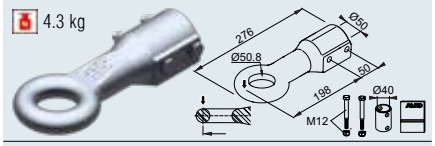
SAP: ZUGÖSE I45 M SCHRAUBMAT VZ

Drawbar eye Italy I45/F **Part No.** 1224108



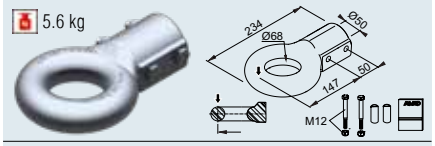
SAP: ZUGÖSE D50 M SCHRAUBMAT VZ

Drawbar eye DIN D50 **Part No.** 1730612



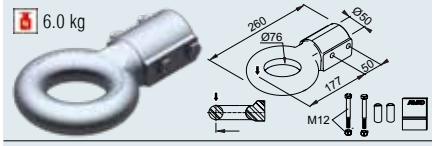
SAP: ZUGÖSE E50 M SCHRAUBMAT VZ

Drawbar eye England E50/A **Part No.** 1224109



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ

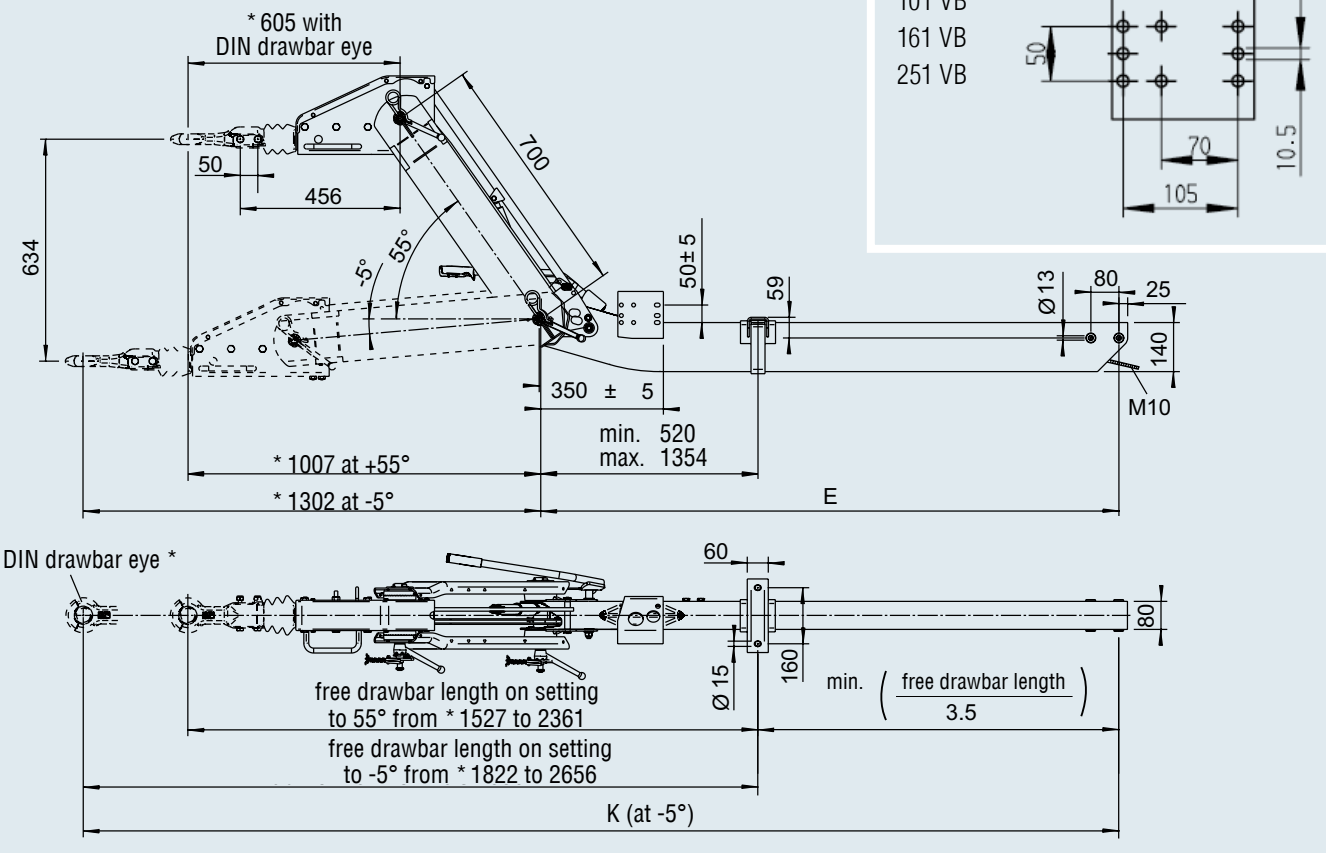
Drawbar eye France F68/E **Part No.** 1224110



SAP: ZUGÖSE N76 M SCHRAUBMAT VZ

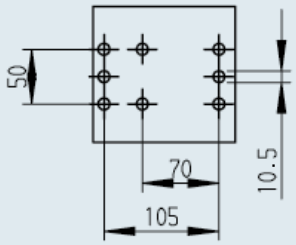
Drawbar eye NATO N76/E **Part No.** 1224111

Overrun device cpl. with drawbar section mounted (without hitch components)



Jockey wheel flange

101 VB
161 VB
251 VB



* = DIN drawbar eye (the dimensions must be recalculated for other hitch components)

3

HEIGHT-ADJUSTABLE OVERRUN DEVICES

with drawbar section 1,425 to 2,700 kg

TECHNOLOGY

Overrun device type 270 VB BASIC

Intermediate piece with drawbar section 270 VB BASIC
Permitted nose load for DIN drawbar eye 120 kg
for coupling head 120 kg

ECE test report no.:
Overrun device: 361-069-14
ECE type approval no.:
Drawbar installation: E1 55R-01 2490

Changeover relay lever:
☒ Yes ☐ No

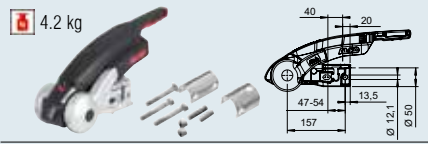
Surface treatment:
black-primed

SAP: AE ZKF 270VB BASIC M DEICHSPR

Overrun device cpl. with drawbar section mounted (without hitch components)

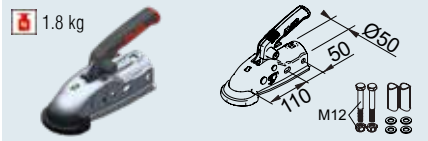
Drawbar length E in mm	Total length K at 0° DIN drawbar eye	OD cpl. with drawbar section for wheel brake 1637 / 2051	OD cpl. with drawbar section for wheel brake 2361	OD cpl. with drawbar section for wheel brake 3081 / 3062				
1,310	2,418	20059801	20059823	20059845	70.9	–	3	20
1,390	2,498	20059802	20059824	20059846	72.5	–	3	20
1,470	2,578	20059803	20059825	20059847	74.0	–	3	20
1,550	2,658	20059804	20059826	20059848	75.5	–	3	20
1,630	2,738	20059805	20059827	20059849	77.1	–	3	20
1,710	2,818	20059806	20059828	20059850	78.6	–	3	20
1,790	2,898	20059807	20059829	20059851	80.1	–	3	20
1,870	2,978	20059808	20059830	20059852	81.7	–	3	20
1,950	3,058	20059809	20059831	20059853	83.2	–	3	20
2,030	3,138	20059810	20059832	20059854	84.7	–	3	20
2,110	3,218	20059811	20059833	20059855	86.2	–	3	20
2,190	3,298	20059812	20059834	20059856	87.8	–	3	20
2,270	3,378	20059813	20059835	20059857	89.3	–	3	20
2,350	3,458	20059814	20059836	20059858	90.8	–	3	20
2,430	3,538	20059815	20059837	20059859	92.4	–	3	20
2,510	3,618	20059816	20059838	20059860	93.9	–	3	20
2,590	3,698	20059817	20059839	20059861	95.4	–	3	20
2,670	3,778	20059818	20059840	20059862	97.0	–	3	20
2,750	3,858	20059819	20059841	20059863	98.5	–	3	20
2,830	3,938	20059820	20059842	20059864	100.0	–	3	20
2,910	4,018	20059821	20059843	20059865	101.5	–	3	20
2,990	4,098	20059822	20059844	20059866	103.1	–	3	20

Push-on hitch components: Drawbar eye nose load 120 kg, connection D50 / 270 VB



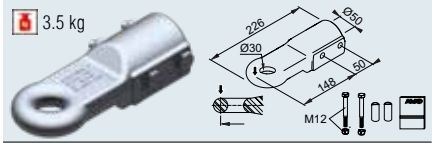
SAP: AKS3004 VERP GA 3000 FL

Hitch AKS™ 3004 | **Part No.** 1225158



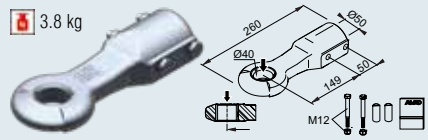
SAP: KUPLNG KUGL AK161 D50 M MONTTEILE

Hitch AK 270 - Ø 50 | **Part No.** 1730812



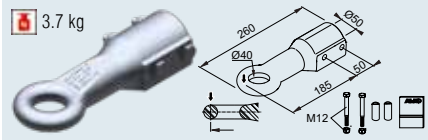
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ

Drawbar eye UK E30/A | **Part No.** 1224106



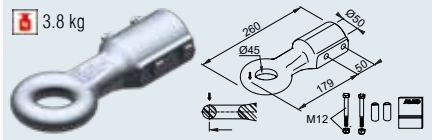
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ

Drawbar eye DIN D40/F | **Part No.** 1213350



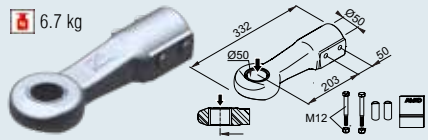
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ

Drawbar eye England E40/A | **Part No.** 1224107



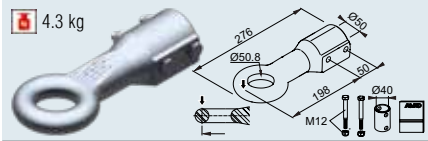
SAP: ZUGÖSE I45 M SCHRAUBMAT VZ

Drawbar eye Italy I45/F | **Part No.** 1224108



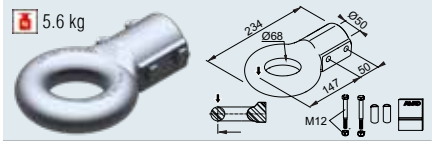
SAP: ZUGÖSE D50 M SCHRAUBMAT VZ

Drawbar eye DIN D50 | **Part No.** 1730612



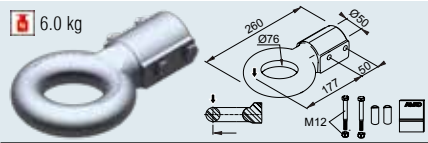
SAP: ZUGÖSE E50 M SCHRAUBMAT VZ

Drawbar eye England E50/A | **Part No.** 1224109



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ

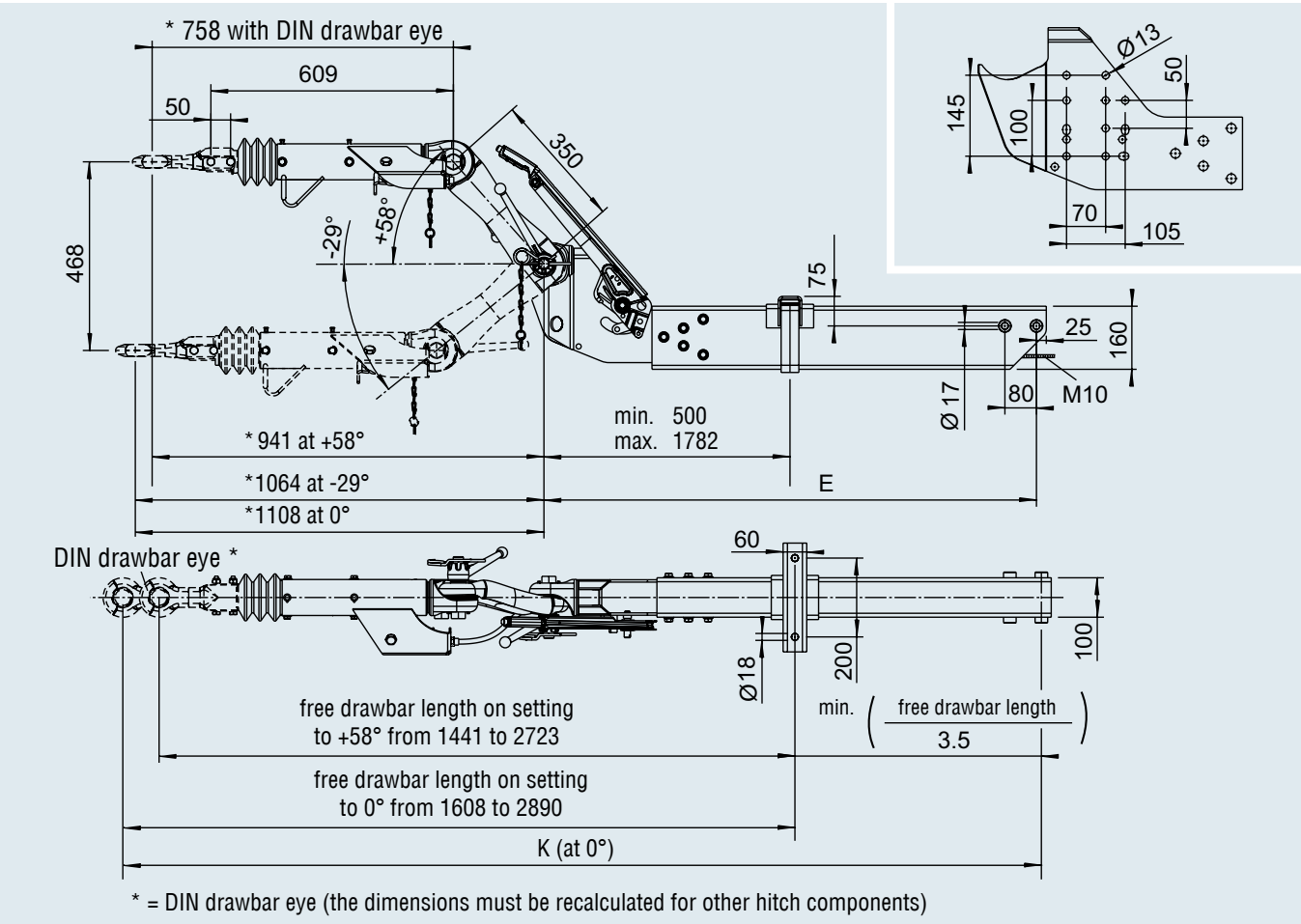
Drawbar eye France F68/E | **Part No.** 1224110



SAP: ZUGÖSE N76 M SCHRAUBMAT VZ

Drawbar eye NATO N76/E | **Part No.** 1224111

Overrun device cpl. with drawbar section mounted (without hitch components)



* = DIN drawbar eye (the dimensions must be recalculated for other hitch components)

HEIGHT-ADJUSTABLE OVERRUN DEVICES

with drawbar section cranked 1,425 to 2,700 kg

TECHNOLOGY

Overrun device type 251 VB-2

Intermediate piece with drawbar section 252 VB-2

Permitted nose load for DIN drawbar eye 120 kg

for coupling head 100 kg

ECE test report no.:

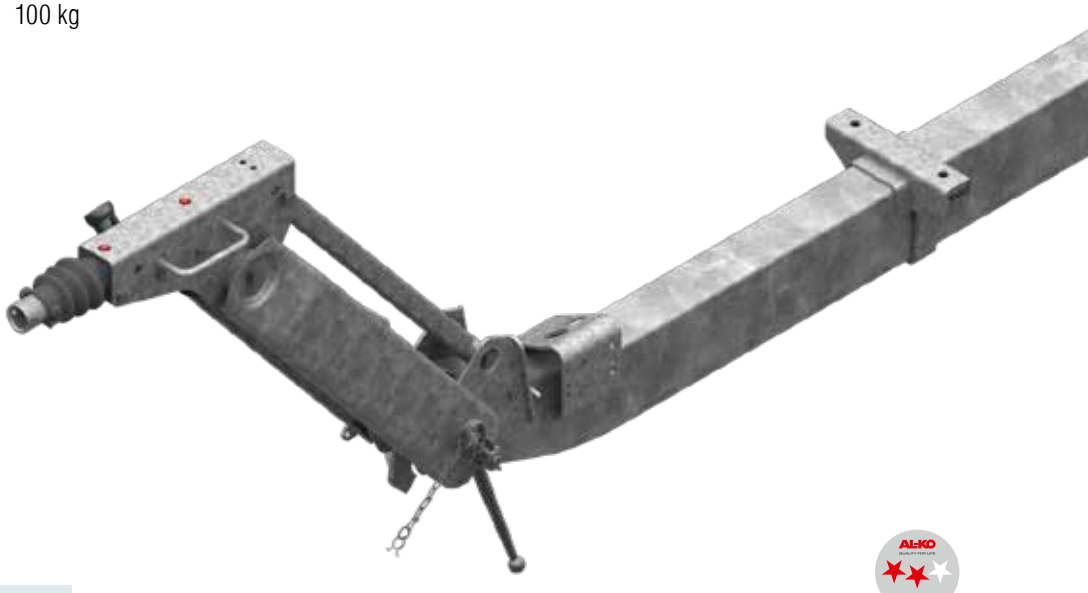
Overrun device: 361-036-12

ECE type approval no.:

Drawbar installation: E1 55R-01 1158

Changeover relay lever:

☒ Yes ☐ No

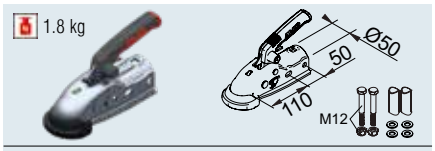


SAP: AE ZSHB 251VB-2 M DEICHSPR

Overrun device cpl. with drawbar section mounted (without hitch components)

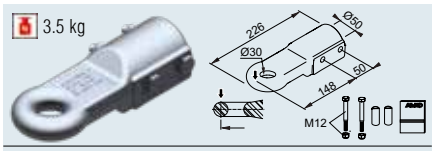
Drawbar length E in mm	Total length K at 0° DIN drawbar eye	OD cpl. with drawbar section for wheel brake 1637 / 2051	OD cpl. with drawbar section for wheel brake 2361	OD cpl. with drawbar section for wheel brake 3081 / 3062				
1250	2556	1213165	20053901	20053922	80	–	3	10
1330	2636	1213166	20053902	20053923	81.1	–	3	10
1410	2716	1212787	20053903	20053924	82.2	–	3	10
1490	2796	1213167	20053904	20053925	83.3	–	3	10
1570	2876	1213168	20053905	20053926	84.4	–	3	10
1650	2956	1213169	20053906	20053927	85.5	–	3	10
1730	3036	1213170	20053907	20053928	86.6	–	3	10
1810	3116	1213171	20053908	20053929	87.7	–	3	10
1890	3196	1212788	20053909	20053930	88.8	–	3	10
1970	3276	1213172	20053810	20053931	89.9	–	3	10
2050	3356	1213173	20053811	20053932	91	–	3	10
2130	3436	1213174	20053912	20053933	92.1	–	3	10
2210	3516	1213175	20053913	20053934	93.2	–	3	10
2290	3596	1213176	20053914	20053935	94.3	–	3	10
2370	3676	1213126	20053815	20053936	95.4	–	3	10
2450	3756	1213177	20053916	20053937	96.5	–	3	10
2530	3836	1213178	20053917	20053938	97.6	–	3	10
2610	3916	1213179	20053918	20053939	98.7	–	3	10
2690	3996	1213180	20053919	20053940	99.8	–	3	10
2770	4076	1213181	20053920	20053941	100.9	–	3	10
2850	4156	1212742	20053921	20053942	102	–	3	10

Push-on hitch components: Drawbar eye nose load 120 kg, connection D50 / 251 VB-2



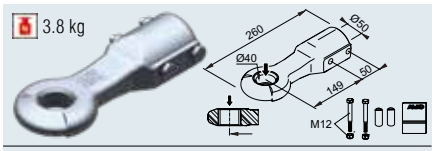
SAP: KUPLNG KUGL AK161 D50 M MONTTEILE

Hitch AK 270 - Ø 50 **Part No.** 1730812



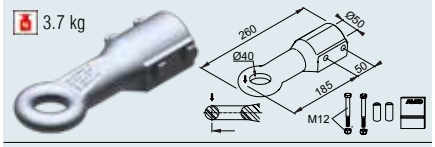
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ

Drawbar eye UK E30/A **Part No.** 1224106



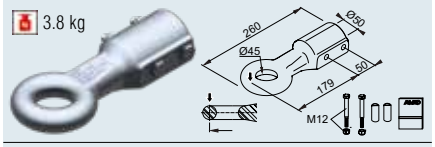
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ

Drawbar eye DIN D40/F **Part No.** 1213350



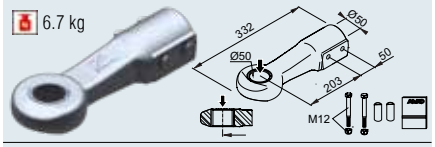
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ

Drawbar eye England E40/A **Part No.** 1224107



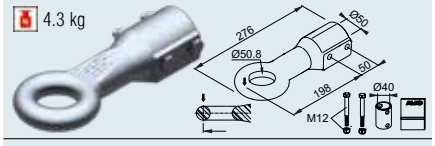
SAP: ZUGÖSE I45 M SCHRAUBMAT VZ

Drawbar eye Italy I45/F **Part No.** 1224108



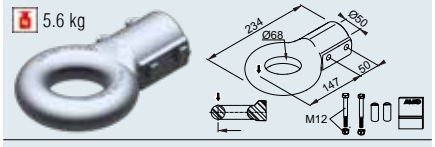
SAP: ZUGÖSE D50 M SCHRAUBMAT VZ

Drawbar eye DIN D50 **Part No.** 1730612



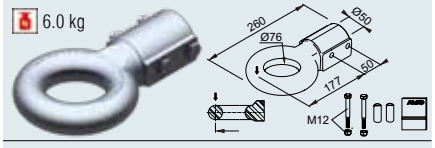
SAP: ZUGÖSE E50 M SCHRAUBMAT VZ

Drawbar eye England E50/A **Part No.** 1224109



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ

Drawbar eye France F68/E **Part No.** 1224110

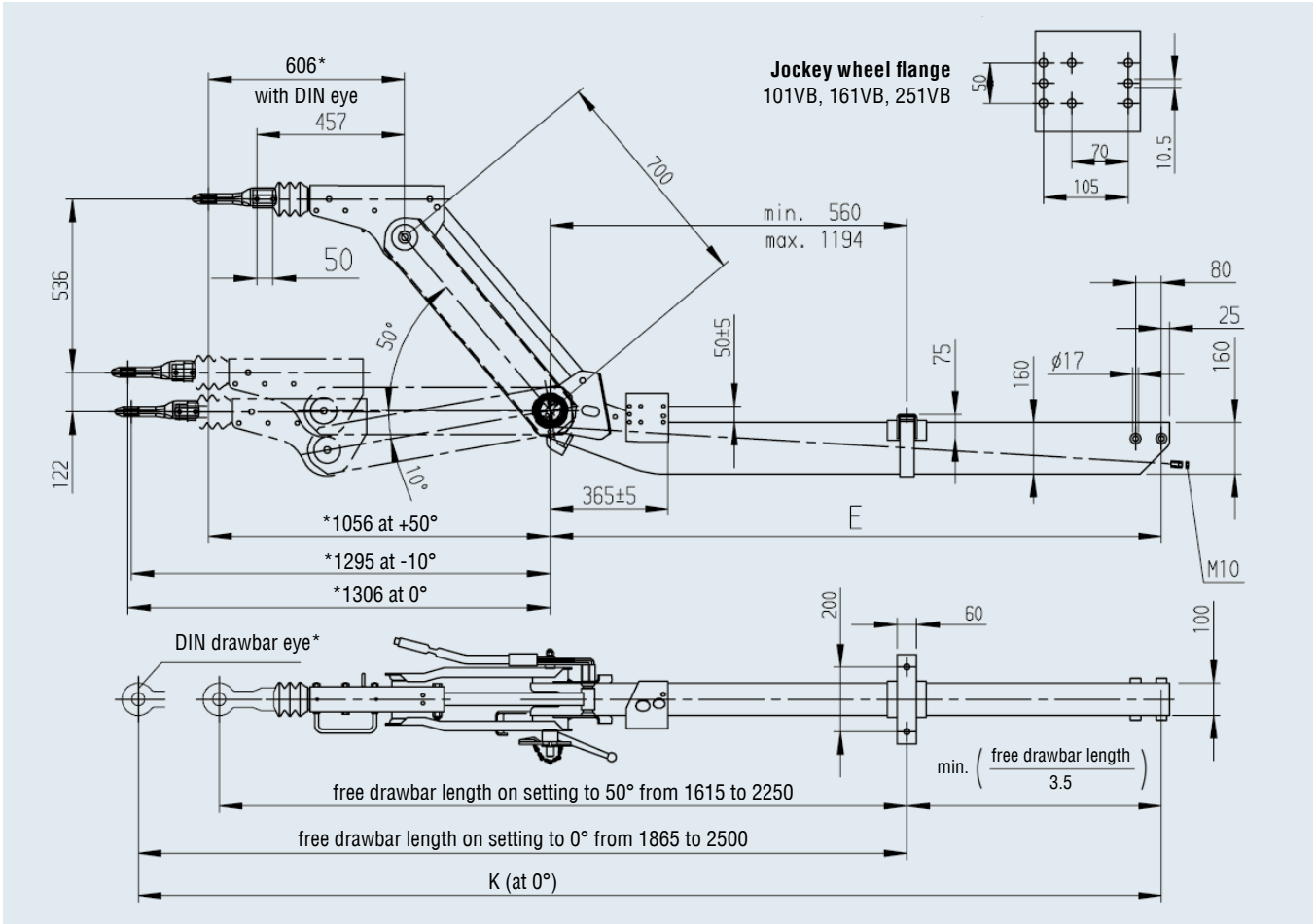


SAP: ZUGÖSE N76 M SCHRAUBMAT VZ

Drawbar eye NATO N76/E **Part No.** 1224111

3

Overrun device cpl. with drawbar section mounted (without hitch components)



* = the dimensions must be recalculated for other hitch components

HEIGHT-ADJUSTABLE OVERRUN DEVICES

with drawbar section cranked 1,425 to 2,700 kg

TECHNOLOGY

Overrun device type 251 VB-2 OPTIMA

Intermediate piece with drawbar section 252 VB-2 OPTIMA

Permitted nose load for DIN eye 120 kg

for coupling head 120 kg

ECE test report no.:

Overrun device: 361-036-12

ECE type approval no.:

Drawbar installation: E1 55R-01 1158

Changeover relay lever:

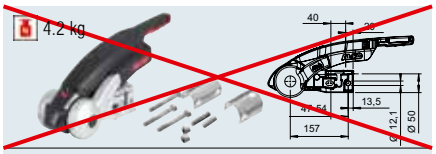
☐ Yes ☒ No

SAP: AE ZSHB 251VB-2 OPTIMA M DEICHSPR

Overrun device cpl. with drawbar section mounted (without hitch components)

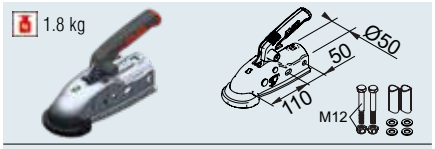
Intermediate piece in mm	Drawbar length E in mm Cranked	Total length K at -5° DIN drawbar eye Cranked	OD cpl. with drawbar section for wheel brake 1637/2051 Cranked	OD cpl. with drawbar section for wheel brake 2361 Cranked	OD cpl. with drawbar section for wheel brake 3081/3062 Cranked				
700	1,250	2,552	20059301	20059324	20059347	90	–	3	10
700	1,330	2,632	20059302	20059325	20059348	92	–	3	10
700	1,410	2,712	20059303	20059326	20059349	93	–	3	10
700	1,490	2,792	20059304	20059327	20059350	95	–	3	10
700	1,570	2,872	20059305	20059328	20059351	97	–	3	10
700	1,650	2,952	20059306	20059329	20059352	98	–	3	10
700	1,730	3,032	20059307	20059330	20059353	100	–	3	10
700	1,810	3,112	20059308	20059331	20059354	102	–	3	10
700	1,890	3,192	20059309	20059332	20059355	103	–	3	10
700	1,970	3,272	20059310	20059333	20059356	105	–	3	10
700	2,050	3,352	20059311	20059334	20059357	107	–	3	10
700	2,130	3,432	20059312	20059335	20059358	109	–	3	10
700	2,210	3,512	20059313	20059336	20059359	110	–	3	10
700	2,290	3,592	20059314	20059337	20059360	112	–	3	10
700	2,370	3,672	20059315	20059338	20059361	114	–	3	10
700	2,450	3,752	20059316	20059339	20059362	115	–	3	10
700	2,530	3,832	20059317	20059340	20059363	117	–	3	10
700	2,610	3,912	20059318	20059341	20059364	119	–	3	10
700	2,690	3,992	20059319	20059342	20059365	120	–	3	10
700	2,770	4,072	20059320	20059343	20059366	122	–	3	10
700	2,850	4,152	20059321	20059344	20059367	124	–	3	10
600	1,250	2,453	20059322	20059345	20059368	87	–	3	10
400	1,250	2,253	20059323	20059346	20059369	80	–	3	10

Push-on hitch components: Drawbar eye nose load 120 kg, connection D50 / 251 VB-2 OPTIMA



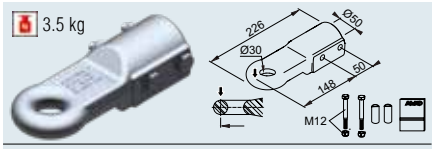
SAP: AKS3004 VERP GA 3000 FL

Hitch AKS™ 3004 CANNOT BE USED



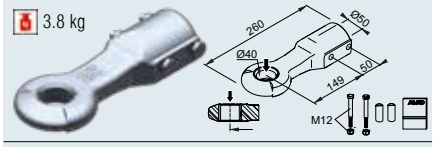
SAP: KUPLNG KUGL AK161 D50 M MONTTEILE

Hitch AK 270 - Ø 50 **Part No.** 1730812



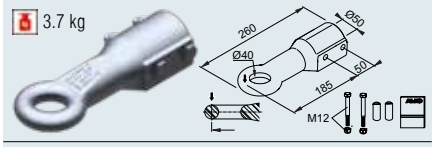
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ

Drawbar eye UK E30/A **Part No.** 1224106



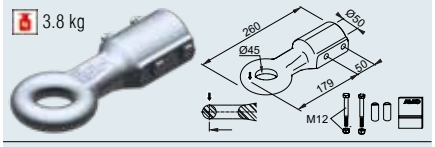
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ

Drawbar eye DIN D40/F **Part No.** 1213350



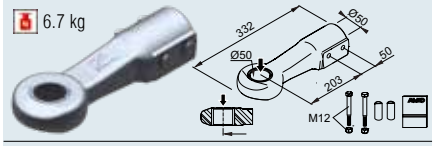
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ

Drawbar eye England E40/A **Part No.** 1224107



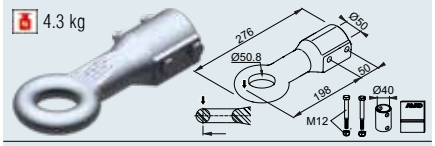
SAP: ZUGÖSE I45 M SCHRAUBMAT VZ

Drawbar eye Italy I45/F **Part No.** 1224108



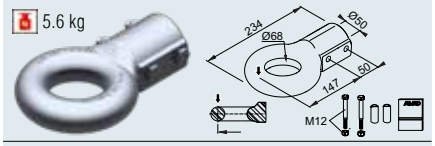
SAP: ZUGÖSE D50 M SCHRAUBMAT VZ

Drawbar eye DIN D50 **Part No.** 1730612



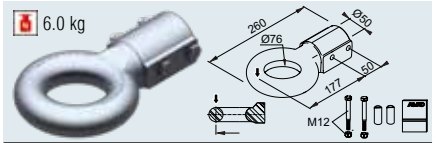
SAP: ZUGÖSE E50 M SCHRAUBMAT VZ

Drawbar eye England E50/A **Part No.** 1224109



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ

Drawbar eye France F68/E **Part No.** 1224110



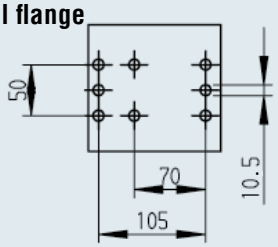
SAP: ZUGÖSE N76 M SCHRAUBMAT VZ

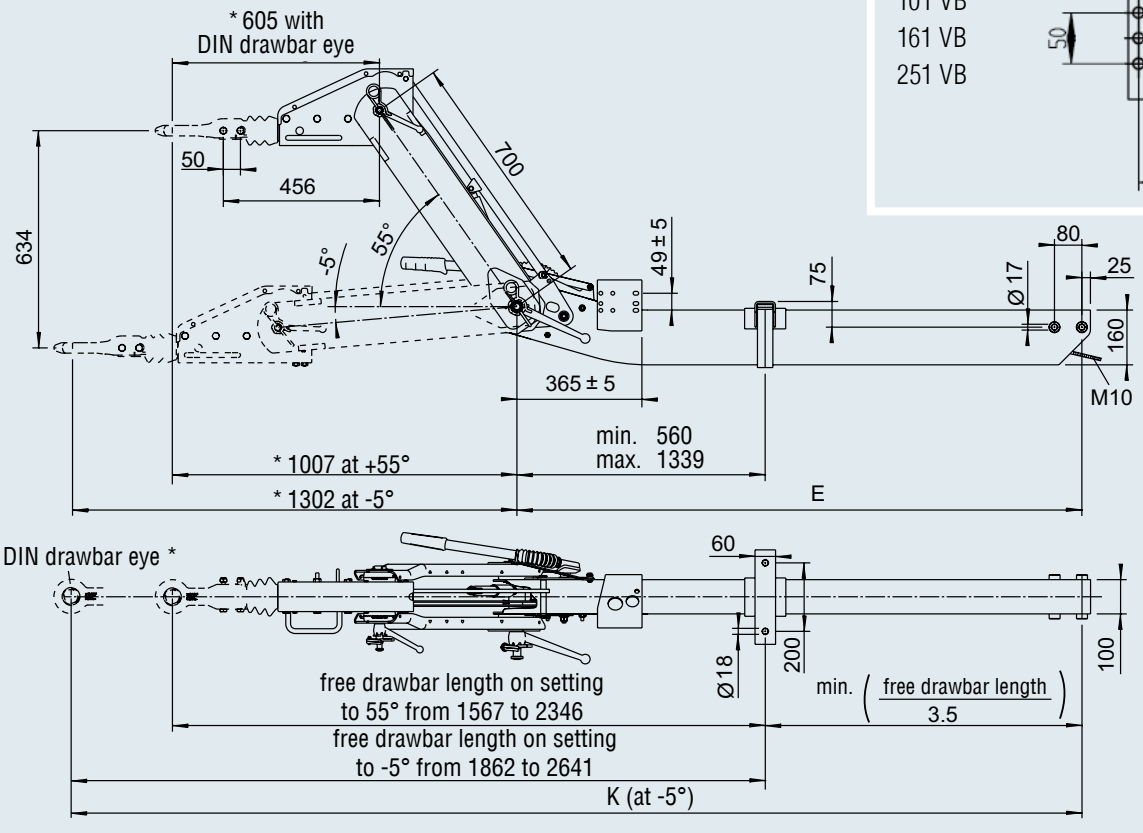
Drawbar eye NATO N76/E **Part No.** 1224111

Overrun device cpl. with drawbar section mounted (without hitch components)

Jockey wheel flange

101 VB
161 VB
251 VB





* = DIN drawbar eye (the dimensions must be recalculated for other hitch components)

HEIGHT-ADJUSTABLE OVERRUN DEVICES

with drawbar section 2,500 to 3,500 kg

TECHNOLOGY

Overrun device type 350 VB BASIC

Intermediate piece with drawbar section 350 VB BASIC
Permitted nose load for DIN drawbar eye 150 kg
for coupling head 150 kg

ECE test report no.:
Overrun device: 361-017-14
ECE type approval no.:
Drawbar installation: E1 55R-01 2454

Changeover relay lever:
☐ Yes ☒ No

Surface treatment:
black-primed

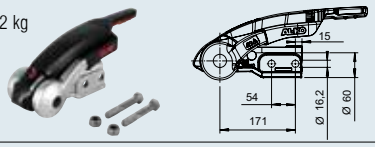
SAP: AE ZKF 350VB BASIC M DEICHSPR

Overrun device cpl. with drawbar section mounted (without hitch components)

Drawbar length E in mm	Total length K at 0° DIN drawbar eye	OD cpl. with drawbar section for wheel brake 2051	OD cpl. with drawbar section for wheel brake 2361	OD cpl. with drawbar section for wheel brake 3081 / 3062				
1,310	2,610	20059944	1272702	20059922	109	–	3	20
1,390	2,690	20059945	20059901	20059923	112	–	3	20
1,470	2,770	20059946	20059902	20059924	114	–	3	20
1,550	2,850	20059947	20059903	20059925	116	–	3	20
1,630	2,930	20059948	20059904	20059926	118	–	3	20
1,710	3,010	20059949	20059905	20059927	120	–	3	20
1,790	3,090	20059950	20059906	20059928	123	–	3	20
1,870	3,170	20059951	20059907	20059929	125	–	3	20
1,950	3,250	20059952	20059908	20059930	127	–	3	20
2,030	3,330	20059953	20059909	20059931	129	–	3	20
2,110	3,410	20059954	20059910	20059932	131	–	3	20
2,190	3,490	20059955	20059911	20059933	134	–	3	20
2,270	3,570	20059956	20059912	20059934	136	–	3	20
2,350	3,650	20059957	20059913	20059935	138	–	3	20
2,430	3,730	20059958	20059914	20059936	140	–	3	20
2,510	3,810	20059959	20059915	20059937	142	–	3	20
2,590	3,890	20059960	20059916	20059938	145	–	3	20
2,670	3,970	20059961	20059917	20059939	147	–	3	20
2,750	4,050	20059962	20059918	20059940	149	–	3	20
2,830	4,130	20059963	20059919	20059941	151	–	3	20
2910	4210	20059964	20059920	20059942	153	–	3	20
2990	4290	20059965	20059921	20059943	156	–	3	20

Push-on hitch components: Drawbar eye nose load 350 kg, connection D60 / 350 VB

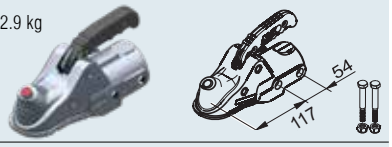
5.2 kg



SAP: AKS3504 VERP GA3500 M SCHLIESSZYL

Hitch AKS™ 3504 **Part No.** 1225761

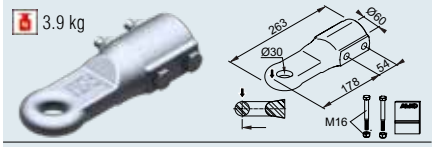
2.9 kg



SAP: KUPLNG KUGL AK351 M MONTTEILE

Hitch AK 351 – Ø 60 **Part No.** 1224391

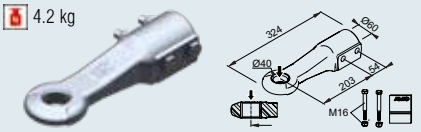
3.9 kg



SAP: ZUGÖSE E30 M SCHRAUBMAT VZ

Drawbar eye UK E30/B **Part No.** 1224112

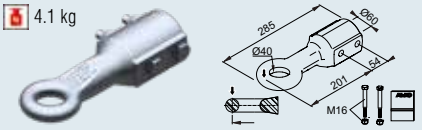
4.2 kg



SAP: ZUGÖSE D40 M SCHRAUBMAT VZ

Drawbar eye DIN D40/G **Part No.** 1224114

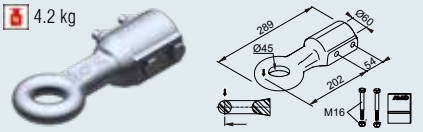
4.1 kg



SAP: ZUGÖSE E40 M SCHRAUBMAT VZ

Drawbar eye England E40/B **Part No.** 1224113

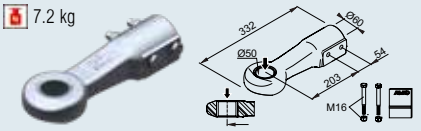
4.2 kg



SAP: ZUGÖSE I45 M SCHRAUBMAT VZ

Drawbar eye Italy I45/G **Part No.** 1224115

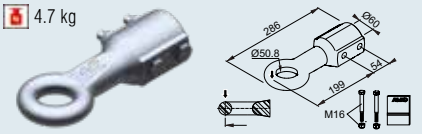
7.2 kg



SAP: ZUGÖSE D50 M SCHRAUBMAT VZ

Drawbar eye DIN D50 **Part No.** 1730613

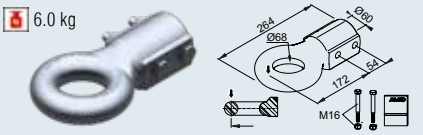
4.7 kg



SAP: ZUGÖSE E50 M SCHRAUBMAT VZ

Drawbar eye England E50/B **Part No.** 1224116

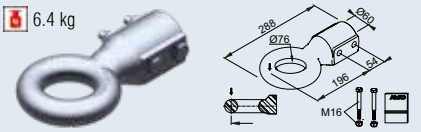
6.0 kg



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ

Drawbar eye France F68/F **Part No.** 1224117

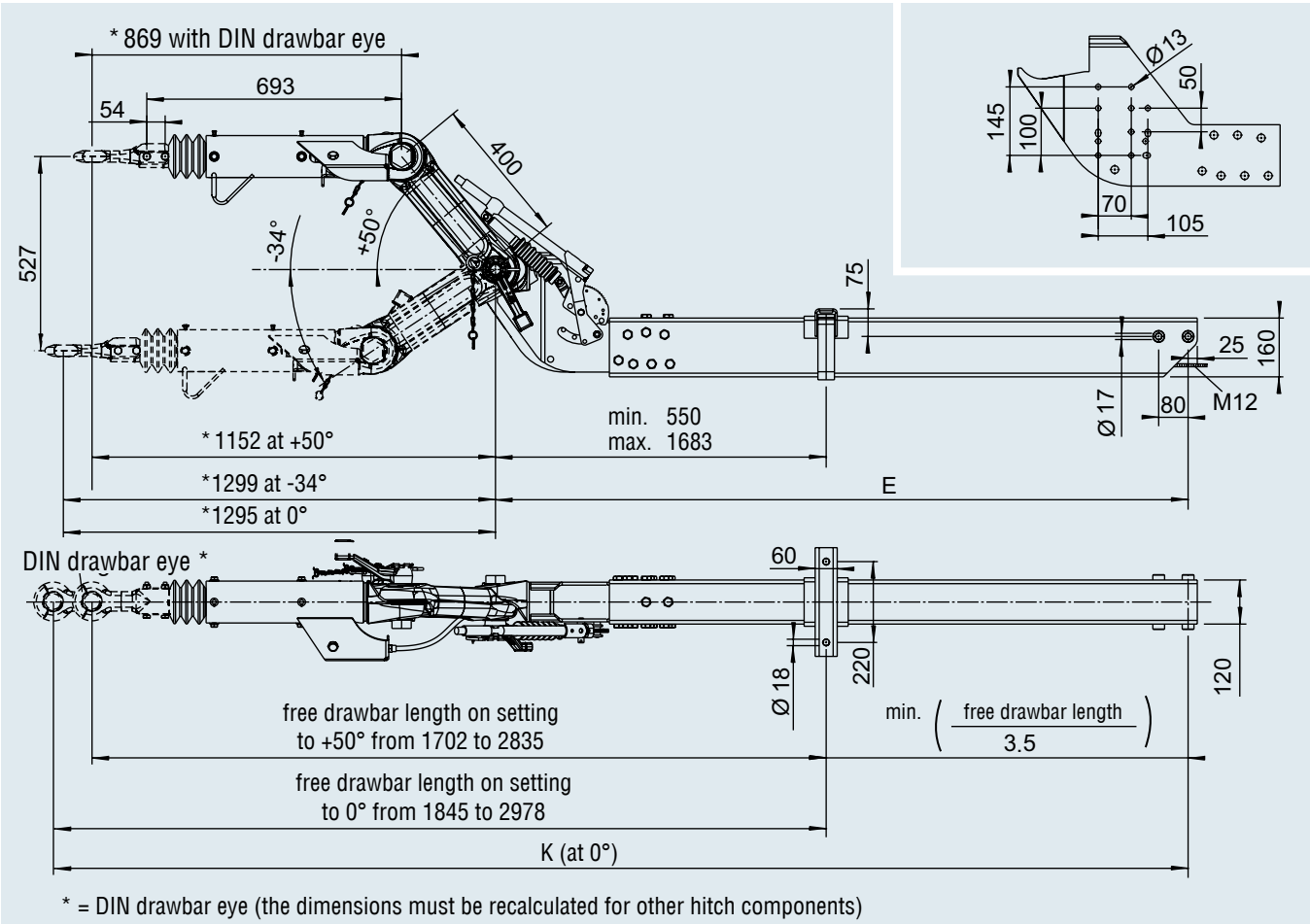
6.4 kg



SAP: ZUGÖSE N76 M SCHRAUBMAT VZ

Drawbar eye NATO N76/F **Part No.** 1224118

Overrun device cpl. with drawbar section mounted (without hitch components)



* = DIN drawbar eye (the dimensions must be recalculated for other hitch components)

HEIGHT-ADJUSTABLE OVERRUN DEVICES

with drawbar section cranked 2,500 to 3,500 kg

TECHNOLOGY

Overrun device type 351 VB-2

Intermediate piece with drawbar section 352 VB-2

Permitted nose load for DIN drawbar eye 150 kg

for coupling head 200 kg

ECE test report no.:

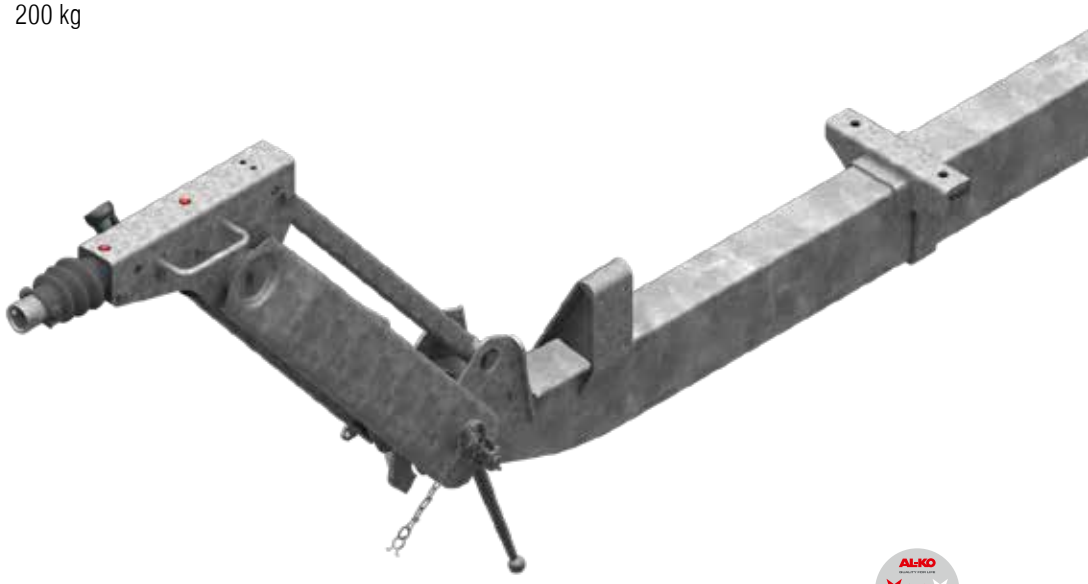
Overrun device: 361-118-12

ECE type approval no.:

Drawbar installation: E1 55R-01 1233

Changeover relay lever:

☒ Yes ☐ No



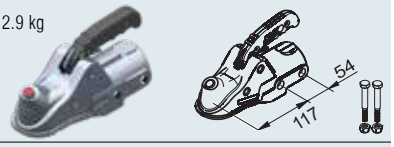
SAP: AE ZSHB 351VB-2 M DEICHSPR

Overrun device cpl. with drawbar section mounted (without hitch components)

Drawbar length E in mm	Total length K at 0° DIN drawbar eye	OD cpl. with drawbar section for wheel brake 2361	OD cpl. with drawbar section for wheel brake 3081 / 3062				
1410	2837	20054001	20054019	122	–	3	10
1490	2917	20054002	20054020	123.9	–	3	10
1570	2997	20054003	20054021	125.8	–	3	10
1650	3077	20054004	20054022	127.7	–	3	10
1730	3157	20054005	20054023	129.6	–	3	10
1810	3237	20054006	20054024	131.5	–	3	10
1890	3317	1213116	20054025	133.4	–	3	10
1970	3397	20054007	20054026	135.3	–	3	10
2050	3477	20054008	20054027	137.2	–	3	10
2130	3557	20054009	20054028	139.1	–	3	10
2210	3637	20054010	20054029	141	–	3	10
2290	3717	20054011	20054030	142.9	–	3	10
2370	3797	20054012	20054031	144.8	–	3	10
2450	3877	20054013	20054032	146.7	–	3	10
2530	3957	200 54014	20054033	148.6	–	3	10
2610	4037	200 54015	20054034	150.5	–	3	10
2690	4117	200 54016	20054035	152.4	–	3	10
2770	4197	200 54017	20054036	154.3	–	3	10
2850	4277	200 54018	20054037	156.2	–	3	10

Push-on hitch components: Drawbar eye nose load 350 kg, connection D60 / 351 VB-2

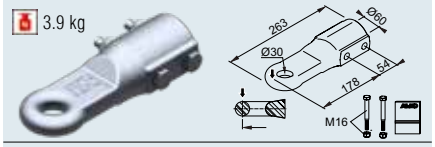
2.9 kg



SAP: KUPLNG KUGL AK351 M MONTTEILE

Hitch AK 351 – Ø 60 **Part No.** 1224391

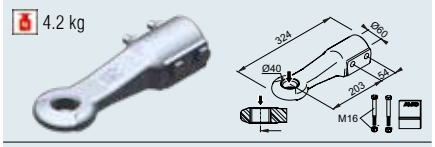
3.9 kg



SAP: ZUGÖSE E30 M SCHRAUBMAT VZ

Drawbar eye UK E30/B **Part No.** 1224112

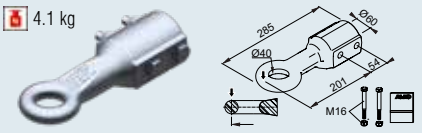
4.2 kg



SAP: ZUGÖSE D40 M SCHRAUBMAT VZ

Drawbar eye DIN D40/G **Part No.** 1224114

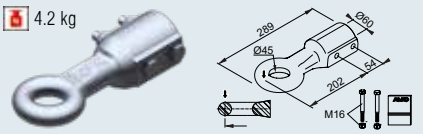
4.1 kg



SAP: ZUGÖSE E40 M SCHRAUBMAT VZ

Drawbar eye England E40/B **Part No.** 1224113

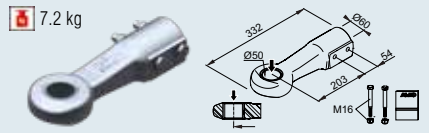
4.2 kg



SAP: ZUGÖSE I45 M SCHRAUBMAT VZ

Drawbar eye Italy I45/G **Part No.** 1224115

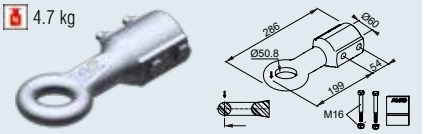
7.2 kg



SAP: ZUGÖSE D50 M SCHRAUBMAT VZ

Drawbar eye DIN D50 **Part No.** 1730613

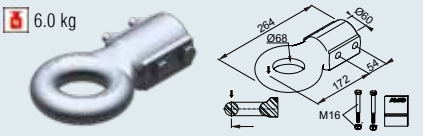
4.7 kg



SAP: ZUGÖSE E50 M SCHRAUBMAT VZ

Drawbar eye England E50/B **Part No.** 1224116

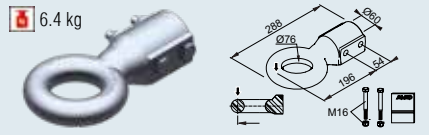
6.0 kg



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ

Drawbar eye France F68/F **Part No.** 1224117

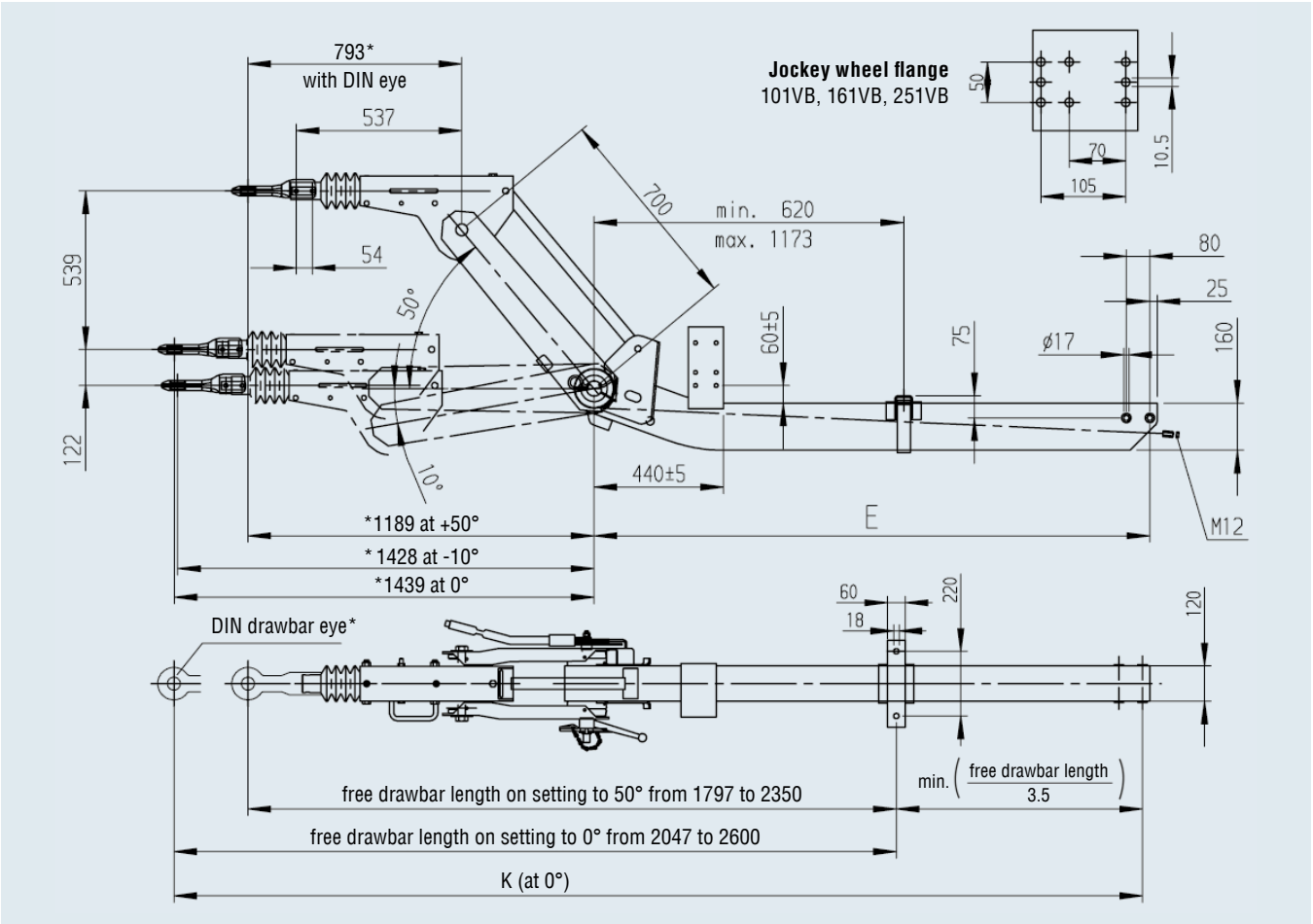
6.4 kg



SAP: ZUGÖSE N76 M SCHRAUBMAT VZ

Drawbar eye NATO N76/F **Part No.** 1224118

Overrun device cpl. with drawbar section mounted (without hitch components)



* = the dimensions must be recalculated for other hitch components

HEIGHT-ADJUSTABLE OVERRUN DEVICES

with drawbar section cranked 2,500 to 3,500 kg

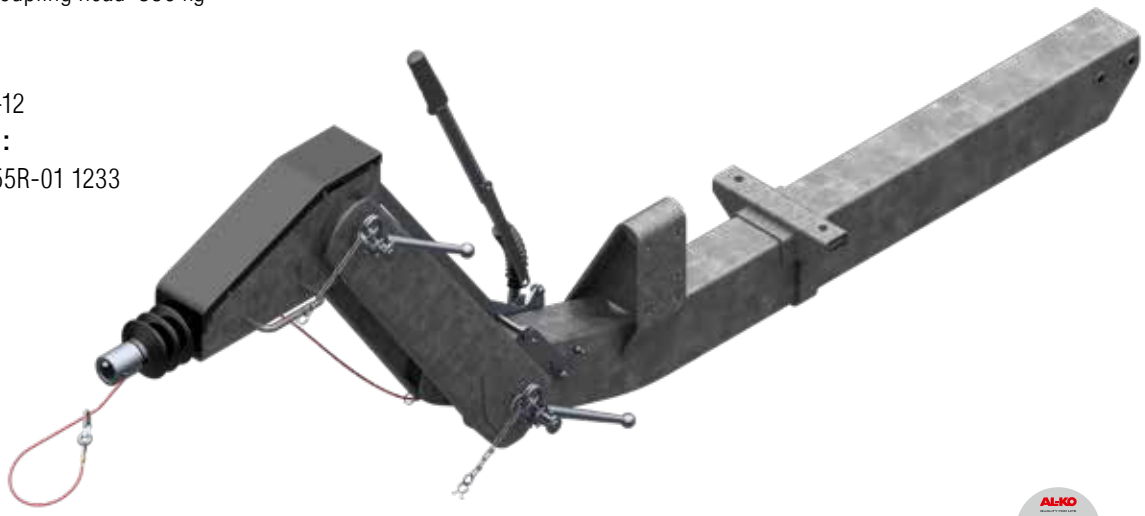
TECHNOLOGY

Overrun device type 351 VB-2 OPTIMA

Intermediate piece with drawbar section 352 VB-2 OPTIMA
Permitted nose load for DIN eye 350 kg
for coupling head 350 kg

ECE test report no.:
Overrun device: 361-118-12
ECE type approval no.:
Drawbar installation: E1 55R-01 1233

Changeover relay lever:
☐ Yes ☒ No

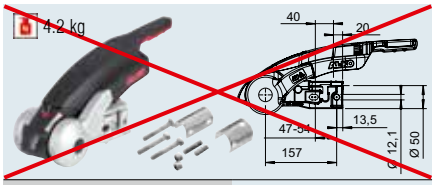


SAP: AE ZSHB 351-2 OPTIMA M DEICHSPR

Overrun device cpl. with drawbar section mounted (without hitch components)

Intermediate piece in mm	Drawbar length E in mm Cranked	Total length K at -5° DIN drawbar eye Cranked	OD cpl. with drawbar section for wheel brake 2051 Cranked	OD cpl. with drawbar section for wheel brake 2361 Cranked	OD cpl. with drawbar section for wheel brake 3081/3062 Cranked				
700	1,410	2,845	20059543	20059501	20059522	132	–	3	10
700	1,490	2,925	20059544	20059502	20059523	134	–	3	10
700	1,570	3,005	20059545	20059503	20059524	136	–	3	10
700	1,650	3,085	20059546	20059504	20059525	138	–	3	10
700	1,730	3,165	20059547	20059505	20059526	140	–	3	10
700	1,810	3,245	20059548	20059506	20059527	143	–	3	10
700	1,890	3,325	20059549	20059507	20059528	145	–	3	10
700	1,970	3,405	20059550	20059508	20059529	147	–	3	10
700	2,050	3,485	20059551	20059509	20059530	149	–	3	10
700	2,130	3,565	20059552	20059510	20059531	151	–	3	10
700	2,210	3,645	20059553	20059511	20059532	154	–	3	10
700	2,290	3,725	20059554	20059512	20059533	156	–	3	10
700	2,370	3,805	20059555	20059513	20059534	158	–	3	10
700	2,450	3,885	20059556	20059514	20059535	160	–	3	10
700	2,530	3,965	20059557	20059515	20059536	162	–	3	10
700	2,610	4,045	20059558	20059516	20059537	165	–	3	10
700	2,690	4,125	20059559	20059517	20059538	167	–	3	10
700	2,770	4,205	20059560	20059518	20059539	169	–	3	10
700	2,850	4,285	20059561	20059519	20059540	171	–	3	10
600	1,410	2,746	–	20059520	20059541	128	–	3	10
400	1,410	2,546	–	20059521	20059542	118	–	3	10

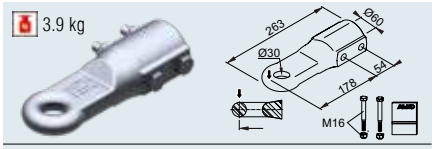
Push-on hitch components: Drawbar eye nose load 350 kg, connection D60 / 351 VB-2 OPTIMA



Hitch AKS™ 3004 CANNOT BE USED

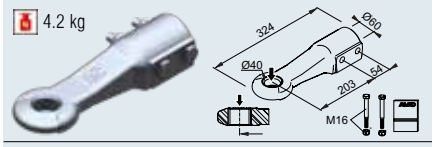
SAP: KUPLNG KUGL AK351 M MONTTEILE

Hitch AK 351 - Ø 60 **Part No.** 1224391



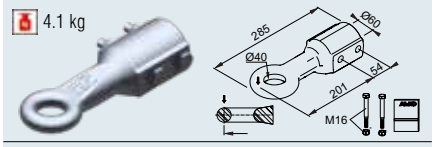
SAP: ZUGÖSE E30 M SCHRAUBMAT VZ

Drawbar eye UK E30/B **Part No.** 1224112



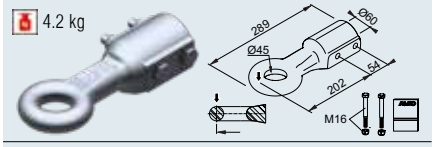
SAP: ZUGÖSE D40 M SCHRAUBMAT VZ

Drawbar eye DIN D40/G **Part No.** 1224114



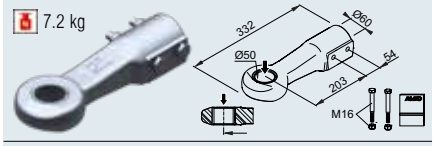
SAP: ZUGÖSE E40 M SCHRAUBMAT VZ

Drawbar eye England E40/B **Part No.** 1224113



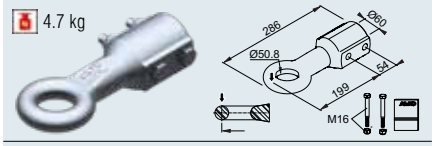
SAP: ZUGÖSE I45 M SCHRAUBMAT VZ

Drawbar eye Italy I45/G **Part No.** 1224115



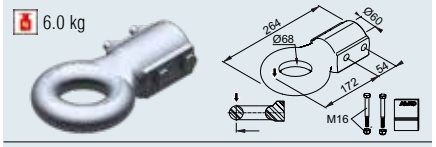
SAP: ZUGÖSE D50 M SCHRAUBMAT VZ

Drawbar eye DIN D50 **Part No.** 1730613



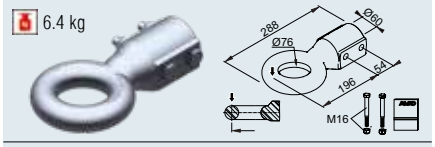
SAP: ZUGÖSE E50 M SCHRAUBMAT VZ

Drawbar eye England E50/B **Part No.** 1224116



SAP: ZUGÖSE F68 M SCHRAUBMAT VZ

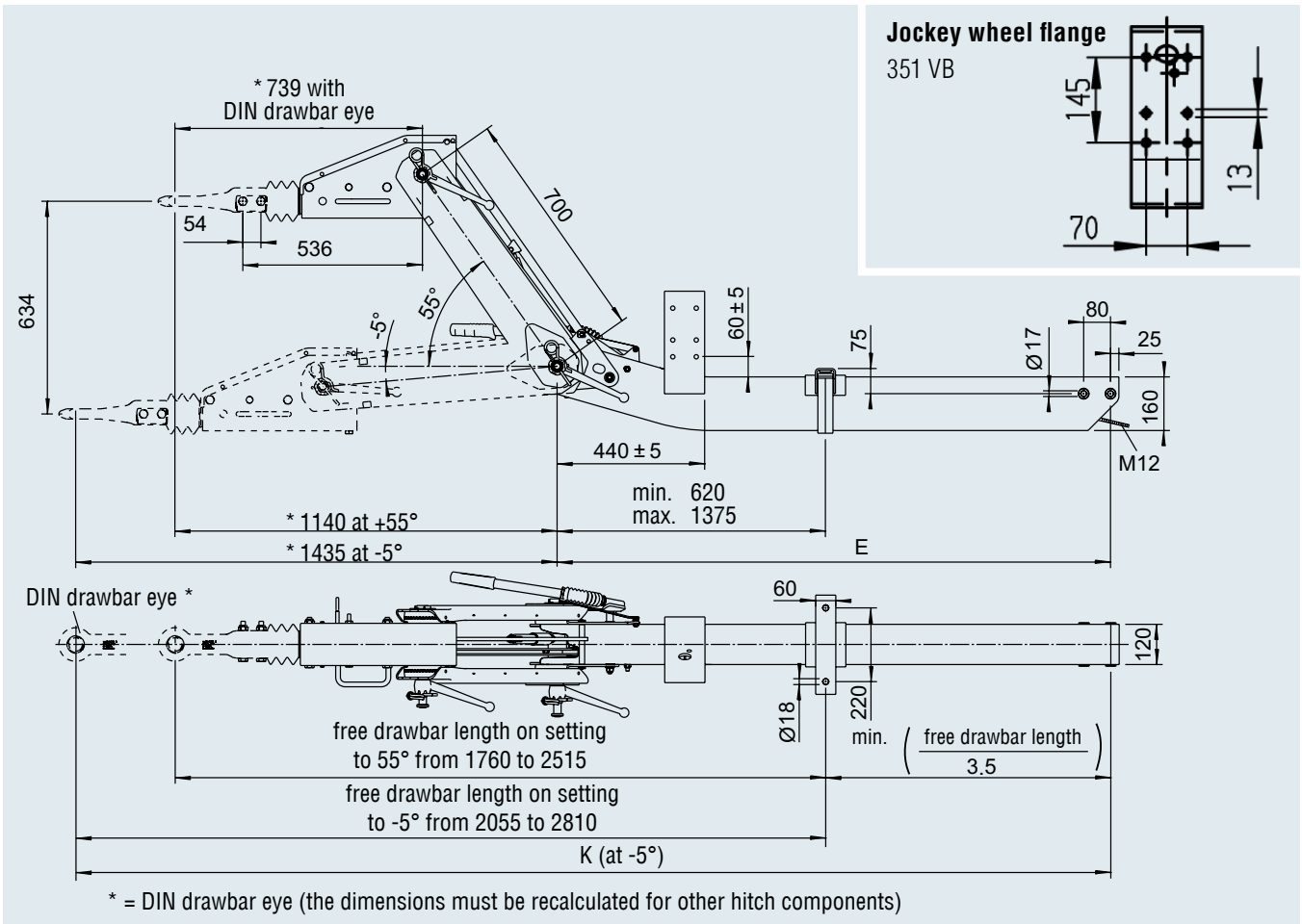
Drawbar eye France F68/F **Part No.** 1224117



SAP: ZUGÖSE N76 M SCHRAUBMAT VZ

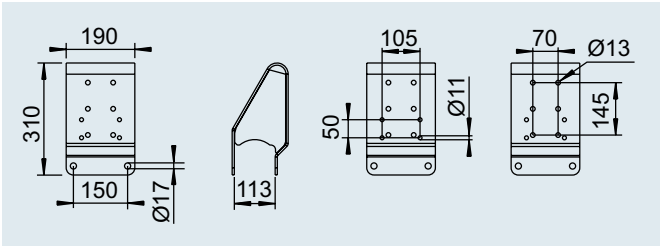
Drawbar eye NATO N76/F **Part No.** 1224118

Overrun device cpl. with drawbar section mounted (without hitch components)



* = DIN drawbar eye (the dimensions must be recalculated for other hitch components)

ACCESSORIES FOR OVERRUN DEVICE SQUARE

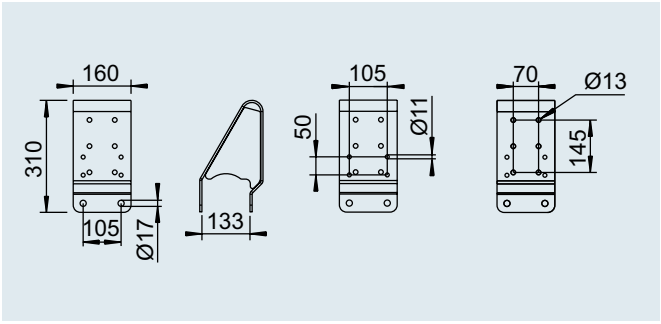


SAP: STUETZRADHALTER GESCHW

Jockey wheel carrier 800 kg

Part No.				
1654234	7.3	–	–	2

Suitable for 251 S



SAP: STUETZRADHALTER GESCHW FEUVZ

Jockey wheel carrier 800 kg

Part No.				
1654240	6.3	–	–	2

Suitable for 2.8 VB 1/-C

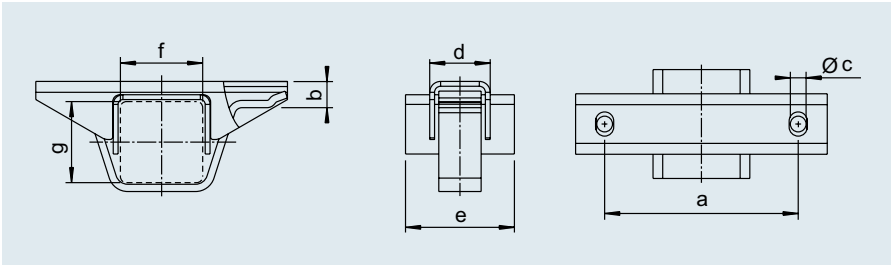
ACCESSORIES FOR OVERRUN DEVICE SQUARE

SCOPE OF SUPPLY

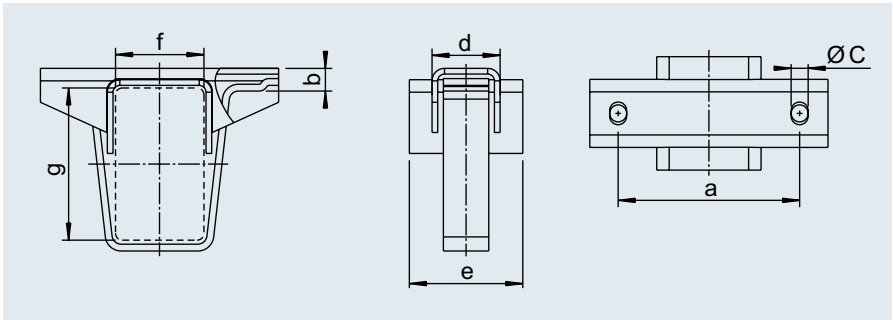
- Clamping mount with clamping bracket without fixing bolts

SURFACE TREATMENT

- Hot-dip galvanised

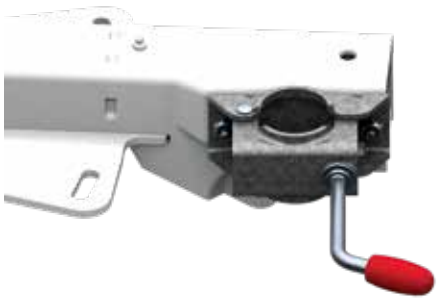


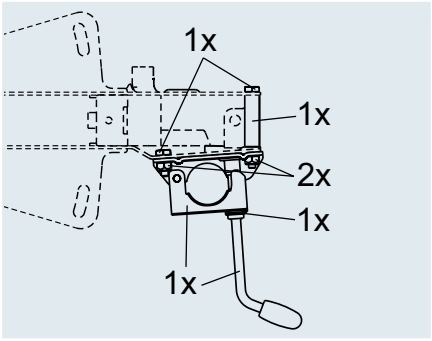
Part No.	SAP	For drawbar tube see diagram dimension f and g in mm	Dimension a mm	Dimension b mm	Dimension c mm	Dimension d mm	Dimension e mm				
249317	AUFLAGEBOCK VKT60 M BÜGEL	60 x 60	160	15	13	50	–	0.9	–	350	2
247657	AUFLAGEBOCK VKT 70	70 x 70	160	15	13	50	90	1.1	–	350	2
247638	AUFLAGEBOCK VKT100	100 x 100	160	21	13	60	100	1.6	–	350	2
1210475	AUFLAGEBOCK VKT120 FEUERVZ	120 x 120	220	25	17	60	120	1.8	–	350	2



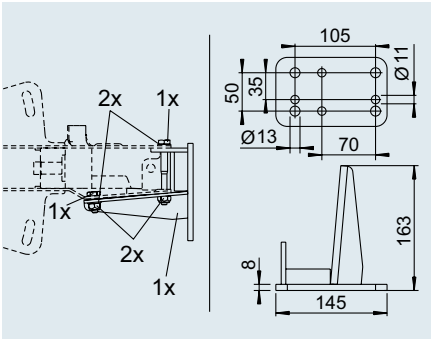
Part No.	SAP	For drawbar tube see diagram dimension f and g in mm	Dimension a mm	Dimension b mm	Dimension c mm	Dimension d mm	Dimension e mm				
1211104	AUFLAGEBOCK PR 70X140M BÜGEL FEUERVZ	70 x 140	160	15	15	50	90	1.5	–	150	2
1210617	AUFLAGEBOCK PR 80X140M BÜGEL FEUERVZ	80 x 140	160	15	15	60	100	1.6	–	150	2
1211105	AUFLAGEBOCK PR100X160M BÜGEL FEUERVZ	100 x 160	200	25	17	60	120	1.8	–	150	2
1211106	AUFLAGEBOCK PR120X160M BÜGEL FEUERVZ	120 x 160	220	25	17	60	120	2.0	–	150	2

ACCESSORIES FOR OVERRUN DEVICE V

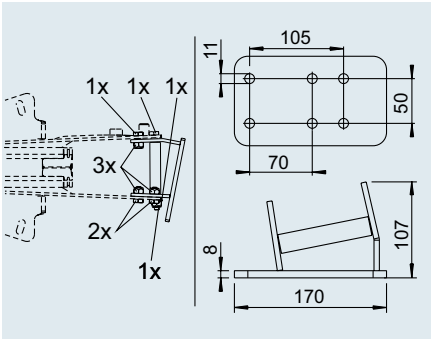




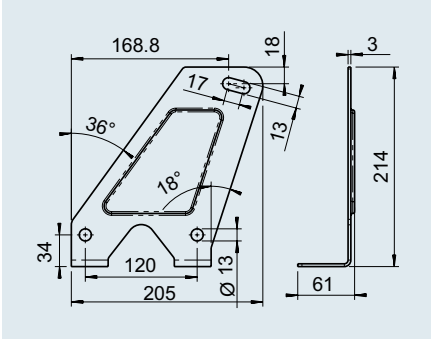
Clamp retrofit set **Load capacity 150 kg**	
SAP: KLEMMSCHELLE 48D 161/251	
Part No.	293020
Suitable for types	Overrun device V top installation 161 S, 251 S, 251 G
	1 kg
	– 200 units



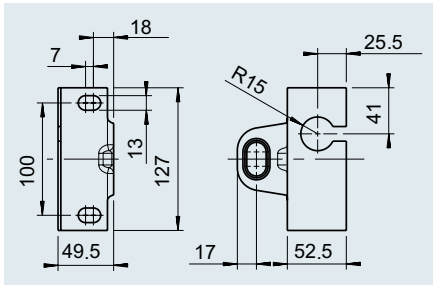
Jockey wheel carrier centre mounting **Load capacity 300 kg**	
SAP: STUETZRADHALTER NACHRUEST	
Part No.	249127
Suitable for types	Overrun device V top and bottom installation 161 S, 251 S, 251 G
	1 kg
	– 200 units



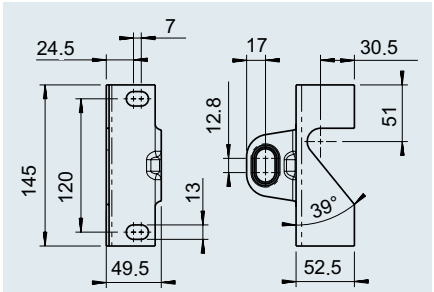
Jockey wheel carrier centre mounting **Load capacity 500 kg**	
SAP: STUETZRADHALTER 2,8 VB/C	
Part No.	249811
Suitable for types	Overrun device V top and bottom installation 2.8 VB/1-C
	1 kg
	– 200 units



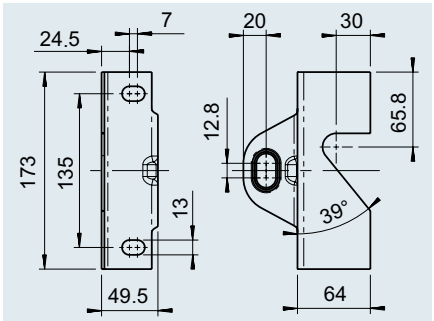
Cover plate for drawbar struts	
SAP: ABDECKBLECH	
Part No.	2381620002
Suitable for types	Overrun device V bottom installation 161 S, 251 S, 251 G
	1 kg
	– 200 units



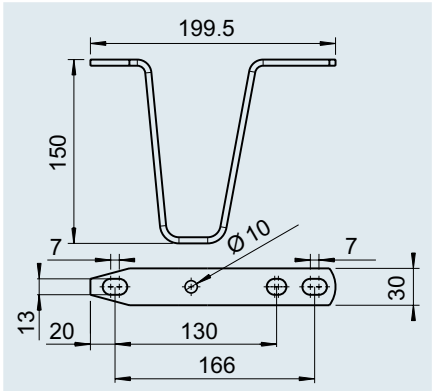
Cover bracket for drawbar struts	
SAP: WINK ANSCHL-	
Part No.	2072410104
Suitable for types	Overrun device V top installation 60 S/2, 90 S/3
	0.5 kg
	– 200 units



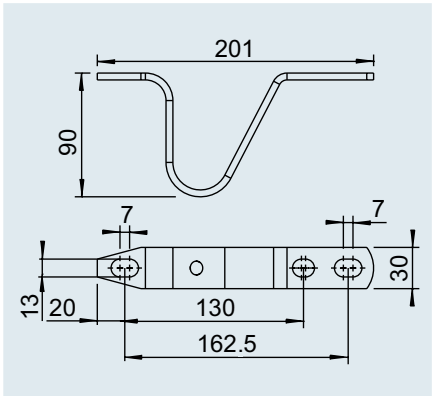
Cover bracket for drawbar struts	
SAP: WINKEL ABREISSSEIL 161S/251S FEUVZ	
Part No.	364414
Suitable for types	Overrun device V top installation 161 S, 251 S, 251 G
	0.3 kg
	– 200 units



Cover bracket for drawbar struts	
SAP: WINKEL ABREISSSEIL 2,8VB/1 FEUVZ	
Part No.	366262
Suitable for types	Overrun device V top and bottom installation 2.8 VB/1-C
	0.5 kg
	– 200 units

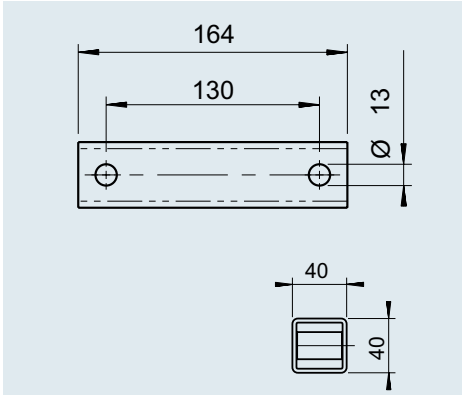


Skid bracket	
SAP: ABSTUETZBUEGEL V-AUSF 150MM FEUVZ	
Part No.	217132
Suitable for types	Overrun device V top installation 60 S/2, 90 S/3, 161 S, 251 S, 251 G Overrun device V bottom installation 161 S, 251 S, 251 G
	0.5 kg
	– 200 units

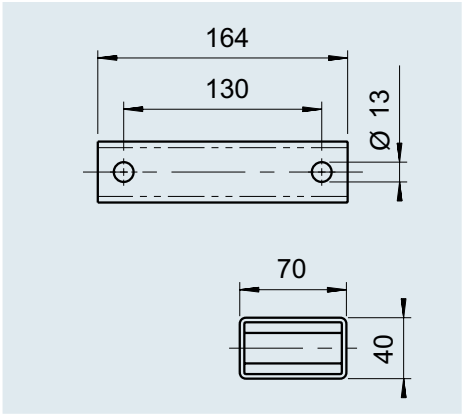


Skid bracket	
SAP: BUEG ABSTL-	
Part No.	217851
Suitable for types	Overrun device V top installation 60 S/2, 90 S/3, 161 S, 251 S, 251 G Overrun device V bottom installation 161 S, 251 S, 251 G
	0.35 kg
	– 200 units

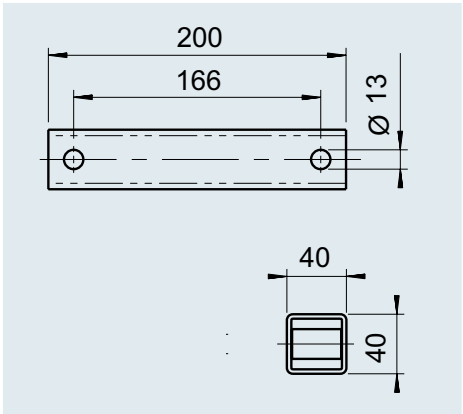
ACCESSORIES FOR OVERRUN DEVICE V



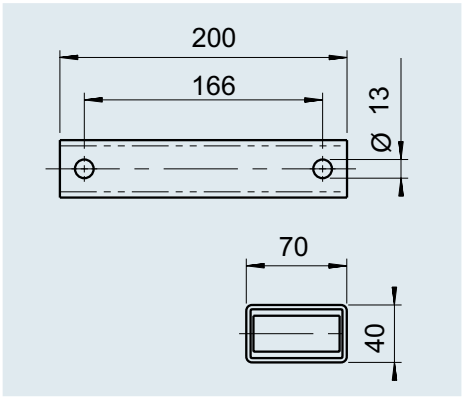
Spacer set height 40 mm	
SAP: SET DISTANZSTÜCK 35DS 60S, 90S-40MM	
Part No.	1730090
Suitable for types	Overrun device V top installation 60 S/2, 90 S/3
ECE type app.	E1 55R-01 2389
	1.3 kg
	– 100 units



Spacer set height 70 mm	
SAP: SET DISTANZSTÜCK 35DS 60S, 90S-70MM	
Part No.	1730091
Suitable for types	Overrun device V top installation 60 S/2, 90 S/3
ECE type app.	E1 55R-01 2389
	2.2 kg
	– 100 units

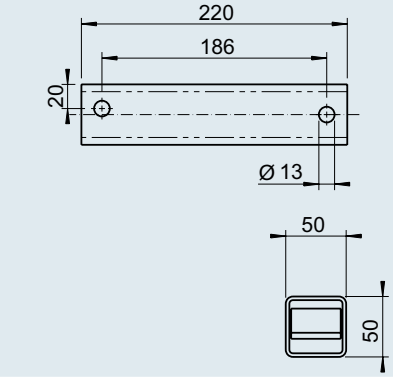


Spacer set height 40 mm	
SAP: SET DISTANZSTÜCK 35DS 161S,251S-40MM	
Part No.	1730092
Suitable for types	Overrun device V top installation 161 S, 251 S, AE Profi 3000, 251 G
ECE type app.	E1 55R-01 2389
	1.6 kg
	– 100 units

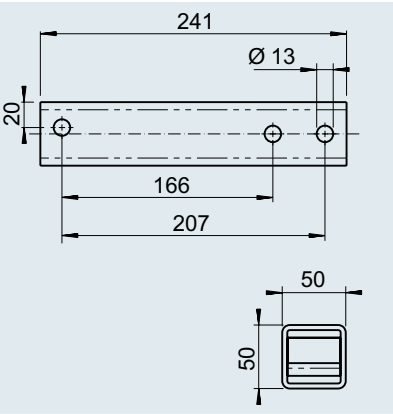


Spacer set height 70 mm	
SAP: SET DISTANZSTÜCK 35DS 161S,251S-70MM	
Part No.	1730093
Suitable for types	Overrun device V top installation 161 S, 251 S, AE Profi 3000, 251 G
ECE type app.	E1 55R-01 2389
	2.1 kg
	– 100 units

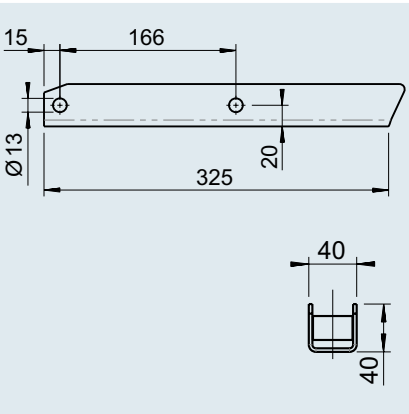
ACCESSORIES FOR OVERRUN DEVICE V



Spacer set height 50 mm	
SAP: SET DISTANZSTÜCK 35DS 2,8VB-50MM	
Part No.	1730094
Suitable for types	Overrun device V top installation AE 2.8 VB-1/C
ECE type app.	E1 55R-01 2389
	2.2 kg
	– 100 units

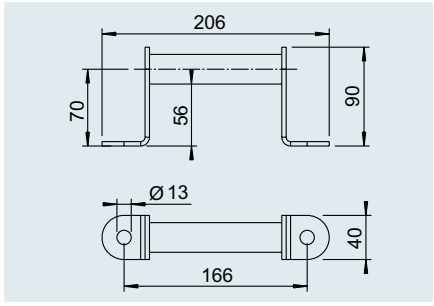


Spacer set height 50 mm	
SAP: SET DISTANZSTÜCK 35DS AE PROFI-50MM	
Part No.	1730095
Suitable for types	Overrun device V top installation AE Profi 3500
ECE type app.	E1 55R-01 2389
	3.2 kg
	– 100 units



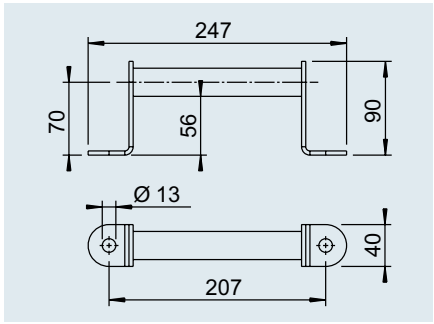
Spacer set height 40 mm	
SAP: SET DISTANZSTÜCK 35DS 200V-40MM	
Part No.	1730329
Suitable for types	Overrun device V top installation AE Euro 130V / 150V / 200V
ECE type app.	E1 55R-01 2389
	2.0 kg
	– 100 units

ACCESSORIES FOR OVERRUN DEVICE V



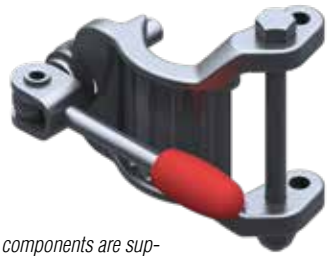
Manoeuvring handle
for overrun device Profi 3000

SAP: RANGIERGRIFF 166MM	
Part No.	1224147
	0.45 kg
	– 200 units

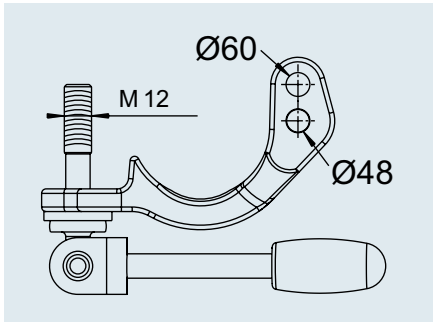


Manoeuvring handle
for overrun device Profi 3500

SAP: RANGIERGRIFF 207MM	
Part No.	1224195
	0.5 kg
	– 200 units

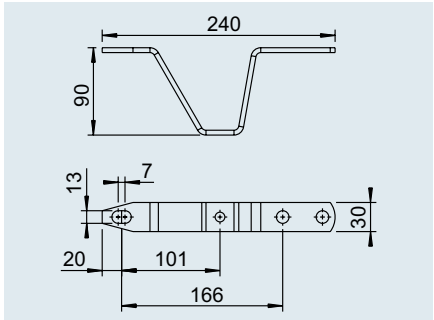


The components are supplied loose



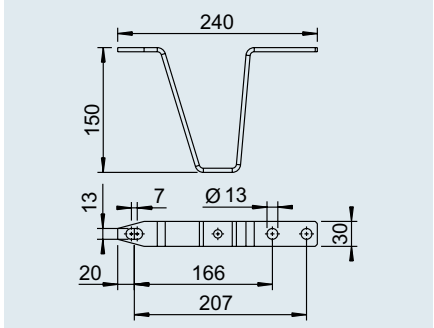
Clamp (side mounting) Ø 48 / Ø 60
for overrun device Profi 3000 / 3500

SAP: KLEMMSCHELLE KPL PROFI-AE	
Part No.	1224196
	1.0 kg
	– 200 units



Skid bracket (top installation)
for overrun device Profi 3000 / 3500

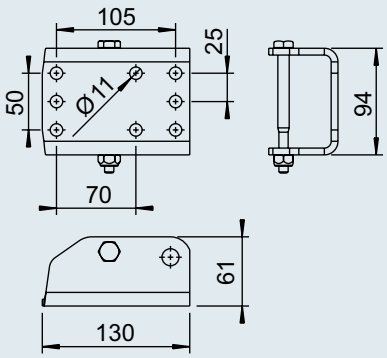
SAP: ABSTELLBÜGEL	
Part No.	1224151
	0.40 kg
	– 200 units



Skid bracket (bottom installation)
for overrun device Profi 3000 / 3500

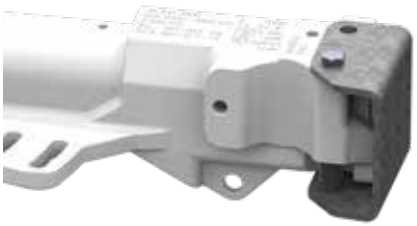
SAP: ABSTELLBÜGEL	
Part No.	1224537
	0.50 kg
	– 200 units

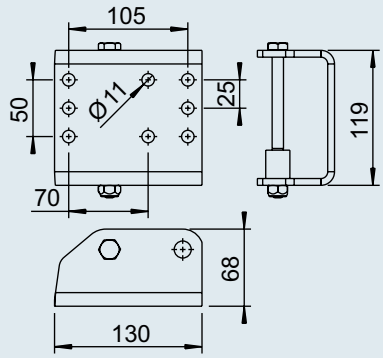
ACCESSORIES FOR OVERRUN DEVICE V



Centre flange
for overrun device Profi 3000

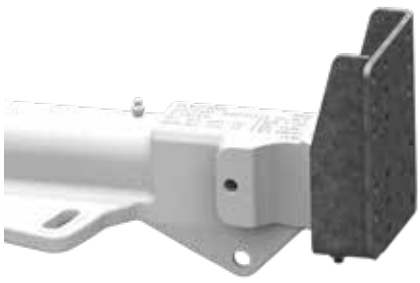
SAP: STÜTZRADHALTER KPL	
Part No.	1224152
	1.00 kg
	– 200 units

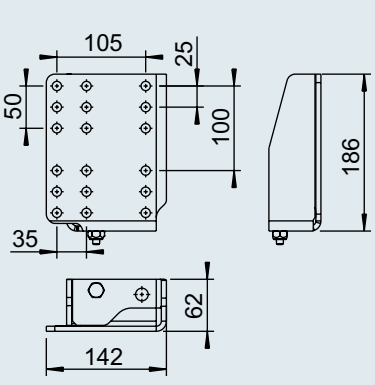




Centre flange
for overrun device Profi 3500

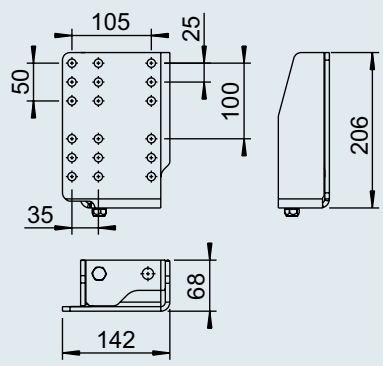
SAP: STÜTZRADHALTER KPL	
Part No.	1224146
	1.00 kg
	– 200 units





Elevated centre flange
for overrun device Profi 3000

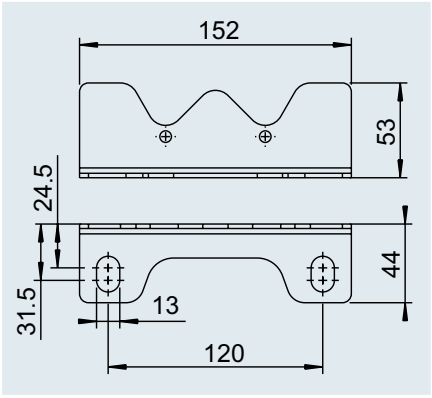
SAP: STÜTZRADHALTER ERHÖHT KPL	
Part No.	1224534
	2.50 kg
	– 200 units



Elevated centre flange
for overrun device Profi 3500

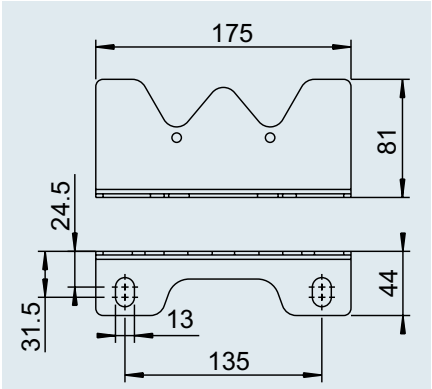
SAP: STÜTZRADHALTER ERHÖHT KPL	
Part No.	1224535
	2.50 kg
	– 200 units

ACCESSORIES FOR OVERRUN DEVICE V



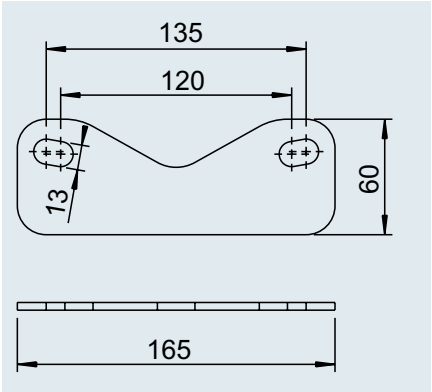
Cover bracket
for overrun device Profi 3000

SAP: WINKEL ANSCHL- FEUVZ	
Part No.	1363501
	0.25 kg
	– 200 units



Cover bracket
for overrun device Profi 3000

SAP: WINKEL ANSCHL- FEUVZ	
Part No.	1363502
	0.35 kg
	– 200 units



Reinforcement plate
for overrun device Profi 3000/3500

SAP: ABDECKBLECH	
Part No.	1366102
	0.5 kg
	– 200 units

ACCESSORIES FOR BREAKAWAY CABLE GUIDE

YOUR ADVANTAGE
Safe in an emergency!

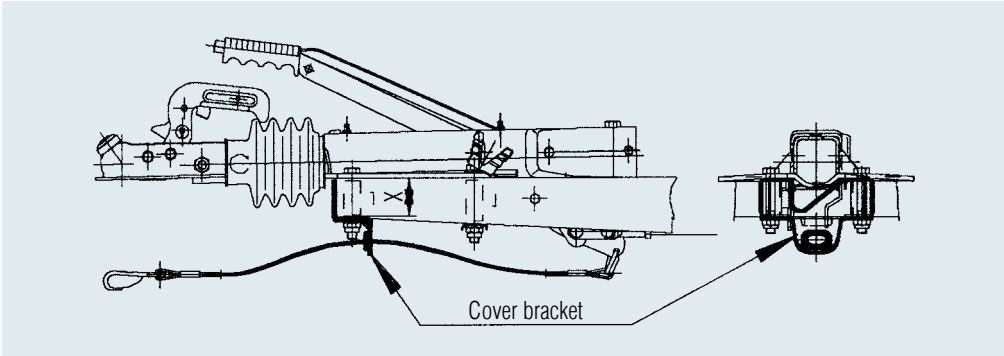
During inspection or new registration of trailers, the TÜV pays increased attention to the function of the breakaway brake (emergency brake) according to Article 41. It is apparent that a functioning breakaway brake is crucially dependent on an optimum breakaway cable guide. For this reason, AL-KO has developed the breakaway cable guide for retrofitting.

1. On the overrun devices V top installation

MOUNTING / RETROFITTING

The cover bracket with cable guide is bolted onto the drawbar (see diagram).

Following that, the breakaway cable is guided through the slot of the cover bracket.



2. On the overrun devices V bottom installation

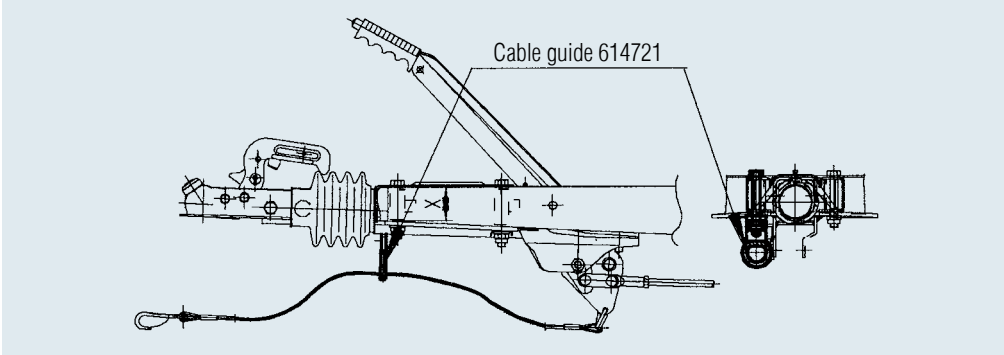
MOUNTING / RETROFITTING

The breakaway cable guide is bolted on the overrun device (see diagram).

In this case, the original M12 bolt must be replaced by a 10 mm longer bolt according to DIN 931 (not included in the scope of delivery).

The breakaway cable can now be pulled to the eye of the cable guide.

for overrun device V bottom installation	
Part No.	247198
Type	60 S/2, 90 S/3, 161 S, 251 S, 251 G, 2,8 VB/1

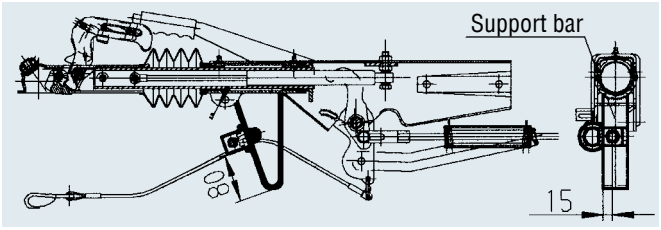


ACCESSORIES FOR BREAKAWAY CABLE GUIDE

3. On the overrun devices square with support bar

MOUNTING / RETROFITTING

A Ø 13 mm hole (for dimension, see diagram) is provided on the support bar of the overrun device. The resulting bare metal surface must be sealed with a corrosion protection agent. The breakaway cable guide can then be bolted on the overrun device (see diagram). Push the breakaway cable through, thereby ensuring optimum guidance of the breakaway cable.

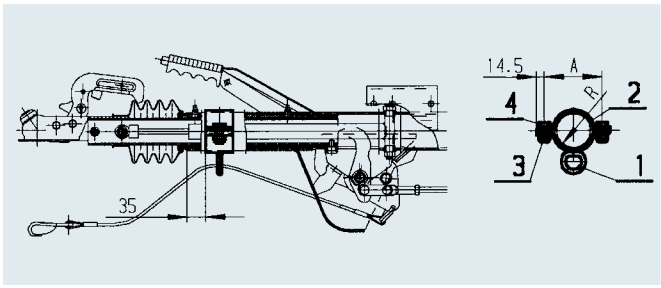


For overrun device square with support bar	
Part No.	614721
Type	60 S/2, 90 S/3, 161 S, 251 S

4. On the overrun devices tube

MOUNTING / RETROFITTING

The breakaway cable guide is bolted (as per diagram) on the overrun device. Push the breakaway cable through, thereby ensuring optimum guidance of the breakaway cable.

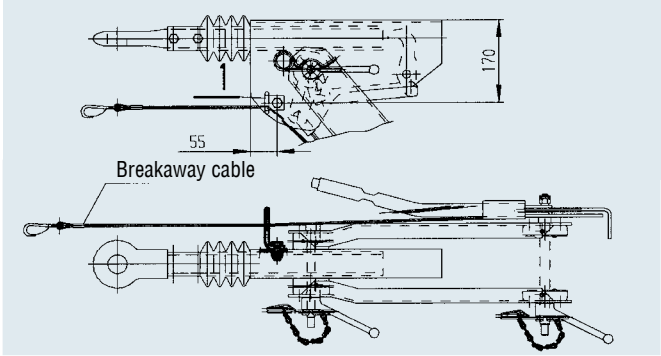


For overrun device tube	
Part No.	247190
Type	131 R
Part No.	247191
Type	161 R, 251 R

5. On the height-adjustable overrun devices

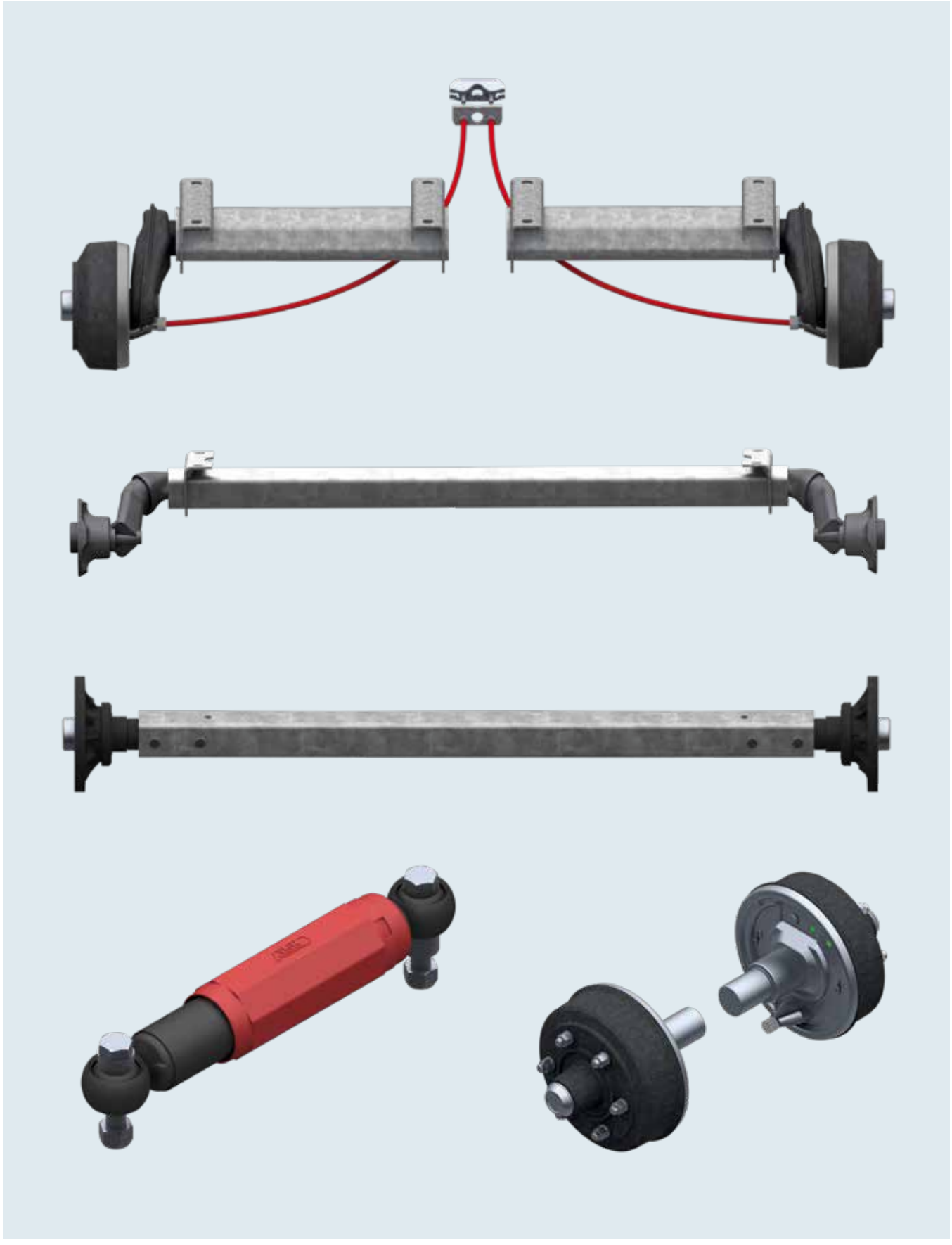
MOUNTING / RETROFITTING

A Ø 13 mm hole (see figure) is provided on the overrun device. The resulting bare metal surfaces must be sealed with corrosion protection. The breakaway cable guide can then be bolted on the overrun device (see diagram). Push the breakaway cable through, thereby ensuring optimum guidance of the breakaway cable.



For height-adjustable overrun device	
Part No.	614721
Type	101 VB, 161 VB, 251 VB, 351 VB

4. AXLES



AXLES

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Unbraked axles with hexagonal rubber suspension 166 – 169
750 kg 170 – 173
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Wheel hubs 280 – 282
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AL-KO AXLES

The hexagonal rubber suspension with independent wheel suspension

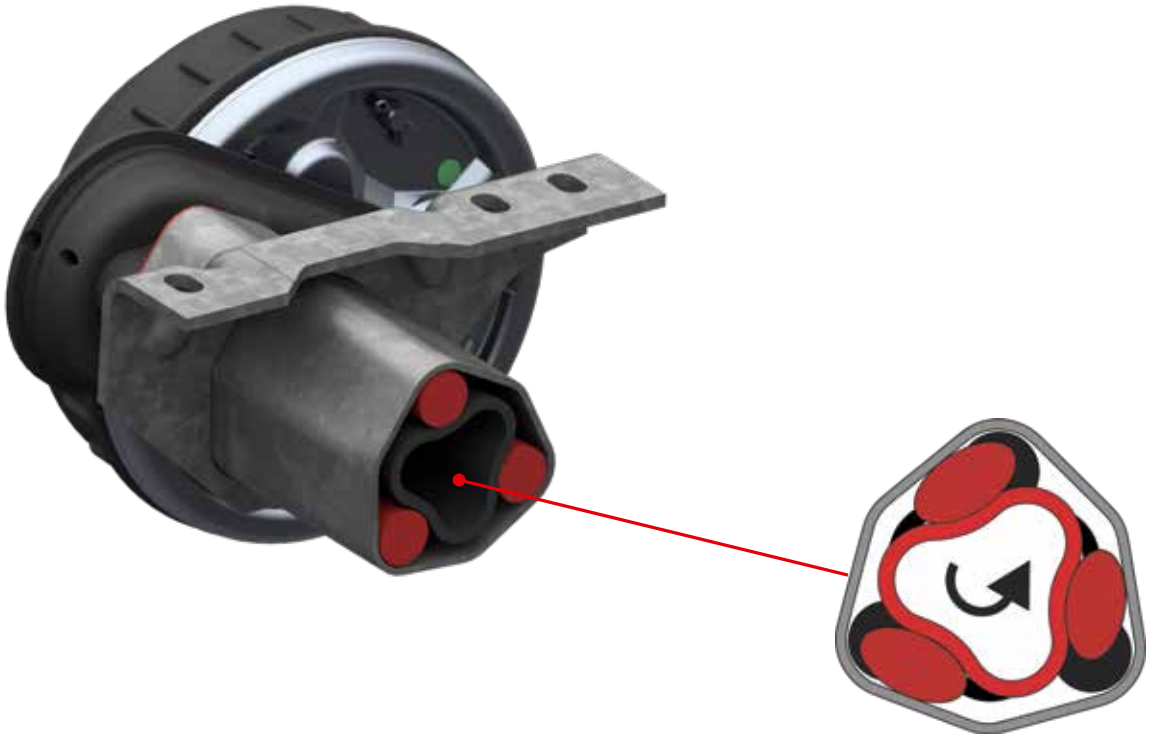
GENTLE AND SAFE TRANSPORT WITH THE UNIQUE AL-KO HEXAGONAL RUBBER SUSPENSION

YOUR ADVANTAGE

Certain types of trailer are intended for the gentle transport of sensitive goods. These include e.g.

Livestock trailers:
Horses, cattle, pigs and dogs should be transported stress-free and gently to avoid injuries.

Goods trailers:
Boats, cars, motorcycles, quad bikes, lawn tractors, electronics, mobile working machines, caravans, bottles, furniture, dangerous goods. These valuable goods have to arrive unscathed at their destination. Soft and comfortable suspension should also preserve service life and structure of these usually expensive goods for as long as possible.



WHAT DOES AL-KO'S CHARACTERISTIC SPECIAL AXLE PROFILE OFFER?

INCREASED DRIVING COMFORT DUE TO LONG SUSPENSION TRAVEL

The AL-KO hexagonal outer tube in conjunction with the triangular inner tube achieves the greatest suspension travels compared to any other rubber suspension axle. Our suspension procedure does not squash the rubber; instead, we give it room to work. The rubber sub-assembly that is important to the suspension is therefore protected as well.

INCREASED RIDE COMFORT DUE TO SOFTER SUSPENSION

The special AL-KO hexagonal rubber suspension system also enables us to design the suspension far softer than other rubber suspension systems that are on the market. The yardstick here is set by the spring softness of the automotive industry which we get closer to than any other rubber suspension systems (source: test by Ravensburg University).

INCREASED DRIVING STABILITY DUE TO HIGH INHERENT DAMPING

One crucial criterion regarding the suspension of an axle is its inherent damping, i.e. the suspension must settle as quickly as possible. Here too, we achieve the best inherent damping amongst all rubber suspension axles.

EACH WHEEL HAS INDEPENDENT WHEEL SUSPENSION

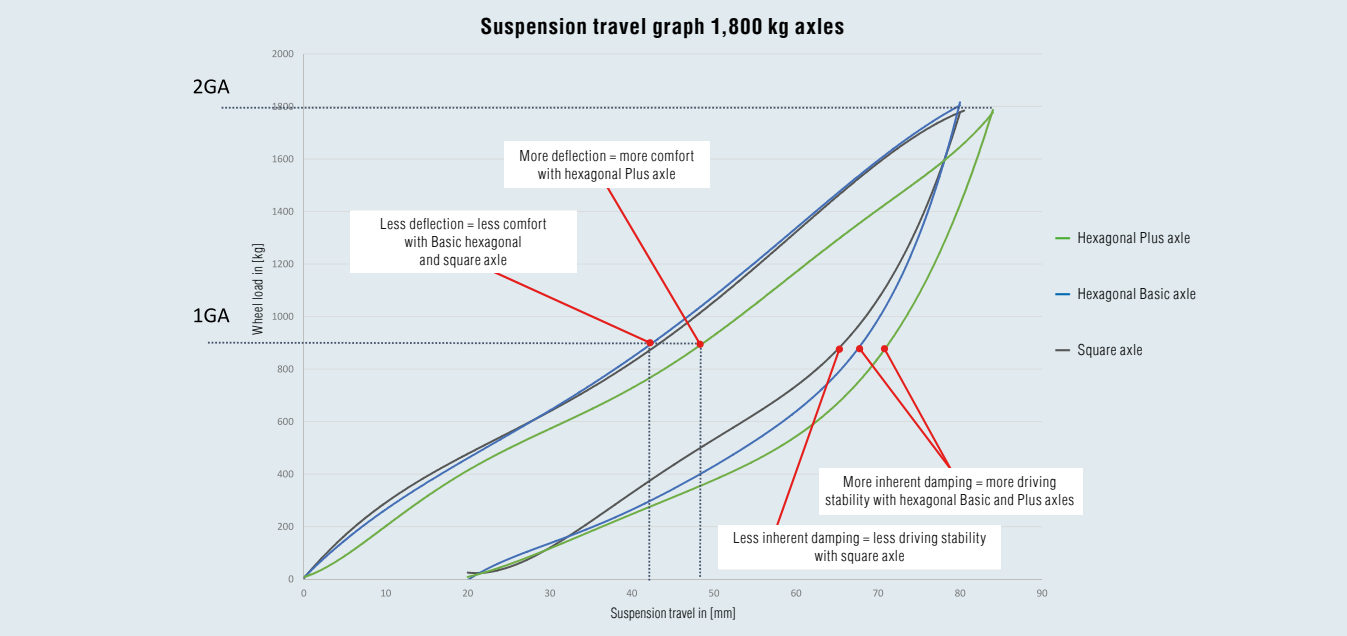
Consequently, unevenness in the road surface only acts on the side where it occurs.

THE SUSPENSION IS MAINTENANCE-FREE

This eliminates service and maintenance costs for the user.

NO DAMAGE TO THE WHEEL ARCH

Nor is damage to other components possible due to overtightening the swing arm – even when severely overloaded.



AL-KO AXLES

Essential details

Better heat dissipation through brake drums with cooling ribs

Deep-drawn and embossed brake backing plate

- Extremely stable steel plate. Example: The wall thickness on an axle with a perm. total weight of 1,300 kg is 3.5 mm.

Optimum corrosion protection

- Axle profile hot-dip galvanised. Brake back plate and various small parts galvanised.
- Highly corrosion resistant brake pads free of asbestos (without iron content).

Double radial angled ball bearing (compact bearing)

- Dimensioned for a bearing life of up to 250,000 km.
- Maintenance-free.
- Lifetime lubrication with special grease containing water-repellent additives.
- Protected against dirt and water.
- A dust plate on the outside (double seal) prevents dirt ingress.
- Easy to install due to standardised tightening torque.
- A watertight compact bearing is available specifically for boat trailers.

Plug-in shock absorber bracket

- On axles with hollow swing arm. This equates to trouble-free retrofitting without welding.

Axle stub and wheel brake bolted

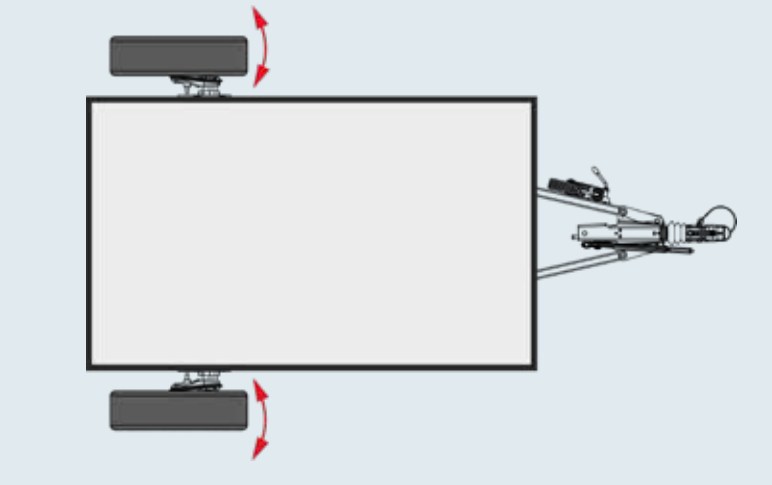
- After the screw connection has been unfastened, the complete wheel brake can be removed.
- The special tooth profile also allows us to vary the Bowden cable exit position as desired by the customer.

Weldable shock absorber brackets

- Welded shock absorber brackets for axles with forged swing arms.

Axle stub and wheel brake welded

- Low-cost and proven AL-KO quality.



Minimum tyre wear

On AL-KO axles with bolt-on wheel brake, the toe-in is pre-set in the factory as in automotive engineering. We are no longer satisfied with high welding tolerances. In this way, we significantly reduce tolerances in the toe-in such as occur due to distortion if the components are welded.

OPTIMUM CORROSION PROTECTION

Process	**Parts**	**Coat thickness** (guidance values)	**Reduction in coat thickness per year**	**Theoretical corrosion protection in years** (guidance values)
Hot-dip galvanising	Axle profile, frame, tubes, housings of overrun devices	70 µm	2-5 µm	> 10 years, coat damage up to 2 mm – self-healing process
Sendzimir-galvanising	Steel plate components that require high accuracy and can be processed off the coil	25 µm	2-5 µm	> 5 years, cut edge self-healing process up to 2 mm
Galvanisation	Parts that require high accuracy, e.g. small parts of the wheel brake and overrun device	12 µm	2-5 µm	> 4 years (but without continuous corrosion protection)
Synthetic resin dip-coating	Axle links, inside tubes, brake drums	–	–	Can withstand outdoor storage for approx. 6 months
Special post-treatment process (thin, anti-slip film anchored in all pores; water repellent with long-term effect)	Brake drums (special thread profile and brake surface)	–	–	Can withstand outdoor storage for approx. 6 – 12 months

UNBRAKED AXLES

Product differentiation / Variants / Details

Axles are required for diverse trailer types and application areas. Each application area has individual requirements in terms of benefit and price.

With our clear axle product differentiation, we offer the optimal solution for each purpose: This also enables you to clearly differentiate your products with optimal value creation.

A maximum of 6 points are possible in the evaluation

Benefit	
Suspension travel = ride comfort	
Spring softness = ride comfort	
Inherent damping = driving stability	
Quality	

Unbraked axles	**750 kg**	**1,000 kg**
Gross weight kg, single axle	750	1,000
Gross weight kg, tandem axle	–	–
Suitable for	Trailers of all types	Trailers of all types
Type of suspension	Hexagonal rubber suspension	Hexagonal rubber suspension
Swing arm design	Hollow	Hollow
Swing arm length (mm)	145	158
Suspension comfort set-up	Average	Average
Axle profile, diameter	Hexagonal, 71 mm	Hexagonal, 80 mm
Suspension maintenance	Maintenance-free	Maintenance-free
Wheel bearing design	Compact bearing	Compact bearing
Bearing maintenance required?	No, maintenance-free	No, maintenance-free
Independent wheel suspension	Yes	Yes
Wheel arch damage possible with extreme overload	No	No
Axle stub connection to swing arm	Welded	Bolted
Possible toe-in adjustment for minimal tyre wear	No	Yes
Options / surcharge		
Watertight bearing available	Yes	Yes
Shock absorber bracket fastening	Welded	Plug-in

BASIC unbraked axles	PLUS unbraked axles	PREMIUM PROFI unbraked axles
●●	●●●●	No solution available at present
●●	●●●●	No solution available at present
●●	●●●●	No solution available at present
●●●●●●	●●●●●●	No solution available at present

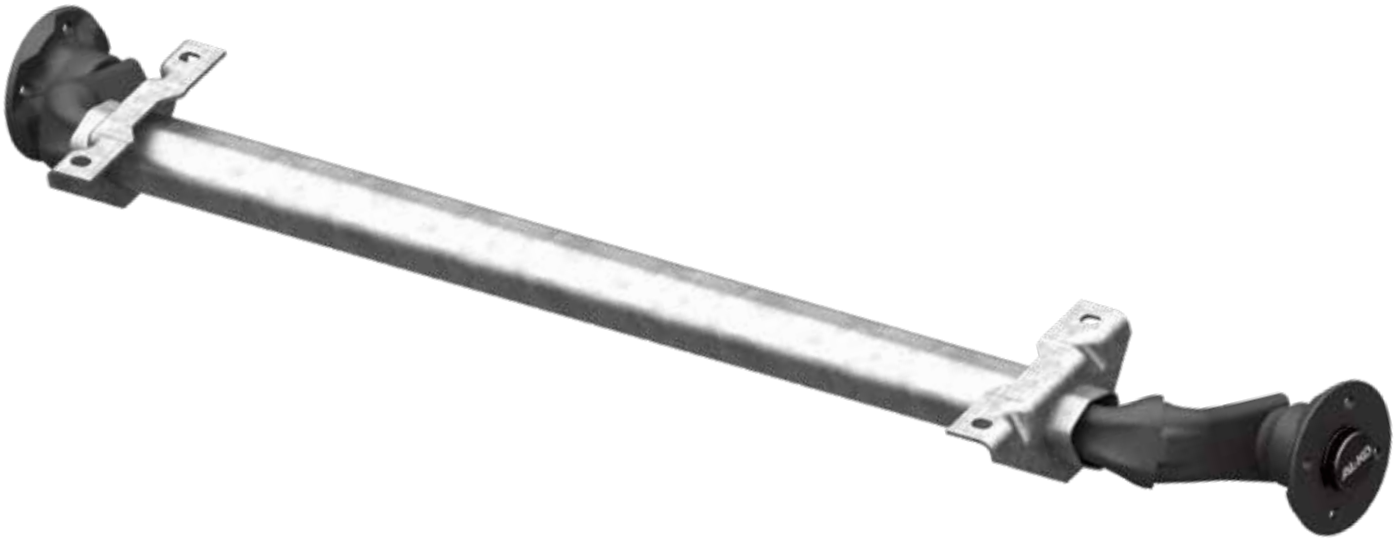
1,300 kg	1,500 kg	1,800 kg
1,300	1,500	1,800
–	–	–
Trailers of all types	Trailers of all types	Trailers of all types
Hexagonal rubber suspension	Hexagonal rubber suspension	Hexagonal rubber suspension
Hollow	Hollow	Forged
161.5	161.5	175
Average	Average	Average
Hexagonal, 97 mm	Hexagonal, 97 mm	Hexagonal, 110 mm
Maintenance-free	Maintenance-free	Maintenance-free
Compact bearing	Compact bearing	Compact bearing
No, maintenance-free	No, maintenance-free	No, maintenance-free
Yes	Yes	Yes
No	No	No
Bolted	Bolted	Bolted
Yes	Yes	Yes
Yes	Yes	Yes
Plug-in	Welded	Welded

UNBRAKED AXLE 750 KG

Modern, maintenance-free axle technology "Made in Germany"

THE ADVANTAGES FOR YOU

Hollow swing arm for greater ride comfort. The lightweight swing arm is produced with maximum quality in state-of-the-art production facilities.



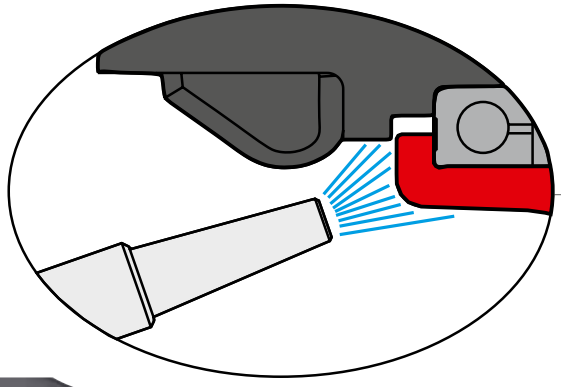
PERMANENTLY WATERTIGHT COMPACT BEARING FOR BOAT TRAILERS (OPTIONAL)

The seal is achieved directly **in the compact bearing** by radial shaft seals with tried-and-tested AL-KO quality.

HUB VARIANTS AND POSSIBLE WHEEL CONNECTIONS

	Offset from – to	Additional weight per axle	Possible wheel connections										
			100x4	98x4	101.6x4	115x4	130x4	108x4	108x5	112x5	114.3x5	120x5	130x5
Standard hub	27 – 45 mm		X	X	X								
Universal hub	27 – 45 mm	2.8 kg				X	X	X	X	X	X	X	X

If the offset values are exceeded or undershot, the bearing service life will be reduced.



HUB WITH INTEGRATED SPLASH GUARD

- The bearing is protected by the shape of the hub and the axle stub
- This means dirt and dust cannot act directly on the bearing
- When cleaning with a high-pressure cleaner, the water jet does not act directly on the bearing

MAINTENANCE-FREE COMPACT BEARING (AS STANDARD)

- Fill-for-life lubrication
- There is no longer any need to set or readjust the bearing during servicing

DUST CAP WITH INTEGRATED SEAL

A soft plastic is used between the hub and dust cap to provide a sealing function and additional protection for the bearing.

UNBRAKED AXLE 750 KG

100 x 4, 112 x 5

TECHNOLOGY

Model:	BASIC	Swing arm length:	145 mm
Axle type:	700-5	Wheel connection:	100x4, 112x5
Axle load:	SA 750 kg	Wheel bearing:	Compact bearing
Suspension:	Hexagonal rubber suspension	Centre hole rim:	min. 57 mm

ATTENTION!

These axles cannot be combined with 8" complete wheels!

SAP: ACHSE GU UBR EA 750 OPTIMA

Single axle

Wheel bolts Taper M 12x1.5 100x4 Axle cpl.	Wheel bolts Ball M 12x1.5 112x5 Axle cpl.	Wheel bolts Taper M 12x1.5 100x4 Watertight axle cpl.	Wheel bolts Ball M 12x1.5 112x5 Watertight axle cpl.	OHF in mm	BC in mm	100x4	112x5			
20059601	20059648	20060001	20060025	1,130	700	17	20	–	50	10
20059602	20059649	20060002	20060026	1,180	750	17	20	–	50	10
20059603	20059650	20060003	20060027	1,230	800	18	20	–	50	10
20059604	20059651	20060004	20060028	1,280	850	18	21	–	50	10
20059605	20059652	20060005	20060029	1,330	900	18	21	–	50	10
20059606	20059653	20060006	20060030	1,380	950	18	21	–	50	10
1422671	20059654	20060007	20060031	1,430	1,000	19	21	–	50	2
20059607	20059655	20060008	20060032	1,480	1,050	19	22	–	50	10
20059608	20059656	20060009	20060033	1,530	1,100	19	22	–	50	10
20059609	20059657	20060010	20060034	1,580	1,150	19	22	–	50	10
20059610	20059658	20060011	20060035	1,630	1,200	19	22	–	50	2
20059611	20059659	20060012	20060036	1,680	1,250	20	22	–	50	10
20059612	20059660	20060013	20060037	1,730	1,300	20	23	–	50	10
20059613	20059661	20060014	20060038	1,780	1,350	20	23	–	50	10
20059614	20059662	20060015	20060039	1,830	1,400	20	23	–	50	10
20059615	20059663	20060016	20060040	1,880	1,450	20	23	–	50	10
20059616	20059664	20060017	20060041	1,930	1,500	21	23	–	50	10
20059617	20059665	20060018	20060042	1,980	1,550	21	24	–	50	10
20059618	20059666	20060019	20060043	2,030	1,600	21	24	–	50	10
20059619	20059667	20060020	20060044	2,080	1,650	21	24	–	50	10
20059620	20059668	20060021	20060045	2,130	1,700	21	24	–	50	10
20059621	20059669	20060022	20060046	2,180	1,750	22	24	–	50	10
20059622	20059670	20060023	20060047	2,230	1,800	22	25	–	50	10
20059623	20059671	20060024	20060048	2,280	1,850	22	25	–	50	10

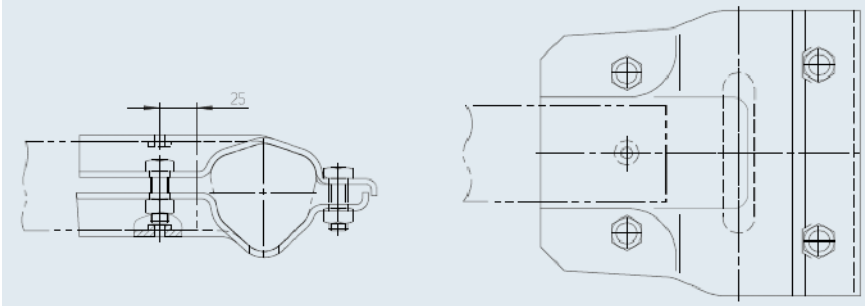
SCOPE OF SUPPLY

- Wheel bolts loose

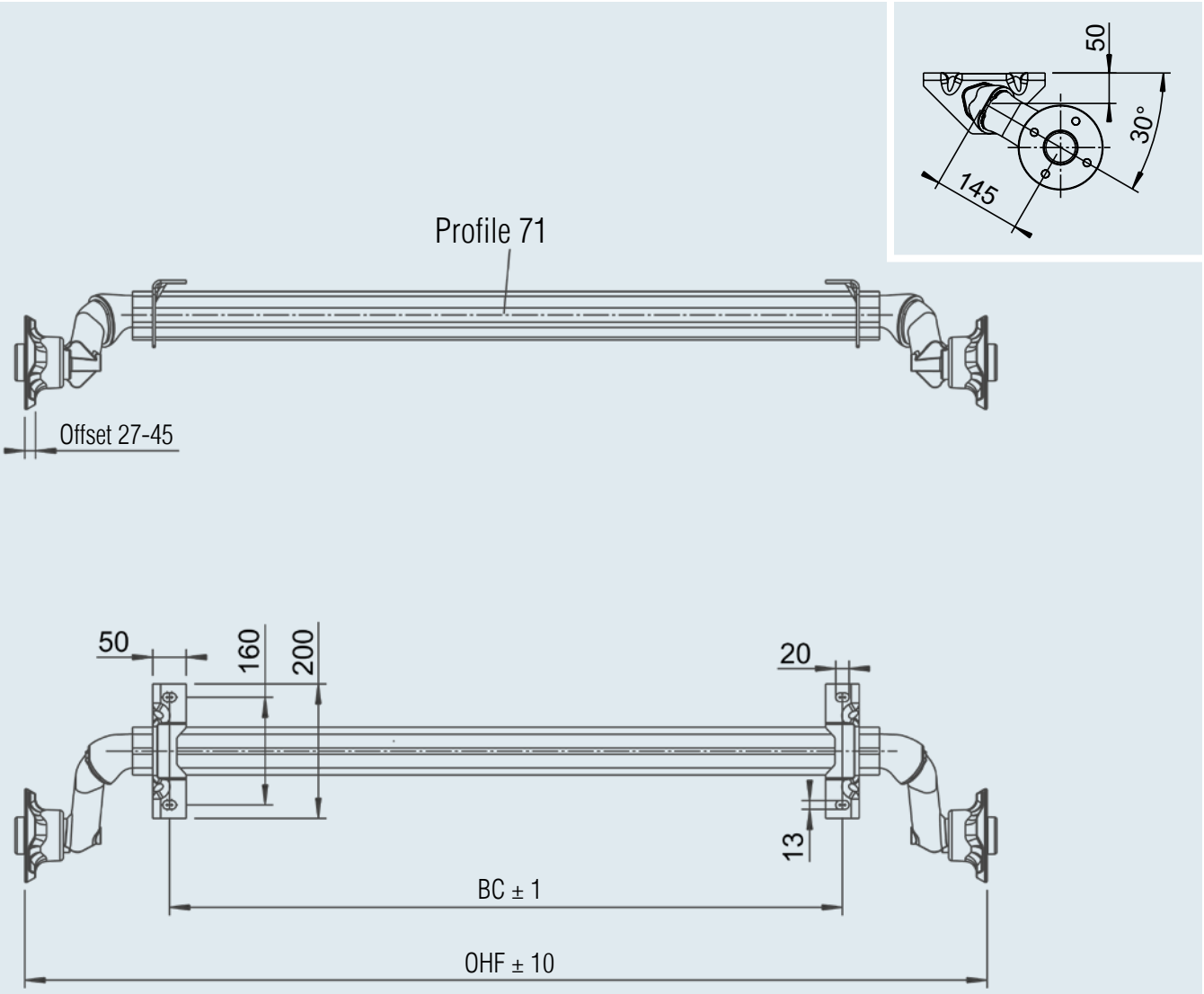
SURFACE TREATMENT

- Axle profile hot-dip galvanised

Clamp for drawbar tube ⌀ 60 **Part No. 267395**



Single axle



UNBRAKED AXLE 750 KG

100 x 4, 112 x 5

TECHNOLOGY

Model:	BASIC	Swing arm length:	145 mm
Axle type:	700-5	Wheel connection:	100x4, 112x5
Axle load:	SA 750 kg	Wheel bearing:	Compact bearing
Suspension:	Hexagonal rubber suspension	Centre hole rim:	min. 57 mm

ATTENTION!
These axles cannot be combined with 8" complete wheels!

SAP: ACHSE GU UBR EA 750 OPTIMA

Single axle

Wheel bolts Taper M 12x1.5 100x4 Axle cpl.	Wheel bolts Ball M 12x1.5 112x5 Axle cpl.	Wheel bolts Taper M 12x1.5 100x4 Watertight axle cpl.	Wheel bolts Ball M 12x1.5 112x5 Watertight axle cpl.	OHF in mm	BC in mm	100x4	112x5			
20059624	20059672	20060049	20060073	1,130	700	21	24	–	50	10
20059625	20059673	20060050	20060074	1,180	750	21	24	–	50	10
20059626	20059674	20060051	20060075	1,230	800	21	24	–	50	10
20059627	20059675	20060052	20060076	1,280	850	22	24	–	50	10
20059628	20059676	20060053	20060077	1,330	900	22	25	–	50	10
20059629	20059677	20060054	20060078	1,380	950	22	25	–	50	10
20059630	20059678	20060055	20060079	1,430	1,000	22	25	–	50	2
20059631	20059679	20060056	20060080	1,480	1,050	22	25	–	50	10
20059632	20059680	20060057	20060081	1,530	1,100	23	25	–	50	10
20059633	20059681	20060058	20060082	1,580	1,150	23	26	–	50	10
20059634	20059682	20060059	20060083	1,630	1,200	23	26	–	50	2
20059635	20059683	20060060	20060084	1,680	1,250	23	26	–	50	10
20059636	20059684	20060061	20060085	1,730	1,300	23	26	–	50	10
20059637	20059685	20060062	20060086	1,780	1,350	24	26	–	50	10
20059638	20059686	20060063	20060087	1,830	1,400	24	27	–	50	10
20059639	20059687	20060064	20060088	1,880	1,450	24	27	–	50	10
20059640	20059688	20060065	20060089	1,930	1,500	24	27	–	50	10
20059641	20059689	20060066	20060090	1,980	1,550	24	27	–	50	10
20059642	20059690	20060067	20060091	2,030	1,600	25	27	–	50	10
20059643	20059691	20060068	20060092	2,080	1,650	25	28	–	50	10
20059644	20059692	20060069	20060093	2,130	1,700	25	28	–	50	10
20059645	20059693	20060070	20060094	2,180	1,750	25	28	–	50	10
20059646	20059694	20060071	20060095	2,230	1,800	26	28	–	50	10
20059647	20059695	20060072	20060096	2,280	1,850	26	29	–	50	10

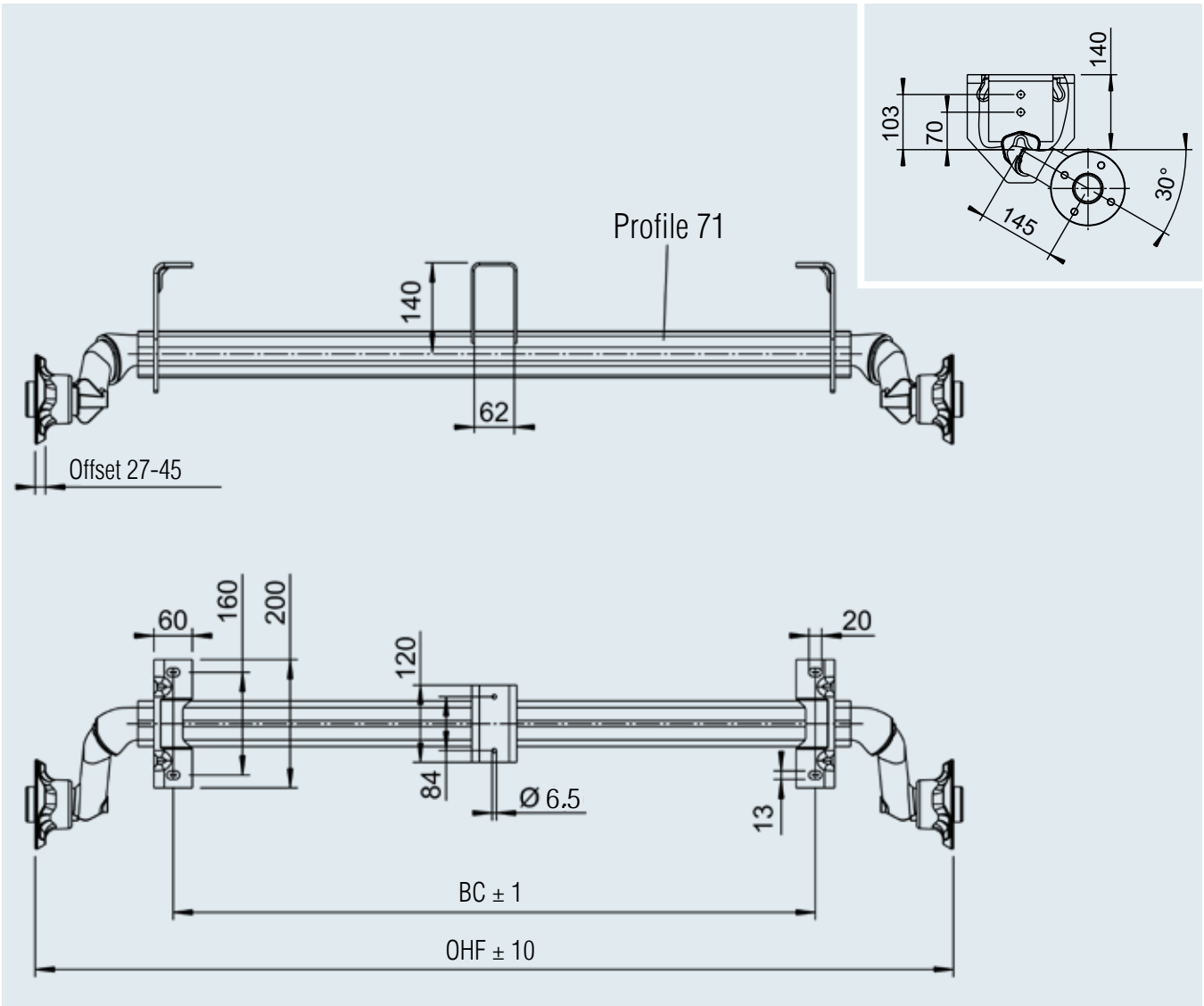
SCOPE OF SUPPLY

- Wheel bolts loose

SURFACE TREATMENT

- Axle profile hot-dip galvanised

Single axle



UNBRAKED AXLE 1,000 KG

100 x 4, 112 x 5

TECHNOLOGY

Model:	BASIC
Axle type:	UBR 850-10
Axle load:	SA 1,000 kg
Suspension:	Hexagonal rubber suspension
Swing arm:	158 mm
Wheel connection:	100x4, 112x5
Wheel bearing:	Compact bearing
Centre hole rim:	min. 57 mm

SCOPE OF SUPPLY

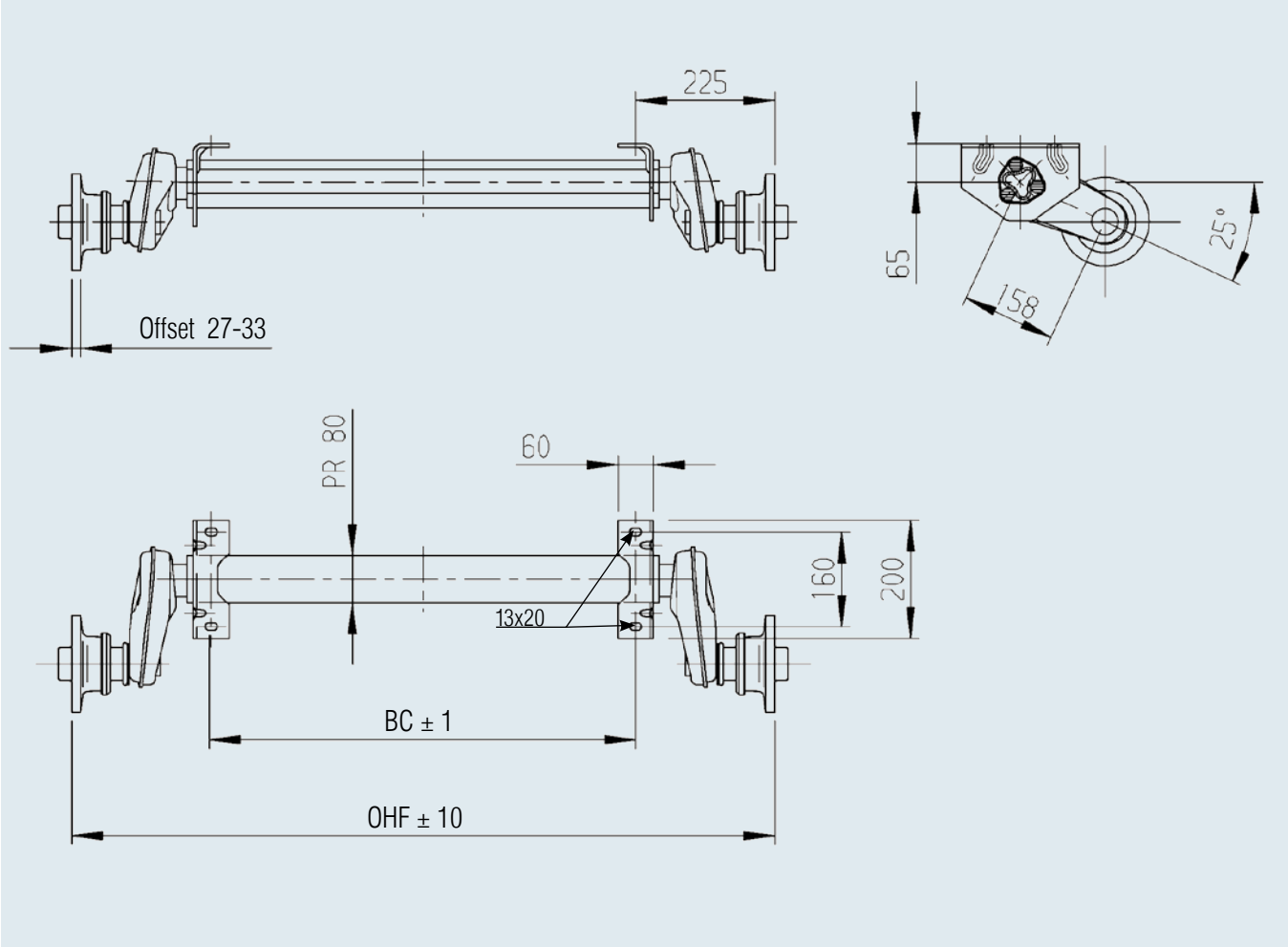
- Wheel bolts loose
- Operating instructions

SURFACE TREATMENT

- Axle profile hot-dip galvanised

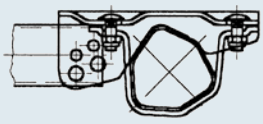
SAP: ACHSE GU UBR EA 1000 PLUS

		Single axle 100x4					Single axle 112x5				
OHF in mm	BC in mm	Wheel bolts Taper M 12x1.5 Axle cpl.					Wheel bolts Ball M 12x1.5 Axle cpl.				
1,200	750	20056201	29	–	30	10	20056001	29	–	30	10
1,250	800	20056202	29	–	30	10	20056002	29	–	30	10
1,300	850	20056203	29	–	30	10	20056003	29	–	30	10
1,350	900	20056204	30	–	30	10	20056004	30	–	30	10
1,400	950	20056205	30	–	30	10	20056005	30	–	30	10
1,450	1,000	20056206	30	–	30	10	20056006	30	–	30	10
1,490	1,040	20056207	30	–	30	10	20056007	30	–	30	10
1,520	1,070	20056208	31	–	30	10	20056008	31	–	30	10
1,550	1,100	20056209	31	–	30	10	20056009	31	–	30	10
1,600	1,150	20056210	31	–	30	10	20056010	31	–	30	10
1,650	1,200	20056211	31	–	30	10	1222783	31	–	30	10
1,670	1,220	20056212	32	–	30	10	20056011	32	–	30	10
1,700	1,250	20056213	32	–	30	10	20056012	32	–	30	10
1,760	1,310	20056214	32	–	30	10	20056013	32	–	30	10
1,800	1,350	20056215	32	–	30	10	20056014	32	–	30	10
1,850	1,400	20056216	32	–	30	10	20056015	32	–	30	10
1,900	1,450	20056217	33	–	30	10	20056016	33	–	30	10
1,950	1,500	20056218	33	–	30	10	20056017	33	–	30	10
1,980	1,530	20056219	33	–	30	10	20056018	33	–	30	10
2,000	1,550	20056220	33	–	30	10	20056019	33	–	30	10
2,030	1,580	20056221	33	–	30	10	20056020	33	–	30	10
2,075	1,625	20056222	34	–	30	10	20056021	34	–	30	10
2,120	1,670	20056223	34	–	30	10	20056022	34	–	30	10
2,150	1,700	20056224	34	–	30	10	20056023	34	–	30	10
2,200	1,750	20056225	34	–	30	10	20056024	34	–	30	10
2,250	1,800	20056226	34	–	30	10	20056025	34	–	30	10
2,300	1,850	20056227	34	–	30	10	20056026	34	–	30	10
2,350	1,900	20056228	34	–	30	10	20056027	34	–	30	10



Accessories for bolt-on drawbar connection profiles

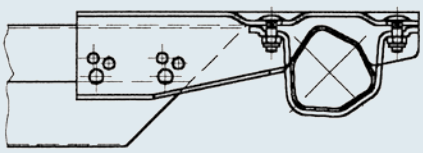
Part no. 247853



Possible drawbar connection profiles:

- ⍁ 60x60

Part no. 249116



Possible drawbar connection profiles:

- 70.1 VO
- 75 VU
- 102 VB

UNBRAKED AXLE 1,300 KG

112 x 5

TECHNOLOGY

Model:	BASIC
Axle type:	UBR 1200-5
Axle load:	SA 1,300 kg
Suspension:	Hexagonal rubber suspension
Swing arm:	161.5 mm
Wheel connection:	112x5
Wheel bearing:	Compact bearing
Centre hole rim:	min. 57 mm

SCOPE OF SUPPLY

- Wheel bolts loose
- Operating instructions

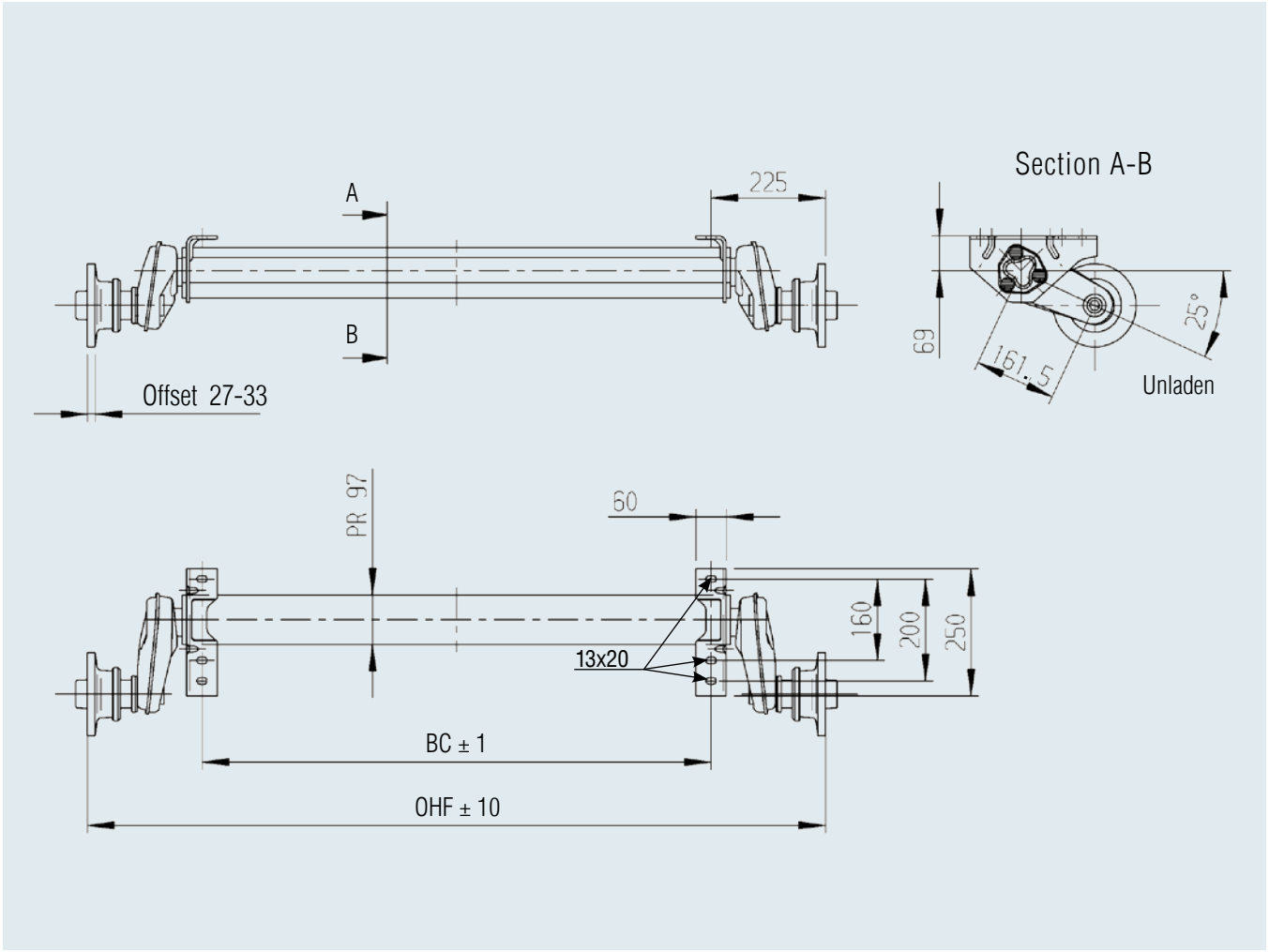
SURFACE TREATMENT

- Axle profile hot-dip galvanised

SAP: ACHSE GU UBR EA 1300 PLUS

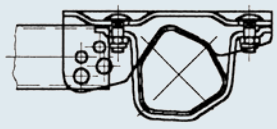
Single axle 112x5

Axle cpl.	OHF in mm	BC in mm				
Wheel bolts Ball M 12x1.5						
20056101	1,200	750	33	–	30	10
20056102	1,250	800	33	–	30	10
20056103	1,300	850	33	–	30	10
20056104	1,350	900	34	–	30	10
20056105	1,400	950	34	–	30	10
1222364	1,450	1,000	34	–	30	10
20056106	1,490	1,040	34	–	30	10
20056107	1,520	1,070	35	–	30	10
20056108	1,550	1,100	35	–	30	10
20056109	1,600	1,150	35	–	30	10
20056110	1,650	1,200	35	–	30	10
20056111	1,670	1,220	36	–	30	10
20056112	1,700	1,250	36	–	30	10
20056113	1,760	1,310	36	–	30	10
20056114	1,800	1,350	36	–	30	10
20056115	1,850	1,400	36	–	30	10
20056116	1,900	1,450	37	–	30	10
20056117	1,950	1,500	37	–	30	10
20056118	1,980	1,530	37	–	30	10
20056119	2,000	1,550	37	–	30	10
20056120	2,030	1,580	37	–	30	10
20056121	2,075	1,625	38	–	30	10
20056122	2,120	1,670	38	–	30	10
20056123	2,150	1,700	38	–	30	10
20056124	2,200	1,750	38	–	30	10
20056125	2,250	1,800	38	–	30	10
20056126	2,300	1,850	38	–	30	10
20056127	2,350	1,900	38	–	30	10



Accessories for bolt-on drawbar connection profiles

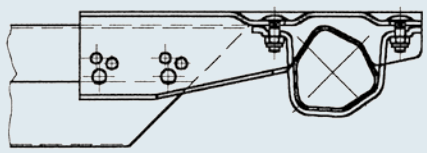
Part no. 247 684



Possible drawbar connection profiles:

- Ø 70
- Ø 88.9
- Ø 101.6
- ∅ 60x60
- ∅ 70x70
- ∅ 100x100

Part no. 249 117



Possible drawbar connection profiles:

- ∅ 80x140
- ∅ 80x160
- ∅ 100x160
- ∅ 100x177
- ∅ 120x120
- ∅ 120x160
- ∅ 120x177

UNBRAKED AXLE 1,500 KG

112 x 5

TECHNOLOGY

Model:	1BASIC
Axle type:	1600-3
Axle load:	SA 1,500 kg
Wheel connection:	112x5
Suspension:	Hexagonal rubber suspension
Swing arm:	161.5 mm
Wheel bearing:	Compact bearing
Centre hole rim:	min. 57 mm

SCOPE OF SUPPLY

- Wheel bolts loose
- Operating instructions

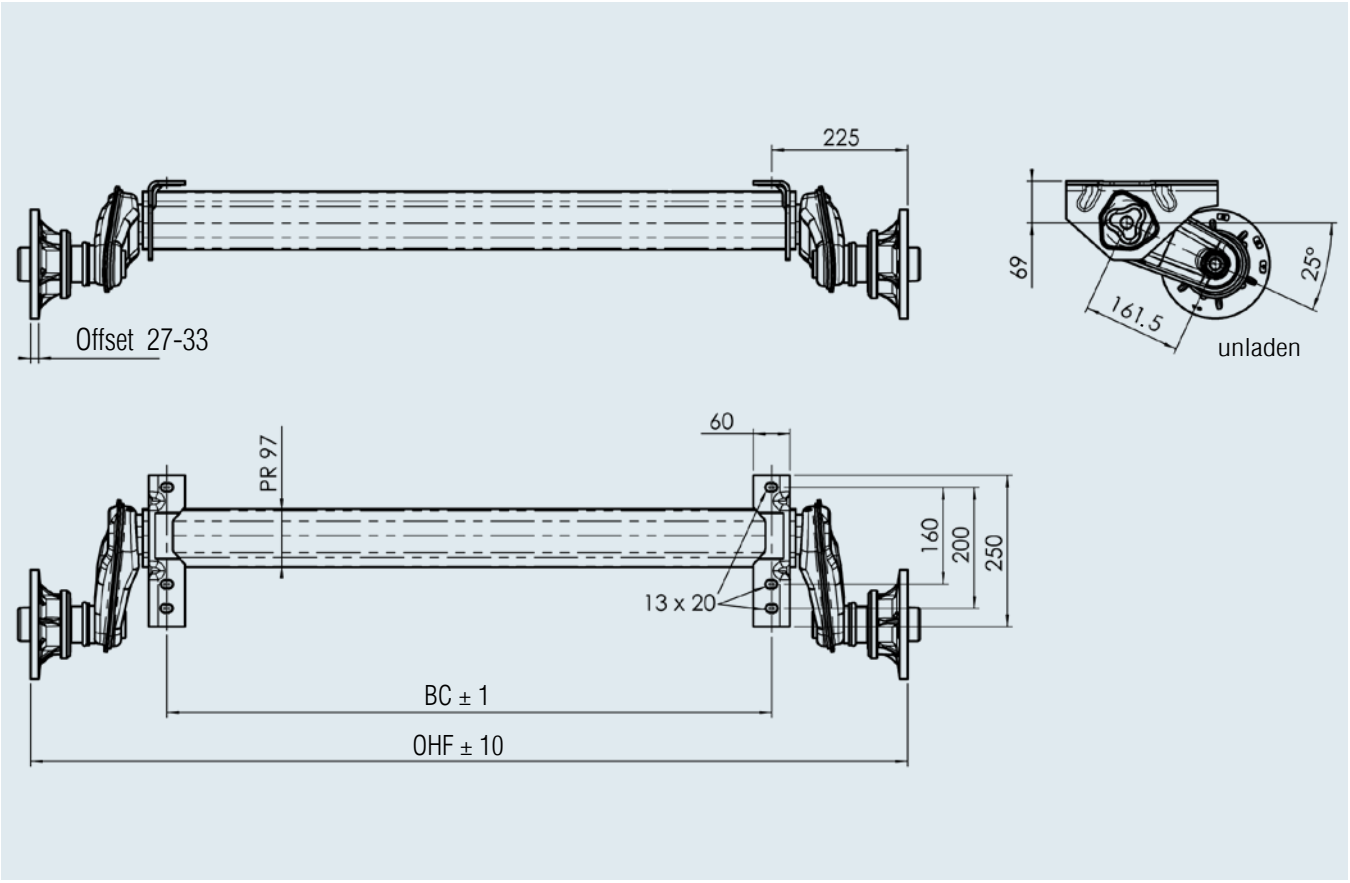
SURFACE TREATMENT

- Axle profile hot-dip galvanised

SAP: ACHSE GU UBR EA 1500 PLUS

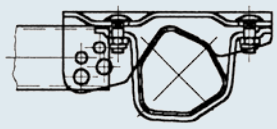
Single axle 112x5

Axle cpl.	**OHF in mm**	**BC in mm**				
Wheel bolts Ball M 12x1.5						
20056901	1,200	750	33	–	30	10
20056902	1,250	800	33	–	30	10
20056903	1,300	850	33	–	30	10
20056904	1,350	900	34	–	30	10
20056905	1,400	950	34	–	30	10
1421519	1,450	1,000	34	–	30	10
20056906	1,490	1,040	34	–	30	10
20056907	1,520	1,070	35	–	30	10
20056908	1,550	1,100	35	–	30	10
20056909	1,600	1,150	35	–	30	10
20056910	1,650	1,200	35	–	30	10
20056911	1,670	1,220	36	–	30	10
20056912	1,700	1,250	36	–	30	10
20056913	1,760	1,310	36	–	30	10
20056914	1,800	1,350	36	–	30	10
20056915	1,850	1,400	36	–	30	10
20056916	1,900	1,450	37	–	30	10
20056917	1,950	1,500	37	–	30	10
20056918	1,980	1,530	37	–	30	10
20056919	2,000	1,550	37	–	30	10
20056920	2,030	1,580	37	–	30	10
20056921	2,075	1,625	38	–	30	10
20056922	2,120	1,670	38	–	30	10
20056923	2,150	1,700	38	–	30	10
20056924	2,200	1,750	38	–	30	10
20056925	2,250	1,800	38	–	30	10
20056926	2,300	1,850	38	–	30	10
20056927	2,350	1,900	38	–	30	10



Accessories for bolt-on drawbar connection profiles

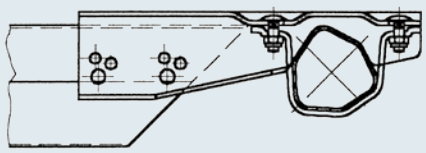
Part no. 247684



Possible drawbar connection profiles:

- Ø 70
- Ø 88.9
- Ø 101.6
- ☐ 60x60
- ☐ 70x70
- ☐ 100x100

Part no. 249117



Possible drawbar connection profiles:

- ☐ 80x140
- ☐ 80x160
- ☐ 100x160
- ☐ 100x177
- ☐ 120x120
- ☐ 120x160
- ☐ 120x177

UNBRAKED AXLE 1,800 KG

112 x 5

TECHNOLOGY

Model:	PLUS
Axle type:	1800-9 PLUS
Axle load:	SA 1,800 kg
Wheel connection:	112x5
Suspension:	Hexagonal rubber suspension
Swing arm:	175 mm
Wheel bearing:	Compact bearing
Centre hole rim:	min. 66.5 mm

SCOPE OF SUPPLY

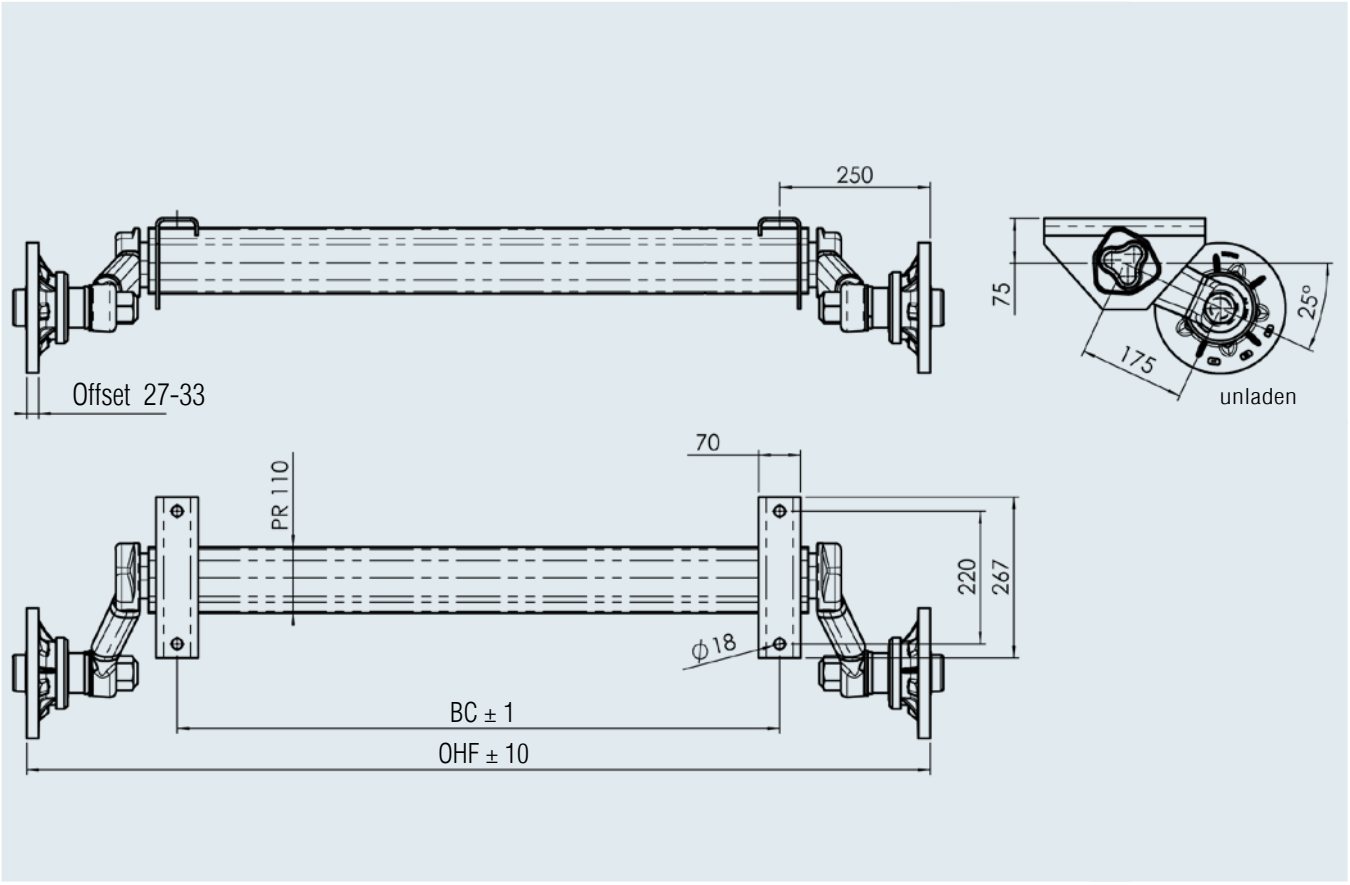
- Wheel bolts loose
- Operating instructions

SURFACE TREATMENT

- Axle profile hot-dip galvanised

SAP: ACHSE GU UBR EA 1800 PLUS

OHF in mm	BC in mm	Single axle 112x5 Wheel bolts Ball M 12x1.5 Axle cpl.				
1,400	900	20057001	58	–	30	10
1,450	950	20057002	58	–	30	10
1,500	1,000	1421520	58	–	30	10
1,540	1,040	20057003	59	–	30	10
1,570	1,070	20057004	59	–	30	10
1,600	1,100	20057005	59	–	30	10
1,650	1,150	20057006	59	–	30	10
1,700	1,200	20057007	60	–	30	10
1,720	1,220	20057008	60	–	30	10
1,750	1,250	20057009	60	–	30	10
1,810	1,310	20057010	60	–	30	10
1,850	1,350	20057011	60	–	30	10
1,900	1,400	20057012	61	–	30	10
1,950	1,450	20057013	61	–	30	10
2,000	1,500	20057014	61	–	30	10
2,030	1,530	20057015	61	–	30	10
2,050	1,550	20057016	62	–	30	10
2,080	1,580	20057017	62	–	30	10
2,100	1,600	20057018	62	–	30	10
2125	1,625	20057019	62	–	30	10
2,170	1,670	20057020	62	–	30	10
2,200	1,700	20057021	63	–	30	10
2,250	1,750	20057022	63	–	30	10
2,300	1,800	20057023	63	–	30	10
2,350	1,850	20057024	63	–	30	10


250
Offset 27-33
75
175
25°
unladen
70
PR 110
220
267
ϕ18
BC ± 1
OHF ± 10

BRAKED AXLES

Product differentiation / Variants / Details

Axles are required for diverse trailer types and application areas. Each application area has individual requirements in terms of benefit and price.

With our clear axle product differentiation, we offer the optimal solution for each purpose:
This also enables you to clearly differentiate your products with optimal value creation.

A maximum of 6 points are possible in the evaluation

Benefit	
Suspension travel = ride comfort	
Spring softness = ride comfort	
Inherent damping = driving stability	
Quality	

Braked axles	**750 kg**	**900 kg**	**1,000 kg**
Gross weight single axle kg	750	900	1,000
Gross weight tandem axle kg	1,500	1,600	1,600
Suitable for	Trailers of all types	Trailers of all types	Trailers of all types
Type of suspension	Hexagonal rubber suspension	Hexagonal rubber suspension	Hexagonal rubber suspension
Swing arm design	Forged	Hollow	Hollow
Swing arm length (mm)	145	160	160
Suspension comfort set-up	Average	Average	Average
Axle profile, diameter	Hexagonal, 71 mm	Hexagonal, 80 mm	Hexagonal, 80 mm
Additional roll stability through semi-trailing arm technology	No	No	No
Camber and toe adjustment through semi-trailing arm technology	No	No	No
Maintenance of suspension	No, maintenance-free	No, maintenance-free	No, maintenance-free
Wheel brake	1636 G	1637	2051
Wheel bearing design	Tapered roller bearing	Compact bearing	Compact bearing
Bearing maintenance required?	Yes	No, maintenance-free	No, maintenance-free
Brake drum with cooling ribs	No	Yes	Yes
Better heat dissipation through brake drums with cooling ribs	No	Yes	Yes
Independent wheel suspension	Yes	Yes	Yes
Wheel arch damage possible with extreme overload	No	No	No
Swing arm connection to axle stub	Welded	Bolted	Bolted
Toe-in adjustment for minimal tyre wear possible?	No	Yes	Yes
Brake pads free of asbestos, corrosion-resistant, without iron content	Yes	Yes	Yes
Options / surcharge			
Watertight bearing available	No	Yes	Yes
Automatic brake adjustment AAA available	No	No	Yes
Shock absorber bracket fastening	Welded	Welded	Plug-in

BASIC braked axles	PLUS braked axles	PREMIUM PROFI braked axles
●●	●●●●	●●●●●●
●●	●●●●	●●●●●●
●●●●	●●●●	●●●●●●
●●●●●●	●●●●●●	●●●●●●

4

1,000 kg	**1,350 kg**	**1,350 kg**	**1,350 kg**
1,000	1,350	1,350	1,350
2,000	2,700	2,700	2,700
Caravan only	Trailers of all types	Trailers of all types	**Caravan only**
Hexagonal rubber suspension	Hexagonal rubber suspension	Hexagonal rubber suspension	Hexagonal rubber suspension
Hollow	Hollow	Hollow	Hollow
185	161.5	175	185
Optimum	Average	Above average	Optimum
Hexagonal, 97 mm	Hexagonal, 97 mm	Hexagonal, 97 mm	Hexagonal, 97 mm
Yes	No	No	Yes
Yes	No	No	Yes
No, maintenance-free	No, maintenance-free	No, maintenance-free	No, maintenance-free
2051	2051	2051	2051
Compact bearing	Compact bearing	Compact bearing	Compact bearing
No, maintenance-free	No, maintenance-free	No, maintenance-free	No, maintenance-free
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
No	No	No	No
Bolted	Bolted	Bolted	Bolted
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
No	Yes	Yes	No
Yes	Yes	Yes	Yes
Plug-in	Plug-in	Plug-in	Plug-in

BRAKED AXLES

Variants / Details

A maximum of 6 points are possible in the evaluation

Benefit			
Suspension travel = ride comfort			
Spring softness = ride comfort			
Inherent damping = driving stability			
Quality			

Braked axles	**1,500 kg**	**1,500 kg**	**1,600 kg**
Gross weight single axle kg	1,500	1,500	1,600
Gross weight tandem axle kg	3,000	3,000	3,200
Suitable for	Trailers of all types	**Caravan only**	Trailers of all types
Type of suspension	Hexagonal rubber suspension	Hexagonal rubber suspension	Hexagonal rubber suspension
Swing arm design	Hollow	Hollow	Forged
Swing arm length (mm)	161.5	185	160
Suspension comfort set-up	Average	Optimum	Average
Axle profile, diameter	Hexagonal, 97 mm	Hexagonal, 97 mm	Hexagonal, 97 mm
Additional roll stability through semi-trailing arm technology	No	Yes	No
Camber and toe adjustment through semi-trailing arm technology	No	Yes	No
Maintenance of suspension	No, maintenance-free	No, maintenance-free	No, maintenance-free
Wheel brake	2051	2051	2361
Wheel bearing design	Compact bearing	Compact bearing	Compact bearing
Bearing maintenance required?	No, maintenance-free	No, maintenance-free	No, maintenance-free
Brake drum with cooling ribs	Yes	Yes	Yes
Better heat dissipation through brake drums with cooling ribs	Yes	Yes	Yes
Independent wheel suspension	Yes	Yes	Yes
Wheel arch damage possible with extreme overload	No	No	No
Swing arm connection to axle stub	Bolted	Bolted	Bolted
Toe-in adjustment for minimal tyre wear possible?	Yes	Yes	Yes
Brake pads free of asbestos, corrosion-resistant, without iron content	Yes	Yes	Yes
Options / surcharge			
Watertight bearing available	Yes	No	Yes
Automatic brake adjustment AAA available	Yes	Yes	Yes
Shock absorber bracket fastening	Plug-in	Plug-in	Welded

BASIC braked axles	PLUS braked axles	PREMIUM PROFI braked axles
●●	●●●●	●●●●●●
●●	●●●●	●●●●●●
●●●●	●●●●	●●●●●●
●●●●●●	●●●●●●	●●●●●●

4

1,600 kg	**1,700 kg**	**1,800 kg**	**1,800 kg**	**1,800 kg**
1,600	1,700	1,800	1,800	1,800
3,200	3,200	3,500	3,500	3,500
Caravan only	**Caravan only**	Trailers of all types	Trailers of all types	**Caravan only**
Hexagonal rubber suspension	Hexagonal rubber suspension	Hexagonal rubber suspension	Hexagonal rubber suspension	Hexagonal rubber suspension
Forged	Forged	Forged	Forged	Forged
185	185	160	175	185
Optimum	Optimum	Average	Above average	Optimum
Hexagonal, 97 mm	Hexagonal, 97 mm	Hexagonal, 110 mm	Hexagonal, 110 mm	Hexagonal, 110 mm
Yes	Yes	No	No	Yes
Yes	Yes	No	No	Yes
No, maintenance-free	No, maintenance-free	No, maintenance-free	No, maintenance-free	No, maintenance-free
2361	2361	2361	2361	2361
Compact bearing	Compact bearing	Compact bearing	Compact bearing	Compact bearing
No, maintenance-free	No, maintenance-free	No, maintenance-free	No, maintenance-free	No, maintenance-free
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
No	No	No	No	No
Bolted	Bolted	Welded	Bolted	Bolted
Yes	Yes	No	Yes	Yes
Yes	Yes	Yes	Yes	Yes
No	No	Yes	Yes	No
Yes	Yes	Yes	Yes	Yes
Welded	Welded	Welded	Welded	Welded

BRAKED AXLES

Variants / Details

A maximum of 6 points are possible in the evaluation

Benefit	
Suspension travel = ride comfort	
Spring softness = ride comfort	
Inherent damping = driving stability	
Quality	

Braked axles	**2,500 kg**	**3,000 kg**
Gross weight single axle kg	2,500	3,000
Gross weight tandem axle kg	3,500	3,500
Suitable for	Trailers of all types	Trailers of all types
Type of suspension	Hexagonal rubber suspension	Hexagonal rubber suspension
Swing arm design	Forged	Forged
Swing arm length (mm)	200	175
Suspension comfort set-up	Above average	Above average
Axle profile, diameter	Hexagonal, 120 mm	Hexagonal, 120 mm
Additional roll stability through semi-trailing arm technology	No	No
Camber and toe adjustment through semi-trailing arm technology	No	No
Maintenance of suspension	No, maintenance-free	No, maintenance-free
Wheel brake	3062	3062
Wheel bearing design	Tapered roller bearing	Tapered roller bearing
Bearing maintenance required?	Yes	Yes
Brake drum with cooling ribs	No	No
Better heat dissipation through brake drums with cooling ribs	No	No
Independent wheel suspension	Yes	Yes
Wheel arch damage possible with extreme overload	No	No
Swing arm connection to axle stub	Welded	Welded
Toe-in adjustment for minimal tyre wear possible?	No	No
Brake pads free of asbestos, corrosion-resistant, without iron content	Yes	Yes
Options / surcharge		
Watertight bearing available	No	No
Automatic brake adjustment AAA available	No	No
Shock absorber bracket fastening	Welded	Welded

BASIC braked axles	PLUS braked axles	PREMIUM PROFI braked axles
●●	●●●●	●●●●●●
●●	●●●●	●●●●●●
●●●●	●●●●	●●●●●●
●●●●●●	●●●●●●	●●●●●●

3,500 kg	**3,500 kg**	**4,000 kg**
3,500	3,500	4,000
3,500	3,500	3,500
Trailers of all types	Trailers of all types	Trailers of all types
Hexagonal rubber suspension	Steel torsion bar suspension	Steel torsion bar suspension
Forged	Forged	Forged
150	200	200
Average	Above average	Above average
Hexagonal, 120 mm	Round, Ø114	Round, Ø114
No	No	No
No	No	No
No, maintenance-free	Yes	Yes
3081	3081 B	3081 B
Tapered roller bearing	Tapered roller bearing	Tapered roller bearing
Yes	Yes	Yes
No	No	No
No	No	No
Yes	Yes	Yes
No	No	No
Welded	Welded	Welded
No	No	No
Yes	Yes	Yes
No	No	No
No	No	No
Welded	Welded	Welded

BRAKED AXLE 1,800 KG BASIC

APPLICATION AREAS / BENEFIT / OPTIONS

SUSPENSION

Proven maintenance-free
hexagonal rubber suspension

FORGED SWING ARM

Axle stubs and brake back plate are welded with the swing arm.

BEARINGS

Proven maintenance-free double radial angled ball bearings (compact bearings).

SURFACE TREATMENT

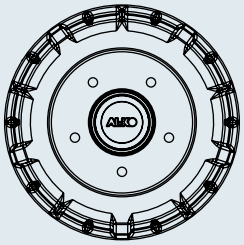
Axle profile hot-dip galvanised and additionally passivated. Inner tube, swing arm black primed, wheel brake cataphoretically coated.

AXLE STUB/BEARING/HUB SCREW CONNECTION

The brake drum with bearings pressed in is secured with a self-tapping M 27 nut.

HUB VARIANTS AND POSSIBLE WHEEL CONNECTIONS

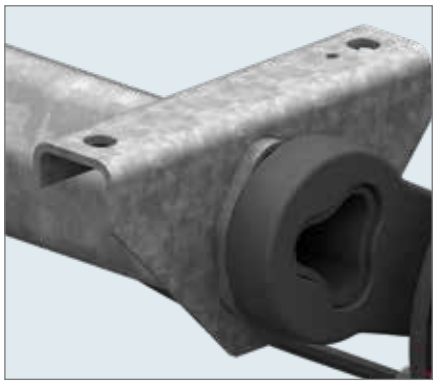
	Offset from - to mm	Possible wheel connections					
		112x5	120x5	130x5	140x5	130x4	139.7x4
Type 2361 wheel brake	Offset 20 – 30	x	x	x	x	x	x



The following options can be offered for a surcharge.

1. AXLE BRACKETS

Our standard axle brackets can be found on the next pages. Special axle brackets are available for a minimum annual quantity of 250 axles.
Please let us know the details of your body design so that we can select the right version for you.

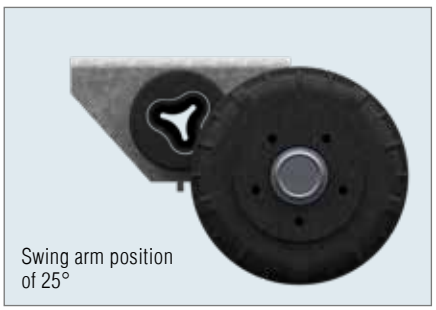


2. SHOCK ABSORBER BRACKET

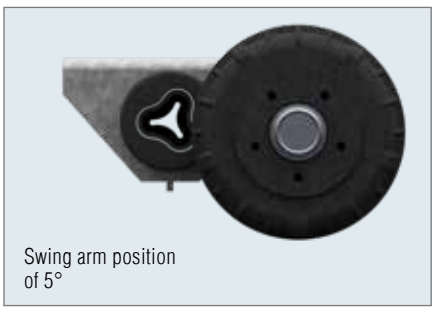
A shock absorber bracket can be welded on if required.

3. SWING ARM POSITION

In addition to our standard swing arm position of 25°, we optionally also offer 5°.



Swing arm position of 25°



Swing arm position of 5°

BRAKED AXLE 750 KG

100 x 4

TECHNOLOGY

Model:	BASIC	Swing arm:	145 mm
Axle type:	B 700-5	Wheel connection:	100x4
Axle load:	SA 750 kg	Wheel bearing:	Tapered roller bearing
Wheel brake:	1636 G	Centre hole rim:	min. 57 mm
Suspension:	Hexagonal rubber suspension		

SAP: ACHSE GU LNGS GRM EA 750

		Single axle Wheel bolts Taper M 12x1.5				Single axle with top hat profile Wheel bolts Taper 12x1.5				
OHF in mm	**BC in mm**	**Axle cpl.**				**Axle cpl.**				
1,140	700	20038001	35	30	10	20038018	38	–	30	10
1,190	750	20038002	36	30	10	20038019	39	–	30	10
1,240	800	20038003	36	30	10	20038020	39	–	30	10
1,290	850	20038004	36	30	10	20038021	39	–	30	10
1,340	900	20038005	36	30	10	20038022	39	–	30	10
1,390	950	20038006	37	30	10	20038023	40	–	30	10
1,440	1,000	294711	37	30	10	20038024	40	–	30	10
1,490	1,050	20038007	37	30	10	20038025	40	–	30	10
1,540	1,100	240031	37	30	10	20038026	40	–	30	10
1,590	1,150	20038008	38	30	10	20038027	41	–	30	10
1,640	1,200	240032	38	30	10	20038028	41	–	30	10
1,690	1,250	240033	38	30	10	20038029	41	–	30	10
1,740	1,300	20038009	38	30	10	20038030	41	–	30	10
1,790	1,350	20038010	39	30	10	20038031	42	–	30	10
1,840	1,400	240034	39	30	10	20038032	42	–	30	10
1,890	1,450	20038011	39	30	10	20038033	42	–	30	10
1,940	1,500	240035	39	30	10	20038034	42	–	30	10
1,990	1,550	240036	40	30	10	20038035	43	–	30	10
2,040	1,600	20038012	40	30	10	20038036	43	–	30	10
2,090	1,650	20038013	40	30	10	20038037	43	–	30	10
2,140	1,700	20038014	40	30	10	20038038	43	–	30	10
2,190	1,750	20038015	41	30	10	20038039	44	–	30	10
2,240	1,800	20038016	41	30	10	20038040	44	–	30	10
2,290	1,850	20038017	41	30	10	20038041	44	–	30	10

SCOPE OF SUPPLY

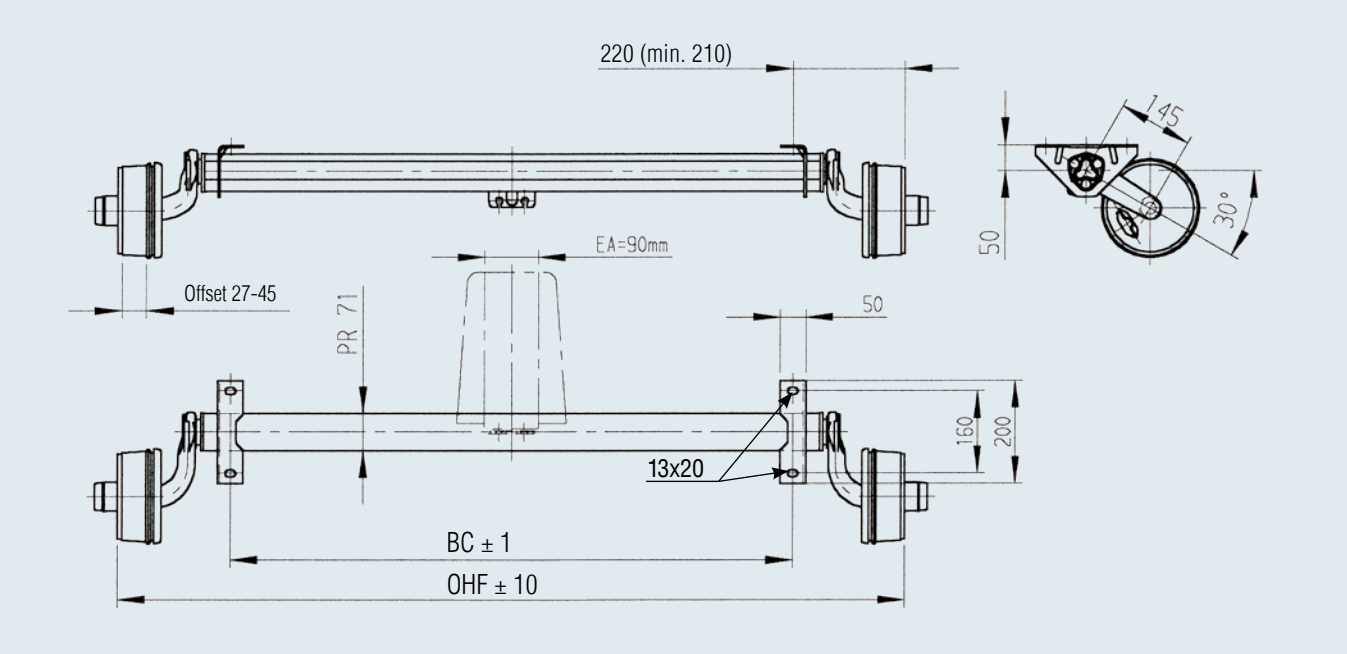
- Single axle adapter bracket welded on
- Compensation profile for single axle supplied
- Bowden cables loose
- Wheel bolts loose
- Without shock absorber brackets

SURFACE TREATMENT

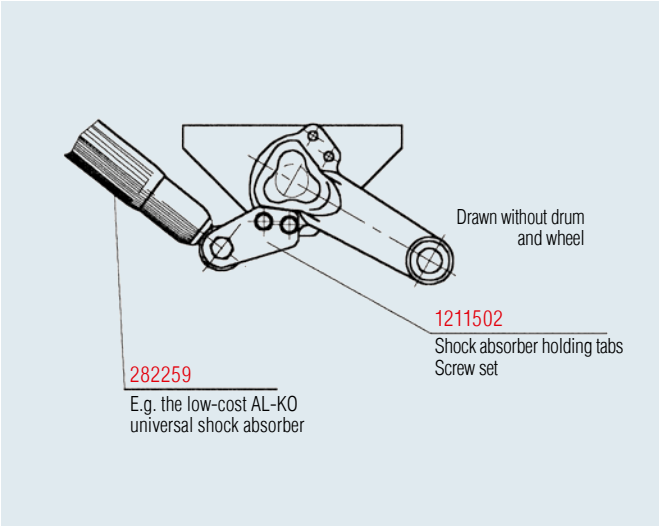
- Axle profile hot-dip galvanised
- Wheel brake black-primed

ACCESSORIES

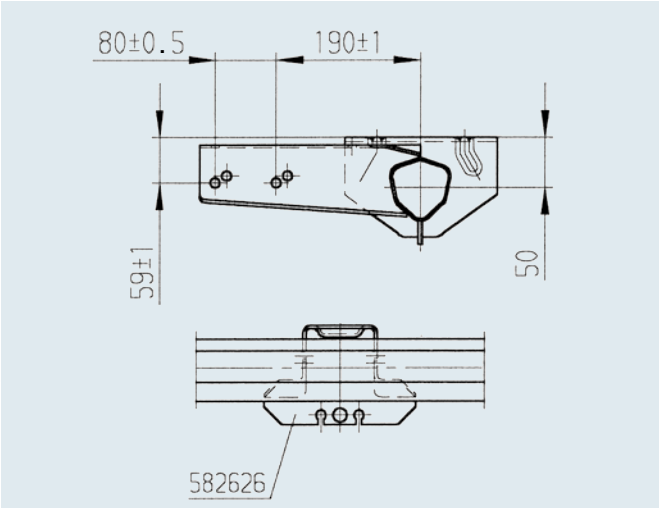
- Shock absorber *(see table of contents)*



Accessories for shock absorber attachment



Accessories for top hat profile incl. adapter bracket for single axle

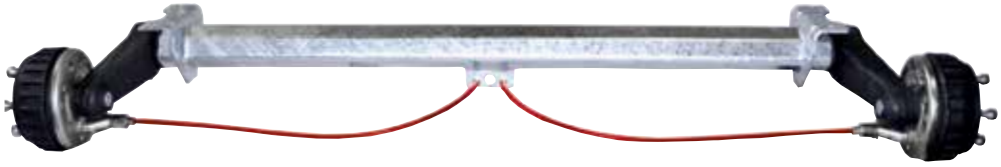


BRAKED AXLE 900 KG

100 x 4

TECHNOLOGY

Model:	BASIC	Suspension:	Hexagonal rubber suspension
Axle type:	B 850-5	Swing arm:	160 mm
Axle load:	SA 900 kg	Wheel connection:	100x4
	TA 1,600 kg	Wheel bearing:	Compact bearing
Wheel brake:	1637	Centre hole rim:	min. 57 mm



SAP: EURO1ACHSE GRM GLL EA 900

		Single axle		Tandem axle							
		Wheel bolts		Front axle wheel bolts		Rear axle wheel bolts					
OHF in mm	BC in mm	Ball M 12x1.5 Axle cpl.	Taper M 12x1.5 Axle cpl.	Ball M 12x1.5 Axle cpl.	Taper M 12x1.5 Axle cpl.	Ball M 12x1.5 Axle cpl.	Taper M 12x1.5 Axle cpl.				
1,250	800	20015001	20015002	20015003	20015004	20015005	20015006	38	-	30	10
1,300	850	20015101	20015102	20015103	20015104	20015105	20015106	38	-	30	10
1,350	900	20015201	20015202	20015203	20015204	20015205	20015206	38	-	30	10
1,400	950	20015301	20015302	20015303	20015304	20015305	20015306	38	-	30	10
1,450	1,000	24400901	244009	24400903	24400904	24400905	24400906	39	-	30	10
1,490	1,040	20015501	20015502	20015503	20015504	20015505	20015506	39	-	30	10
1,520	1,070	20015601	20015602	20015603	20015604	20015605	20015606	39	-	30	10
1,550	1,100	24401001	244010	24401003	24401004	24401005	24401006	39	-	30	10
1,600	1,150	20015801	20015802	20015803	20015804	20015805	20015806	39	-	30	10
1,650	1,200	24401101	244011	24401103	24401104	24401105	24401106	40	-	30	10
1,670	1,220	20016001	20016002	20016003	20016004	20016005	20016006	40	-	30	10
1,700	1,250	24401201	244012	24401203	24401204	24401205	24401206	40	-	30	10
1,760	1,310	20016201	20016202	20016203	20016204	20016205	20016206	40	-	30	10
1,800	1,350	20016301	20016302	20016303	20016304	20016305	20016306	40	-	30	10
1,850	1,400	24401301	244013	24401303	24401304	24401305	24401306	41	-	30	10
1,900	1,450	20016501	20016502	20016503	20016504	20016505	20016506	41	-	30	10
1,950	1,500	24401401	244014	24401403	24401404	24401405	24401406	41	-	30	10
1,980	1,530	20016701	20016702	20016703	20016704	20016705	20016706	41	-	30	10
2,000	1,550	24401501	244015	24401503	24401504	24401505	24401506	42	-	30	10
2,030	1,580	20016901	20016902	20016903	20016904	20016905	20016906	42	-	30	10
2,075	1,625	20017001	20017002	20017003	20017004	20017005	20017006	42	-	30	10
2,120	1,670	20017101	20017102	20017103	20017104	20017105	20017106	42	-	30	10
2,150	1,700	20017201	20017202	20017203	20017204	20017205	20017206	43	-	30	10
2,200	1,750	20017301	20017302	20017303	20017304	20017305	20017306	43	-	30	10
2,250	1,800	20017401	20017402	20017403	20017404	20017405	20017406	43	-	30	10
2,300	1,850	20017501	20017502	20017503	20017504	20017505	20017506	43	-	30	10

SCOPE OF SUPPLY

- Single axle adapter bracket welded on
- Compensation profile for single axle supplied
- Bowden cables loose
- Wheel bolts loose

Separate order for tandem

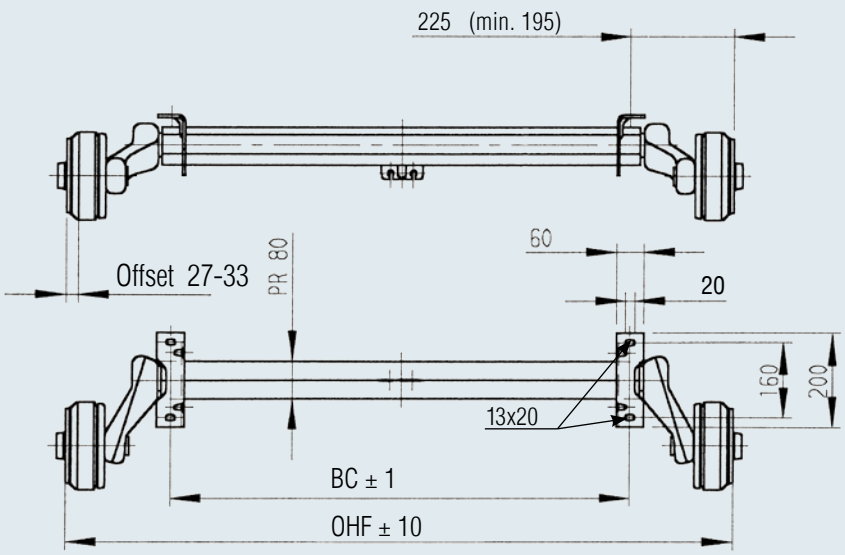
- Tandem adapter bracket, bolt-on 249236
- Tandem compensation 238576

SURFACE TREATMENT

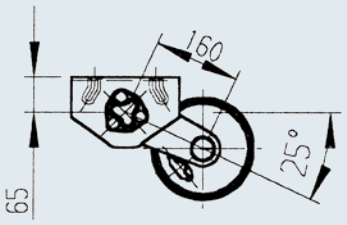
- Axle profile hot-dip galvanised
- Wheel brake galvanised

ACCESSORIES

- Shock absorber (see table of contents)

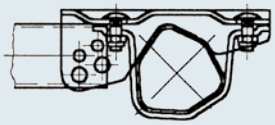


Bowden cable attached at bottom

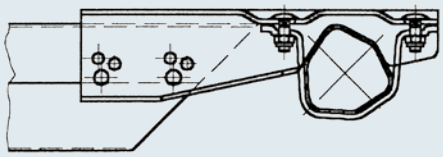


Accessories for bolt-on drawbar connection profiles

Ø 70 / Ø 88.9 / ⍁ 60 / ⍁ 70 / ⍁ 100 — Part No. 247853

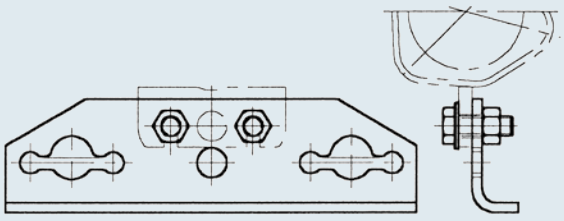


101 VB / 161 VB — Part No. 249116

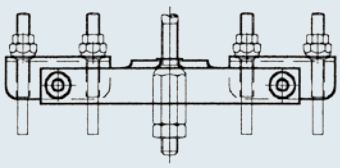


Accessories for tandem

Bolt-on tandem adapter bracket — Part No. 249236



Tandem compensation — Part No. 238576

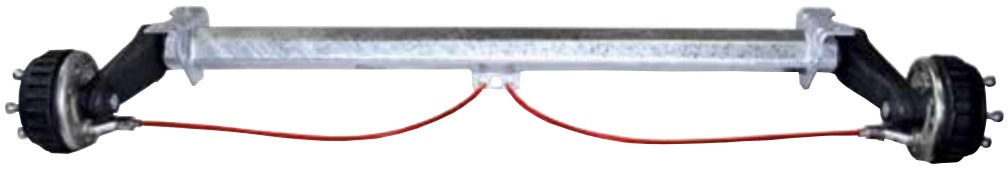


BRAKED AXLE 900 KG

112 x 5

TECHNOLOGY

Model:	BASIC	Suspension:	Hexagonal rubber suspension
Axle type:	B 850-5	Swing arm:	160 mm
Axle load:	SA 900 kg	Wheel connection:	112x5
	TA 1,600 kg	Wheel bearing:	Compact bearing
Wheel brake:	1637	Centre hole rim:	min. 57 mm



SAP: EURO1ACHSE GRM GLL EA 900

		Single axle		Tandem axle						
		Wheel bolts		Front axle wheel bolts		Rear axle wheel bolts				
OHF in mm	BC in mm	Ball M 12x1.5 Axle cpl.	Taper M 12x1.5 Axle cpl.	Ball M 12x1.5 Axle cpl.	Taper M 12x1.5 Axle cpl.	Ball M 12x1.5 Axle cpl.	Taper M 12x1.5 Axle cpl.			
1,250	800	20006801	20006802	20006803	20006804	20006805	20006806	38	- 30	10
1,300	850	20006901	20006902	20006903	20006904	20006905	20006906	38	- 30	10
1,350	900	20007001	20007002	20007003	20007004	20007005	20007006	38	- 30	10
1,400	950	20007101	20007102	20007103	20007104	20007105	20007106	38	- 30	10
1,450	1,000	244016	24401602	24401603	24401604	24401605	24401606	39	- 30	10
1,490	1,040	20007201	20007202	20007203	20007204	20007205	20007206	39	- 30	10
1,520	1,070	20007301	20007302	20007303	20007304	20007305	20007306	39	- 30	10
1,550	1,100	244017	24401702	24401703	24401704	24401705	24401706	39	- 30	10
1,600	1,150	20007401	20007402	20007403	20007404	20007405	20007406	40	- 30	10
1,650	1,200	244018	24401802	24401803	24401804	24401805	24401806	40	- 30	10
1,670	1,220	20007501	20007502	20007503	20007504	20007505	20007506	40	- 30	10
1,700	1,250	244019	24401902	24401903	24401904	24401905	24401906	40	- 30	10
1,760	1,310	20007601	20007602	20007603	20007604	20007605	20007606	41	- 30	10
1,800	1,350	20007701	20007702	20007703	20007704	20007705	20007706	41	- 30	10
1,850	1,400	244020	24402002	24402003	24402004	24402005	24402006	41	- 30	10
1,900	1,450	20007801	20007802	20007803	20007804	20007805	20007806	41	- 30	10
1,950	1,500	244021	24402102	24402103	24402104	24402105	24402106	41	- 30	10
1,980	1,530	20007901	20007902	20007903	20007904	20007905	20007906	42	- 30	10
2,000	1,550	244022	24402202	24402203	24402204	24402205	24402206	42	- 30	10
2,030	1,580	20008001	20008002	20008003	20008004	20008005	20008006	42	- 30	10
2,075	1,625	20008101	20008102	20008103	20008104	20008105	20008106	42	- 30	10
2,120	1,670	20008201	20008202	20008203	20008204	20008205	20008206	42	- 30	10
2,150	1,700	20008301	20008302	20008303	20008304	20008305	20008306	43	- 30	10
2,200	1,750	20008401	20008402	20008403	20008404	20008405	20008406	43	- 30	10
2,250	1,800	20008501	20008502	20008503	20008504	20008505	20008506	43	- 30	10
2,300	1,850	20008601	20008602	20008603	20008604	20008605	20008606	43	- 30	10

SCOPE OF SUPPLY

- Single axle adapter bracket welded on
- Compensation profile for single axle supplied
- Bowden cables loose
- Wheel bolts loose

Separate order for tandem

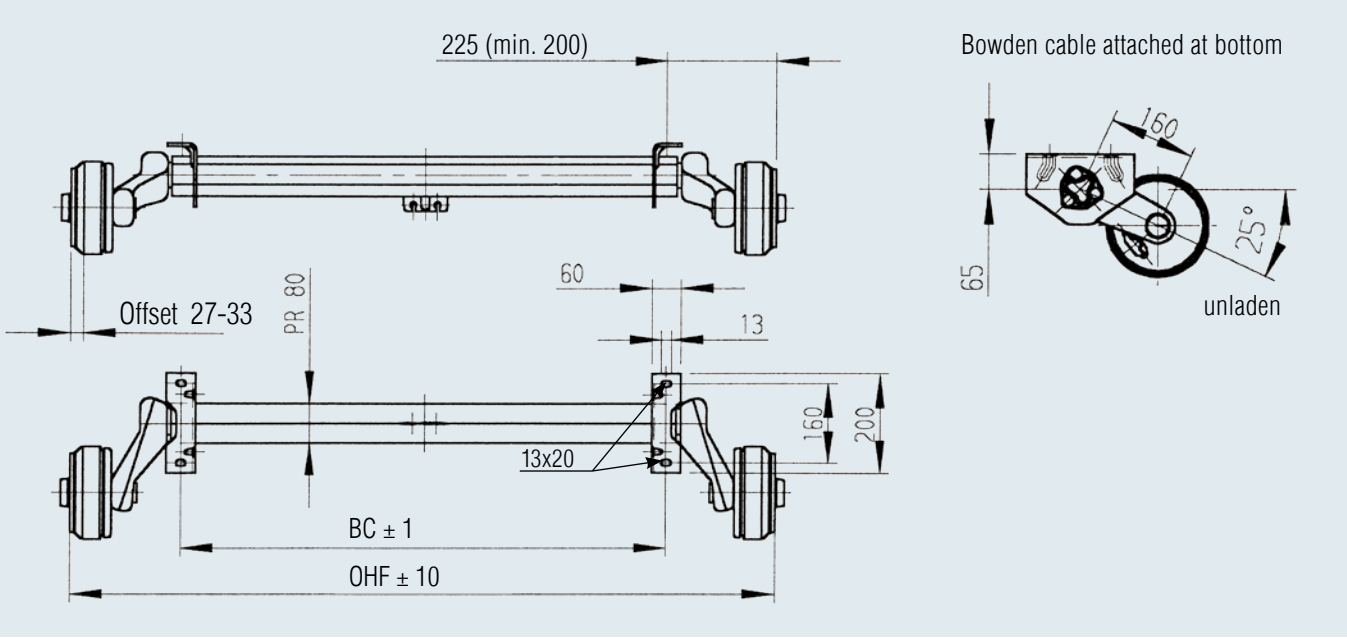
- Tandem adapter bracket, bolt-on 249236
- Tandem compensation 238576

SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brake galvanised

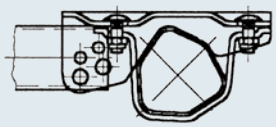
ACCESSORIES

- Shock absorber
  (see table of contents)

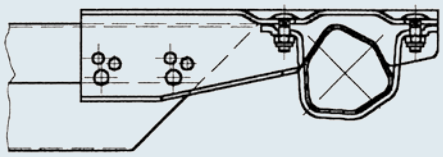


Accessories for bolt-on drawbar connection profiles

Ø 70 / Ø 88.9 / ☐ 60 / ☐ 70 / ☐ 100 — Part No. 247853

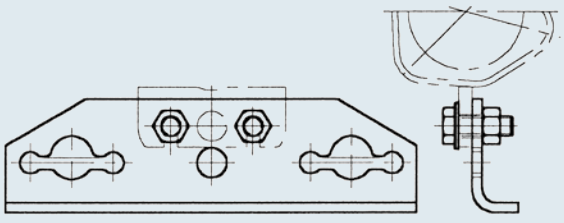


101 VB / 161 VB — Part No. 249116

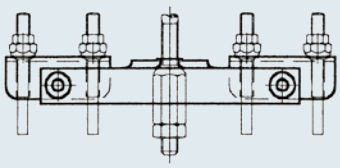


Accessories for tandem

Bolt-on tandem adapter bracket — Part No. 249236



Tandem compensation — Part No. 238576



BRAKED AXLE 1,000 KG

100 x 4

TECHNOLOGY

Model:	BASIC	Wheel brake:	2051	Wheel connection:	100x4
Axle type:	B 850-10	Suspension:	Hexagonal rubber suspension	Wheel bearing:	Compact bearing
Axle load:	SA 1,000 kg TA 2,000 kg	Swing arm:	158 mm	Centre hole rim:	min. 57 mm

AAA = AL-KO Automatic Adjustment
(automatic adjustment of the brake pads)

SAP: COMP-ACHSE GRM GLL EA1000

		Single axle		Tandem axle						
		Wheel bolts		Front axle wheel bolts		Rear axle wheel bolts				
		Taper M12x1.5	Taper M12x1.5	Taper M12x1.5	Taper M12x1.5	Taper M12x1.5	Taper M 12x1.5			
OHF in mm	BC in mm	Axle cpl. without AAA	Axle cpl. with AAA	Axle cpl. without AAA	Axle cpl. with AAA	Axle cpl. without AAA	Axle cpl. with AAA			
1,200	750	20032052	20061201	20032054	20061229	20032056	20061257	39	- 25	10
1,250	800	20032152	20061202	20032154	20061230	20032156	20061258	39	- 25	10
1,300	850	20032252	20061203	20032254	20061231	20032256	20061259	39	- 25	10
1,350	900	20032352	20061204	20032354	20061232	20032356	20061260	40	- 25	10
1,400	950	20032452	20061205	20032454	20061233	20032456	20061261	40	- 25	10
1,450	1,000	24914802	20061206	24914804	20061234	24914806	20061262	40	- 25	10
1,490	1,040	20032552	20061207	20032554	20061235	20032556	20061263	40	- 25	10
1,520	1,070	20032652	20061208	20032654	20061236	20032656	20061264	40	- 25	10
1,550	1,100	26704602	20061209	26704604	20061237	26704606	20061265	40	- 25	10
1,600	1,150	20032752	20061210	20032754	20061238	20032756	20061266	40	- 25	10
1,650	1,200	26704702	20061211	26704704	20061239	26704706	20061267	40	- 25	10
1,670	1,220	20032852	20061212	20032854	20061240	20032856	20061268	41	- 25	10
1,700	1,250	26704802	20061213	26704804	20061241	26704806	20061269	41	- 25	10
1,760	1,310	20032952	20061214	20032954	20061242	20032956	20061270	41	- 25	10
1,800	1,350	20033052	20061215	20033054	20061243	20033056	20061271	41	- 25	10
1,850	1,400	26704902	20061216	26704904	20061244	26704906	20061272	41	- 25	10
1,900	1,450	20033152	20061217	20033154	20061245	20033156	20061273	42	- 25	10
1,950	1,500	26705002	20061218	26705004	20061246	26705006	20061274	42	- 25	10
1,980	1,530	20033252	20061219	20033254	20061247	20033256	20061275	42	- 25	10
2,000	1,550	26705102	20061220	26705104	20061248	26705106	20061276	42	- 25	10
2,030	1,580	20033352	20061221	20033354	20061249	20033356	20061277	42	- 25	10
2,075	1,625	20033452	20061222	20033454	20061250	20033456	20061278	42	- 25	10
2,120	1,670	20033552	20061223	20033554	20061251	20033556	20061279	43	- 25	10
2,150	1,700	20033652	20061224	20033654	20061252	20033656	20061280	43	- 25	10
2,200	1,750	20033752	20061225	20033754	20061253	20033756	20061281	43	- 25	10
2,250	1,800	20033852	20061226	20033854	20061254	20033856	20061282	43	- 25	10
2,300	1,850	20033952	20061227	20033954	20061255	20033956	20061283	43	- 25	10
2,350	1,900	20034052	20061228	20034054	20061256	20034056	20061284	43	- 25	10

SCOPE OF SUPPLY

- Single axle adapter bracket welded on
- Compensation profile for single axle supplied
- Bowden cables loose
- Wheel bolts loose

Separate order for tandem

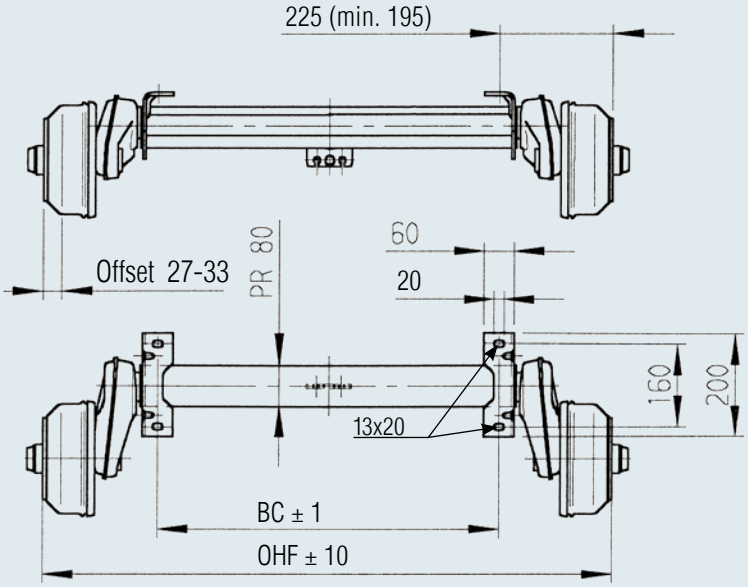
- Tandem adapter bracket, bolt-on 249236
- Tandem compensation 238576

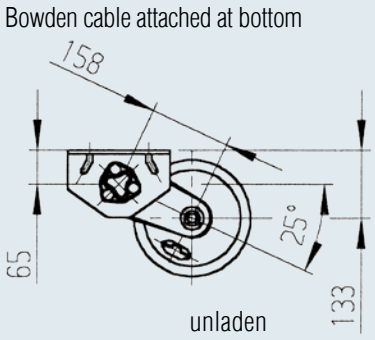
SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brake galvanised

ACCESSORIES

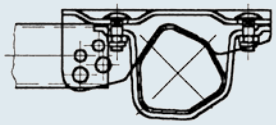
- Shock absorber
  (see table of contents)



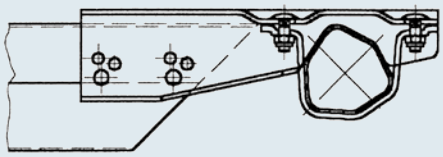


Accessories for bolt-on drawbar connection profiles

Ø 70 / Ø 88.9 / ☐ 60 / ☐ 70 / ☐ 100	Part No. 247853

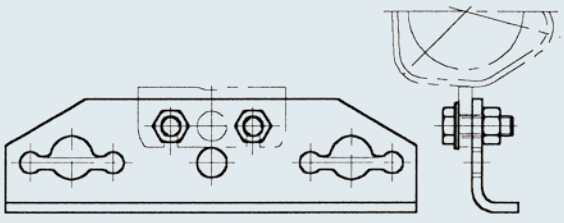


101 VB / 161 VB	Part No. 249116

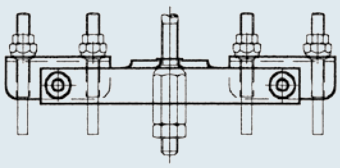


Accessories for tandem

Bolt-on tandem adapter bracket	Part No. 249236



Tandem compensation	Part No. 238576



BRAKED AXLE 1,000 KG

112 x 5

TECHNOLOGY

Model:	BASIC	Wheel brake:	2051	Wheel connection:	112x5
Axle type:	B 850-10	Suspension:	Hexagonal rubber suspension	Wheel bearing:	Compact bearing
Axle load:	SA 1,000 kg TA 2,000 kg	Swing arm:	158 mm	Centre hole rim:	min. 57 mm

AAA = AL-KO Automatic Adjustment
(automatic adjustment of the brake pads)

SAP: COMP-ACHSE GRM GLL EA1000

OHF in mm	BC in mm	Single axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Single axle Axle complete Wheel bolts Ball M 12x1.5 with AAA	Tandem front axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Tandem front axle Axle complete Wheel bolts Ball M 12x1.5 with AAA	Rear axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Rear axle Axle complete Wheel bolts Ball M 12x1.5 with AAA			
1,200	750	20015051	20058501	20015053	20058529	20015055	20058557	39	- 25	10
1,250	800	20015151	20058502	20015153	20058530	20015155	20058558	39	- 25	10
1,300	850	20015251	20058503	20015253	20058531	20015255	20058559	39	- 25	10
1,350	900	20015351	20058504	20015353	20058532	20015355	20058560	39	- 25	10
1,400	950	20015451	20058505	20015453	20058533	20015455	20058561	39	- 25	10
1,450	1,000	249149	20058506	24914903	20058534	24914905	20058562	40	- 25	2/10
1,490	1,040	20015551	20058507	20015553	20058535	20015555	20058563	40	- 25	10
1,520	1,070	20015651	20058508	20015653	20058536	20015655	20058564	40	- 25	10
1,550	1,100	249470	20058509	24947003	20058537	24947005	20058565	40	- 25	2/10
1,600	1,150	20015751	20058510	20015753	20058538	20015755	20058566	40	- 25	10
1,650	1,200	249471	20058511	24947103	20058539	24947105	20058567	40	- 25	2/10
1,670	1,220	20015851	20058512	20015853	20058540	20015855	20058568	41	- 25	10
1,700	1,250	249472	20058513	24947203	20058541	24947205	20058569	41	- 25	2/10
1,760	1,310	20015951	20058514	20015953	20058542	20015955	20058570	41	- 25	10
1,800	1,350	20016051	20058515	20016053	20058543	20016055	20058571	41	- 25	10
1,850	1,400	249473	20058516	24947303	20058544	24947305	20058572	41	- 25	2/10
1,900	1,450	20016151	20058517	20016153	20058545	20016155	20058573	41	- 25	10
1,950	1,500	249474	20058518	24947403	20058546	24947405	20058574	42	- 25	2/10
1,980	1,530	20016251	20058519	20016253	20058547	20016255	20058575	42	- 25	10
2,000	1,550	249475	20058520	24947503	20058548	24947505	20058576	42	- 25	2/10
2,030	1,580	20016351	20058521	20016353	20058549	20016355	20058577	42	- 25	10
2,075	1,625	20016451	20058522	20016453	20058550	20016455	20058578	42	- 25	10
2,120	1,670	20016551	20058523	20016553	20058551	20016555	20058579	42	- 25	10
2,150	1,700	20016651	20058524	20016653	20058552	20016655	20058580	43	- 25	10
2,200	1,750	20016751	20058525	20016753	20058553	20016755	20058581	43	- 25	10
2,250	1,800	20016851	20058526	20016853	20058554	20016855	20058582	43	- 25	10
2,300	1,850	20016951	20058527	20016953	20058555	20016955	20058583	43	- 25	10
2,350	1,900	20017051	20058528	20017053	20058556	20017055	20058584	43	- 25	10

SCOPE OF SUPPLY

- Single axle adapter bracket welded on
- Compensation profile for single axle supplied
- Bowden cables loose
- Wheel bolts loose

Separate order for tandem

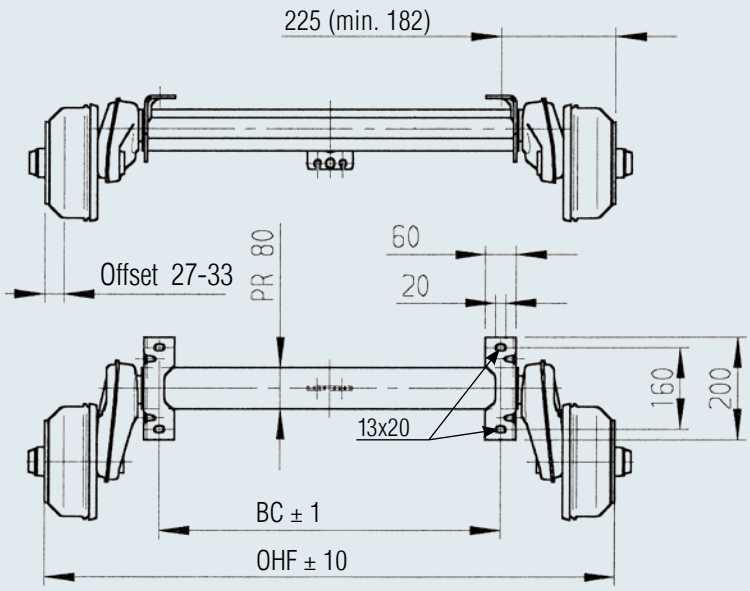
- Tandem adapter bracket, bolt-on 249236
- Tandem compensation 238576

SURFACE TREATMENT

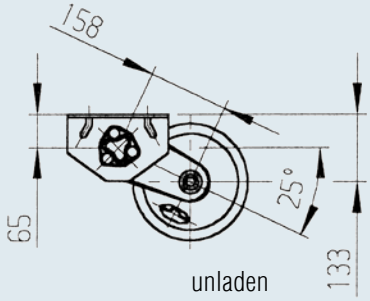
- Axle profile hot-dip galvanised
- Wheel brake galvanised

ACCESSORIES

- Shock absorber
  (see table of contents)

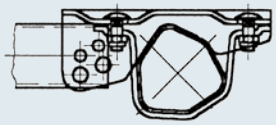


Bowden cable attached at bottom

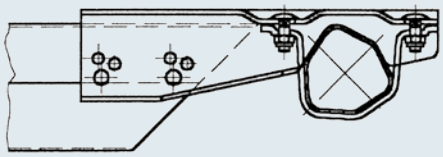


Accessories for bolt-on drawbar connection profiles

Ø 70 / Ø 88.9 / ☐ 60 / ☐ 70 / ☐ 100 — Part No. 247853

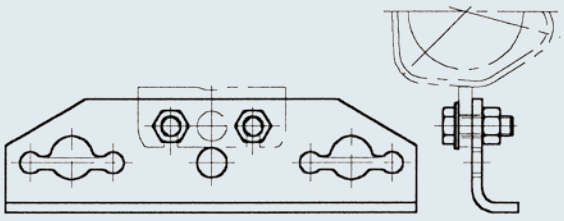


101 VB / 161 VB — Part No. 249116

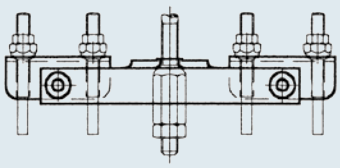


Accessories for tandem

Bolt-on tandem adapter bracket — Part No. 249236



Tandem compensation — Part No. 238576



BRAKED AXLE 1,350 KG

112 x 5

TECHNOLOGY

Model:	BASIC	Wheel brake:	2051	Wheel connection:	112x5
Axle type:	B 1200-6	Suspension:	Hexagonal rubber suspension	Wheel bearing:	Compact bearing
Axle load:	SA 1,350 kg TA 2,700 kg	Swing arm:	161.5 mm	Centre hole rim:	min. 57 mm

AAA = AL-KO **A**utomatic **A**djustment
(automatic adjustment of the brake pads)

SAP: COMP-ACHSE GRM GLL EA1350

OHF in mm	BC in mm	Single axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Single axle Axle complete Wheel bolts Ball M 12x1.5 with AAA	Tandem front axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Tandem front axle Axle complete Wheel bolts Ball M 12x1.5 with AAA	Rear axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Rear axle Axle complete Wheel bolts Ball M 12x1.5 with AAA			
1,200	750	20000151	20058601	20000153	20058630	20000155	20058660	44	- 25	10
1,250	800	20000251	20058602	20000253	20058631	20000255	20058661	44	- 25	10
1,300	850	20000351	20058603	20000353	20058632	20000355	20058662	44	- 25	10
1,350	900	20000451	20058604	20000453	20058633	20000455	20058663	44	- 25	10
1,400	950	20000551	20058605	20000553	20058634	20000555	20058664	44	- 25	10
1,450	1,000	247547	1225996	24754703	20058635	24754705	20058665	45	- 25	2/10
1,490	1,040	20000651	20058606	20000653	20058636	20000655	20058666	45	- 25	10
1,520	1,070	20000751	20058607	20000753	20058637	20000755	20058667	45	- 25	10
1,550	1,100	247548	20058608	24754803	20058638	24754805	20058668	45	- 25	2/10
1,600	1,150	20000851	20058609	20000853	20058639	20000855	20058669	45	- 25	10
1,650	1,200	247549	20058610	24754903	20058640	24754905	20058670	45	- 25	2/10
1,670	1,220	20000951	20058611	20000953	20058641	20000955	20058671	46	- 25	10
1,700	1,250	247550	20058612	24755003	20058642	24755005	20058672	46	- 25	2/10
1,750	1,300	20002051	20058613	20002053	20058643	20002055	20058673	46	- 25	2/10
1,760	1,310	20001051	20058614	20001053	20058644	20001055	20058674	46	- 25	10
1,800	1,350	20001151	20058615	20001153	20058645	20001155	20058675	46	- 25	2/10
1,850	1,400	247551	20058616	24755103	20058646	24755105	20058676	47	- 25	2/10
1,900	1,450	20001251	20058617	20001253	20058647	20001255	20058677	47	- 25	10
1,950	1,500	247552	20058618	24755203	20058648	24755205	20058678	47	- 25	2/10
1,980	1,530	20001351	20058619	20001353	20058649	20001355	20058679	47	- 25	10
2,000	1,550	247553	20058620	24755303	20058650	24755305	20058680	49	- 25	2/10
2,030	1,580	20001451	20058621	20001453	20058651	20001455	20058681	49	- 25	10
2,050	1,600	20002151	20058622	20002153	20058652	20002155	20058682	49	- 25	2/10
2,075	1,625	20001551	20058623	20001553	20058653	20001555	20058683	49	- 25	10
2,120	1,670	20001651	20058624	20001653	20058654	20001655	20058684	49	- 25	10
2,150	1,700	247554	20058625	24755403	20058655	24755405	20058685	50	- 25	2/10
2,200	1,750	20001751	20058626	20001753	20058656	20001755	20058686	50	- 25	2/10
2,250	1,800	247555	20058627	24755503	20058657	24755505	20058687	51	- 25	2/10
2,300	1,850	20001851	20058628	20001853	20058658	20001855	20058688	51	- 25	10
2,350	1,900	20001951	20058629	20001953	20058659	20001955	20058689	51	- 25	2/10

SCOPE OF SUPPLY

- Single axle adapter bracket welded on
- Compensation profile for single axle supplied
- Bowden cables loose
- Wheel bolts loose

Separate order for tandem

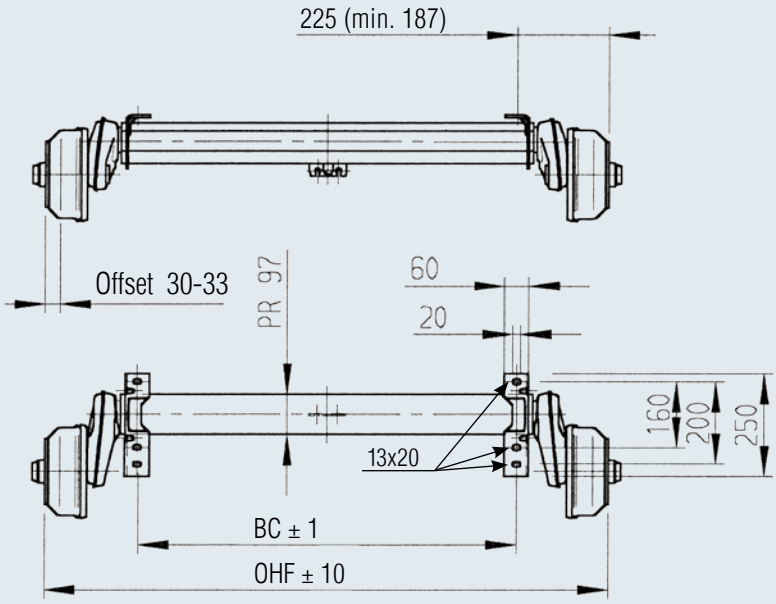
- Tandem adapter bracket, bolt-on 249236
- Tandem compensation 238576

SURFACE TREATMENT

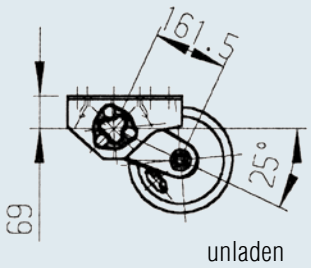
- Axle profile hot-dip galvanised
- Wheel brake galvanised

ACCESSORIES

- Shock absorber
  (see table of contents)

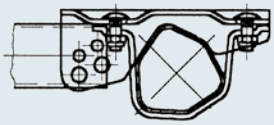


Bowden cable attached at bottom

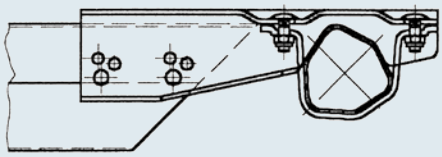


Accessories for bolt-on drawbar connection profiles

Ø 70 / Ø 88.9 / ☐ 70 / ☐ 100 — Part No. 247684

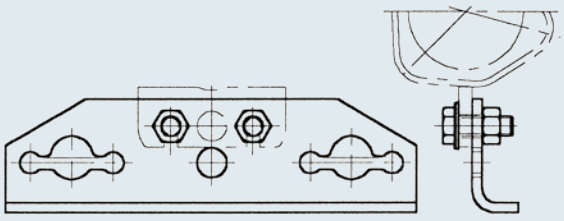


161 VB / 251 VB — Part No. 249117

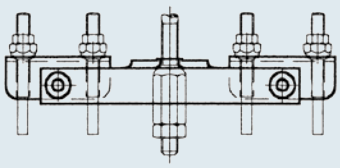


Accessories for tandem

Bolt-on tandem adapter bracket — Part No. 249236



Tandem compensation — Part No. 238576

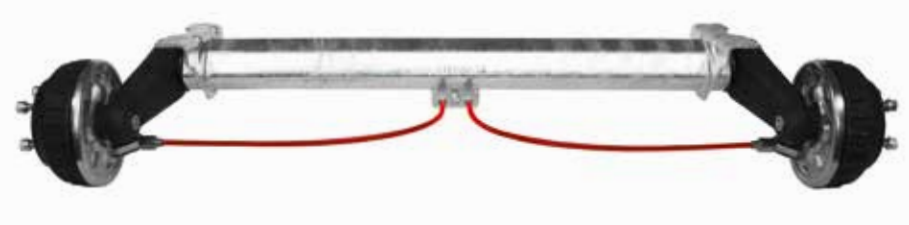


BRAKED AXLE 1,350 KG

112 x 5

TECHNOLOGY

Model:	PLUS	Wheel brake:	2051	Wheel connection:	112x5
Axle type:	B 1200-6	Suspension:	Hexagonal rubber suspension	Wheel bearing:	Reinforced compact bearing
Axle load:	SA 1,350 kg TA 2,700 kg	Swing arm:	175 mm	Centre hole rim:	min. 57 mm



AAA = AL-KO **A**utomatic **A**djustment
(automatic adjustment of the brake pads)

SAP: EURO1ACHSE GRM GLL EA1350

OHF in mm	BC in mm	Single axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Single axle Axle complete Wheel bolts Ball M 12x1.5 with AAA	Tandem front axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Tandem front axle Axle complete Wheel bolts Ball M 12x1.5 with AAA	Rear axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Rear axle Axle complete Wheel bolts Ball M 12x1.5 with AAA			
1,250	800	20001601	20058901	20001603	20058927	20001605	20058953	49	- 25	10
1,300	850	20001701	20058902	20001703	20058928	20001705	20058954	49	- 25	10
1,350	900	20000101	20058903	20000103	20058929	20000105	20058955	49	- 25	10
1,400	950	20000201	20058904	20000203	20058930	20000205	20058956	49	- 25	10
1,450	1,000	244038	20058905	24403803	20058931	24403805	20058957	50	- 25	10
1,490	1,040	20000301	20058906	20000303	20058932	20000305	20058958	50	- 25	10
1,520	1,070	20000401	20058907	20000403	20058933	20000405	20058959	50	- 25	10
1,550	1,100	244039	20058908	24403903	20058934	24403905	20058960	51	- 25	10
1,600	1,150	20000501	20058909	20000503	20058935	20000505	20058961	51	- 25	10
1,650	1,200	244040	20058910	24404003	20058936	24404005	20058962	52	- 25	10
1,670	1,220	20000601	20058911	20000603	20058937	20000605	20058963	52	- 25	10
1,700	1,250	244041	20058912	24404103	20058938	24404105	20058964	53	- 25	10
1,760	1,310	20000701	20058913	20000703	20058939	20000705	20058965	53	- 25	10
1,800	1,350	20000801	20058914	20000803	20058940	20000805	20058966	53	- 25	10
1,850	1,400	244042	20058915	24404203	20058941	24404205	20058967	53	- 25	10
1,900	1,450	20000901	20058916	20000903	20058942	20000905	20058968	54	- 25	10
1,950	1,500	244043	20058917	24404303	20058943	24404305	20058969	54	- 25	10
1,980	1,530	20001001	20058918	20001003	20058944	20001005	20058970	54	- 25	10
2,000	1,550	244044	20058919	24404403	20058945	24404405	20058971	55	- 25	10
2,030	1,580	20001101	20058920	20001103	20058946	20001105	20058972	55	- 25	10
2,075	1,625	20001201	20058921	20001203	20058947	20001205	20058973	55	- 25	10
2,120	1,670	20001301	20058922	20001303	20058948	20001305	20058974	55	- 25	10
2,150	1,700	244045	20058923	24404503	20058949	24404505	20058975	56	- 25	10
2,200	1,750	20001401	20058924	20001403	20058950	20001405	20058976	56	- 25	10
2,250	1,800	244046	20058925	24404603	20058951	24404605	20058977	57	- 25	10
2,300	1,850	20001501	20058926	20001503	20058952	20001505	20058978	57	- 25	10

SCOPE OF SUPPLY

- Single axle adapter bracket welded on (single axle and tandem adapter bracket)
- Compensation profile for single axle supplied
- Bowden cables loose
- Wheel bolts loose

Separate order for tandem

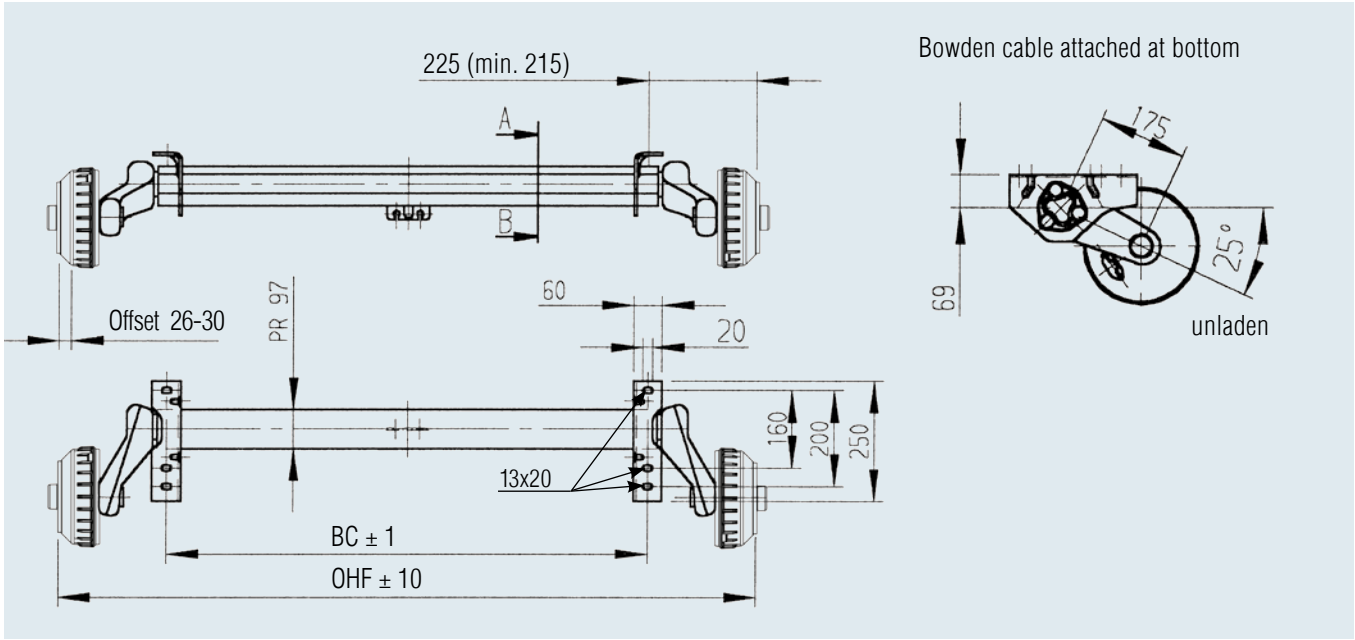
- Tandem adapter bracket, bolt-on 249236
- Tandem compensation 238576

SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brake galvanised

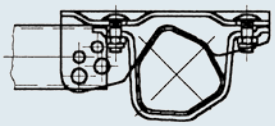
ACCESSORIES

- Shock absorber
  (see table of contents)

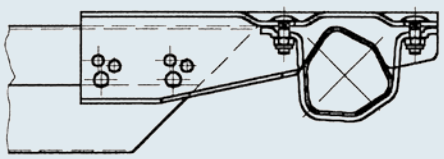


Accessories for bolt-on drawbar connection profiles

Ø 70 / Ø 88,9 / ☐ 70 / ☐ 100 — **Part No. 247684**

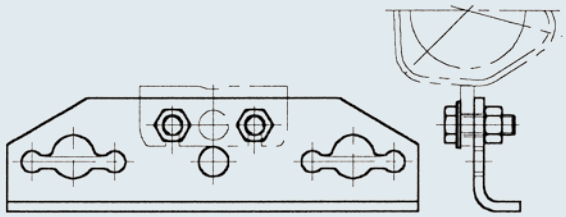


161 VB / 251 VB — **Part No. 249117**

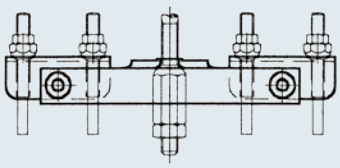


Accessories for tandem

Bolt-on tandem adapter bracket — **Part No. 249236**



Tandem compensation — **Part No. 238576**



BRAKED AXLE 1,500 KG

112 x 5

TECHNOLOGY

Model:	BASIC	Wheel brake:	2051	Wheel connection:	112x5
Axle type:	B 1600-3	Suspension:	Hexagonal rubber suspension	Wheel bearing:	Compact bearing
Axle load:	SA 1,500 kg TA 3,000 kg	Swing arm:	161.5 mm	Centre hole rim:	min. 57 mm

AAA = AL-KO **A**utomatic **A**djustment
(automatic adjustment of the brake pads)

SAP: COMP-ACHSE GRM GLL EA1500

OHF in mm	BC in mm	Single axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Single axle Axle complete Wheel bolts Ball M 12x1.5 with AAA	Tandem front axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Tandem front axle Axle complete Wheel bolts Ball M 12x1.5 with AAA	Rear axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Rear axle Axle complete Wheel bolts Ball M 12x1.5 with AAA			
1,250	800	20021051	20058701	20021053	20058729	20021055	20058758	50	- 25	10
1,300	850	20021151	20058702	20021153	20058730	20021155	20058759	50	- 25	10
1,350	900	20021251	20058703	20021253	20058731	20021255	20058760	50	- 25	10
1,400	950	20021351	20058704	20021353	20058732	20021355	20058761	50	- 25	10
1,450	1,000	247556	20058705	24755603	20058733	24755605	20058762	50	- 25	2/10
1,490	1,040	20021451	20058706	20021453	20058734	20021455	20058763	51	- 25	10
1,520	1,070	20021551	20058707	20021553	20058735	20021555	20058764	51	- 25	10
1,550	1,100	247557	20058708	24755703	20058736	24755705	20058765	51	- 25	2/10
1,600	1,150	20021651	20058709	20021653	20058737	20021655	20058766	51	- 25	10
1,650	1,200	247558	20058710	24755803	20058738	24755805	20058767	53	- 25	2/10
1,670	1,220	20021751	20058711	20021753	20058739	20021755	20058768	53	- 25	10
1,700	1,250	247559	20058712	24755903	20058740	24755905	20058769	53	- 25	2/10
1,750	1,300	20020851	20058713	20020853	20058741	20020855	20058770	53	- 25	2/10
1,760	1,310	20021851	20058714	20021853	20058742	20021855	20058771	53	- 25	10
1,800	1,350	20021951	20058715	20021953	20058743	20021955	20058772	54	- 25	10
1,850	1,400	247560	1225995	24756003	20058744	24756005	20058773	54	- 25	2/10
1,900	1,450	20022051	20058716	20022053	20058745	20022055	20058774	54	- 25	10
1,950	1,500	247561	20058717	24756103	20058746	24756105	20058775	55	- 25	2/10
1,980	1,530	20022151	20058718	20022153	20058747	20022155	20058776	55	- 25	10
2,000	1,550	247562	20058719	24756203	20058748	24756205	20058777	55	- 25	2/10
2,030	1,580	20022251	20058720	20022253	20058749	20022255	20058778	55	- 25	10
2,050	1,600	20020951	20058721	20020953	20058750	20020955	20058779	56	- 25	2/10
2,075	1,625	20022351	20058722	20022353	20058751	20022355	20058780	56	- 25	10
2,120	1,670	20022451	20058723	20022453	20058752	20022455	20058781	56	- 25	10
2,150	1,700	247563	20058724	24756303	20058753	24756305	20058782	57	- 25	2/10
2,200	1,750	20022551	20058725	20022553	20058754	20022555	20058783	57	- 25	10
2,250	1,800	20022651	20058726	20022653	20058755	20022655	20058784	57	- 25	10
2,300	1,850	20022751	20058727	20022753	20058756	20022755	20058785	58	- 25	10
2,350	1,900	20022851	20058728	20022853	20058757	20022855	20058786	58	- 25	2/10

SCOPE OF SUPPLY

- Single axle adapter bracket welded on
- Compensation profile for single axle supplied
- Bowden cables loose
- Wheel bolts loose

Separate order for tandem

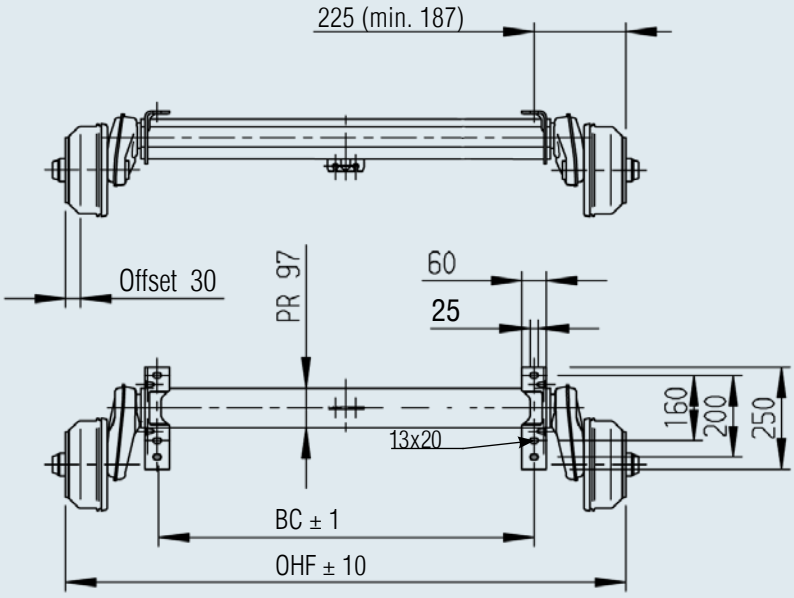
- Tandem adapter bracket, bolt-on 249236
- Tandem compensation 238576

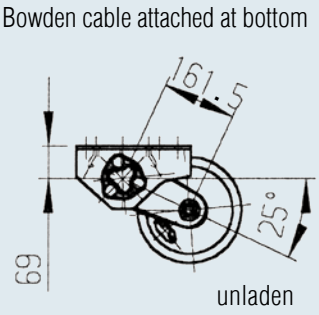
SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brake galvanised

ACCESSORIES

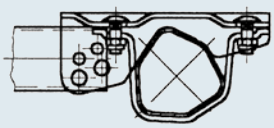
- Shock absorber
  (see table of contents)



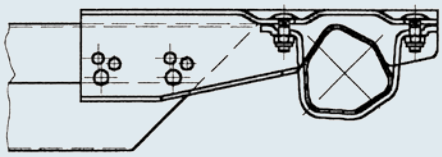


Accessories for bolt-on drawbar connection profiles

Ø 70 / Ø 88.9 / ☐ 70 / ☐ 100 — Part No. 247684

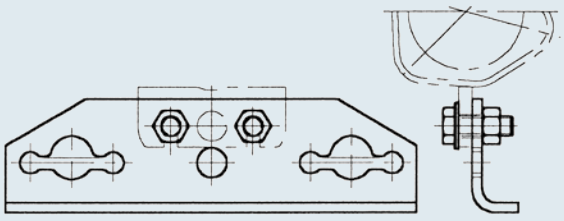


161 VB / 251 VB — Part No. 249117

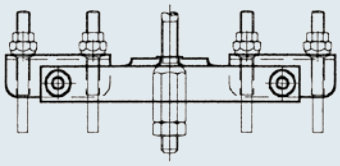


Accessories for tandem

Bolt-on tandem adapter bracket — Part No. 249236



Tandem compensation — Part No. 238576



BRAKED AXLE 1,600 KG

112 x 5

TECHNOLOGY

Model:	BASIC	Wheel brake:	2361	Wheel connection:	112x5
Axle type:	B 1600-1	Suspension:	Hexagonal rubber suspension	Wheel bearing:	Compact bearing
Axle load:	SA 1,600 kg TA 3,200 kg	Swing arm:	160 mm	Centre hole rim:	min. 63 mm

AAA = AL-KO Automatic Adjustment
(automatic adjustment of the brake pads)

SAP: EURO1ACHSE GRM GLL EA1600

OHF in mm	BC in mm	Single axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Single axle Axle complete Wheel bolts Ball M 12x1.5 with AAA	Tandem front axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Tandem front axle Axle complete Wheel bolts Ball M 12x1.5 with AAA	Rear axle Axle complete Wheel bolts Ball M 12x1.5 without AAA	Rear axle Axle complete Wheel bolts Ball M 12x1.5 with AAA			
1,320	850	20001901	20060101	20001903	20060126	20001905	20060151	68	- 20	10
1,370	900	20002001	20060102	20002003	20060127	20002005	20060152	68	- 20	10
1,420	950	20002101	20060103	20002103	20060128	20002105	20060153	68	- 20	10
1,470	1,000	244049	20060104	24404903	20060129	24404905	20060154	69	- 20	2/10
1,510	1,040	20002201	20060105	20002203	20060130	20002205	20060155	69	- 20	10
1,540	1,070	20002301	20060106	20002303	20060131	20002305	20060156	69	- 20	10
1,570	1,100	244050	20060107	24405003	20060132	24405005	20060157	71	- 20	2/10
1,620	1,150	20002401	20060108	20002403	20060133	20002405	20060158	71	- 20	10
1,670	1,200	244051	20060109	24405103	20060134	24405105	20060159	72	- 20	2/10
1,690	1,220	20002501	20060110	20002503	20060135	20002505	20060160	72	- 20	10
1,720	1,250	244052	20060111	24405203	20060136	24405205	20060161	73	- 20	2/10
1,780	1,310	20002601	20060112	20002603	20060137	20002605	20060162	73	- 20	10
1,820	1,350	20002701	20060113	20002703	20060138	20002705	20060163	73	- 20	10
1,870	1,400	244053	20060114	24405303	20060139	24405305	20060164	74	- 20	2/10
1,920	1,450	20002801	20060115	20002803	20060140	20002805	20060165	74	- 20	10
1,970	1,500	244054	20060116	24405403	20060141	24405405	20060166	75	- 20	2/10
2,000	1,530	20002901	20060117	20002903	20060142	20002905	20060167	75	- 20	10
2,020	1,550	244055	20060118	24405503	20060143	24405505	20060168	75	- 20	2/10
2,050	1,580	20003001	20060119	20003003	20060144	20003005	20060169	75	- 20	10
2,095	1,625	20003101	20060120	20003103	20060145	20003105	20060170	75	- 20	10
2,140	1,670	20003201	20060121	20003203	20060146	20003205	20060171	75	- 20	10
2,170	1,700	244056	20060122	24405603	20060147	24405605	20060172	76	- 20	2/10
2,220	1,750	20003301	20060123	20003303	20060148	20003305	20060173	76	- 20	10
2,270	1,800	20003401	20060124	20003403	20060149	20003405	20060174	76	- 20	10
2,320	1,850	20003501	20060125	20003503	20060150	20003505	20060175	76	- 20	10

SCOPE OF SUPPLY

- Single axle adapter bracket welded on
- Compensation profile for single axle supplied
- Bowden cables loose
- Wheel bolts loose

Separate order for tandem

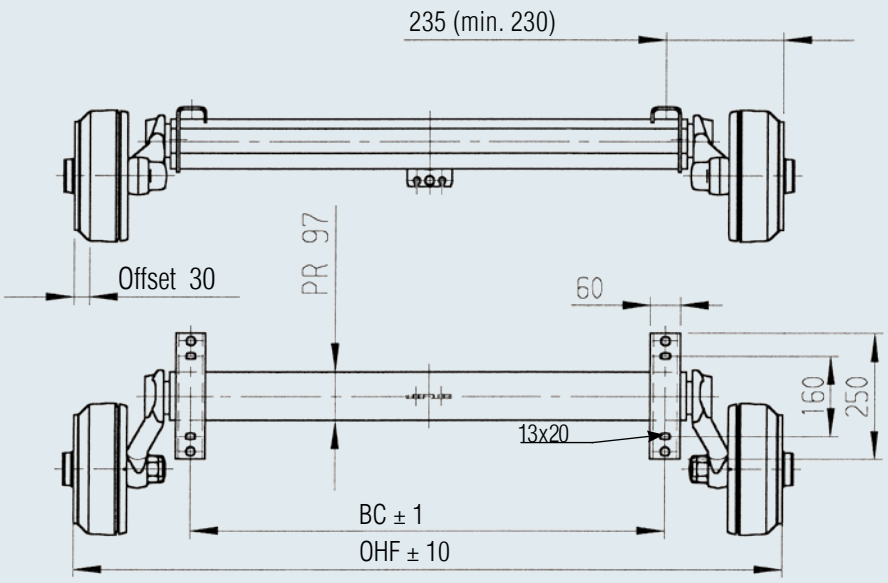
- Tandem adapter bracket, bolt-on 249236
- Tandem compensation 238576

SURFACE TREATMENT

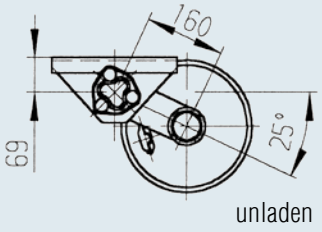
- Axle profile hot-dip galvanised
- Wheel brake galvanised

ACCESSORIES

- Shock absorber
  (see table of contents)



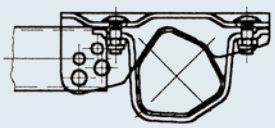
Bowden cable attached at bottom



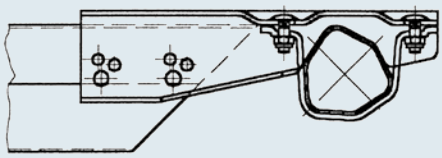
unladen

Accessories for bolt-on drawbar connection profiles

Ø 70 / Ø 88.9 / ☐ 70 / ☐ 100 — Part No. 247684

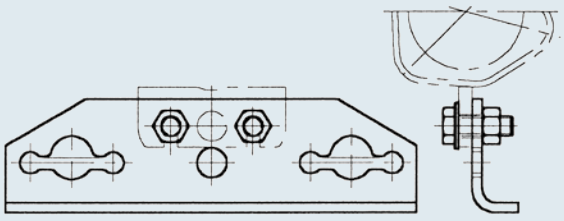


161 VB / 251 VB — Part No. 249117

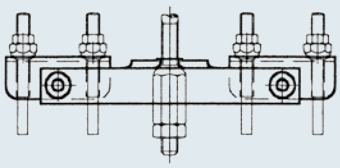


Accessories for tandem

Bolt-on tandem adapter bracket — Part No. 249236



Tandem compensation — Part No. 238576

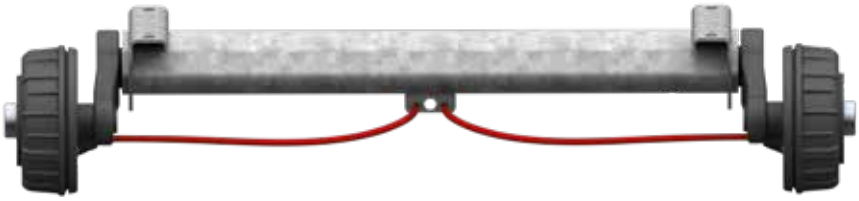


BRAKED AXLE 1,800 KG

112 x 5

TECHNOLOGY

Model:	BASIC	Wheel brake:	2361	Wheel connection:	112x5
Axle type:	B 1800-9	Suspension:	Hexagonal rubber suspension	Wheel bearing:	Compact bearing
Axle load:	SA 1,800 kg TA 1,750 kg (3,500 kg)	Swing arm:	160 mm	Centre hole rim:	min. 63 mm



Minimum order quantity per date and item number is

20 units

SAP: ACHSE GU LNGS GRM EA1800 BASIC

OHF in mm	BC in mm	❶ Single axle Axle complete Wheel bolts Ball M 12x1.5	❷ Tandem front axle Axle complete Wheel bolts Ball M 12x1.5	❸ Rear axle Axle complete Wheel bolts Ball M 12x1.5	Select rear axle from column ❸ Single and tandem axle Front axle with top hat profile and fixing bolts Wheel bolts Ball M12x1.5				
1,370	900	20064001	20064040	20064080	20064120	73.9	-	20	25
1,420	950	20064002	20064041	20064081	20064121	74.4	-	20	25
1,470	1,000	1701879	20064042	20064082	20064122	74.9	-	20	25
1,520	1,050	20064003	20064043	20064083	20064123	75.4	-	20	25
1,570	1,100	20064004	20064044	20064084	20064124	75.9	-	20	25
1,620	1,150	20064005	20064045	20064085	20064125	76.4	-	20	25
1,670	1,200	20064006	20064046	20064086	20064126	76.9	-	20	25
1,720	1,250	20064007	20064047	20064087	20064127	77.4	-	20	25
1,770	1,300	20064008	20064048	20064088	20064128	77.9	-	20	25
1,820	1,350	20064009	20064049	20064089	20064129	78.4	-	20	25
1,870	1,400	20064010	20064050	20064090	20064130	78.9	-	20	25
1,920	1,450	20064011	20064051	20064091	20064131	79.4	-	20	25
1,970	1,500	20064012	20064052	20064092	20064132	79.9	-	20	25
2,020	1,550	20064013	20064053	20064093	20064133	80.4	-	20	25
2,070	1,600	20064014	20064054	20064094	20064134	80.9	-	20	25
2,120	1,650	20064015	20064055	20064095	20064135	81.4	-	20	25
2,170	1,700	20064016	20064056	20064096	20064136	81.9	-	20	25
2,220	1,750	20064017	20064057	20064097	20064137	82.4	-	20	25
2,270	1,800	20064018	20064058	20064098	20064138	82.9	-	20	25
2,320	1,850	20064019	20064059	20064099	20064139	83.4	-	20	25

SCOPE OF SUPPLY

- Single axle adapter bracket welded on (single axle and tandem adapter bracket)
- Compensation profile for single axle supplied
- Bowden cables loose
- Wheel bolts loose

Separate order for tandem

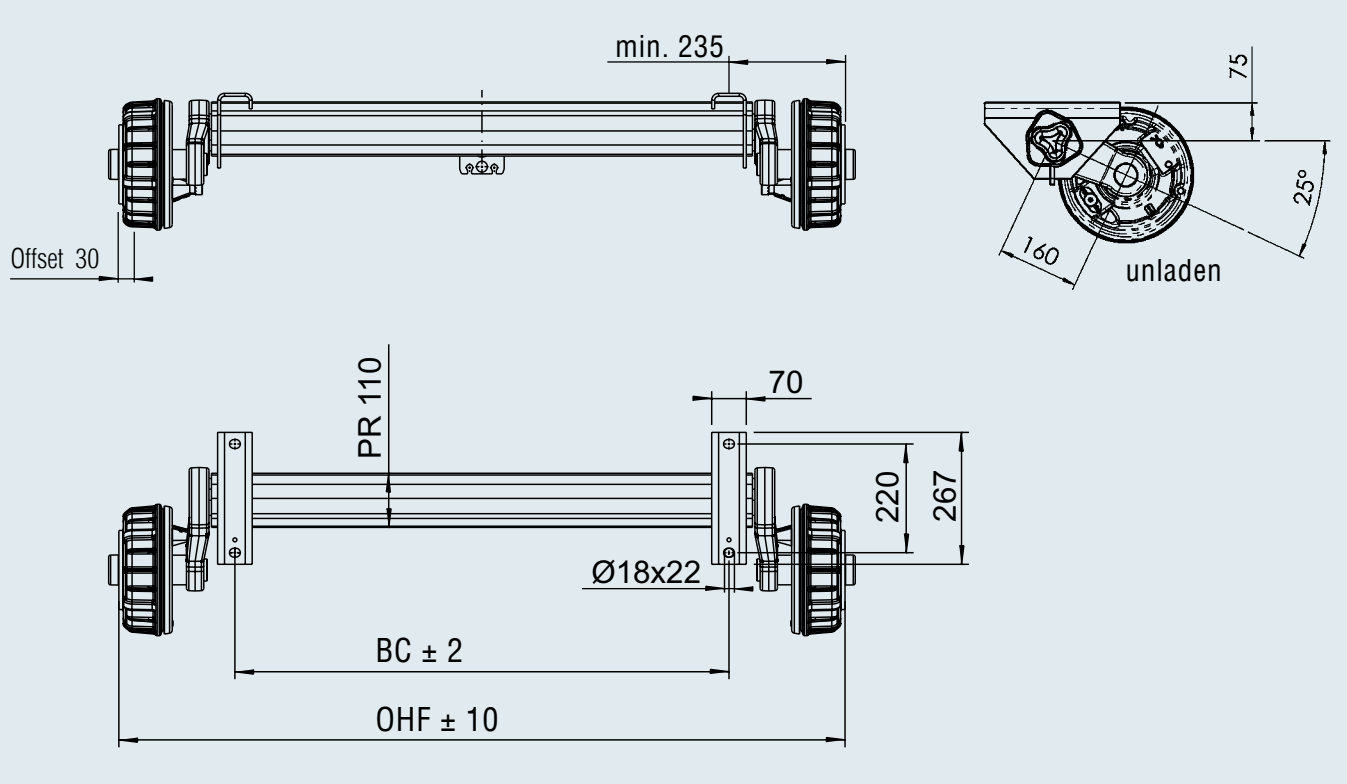
- Tandem adapter bracket, bolt-on 249236
- Tandem compensation 238576

SURFACE TREATMENT

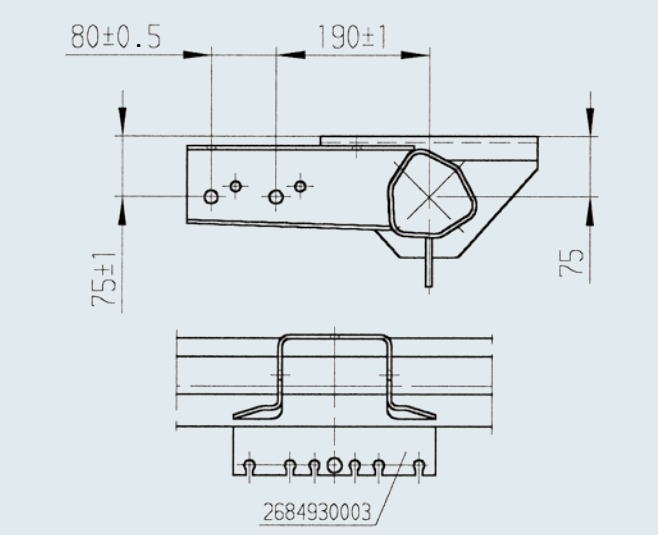
- Axle profile hot-dip galvanised
- Wheel brake cataphoretically coated

ACCESSORIES

- Shock absorber
  (see table of contents)

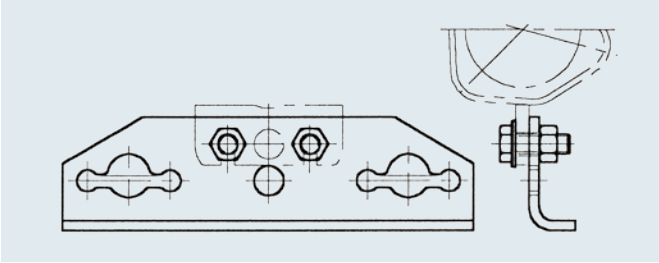


Accessories for top hat profile incl. adapter bracket for single axle and tandem

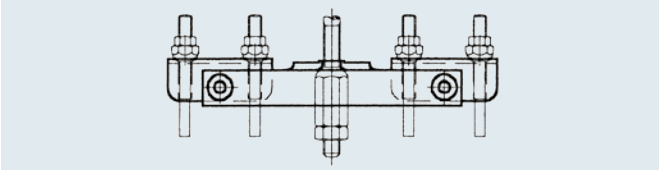


Accessories for tandem

Bolt-on tandem adapter bracket — **Part No. 249236**



Tandem compensation — **Part No. 238576**



BRAKED AXLE 1,800 KG

112 x 5

TECHNOLOGY

Model:	PLUS	Wheel brake:	2361	Wheel connection:	112x5
Axle type:	B 1800-9	Suspension:	Hexagonal rubber suspension	Wheel bearing:	Compact bearing
Axle load:	SA 1,800 kg TA 1,750 kg (3,500 kg)	Swing arm:	175 mm	Centre hole rim:	min. 63 mm

AAA = AL-KO Automatic Adjustment
(automatic adjustment of the brake pads)

SAP: EURO1ACHSE GRM GLL EA1800

		❶ Single axle Axle complete Wheel bolts Ball M 12x1.5		❷ Tandem front axle Axle complete Wheel bolts Ball M 12x1.5		❸ Rear axle Axle complete Wheel bolts Ball M 12x1.5		Select rear axle from column ❸ Single and tandem axle Front axle with top hat profile and fixing bolts Wheel bolts Ball M12x1.5					
OHF in mm	BC in mm	without AAA	with AAA	without AAA	with AAA	without AAA	with AAA	without AAA	with AAA				
1,400	900	20005001	20060201	20005003	20060227	20005005	20060253	20005007	20060301	73	-	20	10
1,450	950	20005101	20060202	20005103	20060228	20005105	20060254	20005107	20060302	73	-	20	10
1,500	1,000	244057	20060203	24405703	20060229	24405705	20060255	24405707	20060303	73	-	20	2/10
1,540	1,040	20005201	20060204	20005203	20060230	20005205	20060256	20005207	20060304	74	-	20	10
1,560	1,070	20005301	20060205	20005303	20060231	20005305	20060257	20005307	20060305	74	-	20	10
1,600	1,100	244058	20060206	24405803	20060232	24405805	20060258	24405807	20060306	74	-	20	2/10
1,650	1,150	20005401	20060207	20005403	20060233	20005405	20060259	20005407	20060307	75	-	20	10
1,700	1,200	244059	20060208	24405903	20060234	24405905	20060260	24405907	20060308	75	-	20	2/10
1,720	1,220	20005501	20060209	20005503	20060235	20005505	20060261	20005507	20060309	75	-	20	10
1,750	1,250	244060	20060210	24406003	20060236	24406005	20060262	24406007	20060310	76	-	20	10
1,800	1,300	1210318	20060211	20004903	20060237	20004905	20060263	20004907	20060311	76	-	20	2/10
1,810	1,310	20005601	20060212	20005603	20060238	20005605	20060264	20005607	20060312	76	-	20	10
1,850	1,350	20005701	20060213	20005703	20060239	20005705	20060265	20005707	20060313	76	-	20	10
1,900	1,400	244061	20060214	24406103	20060240	24406105	20060266	24406107	20060314	77	-	20	2/10
1,950	1,450	20005801	20060215	20005803	20060241	20005805	20060267	20005807	20060315	77	-	20	10
2,000	1,500	244062	20060216	24406203	20060242	24406205	20060268	24406207	20060316	78	-	20	2/10
2,030	1,530	20005901	20060217	20005903	20060243	20005905	20060269	20005907	20060317	78	-	20	10
2,050	1,550	244063	20060218	24406303	20060244	24406305	20060270	24406307	20060318	79	-	20	10
2,080	1,580	20006001	20060219	20006003	20060245	20006005	20060271	20006007	20060319	79	-	20	10
2,100	1,600	244101	20060220	24410103	20060246	24410105	20060272	24410107	20060320	79	-	20	2/10
2,125	1,625	20006101	20060221	20006103	20060247	20006105	20060273	20006107	20060321	80	-	20	10
2,170	1,670	20006201	20060222	20006203	20060248	20006205	20060274	20006207	20060322	80	-	20	10
2,200	1,700	244064	20060223	24406403	20060249	24406405	20060275	24406407	20060323	80	-	20	2/10
2,250	1,750	20006301	20060224	20006303	20060250	20006305	20060276	20006307	20060324	81	-	20	10
2,300	1,800	20006401	20060225	20006403	20060251	20006405	20060277	20006407	20060325	81	-	20	2/10
2,350	1,850	20006501	20060226	20006503	20060252	20006505	20060278	20006507	20060326	81	-	20	10

SCOPE OF SUPPLY

- Single axle adapter bracket welded on (single axle and tandem adapter bracket)
- Compensation profile for single axle supplied
- Bowden cables loose
- Wheel bolts loose

Separate order for tandem

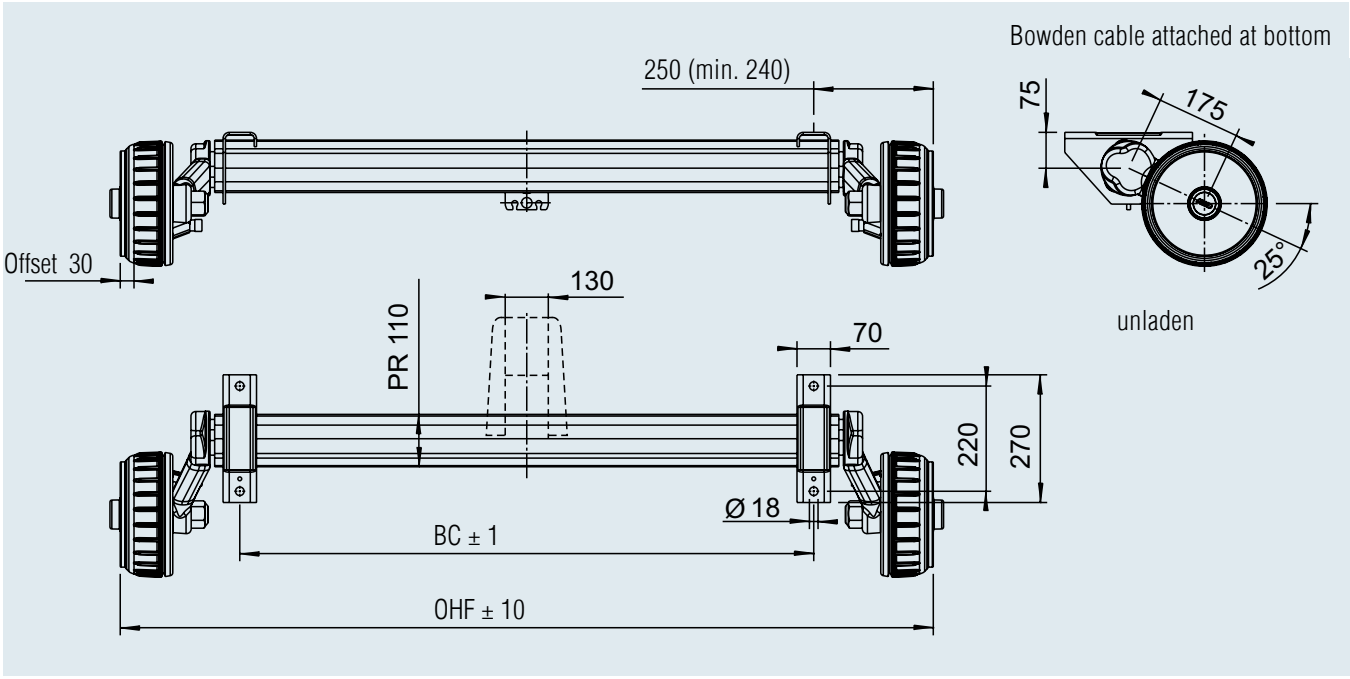
- Tandem adapter bracket, bolt-on 249236
- Tandem compensation 238576

SURFACE TREATMENT

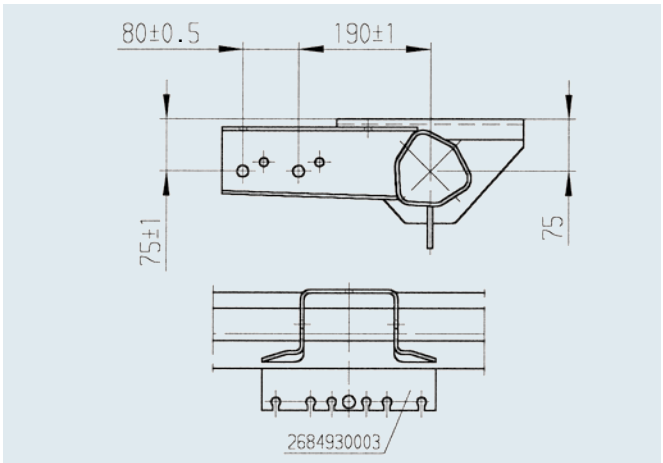
- Axle profile hot-dip galvanised
- Wheel brake galvanised

ACCESSORIES

- Shock absorber
  (see table of contents)

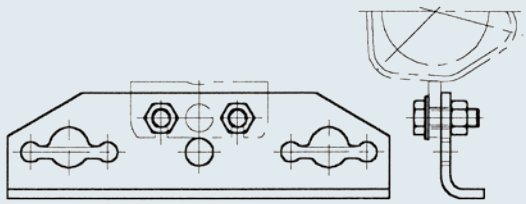


Accessories for top hat profile incl. adapter bracket for single axle and tandem

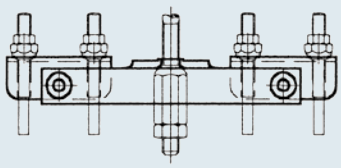


Accessories for tandem

Bolt-on tandem adapter bracket — **Part No. 249236**



Tandem compensation — **Part No. 238576**



BRAKED AXLE 2,500 KG

205 x 6

TECHNOLOGY

Model:	PLUS	Suspension:	Hexagonal rubber suspension
Axle type:	B 2500-8	Swing arm:	200 mm
Axle load:	SA 2,500 kg	Wheel connection:	205x6
Wheel brake:	3062 or 3081A *(See table)*	Wheel bearing:	Tapered roller bearing
		Centre hole rim:	min. 161 mm

SAP: ACHSE GU LNGS GRM EA2500

		Single axle Wheel nuts M 18x1.5 Ball Wheel brake		Front axle with top hat profile and fixing bolts Wheel brake		Single axle in kg		
		3081A	3062	3081A	3062	3081A	3062	
OHF in mm	BC in mm	Axle cpl.	Axle cpl.	Axle cpl.	Axle cpl.			
1,430	900	20039000	20054200	20039068	20054275	129	121	10
1,480	950	20039001	20054201	20039069	20054276	129	121	10
1,530	1,000	241157	20054202	20039070	20054277	130	122	10
1,570	1,040	20039002	20054203	20039071	20054278	130	122	10
1,590	1,070	20039003	20054204	20039072	20054279	131	123	10
1,630	1,100	241158	20054205	20039073	20054280	131	123	10
1,680	1,150	20039004	20054206	20039074	20054281	132	124	10
1,730	1,200	240828	20054207	20039075	20054282	132	124	10
1,750	1,220	20039005	20054208	20039076	20054283	132	124	10
1,780	1,250	241153	20054209	20039077	20054284	133	125	10
1,840	1,310	20039006	20054210	20039078	20054285	133	125	10
1,880	1,350	20039007	20054211	20039079	20054286	134	126	10
1,930	1,400	241154	20054212	20039080	20054287	135	127	10
1,980	1,450	20039008	20054213	20039081	20054288	135	127	10
2,030	1,500	241155	20054214	20039082	20054289	136	128	10
2,060	1,530	20039009	20054215	20039083	20054290	136	128	10
2,080	1,550	241156	20054216	20039084	20054291	137	129	10
2,110	1,580	20039010	20054217	20039085	20054292	137	129	10
2,130	1,600	20039011	20054218	20039086	20054293	138	130	10
2,155	1,625	20039012	20054219	20039087	20054294	138	130	10
2,200	1,670	20039013	20054220	20039088	20054295	139	131	10
2,230	1,700	20039014	20054221	20039089	20054296	139	131	10
2,280	1,750	20039015	20054222	20039090	20054297	140	132	10

SCOPE OF SUPPLY

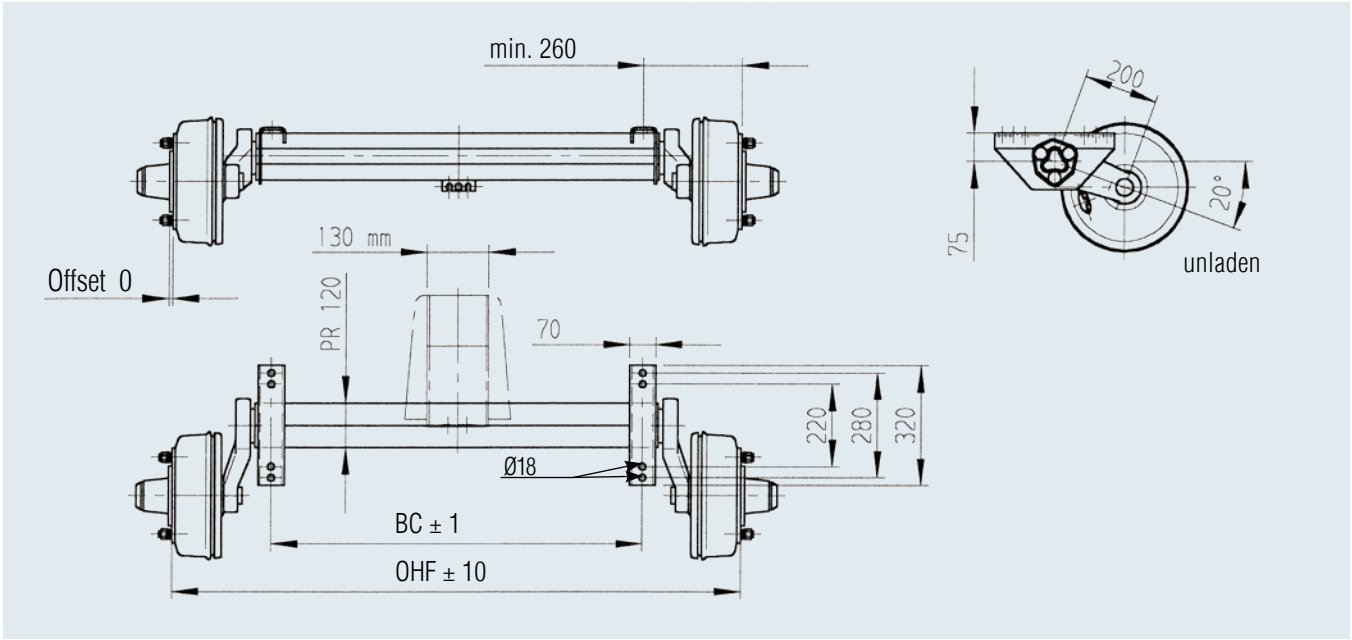
- Single axle adapter bracket welded on
- Compensation profile
- Bowden cable loose
- Wheel nuts mounted

SURFACE TREATMENT

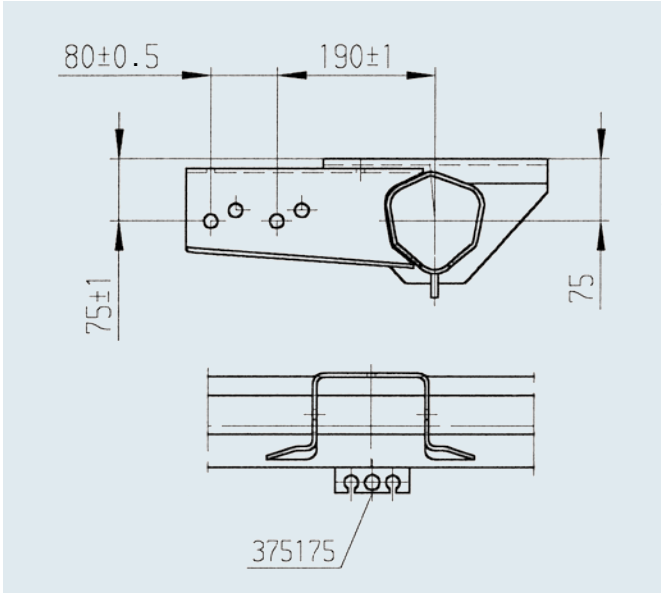
- Axle profile hot-dip galvanised
- Wheel brake dip primed black

ACCESSORIES

- Shock absorber
  (see table of contents)



Accessories for top hat profile incl. adapter bracket for single axle



BRAKED AXLE 3,000 KG

205 x 6

TECHNOLOGY

Model:	PLUS	Suspension:	Hexagonal rubber suspension
Axle type:	B 3000-2	Swing arm:	3,000 kg, 175 mm
Axle load:	SA 3,000 kg	Wheel connection:	205x6
Wheel brake:	3062 or 3081B *(See table)*	Wheel bearing:	Tapered roller bearing
		Centre hole rim:	min. 161 mm

SAP: ACHSE GU LNGS GRM EA3000

B 3000-2		**Single axle** **Wheel nuts M 18x1.5** **Ball**		**Front axle** **with top hat profile and fixing bolts**				
		Wheel brake		**Wheel brake**		**Single axle in kg**		
		3081 B	**3062**	**3081 B**	**3062**	**3081 B**	**3062**	
OHF in mm	**BC in mm**	**Axle cpl.**	**Axle cpl.**	**Axle cpl.**	**Axle cpl.**			
1,570	1,100	1212403	1213663	1212404	1213664	130	120	20
1,770	1,300	1223400	1223402	1223404	1223406	133	123	20
1,970	1,500	1223401	1223403	1223405	1223407	136	126	20

SCOPE OF SUPPLY

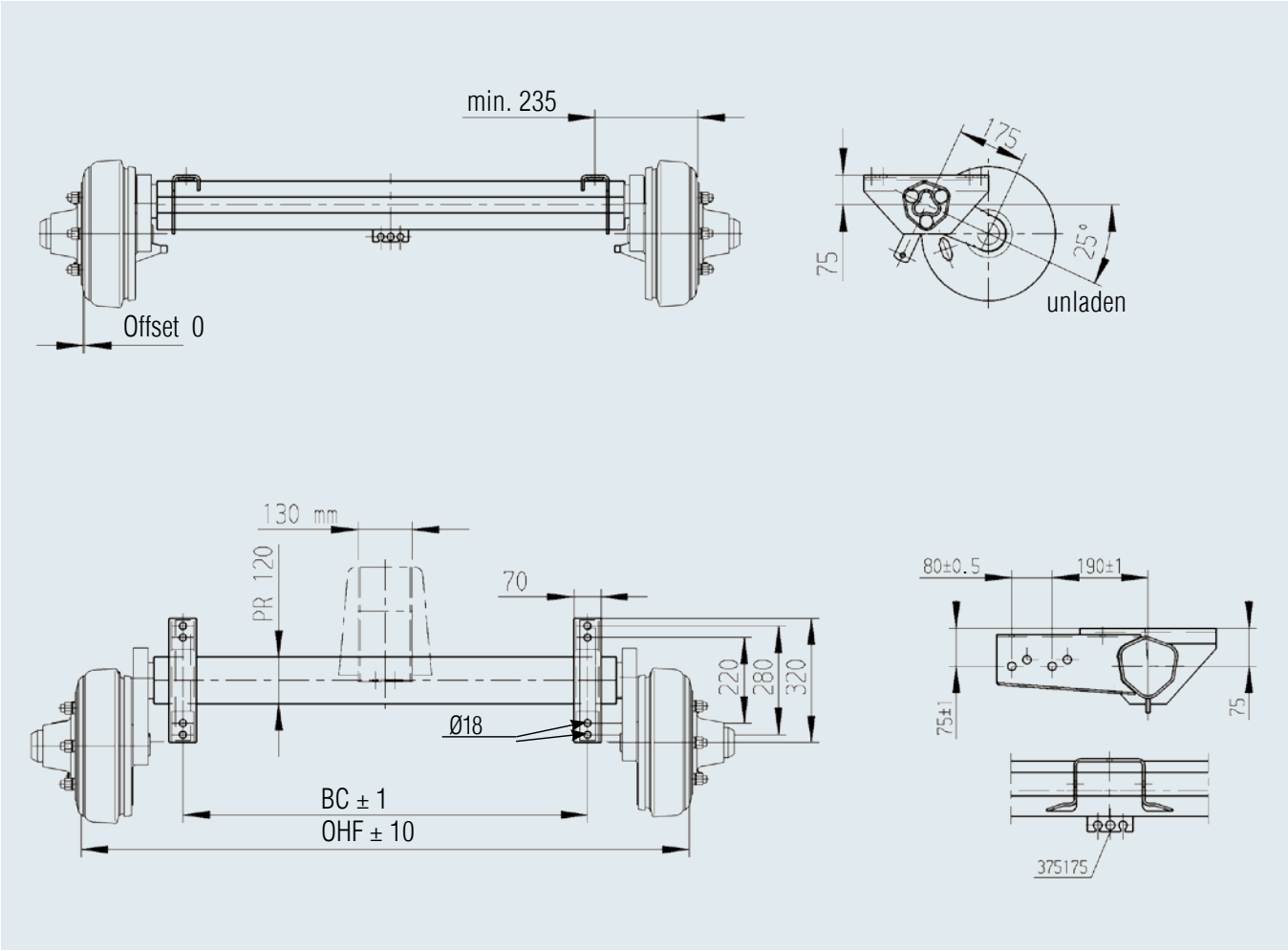
- Single axle adapter bracket welded on
- Compensation profile
- Bowden cable loose
- Wheel nuts mounted

SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brake dip primed black

ACCESSORIES

- Shock absorber
  (see table of contents)



BRAKED AXLE 3,500 KG

205 x 6

TECHNOLOGY

Model:	BASIC		
Axle type:	B 3500-2	Swing arm:	150 mm
Axle load:	SA 3,500 kg	Wheel connection:	205x6
Wheel brake:	3081B	Wheel bearing:	Tapered roller bearing
Suspension:	Hexagonal rubber suspension	Centre hole rim:	min. 161 mm

SAP: ACHSE GU LNGS GRM EA3500

B 3500-2		**Single axle** **Wheel nuts M 18x1.5** **Ball** **Wheel brake**	**Front axle** **with top hat profile and fixing bolts** **Wheel brake**		
OHF in mm	**BC in mm**	**3081 B Axle cpl.**	**3081 B Axle cpl.**	**Single axle kg**	
1,780	1,300	1223408	1223411	140	20
1,980	1,500	1223409	1223412	143	20
2,180	1,700	1223410	1223413	146	20

SCOPE OF SUPPLY

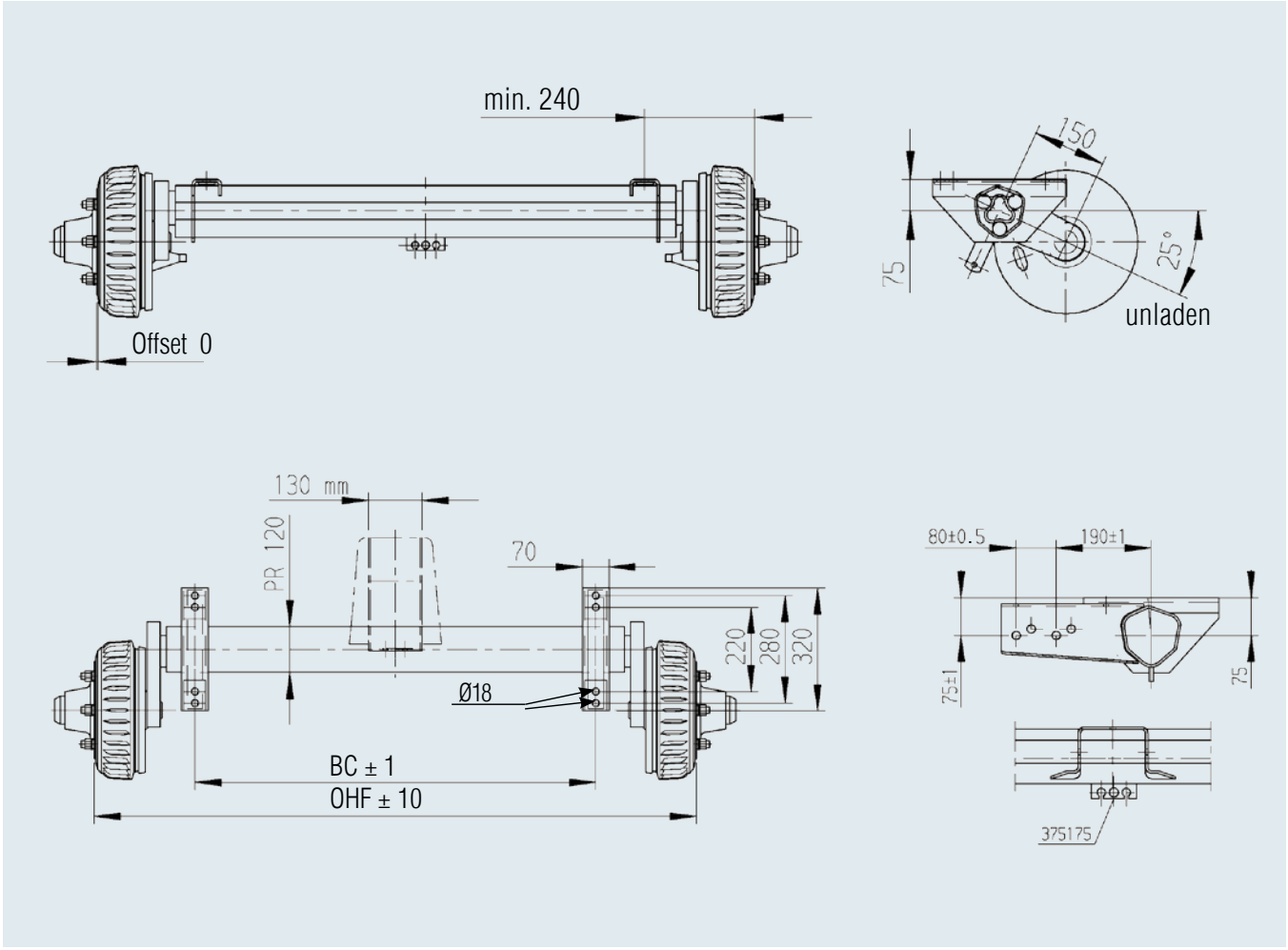
- Single axle adapter bracket welded on
- Compensation profile
- Bowden cable loose
- Wheel nuts mounted

SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brake 3081B dip primed black

ACCESSORIES

- Shock absorber
  (see table of contents)



BRAKED AXLE 3,500 / 4,000 KG

205 x 6

TECHNOLOGY

Model:	PLUS	Suspension:	Steel torsion bar suspension
Axle type:	BT 3500	Swing arm:	200 mm
	BT 4000	Wheel connection:	205x6
Axle load:	SA 3,500 kg	Wheel bearing:	Tapered roller bearing
Wheel brake:	3081B	Centre hole rim:	min. 161 mm

SAP: ACHSE ST LNGS GRM EA3500

BT 3500, 3,500 kg		**Single axle**	**Front axle**		
			with top hat profile and fixing bolts		
		Wheel nuts M 18x1.5	**Wheel nuts M 18x1.5**		
		Ball	**Ball**	**Single axle in kg**	
OHF in mm	**BC in mm**	**Axle cpl.**	**Axle cpl.**		
1,640	1,100	274165	20039603	182	20

BT 4000, 4,000 kg		**Single axle**	**Front axle**		
			with top hat profile and fixing bolts		
		Wheel nuts M 18x1.5	**Wheel nuts M 18x1.5**		
		Ball	**Ball**	**Single axle in kg**	
OHF in mm	**BC in mm**	**Axle cpl.**	**Axle cpl.**		
1,640	1,100	274166	20039703	182	20

SCOPE OF SUPPLY

- Single axle adapter bracket welded on
- Compensation profile
- Bowden cable loose
- Wheel nuts mounted

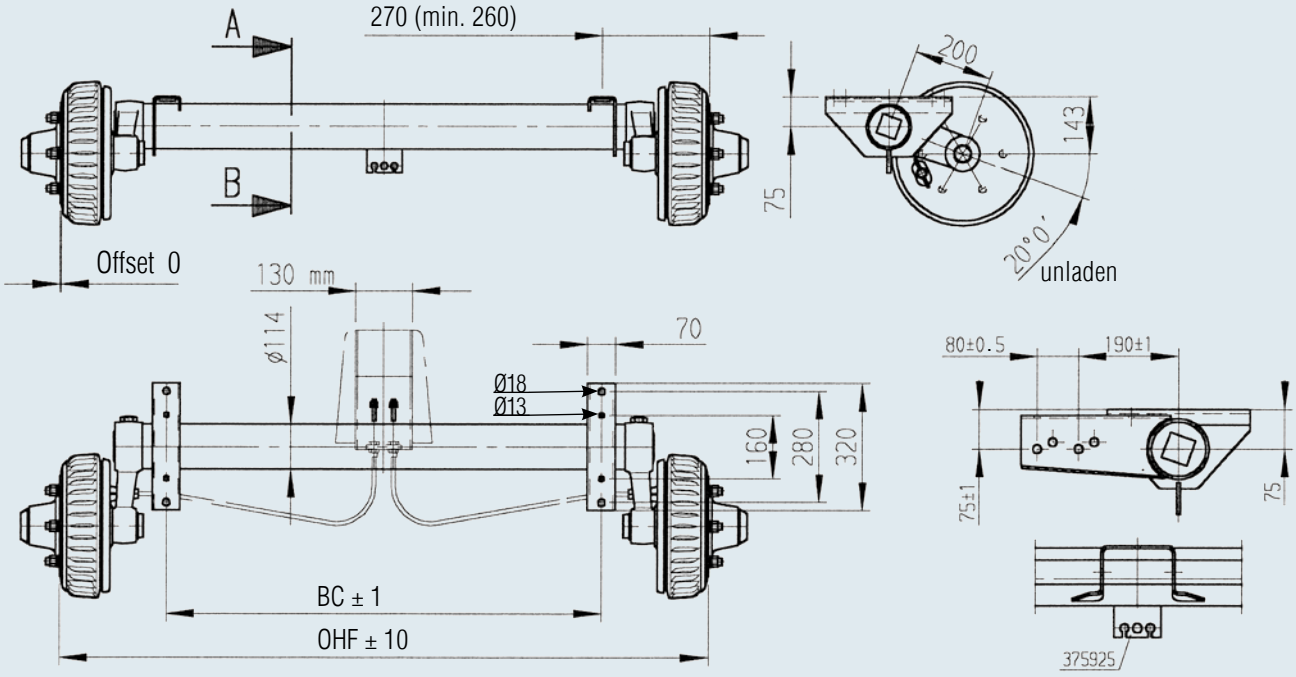
SURFACE TREATMENT

- Axle profile dip primed black
- Wheel brake 3081B dip primed black

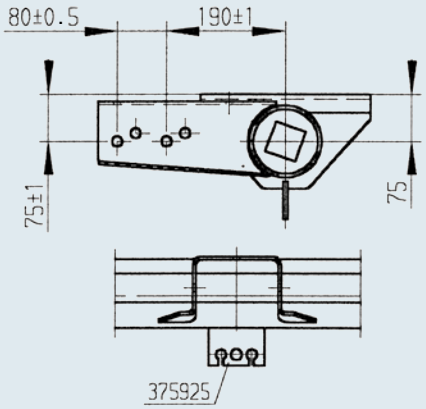
ACCESSORIES

- Shock absorber
  (see table of contents)

Bowden cable attached at bottom



Top hat profile incl. adapter bracket for single axle



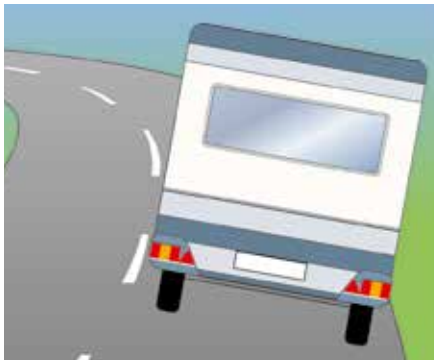
BRAKED AXLES

1,000 / 1,350 / 1,500 / 1,600 / 1,700 / 1,800 kg

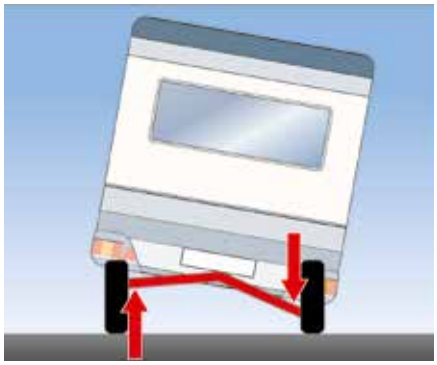
APPLICATION AREA

These axles must only be installed in caravans.

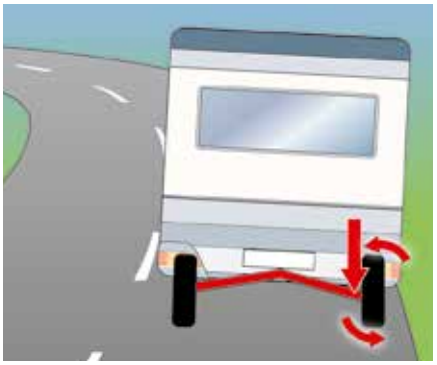
SEMI-TRAILING ARM AND INDIVIDUAL WHEEL SUSPENSION ACT COUNTER TO CENTRIFUGAL FORCE!



When cornering or during roll movements, the wheel on the outside of the curve is always subjected to a higher load due to the centrifugal force. The wheel on the inside of the curve tends to lift off the road surface.

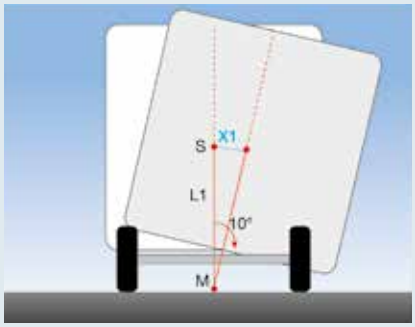


The AL-KO Delta semi-trailing arm axle acts counter to centrifugal force: The individual wheels mounted on arms (swing arms) move around the axle located at an angle in space during suspension compression and rebound.

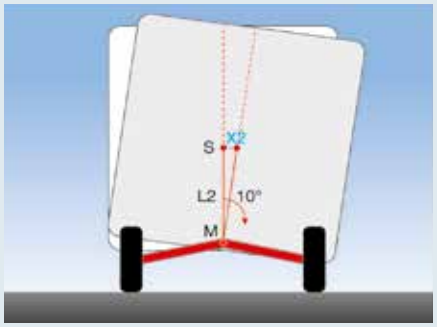


The force acting on the wheel on the outside of the corner is transmitted via the swing arm onto the axle stub of the wheel with the effect that it increases its toe-in and negative camber (to the inside). The wheel braces itself against the centrifugal force, thus supporting the vehicle on the inside.

ADDITIONAL ROLL STABILITY WITH THE AL-KO EURO DELTA SEMI-TRAILING ARM AXLE



Conventional axle



Delta semi-trailing arm axle

Shifting the centre of momentum upwards closer to the centre of gravity reduces the roll travel (see diagram (X1, X2)). This means that, due to the smaller roll lever arm of the semi-trailing arm axle (distance from the trailer's centre of gravity to the centre of momentum), only relatively small roll movements are still possible given the same force application – e.g. crosswind, on bridges or during overtaking manoeuvres.

AL-KO SEMI-TRAILING ARM AXLES HAVE BEEN DEVELOPED AND APPROVED SPECIFICALLY FOR USE IN CARAVANS.

CARAVANS ARE ONLY OPERATED WITHIN THE NOMINAL LOAD RANGE, AND ARE VERY DEMANDING IN TERMS OF DRIVING DYNAMICS DUE TO THEIR DESIGN, PARTICULARLY AT HIGH SPEEDS.

THESE AXLES HAVE BEEN DEVELOPED AND APPROVED PRECISELY FOR THESE BOUNDARY CONDITIONS.

NO OTHER APPLICATION AREA IS PERMITTED.

UNBRAKED AXLES

with leaf suspension

Unbraked axles	**750 kg**	**1,500 kg**
Gross weight kg, single axle	750	1,500
Gross weight kg, tandem axle	–	–
Suitable for	Trailers of all types	Trailers of all types
Type of suspension	Leaf suspension	Leaf suspension
Swing arm design	–	–
Swing arm length (mm)	–	–
Suspension comfort set-up	Above average	Above average
Axle profile, diameter	Square, 50 mm	Square, 60 mm
Suspension maintenance	Maintenance-free	Maintenance-free
Wheel bearing design	Compact bearing	Compact bearing
Bearing maintenance required?	Maintenance-free	Maintenance-free
Independent wheel suspension	No	No
Wheel arch damage possible with extreme overload	No	No
Axle stub connection to axle tube	Bolted	Bolted
Toe-in adjustment for minimal tyre wear possible?	No	No
Options/surcharge		
Watertight bearing available	Yes	Yes
Shock absorber bracket fastening	Welded	Welded

1,800 kg
1,800
–
Trailers of all types
Leaf suspension
–
–
Above average
Square, 70 mm
Maintenance-free
Compact bearing
Maintenance-free
No
No
Bolted
No
Yes
Welded

YOUR ADVANTAGE

- Modular system, i.e. you can choose between:
  A) Axle complete (supplied unmounted)
  B) Individual axle components

- The leaf springs and shock absorbers are clamped onto the axle profile

- The axle tube is a sturdy, commercially available square tube

- Wheel hub with stub either:
  A) For screwing in = AL-KO concept
  (simple to exchange during service)
  B) Or for welding in = produced by customer

- Thanks to the screw-in system, the axle tube and fastening plates can be hot-dip galvanised

- Wheel hub as standard with compact bearing

- Wheel hub optionally in watertight version

RIGID UNBRAKED AXLE 750 KG

98 x 4 and 100 x 4

TECHNOLOGY

Model: PLUS
Axle type: LS 750
Axle load: SA 750 kg
Wheel connection: 98x4 / 100x4

Comply with installation guidelines!

SCOPE OF SUPPLY

- Wheel bolts loose

SURFACE TREATMENT

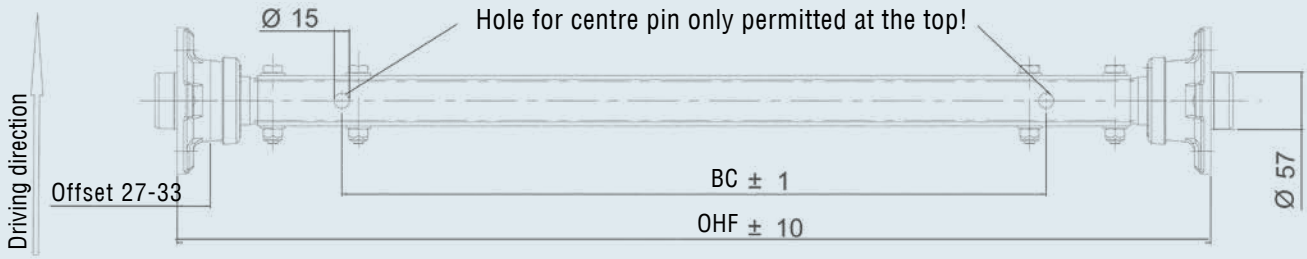
- Axle profile hot-dip galvanised

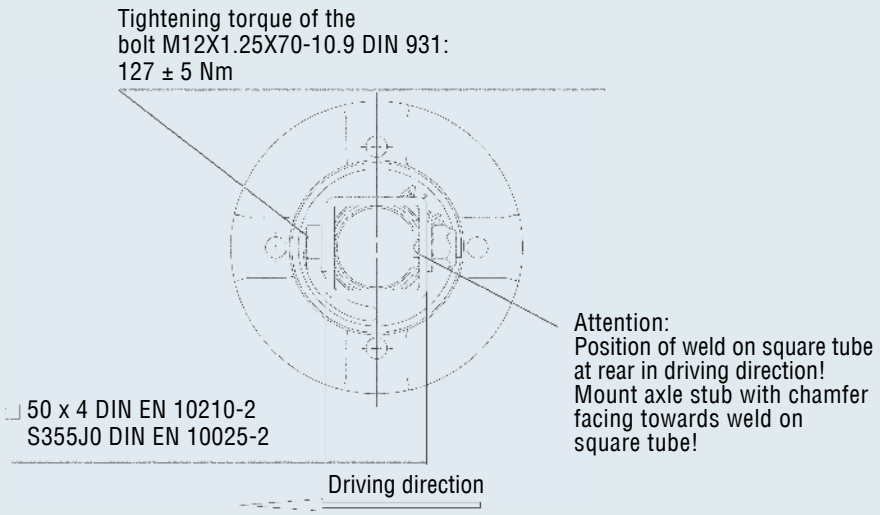
ACCESSORIES

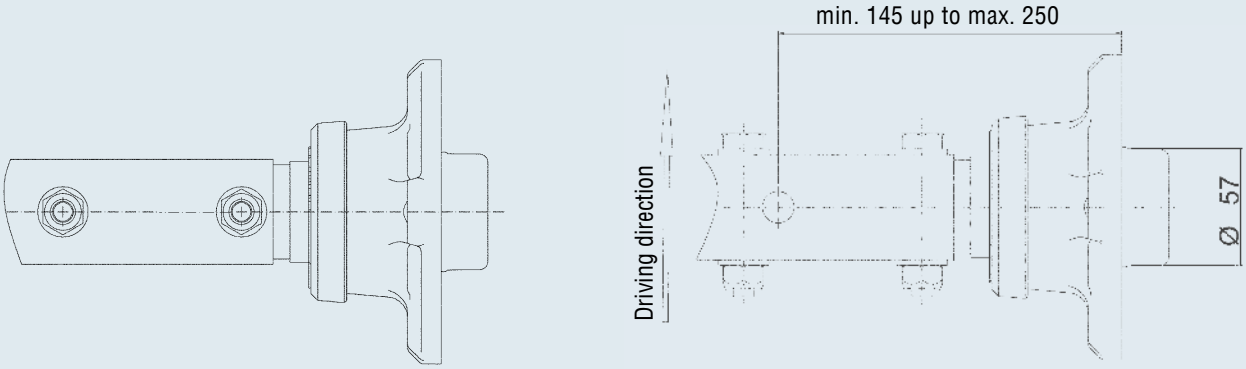
- See following pages

SAP: ACHSE STARR UBR EA 750

OHF in mm	BC in mm	Single axle with wheel connection 98x4 RIGID UBR PLUS LS 750 Wheel bolts Taper M 12x1.5 Axle cpl.	Single axle with wheel connection 100x4 RIGID UBR PLUS LS 750 Wheel bolts Taper 12x1.5 Axle cpl.				
1,130	700	20057101	20057149	15.0	-	50	15
1,180	750	20057102	20057150	15.5	-	50	15
1,230	800	20057103	20057151	15.5	-	50	15
1,280	850	20057104	20057152	16.0	-	50	15
1,330	900	20057105	20057153	16.0	-	50	15
1,380	950	20057106	20057154	16.5	-	50	15
1,430	1,000	1421559	1421521	17.0	-	50	15
1,480	1,050	20057107	20057155	17.0	-	50	15
1,530	1,100	20057108	20057156	17.5	-	50	15
1,580	1,150	20057109	20057157	17.5	-	50	15
1,630	1,200	20057110	20057158	18.0	-	50	15
1,680	1,250	20057111	20057159	18.0	-	50	15
1,730	1,300	20057112	20057160	18.5	-	50	15
1,780	1,350	20057113	20057161	19.0	-	50	15
1,830	1,400	20057114	20057162	19.0	-	50	15
1,880	1,450	20057115	20057163	19.5	-	50	15
1,930	1,500	20057116	20057164	20.0	-	50	15
1,980	1,550	20057117	20057165	20.0	-	50	15
2,030	1,600	20057118	20057166	20.5	-	50	15
2,080	1,650	20057119	20057167	20.5	-	50	15
2,130	1,700	20057120	20057168	21.0	-	50	15
2,180	1,750	20057121	20057169	21.0	-	50	15
2,230	1,800	20057122	20057170	21.5	-	50	15
2,280	1,850	20057123	20057171	22.0	-	50	15
2,330	1,900	20057124	20157172	22.0	-	50	15


Ø 15
Hole for centre pin only permitted at the top!
Driving direction
Offset 27-33
BC ± 1
OHF ± 10
Ø 57


Tightening torque of the
bolt M12X1.25X70-10.9 DIN 931:
127 ± 5 Nm
Attention:
Position of weld on square tube
at rear in driving direction!
Mount axle stub with chamfer
facing towards weld on
square tube!
50 x 4 DIN EN 10210-2
S355J0 DIN EN 10025-2
Driving direction


min. 145 up to max. 250
Driving direction
Ø 57

RIGID UNBRAKED AXLE 1,500 KG

112 x 5

TECHNOLOGY

Model: PLUS
Axle type: LS 1500
Axle load: SA 1,500 kg
Wheel connection: 112 x 5 – M12 x 1.5

Comply with installation guidelines!

SCOPE OF SUPPLY

- Wheel bolts loose

SURFACE TREATMENT

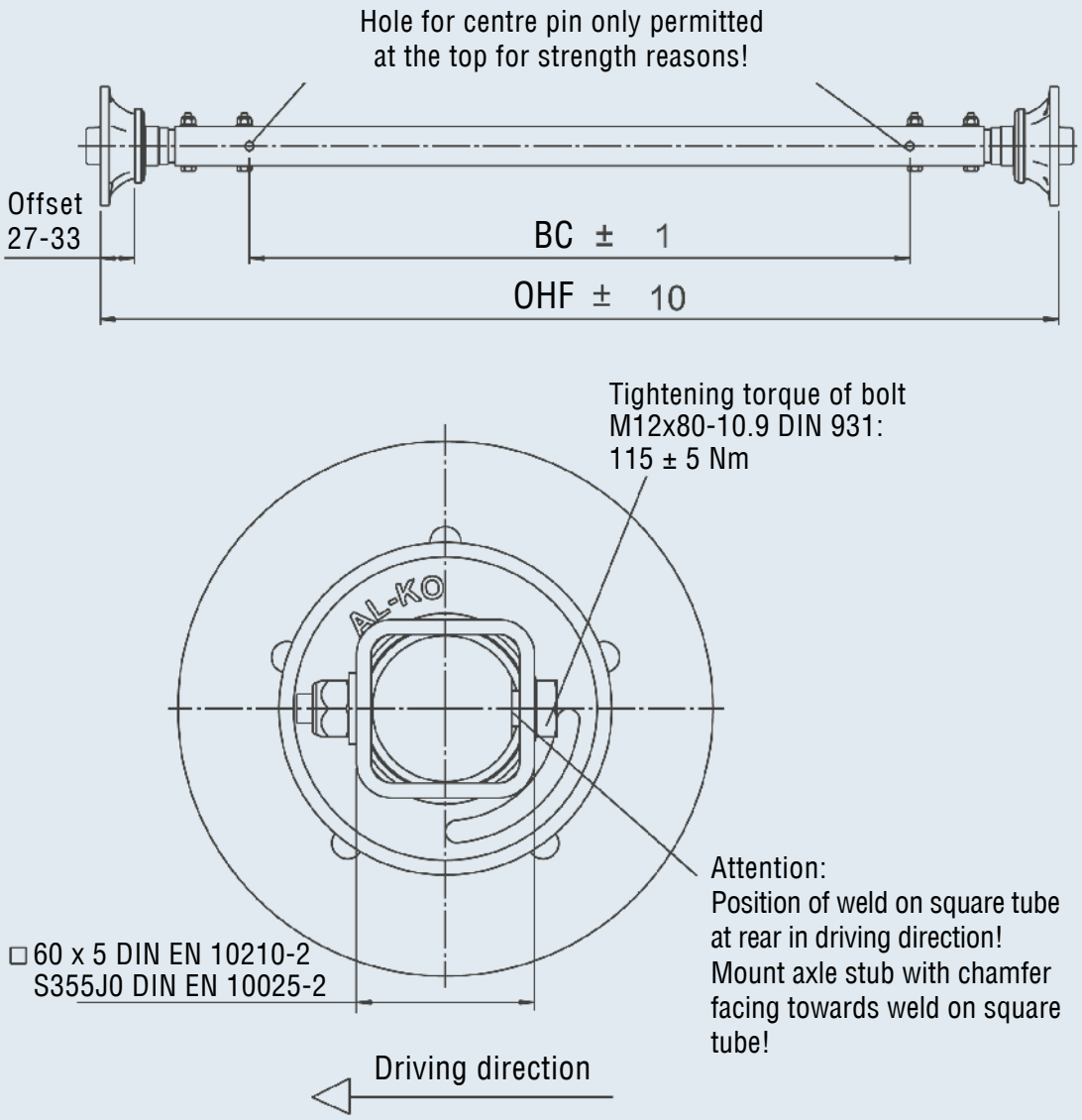
- Axle profile hot-dip galvanised

ACCESSORIES

- See following pages

SAP: ACHSE STARR UBR EA 1500 PLUS

OHF in mm	BC in mm	Single axle with wheel connection 112x5 RIGID UBR PLUS LS 1500 Wheel bolts Ball M 12x1.5 Axle cpl.	Single axle with wheel connection 112x5 watertight RIGID UBR PLUS LS 1500 WD Wheel bolts Ball M 12x1.5 Axle cpl.				
1,150	700	20057801	20057901	24	-	50	15
1,200	750	20057802	20057902	24.5	-	50	15
1,250	800	20057803	20057903	24.9	-	50	15
1,300	850	20057804	20057904	25.3	-	50	15
1,350	900	20057805	20057905	25.7	-	50	15
1,400	950	20057806	20057906	26.2	-	50	15
1,450	1,000	1422441	20057907	26.6	-	50	15
1,500	1,050	20057807	20057908	27	-	50	15
1,550	1,100	20057808	20057909	27.5	-	50	15
1,600	1,150	20057809	20057910	27.9	-	50	15
1,650	1,200	20057810	20057911	28.3	-	50	15
1,700	1,250	20057811	20057912	28.7	-	50	15
1,750	1,300	20057812	20057913	29.2	-	50	15
1,800	1,350	20057813	20057914	29.6	-	50	15
1,850	1,400	20057814	20057915	30	-	50	15
1,900	1,450	20057815	20057916	30.4	-	50	15
1,950	1,500	20057816	20057917	30.9	-	50	15
2,000	1,550	20057817	20057918	31.3	-	50	15
2,050	1,600	20057818	20057919	31.7	-	50	15
2,100	1,650	20057819	20057920	32.2	-	50	15
2,150	1,700	20057820	20057921	32.6	-	50	15
2,200	1,750	20057821	20057922	33	-	50	15
2,250	1,800	20057822	20057923	33.4	-	50	15
2,300	1,850	20057823	20057924	33.9	-	50	15
2,350	1,900	20057824	20057925	34.3	-	50	15


Hole for centre pin only permitted
at the top for strength reasons!
Offset
27-33
BC ± 1
OHF ± 10
Tightening torque of bolt
M12x80-10.9 DIN 931:
115 ± 5 Nm
AL-KO
□60 x 5 DIN EN 10210-2
S355J0 DIN EN 10025-2
Attention:
Position of weld on square tube
at rear in driving direction!
Mount axle stub with chamfer
facing towards weld on square
tube!
Driving direction
85
133
Ø57
Ø13
Driving direction

RIGID UNBRAKED AXLE 1,800 KG

112 x 5

TECHNOLOGY

Model: PLUS
Axle type: BS 1800
Axle load: SA 1,800 kg
Wheel connection: 112 x 5 – M12 x 1.5

SCOPE OF SUPPLY

- Wheel bolts loose

SURFACE TREATMENT

- Axle profile hot-dip galvanised

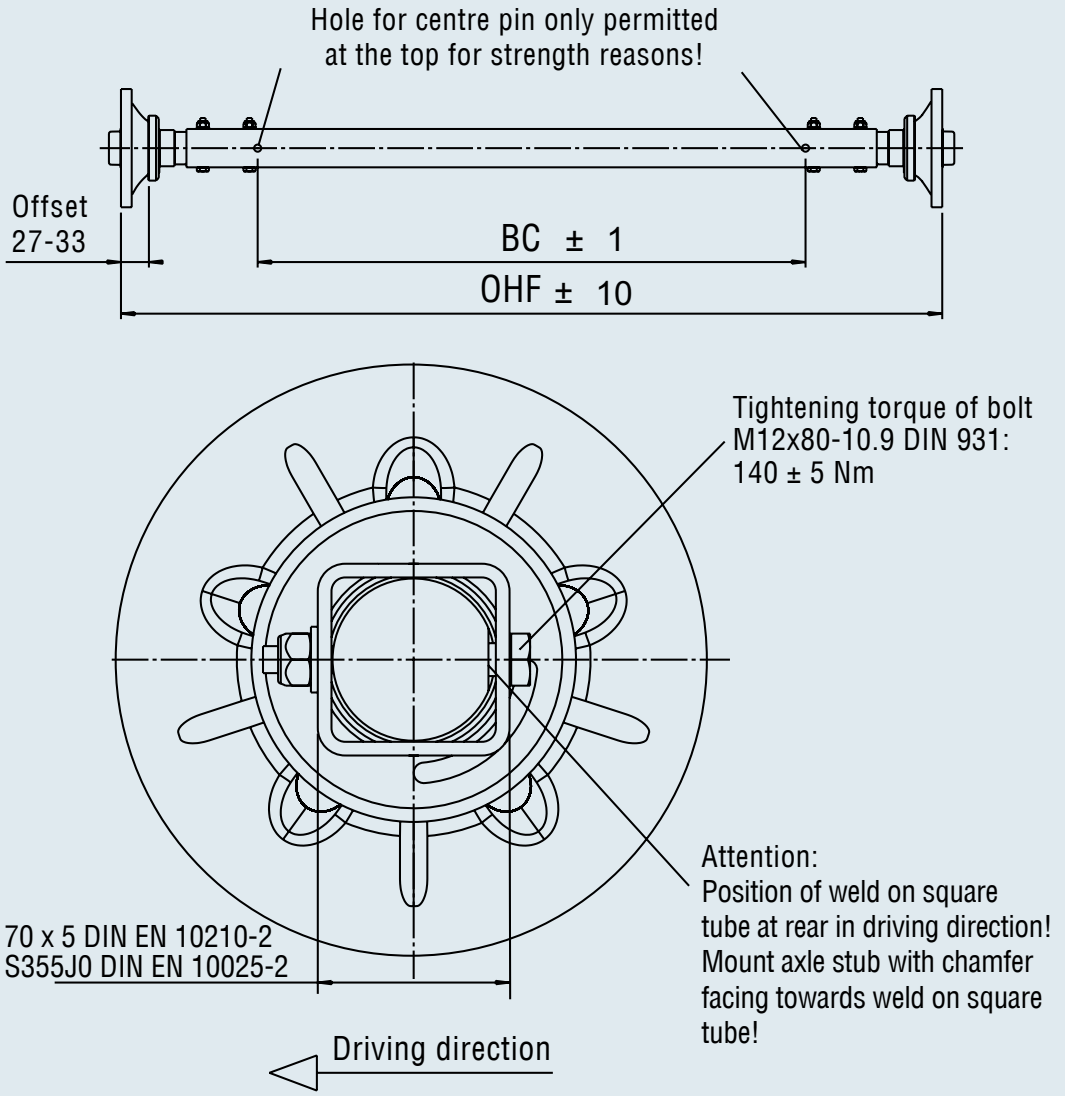
ACCESSORIES

- See following pages

Comply with installation guidelines!

SAP: ACHSE STARR UBR EA 1800 PLUS

OHF in mm	BC in mm	Single axle with wheel connection 112x5 RIGID UBR PLUS BS 1800 Wheel bolts Ball M 12x1.5 Axle cpl.				
1,200	700	20058001	34.3	-	50	15
1,250	750	20058002	34.8	-	50	15
1,300	800	20058003	35.3	-	50	15
1,350	850	20058004	35.8	-	50	15
1,400	900	20058005	36.4	-	50	15
1,450	950	20058006	36.9	-	50	15
1,500	1,000	1422437	37.4	-	50	15
1,550	1,050	20058007	37.9	-	50	15
1,600	1,100	20058008	38.4	-	50	15
1,650	1,150	20058009	39	-	50	15
1,700	1,200	20058010	39.5	-	50	15
1,750	1,250	20058011	40	-	50	15
1,800	1,300	20058012	40.5	-	50	15
1,850	1,350	20058013	41	-	50	15
1,900	1,400	20058014	41.6	-	50	15
1,950	1,450	20058015	42.1	-	50	15
2,000	1,500	20058016	42.6	-	50	15
2,050	1,550	20058017	43.1	-	50	15
2,100	1,600	20058018	43.6	-	50	15
2,150	1,650	20058019	44.1	-	50	15
2,200	1,700	20058020	44.7	-	50	15
2,250	1,750	20058021	45.2	-	50	15
2,300	1,800	20058022	45.7	-	50	15
2,350	1,850	20058023	46.2	-	50	15
2,400	1,900	20058024	46.7	-	50	15


Hole for centre pin only permitted
at the top for strength reasons!
Offset
27-33
BC ± 1
OHF ± 10
Tightening torque of bolt
M12x80-10.9 DIN 931:
140 ± 5 Nm
□ 70 x 5 DIN EN 10210-2
S355J0 DIN EN 10025-2
Attention:
Position of weld on square
tube at rear in driving direction!
Mount axle stub with chamfer
facing towards weld on square
tube!
Driving direction
85
150
Ø 61
Ø 13
Driving direction

BRAKED AXLES

with leaf suspension

Braked axles	**1,500 kg**	**1,800 kg**
Gross weight kg, single axle	1,500	1,800
Gross weight kg, tandem axle	3,000	3,500
Suitable for	Trailers of all types	Trailers of all types
Type of suspension	Leaf suspension	Leaf suspension
Swing arm design	–	–
Swing arm length (mm)	–	–
Suspension comfort set-up	Above average	Above average
Axle profile, diameter	Square, 60 mm	Square, 70 mm
Maintenance of suspension	Maintenance-free	Maintenance-free
Wheel brake type	2051	2361
Wheel bearing design	Compact bearing	Compact bearing
Bearing maintenance	Maintenance-free	Maintenance-free
Brake drum with cooling ribs	Yes	Yes
Independent wheel suspension	No	No
Wheel arch damage possible with extreme overload	Yes	Yes
Better heat dissipation through brake drums with cooling ribs	Yes	Yes
Axle stub connection to axle tube	Bolted	Bolted
Toe-in adjustment for minimal tyre wear possible?	No	No
Brake pads free of asbestos, corrosion-resistant, without iron content	Yes	Yes
Options / surcharge		
Watertight bearing available	Yes	Yes
Automatic brake adjustment AAA available	Yes	Yes
Shock absorber bracket fastening	Bolted	Bolted

YOUR ADVANTAGE

- Modular system, i.e. you can choose between:
  A) Axle complete (supplied unmounted)
  B) Individual axle components

- The leaf springs and shock absorbers are clamped onto the axle profile

- Wheel brake with stub either:
  A) For screwing in = AL-KO concept
  (simple to exchange during service)
  B) Or for welding in = produced by customer

- The axle tube is a sturdy, commercially available square tube

- Thanks to the screw-in system, the axle tube and fastening plates can be hot-dip galvanised

- Wheel brake as standard with compact bearing

- Wheel brake optionally in watertight version

RIGID BRAKED AXLE 1,500 KG

112 x 5

TECHNOLOGY

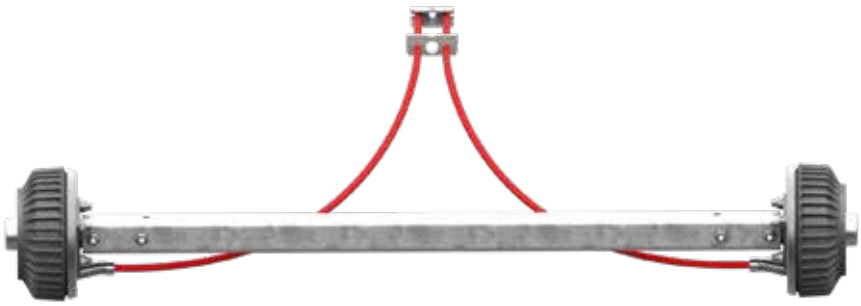
Model: PLUS
Axle type: BS 1500
Axle load: SA 1,500 kg
Wheel connection: 112x5 – M12x1.5

SURFACE TREATMENT

- Axle profile hot-dip galvanised

ACCESSORIES

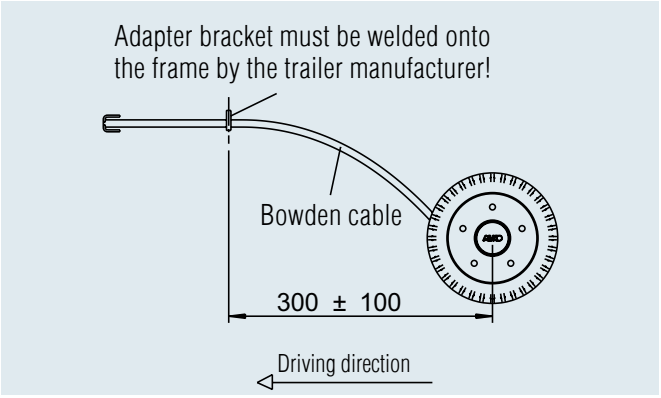
- See following pages

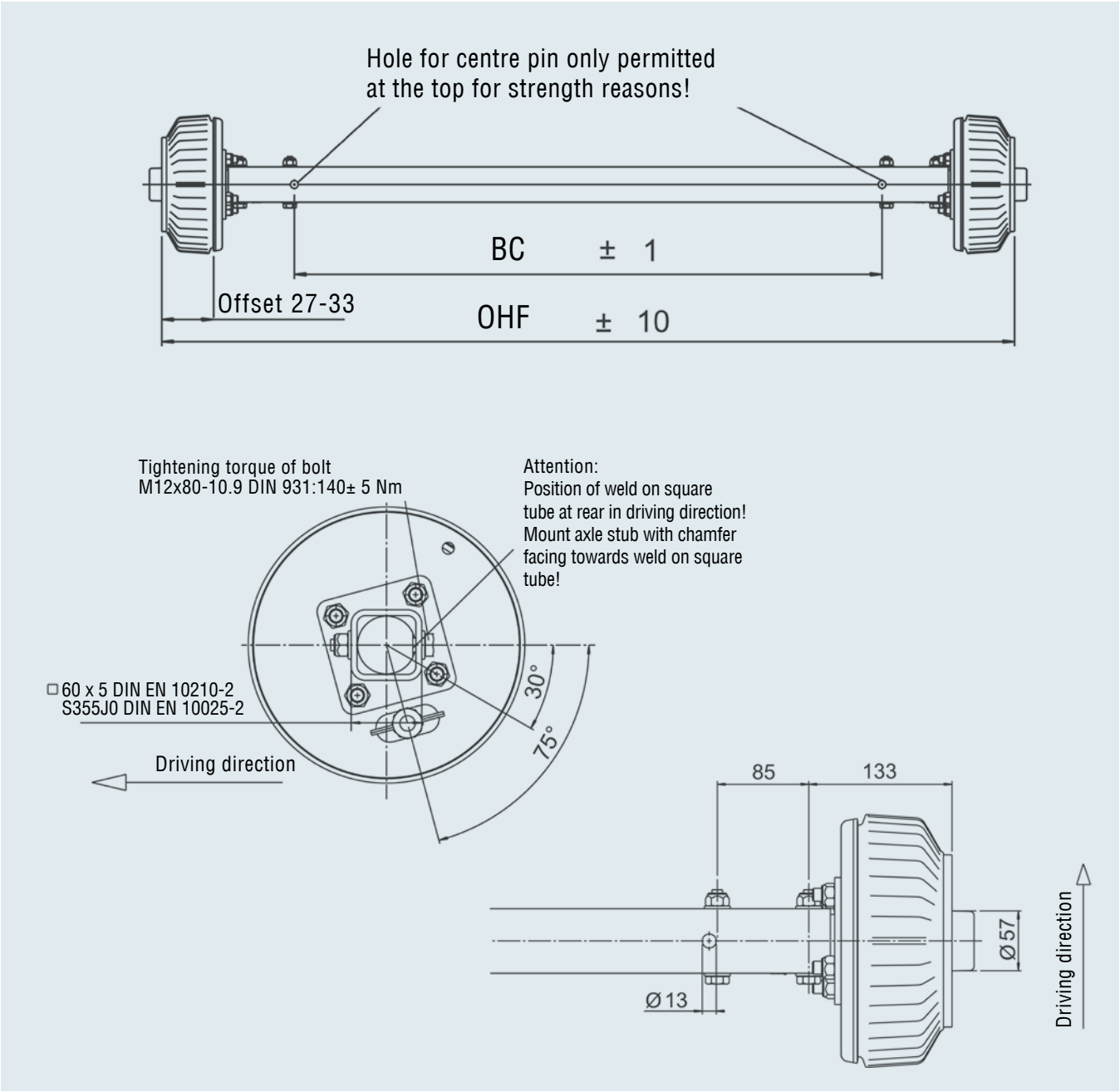


SAP: ACHSE -- STARR GRM EA1500

Single axle with wheel connection 112x5 RIGID GBR PLUS BS 1500			Tandem axle Front axle	Rear axle	Single axle with wheel connection 112x5 watertight RIGID GBR PLUS BS 1500 WD				
OHF in mm	BC in mm	Wheel bolts Ball M 12x1.5 Axle cpl.	Wheel bolts Ball M 12x1.5 Axle cpl.	Wheel bolts Ball M 12x1.5 Axle cpl.	Wheel bolts Ball M 12x1.5 Axle cpl.				
1,150	700	20058101	20058125	20058150	20058201	38	-	50	15
1,200	750	20058102	20058126	20058151	20058202	38.5	-	50	15
1,250	800	20058103	20058127	20058152	20058203	38.9	-	50	15
1,300	850	20058104	20058128	20058153	20058204	39.3	-	50	15
1,350	900	20058105	20058129	20058154	20058205	39.7	-	50	15
1,400	950	20058106	20058130	20058155	20058206	40.2	-	50	15
1,450	1,000	1421796	20058131	20058156	20058207	40.6	-	50	15
1,500	1,050	20058107	20058132	20058157	20058208	41	-	50	15
1,550	1,100	20058108	20058133	20058158	20058209	41.5	-	50	15
1,600	1,150	20058109	20058134	20058159	20058210	41.9	-	50	15
1,650	1,200	20058110	20058135	20058160	20058211	42.3	-	50	15
1,700	1,250	20058111	20058136	20058161	20058212	42.7	-	50	15
1,750	1,300	20058112	20058137	20058162	20058213	43.2	-	50	15
1,800	1,350	20058113	20058138	20058163	20058214	43.6	-	50	15
1,850	1,400	20058114	20058139	20058164	20058215	44	-	50	15
1,900	1,450	20058115	20058140	20058165	20058216	44.4	-	50	15
1,950	1,500	20058116	20058141	20058166	20058217	44.9	-	50	15
2,000	1,550	20058117	20058142	20058167	20058218	45.3	-	50	15
2,050	1,600	20058118	20058143	20058168	20058219	45.7	-	50	15
2,100	1,650	20058119	20058144	20058169	20058220	46.2	-	50	15
2,150	1,700	20058120	20058145	20058170	20058221	46.6	-	50	15
2,200	1,750	20058121	20058146	20058171	20058222	47	-	50	15
2,250	1,800	20058122	20058147	20058172	20058223	47.4	-	50	15
2,300	1,850	20058123	20058148	20058173	20058224	47.9	-	50	15
2,350	1,900	20058124	20058149	20058174	20058225	48.3	-	50	15

SCOPE OF SUPPLY	SA	TA
Wheel bolts loose	Yes	Yes
Adapter bracket loose	Yes	Yes
Axle Bowden cables loose	Yes	Yes
Compensation profile loose	Yes	No





RIGID BRAKED AXLE 1,800 KG

112 x 5

TECHNOLOGY

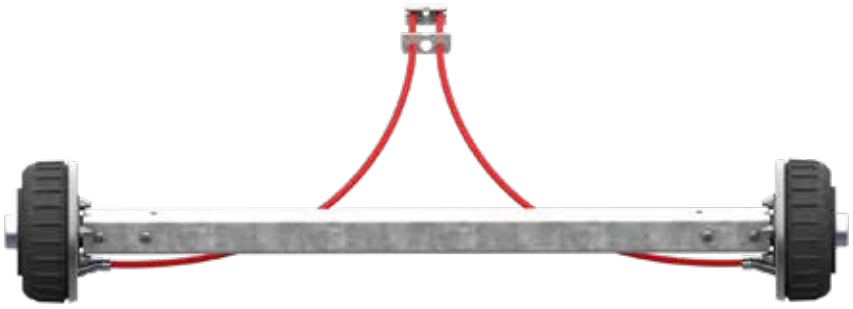
Model:	PLUS
Axle type:	BS 1800
Axle load:	SA 1,800 kg
Wheel connection:	112x5 - M12x1.5

SURFACE TREATMENT

- Axle profile hot-dip galvanised

ACCESSORIES

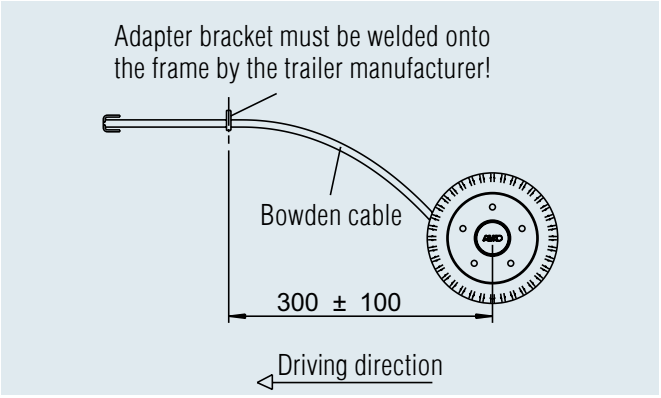
- See following pages

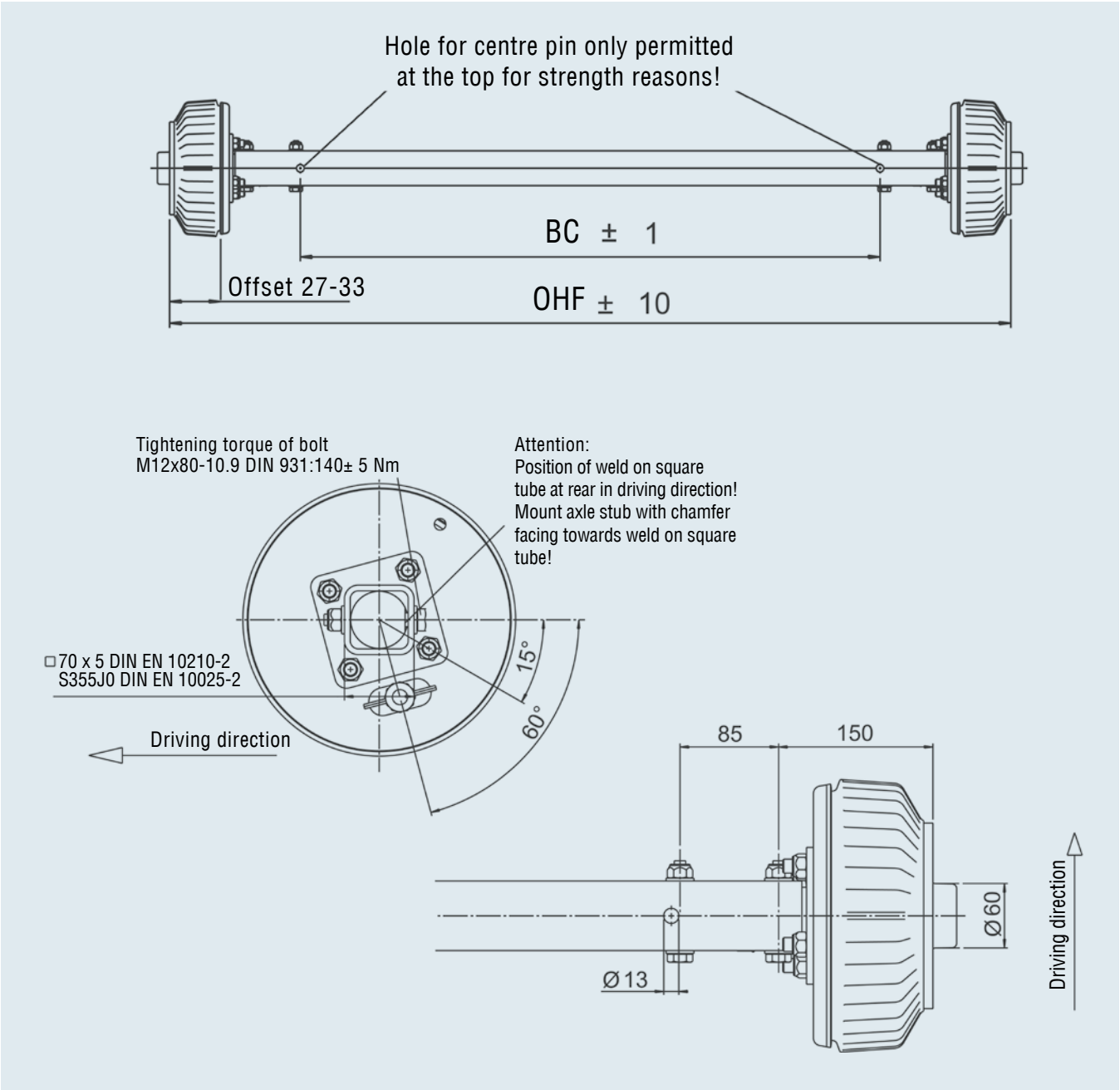


SAP: ACHSE -- STARR GRM EA1800

Single axle with wheel connection 112x5 RIGID GBR PLUS BS 1800			Tandem axle Front axle	Rear axle	Single axle with wheel connection 112x5 watertight RIGID GBR PLUS BS 1800 WD				
OHF in mm	BC in mm	Wheel bolts Ball M 12x1.5 Axle cpl.	Wheel bolts Ball M 12x1.5 Axle cpl.	Wheel bolts Ball M 12x1.5 Axle cpl.	Wheel bolts Ball M 12x1.5 Axle cpl.				
1,200	700	20058301	20058325	20058350	20058401	56.7	-	50	15
1,250	750	20058302	20058326	20058351	20058402	57.2	-	50	15
1,300	800	20058303	20058327	20058352	20058403	57.7	-	50	15
1,350	850	20058304	20058328	20058353	20058404	58.2	-	50	15
1,400	900	20058305	20058329	20058354	20058405	58.8	-	50	15
1,450	950	20058306	20058330	20058355	20058406	59.3	-	50	15
1,500	1,000	1421881	20058331	20058356	20058407	59.8	-	50	15
1,550	1,050	20058307	20058332	20058357	20058408	60.3	-	50	15
1,600	1,100	20058308	20058333	20058358	20058409	60.8	-	50	15
1,650	1,150	20058309	20058334	20058359	20058410	61.4	-	50	15
1,700	1,200	20058310	20058335	20058360	20058411	61.9	-	50	15
1,750	1,250	20058311	20058336	20058361	20058412	62.4	-	50	15
1,800	1,300	20058312	20058337	20058362	20058413	62.9	-	50	15
1,850	1,350	20058313	20058338	20058363	20058414	63.4	-	50	15
1,900	1,400	20058314	20058339	20058364	20058415	64	-	50	15
1,950	1,450	20058315	20058340	20058365	20058416	64.5	-	50	15
2,000	1,500	20058316	20058341	20058366	20058417	65	-	50	15
2,050	1,550	20058317	20058342	20058367	20058418	65.5	-	50	15
2,100	1,600	20058318	20058343	20058368	20058419	66	-	50	15
2,150	1,650	20058319	20058344	20058369	20058420	66.5	-	50	15
2,200	1,700	20058320	20058345	20058370	20058421	67.1	-	50	15
2,250	1,750	20058321	20058346	20058371	20058422	67.6	-	50	15
2,300	1,800	20058322	20058347	20058372	20058423	68.1	-	50	15
2,350	1,850	20058323	20058348	20058373	20058424	68.6	-	50	15
2,400	1,900	20058324	20058349	20058374	20058425	69.1	-	50	15

SCOPE OF SUPPLY	SA	TA
Wheel bolts loose	Yes	Yes
Adapter bracket loose	Yes	Yes
Axle Bowden cables loose	Yes	Yes
Compensation profile loose	Yes	No

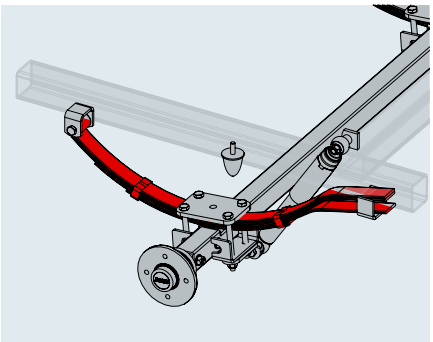


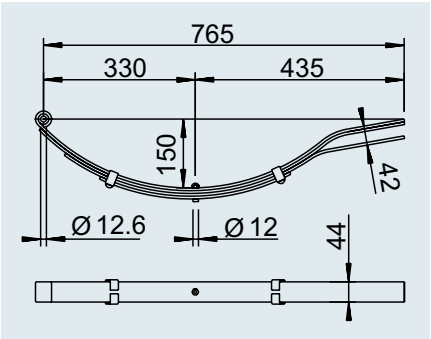


ACCESSORIES FOR RIGID UNBRAKED / BRAKED AXLES

Single axle and tandem axle

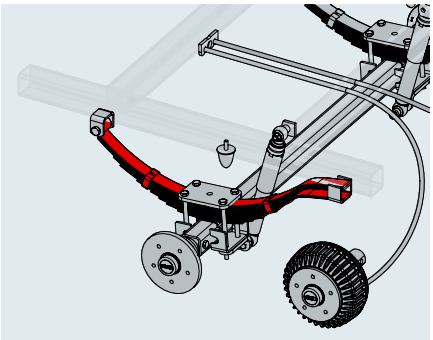
Leaf springs for 750 / 1,500 / 1,800 kg

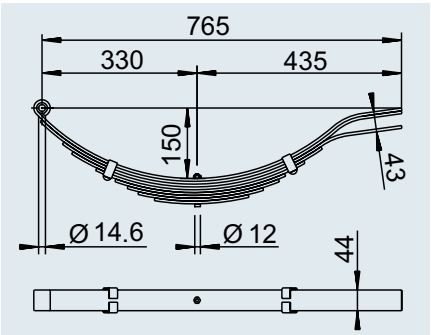




SAP: BLATTFEDER 375 KG

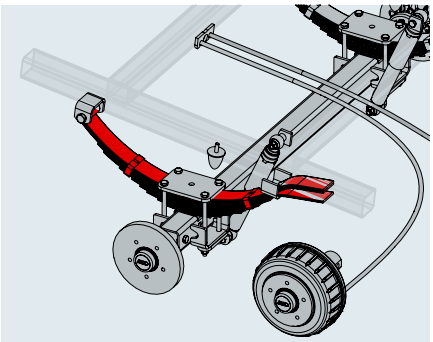
Leaf spring for straight axle 750 kg	
Part No.	1368092
Surface treatment	primed
	6.2 kg
	–
	135 units

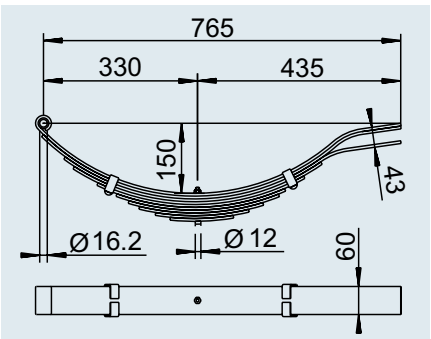




SAP: BLATTFEDER 750 KG

Leaf spring for straight axle 1,500 kg	
Part No.	1368110
Surface treatment	primed
	9.8 kg
	–
	135 units

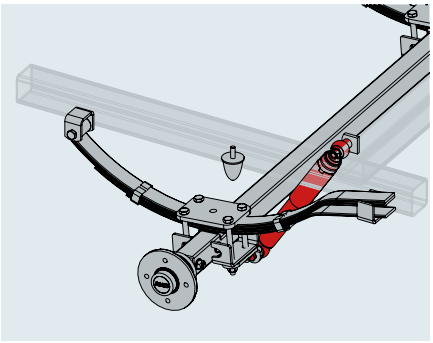


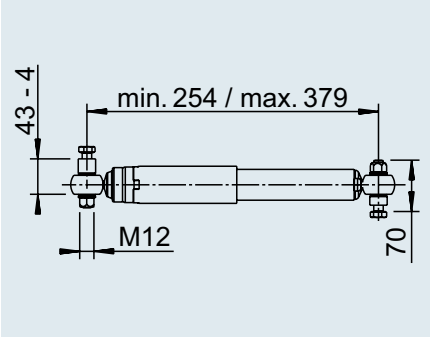


SAP: BLATTFEDER 900 KG

Leaf spring for straight axle 1,800 kg	
Part No.	1369701
Surface treatment	primed
	13.8 kg
	–
	135 units

Shock absorber for 750 / 1,500 / 1,800 kg and tandem 3,000 / 3,500 kg





SAP: STOSSDÄMPFER A2-125-160/50 KB

Shock absorber for straight axle750/1,500/ 1,800 kg I tandem 3,000/3,500 kg	
Part No.	283722
Surface treatment	primed
	1.3 kg
	–
	350 units

Order overview Mounting material for leaf springs 750 / 1,500 / 1,800 kg

SAP: MONTAGETEILE BLATTFED 750 KG

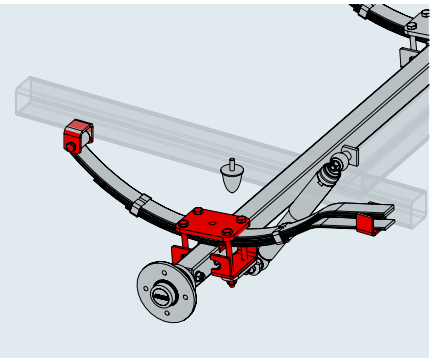
Mounting material for leaf spring 750 kg	
Part No.	1225345
Surface treatment	galvanised
	3.5 kg
	50 units
	–

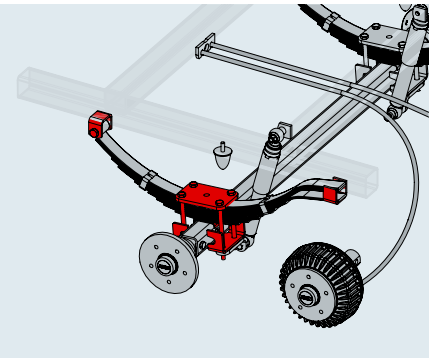
SAP: MONTAGETEILE BLATTFED 1500 KG

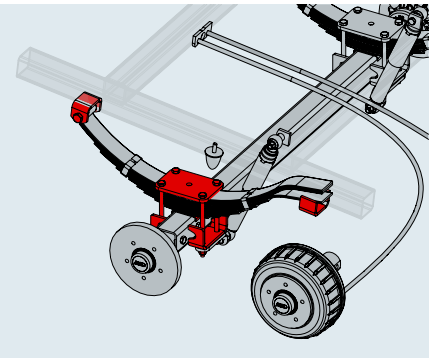
Mounting material for leaf spring 1,500 kg	
Part No.	1225243
Surface treatment	galvanised
	3.7 kg
	50 units
	–

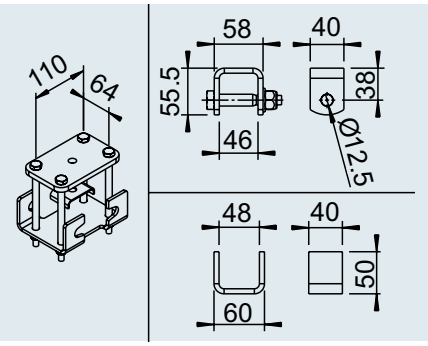
SAP: MONTAGETEILE BLATTFED 1800 KG

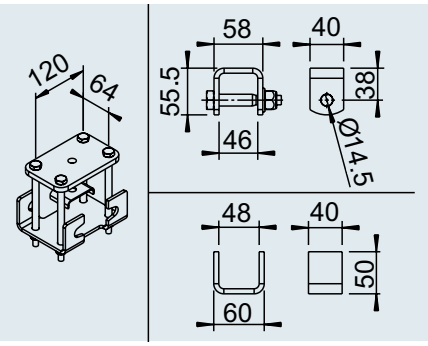
Mounting material for leaf spring 1,800 kg	
Part No.	1225600
Surface treatment	galvanised
	5.2 kg
	50 units
	–

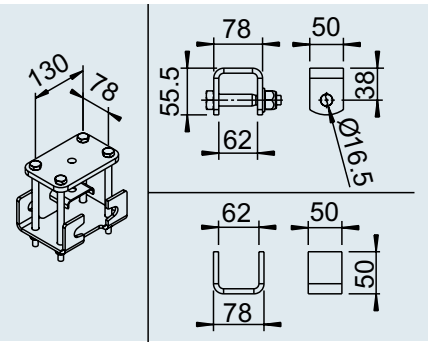


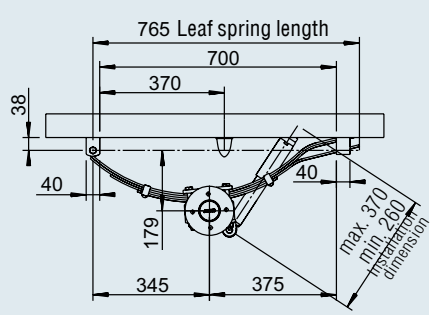


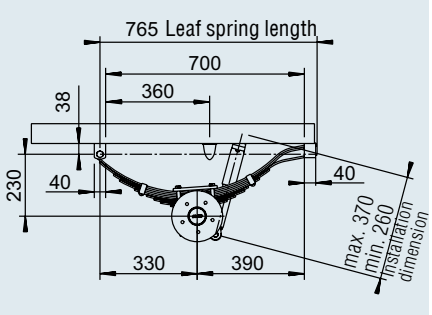


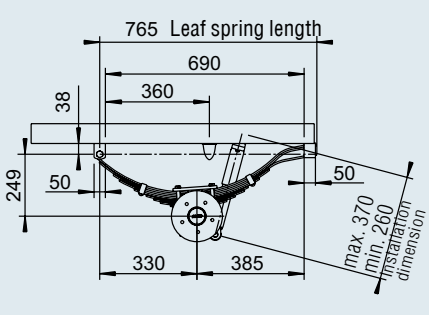








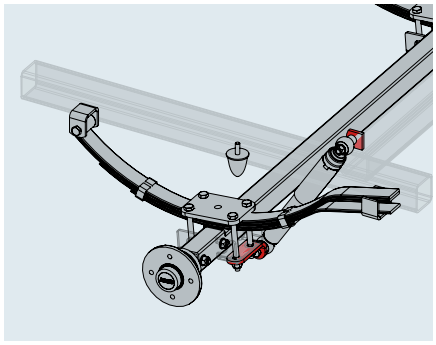


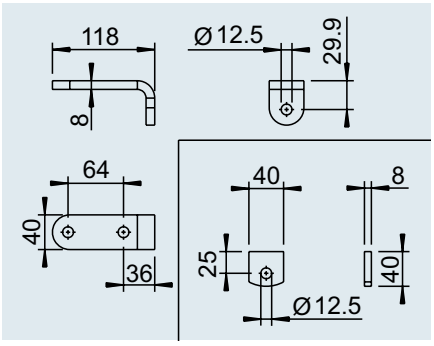


ACCESSORIES FOR RIGID UNBRAKED / BRAKED AXLES

Single axle and tandem axle

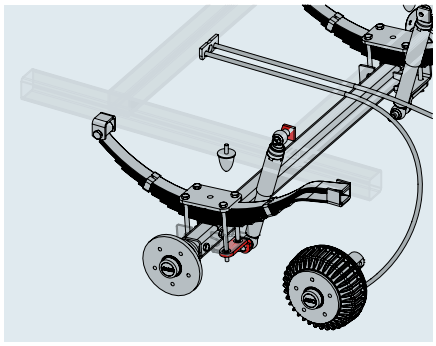
Mounting material for shock absorber 750 / 1,500 / 1,800 kg

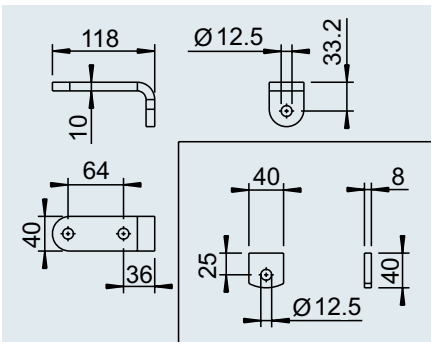




SAP: MONTAGETEILE STOSSD BLATTFED 750 KG

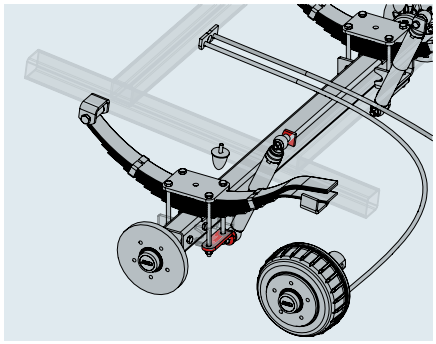
Mounting material for shock absorber 750 kg	
Part No.	1225210
Surface treatment	galvanised
	0.5 kg
	50 units
	–

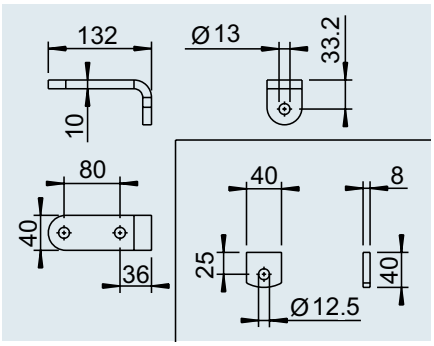




SAP: MONTAGETEILE STOSSD BLATTFED 1500 KG

Mounting material for shock absorber 1,500 kg	
Part No.	1225244
Surface treatment	galvanised
	0.5 kg
	50 units
	–

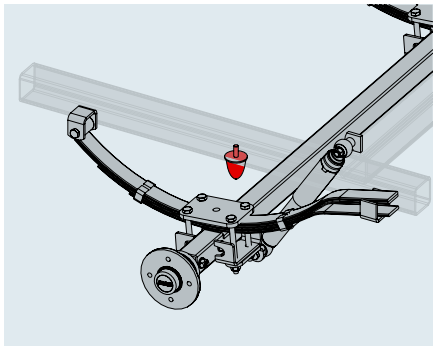


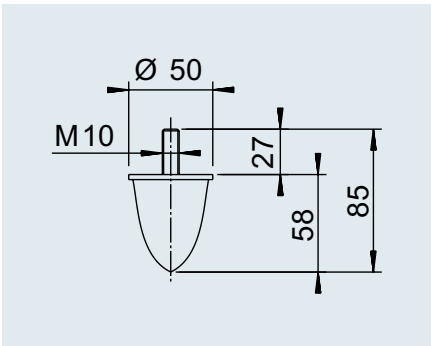


SAP: MONTAGETEILE STOSSD BLATTFED 1800 KG

Mounting material for shock absorber 1,800 kg	
Part No.	1225248
Surface treatment	galvanised
	0.6 kg
	50 units
	–

Rubber buffer for 750 / 1,500 / 1,800 kg and tandem 3,000 / 3,500 kg





SAP: GUMMIPUFFER AUF PLATTE MIT M10

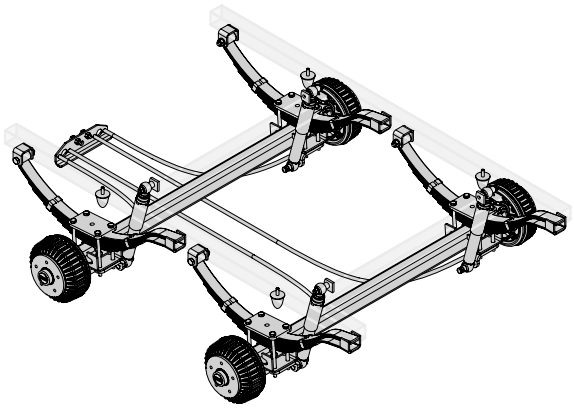
Rubber buffer for straight axle 750 / 1,500 / 1,800 kg I tandem 3,000 / 3,500 kg	
Part No.	691393
Surface treatment	
	0.2 kg
	50 units
	–

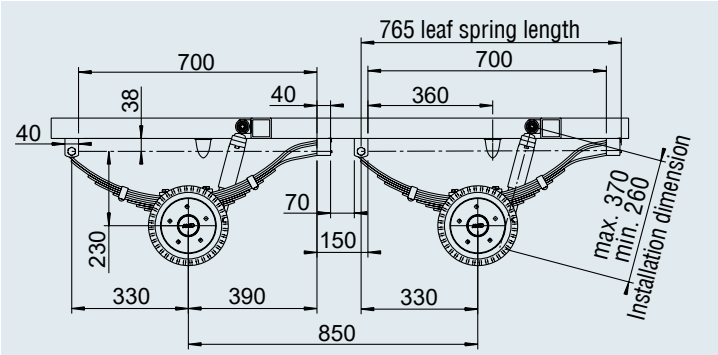
COMBINATION HELP

for tandem axles and accessories

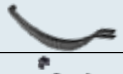
Tandem 3,000 kg

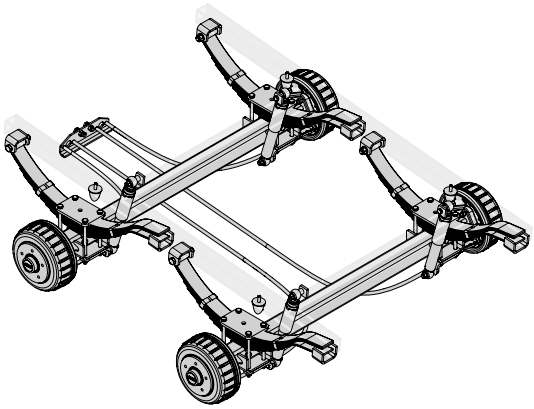
	Part No.	Number of units	Illustration	Dimensioned drawings
Leaf spring	1368110	4		See single axle
Mounting material for leaf spring	1225243	4		See single axle
Shock absorbers	283722	4		See single axle
Mounting material for shock absorber	1225244	4		See single axle
Rubber buffer	691393	4		See single axle
Rigid braked axle	See rigid braked axles	1x front axle 1x rear axle		See rigid braked axles

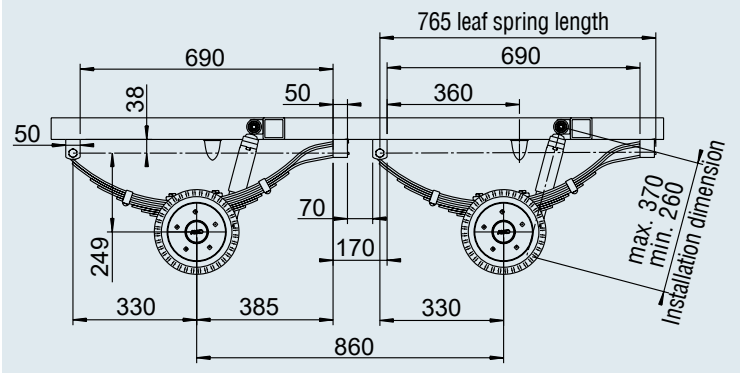




Tandem 3,500 kg

	Part No.	Number of units	Illustration	Dimensioned drawings
Leaf spring	1369701	4		See single axle
Mounting material for leaf spring	1225600	4		See single axle
Shock absorbers	283722	4		See single axle
Mounting material for shock absorber	1225248	4		See single axle
Rubber buffer	691393	4		See single axle
Rigid braked axle	See rigid braked axles	1x front axle 1x rear axle		See rigid braked axles



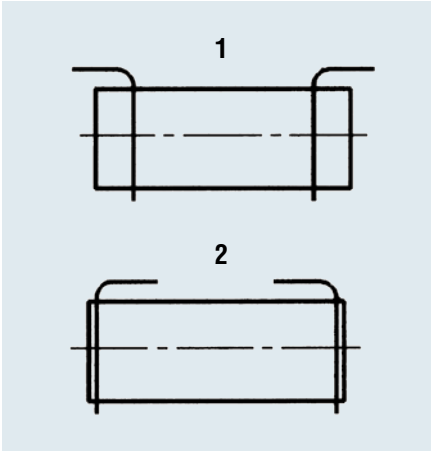


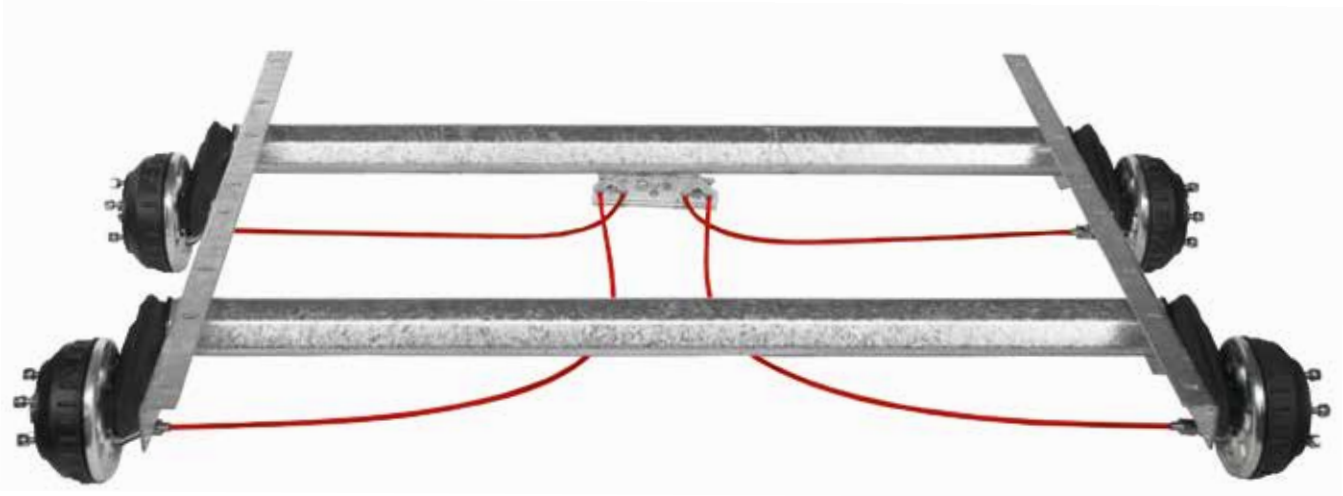
TANDEM AXLE UNIT AXLE BRAKED

1,600 to 3,500 kg

TECHNOLOGY

Axle load: See table
Wheel brake: See table
Suspension: Hexagonal rubber suspension
Swing arm: See table
Wheel connection: See table
Wheel bearing: Compact bearing





Part No.	Type	Axle load	Axle dimensions			Rims and tyres					
			BC A	OHF A	Axle beam	Wheel brake	Wheel connec-tion	Wheel bolt	Offset from to	Recom-mended rims	Recommended tyres
		kg	mm	mm	Ø				mm		
244076*	2xB 850	1,600	1,550	2,000	80	1637	100x4	M12x1.5 taper	27 – 45	4½ Jx13	165 R 13
244077**	2xB1000	2,000	1,550	2,000	97	2051	112x5	M12x1.5 ball	26 – 40	5 Jx14	175 R 14
244078**	2xB1200	2,500	1,550	2,000	97	2051	112x5	M12x1.5 ball	26 – 30	5½ Jx14	185 R 14
244079**	2xB1600	3,000	1,550	2,000	97	2051	112x5	M12x1.5 ball	26 – 30	5½ Jx14	185 R 14 C
245532**	2xB1800	3,500	1,550	2,050	110	2361	112x5	M12x1.5 ball	26 – 30	6 Jx14	185 R 14 C
249159*	2xB 850	2,000	1,550	2,000	80	1637	100x4	M12x1.5 taper	27 – 33	5½ Jx13	185/70 R 13 max. dyn.
249160*	2xB 850	2,000	1,550	2,000	80	1637	112x5	M12x1.5 ball	27 – 33	5½ Jx13	Ø 0.606 min. dyn. Ø 0.420
249161*	2xB 850	2,000	1,550	2,000	80	2051	112x5	M12x1.5 ball	27 – 33	5½ Jx14	185 R 14 max. dyn.
249162*	2xB1200	2,600	1,550	2,000	97	2051	112x5	M12x1.5 ball	30 – 33	5½ Jx14	Ø 0.640 min. dyn. Ø 0.540
249163*	2xB1600	3,000	1,550	2,000	97	2051	112x5	M12x1.5 ball	30	5½ Jx15	185 R 14 C

*BASIC **PLUS

SCOPE OF SUPPLY

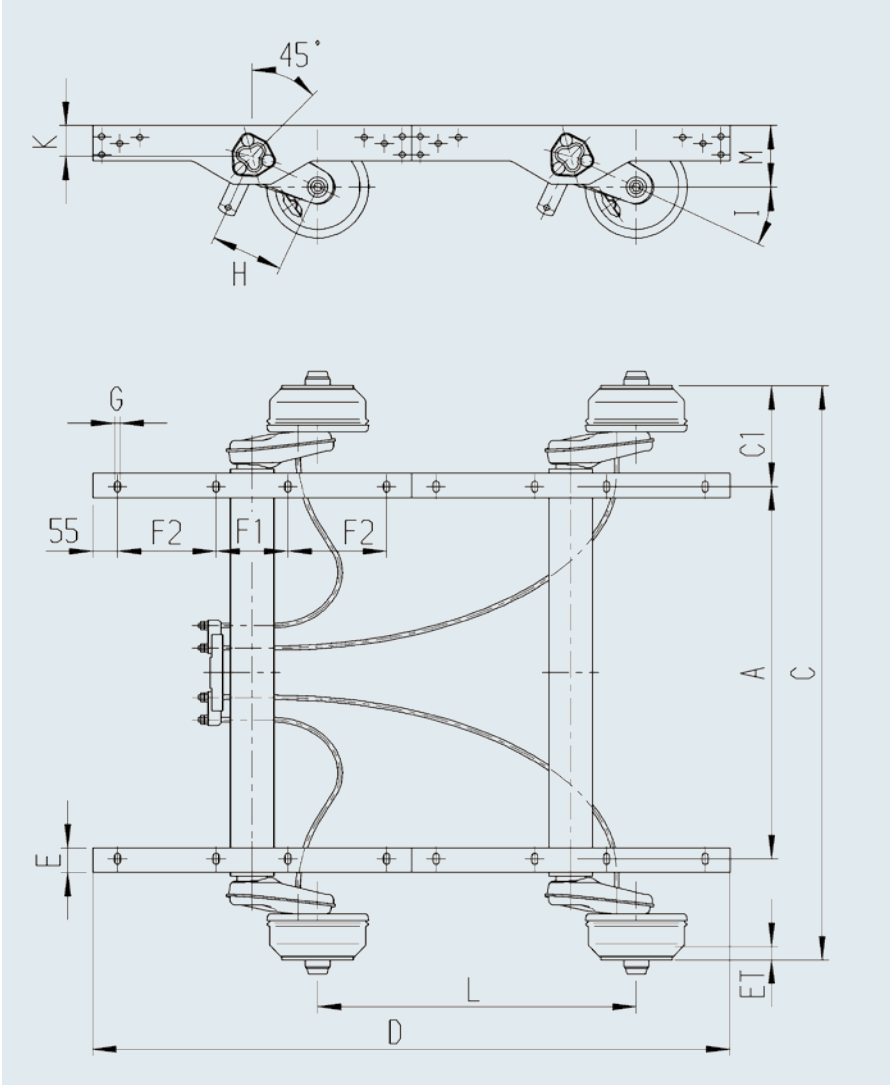
- Single axle adapter bracket welded on
- Tandem plug-on adapter bracket loose
- Tandem compensation loose
- Bowden cables loose
- Wheel bolts loose
- Shock absorber brackets only welded-on in type B1800

SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brakes galvanised

ACCESSORIES

- Shock absorber (see table of contents)



4

Clamping mount mm						Swing arm						Minimum axle dimensions					
Variant No.	D	E	F1	F2	G	H	Standard I	Special I	K	L	M at 25°	C min. mm	C1 min. with clamping mount variant no. mm				
1	1,420	55	160	220	13	158	25°	–	65	710	133	1,190	200/1	90	-	10	20
1	1,420	55	160	220	13	175	25°	–	65	710	140	1,220	215/1	130	-	10	20
1	1,420	55	160	220	13	175	25°	–	65	710	140	1,325	215/1	131	-	10	20
1	1,420	55	160	220	13	175	25°	–	65	710	133	1,420	230/1	150	-	10	20
2	1,460	60	200	220	18	175	25°	–	75	730	150	1,320	240/2	161	-	10	20
2	1,420	55	160	220	13	158	25°	–	65	710	133	1,100	182/2	90	-	10	20
2	1,420	55	160	220	13	158	25°	–	65	710	133	1,100	182/2	90	-	10	20
2	1,420	55	160	220	13	161.5	25°	–	69	710	133	1,100	182/2	93	-	10	20
2	1,420	55	160	220	13	161.5	25°	–	69	710	133	1,150	187/2	118	-	10	2
2	1,420	55	160	220	13	160	25°	–	69	710	133	1,250	187/2	120	-	10	20

TRIDEM BRAKED AXLES

3,500 kg

TECHNOLOGY

Model:	COMPACT
Axle type:	B1600-3
Axle load:	SA 1,500 kg
	TRI 3,500 kg
Wheel brake:	2051
Suspension:	Hexagonal rubber suspension
Swing arm:	161.5 mm
Wheel connection:	112x5
Wheel bearing:	Compact bearing
Centre hole rim:	min. 57 mm

SCOPE OF SUPPLY

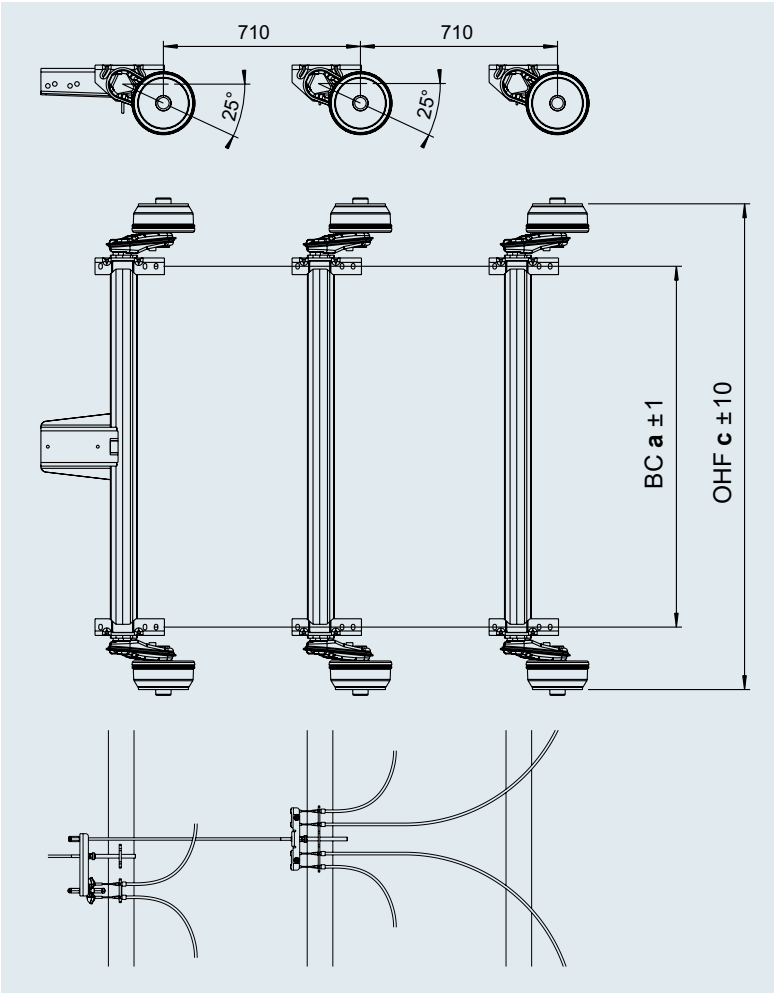
- Adapter bracket welded on
- Single axle and tandem compensation profile
- Bowden cables loose
- Wheel bolts loose

SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brake galvanised

ACCESSORIES

- Shock absorber



SAP: COMP-ACHSE GRM GLL TRI3500

Part No. without AAA	Part No. with AAA	BC a mm	OHF c mm	Wheel bolts				
1422276	–	1,300	1,750	Ball M12x1.5	159	–	25	10

UNBRAKED HALF AXLES

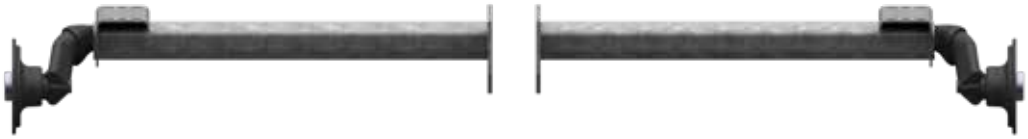
750 to 1,000 kg

SURFACE TREATMENT

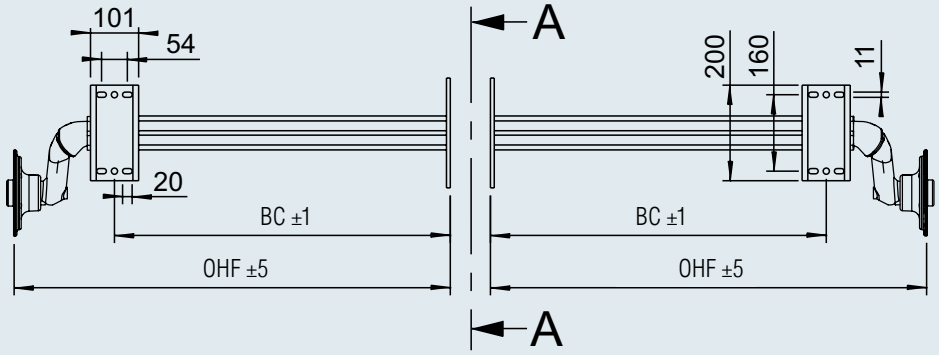
- Axle profile hot-dip galvanised

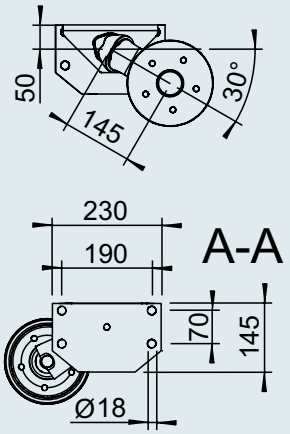
SCOPE OF SUPPLY

- Wheel bolts loose
- Operating instructions

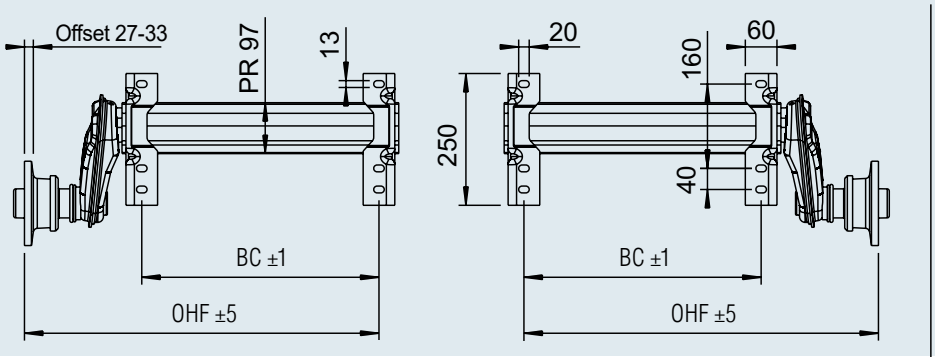


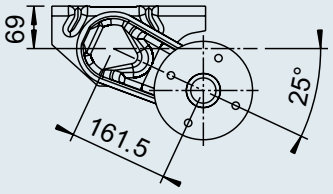
Part No. 1426205





Part No. 1421391





SAP: ACHSE GU UBR HA 750 OPTIMA WD

Part No.	Axle load per pair kg	Type	Watertight	Wheel brake	Wheel connec-tion	BC mm	OHF mm				
1426205	750	750-5	Yes	No	112x5	703	913	33	–	30	10
1421391	1,000	1000-3	No	No	100x4	450	673	37	–	30	10

BRAKED HALF AXLES

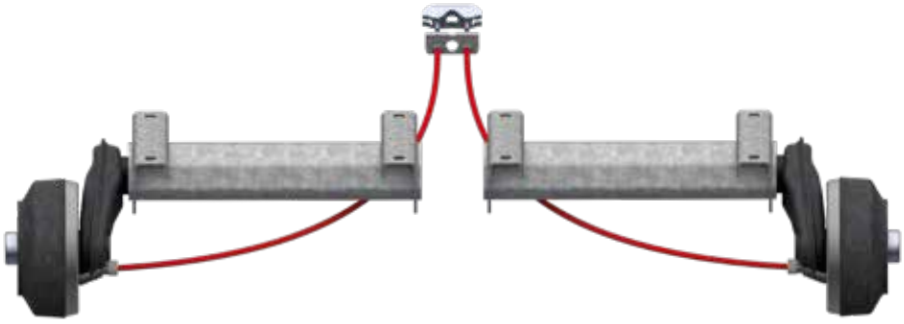
1,300 kg to 1,500 kg

SCOPE OF SUPPLY

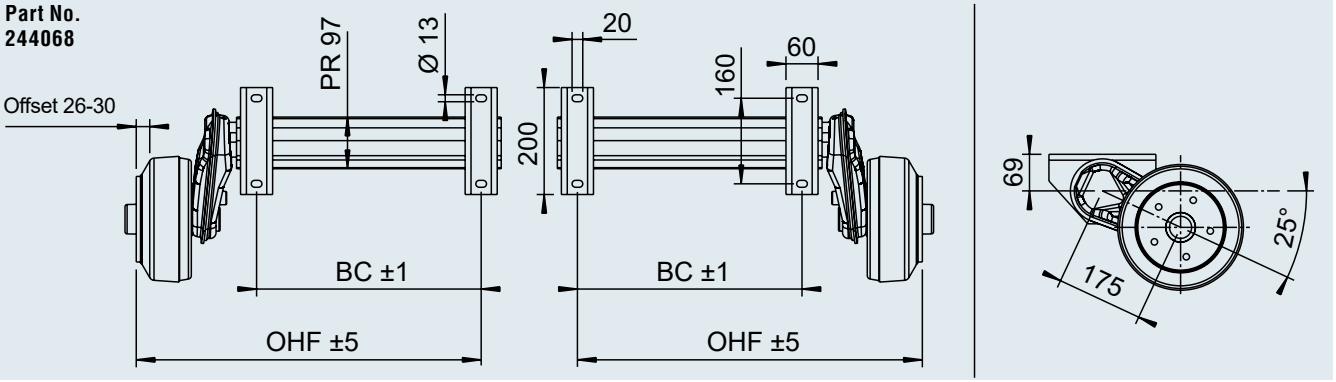
- Adapter bracket single axle loose
- Single axle compensation profile loose
- Bowden cables loose
- Wheel bolts loose

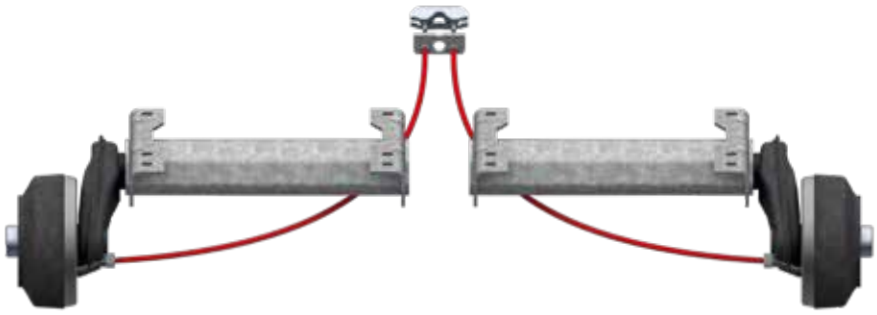
SURFACE TREATMENT

- Axle profile hot-dip galvanised

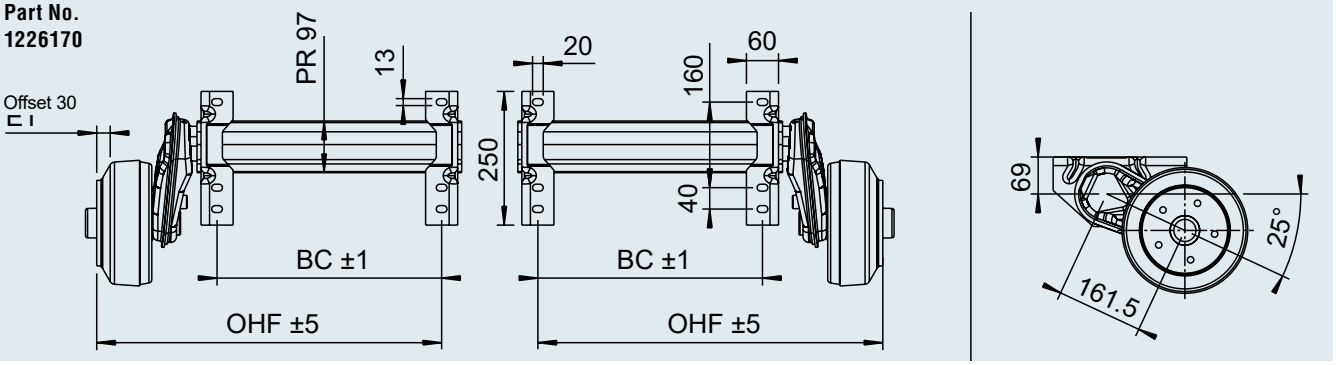


Part No.
244068





Part No.
1226170



SAP: EURO1ACHSE GRM GLL HA1300

Part No.	Axle load per pair kg	Type	Wheel brake	Wheel connec-tion	BC mm	OHF mm				
244068	1,300	B 1200-5	2051 vers. A	112x5	420	700	51	–	30	10
1226170	1,500	B 1600-3	2051 vers. Ab	112x5	420	645	54	–	30	10

BRAKED HALF AXLES

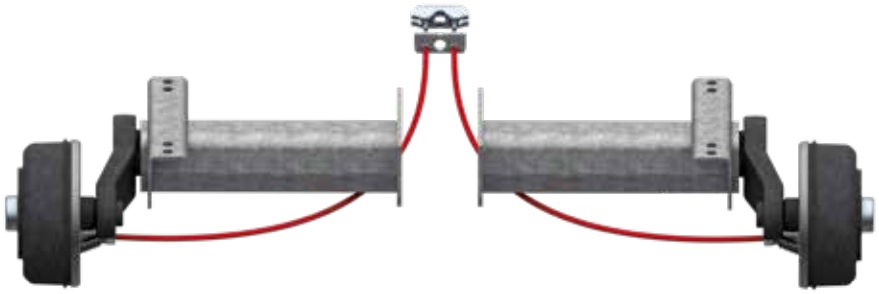
1,800 kg to 2,500 kg

SCOPE OF SUPPLY

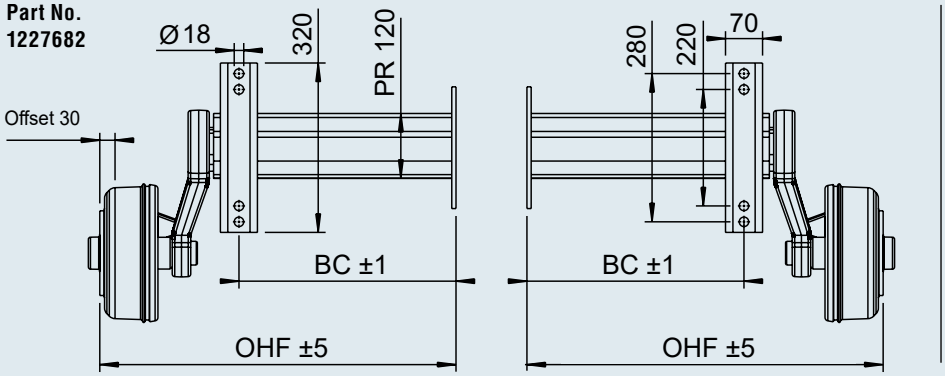
- Adapter bracket single axle loose
- Single axle compensation profile loose
- Bowden cables loose
- Wheel bolts loose

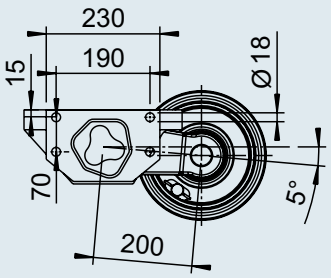
SURFACE TREATMENT

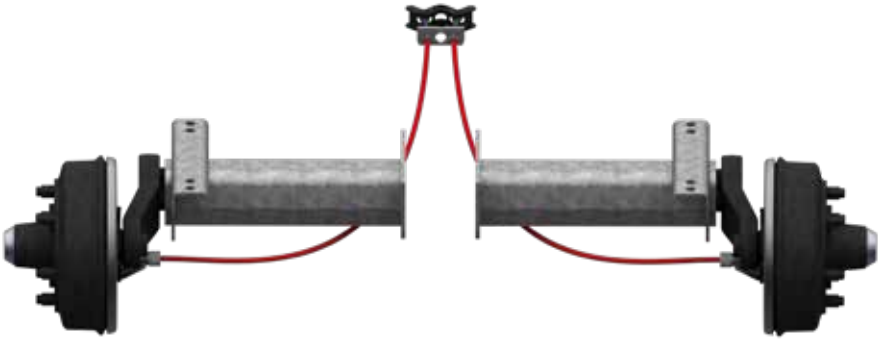
- Axle profile hot-dip galvanised



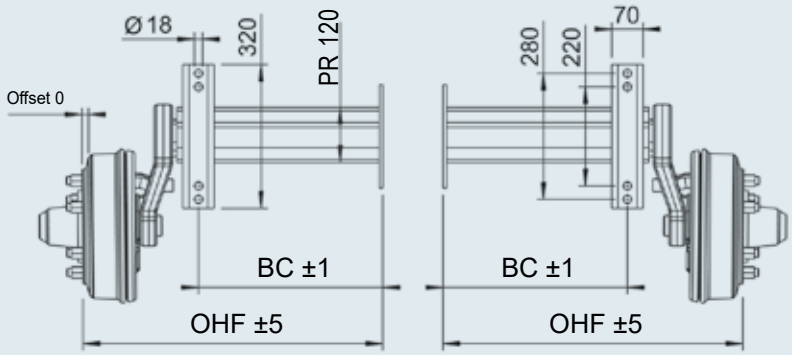
Part No.
1227682

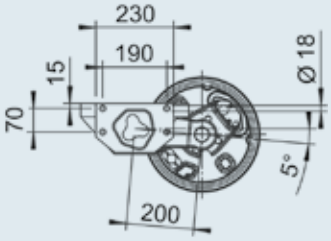






Part No.
1227681





SAP: ACHSE GU LNGS GRM EA1800

Part No.	Axle load per pair kg	Type	Wheel brake	Wheel connec-tion	BC mm	OHF mm				
1227682	1,800	B 2000-0	2361	112x5	410	673	92	–	30	10
1227681	2,500	B 2500-8	3062	205x6	410	668	108	–	30	10

BRAKED AXLES WITH DRIVE

1,300 kg to 3,500 kg

YOUR ADVANTAGE

- Trailer independent from towing vehicle (no PTO connection required on towing vehicle)
- Wheel brake left cpl. prepared with drive shaft (spline shaft profile according to DIN ISO 14 - 6 x 21 x 25)

SCOPE OF SUPPLY

- Axle cpl. (see technical drawing)
- Single axle adapter bracket welded on with top hat profile SA and TA adapter bracket
- Single axle compensation profile loose
- Bowden cables loose
- Wheel bolts loose (standard M12 x 1.5 ball)
- Operating manual

SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Axle link with top coat
- Brake back plate powder-coated
- Drive shaft briefly gas-nitrided

APPLICATION EXAMPLES:

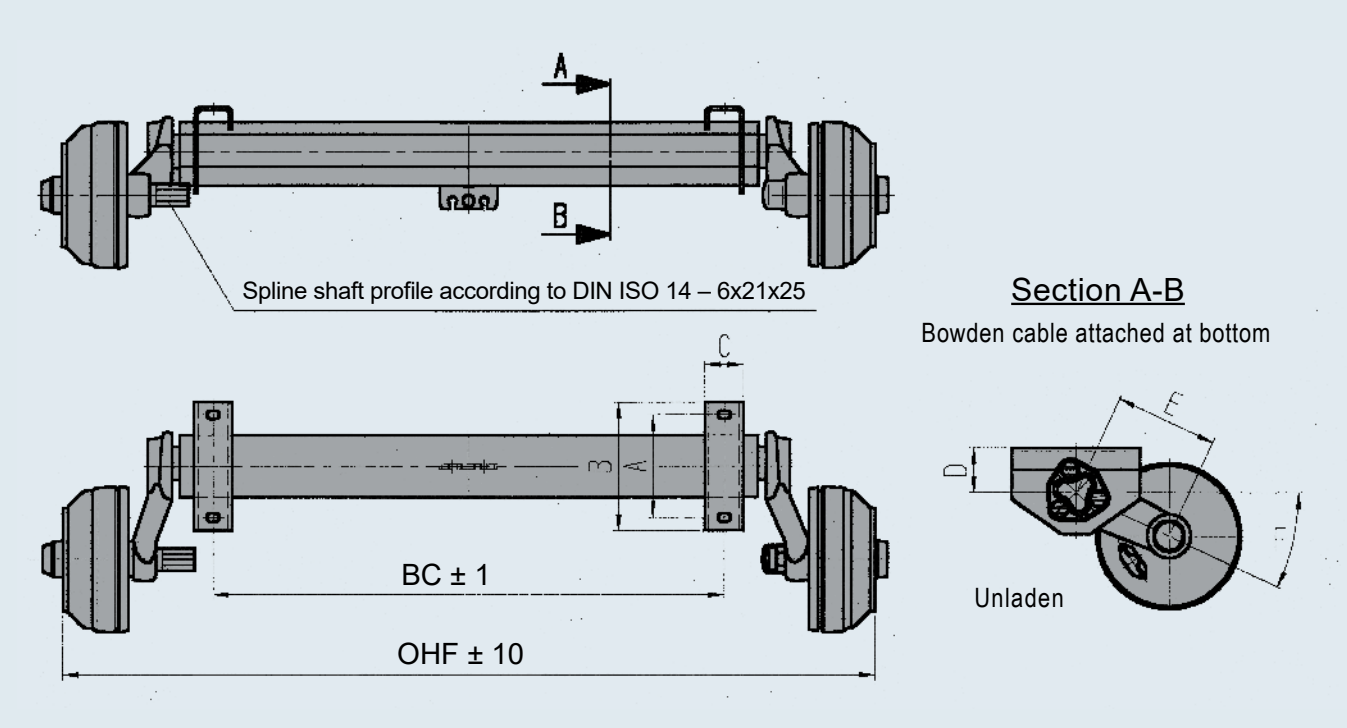
- Gritter trailer
- Trailer with cooling unit (rolling energy is converted into electricity by the drive shaft)

	Single axle trailer				Tandem*			
Axle load	1,300 kg	1,600 kg	1,800 kg	2,000 kg	2,600 kg	3,200 kg	3,500 kg	3,500 kg
Axle profile	97x4	110x4	110x4	120x5	97x4	110x4	110x4	120x5
Wheel brake type	2051	2361	2361	2361	2051	2361	2361	2361
Axle distance rec.	–	–	–	–	650 mm	650 mm	650 mm	650 mm

*With tandem axle, the left axle link on the rear axle is equipped with the drive shaft

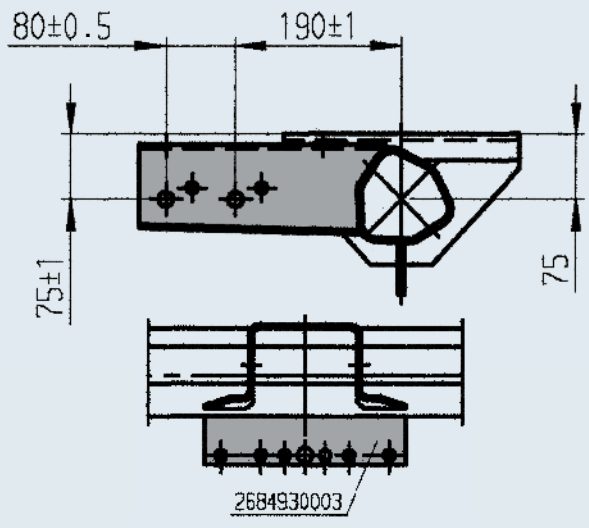
BRAKED AXLES WITH DRIVE

1,300 kg to 3,500 kg



ORDER NOTE:
Axles according to order overview optionally available with top hat profile and/or tandem adapter bracket as standard welded on at the AL-KO factory.

Accessories for welded-on top hat profile



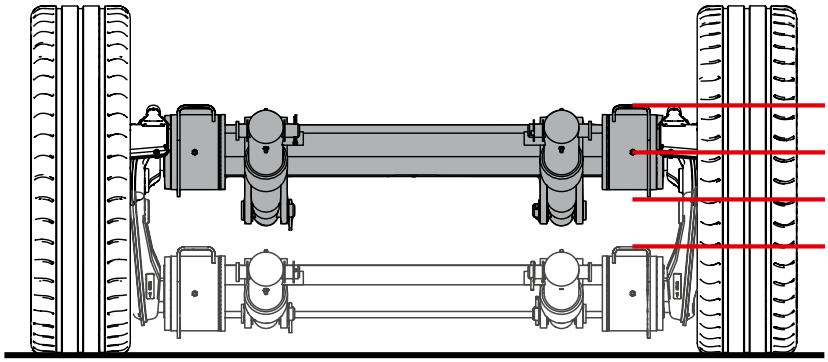
Axle type	Axle load SA (kg)	Axle load TA (kg)	Wheel brake Type	Wheel connec-tion	BC (mm)	OHF (mm)	Dimen-sion A (mm)	Dimen-sion B (mm)	Dimen-sion C (mm)	Dimen-sion D (mm)	Dimen-sion E (mm)	Dimen-sion F (mm)	Axle beam
B 1200-5	1,300	2,600	2051	112x5	800-1,800	1,290-2,290	160	200	60	65	160	25°	97x4
B 1800-5	1,600	3,200	2361	112x5	800-1,800	1,300-2,320	220	267	70	75	175	25°	110x4
B 1800-9	1,800	3,500	2361	112x5	800-1,800	1,300-2,320	220	267	70	75	175	25°	110x4
B 2000-4	2,000	3,500	2361	112x5	845-1,800	1,345-2,345	220/280	320	70	75	175	25°	120x5

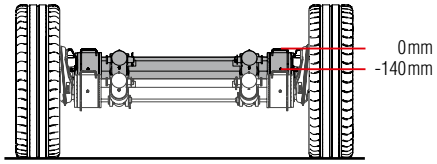
LOWERING AXLES

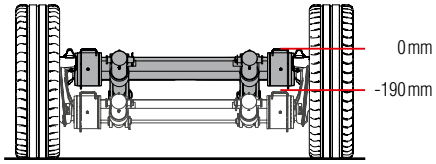
Variants

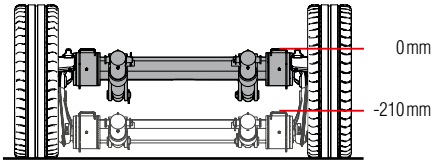
- **Lowering down to 140 mm** with **axle types BRA 1600** with **swing arm length 160 mm**
- **Lowering down to 190 mm** with **axle types BRA 2500/3000/3500** with **swing arm length 200 mm**
- **Lowering down to 210 mm** with **axle types BRA 1800/2500/3000/3500** with **swing arm length 230 mm**

OVERVIEW:









APPLICATION EXAMPLES:

Car transporter trailer

The lower-cost solution "inclined angle or partial lowering down to 140 mm" usually meets the requirements of this target group.

- Simple and low-cost loading and unloading

Sales trailer/commercial trailer

Lowering flat down to the ground is called for here. With 210 mm lowering, the trailer will usually make contact with the road. This means loading is possible quickly and safely with very simple means.

- Sales talks are conducted on an equal footing

LOWERING AXLES

Function

Single axle function
Two hydraulic cylinders are mounted between the axle beam and trailer frame. The axle support blocks are mounted on the axle profile so they can rotate. The axle profile can be lowered or raised with the body by means of a hydraulic pump. The suspension is not impaired during driving.

Tandem axles function
Two hydraulic cylinders are mounted between the front and rear axle profiles.
The axle support blocks are mounted on both axle profiles so they can rotate. Both axle profiles and the body can be lowered or raised using a hydraulic pump. The suspension is not impaired during driving.

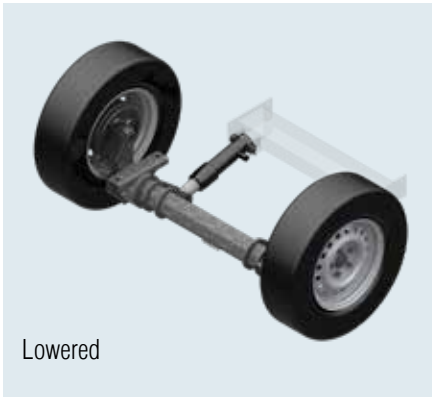
The arrangement of hydraulic cylinders in tandem axles also carries out the function of equalising the load between the front and rear axles. Instead of the compensation linkage, the two hydraulic cylinders act when driving, thereby ensuring even load distribution on both axles.

FUNCTIONS

Lowering single / tandem axles
Open valves on the hydraulic pump. The cylinder retracts and the axle profile with body is lowered on both sides by the vehicle's own weight.

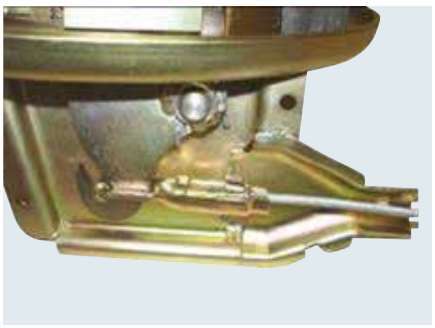
Raising single / tandem axles
Operate the hydraulic pump (electric pump/ hand pump). The cylinder extends and the axle profile with body is raised on both sides.

Driving condition


Lowered

MOUNTING

- Axle brackets with rotating mounting.



- Bowden cable outlet 90°
  (no kinking during lowering procedure).
  Bowden cable guide welded-on.

LOWERING AXLES DOWN TO 140 MM

Single axle trailer 1,350 kg to 1,500 kg

TECHNOLOGY

Axle type:	BRA 1600-05
	BRA 1600-3
Axle load SA:	1,350 kg / 1,500 kg
Wheel brake:	2051Ab
Wheel connection:	112x5
Wheel bolts:	M12x1.5 ball

SCOPE OF SUPPLY

- 2 hydraulic cylinders with mounting components
- Adapter bracket single axle loose
- Recovery device
- Compensation profile
- Bowden cables loose
- Wheel bolts loose

SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brake galvanised

SAP: ACHSE GU BRA GLL EA1350

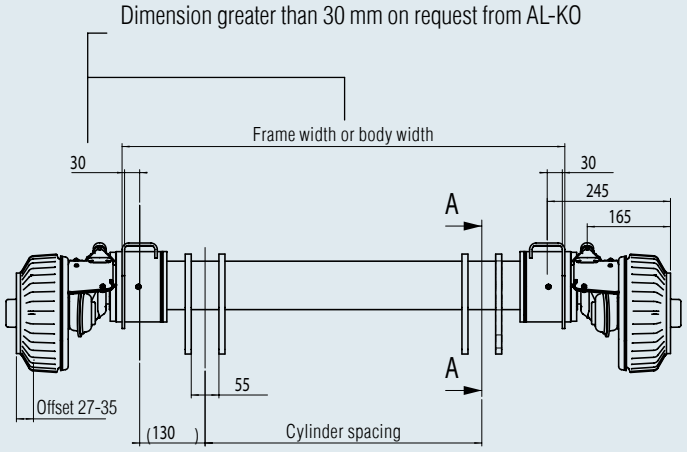
Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
20057201	BRA 1600-05	1,350	1,100	1,590	840	88	20	20
20057202	BRA 1600-05	1,350	1,200	1,690	940	89	20	20
20057203	BRA 1600-05	1,350	1,300	1,790	1,040	90	20	20
20057204	BRA 1600-05	1,350	1,400	1,890	1,140	91	20	20
20057205	BRA 1600-05	1,350	1,500	1,990	1,240	92	20	20
20057206	BRA 1600-05	1,350	1,600	2,090	1,340	93	20	20
20057207	BRA 1600-05	1,350	1,700	2,190	1,440	94	20	20
20057208	BRA 1600-05	1,350	1,800	2,290	1,540	95	20	20
20057209	BRA 1600-05	1,350	1,900	2,390	1,640	96	20	20

SAP: ACHSE GU BRA GLL EA1500

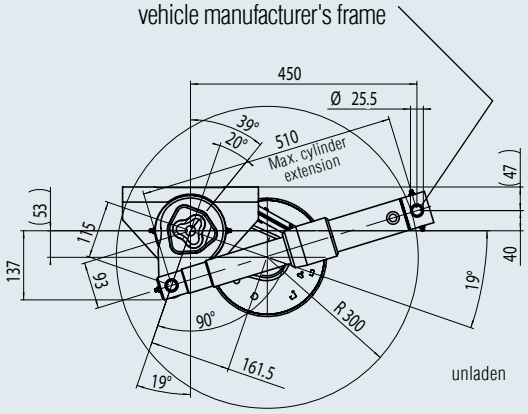
Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
20057210	BRA 1600-3	1,500	1,100	1,590	840	88	20	20
20057211	BRA 1600-3	1,500	1,200	1,690	940	89	20	20
20057212	BRA 1600-3	1,500	1,300	1,790	1,040	90	20	20
20057213	BRA 1600-3	1,500	1,400	1,890	1,140	91	20	20
20057214	BRA 1600-3	1,500	1,500	1,990	1,240	92	20	20
20057215	BRA 1600-3	1,500	1,600	2,090	1,340	93	20	20
20057216	BRA 1600-3	1,500	1,700	2,190	1,440	94	20	20
20057217	BRA 1600-3	1,500	1,800	2,290	1,540	95	20	20
20057218	BRA 1600-3	1,500	1,900	2,390	1,640	96	20	20

Only comply with this note if the body width and frame form a perpendicular plane!

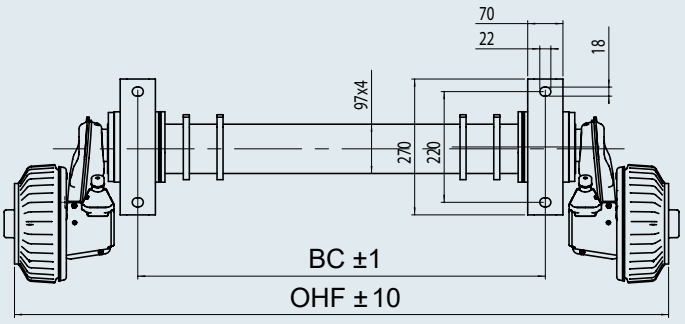
If the body is mounted over the wheels, the maximum dimension of 30 mm for the frame must be adhered to!

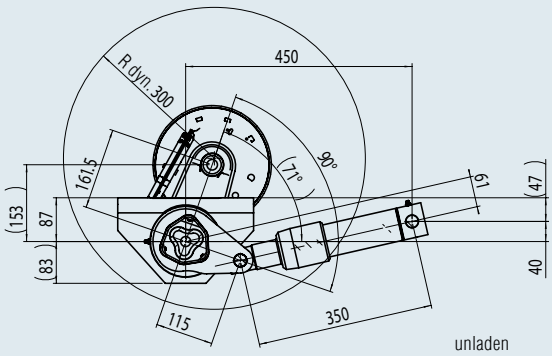


In driving position!



In lowered position!





Permitted tyre size min. R stat. 270 mm
The tyre radius must not be less than R stat. 270 mm!

Max. lowering travel approx. 140 mm
Suspension travel approx. 50 mm at 1 x GA

LOWERING AXLES DOWN TO 140 MM

Tandem 2,000 kg to 3,000 kg

TECHNOLOGY

Axle type: BRA 1600-12
BRA 1600-05
BRA 1600-3
Axle load TA: 2,000 kg / 2,700 kg / 3,000 kg
Wheel brake: 2051Ab
Wheel connection: 112x5
Wheel bolts: M12x1.5 ball

SCOPE OF SUPPLY

- 2 hydraulic cylinders with mounting components
- Adapter bracket tandem loose
- Recovery device
- Compensation profile
- Bowden cables loose
- Wheel bolts loose

SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brake galvanised

SAP: ACHSE GU BRA GLL TA2000

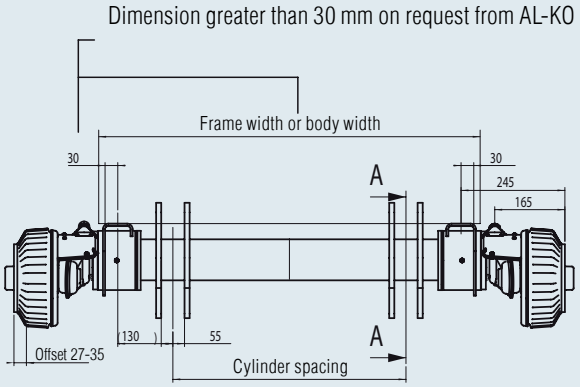
Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
20057219	BRA 1600-12	2,000	1,100	1,590	840	152	20	20
20057220	BRA 1600-12	2,000	1,200	1,690	940	154	20	20
20057221	BRA 1600-12	2,000	1,300	1,790	1,040	156	20	20
20057222	BRA 1600-12	2,000	1,400	1,890	1,140	158	20	20
20057223	BRA 1600-12	2,000	1,500	1,990	1,240	160	20	20
20057224	BRA 1600-12	2,000	1,600	2,090	1,340	162	20	20
20057225	BRA 1600-12	2,000	1,700	2,190	1,440	164	20	20
20057226	BRA 1600-12	2,000	1,800	2,290	1,540	166	20	20
20057227	BRA 1600-12	2,000	1,900	2,390	1,640	168	20	20

Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
20057228	BRA 1600-05	2,700	1,100	1,590	840	152	20	20
20057229	BRA 1600-05	2,700	1,200	1,690	940	154	20	20
20057230	BRA 1600-05	2,700	1,300	1,790	1,040	156	20	20
20057231	BRA 1600-05	2,700	1,400	1,890	1,140	158	20	20
20057232	BRA 1600-05	2,700	1,500	1,990	1,240	160	20	20
20057233	BRA 1600-05	2,700	1,600	2,090	1,340	162	20	20
20057234	BRA 1600-05	2,700	1,700	2,190	1,440	164	20	20
20057235	BRA 1600-05	2,700	1,800	2,290	1,540	166	20	20
20057236	BRA 1600-05	2,700	1,900	2,390	1,640	168	20	20

Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
20057237	BRA 1600-3	3,000	1,100	1,590	840	152	20	20
20057238	BRA 1600-3	3,000	1,200	1,690	940	154	20	20
20057239	BRA 1600-3	3,000	1,300	1,790	1,040	156	20	20
20057240	BRA 1600-3	3,000	1,400	1,890	1,140	158	20	20
20057241	BRA 1600-3	3,000	1,500	1,990	1,240	160	20	20
20057242	BRA 1600-3	3,000	1,600	2,090	1,340	162	20	20
20057243	BRA 1600-3	3,000	1,700	2,190	1,440	164	20	20
20057244	BRA 1600-3	3,000	1,800	2,290	1,540	166	20	20
20057245	BRA 1600-3	3,000	1,900	2,390	1,640	168	20	20

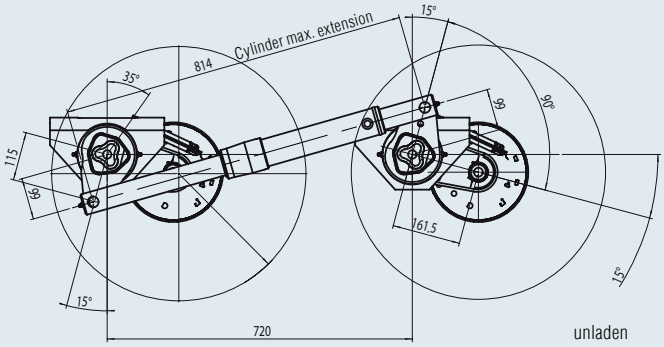
Only comply with this note if the body width and frame form a perpendicular plane!

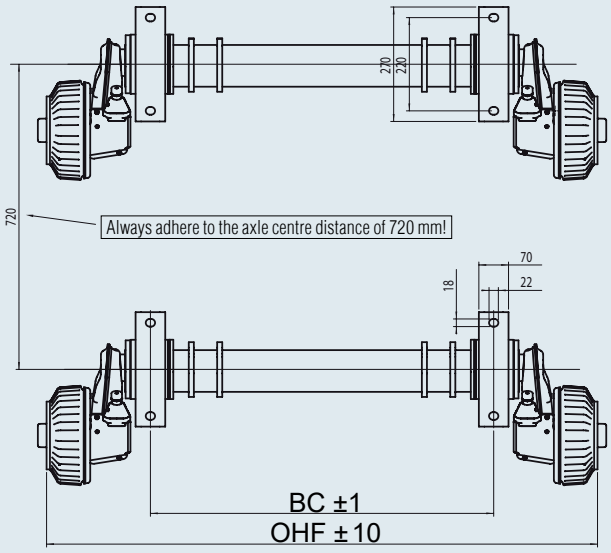
If the body is mounted over the wheels, the maximum dimension of 30 mm for the frame must be adhered to!



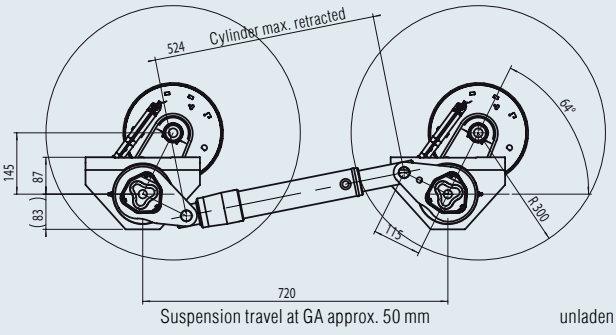
In driving position!

Articulation point on the vehicle manufacturer's frame





In lowered position!



Permitted tyre size min. R stat. 270 mm
The tyre radius must not be less than R stat. 270 mm!

Max. lowering travel approx. 140 mm
Suspension travel approx. 50 mm at 1 x GA

LOWERING AXLES DOWN TO 190 MM

Single axle trailer 2,000 kg to 3,000 kg

TECHNOLOGY

Axle type: BRA 2500-3
BRA 2500-8
BRA 3000-2
Axle load SA: 2,000 kg / 2,500 kg / 3,000 kg
Wheel brake: 3062
Wheel connection: 205x6
Wheel bolts: M18x1.5 ball

SCOPE OF SUPPLY

- 2 hydraulic cylinders with mounting components
- Adapter bracket single axle loose
- Recovery device
- Compensation profile
- Hexagon nut M10
- Ball nut M10
- Bowden cables loose
- Wheel nuts loose

SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brake black-primed

SAP: ACHSE GU BRA GLL EA2000

Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
1222255	BRA 2500-3	2,000	1,100	1,665	918	162	10	20
20055633	BRA 2500-3	2,000	1,200	1,765	1,018	163	10	20
20055634	BRA 2500-3	2,000	1,300	1,865	1,118	164	10	20
20055635	BRA 2500-3	2,000	1,400	1,965	1,218	165	10	20
20055636	BRA 2500-3	2,000	1,500	2,065	1,318	166	10	20
20055637	BRA 2500-3	2,000	1,600	2,165	1,418	167	10	20
20055638	BRA 2500-3	2,000	1,700	2,265	1,518	168	10	20
20055639	BRA 2500-3	2,000	1,800	2,365	1,618	169	10	20
20055640	BRA 2500-3	2,000	1,900	2,465	1,718	170	10	20

SAP: ACHSE GU BRA GLL EA2500

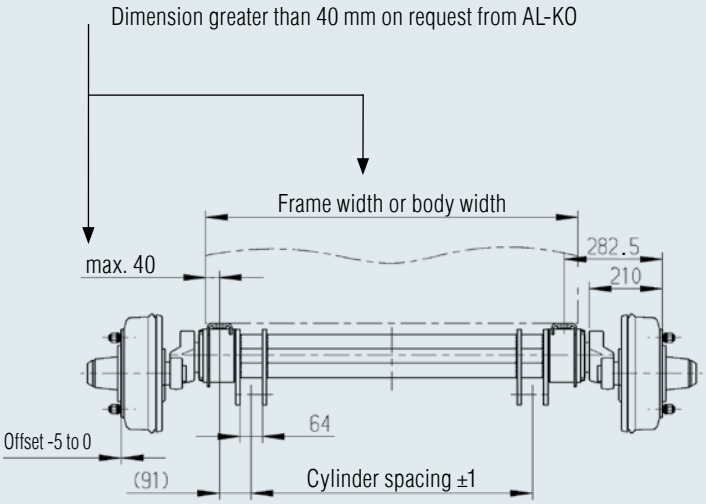
Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
1222256	BRA 2500-8	2,500	1,100	1,665	918	162	10	20
20055641	BRA 2500-8	2,500	1,200	1,765	1,018	163	10	20
20055642	BRA 2500-8	2,500	1,300	1,865	1,118	164	10	20
20055643	BRA 2500-8	2,500	1,400	1,965	1,218	165	10	20
20055644	BRA 2500-8	2,500	1,500	2,065	1,318	166	10	20
20055645	BRA 2500-8	2,500	1,600	2,165	1,418	167	10	20
20055646	BRA 2500-8	2,500	1,700	2,265	1,518	168	10	20
20055647	BRA 2500-8	2,500	1,800	2,365	1,618	169	10	20
20055648	BRA 2500-8	2,500	1,900	2,465	1,718	170	10	20

SAP: ACHSE GU BRA GLL EA3000

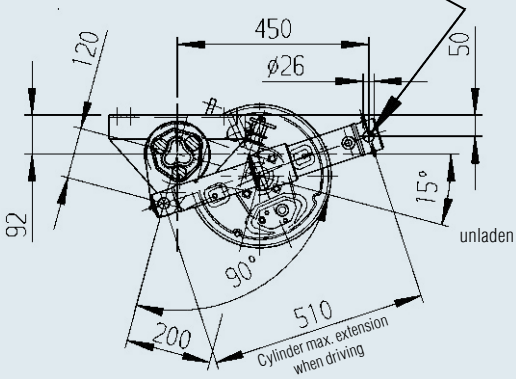
Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
1222257	BRA 3000-2	3,000	1,100	1,665	918	162	10	20
20055649	BRA 3000-2	3,000	1,200	1,765	1,018	163	10	20
20055650	BRA 3000-2	3,000	1,300	1,865	1,118	164	10	20
20055651	BRA 3000-2	3,000	1,400	1,965	1,218	165	10	20
20055652	BRA 3000-2	3,000	1,500	2,065	1,318	166	10	20
20055653	BRA 3000-2	3,000	1,600	2,165	1,418	167	10	20
20055654	BRA 3000-2	3,000	1,700	2,265	1,518	168	10	20
20055655	BRA 3000-2	3,000	1,800	2,365	1,618	169	10	20
20055656	BRA 3000-2	3,000	1,900	2,465	1,718	170	10	20

Only comply with this note if the body width and frame form a perpendicular plane!

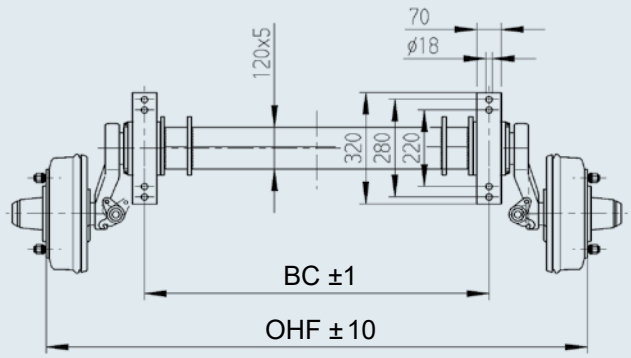
If the body is mounted over the wheels, the maximum dimension of 40 mm for the frame must be adhered to!

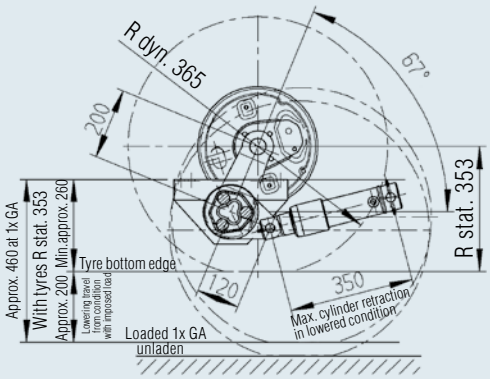


In driving position!
(In unladen condition)
Articulation point on the vehicle manufacturer's frame



In lowered position!





Permitted tyre size min. R stat. 300 mm
The tyre radius must not be less than R stat. 300 mm!
Configure wheel arches according to the tyre size! (Note articulation)

Lowering travel approx. 200 mm

LOWERING AXLES DOWN TO 190 MM

Single axle trailer 3,500 kg

TECHNOLOGY

Model:	Standard - Torsion bar suspension
Axle type:	BT 3500
Axle load SA:	3,500 kg
Wheel brake:	3081 B
Wheel connection:	205x6
Wheel bolts:	M18x1.5 ball

SCOPE OF SUPPLY

- 2 hydraulic cylinders with mounting components
- Adapter bracket single axle loose
- Recovery device
- Compensation profile
- Hexagon nut M10
- Ball nut M10
- Bowden cables loose
- Wheel nuts loose

SURFACE TREATMENT

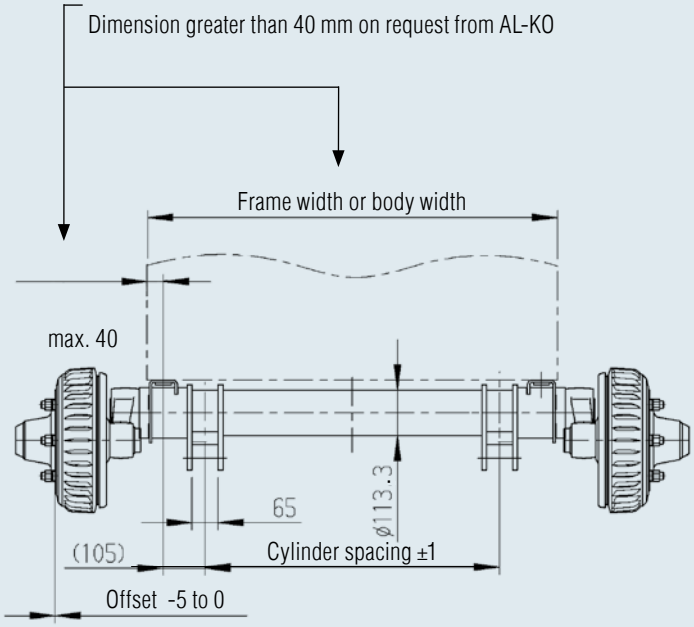
- Axle profile hot-dip galvanised
- Wheel brake black-primed

SAP: ACHSE ST BRA GRM EA3500

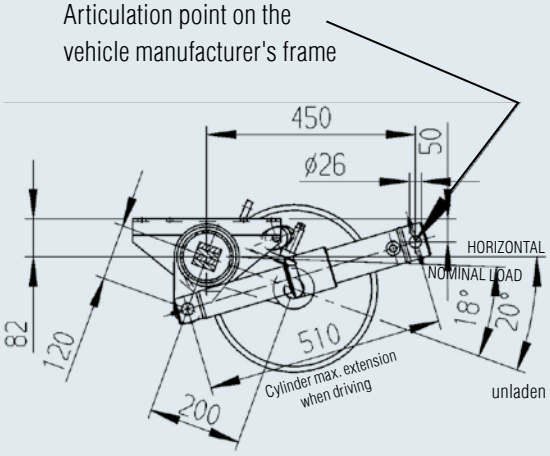
Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
1222258	BRA 3500	3,500	1,100	1,640	891	214	10	20
20055657	BRA 3500	3,500	1,200	1,740	991	215	10	20
20055658	BRA 3500	3,500	1,300	1,840	1,091	216	10	20
20055659	BRA 3500	3,500	1,400	1,940	1,191	217	10	20
20055660	BRA 3500	3,500	1,500	2,040	1,291	218	10	20
20055661	BRA 3500	3,500	1,600	2,140	1,391	219	10	20
20055662	BRA 3500	3,500	1,700	2,240	1,491	220	10	20
20055663	BRA 3500	3,500	1,800	2,340	1,591	221	10	20
20055664	BRA 3500	3,500	1,900	2,440	1,691	222	10	20

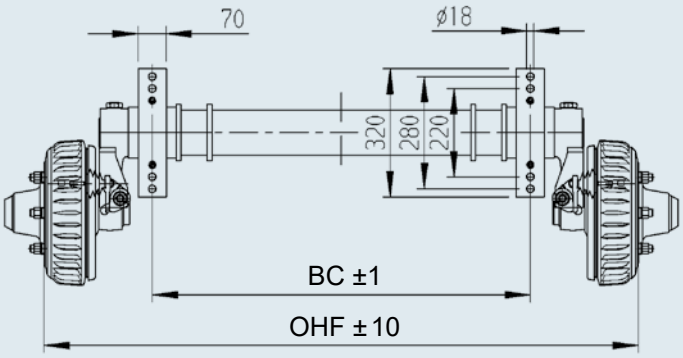
Only comply with this note if the body width and frame form a perpendicular plane!

If the body is mounted over the wheels, the maximum dimension of 40 mm for the frame must be adhered to!

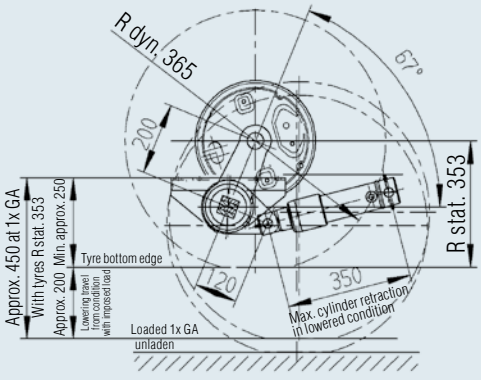


In driving position!
(In unladen condition)
Articulation point on the vehicle manufacturer's frame





In lowered position!



Permitted tyre size min. R stat. 300 mm
The tyre radius must not be less than R stat. 300 mm!
Configure wheel arches according to the tyre size! (Note articulation)

Lowering travel approx. 200 mm

LOWERING AXLES DOWN TO 210 MM

Single axle trailer 1,350 kg to 1,500 kg

TECHNOLOGY

Axle type:	BRA 1800-01 BRA 1800-3
Axle load SA:	1,350 kg / 1,500 kg
Wheel brake:	2051Ab
Wheel connection:	112x5
Wheel bolts:	M12x1.5 ball

SCOPE OF SUPPLY

- 2 hydraulic cylinders with mounting components
- Adapter bracket single axle loose
- Recovery device
- Compensation profile
- Bowden cables loose
- Wheel bolts loose

SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brake black powder-coated

SAP: ACHSE GU BRA GLL EA1300

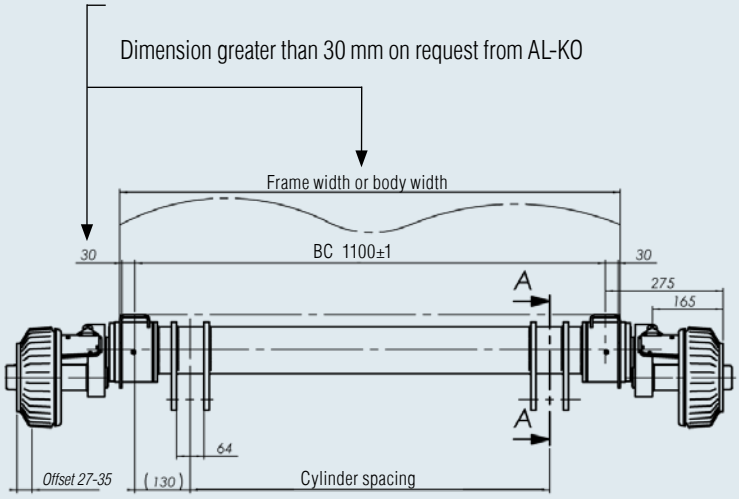
Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
1222251	BRA 1800-01	1,350	1,100	1,650	840	108	20	20
20055601	BRA 1800-01	1,350	1,200	1,750	940	109	20	20
20055602	BRA 1800-01	1,350	1,300	1,850	1,040	110	20	20
20055603	BRA 1800-01	1,350	1,400	1,950	1,140	111	20	20
20055604	BRA 1800-01	1,350	1,500	2,050	1,240	112	20	20
20055605	BRA 1800-01	1,350	1,600	2,150	1,340	113	20	20
20055606	BRA 1800-01	1,350	1,700	2,250	1,440	114	20	20
20055607	BRA 1800-01	1,350	1,800	2,350	1,540	115	20	20
20055608	BRA 1800-01	1,350	1,900	2,450	1,640	116	20	20

SAP: ACHSE GU BRA GLL EA1500

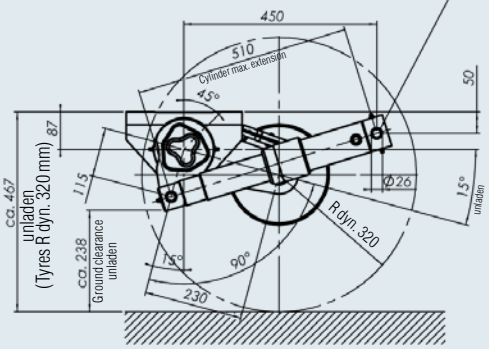
Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
1222252	BRA 1800-3	1,500	1,100	1,650	840	108	20	20
20055609	BRA 1800-3	1,500	1,200	1,750	940	109	20	20
20055610	BRA 1800-3	1,500	1,300	1,850	1,040	110	20	20
20055611	BRA 1800-3	1,500	1,400	1,950	1,140	111	20	20
20055612	BRA 1800-3	1,500	1,500	2,050	1,240	112	20	20
20055613	BRA 1800-3	1,500	1,600	2,150	1,340	113	20	20
20055614	BRA 1800-3	1,500	1,700	2,250	1,440	114	20	20
20055615	BRA 1800-3	1,500	1,800	2,350	1,540	115	20	20
20055616	BRA 1800-3	1,500	1,900	2,450	1,640	116	20	20

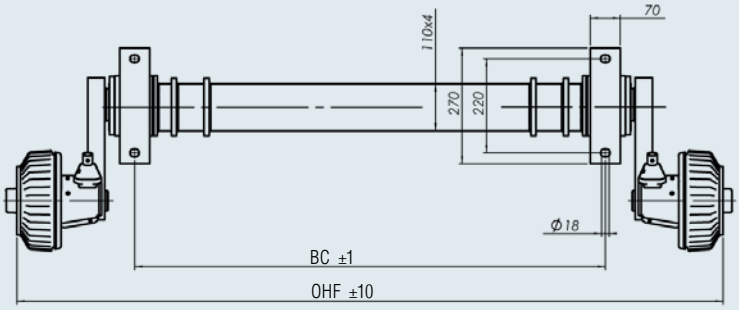
Only comply with this note if the body width and frame form a perpendicular plane!

If the body is mounted over the wheels, the maximum dimension of 30 mm for the frame must be adhered to!

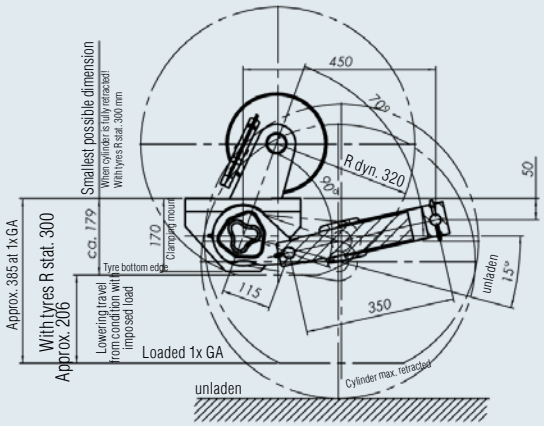


In driving position!
Articulation point on the vehicle manufacturer's frame





In lowered position!



Permitted tyre size min. R stat. 300 mm
The tyre radius must not be less than R stat. 300 mm!

Max. lowering travel approx. 210 mm
Suspension travel approx. 50 mm at 1 x GA

LOWERING AXLES DOWN TO 210 MM

Single axle trailer 1,600 kg to 1,800 kg

TECHNOLOGY

Axle type:	BRA 1800-5 BRA 1800-9
Axle load SA:	1,600 kg / 1,800 kg
Wheel brake:	2,361
Wheel connection:	112x5
Wheel bolts:	M12x1.5 ball

SCOPE OF SUPPLY

- 2 hydraulic cylinders with mounting components
- Adapter bracket single axle loose
- Recovery device
- Compensation profile
- Bowden cables loose
- Wheel bolts loose

SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brake black powder-coated

SAP: ACHSE GU BRA GLL EA1600

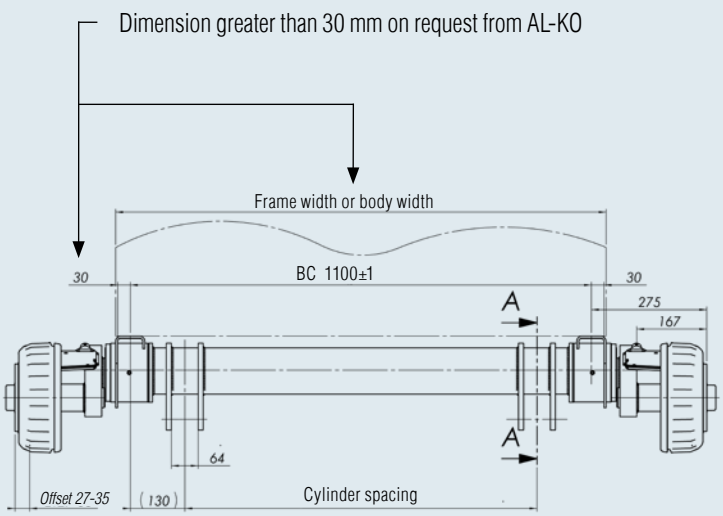
Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
1222253	BRA 1800-5	1,600	1,100	1,650	840	110	20	20
20055617	BRA 1800-5	1,600	1,200	1,750	940	111	20	20
20055618	BRA 1800-5	1,600	1,300	1,850	1,040	112	20	20
20055619	BRA 1800-5	1,600	1,400	1,950	1,140	113	20	20
20055620	BRA 1800-5	1,600	1,500	2,050	1,240	114	20	20
20055621	BRA 1800-5	1,600	1,600	2,150	1,340	115	20	20
20055622	BRA 1800-5	1,600	1,700	2,250	1,440	116	20	20
20055623	BRA 1800-5	1,600	1,800	2,350	1,540	117	20	20
20055624	BRA 1800-5	1,600	1,900	2,450	1,640	118	20	20

SAP: ACHSE GU BRA GLL EA1800

Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
1222254	BRA 1800-9	1,800	1,100	1,650	840	110	20	20
20055625	BRA 1800-9	1,800	1,200	1,750	940	111	20	20
20055626	BRA 1800-9	1,800	1,300	1,850	1,040	112	20	20
20055627	BRA 1800-9	1,800	1,400	1,950	1,140	113	20	20
20055628	BRA 1800-9	1,800	1,500	2,050	1,240	114	20	20
20055629	BRA 1800-9	1,800	1,600	2,150	1,340	115	20	20
20055630	BRA 1800-9	1,800	1,700	2,250	1,440	116	20	20
20055631	BRA 1800-9	1,800	1,800	2,350	1,540	117	20	20
20055632	BRA 1800-9	1,800	1,900	2,450	1,640	118	20	20

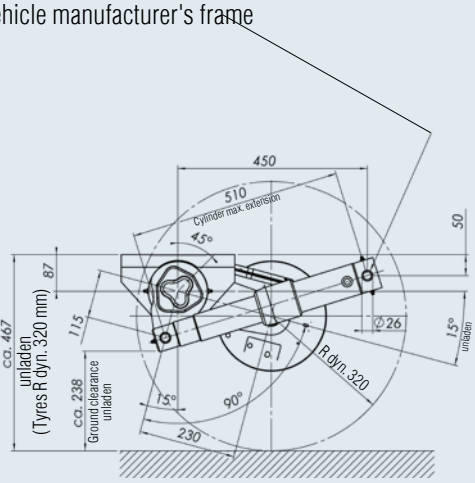
Only comply with this note if the body width and frame form a perpendicular plane!

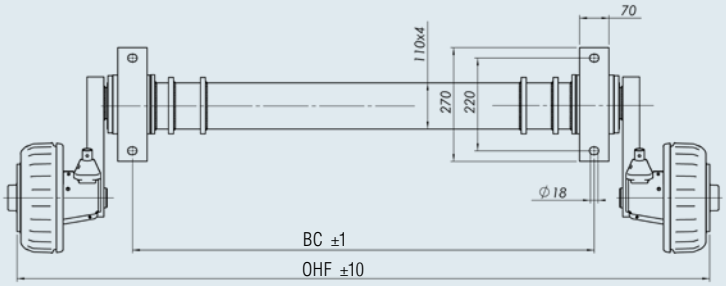
If the body is mounted over the wheels, the maximum dimension of 30 mm for the frame must be adhered to!



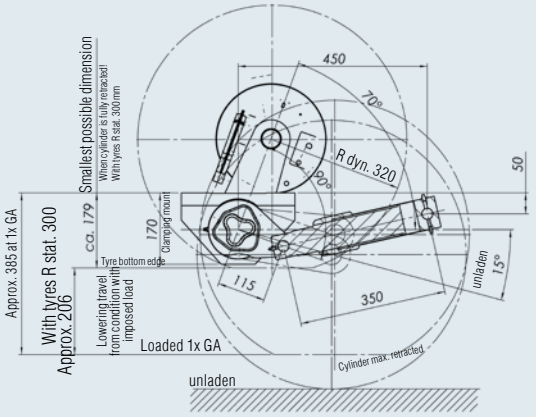
In driving position!

Articulation point on the vehicle manufacturer's frame





In lowered position!



Permitted tyre size min. R stat. 300 mm

The tyre radius must not be less than R stat. 300 mm!

Max. lowering travel approx. 210 mm

Suspension travel approx. 50 mm at 1 x GA

LOWERING AXLES DOWN TO 210 MM

Tandem 2,000 kg to 3,000 kg

TECHNOLOGY

Axle type:	BRA 1800-07 BRA 1800-01 BRA 1800-3
Axle load TA:	2,000 kg / 2,600 kg / 3,000 kg
Wheel brake:	2051Ab
Wheel connection:	112x5
Wheel bolts:	M12x1.5 ball

SCOPE OF SUPPLY

- 2 hydraulic cylinders with mounting components
- Adapter bracket tandem loose
- Recovery device
- Compensation profile
- Hexagon nut M8
- Ball nut M8
- Bowden cables loose
- Wheel bolts loose

SURFACE TREATMENT

- Axle profile hot-dip galvanised
- Wheel brake black powder-coated

SAP: ACHSE GU BRA GLL TA2000

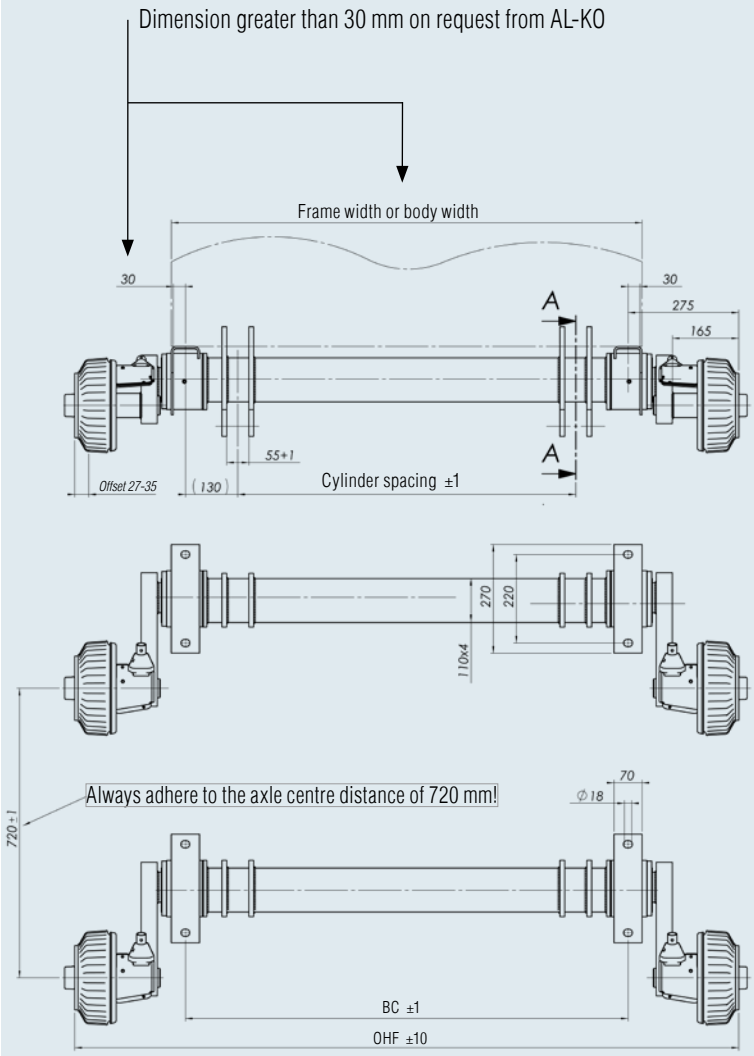
Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
1222259	BRA 1800-07	2,000	1,100	1,650	840	192	20	20
20055665	BRA 1800-07	2,000	1,200	1,750	940	194	20	20
20055666	BRA 1800-07	2,000	1,300	1,850	1,040	196	20	20
20055667	BRA 1800-07	2,000	1,400	1,950	1,140	198	20	20
20055668	BRA 1800-07	2,000	1,500	2,050	1,240	200	20	20
20055669	BRA 1800-07	2,000	1,600	2,150	1,340	202	20	20
20055670	BRA 1800-07	2,000	1,700	2,250	1,440	204	20	20
20055671	BRA 1800-07	2,000	1,800	2,350	1,540	206	20	20
20055672	BRA 1800-07	2,000	1,900	2,450	1,640	208	20	20

Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
1222260	BRA 1800-01	2,600	1,100	1,650	840	192	20	20
20055673	BRA 1800-01	2,600	1,200	1,750	940	194	20	20
20055674	BRA 1800-01	2,600	1,300	1,850	1,040	196	20	20
20055675	BRA 1800-01	2,600	1,400	1,950	1,140	198	20	20
20055676	BRA 1800-01	2,600	1,500	2,050	1,240	200	20	20
20055677	BRA 1800-01	2,600	1,600	2,150	1,340	202	20	20
20055678	BRA 1800-01	2,600	1,700	2,250	1,440	204	20	20
20055679	BRA 1800-01	2,600	1,800	2,350	1,540	206	20	20
20055680	BRA 1800-01	2,600	1,900	2,450	1,640	208	20	20

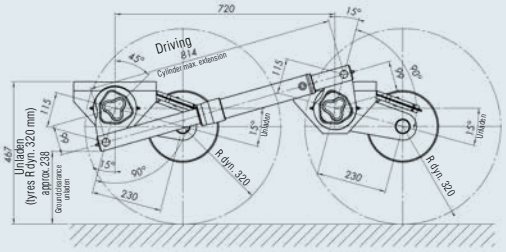
Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
1222261	BRA 1800-3	3,000	1,100	1,650	840	192	20	20
20055681	BRA 1800-3	3,000	1,200	1,750	940	194	20	20
20055682	BRA 1800-3	3,000	1,300	1,850	1,040	196	20	20
20055683	BRA 1800-3	3,000	1,400	1,950	1,140	198	20	20
20055684	BRA 1800-3	3,000	1,500	2,050	1,240	200	20	20
20055685	BRA 1800-3	3,000	1,600	2,150	1,340	202	20	20
20055686	BRA 1800-3	3,000	1,700	2,250	1,440	204	20	20
20055687	BRA 1800-3	3,000	1,800	2,350	1,540	206	20	20
20055688	BRA 1800-3	3,000	1,900	2,450	1,640	208	20	20

Only comply with this note if the body width and frame form a perpendicular plane!

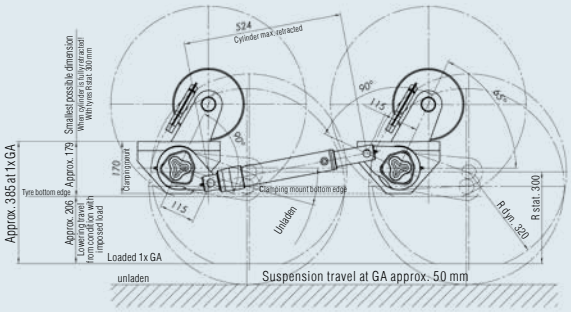
If the body is mounted over the wheels, the maximum dimension of 30 mm for the frame must be adhered to!



In driving position!



In lowered position!



Permitted tyre size min. R stat. 300 mm

The tyre radius must not be less than R stat. 300 mm!

Configure wheel arches according to the tyre size! (Note articulation)

Lowering travel approx. 210 mm

LOWERING AXLES DOWN TO 210 MM

Tandem 3,500 kg

TECHNOLOGY

Axle type:	BRA 1800-9
Axle load TA:	3,500 kg
Wheel brake:	2361
Wheel connection:	112x5
Wheel bolts:	M12x1.5 ball

SCOPE OF SUPPLY

- 2 hydraulic cylinders with mounting components
- Adapter bracket tandem loose
- Recovery device
- Compensation profile
- Hexagon nut M8
- Ball nut M8
- Bowden cables loose
- Wheel bolts loose

SURFACE TREATMENT

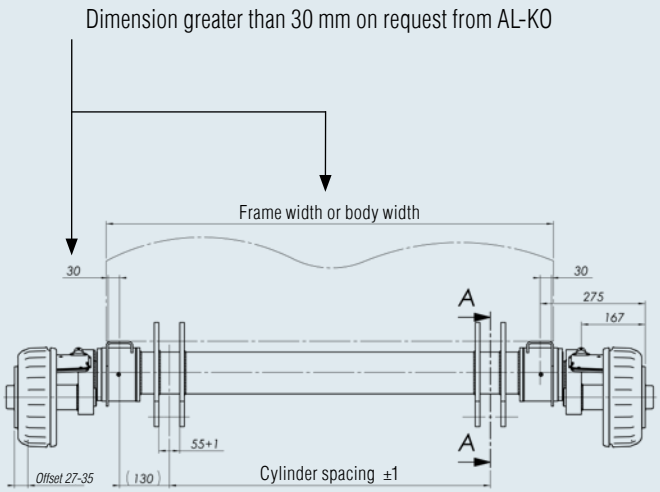
- Axle profile hot-dip galvanised
- Wheel brake black powder-coated

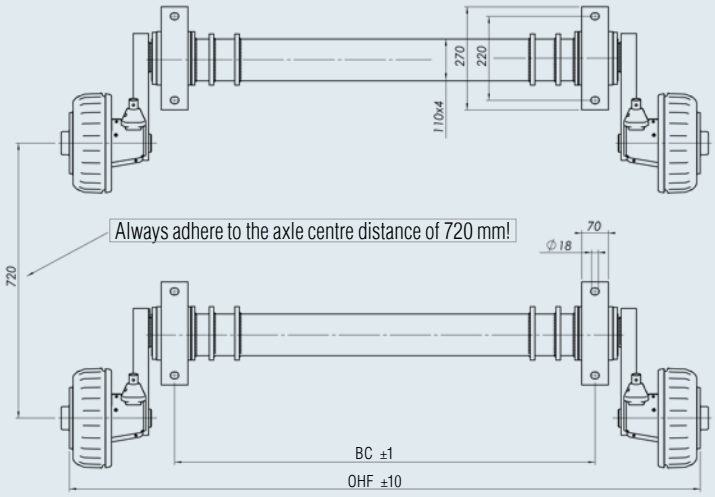
SAP: ACHSE GU BRA GLL TA3500

Part No.	Type	Axle load kg	BC mm	OHF mm	Cylinder spacing mm			
1222262	BRA 1800-9	3,500	1,100	1,650	840	196	10	20
20055689	BRA 1800-9	3,500	1,200	1,750	940	198	10	20
20055690	BRA 1800-9	3,500	1,300	1,850	1,040	200	10	20
20055691	BRA 1800-9	3,500	1,400	1,950	1,140	202	10	20
20055692	BRA 1800-9	3,500	1,500	2,050	1,240	204	10	20
20055693	BRA 1800-9	3,500	1,600	2,150	1,340	206	10	20
20055694	BRA 1800-9	3,500	1,700	2,250	1,440	208	10	20
20055695	BRA 1800-9	3,500	1,800	2,350	1,540	210	10	20
20055696	BRA 1800-9	3,500	1,900	2,450	1,640	212	10	20

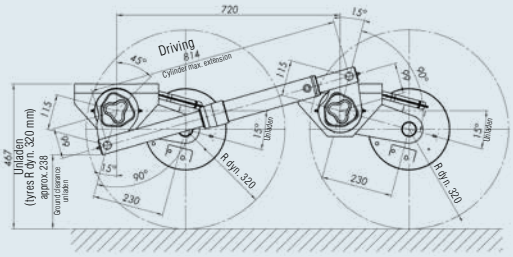
Only comply with this note if the body width and frame form a perpendicular plane!

If the body is mounted over the wheels, the maximum dimension of 30 mm for the frame must be adhered to!

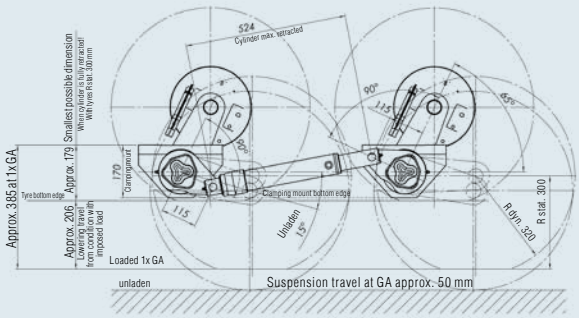




In driving position!



In lowered position!



Permitted tyre size min. R stat. 300 mm

The tyre radius must not be less than R stat. 300 mm!

Configure wheel arches according to the tyre size! (Note articulation)

Lowering travel approx. 210 mm

LOWERING AXLES DOWN TO 270 MM

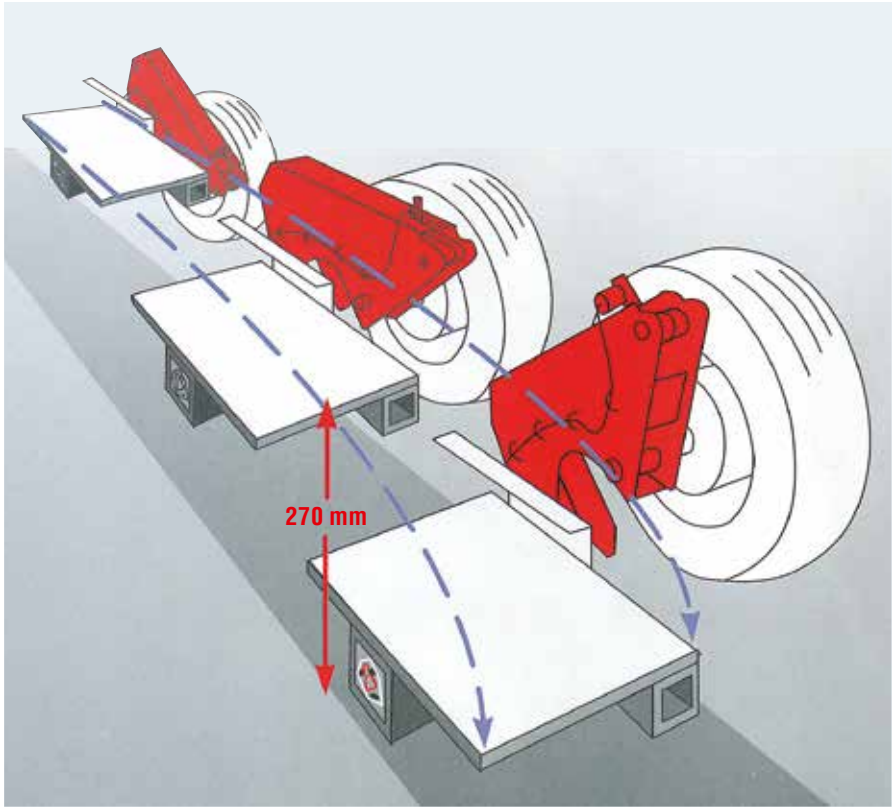
Single axle trailer up to 1,800 kg, tandem up to 3,500 kg

YOUR ADVANTAGE

- **Lowering level with the ground down to 270 mm from the bottom edge of the frame to the ground**
  The effective entry height (drive-on height) in the lowered condition is identical to the frame height of the trailer (it is essential to comply with installation guidelines).

- **Optional raising on one or both sides**
  The trailer can be lifted either on one or both sides.

  Example:
  A sales trailer should be parked partially on the footpath and partially on the road:
  The trailer is completely lowered and is in contact with the footpath. Due to the height difference between the footpath and the road surface, the trailer is at an angle. By raising on one side on the road surface side, the trailer can be returned to the horizontal.



- **Variable body widths available from stock**
  By using half axles screwed into the trailer frame, it is possible to produce variable bodies with one axle. (Comply with installation notes). We stock these half axles using our warehouse system.

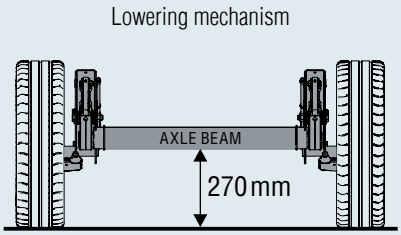
- **The Bowden cable outlet at the wheel brake is deflected by 90° to the front using a relay lever. This means the Bowden cable can be damaged when raising and lowering.**

Function

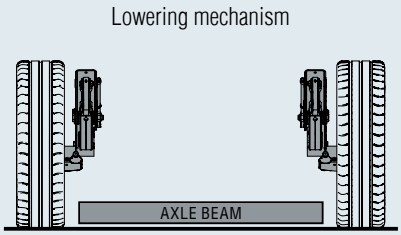
A special lowering mechanism with integrated hydraulic cylinder operates between the wheel and axle profile.
Using a special pump unit with remote control, the wheels can be activated as follows:

- Lowering together, i.e. all wheels at once
- Lifting together or alternatively with right wheels separate from left wheels

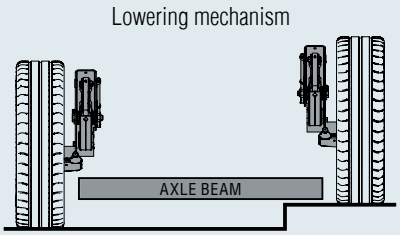
Driving condition

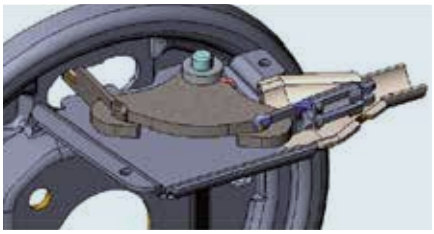


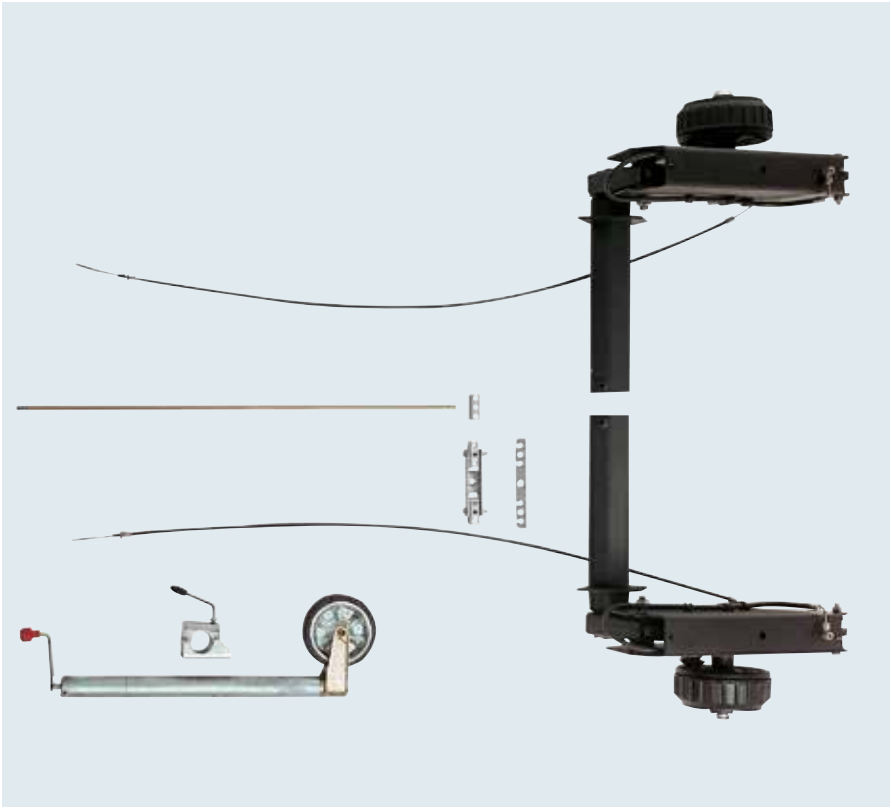
Lowering level with the ground



Raising on one and both sides







Sample applications

Your customers want space-saving,
cost-effective and practical solutions

- Simple and low-cost loading and unloading

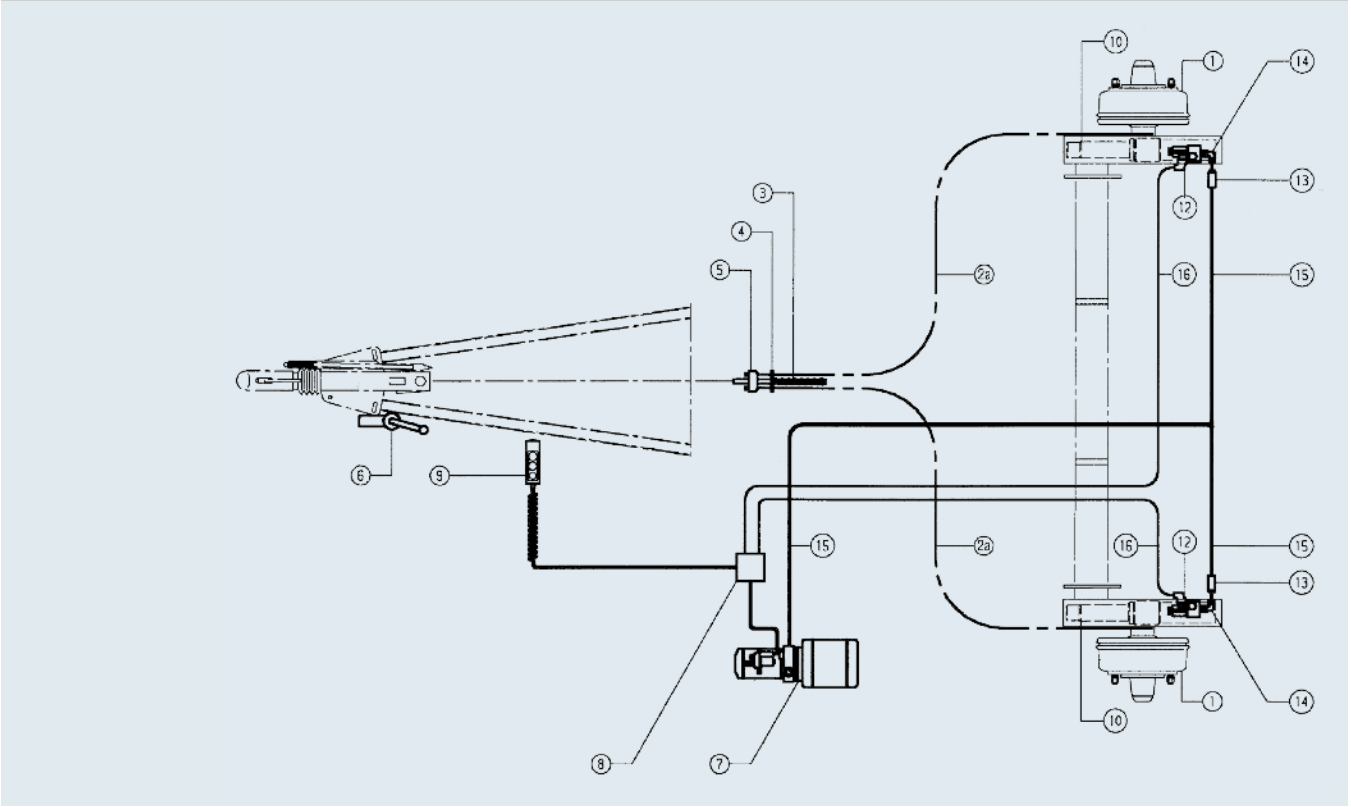
- Sales talks are conducted on an equal footing

LOWERING AXLES DOWN TO 270 MM

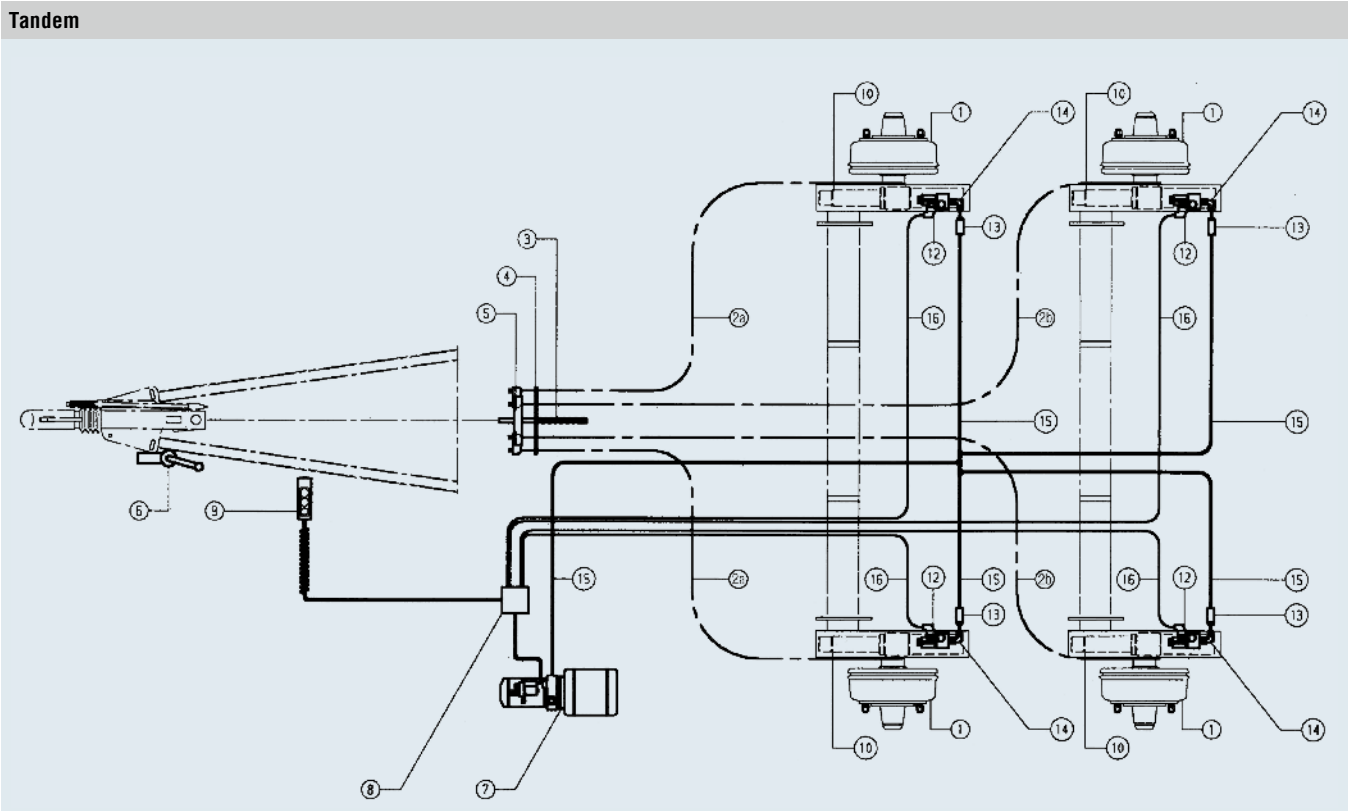
Single axle trailer up to 1,800 kg, tandem up to 3,500 kg

Type overview / purchase order items

Single axle trailer



Tandem



MOUNTING

1. Hydraulic unit with remote control

The pump unit must be protected against misuse by a lockable housing.
We recommend using the hydraulic components that we propose. These components have been tested by us, found to be good and approved.

2. Axles

- AL-KO axles have a toe-in, which means they must be installed trailing.
- Please comply with our installation notes without fail (wheel arch clearances, screw connection to the frame, mounting options for the axle profile, etc.)
- The half axles are screwed into the customer's own frame. The vehicle builder fills the hydraulic system with hydraulic oil and bleeds it.

3. Jockey wheel mounting

- In lowered condition, the lowest point is the bottom edge of the frame. Please note this in your jockey wheel mounting (as high as possible).
- The jockey wheel or the support fixture is included in the lowering procedure, so a particularly stable version should be used here.

We recommend for this:

Jockey wheel
Part No. 243 888 – 500 kg
with clamp 60 Ø
Part No. 249 859 – 500 kg
(stat. carrying force).

ATTENTION!

If the lowering axle is configured as a half axle, the track and camber values must particularly be taken into consideration during installation!

The following values must be complied with:
Toe-in: + 20' ± 10'
Camber: + 1° 10' ± 10'
Measured unladen!

A warning notice must be attached on all sides of the trailer. For example:

"Attention! This trailer lowers!"

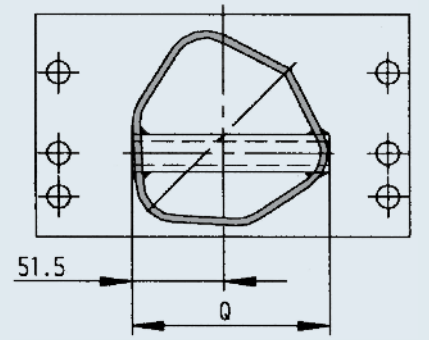
Mounting recommendation for the axle profile

Transverse screw connection with one bolt M12 - 8.8. Flange plate with four bolts (optionally six) M12 - 8.8
(Tightening torque for bolt M12 = 80 to 85 Nm).

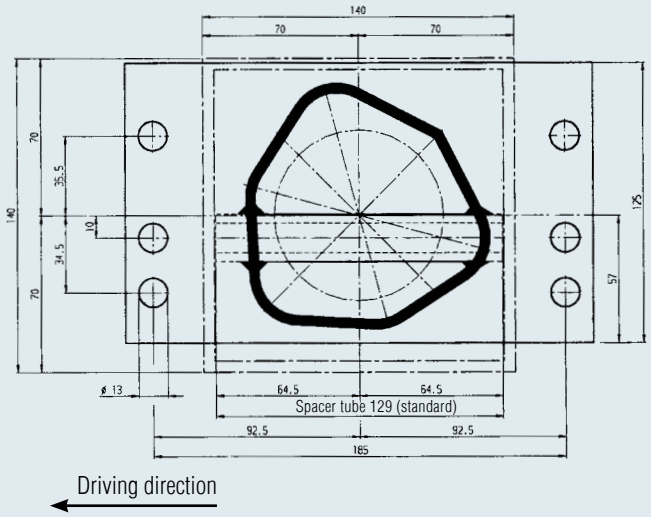
ATTENTION!

Provide spacer sleeves if using hollow sections as the frame.

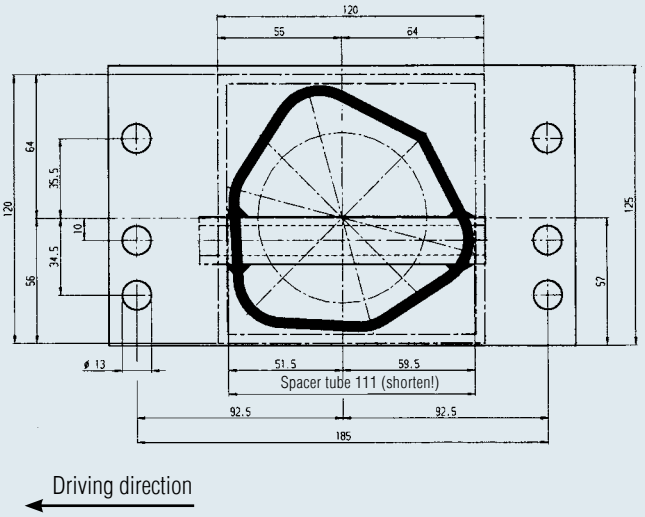
Cross member 120 x 120 x 4 – shorten distance!



140 x 140 x 5 (standard)

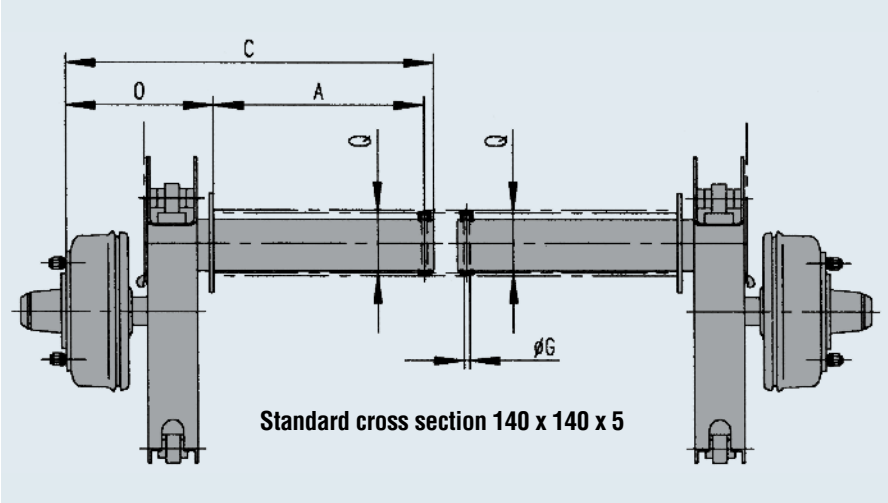


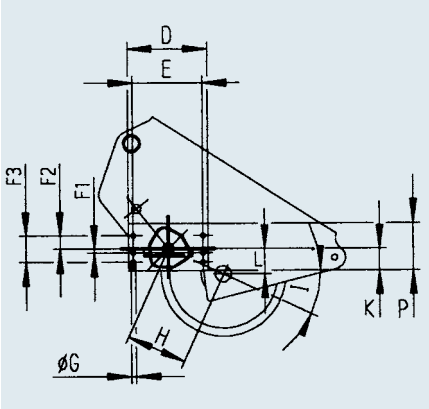
☐120 x 120 x 4 (shorten distance!)



LOWERING AXLES DOWN TO 270 MM

Single axle trailer up to 1,800 kg, tandem up to 3,500 kg





SURFACE TREATMENT
Synthetic resin dip-coating black

SAP: ACHSE GU ASB GRM HA1750

Type overview - lowering axle

Type	Part No.	Permitted axle load kg	Axle dimensions (mm) BC A	OHF C	Clamping mount M	Cylin-der N	Screw-on plate O	Rims and tyres Wheel brake	Wheel connec-tion	Wheel bolt	Offset from/to	Recom. rims	Recom. tyres
ASB1800	249419 ①	SA=1,800 TA=3,500	449	785	–	–	316	2361	112x5	M12x1.5 ball	30 mm	6J x 14	205 R 14 C*

* Note tyre size, maximum tyre width 215 mm

Type overview - accessories

Type	Long-life Bowden cables - single axle/tandem front axle Part No.	Sleeve mm H	Cable mm S	Long-life- Bowden cables - tandem rear axle Part No.	Sleeve mm H	Cable mm S	Recovery device Part No.
ASB1800	247290 ②a	1,729	1,985	1231585 ②b	2800	3005	288675 (for M10) 288676 (for M12) ③

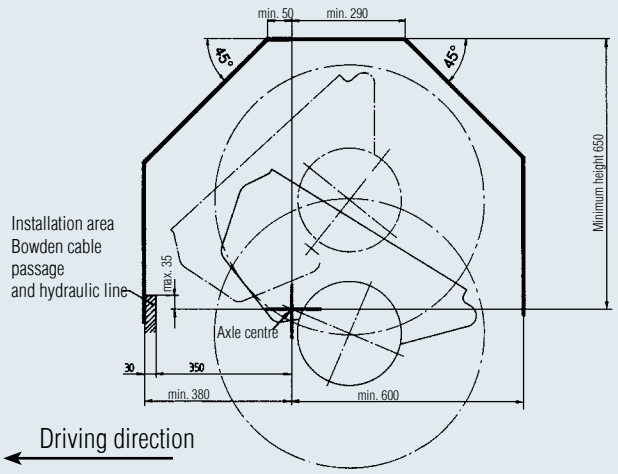
Type overview of hydraulic system

For axle type	Hydraulic cylinder Part No.	Hydraulic cylinder mounting components Part No.	Electrically unlockable solenoid valve Part No.	Angled screw connection Part No.	Hydraulic hose Part No.
ASB1800	Included in the 249419 scope of delivery ⑩	Included in the 249419 scope of delivery ⑪	Included in the 249419 scope of delivery ⑫	Included in the 249419 scope of delivery ⑭	Included in the 249419 scope of delivery ⑮

AL-KO components	Required order quantity SA	TA
① Half axle ASB 1800	1x	2x
②a Bowden cables	2x	2x
②b Bowden cables	–	2x
③ Recovery device	1x	1x
④ Adapter bracket	1x	1x
⑤ Compensation profile	1x	1x
⑥ Jockey wheel + clamp	1x	1x
⑩ Hydraulic cylinder	–	–
⑪ Hydraulic cylinder mounting components	–	–
⑫ Solenoid valve	–	–
⑭ Angled screw connection	–	–
⑮ Hydraulic hose	–	–

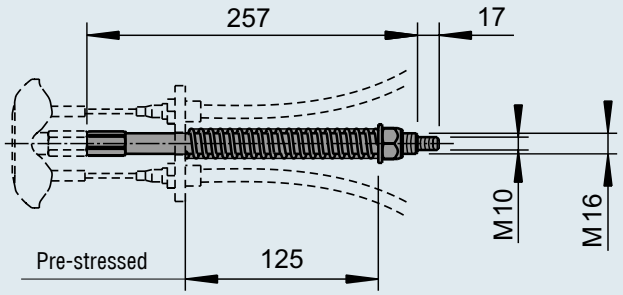
Additional components required (not available at AL-KO!)	Required order quantity SA	TA
⑦ Hydro-compact unit	1x	1x
⑧ Control box	1x	1x
⑨ Switch box	1x	1x
⑬ Quantity controller	2x	4x
⑯ Control cable	2x	2x

Wheel arch clearances



Recovery device

Part No. 288675 (M10) up to 2,500 kg Part No. 288676 (M12) up to 3,500 kg



Clamping mount/connection plate (mm) D	E	F1	F2	F3	Ø G	K	P	Spacer bush (mm) Q	Swing arm (mm) H	I	L	Axle profile (mm)	Minimum axle dimensions (min. mm)	
210	185	10	35.5	70	16	57	125	129**	160	25°	68	110	–	145

** With standard cross section 140x140x5. For cross section 120x120x4 shorten to 111mm.

Type overview - accessories

Bowden cable adapter bracket Part No. Single axle	Tandem	Compensation profile part no. Single axle	Tandem	Jockey wheel + clamp Part No.	Ø tube	Clamp	Carrying force (kg)
2081930103 ④	2088890003 ④	1730379 ⑤	238576 ⑤	243888 ⑥	60	249859 ⑥	550

AXLES WITH RUBBER SUSPENSION FOR TRAILERS WITH PNEUMATIC BRAKES

Single axle trailer 1,800 kg, tandem 3,500 kg, tridem 4,300 kg to 5,400 kg

YOUR ADVANTAGE

- Above a gross weight of 3500 kg, an anti-lock brake (ALB) is specified by law.
- On tri-axles over GA 3500 kg, the rearmost axle is prepared for installation of ALB.
- If the axles are combined with our height-adjustable drawbars, it is possible to dispense with weight compensation.

ACCESSORIES

See order overview (please order separately)

- Parking brake
- Shock absorber without fixing bolts (please only use the specially adapted AL-KO genuine shock absorbers)
- The hydraulic brake system as well as parts of the automatic anti-lock brake (ALB) should be ordered directly from the suppliers listed below: Wabco / Haldex / Knorr

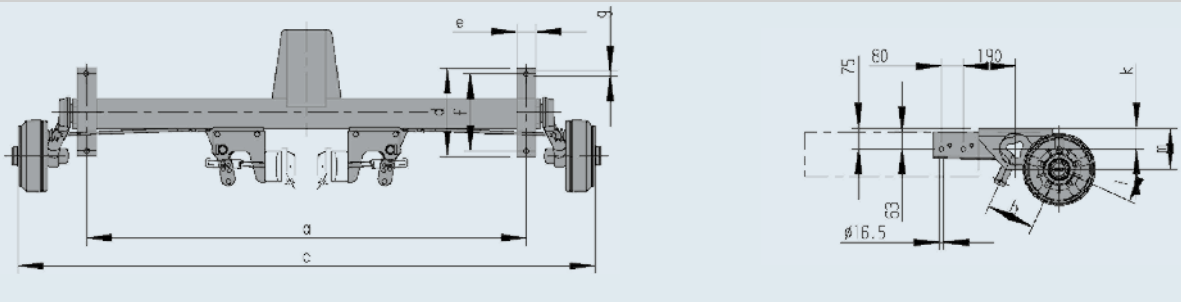
SCOPE OF SUPPLY

- Automatic adjustment of the brake pads
- Shock absorber brackets
- Brackets for brake cylinders
- Top hat profile welded on
- Wheel nuts or wheel bolts
- Rod with brake lever
- Operating manual

SURFACE TREATMENT

Hot-dip galvanised

Single axle trailer 1,800 kg axle load

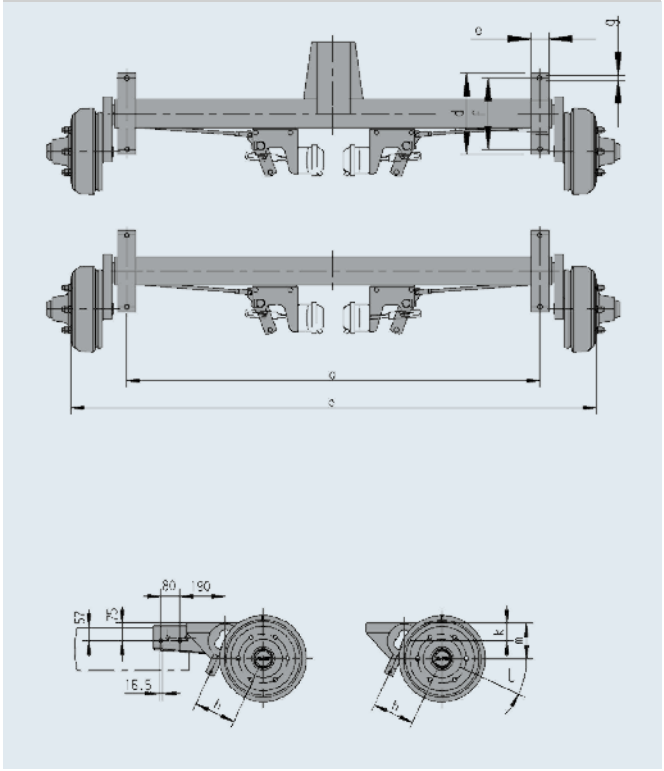


SAP: EURO1ACHSE DLF GLL EA1800

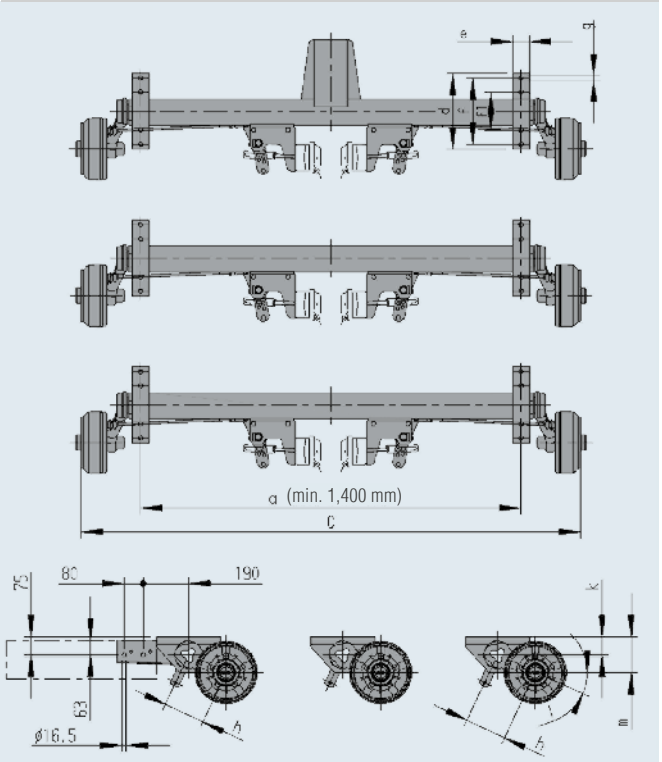
Part No.	SA TA TRI	Type	Single axle axle load kg	Tandem axle load kg	Tridem axle load kg	BC a mm	OHF c mm	OHF c min. mm	Axle beam	Wheel brake type	Wheel connec-tion	Wheel bolt ball	Offset mm	d mm	e mm	f mm
1220493	SA	BL 1800	1,800			1,400	1,900	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1220790	SA	BL 1800	1,800			1,500	2,000	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1220822	SA	BL 1800	1,800			1,600	2,100	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1220823	SA	BL 1800	1,800			1,700	2,200	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1220824	SA	BL 1800	1,800			1,800	2,300	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1213646	TA	BL 1800		3,500		1,400	1,900	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1213647	TA	BL 1800		3,500		1,500	2,000	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1213648	TA	BL 1800		3,500		1,600	2,100	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1213649	TA	BL 1800		3,500		1,700	2,200	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1213650	TA	BL 1800		3,500		1,800	2,300	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1220825	TRI	BL 1800			4,300	1,400	1,900	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1220826	TRI	BL 1800			4,300	1,500	2,000	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1220827	TRI	BL 1800			4,300	1,600	2,100	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1220828	TRI	BL 1800			4,300	1,700	2,200	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1220716	TRI	BL 1800			4,300	1,800	2,300	1,800*	110	2361AR	112x5	M12x1.5	30	270	70	220
1220829	TRI	BL 2000			5,400	1,400	1,900	1,800*	120	2361AR	112x5	M12x1.5	30	320	70	280
1220830	TRI	BL 2000			5,400	1,500	2,000	1,800*	120	2361AR	112x5	M12x1.5	30	320	70	280
1220122	TRI	BL 2000			5,400	1,600	2,100	1,800*	120	2361AR	112x5	M12x1.5	30	320	70	280
1220831	TRI	BL 2000			5,400	1,700	2,200	1,800*	120	2361AR	112x5	M12x1.5	30	320	70	280
1220832	TRI	BL 2000			5,400	1,800	2,300	1,800*	120	2361AR	112x5	M12x1.5	30	320	70	280

* Standard version: Distance between the brackets 300 mm, welded on at normal height, 25° swing arm position

Tandem 3,500 kg axle load



Tridem 4,300 kg axle load, tridem 5,400 kg axle load



f1 mm	g mm Ø	h mm	l Base pos. unlad.	k mm	m mm	Vers. SC = Forged lever		Shock absorber per unit w/o bolted fasteners	Parking brake without Bowden cable or brake cable	Pre-stressed brake cyl. Type: 9 Wabco, Knorr, Haldex Part.No. (not included in AL-KO scope of supply)
	18	175	25°	75	149	SC	83	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	84	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	85	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	86	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	87	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	166	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	168	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	170	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	172	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	174	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	249	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	252	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	255	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	258	244086	267005	*See chapter 16*
	18	175	25°	75	149	SC	261	244086	267005	*See chapter 16*
220	18	175	25°	75	149	SC	264	244086	267005	*See chapter 16*
220	18	175	25°	75	149	SC	267	244086	267005	*See chapter 16*
220	18	175	25°	75	149	SC	270	244086	267005	*See chapter 16*
220	18	175	25°	75	149	SC	273	244086	267005	*See chapter 16*
220	18	175	25°	75	149	SC	276	244086	267005	*See chapter 16*

AXLES WITH RUBBER SUSPENSION FOR TRAILERS WITH PNEUMATIC BRAKES

Single axle trailer 3,000 kg, tandem 5,000 kg to 6,000 kg

YOUR ADVANTAGE

- Above a gross weight of 3500 kg, an anti-lock brake (ALB) is specified by law.
- On tandem axles, the rearmost axle is prepared for installation of ALB.
- If the axles are combined with our height-adjustable drawbars, it is possible to dispense with weight compensation.
- Automatic adjustment of the brake pads.

ACCESSORIES

See order overview
(please order separately)

- Parking brake
- Shock absorber without fixing bolts (please only use the specially adapted AL-KO genuine shock absorbers)
- The hydraulic brake system as well as parts of the automatic anti-lock brake (ALB) should be ordered directly from the suppliers listed below:
  Wabco / Haldex / Knorr

SCOPE OF SUPPLY

- Shock absorber brackets
- Brackets for brake cylinders
- Top hat profile welded on
- Wheel nuts
- Rod with brake lever
- Operating manual

SURFACE TREATMENT

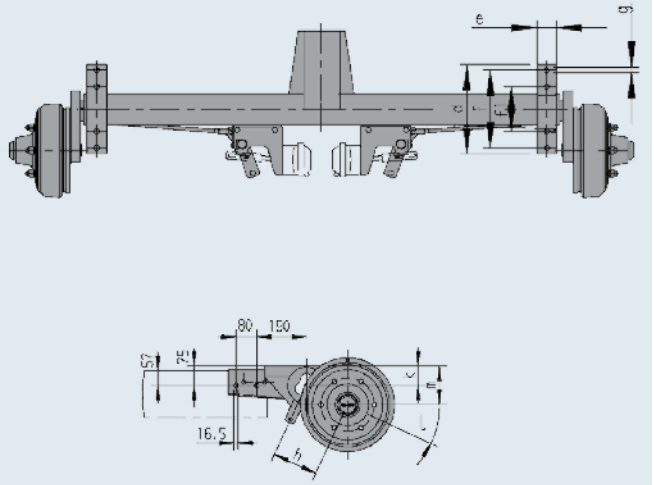
Hot-dip galvanised

SAP: ACHSE GU LNGS DLF EA3000 RB3062

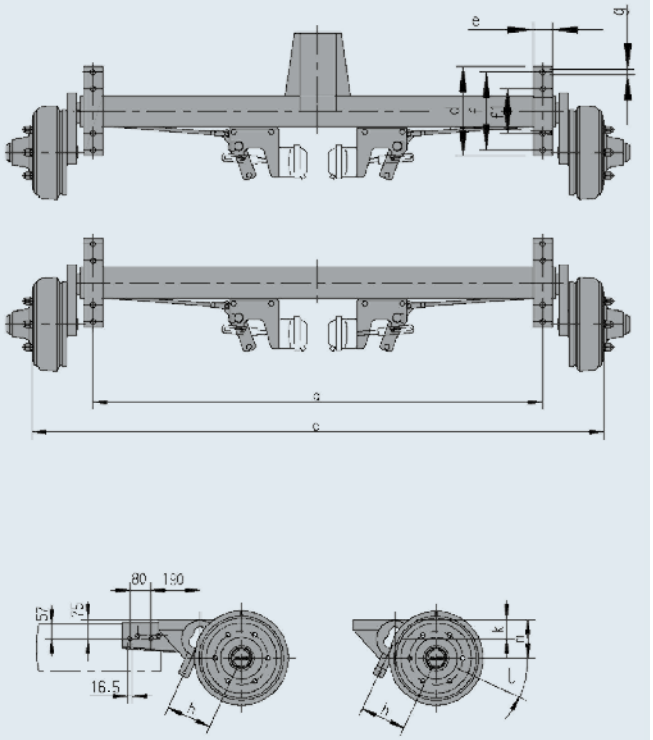
Part No.	SA TA	Type	Single axle axle load kg	Tandem axle load kg	BC a mm	OHF c mm	OHF c min. mm	Axle beam	Wheel brake type	Wheel connec-tion	Wheel nut ball	Offset mm	d mm	e mm	f mm
1220816	SA	BL 3000	3,000		1,330	1,800	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1220817	SA	BL 3000	3,000		1,430	1,900	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1220818	SA	BL 3000	3,000		1,530	2,000	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1220819	SA	BL 3000	3,000		1,630	2,100	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1220820	SA	BL 3000	3,000		1,730	2,200	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1220821	SA	BL 3000	3,000		1,830	2,300	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1213651	TA	BL 2700		5,000	1,330	1,800	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1213652	TA	BL 2700		5,000	1,430	1,900	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1213653	TA	BL 2700		5,000	1,530	2,000	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1213654	TA	BL 2700		5,000	1,630	2,100	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1213655	TA	BL 2700		5,000	1,730	2,200	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1213656	TA	BL 2700		5,000	1,830	2,300	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1213657	TA	BL 3000		6,000	1,330	1,800	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1213658	TA	BL 3000		6,000	1,430	1,900	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1213659	TA	BL 3000		6,000	1,530	2,000	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1213660	TA	BL 3000		6,000	1,630	2,100	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1213661	TA	BL 3000		6,000	1,730	2,200	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280
1213662	TA	BL 3000		6,000	1,830	2,300	1,750*	120	3062AR	205x6	M18x1.5	0	320	70	280

* Standard version: Distance between the brackets 300 mm, welded on at normal height, 25° swing arm position

Single axle trailer 3,000 kg axle load



Tandem 5,000 kg axle load, tandem 6,000 kg axle load



f1 mm	g mm Ø	h mm	l Base pos. unlad.	k mm	m mm	Vers. SC = Forged lever		Shock absorber per unit w/o bolted fasteners	Parking brake without Bowden cable or brake cable	Pre-stressed brake cyl. Type: 9 Wabco, Knorr, Haldex Part.No. (not included in AL-KO scope of supply)
220	18	175	25°	75	143	SC	133	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	134	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	135	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	136	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	137	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	138	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	266	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	268	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	270	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	272	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	274	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	276	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	280	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	282	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	285	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	289	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	294	244087	267005	*See chapter 16*
220	18	175	25°	75	143	SC	299	244087	267005	*See chapter 16*

AXLES WITH STEEL SUSPENSION FOR TRAILERS WITH PNEUMATIC BRAKES

single axle trailer 4,000 kg, tandem 7,500 kg

YOUR ADVANTAGE

- Above a gross weight of 3500 kg, an anti-lock brake (ALB) is specified by law.
- On single or tandem axles, the rearmost axle in each case is prepared for installation of ALB.
- If the axles are combined with our height-adjustable drawbars, it is possible to dispense with weight compensation.
- Automatic adjustment of the brake pads.

ACCESSORIES

See order overview (please order separately)

- Parking brake
- Shock absorber without fixing bolts (please only use the specially adapted AL-KO genuine shock absorbers)
  Attention: Axles with steel suspension must be equipped with shock absorbers
- The hydraulic brake system as well as parts of the automatic anti-lock brake (ALB) should be ordered directly from the suppliers listed below:
  Wabco / Haldex / Knorr

SCOPE OF SUPPLY

- Shock absorber bracketst
- Brackets for brake cylinders
- Top hat profile welded on
- Wheel nuts
- Rod with brake lever
- Operating manual

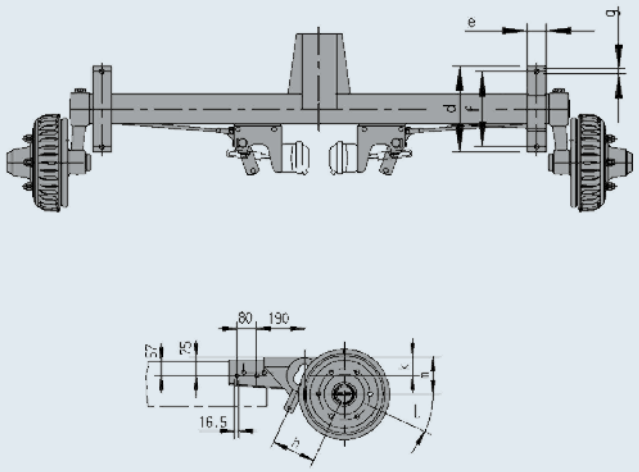
SURFACE TREATMENT

Synthetic resin dip-coating black
(Steel spring axles cannot be hot-dip galvanised)

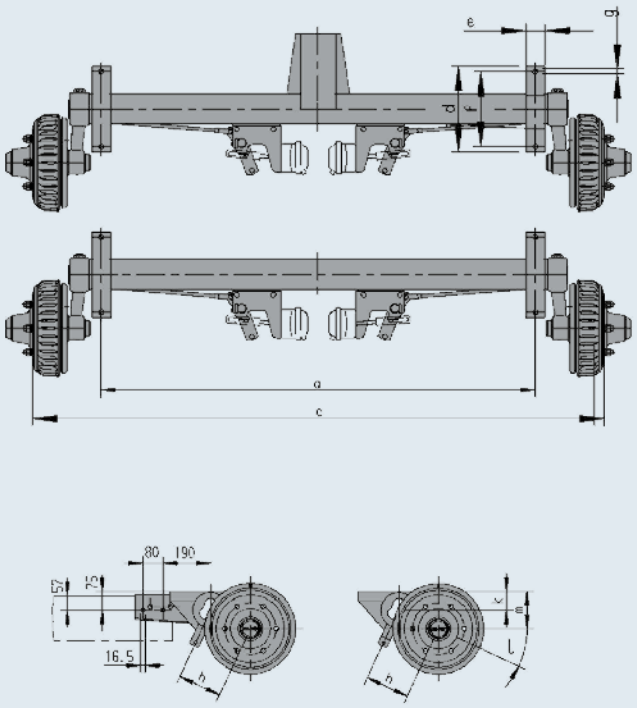
SAP: ACHSE ST LNGS ABV EA4000

Part No.	Single axle SA Tandem TA	Axle type	Single axle axle load kg	Tandem axle load kg	BC a mm	OHF c mm	OHF c min. mm	Axle beam	Wheel brake type	Wheel connection	Wheel nut ball	Offset mm	d mm	e mm	f mm
1211875	SA	BT 4000	4,000		1,260	1,800	1,750	114x6	3081AR/B	205x6	M18x1.5	0	320	70	280
1211876	SA	BT 4000	4,000		1,360	1,900	1,750	114x6	3081AR/B	205x6	M18x1.5	0	320	70	280
1211877	SA	BT 4000	4,000		1,460	2,000	1,750	114x6	3081AR/B	205x6	M18x1.5	0	320	70	280
1211878	SA	BT 4000	4,000		1,560	2,100	1,750	114x6	3081AR/B	205x6	M18x1.5	0	320	70	280
1211879	SA	BT 4000	4,000		1,660	2,200	1,750	114x6	3081AR/B	205x6	M18x1.5	0	320	70	280
1220833	SA	BT 4000	4,000		1,760	2,300	1,750	114x6	3081AR/B	205x6	M18x1.5	0	320	70	280
1211886	TA	BT 4000		7,500	1,260	1,800	1,750	114x6	3081AR/B	205x6	M18x1.5	0	320	70	280
1211887	TA	BT 4000		7,500	1,360	1,900	1,750	114x6	3081AR/B	205x6	M18x1.5	0	320	70	280
1211888	TA	BT 4000		7,500	1,460	2,000	1,750	114x6	3081AR/B	205x6	M18x1.5	0	320	70	280
1211889	TA	BT 4000		7,500	1,560	2,100	1,750	114x6	3081AR/B	205x6	M18x1.5	0	320	70	280
1211890	TA	BT 4000		7,500	1,660	2,200	1,750	114x6	3081AR/B	205x6	M18x1.5	0	320	70	280
1211891	TA	BT 4000		7,500	1,760	2,300	1,750	114x6	3081AR/B	205x6	M18x1.5	0	320	70	280

Single axle trailer4,000 kg axle load



Tandem 7,500 kg axle load



ATTENTION!

The screw connection of the axle bracket onto the frame must exclusively be made using dimension f.

f1 mm	g mm Ø	h mm	l Base pos. unlad.	k mm	m mm	Vers. SC = Forged lever		Shock absorber per unit w/o bolted fasteners	Parking brake without Bowden cable or brake cable	Pre-stressed brake cyl. Type: 9 Wabco, Knorr, Haldex Part.No. (not included in AL-KO scope of supply)
220	18	200	20°	75	143	SC	185	244087	267005	*See chapter 16*
220	18	200	20°	75	143	SC	187	244087	267005	*See chapter 16*
220	18	200	20°	75	143	SC	189	244087	267005	*See chapter 16*
220	18	200	20°	75	143	SC	191	244087	267005	*See chapter 16*
220	18	200	20°	75	143	SC	193	244087	267005	*See chapter 16*
220	18	200	20°	75	143	SC	195	244087	267005	*See chapter 16*
220	18	200	20°	75	143	SC	370	244087	267005	*See chapter 16*
220	18	200	20°	75	143	SC	374	244087	267005	*See chapter 16*
220	18	200	20°	75	143	SC	378	244087	267005	*See chapter 16*
220	18	200	20°	75	143	SC	382	244087	267005	*See chapter 16*
220	18	200	20°	75	143	SC	386	244087	267005	*See chapter 16*
220	18	200	20°	75	143	SC	390	244087	267005	*See chapter 16*

BRAKED AXLES
FOR HYDRAULIC BRAKE FORCE TRANSMISSION

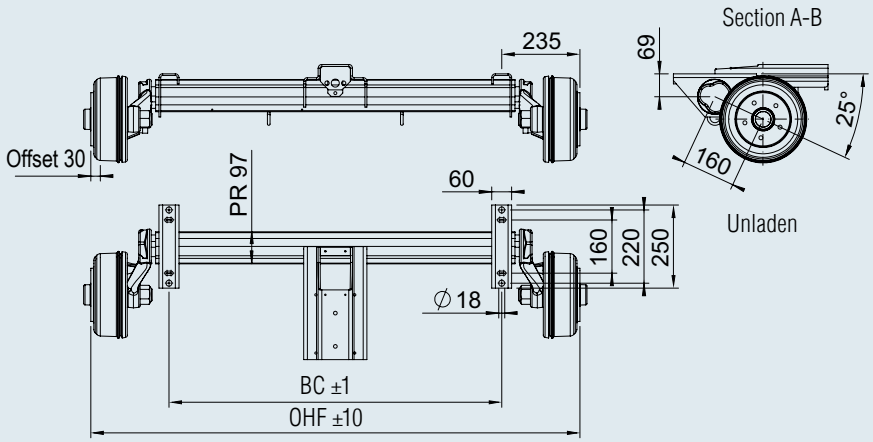
1,600 / 1,800 / 2,500 kg

SCOPE OF SUPPLY

Axle with slave cylinder attachment kit cpl.:

Bracket welded on, slave cylinder, Bowden cables, compensation profile, ball-head wheel bolts, small parts, operating manual

Axle with slave cylinder attachment kit cpl. (special variant) B 1800

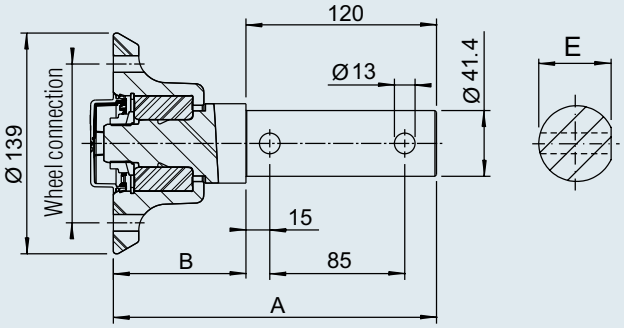


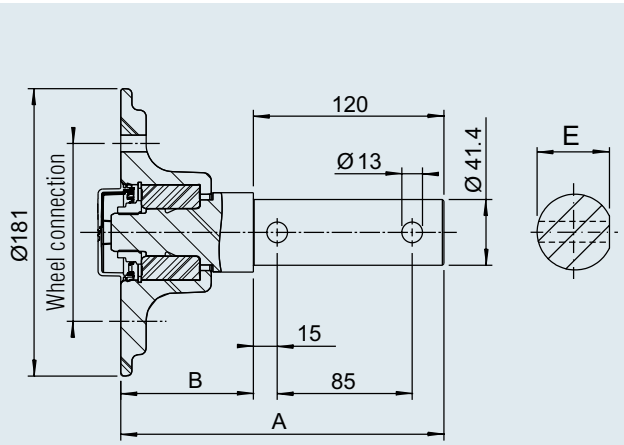
SAP: EURO1ACHSE HYD GLL EA1600

Part No.	Axle type	Axle load kg	Wheel brake type	Wheel connec-tion	BC mm	OHF mm	Axle beam Ø	Recom. rims	Recom. tyres				
1211952	B 1600	1,600	2361	112x5	1,000	1,470	97	6 J 14	185 R 14 C	72	–	20	20
1210973	B 1800	1,800	2361	112x5	1,000	1,500	110	6 J 14	185 R 14 C	76	–	20	20
1210877	B 2500	2,500	3081 A	205x6	1,000	1,530	120	6.00G-16	7.00 R 16	133	–	–	20

WHEEL HUBS

375 kg with compact bearing for screwing in





SAP: NABE PLUS 100X4/M12X1,5 375KG KPL

Hub with stub for screwing in

Part No.	Wheel load per hub (kg)		Wheel connection		Offset	Dimensions			Splash guard	Bearing type				
	Up to max. 140 km/h	Up to max. 40 km/h	Connection	Thread		A	B	E						
			mm	mm x mm	mm	mm	mm	mm	Yes/no					
1730789	375	450	100x4	M12x1.5	27 - 45	203.5	83.5	39.5	Yes	Compact	4.2	–	150	On request
1730788	375	450	98x4	M12x1.5	27 - 45	203.5	83.5	39.5	Yes	Compact	4.2	–	150	On request
1730787	375	450	112x5	M12x1.5	27 - 45	203.5	83.5	39.5	Yes	Compact	4.5	–	150	On request

SAP: NABE PLUS 100X4/M12X1,5 375KG KPL WD

Hub watertight with stub for screwing in

Part No.	Wheel load per hub (kg)		Wheel connection		Offset	Dimensions			Splash guard	Bearing type				
	Up to max. 140 km/h	Up to max. 40 km/h	Connection	Thread		A	B	E						
			mm	mm x mm	mm	mm	mm	mm	Yes/no					
1730790	375	450	100x4	M12x1.5	27 - 45	203.5	83.5	39.5	Yes	Compact	4.2	–	150	On request
1730791	375	450	98x4	M12x1.5	27 - 45	203.5	83.5	39.5	Yes	Compact	4.2	–	150	On request
1730778	375	450	112x5	M12x1.5	27 - 45	203.5	83.5	39.5	Yes	Compact	4.5	–	150	On request

WHEEL HUBS

650 kg, 750 kg, 900 kg with compact bearing for welding in

ATTENTION!

As per ECE Directive R13 / Directive EC 2007/46, only unbraked trailers with a permitted gross weight of up to 750 kg may be brought into circulation. Special regulations for specific countries must be observed!

SCOPE OF SUPPLY

- (See order overview)
- Wheel bolts not included in scope of delivery! Please order separately *(see table of contents)*.

SURFACE TREATMENT

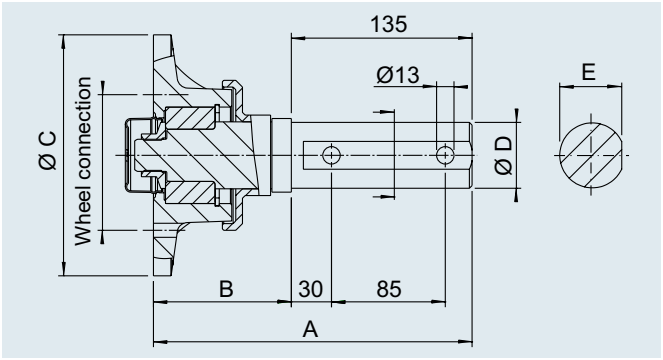
- Synthetic resin dip-coating black

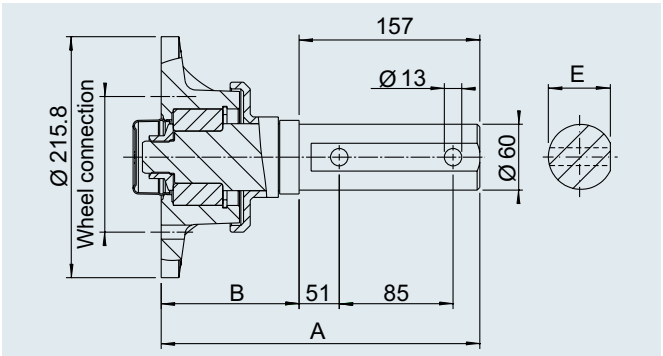
POSSIBLE WHEEL CONNECTIONS

- On request
- Suitable for rims with centre hole min. 57 mm

650 / 750 kg

900 kg





SAP: NABE PLUS 100X4/M12X1,5 650KG KPL

Hub with stub for screwing in

Part No.	Wheel load per hub (kg)		Wheel connection			Dimensions					Splash guard	Bearing type				
	Up to max. 140 km/h	Up to max. 40 km/h	Connection	Thread	Offset	A	B	C	D	E						
			mm	mm x mm	mm	mm	mm	mm	mm	mm	Yes/no					
1731239	650	750	100x4	M12x1.5	27-33	238	103	160	49.2	46.9	Yes	Compact	7	–	150	10
1225751	650	750	112x5	M12x1.5	27-33	238	103	160	49.2	46.9	Yes	Compact	7	–	150	10
1225703	750	850	112x5	M12x1.5	27-33	238	103	180	50	49	Yes	Compact	7.6	–	150	20
1225702	900	1000	112x5	M12x1.5	27-33	254.5	97.5	215.8	60	59	Yes	Compact	12	–	150	20

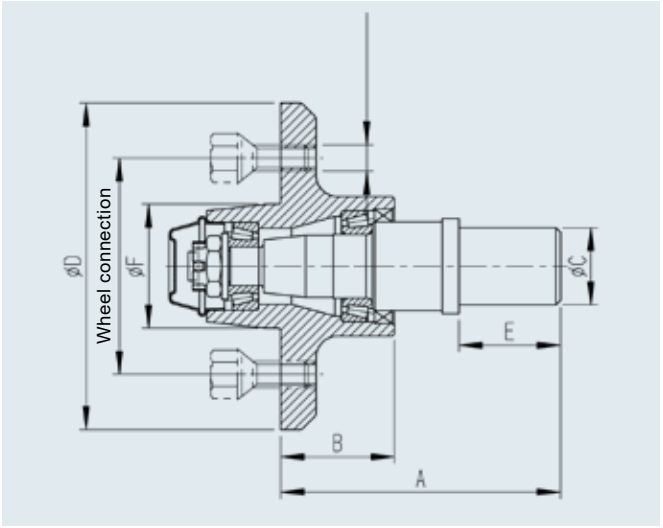
SAP: NABE PLUS 100X4/M12X1,5 650KG KPL WD

Hub watertight with stub for screwing in

Part No.	Wheel load per hub (kg)		Wheel connection			Dimensions					Splash guard	Bearing type				
	Up to max. 140 km/h	Up to max. 40 km/h	Connection	Thread	Offset	A	B	C	D	E						
			mm	mm x mm	mm	mm	mm	mm	mm	mm	Yes/no					
1731237	650	750	100x4	M12x1.5	27-33	238	103	160	49.2	46.9	Yes	Compact	6.8	–	150	10
1225767	650	750	112x5	M12x1.5	27-33	238	103	160	49.2	46.9	Yes	Compact	6.8	–	150	10
1225708	750	850	112x5	M12x1.5	27-33	241	106	160	50	49	Yes	Compact	7.8	–	150	20

WHEEL HUBS

1,100 kg with tapered roller bearing for welding in



SAP: NABE 205X6 ET 0 1100

Hub with stub for screwing in

Part No.	Wheel load per hub (kg)		Wheel connection		Offset	Dimensions						Splash guard	Bearing type				
	Up to max. 140 km/h	Up to max. 40 km/h	Connection	Thread		A	B	C	D	E	F						
			mm	mm x mm	mm	mm	mm	mm	mm	mm	mm	Yes/no					
218591	1,100	1,100	205x6	M18x1.5	0	167	68	44.8	250	42	160	No	Tapered roller bearing	11.5	–	150	On request

WHEEL BRAKE 1637

1,000 kg

TECHNOLOGY

All AL-KO wheel brakes are ECE-tested and can be connected to the corresponding AL-KO overrun devices (allocation calculation).
Install wheel brakes with the correct direction of rotation!
The brake pads used are free of asbestos!

SCOPE OF SUPPLY

- (See order overview)
- Wheel bolts and axle Bowden cables not included in delivery!
  Please order separately

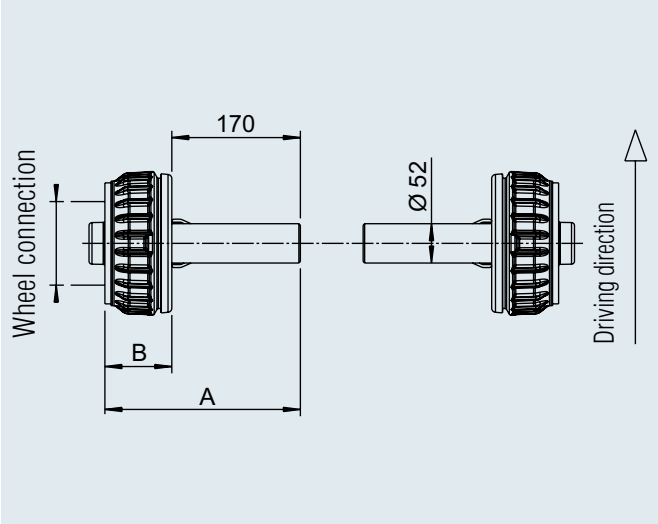
SURFACE TREATMENT

- Galvanised

POSSIBLE WHEEL CONNECTIONS

- On request
- Suitable for rims with centre hole min. 57 mm

Comply with installation guidelines!



SAP: RADBREMSE 1637 PAAR EURO

Wheel brake 1637 EURO Pair 1000 kg

Part No.	Wheel load per hub	Wheel connection		Offset	Dimensions		Bearing type				
		Connection	Thread		A	B					
	kg	mm	mm x mm	mm	mm	mm					
1225204	500	100x4	M12 x 1.5	27-33	258	88	Compact	23	-	-	20

Wheel brake 1637 EURO Pair 1000 kg watertight

Part No.	Wheel load per hub	Wheel connection		Offset	Dimensions		Bearing type				
		Connection	Thread		A	B					
	kg	mm	mm x mm	mm	mm	mm					
1730615	500	100x4	M12 x 1.5	27-33	258	88	Compact	23	-	-	20

WHEEL BRAKE 2051

1,500 kg with stub

TECHNOLOGY

All AL-KO wheel brakes are ECE-tested (official characteristic value) and can be connected to the corresponding AL-KO overrun devices (allocation calculation).
Install wheel brakes with the correct direction of rotation!
The brake pads used in the wheel brakes are free of asbestos!

SCOPE OF SUPPLY

- (See order overview)
- Wheel bolts and axle Bowden cables not included in delivery! Please order separately

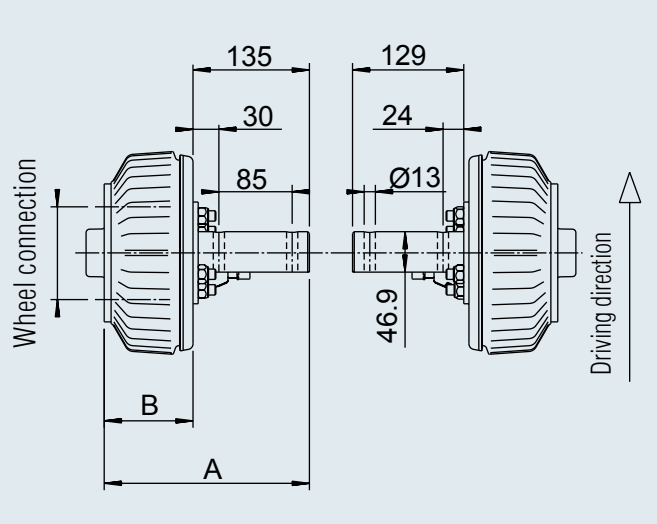
SURFACE TREATMENT

- Stub: dip primed black
- Wheel brake: galvanised
- Brake drum painted

POSSIBLE WHEEL CONNECTIONS

- On request
- Suitable for rims with centre hole min. 57 mm

Comply with installation guidelines!



SAP: RADBREMSE 2051AB PAAR 1500 M STUMMEL

Wheel brake 2051AB PLUS pair 1500 kg with stub for screwing in

Part No.	Wheel load per hub	Wheel connection		Offset	Dimensions		Bearing type				
		Connection	Thread		A	B					
	kg	mm	mm x mm	mm	mm	mm					
1225472	750	112x5	M12 x 1.5	27-33	238	103	Compact	29.5	-	150	10

Wheel brake 2051AB PLUS pair 1500 kg watertight with stub for screwing in

Part No.	Wheel load per hub	Wheel connection		Offset	Dimensions		Bearing type				
		Connection	Thread		A	B					
	kg	mm	mm x mm	mm	mm	mm					
1225699	750	112x5	M12 x 1.5	27-33	238	103	Compact	29.7	-	150	10

WHEEL BRAKE 2361

1,800 kg with stub

TECHNOLOGY

All AL-KO wheel brakes are ECE-tested (official characteristic value) and can be connected to the corresponding AL-KO overrun devices (allocation calculation).
Install wheel brakes with the correct direction of rotation!
The brake pads used in the wheel brakes are free of asbestos!

SCOPE OF SUPPLY

- (See order overview)
- Wheel bolts and axle Bowden cables not included in delivery! Please order separately.

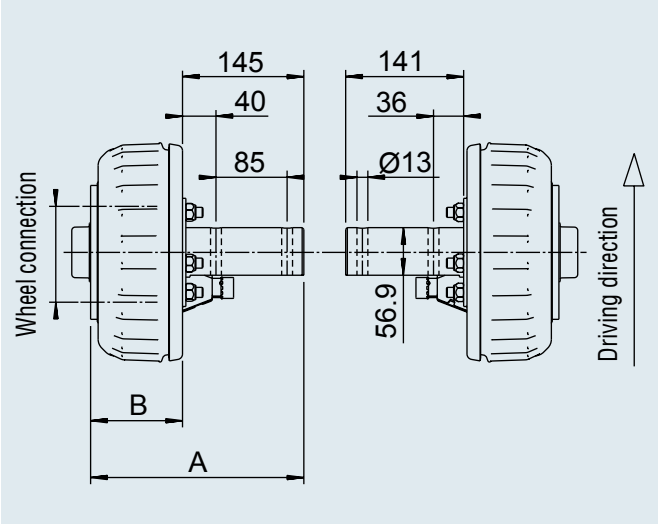
SURFACE TREATMENT

- Galvanised

POSSIBLE WHEEL CONNECTIONS

- On request
- Suitable for rims with centre hole min. 57 mm

Comply with installation guidelines!



SAP: RADBREMSE 2361 PAAR 1800 M STUMMEL

Wheel brake 2361AB PLUS pair 1800 kg with stub for screwing in

Part no.	Wheel load per hub kg	Wheel connection Connection mm	Thread mm x mm	Offset mm	Dimensions A mm	B mm	Bearing type				
1225474	900	112x5	M12 x 1.5	27-33	255	114	Compact	43.7	-	150	10

Wheel brake 2361AB PLUS pair 1800 kg watertight with stub for screwing in

Part no.	Wheel load per hub kg	Wheel connection Connection mm	Thread mm x mm	Offset mm	Dimensions A mm	B mm	Bearing type				
1225700	900	112x5	M12 x 1.5	27-33	258	117	Compact	46.2	-	150	10

WHEEL BRAKE 3081A

2,500 kg

TECHNOLOGY

All AL-KO wheel brakes are ECE-tested and can be connected to the corresponding AL-KO overrun devices (allocation calculation).
Install wheel brakes with the correct direction of rotation!
The brake pads used are free of asbestos!

SCOPE OF SUPPLY

- (See order overview)
- Wheel bolts and wheel nuts are included in the scope of supply!
- Axle Bowden cables are not included in the scope of supply!
  Please order separately.

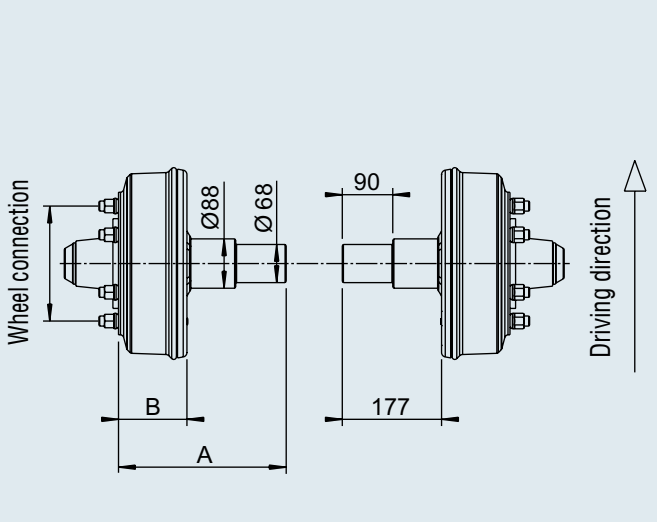
SURFACE TREATMENT

- Synthetic resin dip-coating black

POSSIBLE WHEEL CONNECTIONS

- On request
- Suitable for rims with centre hole min. 161 mm

Comply with installation guidelines!



SAP: RADBREMSE 3081A PAAR

Wheel brake 3081 A Pair 2,500 kg

Part No.	Wheel load per hub kg	Wheel connection Connection mm	Wheel connection Thread mm x mm	Offset mm	Dimensions A mm	Dimensions B mm	Bearing type				
1210552	1,250	205x6	M18 x 1.5	0	299	122	Taper	79	-	-	20

BRAKED AXLES

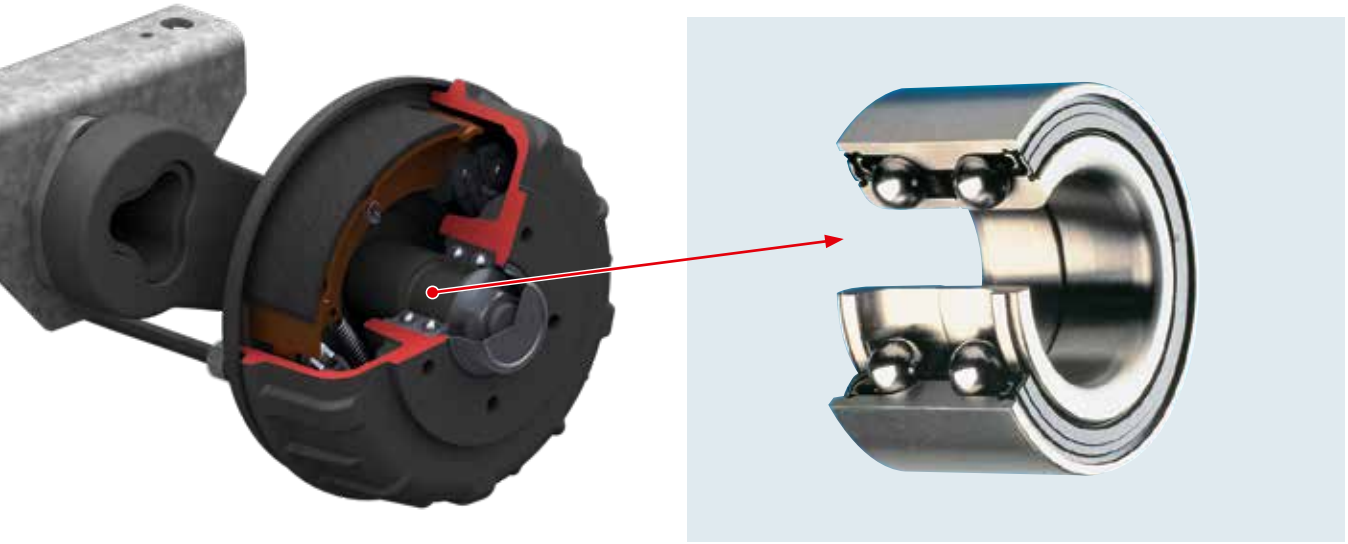
With waterproof bearings 750 to 1,800 kg

YOUR ADVANTAGE

- Compact bearing absolutely watertight due to special seals on both sides
- Proven in the automotive sector
- Maintenance-free (lifetime lubrication)
- Bearing adjustment no longer necessary during servicing
- The bearing is pressed into the bearing seat of the brake drum with high precision

ATTENTION!

- Wheel brakes on the boat trailer must be allowed to cool before driving into the water!
- Regularly rinse the wheel brakes with clean water after driving into water (especially salt water) and comply with maintenance intervals!



WATERTIGHT COMPACT BEARINGS
for running axles 750 – 1,800 kg
for braked axles 900 – 1,800 kg

Visual recognition mark
AL-KO WATERPROOF

Versions available

Unbraked axles						
Axle load for single axle	750 kg	1,500 kg	1,800 kg			

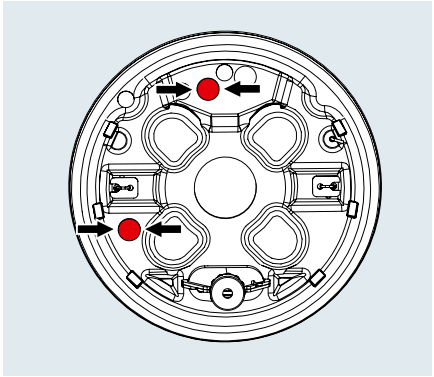
Braked axles						
Axle load for single axle	900 kg	1,000 kg	1,350 kg	1,500 kg	1,600 kg	1,800 kg
With wheel brake	1637	2051 Aa	2051 Aa	2051 Ab	2361	2361

WHEEL BRAKE FLUSHING SYSTEM

for boat trailers

YOUR ADVANTAGE

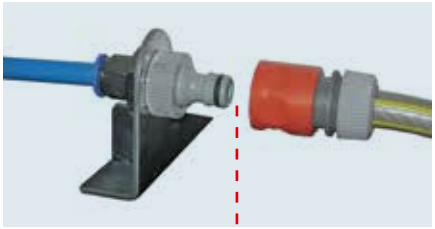
After boat trailers have been immersed in salt water, salt residues crystallise on the inside of the wheel brake. Unless these are removed by flushing with fresh water, increased corrosion will be inevitable, resulting in malfunctions.



ORIGINAL EQUIPMENT MOUNTING

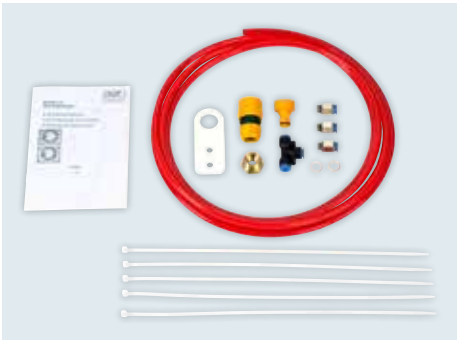
Can be used on bolt-on AL-KO wheel brakes type 1637/2051/2361/3062.

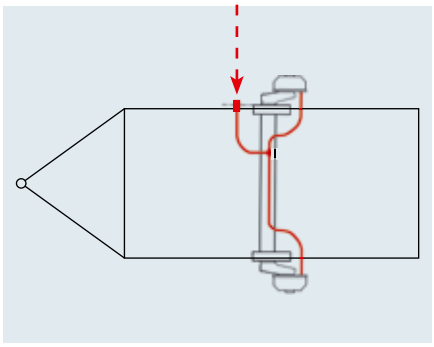
The brake back plate is provided with two corresponding threaded holes for the ¼" push-in screw connection by AL-KO when you order your axle.



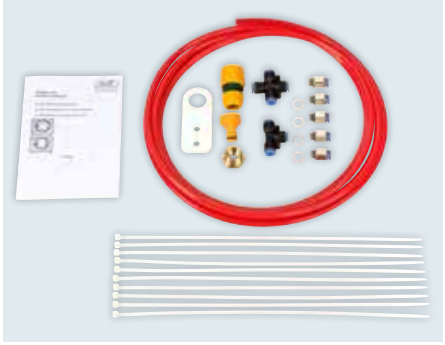
OPERATION

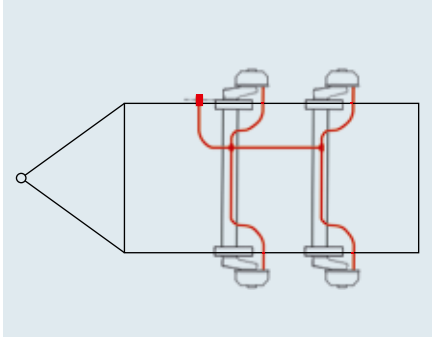
Connect fresh water hose to the coupling piece, then flush with fresh water for about 5 minutes.





Wheel brake flushing system single axle	
SAP: RADBREMSENSPÜLUNG EA	
Part No.	1362447
Can be used for AL-KO wheel brakes	1637 / 2051 2361 / 3062
	0.9 kg
	10 units –





Wheel brake flushing system tandem	
SAP: RADBREMSENSPÜLUNG TA	
Part No.	1362448
Can be used for AL-KO wheel brakes	1637 / 2051 2361 / 3062
	1.0 kg
	10 units –

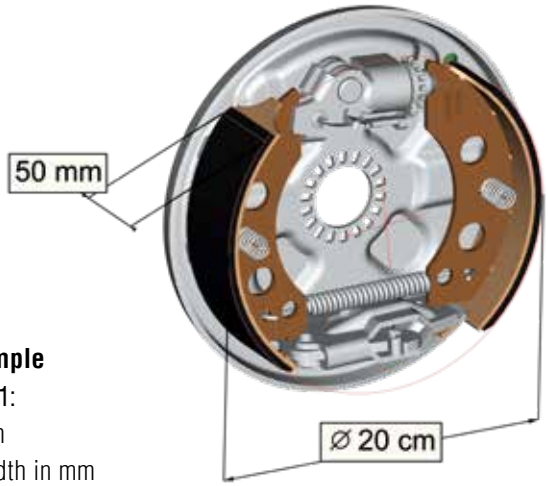
WHEEL BRAKES WITH AUTOMATIC REVERSE

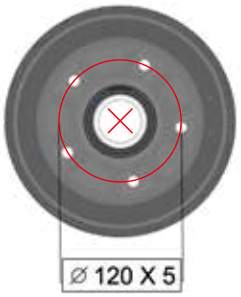
Expanding lever actuation, for trailers more than 25 km/h

TECHNOLOGY

- All AL-KO wheel brakes are ECE-tested (official characteristic value) and can be connected to the corresponding AL-KO overrun devices (allocation calculation).
- Optionally with automatic brake pad adjustment (AAA = AL-KO Automatic Adjustment) for wheel brakes 2051 and 2361.
- Install wheel brakes with the correct direction of rotation.
- The brake pads used in the wheel brakes are free of asbestos!
- The wheel brakes stated in the table are specially designed for AL-KO overrun devices. The AL-KO wheel brakes comply with ECE R13.

Please note that, for combinations with other overrun devices, the function must be checked by an allocation calculation.





Possible wheel connections

1	100 x 4	**7**	130 x 5
2	112 x 5	**8**	140 x 5
3	98 x 4	**9**	139.7 x 4
4	130 x 4	**10**	205 x 6
5	108 x 4/5	**11**	101.6 x 4
6	120 x 5	**12**	115 x 4

Explanation example

Type number 2051:
20 = diameter in cm
50 = brake shoe width in mm

Type	Version	Perm. brake load per wheel brake kg	EC test report no.	Possible wheel connections	Offset mm	Available with AAA
1636 G	a	375	361-070-92	1, 2, 3, 4, 11, 12	27 – 45	–
1636 G	b	375	361-070-92	1, 2, 3, 4, 11, 12	0	–
1637	a	500	361-0032-92	1, 2, 3, 11	27 – 33	–
1637	b	500	361-0032-92	1, 2, 3, 11	0	–
2051	Aa	650	361-0031-92	1, 2, 3, 4, 5, 6, 7, 8, 11	26 – 33	•
2051	Ab	750	361-0031-92	2, 7, 8, 9	30	•
2051	Ac	650	361-0031-92	1, 2, 3, 4, 5, 6, 7, 8, 11	0	•
2051	Ad	750	361-0031-92	2	0	•
2361		900	361-0046-97	2, 4, 6, 7, 8, 9	30	•
3062		1,500	361-047-07	10	0 – -5	–
3081	A	1,250	361-0189-97	10	0 – -5	–
3081	B	2,000	361-0189-97	10	0 – -5	–
2361 AR *		900	361-063-14	2	30	–
3062 AR *		1,500	361-062-14	10	0 – -5	–
3081 AR *	A	1,250	361-101-12	10	0 – -5	–
3081 AR *	B	2,000	361-101-12	10	0 – -5	–

* for trailers with pneumatic brakes

1636 G

1637

2051

2361

3062

3081

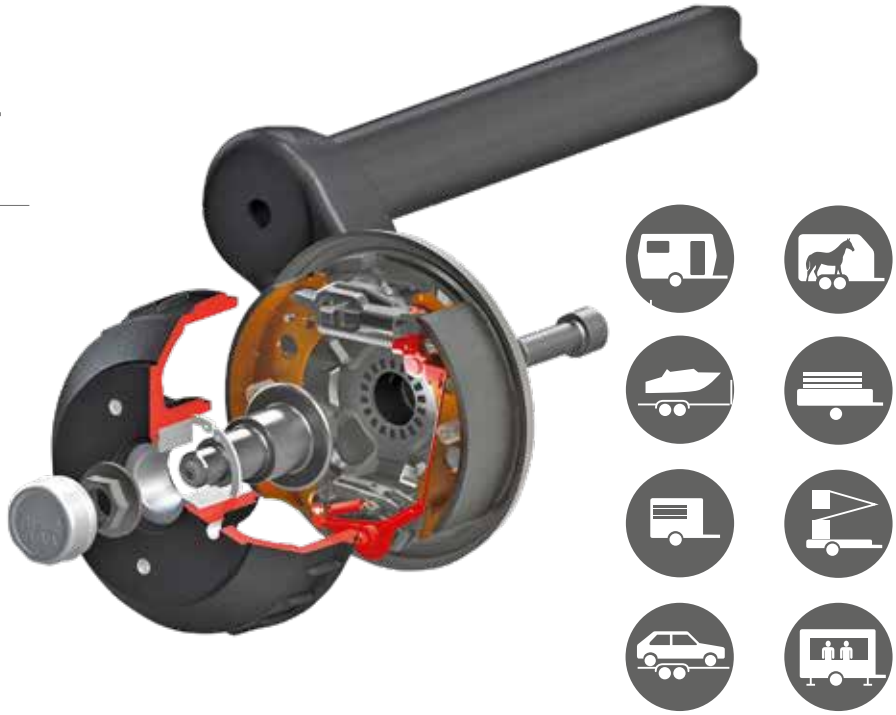
	External transmission ia	Path transmission ig	Brake application stroke SB	Characteristic value kB (m)	Application force (N) Po	Corresponding tyre radius (m) R_{min} / R_{max}	Max. perm. braking torque (Nm)
	3.80	15.85	1.520	0.540	–70	0.260 – 0.300	750
	3.80	15.85	1.520	0.520	–50	0.210 – 0.255	750
	4.00	15.85	1.520	0.530	–80	0.260 – 0.303	1,150
	4.00	15.85	1.520	0.480	20	0.210 – 0.259	1,100
	4.00	15.55	1.600	0.839	20	0.270 – 0.321	1,460
	4.00	15.55	1.600	0.720	0	0.280 – 0.321	1,700
	4.00	15.55	1.600	0.824	15	0.210 – 0.269	1,300
	4.00	15.55	1.600	0.746	20	0.215 – 0.280	1,460
	4.00	16.40	1.660	0.800	0	0.253 – 0.360	2,200
	4.00	17.44	1.800	0.966	25	0.310 – 0.389	4,200
	4.00	17.44	1.800	0.936	135	0.310 – 0.400	3,500
	4.00	17.44	1.800	1.165	54	0.360 – 0.480	6,700
	4.00	16.40	1.660			0.253 – 0.321	
	3.62	15.80	1.800			0.389 tested	
	4.00	17.44	1.800			0.371 checked	
	4.00	17.44	1.800			0.371 checked	

AL-KO AAA PREMIUM BRAKE

The high-performance brake

THE PREMIUM BRAKE THAT ADJUSTS AUTOMATICALLY

- Suitable for AL-KO wheel brakes, and thus for most trailers with AL-KO axles
- The proven wheel brakes with their braking values far above the average are supplemented by the automatic adjustment function
- When driving in reverse, adjustment is deactivated to prevent the brake from locking up
- Simple changeover to the latest technology thanks to a pre-assembled system (AL-KO screw system)



BRAKING DISTANCE IS TIME

As soon as the brake has excess play, the AAA automatically readjusts. This means the brake system is always optimally adjusted, so you save valuable braking distance in a dangerous situation.
E.g. car with caravan, permissible gross weight 1,500 kg:

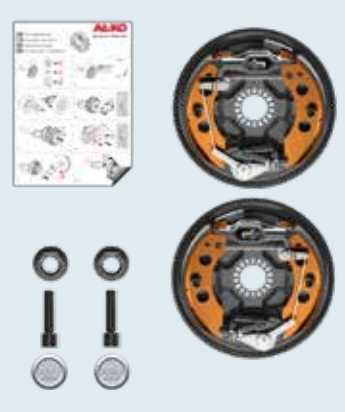
Braking from 100 km/h with poorly adjusted brake system: 79 m

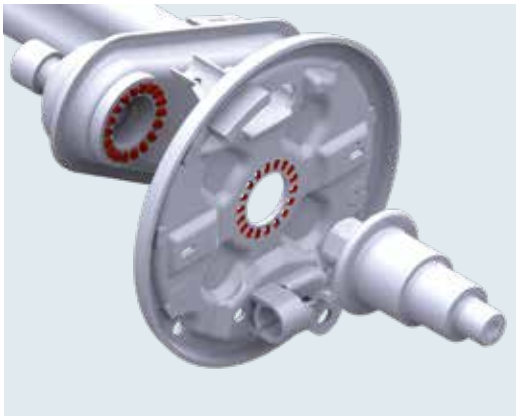
Braking from 100 km/h with optimally adjusted brake system: 74 m
= 5 m shorter braking distance = 1 vehicle length!

THE ADVANTAGES FOR YOU

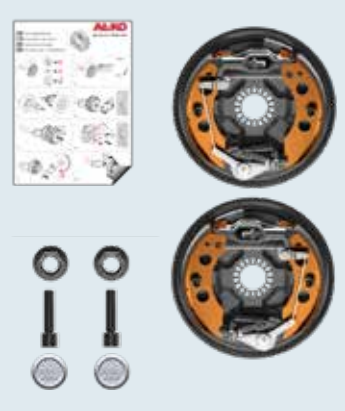
- **Greater driving safety** thanks to an up to 5 m shorter braking distance
- **Greater ride comfort** through smooth braking without jolting when setting off
- **Lower maintenance costs** due to extended service intervals and dispensing with the first workshop visit after 1,000 km
- No renewed presentation to TÜV required following installation
- **Tip:** Change over to the AAA Premium Brake the next time you change your brake linings, if not before

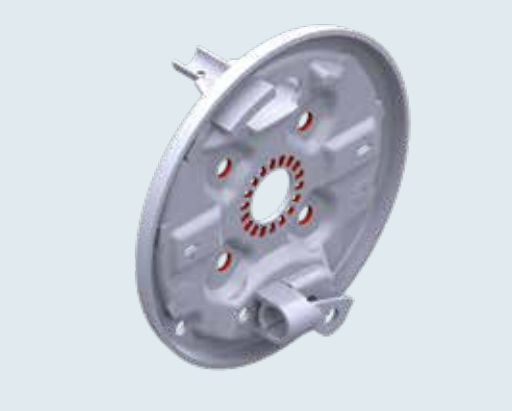
SCOPE OF SUPPLY



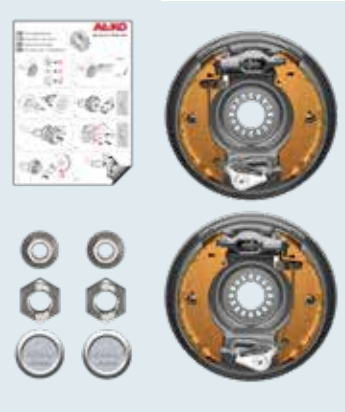


Retrofit set AAA for wheel brake 2051 version with toothed profile	
Part No.	1730026
SAP	UMRÜSTSET RB 2051 AAA
can be used with	Wheel brake 2051 from production date 1999 version with toothed profile
	7.6 kg
	– 36 units

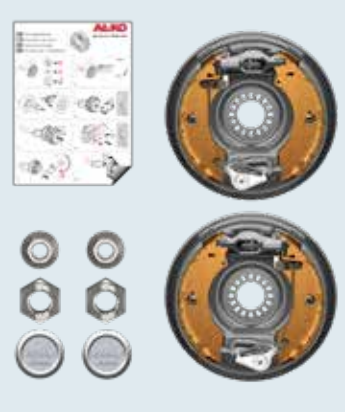




Retrofit set AAA for wheel brake 2051 version with toothed profile with 4 holes	
Part No.	1730255
SAP	UMRÜSTSET RB 2051 4-LOCH AAA
can be used with	Wheel brake 2051 from production date 1999 version with toothed profile with 4 holes
	7.6 kg
	– 36 units



Retrofit set AAA for wheel brake 2361 version with toothed profile	
Part No.	1730298
SAP	UMRÜSTSET RB 2361 AAA
can be used with	Wheel brake 2361 from production date 1999 version with toothed profile
	10.4 kg
	– 36 units



Retrofit set AAA for wheel brake 2361 version with toothed profile with 4 holes	
Part No.	1730299
SAP	UMRÜSTSET RB 2361 4-LOCH AAA
can be used with	Wheel brake 2361 from production date 1999 version with toothed profile with 4 holes
	10.4 kg
	– 36 units

BOLT-ON DRAWBAR CONNECTION PROFILES

for COMPACT and PLUS axles

YOUR ADVANTAGE

- Combine your special chassis from stocked parts.
- Time-consuming welding on a top hat profile is no longer necessary.

SURFACE TREATMENT

- Hot-dip galvanised

SCOPE OF SUPPLY

(See technical drawing) incl.

- Mounting instructions, packed in cardboard box.
- Without fixing bolts for connection to the axle.

MOUNTING

1. Drawbar bolted to drawbar connection profiles

- Select a correct connection hole for the existing drawbar diameter on profiles .
- Position drawbar connection profiles at the side of the drawbar and secure with hexagon bolt (M12/M16).

Attention: The spacer tube must be pressed or placed into the drawbar.

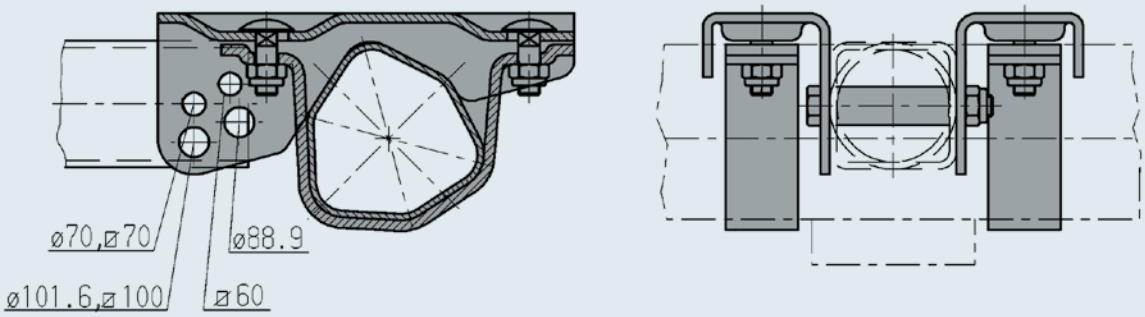
2. Fasten drawbar connection profiles to axle

- Place drawbar connection profiles on axle, bolt on with clamping bracket and supplied round-head screws (M12x35) as well as nuts.
- Align drawbar with axle and bolt on firmly.

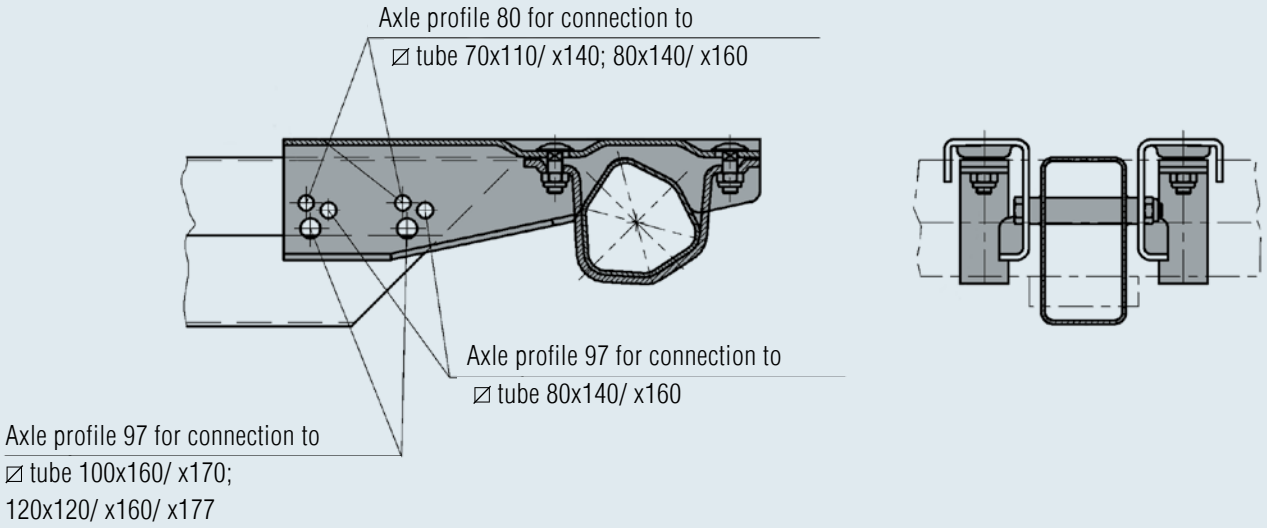
SAP: SCHRAUBKLEMMVERBNDG PR 97VERP-45

Part No. Version	Version	for Compact, Plus hexagonal rubber suspension axle (from production date 1999)								
		Single axle	Tandem	Axle profile	Ø round	Square				
247853	A	B 850/ B 1000	2000	80	70 88.9	60x60 70x70 100x100	4	-	100	2
247684	A	B 1200/ B 1600	2600	97	70 88.9	70x70 100x100	4	-	100	2
249116	B	B 850/ B 1000	1600	80		70x110 70x140 80x140	7	-	100	2
249117	B	B 1200/ B 1600	3200	97		80x140 80x160 100x160 100x177 120x120 120x160 120x177	7	-	100	2

Version A – for overrun devices with central tube



Version B – for height-adjustable overrun devices as well as with central tube type R35 (120x120)



Recommended bolts for fastening to the drawbar with corresponding tightening torques

for drawbar section	Recommended bolt	Tightening torque*
Square 60x60 mm	M 12 x 100 8.8	75 Nm
Square 70x70 mm and round tube Ø 70 mm	M 12 x 110 8.8	75 Nm
Round tube Ø 88.9 mm	M 16 x 120 8.8	195 Nm
Square tube 100x100 mm	M 16 x 130 8.8	195 Nm
Square tube 70x110, 70x140 mm	M 12 x 120 8.8	75 Nm
Square tube 80x140, 80x160mm	M 12 x 120 8.8	75 Nm
Square tube 100x160, 100x170 mm	M 16 x 160 8.8	195 Nm
Square tube 120x120, 120x160, 120x177 mm	M 16 x 160 8.8	195 Nm

*Tightening torque must be selected according to the surface coating and friction value!

WELDED/BOLTED CONNECTIONS

for axles

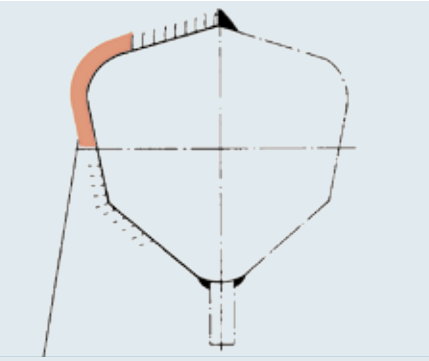
TECHNOLOGY

Mounting:

1. The top hat profile can be welded on at the manufacturing plant if requested.
2. Cut off the drawbar section (as required).
3. Drill two holes in the drawbar section. AL-KO drawbar tubes come with a hole with a spacer tube as standard. If using welded/bolted connections, it is additionally necessary to drill a hole with a spacer tube.

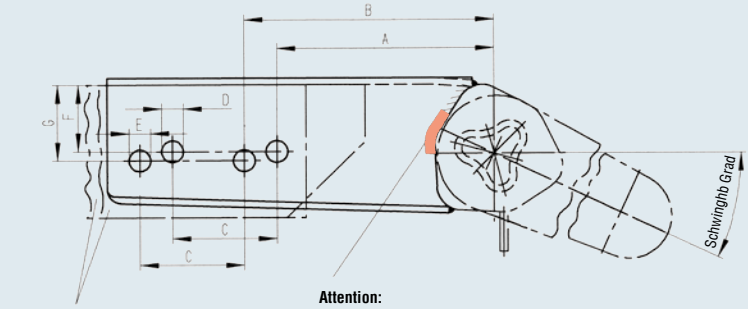
With Ø tube drawbars – drill through centre horizontally for spacer tube 365.472 Ø 22, for 372.879 Ø 25.5

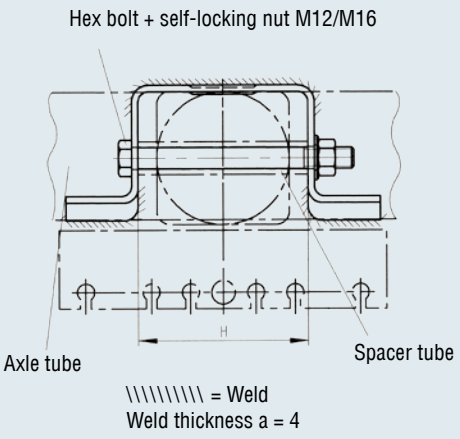
4. Weld on spacer tubes in the middle.
5. Bolt on spacer tubes with hex bolt and self-locking nut, tightening torque 75 Nm with M 12; tightening torque 195 Nm with M 16.



Attention:
The area marked in red is not allowed to be welded (change in toe and camber)

AL-KO hexagonal rubber suspension axle version





SAP: SCHWEISSCHRAUBVERBG PR 97 5GR SHST

Part No.	Weight range		Axle profile	Swing arm		Drawbar section	
	Single axle kg	Tandem kg		Standard degrees	Special degrees	Round Ø	Rectangular ☐ width
AL-KO hexagonal rubber suspension axles							
242725	750		71	30°		70 & 88.9	70 and 80
243108	750		71		5°	70 & 88.9	70 and 80
1211600	1,600	2,500	97		5°	70 & 88.9	70 and 80
1211601		3,000	97		5°		100 and 120
243105	1,800	3,500	110	25°		88.9	100 and 120
243107	1,800	3,500	110		5°	88.9	100 and 120
240133	2,500	3,500	120	20°		88.9	100 and 120
242724	2,500	3,500	120		5°	88.9	100 and 120
Steel spring axles							
240134	3,500		Ø 114	20°			100 and 120

SCOPE OF SUPPLY

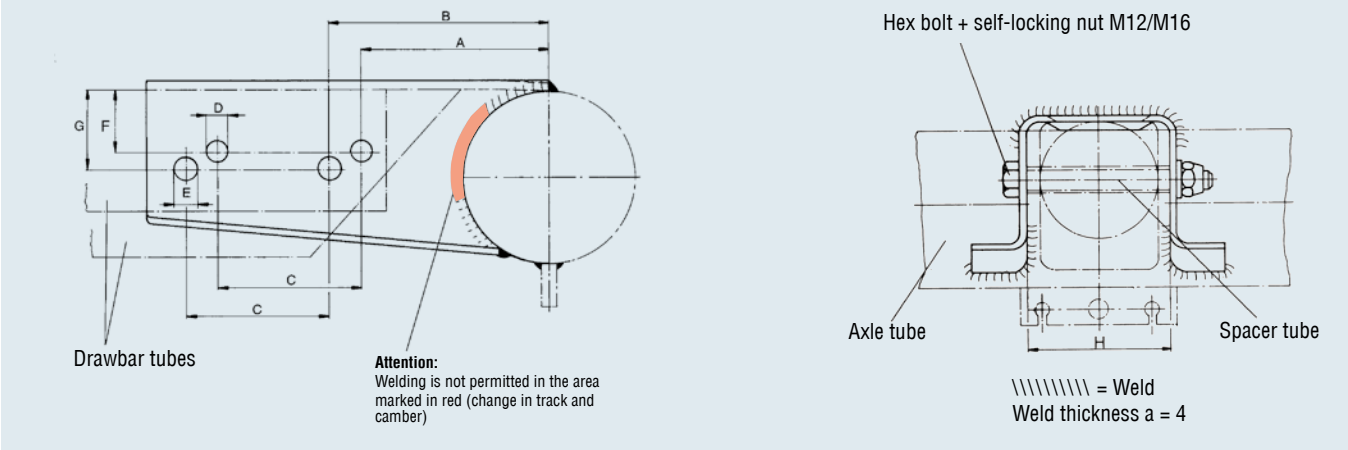
(see technical drawing) including:

- Fixing bolts
- With drawbar sections (height-adjustable), the spacer tubes are supplied with the drawbar sections
- Welding instructions part no. 604038

SURFACE TREATMENT

- Synthetic resin dip-coating black

Steel spring axle version



Dimensions (mm) A	B	C	D	E	F	G	H				Part No.* Spacer tube
175	190	80	12.5	12.5	36	45	90	1.8	–	70	365472
175	190	80	12.5	12.5	36	45	90	1.8	–	70	365472
175	190	80	12.5	12.5	36	45	90	2.6	–	50	365472
165	190	80	16.5	16.5	51	58	130	2.8	–	50	–
160	190	80	16.5	16.5	45	58	130	2.8	–	40	372879
160	190	80	16.5	16.5	45	58	130	2.8	–	40	372879
160	190	80	16.5	16.5	45	58	130	2.8	–	40	372879
160	190	80	16.5	16.5	45	58	130	2.8	–	40	372879
–	190	80	–	16.5	–	58	130	3.5	–	40	–

*Attention: If using Ø-drawbars, order 2x spacer tubes as well

CLAMPING SHELLS FOR AXLES

Single axle trailer up to 750 kg

TECHNOLOGY

Clamping connection assembly:
Mount drawbar tube and axle with clamping connection
Tighten with 4 hexagonal bolts M12.

Tightening torque:
75 Nm with 267 396
52 Nm with 267 395

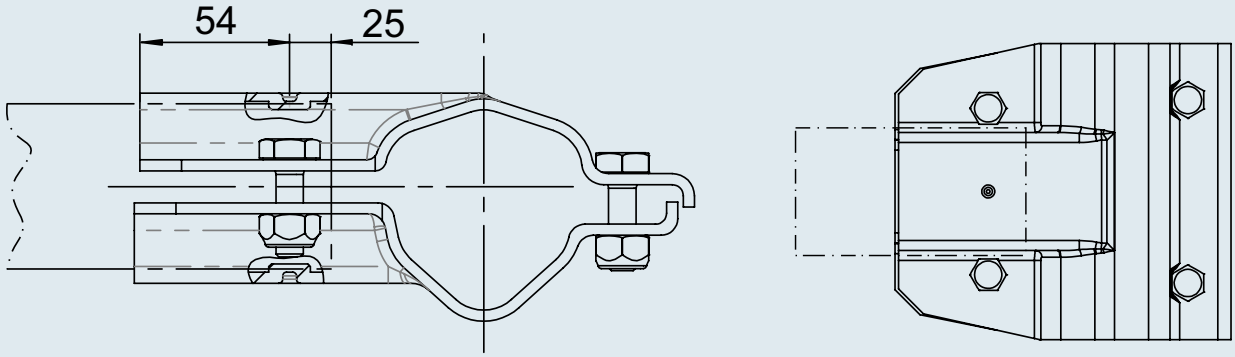
SURFACE TREATMENT

- Clamping connections hot-dip galvanised

SCOPE OF SUPPLY

- (See technical drawing) incl. bolted fasteners

Version B



SAP: KLEMMSCH PR 62 VKT 60

Part No.	Version	Hexagonal rubber suspension axle			Drawbar tube square	Slot for adapter bracket			
		Single axle	Axle profile Ø	Shape					
267396	B	500	62	○	60	No	1.5	-	200
267395	B	750	71	○	60	Yes	1.5	-	200

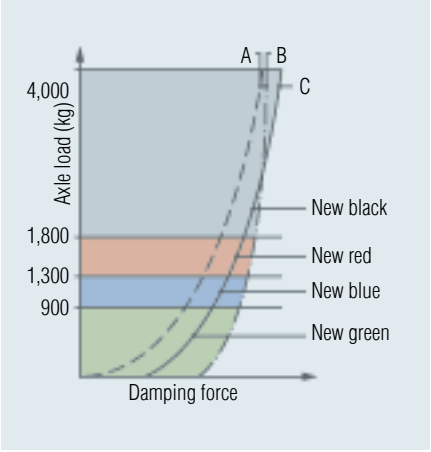
SHOCK ABSORBERS – OCTAGON PLUS

YOUR ADVANTAGE

- AL-KO Octagon shock absorbers are specifically set for a particular weight range *(see curve C)*.
- They thus optimally improve the towing properties of the trailer.

Colour	Single axle	Tandem axle
green	900 kg	1,600 kg
blue	1,350 kg	2,700 kg
red	2,000 kg	3,500 kg
black	4,000 kg	7,500 kg

To rule out any mix-ups, the different weight ranges are identified with different colours.



A Damping characteristic of AL-KO hexagonal rubber suspension axle

B Damping characteristic of previous shock absorbers

C Damping characteristic optimised by AL-KO Octagon shock absorbers

OPTIMAL DAMPING

What every driver of a vehicle combination dreads: oscillation of the trailer body on uneven roads.

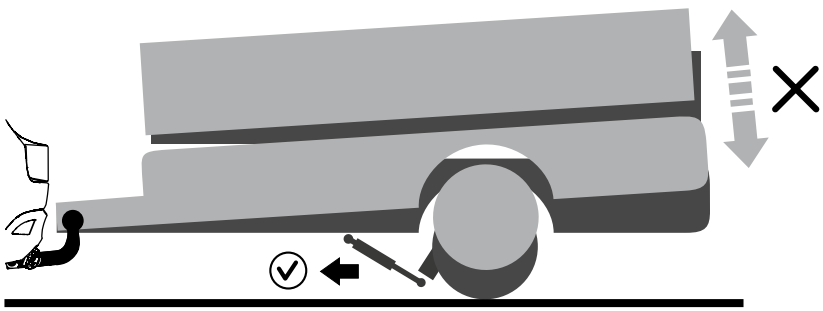
The AL-KO Octagon shock absorber immediately reduces these dangerous bumping movements.

THIS MEANS:

- Greater driving stability
- Greater braking stability
- Optimum ground contact

SIMPLE INSTALLATION

- The rubber-mounted articulation connection eyes permit a low-wear, stress-free installation position at an angle of up to 5°.
- In contrast to commercially available shock absorbers, AL-KO Octagon shock absorbers have their bolts firmly integrated into the shock absorber eye, which means they are part of a shock absorber's scope of delivery along with the nuts.



SHOCK ABSORBERS – OCTAGON COMPACT

Colour	Single axle	Tandem axle
Black	up to 4,000 kg	up to 7,500 kg

SHOCK ABSORBERS – UNIVERSAL COMPACT

SIMPLE INSTALLATION

The rubber-mounted articulation connection eyes permit a low-wear, stress-free installation position at an angle of up to 5°.

By contrast with commercially available shock absorbers, AL-KO Universal shock absorbers also have their bolts firmly integrated into the shock absorber eye, which means they are part of a shock absorber's scope of delivery along with the nuts.

The low-cost AL-KO Universal shock absorber

Colour	Single axle	Tandem axle
black	up to 1,500 kg	up to 3,000 kg

SHOCK ABSORBER

Ordering overview

SAP: RADSTOSSDAEMPFER OCTAGON

Shock absorber	Version part no.	For AL-KO axles Trailing arm Semi-trailing arm	Single axle up to	Tandem axle up to	Colour	with articulation connection eyes	with fixing bolts			
	Octagon PLUS 244084	Trailing arm and semi-trailing arm	up to 900 kg	up to 1,600 kg	Green	Yes	Yes	1.3	–	350
	Octagon PLUS reinforced* 1204542	Trailing arm and semi-trailing arm	up to 900 kg	up to 1,600 kg	Green	Yes	Yes	1.3	–	350
	Octagon PLUS 244085	Trailing arm and semi-trailing arm	up to 1,350 kg	up to 2,700 kg	Blue	Yes	Yes	1.3	–	350
	Octagon PLUS reinforced* 1204589	Trailing arm and semi-trailing arm	up to 1,350 kg	up to 2,700 kg	Blue	Yes	Yes	1.3	–	350
	Octagon PLUS 244086	Trailing arm and semi-trailing arm	up to 2,000 kg	up to 3,500 kg	Red	Yes	Yes	1.3	–	350
	Octagon PLUS reinforced* 1204590	Trailing arm and semi-trailing arm	up to 2,000 kg	up to 3,500 kg	Red	Yes	Yes	1.3	–	350
	Octagon COMPACT 244087	Trailing arm and semi-trailing arm	up to 4,000 kg	up to 7,500 kg	Black	No	No	1.5	–	350
	Universal COMPACT 282259	Trailing arm	up to 1,500 kg	up to 3,000 kg	Black	Yes	Yes	1.0	–	350

*Certain mechanical components (e.g. cylinders) that could be destroyed if overloaded are reinforced. The stroke and length dimensions as well as damping forces have not been changed.

SURFACE TREATMENT

Shock absorber epoxy paint (powder-coated)

SCOPE OF SUPPLY

- Shock absorber
  Per axle, please order:
  2x shock absorbers loose incl. fixing bolts
- Shock absorber brackets for swing arms on AL-KO axles
  Per axle, please order:
  1 set or 2 sets of shock absorber brackets
- Holding bars for the trailer manufacturer's vehicle frame
  Per axle, please order as required:
  2x holding bars

Application example

Colour	Single axle	Tandem axle
Green	900 kg	1,600 kg
Glue	1,350 kg	2,700 kg
Red	2,000 kg	3,500 kg
Black	4,000 kg	7,500 kg

To rule out any mix-ups, the different weight ranges are identified with different colours.

SHOCK ABSORBER BRACKETS

1211502
Bolt-on

244088
Plug-in

1211257
Plug-in

2086310202
For welding on

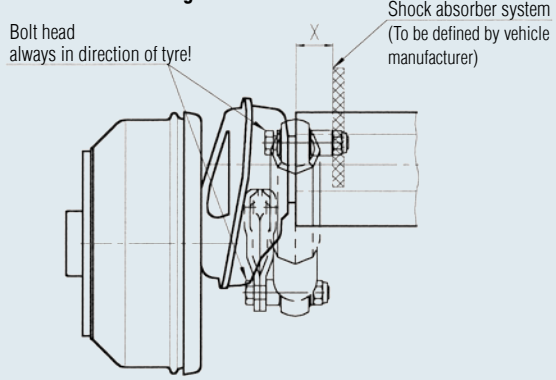
2284680202
For welding on

1312110
For welding on

Shock absorber brackets for AL-KO axle links and holding bars for trailer frame (25° or 20° swing arm position)

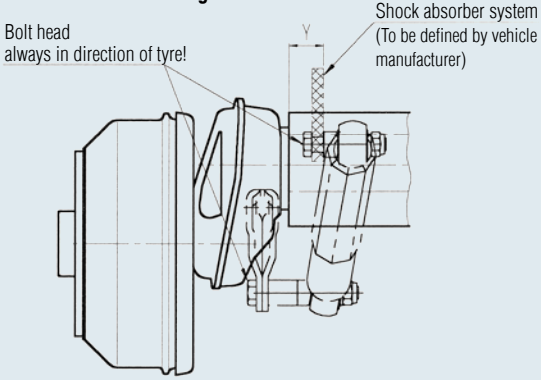
Axle type	Possible swing arm versions	Type of retrofit	Outside mounting dimension X	Outside mounting part No. shock absorber brackets for axle links	Inside mounting dimension Y	Inside mounting part No. shock absorber brackets for axle links	Part No. holding bars for trailer frame
B 700	Solid swing arm with mounting hole	Bolt-on shock absorber bracket	20-50mm	per set = 2 units 1211502 (straight)	–	–	per unit 1312110
B 850	Hollow swing arm with mounting hole	Plug-in shock absorber bracket	40–70 mm	per unit 244088 (straight)	0–50 mm	per set = 2 units 1211257 (with spacer bush)	per unit 1312110
B 1000 B 1200	Hollow swing arm with mounting hole	Plug-in shock absorber bracket	40–70 mm	per unit 244088 (straight)	0–50 mm	per set = 2 units 1211257 (with spacer bush)	per unit 1312110
B 1600	Hollow swing arm with mounting hole	Plug-in shock absorber bracket	40–70 mm	per unit 244088 (straight)	0–50 mm	per set = 2 units 1211257 (with spacer bush)	per unit 1312110
B 1000 B 1200	Forged swing arm	Welded shock absorber bracket	50–80 mm	per unit 2086310202 (straight)	20–60 mm	per unit 2284680202 (cranked)	per unit 1312110
B 1600 B 1800	Forged swing arm	Welded shock absorber bracket	50–80 mm	per unit 2086310202 (straight)	20–60 mm	per unit 2284680202 (cranked)	per unit 1312110
B 2500	Forged swing arm	Welded shock absorber bracket	40–70 mm	per unit 2086310202 (straight)	10–50 mm	per unit 2284680202 (cranked)	per unit 1312110

Shock absorber mounting from outside



Dimension X: from outside edge of axle tube to shock absorber system

Shock absorber mounting from inside



Dimension Y: from outside edge of axle tube to shock absorber system (inner side)

PROFI LONGLIFE AXLE BOWDEN CABLES

Advantages

AL-KO offers the highest quality for vehicle trailers

Trailers need to be able to do their job reliably come wind or weather, under all operating conditions.

The Bowden cables that are decisive for the brake function have to withstand a lot of stress.
AL-KO sets a new standard by using long-life Bowden cables. This achieves the longest possible service life with improved function. The optimised design means that they can withstand even the most adverse environmental effects without any problems.

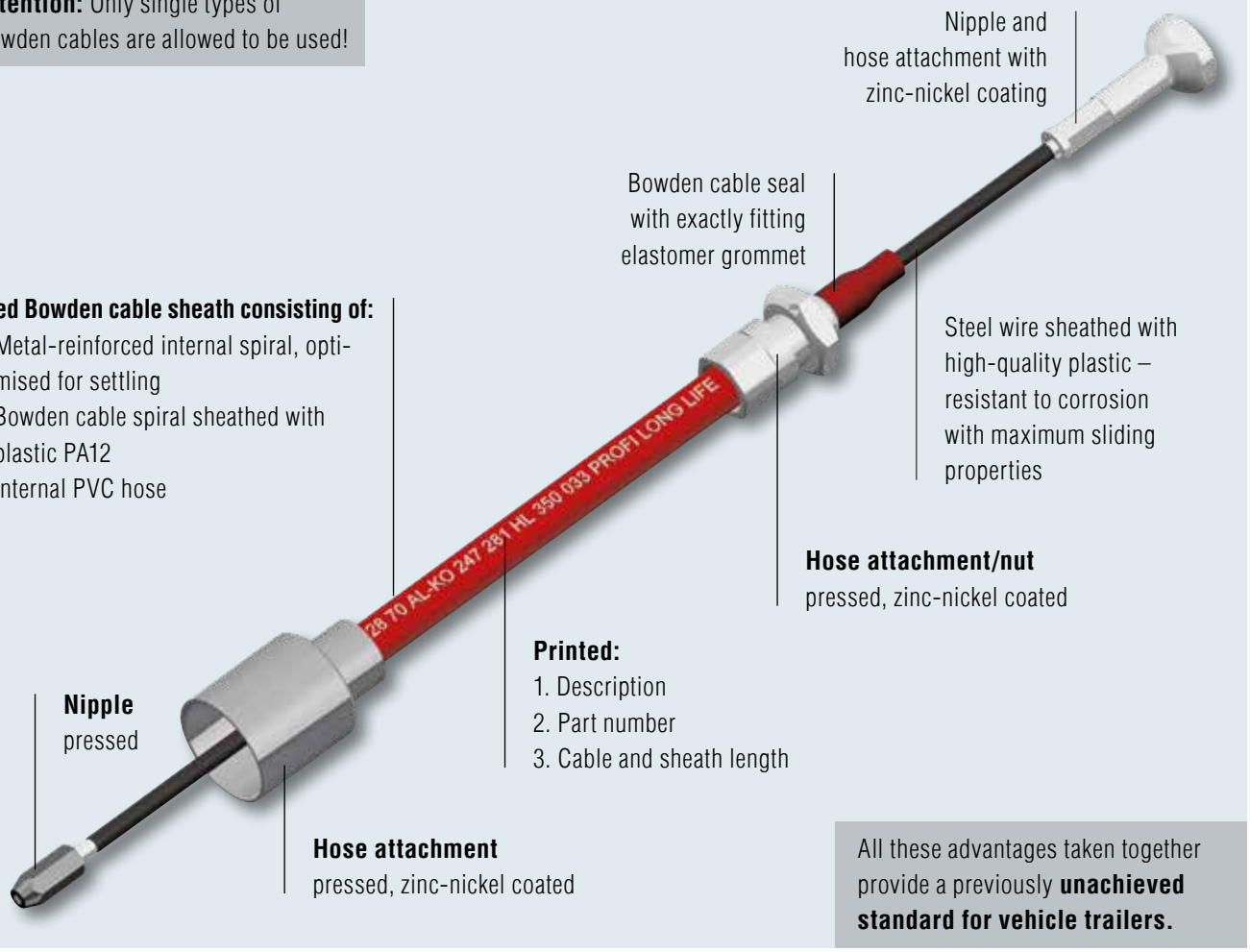
YOUR ADVANTAGE
Perfect protection

- The metal-reinforced internal spiral is protected by a **polymer sheath made of PA 12** (polyamide 12). This material is extremely resistant to salt water as well as other substances. This material is even used successfully as protective sheathing for offshore pipelines of oil platforms as well as for petrol pipelines.
- The end pieces of the Bowden cables are additionally provided with a **zinc/ nickel coating,** so that rust simply cannot gain a foothold.
- The transition from the jacketed steel wire to the cable is provided with an **exactly fitting elastomer grommet.** This effectively prevents penetration of water, salt and other aggressive, harmful liquids.

Up to 5% better efficiency

In turn, the steel cable sheathed with PA 12 runs within another PVC hose. **This means plastic runs on plastic,** enabling the sliding properties to be optimised as well.
In simple terms: efficiency is boosted by up to 5% across the entire temperature range.

Attention: Only single types of Bowden cables are allowed to be used!

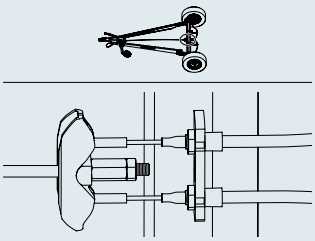


Red Bowden cable sheath consisting of:

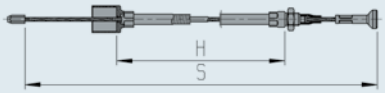
- Metal-reinforced internal spiral, optimised for settling
- Bowden cable spiral sheathed with plastic PA12
- Internal PVC hose

All these advantages taken together provide a previously **unachieved standard for vehicle trailers.**

Quick-mounting Bowden cable (1636G, 1637, 2051, 2361)



Quick mounting on the Bowden cable compensation bar for wheel brakes 1636G, 1637, 2051, 2361



Variant with thread

4

SAP: BOWDZUG 500/ 760 KPL

Normal mounting 3062, 3081

OHF mm from to	without fixing bolts	Without fixing bolts	Sheath H mm	Cable S mm
Single axle trailer				
up to 1,310	246489	241106	500	760
1310 – 1710	246490	241107	800	1,060
1710 – 1910	246491	241108	900	1,160
1910 – 2110	246492	241109	1,000	1,260
2110 – 2310	246493	241110	1,100	1,360
2310 – 2610	246494	241111	1,300	1,560
2610 – 2810	246495	241112	1,400	1,660
Tandem front axle				
up to 1470	246489	241106	500	760
1470 – 1870	246490	241107	800	1,060
1870 – 2070	246491	241108	900	1,160
2070 – 2270	246492	241109	1,000	1,260
2270 – 2470	246493	241110	1,100	1,360
2470 – 2770	246494	241111	1,300	1,560
2770 – 2970	246495	241112	1,400	1,660
Tandem rear axle centre distance 750 mm				
up to 1470	246493	241110	1,100	1,360
1470 – 1910	246494	241111	1,300	1,560
1910 – 2110	246495	241112	1,400	1,660
2110 – 2810	246496	241113	1,600	1,860

SAP: BOWDZ COM 350/ 546 PROFI LONG LIFE

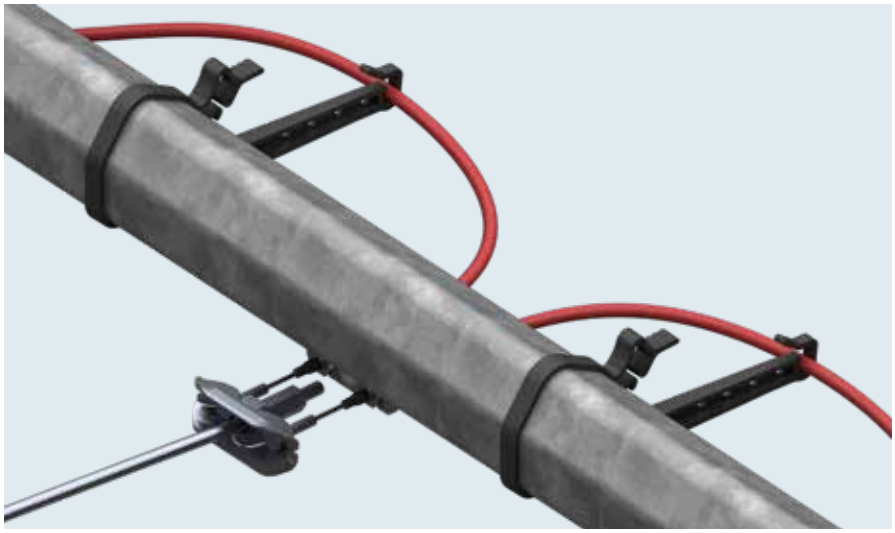
Quick mounting 1636G, 1637, 2051, 2361

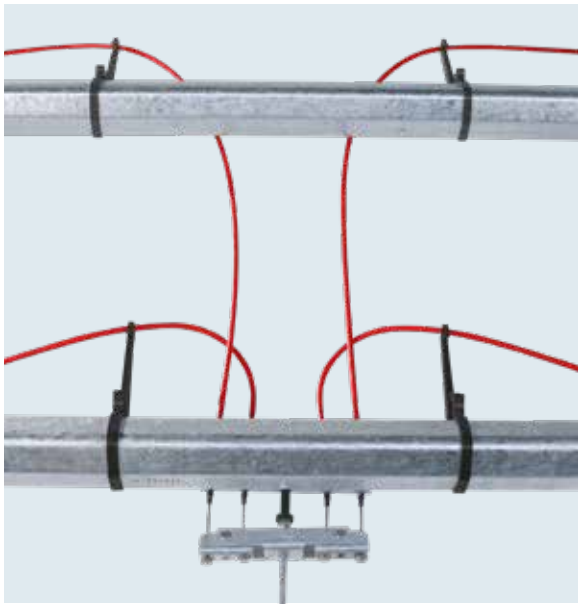
OHF mm from to	without fixing bolts	Sheath H mm	Cable S mm	
Single axle trailer				
up to 940	247281	350	546	20
940 – 1260	247282	530	726	20
1260 – 1680	247283	770	966	20
1680 – 1880	247284	890	1,086	20
1880 – 2100	247285	1,020	1,216	20
2100 – 2340	247286	1,130	1,326	20
Tandem front axle				
up to 1110	247281	350	546	20
1110 – 1430	247282	530	726	20
1430 – 1850	247283	770	966	20
1850 – 2050	247284	890	1,086	20
2050 – 2270	247285	1,020	1,216	20
2270 – 2510	247286	1,130	1,326	20
Tandem rear axle centre distance up to 700 mm				
up to 1620	247286	1,130	1,326	20
1620 – 2020	247287	1,320	1,516	20
2020 – 2360	247288	1,430	1,626	20
2360 – 2720	247289	1,620	1,816	20
2720 – X	247290	1,790	1,986	20
Tandem rear axle centre distance > 700 mm				
up to 1470	247286	1,130	1,326	20
1470 – 1870	247287	1,320	1,516	20
1870 – 2210	247288	1,430	1,626	20
2210 – 2570	247289	1,620	1,816	20
2570 – X	247290	1,790	1,986	20

BOWDEN CABLE HOLDERS

YOUR ADVANTAGE

- Moisture that penetrates can escape.
- Freezing up is prevented.
- The function of the brake system is permanently maintained, especially when using PROFI long-life axle Bowden cables.
- No Bowden cable sagging.
- No oscillation, and therefore no undesired gentle braking while driving.



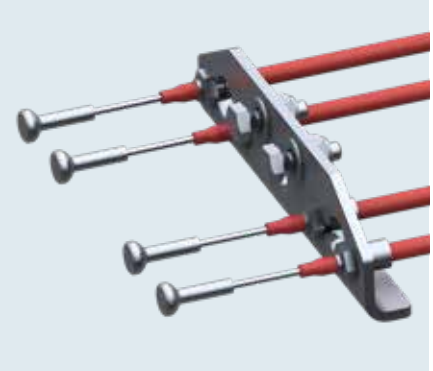


SAP: BOWDENZUGHALTER ACHSPR 97/45°

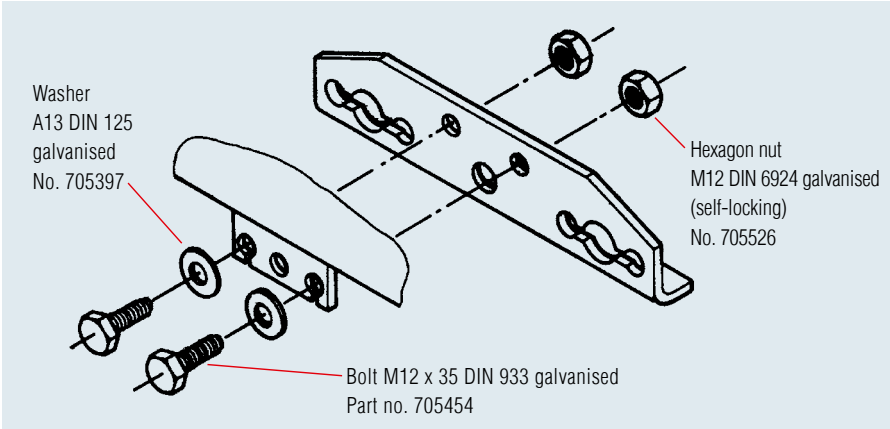
Part No. Units	Part No. 10 units packaged	for axles	Suspension	Axle profile Ø mm	Type from production date	Colour			
–	1222503	AL-KO	Hexagonal rubber suspension	97 mm	Compact up to YoM 1994 Plus up to YoM 1998	Black	0.6	10	–
691853	1222113	AL-KO	Hexagonal rubber suspension	97 mm	Compact from YoM 1995 Plus from YoM 1999	Black	0.6	10	100
692045	1222114	AL-KO	Hexagonal rubber suspension	80 mm	Compact from YoM 1995 Plus from YoM 1999	Black	0.6	10	100
692047	1222115	AL-KO	Hexagonal rubber suspension	110 mm	Plus from YoM 1999	Black	0.6	10	100
691892	1222116	Others	Square	80 mm		Black	0.6	10	100

BOLT-ON TANDEM ADAPTER BRACKET

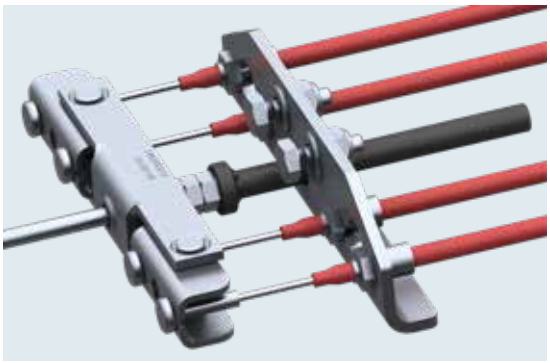
Tandem adapter bracket, bolt-on
Hot-dip galvanised, up to 3,500 kg
Part No.:
249236



Attention!
Install adapter bracket behind the axle in the driving direction (old adapter bracket in front of the axle)



Tandem compensation
Hot-dip galvanised, up to 3,500 kg
Part No.:
238576



WHEEL BOLTS AND WHEEL NUTS

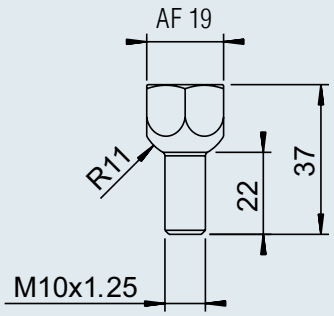
TECHNOLOGY

Wheel attachment: Attachment for safe operation is largely dependent on matching the hubs and wheel connections as well as using the right fastening components with the prescribed tightening torque.

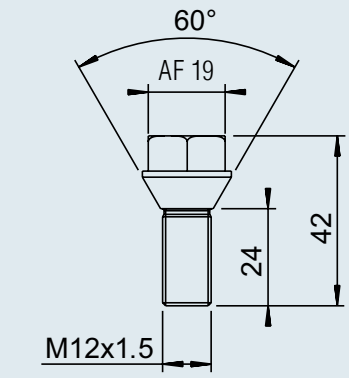
It is essential to coordinate the data of the axle, i.e. wheel connection and offset as well as the data of the wheel bolt and tightening torque, with your rim and tyre manufacturer.

SURFACE TREATMENT

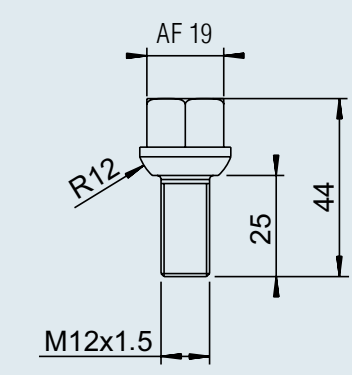
galvanised



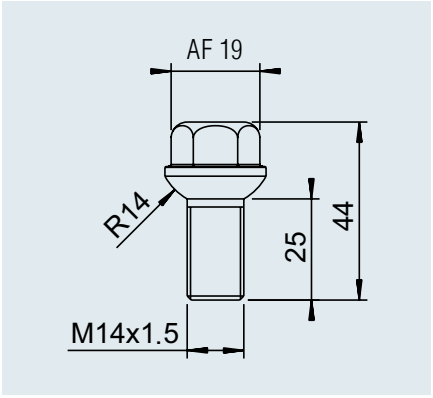
Ball-head wheel bolt M10 x 1.25	
SAP: SHR RAD- KUG- M10X1,25X22	
Part No.	2088920010
Wrench size	AF 19
Bolt quality	8.8
Maximum permitted tightening torque	52 Nm



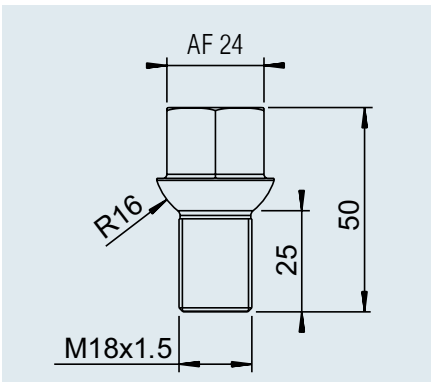
Taper-head wheel bolt M12 x 1.5	
SAP: SHR RAD- KEG- M12X1,5X24	
Part No.	2081670018
Wrench size	AF 19
Bolt quality	8.8
Maximum permitted tightening torque	90 Nm



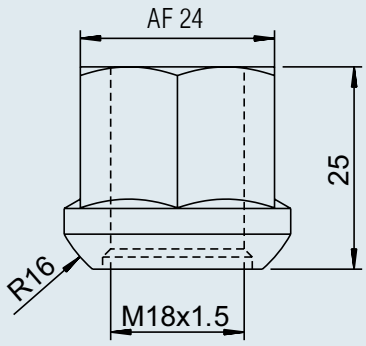
Ball-head wheel bolt M12 x 1.5	
SAP: SHR RAD- KUG- M12X1,5X25	
Part No.	2081670020
Wrench size	AF 19
Bolt quality	8.8
Maximum permitted tightening torque	90 Nm



Ball-head wheel bolt M14 x 1.5	
SAP: SHR RAD- KUG- M14X1,5X25 ZN12A	
Part No.	2081670002
Wrench size	AF 19
Bolt quality	10.9
Maximum permitted tightening torque	150 Nm

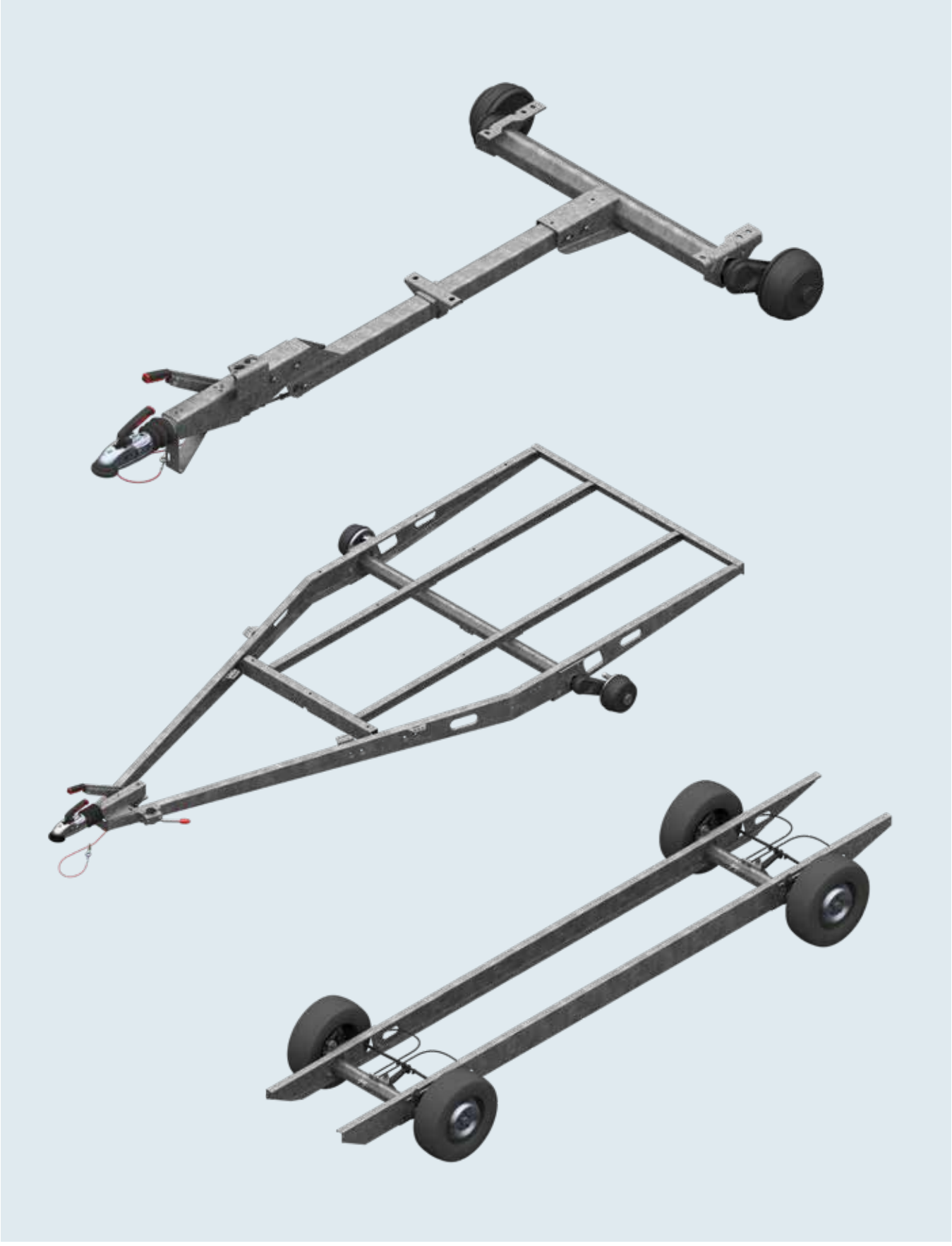


Ball-head wheel bolt M18 x 1.5	
SAP: SHR RAD- KUG- M18X1,5X25	
Part No.	2185680006
Wrench size	AF 24
Bolt quality	8.8
Maximum permitted tightening torque	325 Nm



Wheel nut M18 x 1.5	
SAP: MU 74361-A18- 8 A3B (M18X1,5)	
Part No.	701202
Wrench size	AF 24
Bolt quality	8.8
Maximum permitted tightening torque	325 Nm

5. CHASSIS



CHASSIS

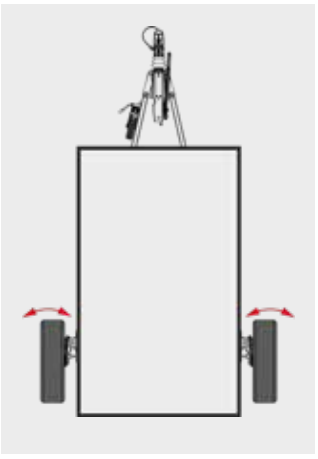
T-pole chassis	312 – 317
A-frame chassis	318 – 335
Steering chassis	336 – 343

T-POLE CHASSIS STRAIGHT AND CRANKED

Optimised down to the smallest detail

A skid bracket with integrated breakaway cable guide protects the hitch against contamination. The breakaway cable is also guided smoothly, so the emergency brake really does function in an emergency.

Jockey wheel flange welded on as standard.



Toe-in can be adjusted precisely at the factory for minimum tyre wear.

Maintenance-free compact bearing.

Quick-fit compensation profile saves assembly time.

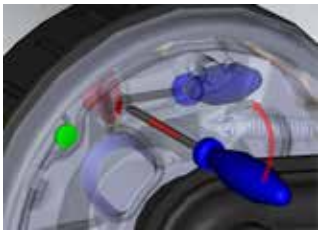
Chassis can be combined from stocked components using clamping drawbar connection profiles.

Brake rod holder. The brake rod is cleanly guided, the brake system only acts if an overrun travel has built up and the braking is really needed.

7 and 13-pin plug holder for secure storage of the electric plug when stationary.

Extremely sturdy brake backing plate to prevent deformation on overload.

Hook-in Bowden cable saves assembly time.



Wheel brake adjustment convenient for service.

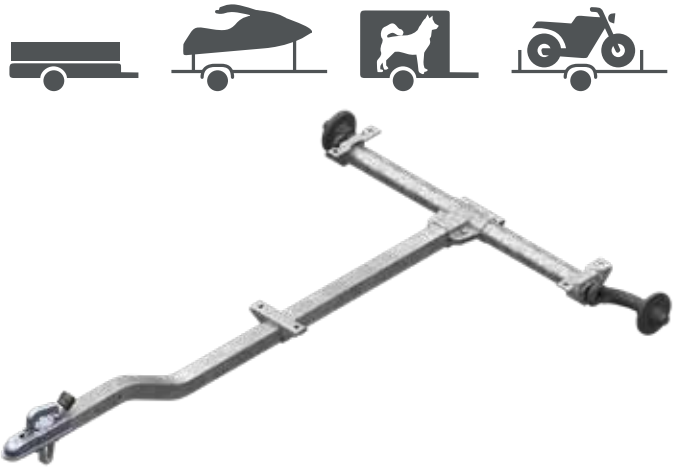
Plug-in shock absorber brackets. For axles with hollow swing arm. This equates to trouble-free retrofitting without welding.

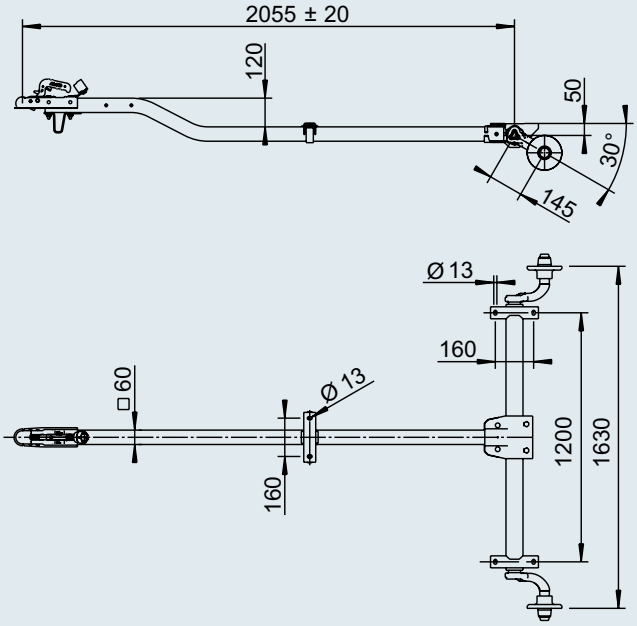
Better heat dissipation thanks to brake drums with cooling ribs.

T-POLE CHASSIS

SA 750 kg, without frame

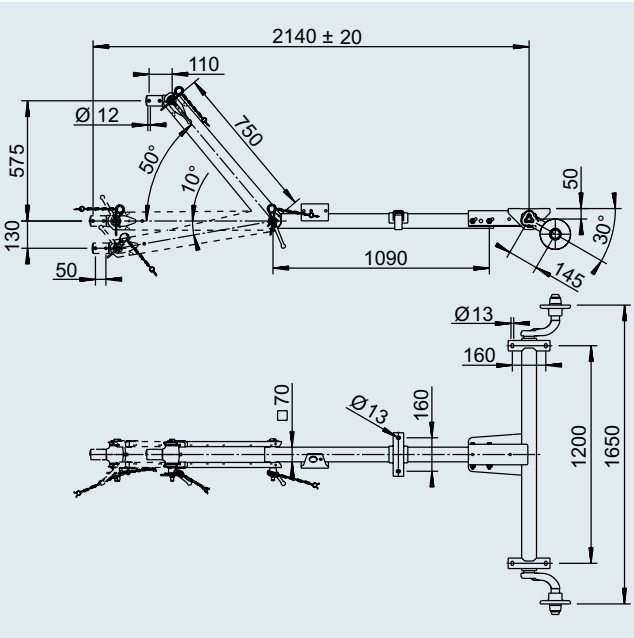
T-pole chassis, 750 kg unbraked	
Part No.	1422807
Gross weight	750 kg
	40 kg
	On request





T-pole chassis, 750 kg, height-adjustable, unbraked	
Part No.	1422808
Gross weight	750 kg
	48 kg
	On request

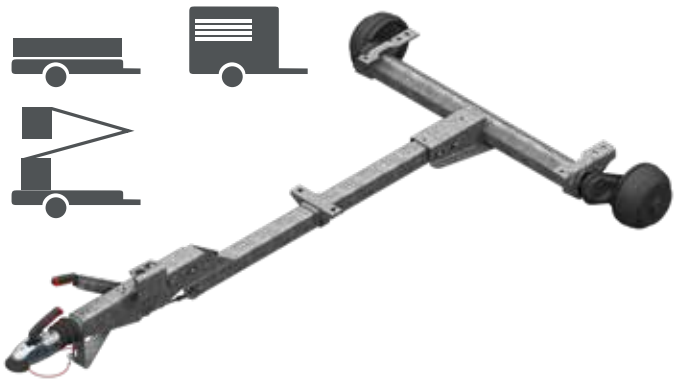
Matching drawbar eyes, see chapter 2

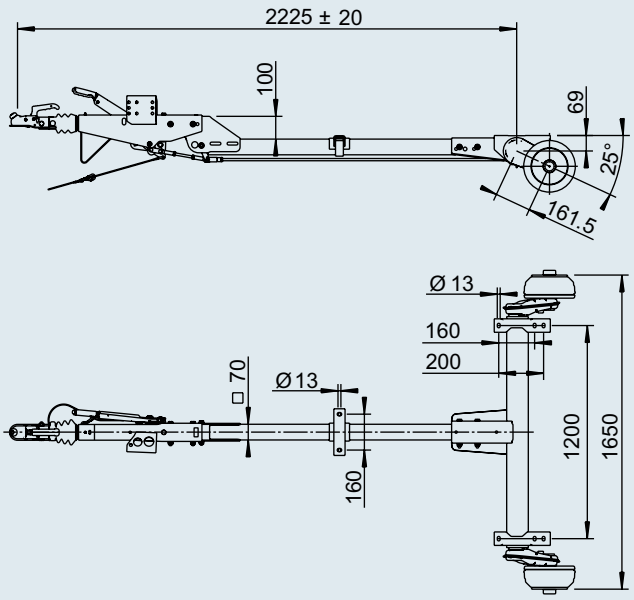


T-POLE CHASSIS

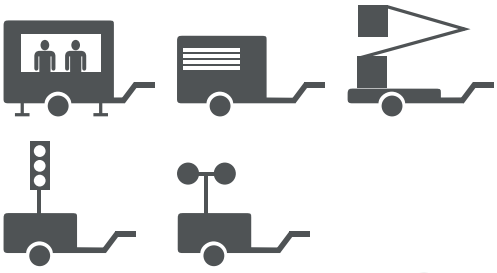
SA 1,000 kg, without frame

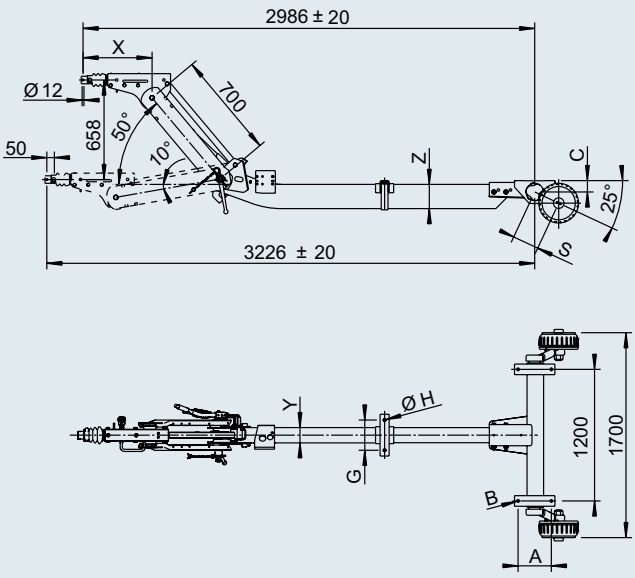
T-pole chassis, braked		
Part No.	1422809	1422810
Gross weight	1,000 kg	1,350 kg
	76 kg	84 kg
	On request	





T-pole chassis, height-adjustable, braked			
Part No.	1422811	1422812	1422813
Gross weight	1,000 kg	1,500 kg	1,800 kg
	132 kg	138 kg	179 kg
	On request		





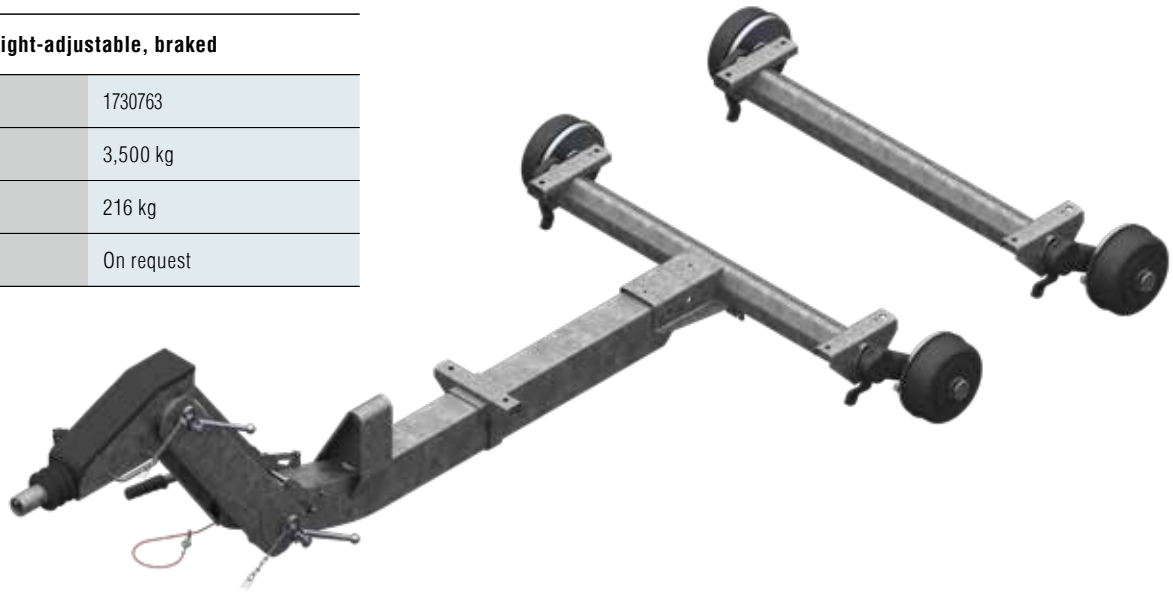
Matching drawbar eyes, see chapter 2

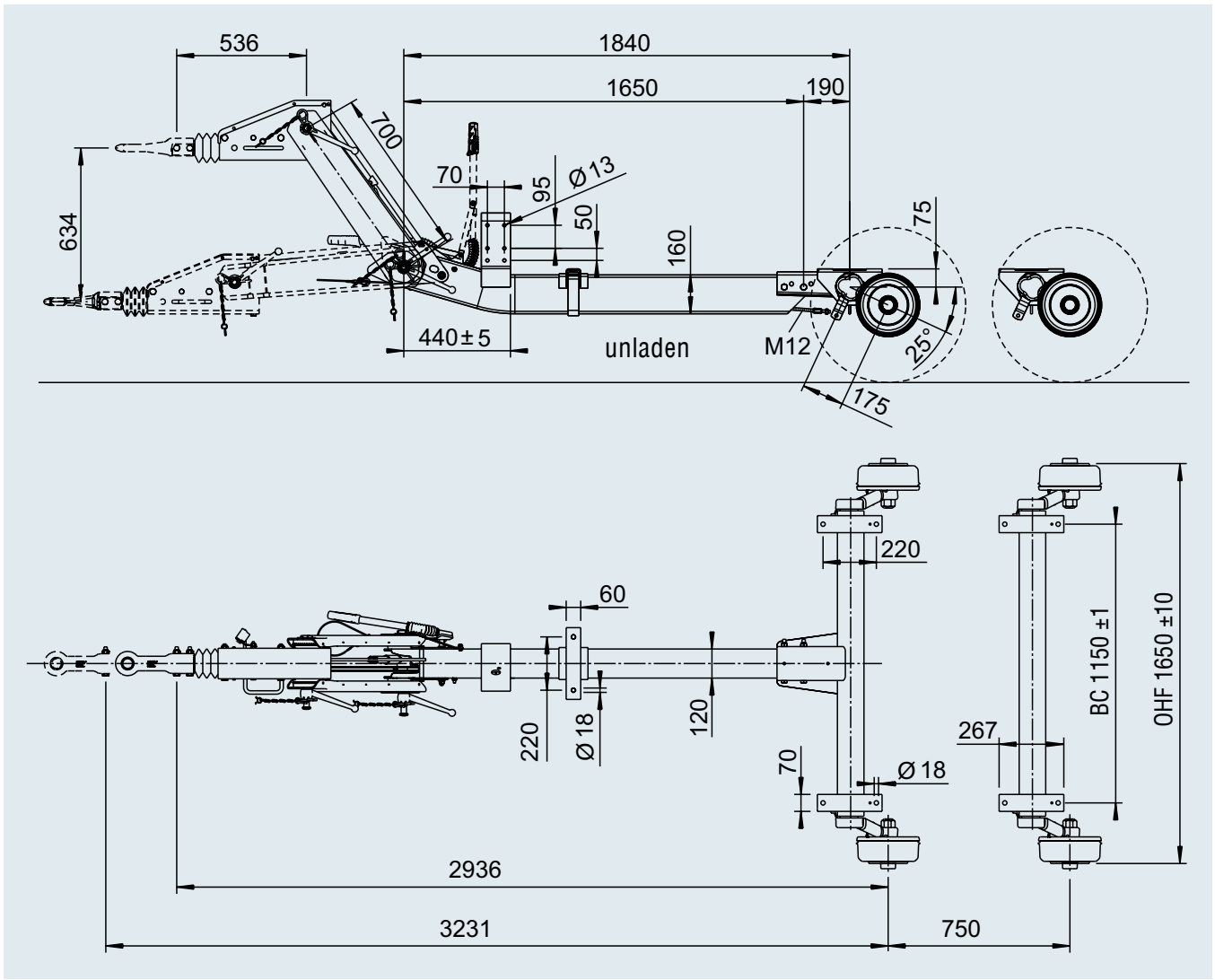
Type	X	Y	Z	A	B	C	G	H	S
101 VB	253	70	140	160	13x20	69	160	13	161.5
161 VB-2	457	80	140	160	13x20	69	160	13	161.5
251 VB-2	457	100	160	220	Ø 18	75	200	18	175

T-POLE CHASSIS

TA 3,500 kg, without frame

T-pole chassis, height-adjustable, braked	
Part No.	1730763
Gross weight	3,500 kg
	216 kg
	On request

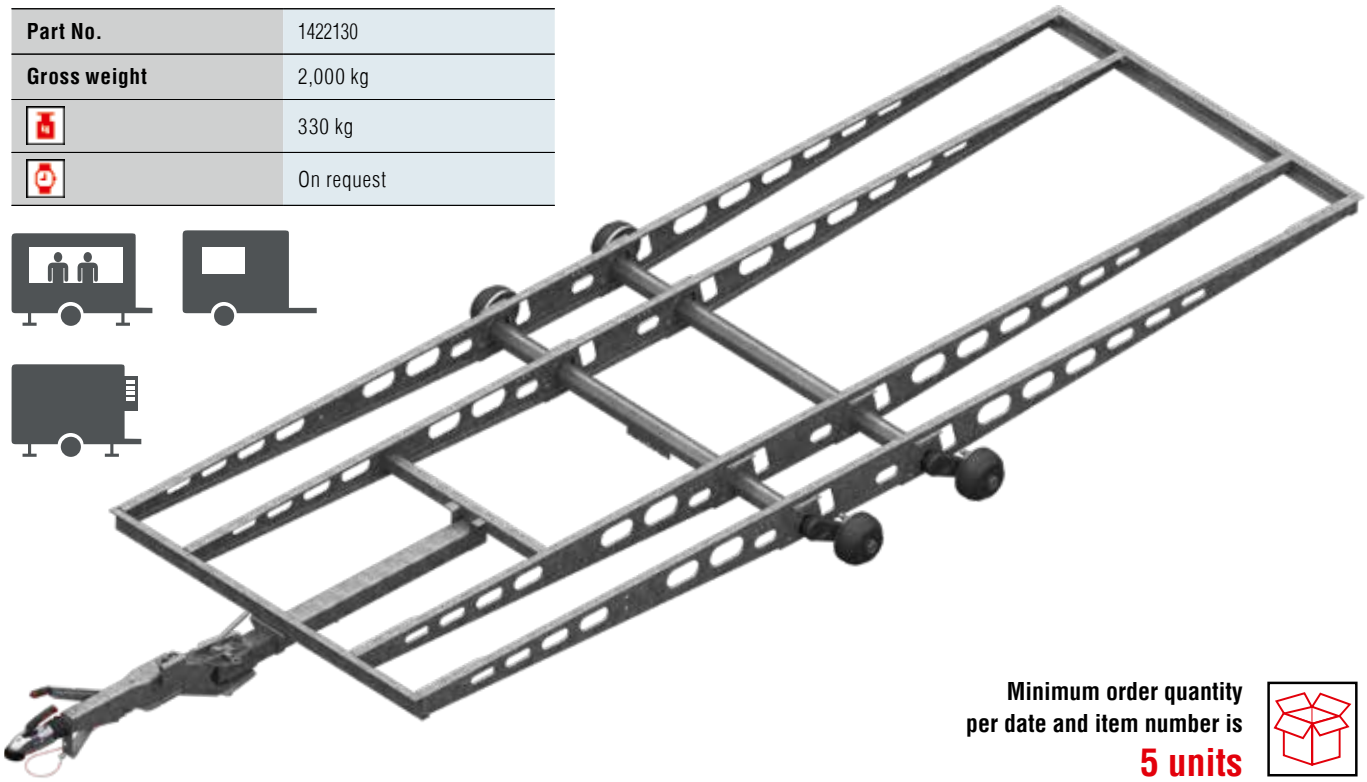




T-POLE CHASSIS

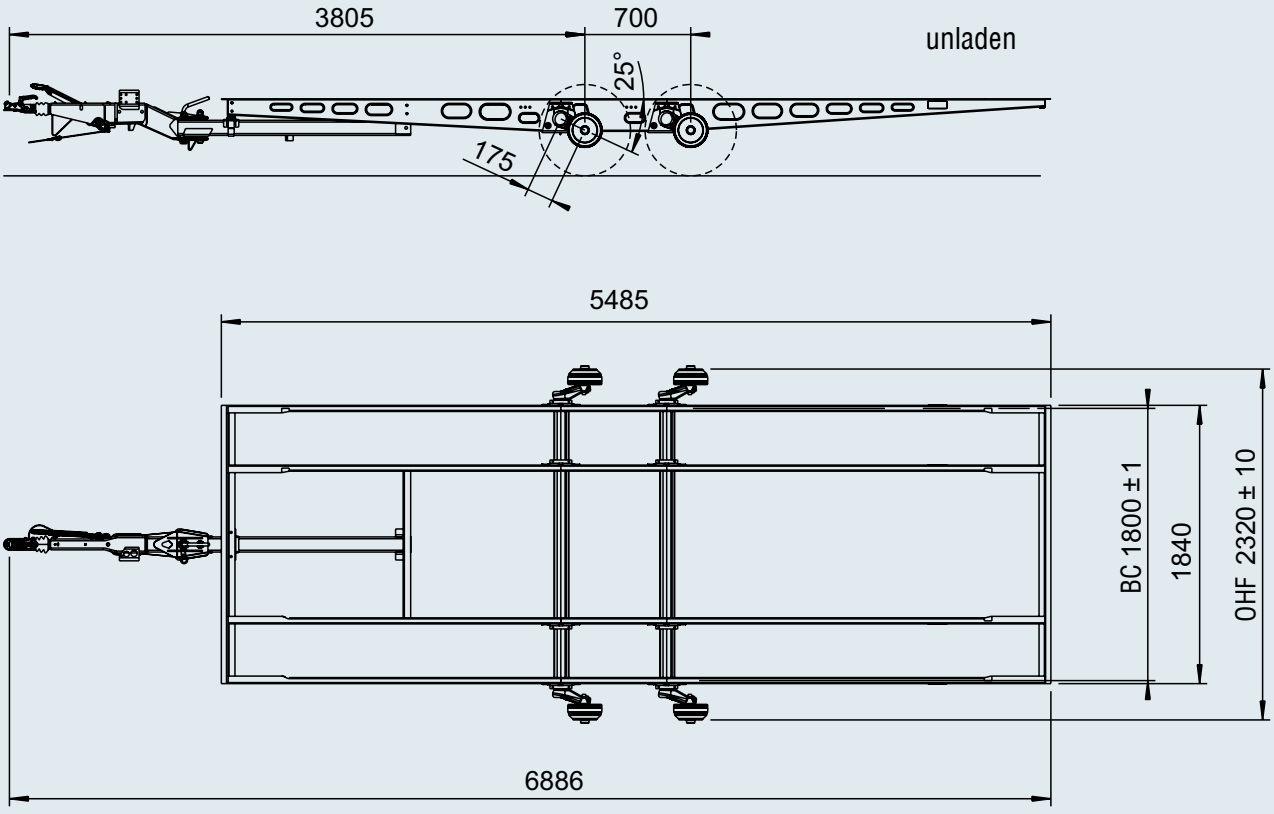
TA 2,000 kg, with frame

Chassis for closed bodies, e.g. sales trailers	
Part No.	1422130
Gross weight	2,000 kg
	330 kg
	On request



Minimum order quantity per date and item number is

5 units



A-FRAME CHASSIS

Optimised down to the smallest detail

Clamping towbar connection brackets enable chassis to be combined from stocked components.

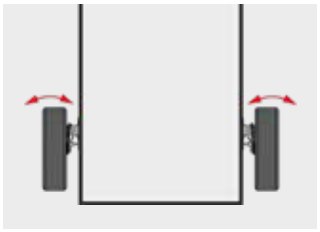
A skid bracket protects the hitch against contamination from ground contact. Furthermore, it ensures that the function of the emergency brake via the breakaway cable is guaranteed.

The screw-on jockey wheel carrier enables central mounting of the jockey wheel (attention: when operating the jockey wheel, make sure that the wheel cannot bend the brake rod).

Bolt-on spacers enable the hitch height to be corrected by a maximum of 70 mm.

Brake rod holder. The brake rod is cleanly guided, the brake system only acts if an overrun travel has built up and the braking is really needed.

7 and 13-pin plug holder for secure storage of the electric plug when stationary.



Toe-in can be adjusted precisely at the factory for minimum tyre wear.

Maintenance-free compact bearing.

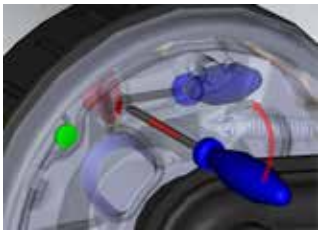
Extremely sturdy brake backing plate to prevent deformation on overload.

Quick-fit compensation profile saves assembly time.

Cover bracket and cover plate for additional torsional rigidity.

Breakaway cable guide fitted as standard so that the emergency brake really does function.

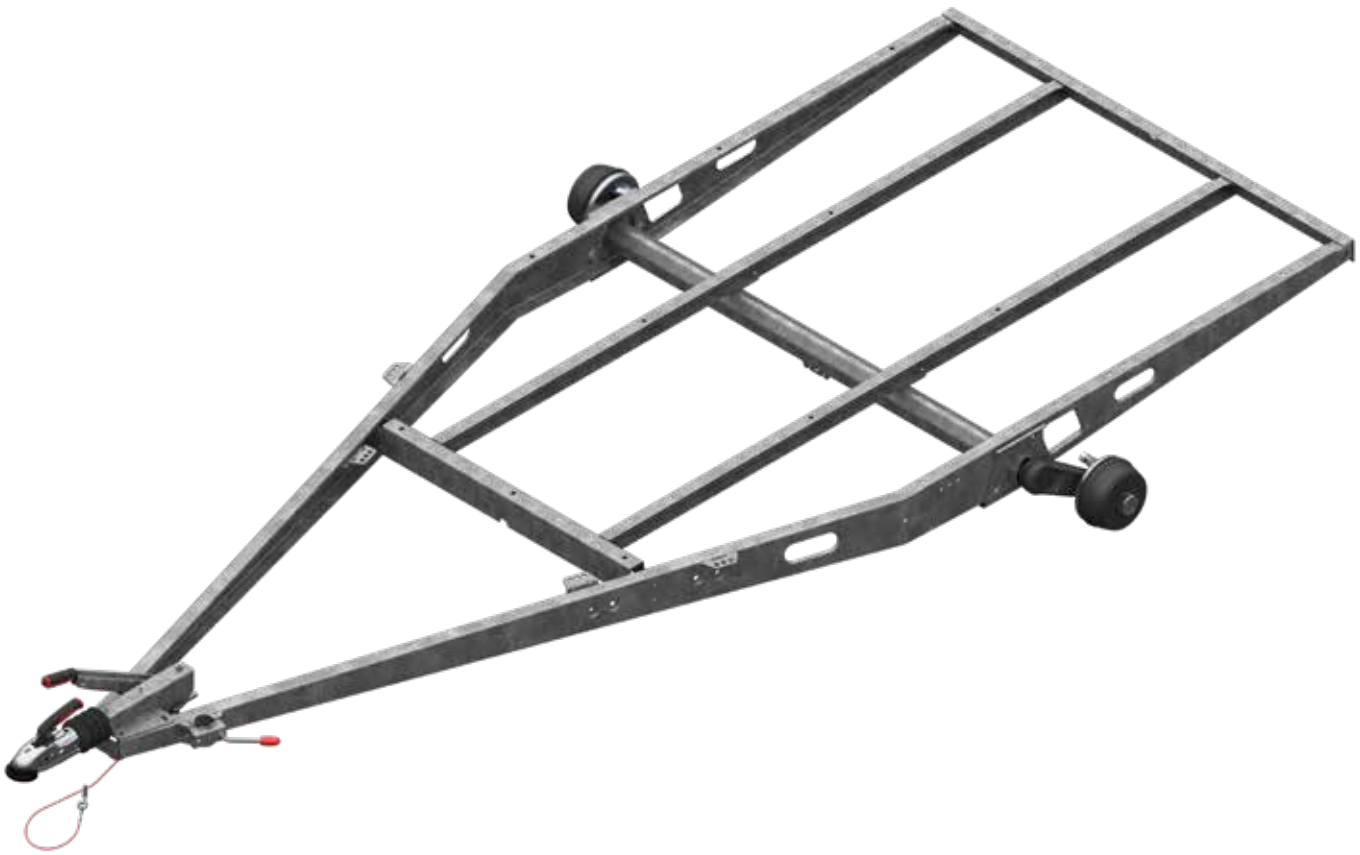
Hook-in Bowden cable saves assembly time.



Wheel brake adjustment convenient for service.

Plug-in shock absorber brackets. For axles with hollow swing arm. This equates to trouble-free retrofitting without welding.

Better heat dissipation thanks to brake drums with cooling ribs.



A-FRAME CHASSIS

with and without lightweight frame system

YOUR ADVANTAGE

AL-KO is a leader in developing and producing high-quality chassis components for privately and commercially used trailers in the weight range up to 3,500 kg permitted gross weight.

The following pages present chassis variants for various applications. In general, it should be noted that the configuration of the chassis frame should be undertaken in close consultation with the vehicle manufacturer.

The body type (e.g. panel / dropside), the floor construction and the frame must be matched with one another. Only in this way can a trailer with optimised weight and cost be achieved.
Please contact us so that we can adapt the frame to your specific application in terms of weight and cost.

AL-KO bolted lightweight frame system "system advantages"

- Increased payload for the trailer owner thanks to the weight-optimised overall body design.
- Lower short and long-term costs (less use of material, low galvanisation weight).

Batch sizes / prices for frame chassis

We achieve a good price/performance ratio and delivery deadline with a minimum order quantity of 5 pc. per article number. As a result, we recommend that you do not order less than this minimum production batch size.

The various frame components are bolted together using a special bolting process ("pot bolting"). This technology guarantees you a reliable, positive-locking and thus safe connection between the various frame components throughout the entire service life of your trailer.

The bolting system enables you to exchange individual frame components during servicing.

Certain frame components are provided with holes for reducing weight, i.e. we save weight in non-critical areas of the frame (neutral zone). During this production step, the holes for reducing weight are deep-drawn, i.e. the edge areas are shaped to ensure as little loss of stability as possible.

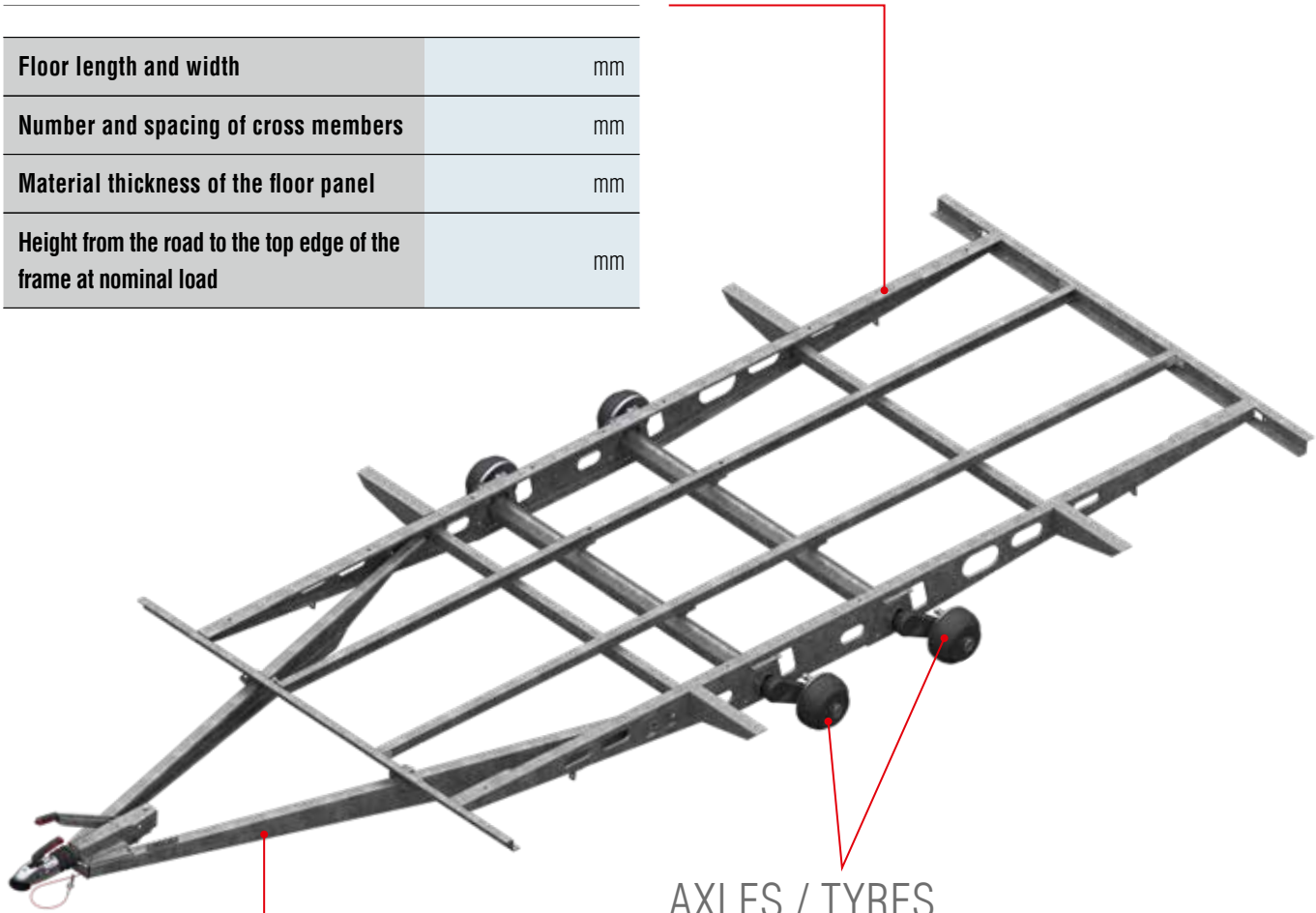
We process lightweight, high-quality fine-grained steel with high strength and a high yield point. The surface is hot-dip galvanised.

ENQUIRY FOR HIGH- AND LOW-LOADER CHASSIS

ATTENTION!
The chassis illustrated below are standard versions. We will be happy to deal with your individual enquiry. Please use this enquiry form. Please send the completed questionnaire to your responsible contact in Sales. You will receive an offer from them.

FLOOR

Floor length and width	mm
Number and spacing of cross members	mm
Material thickness of the floor panel	mm
Height from the road to the top edge of the frame at nominal load	mm



GENERAL INFORMATION

	Panel	Dropside
Structure	☐	☐
Permitted gross weight (GA)		kg
Free drawbar length		mm

AXLES / TYRES

	SA (single axle)	TA (tandem axle)
Axle	☐	☐
BC / OHF / track	mm	
Tyre size	mm	
Wheel connection		
Rim offset	mm	
Wheel bolts	Ball ☐ Taper ☐	

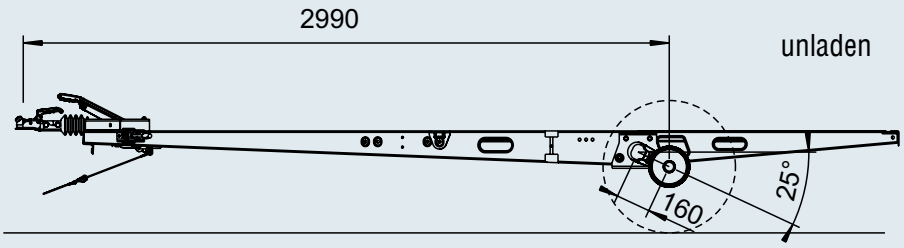
A-FRAME LOW-LOADER CHASSIS

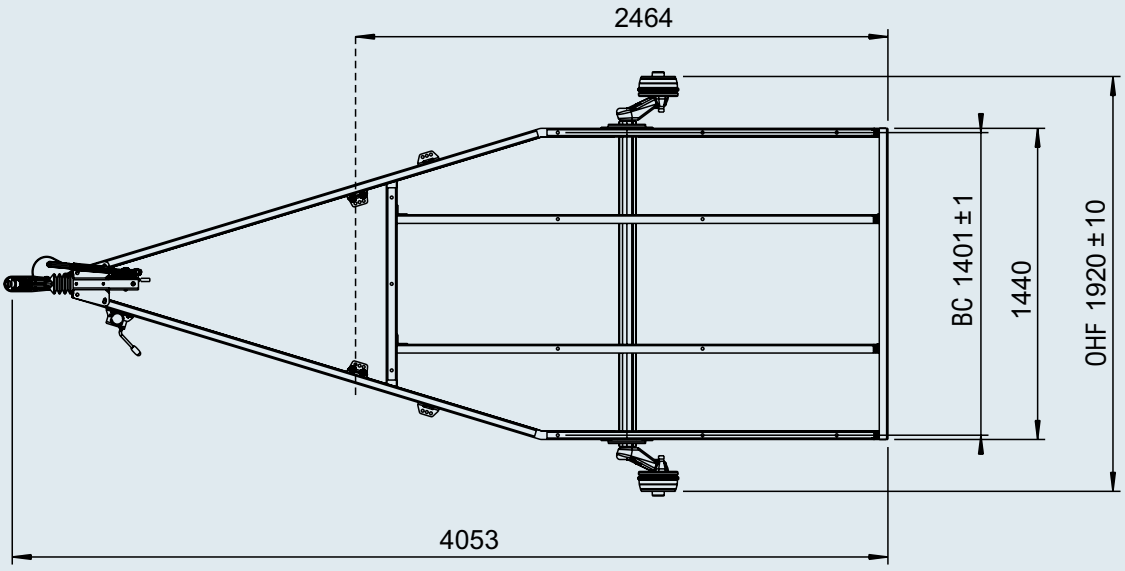
SA 750 kg, with frame

Chassis for polyester bodies, e.g. for transporting motorcycles	
Part No.	1422968
Gross weight	750 kg
	95 kg
	On request

Minimum order quantity per date and item number is

5 units

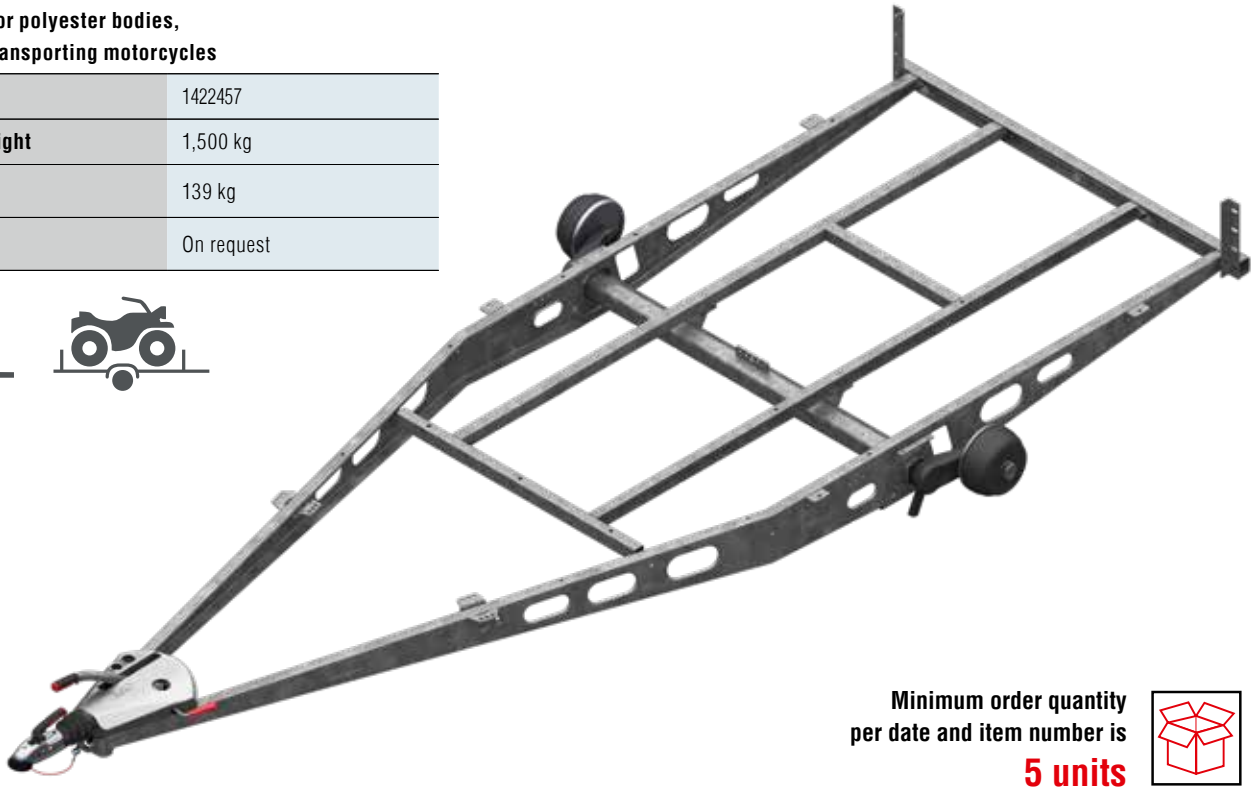




A-FRAME LOW-LOADER CHASSIS

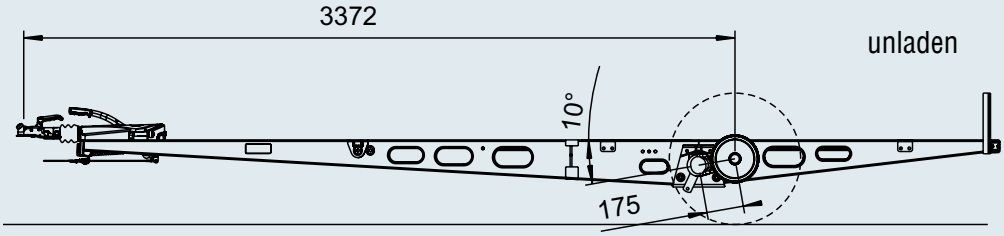
SA 1,500 kg, with frame

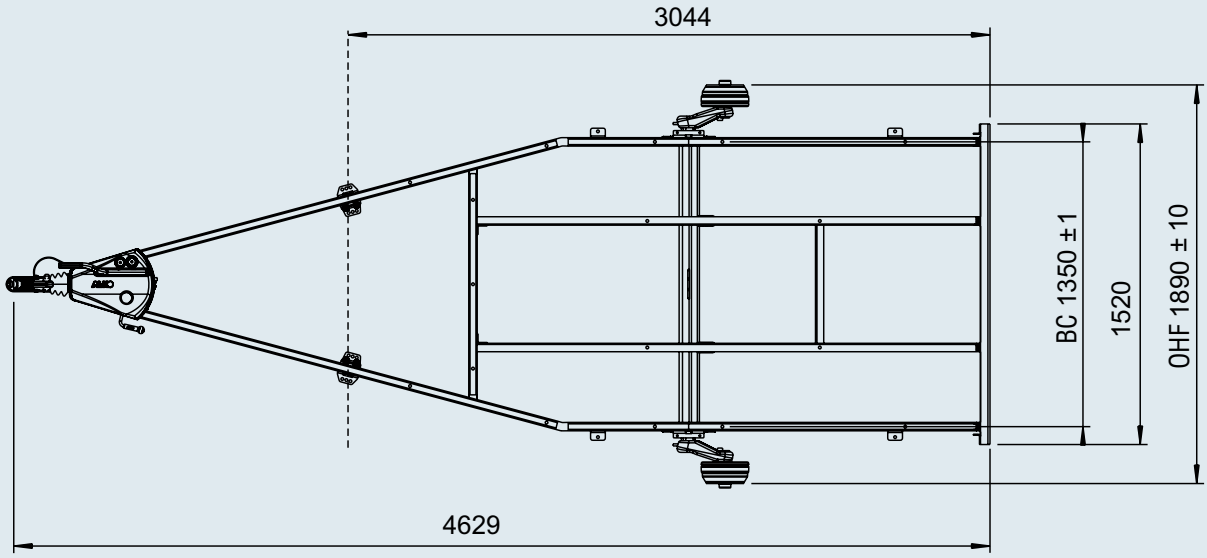
Chassis for polyester bodies, e.g. for transporting motorcycles	
Part No.	1422457
Gross weight	1,500 kg
	139 kg
	On request



Minimum order quantity per date and item number is

5 units

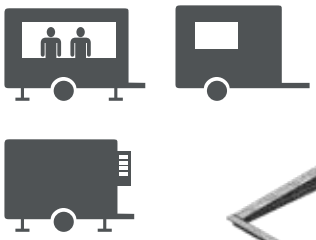


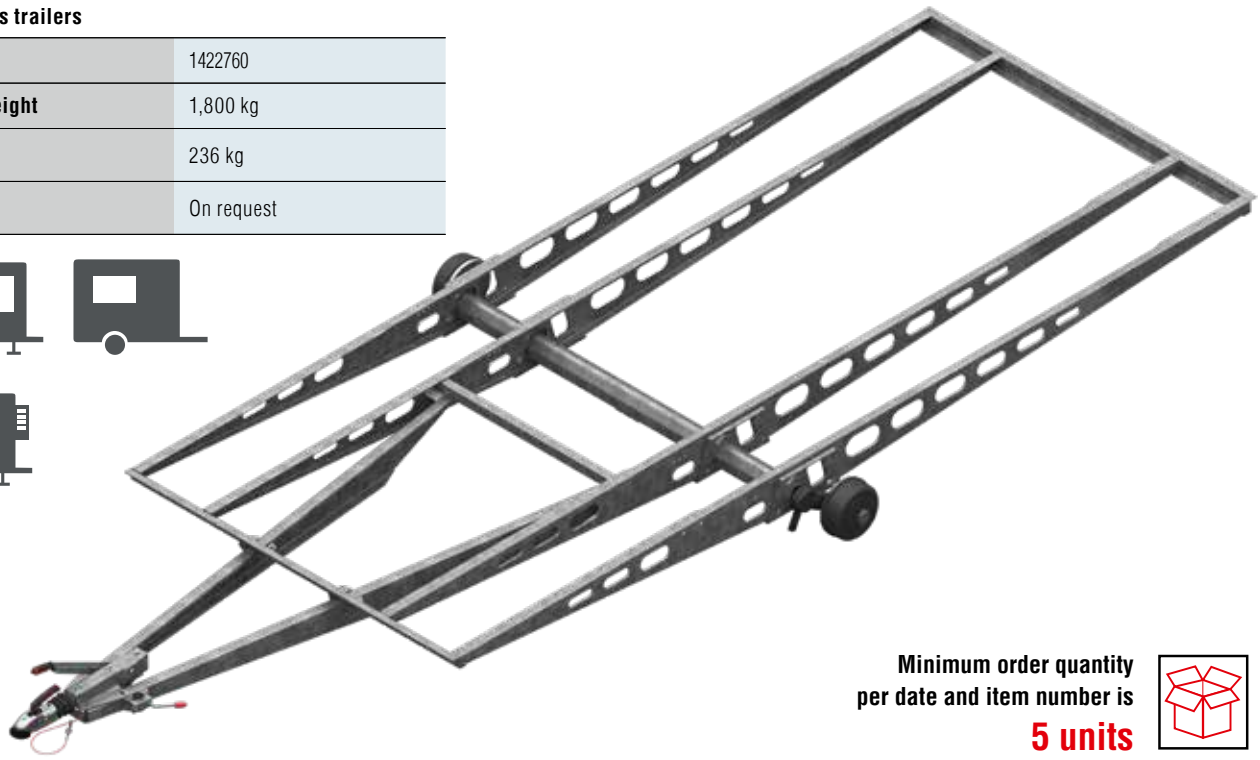


A-FRAME LOW-LOADER CHASSIS

SA 1,800 kg, with frame

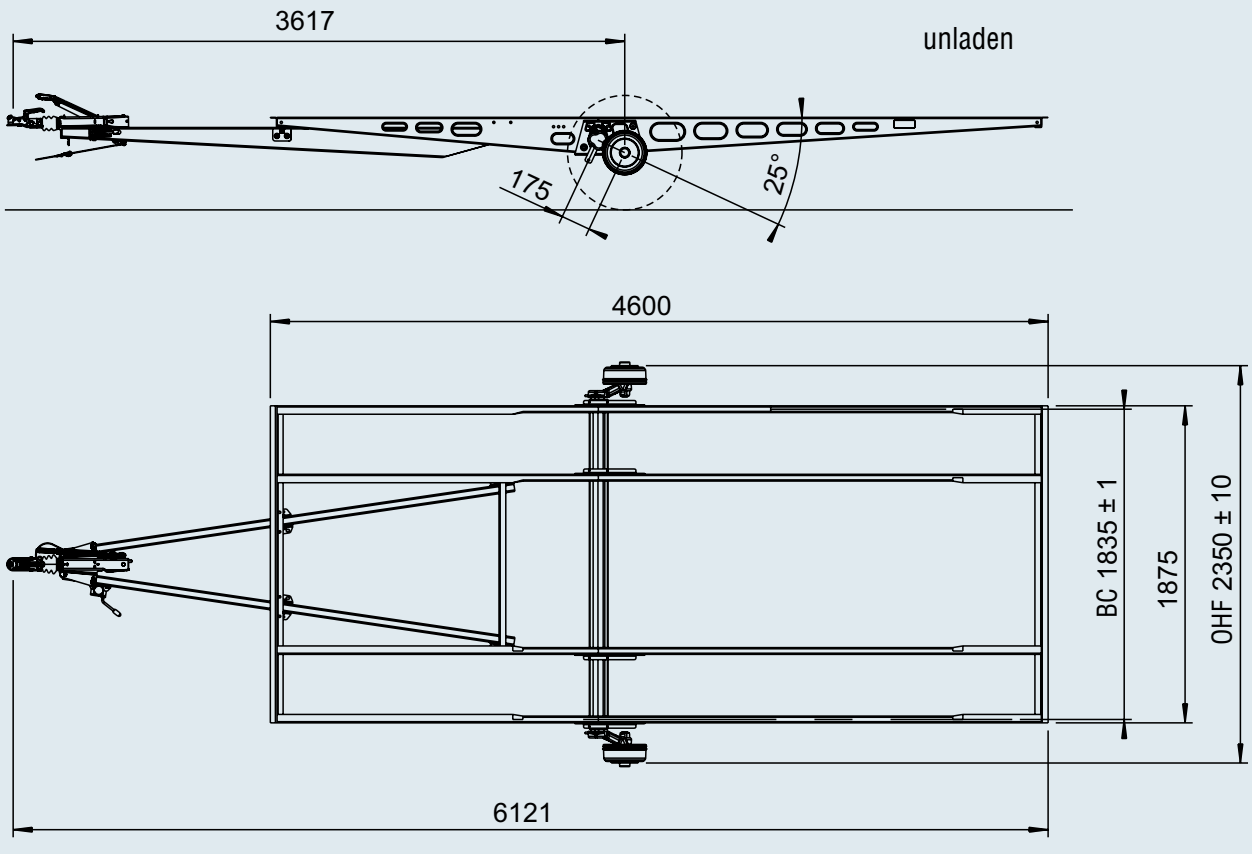
Chassis for closed bodies, e.g. sales trailers	
Part No.	1422760
Gross weight	1,800 kg
	236 kg
	On request





Minimum order quantity per date and item number is

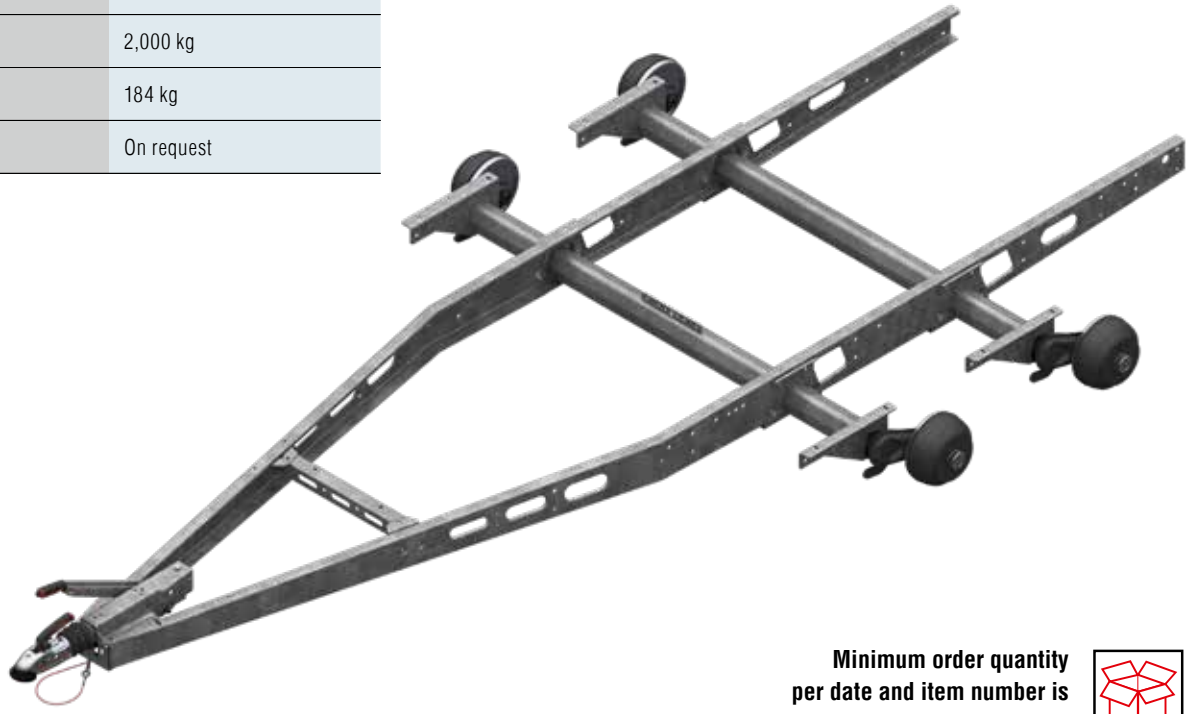
5 units



A-FRAME LOW-LOADER CHASSIS

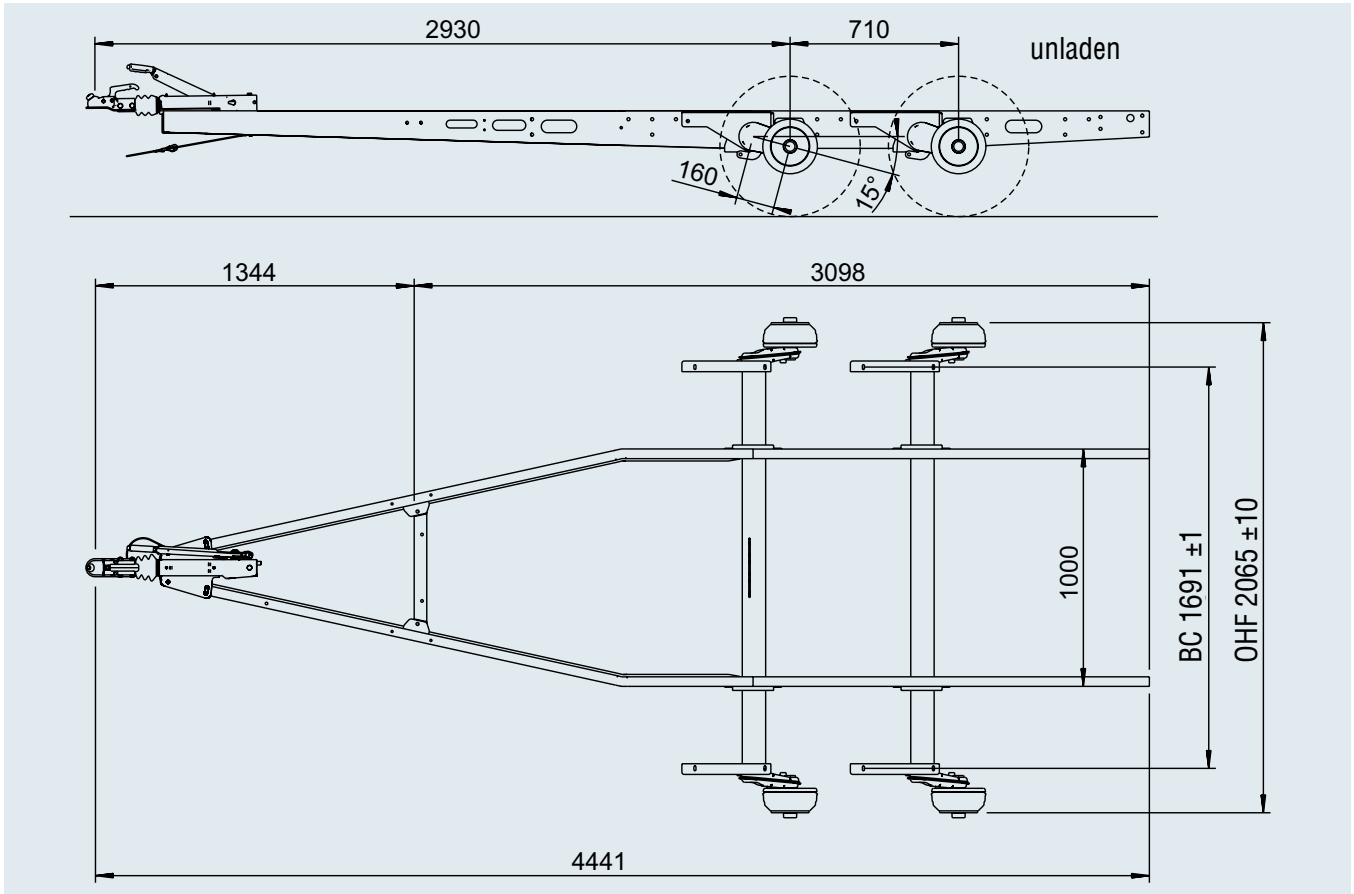
TA 2,000 kg, without frame

Chassis for horse boxes	
Part No.	1220768
Gross weight	2,000 kg
	184 kg
	On request



Minimum order quantity per date and item number is

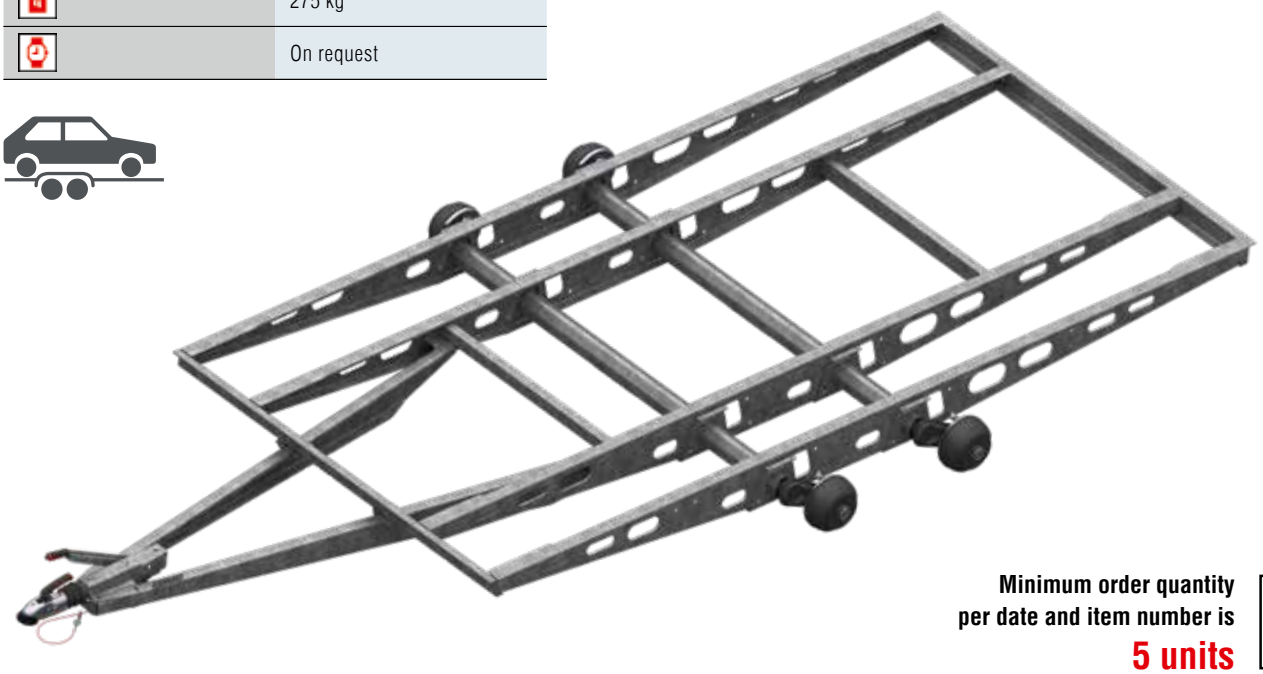
5 units



A-FRAME LOW-LOADER CHASSIS

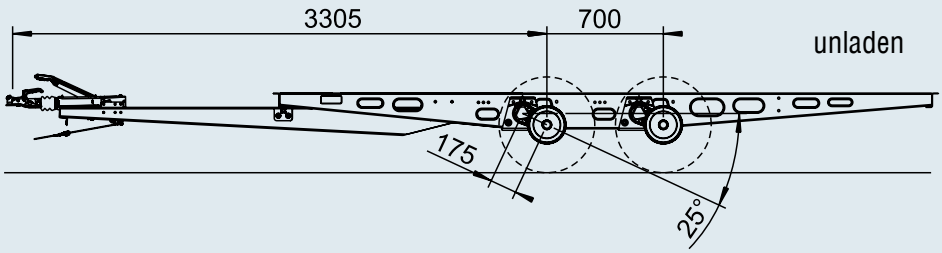
TA 2,600 kg, with frame

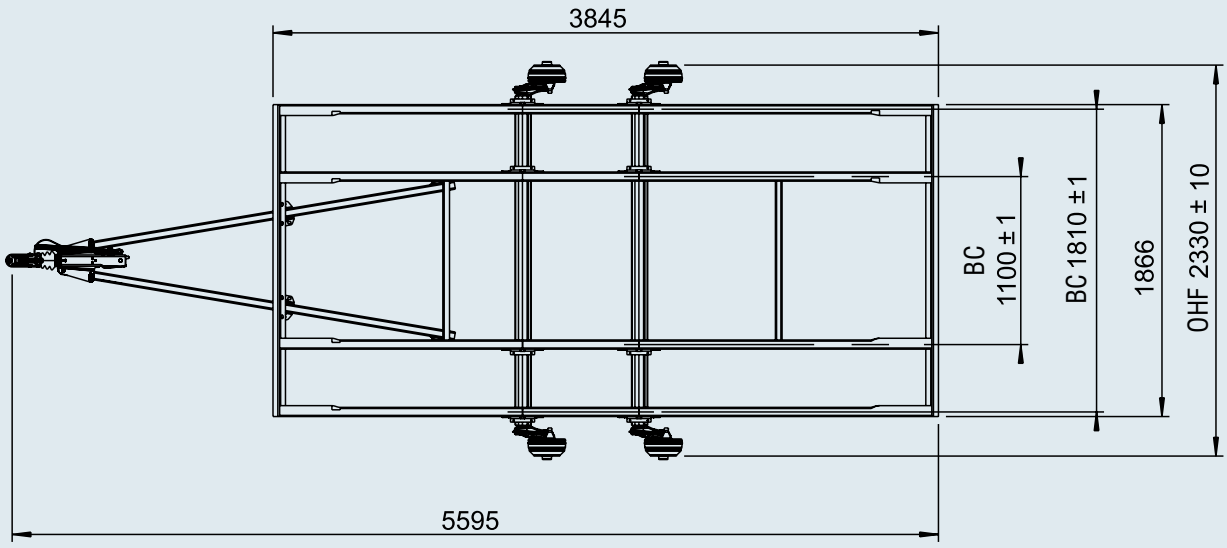
Chassis for car transporters with straight rear	
Part No.	244082
Gross weight	2,600 kg
	275 kg
	On request



Minimum order quantity per date and item number is

5 units

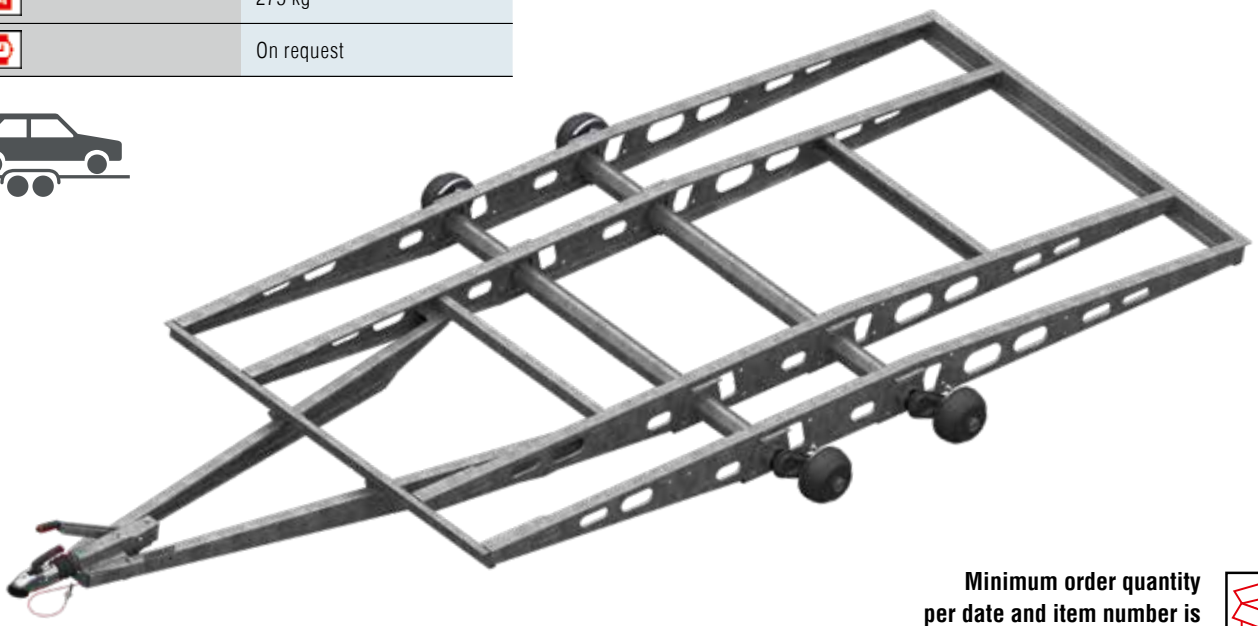




A-FRAME LOW-LOADER CHASSIS

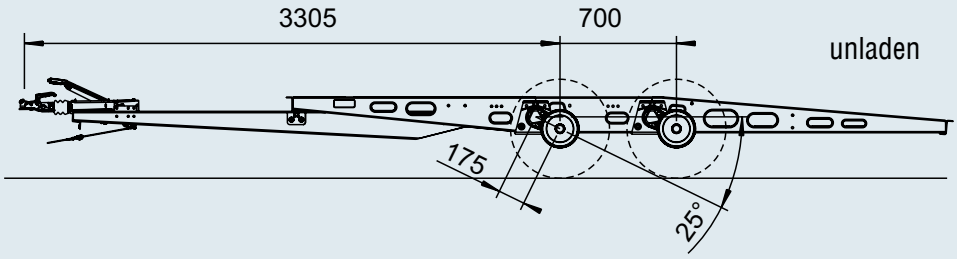
TA 2,600 kg, with frame

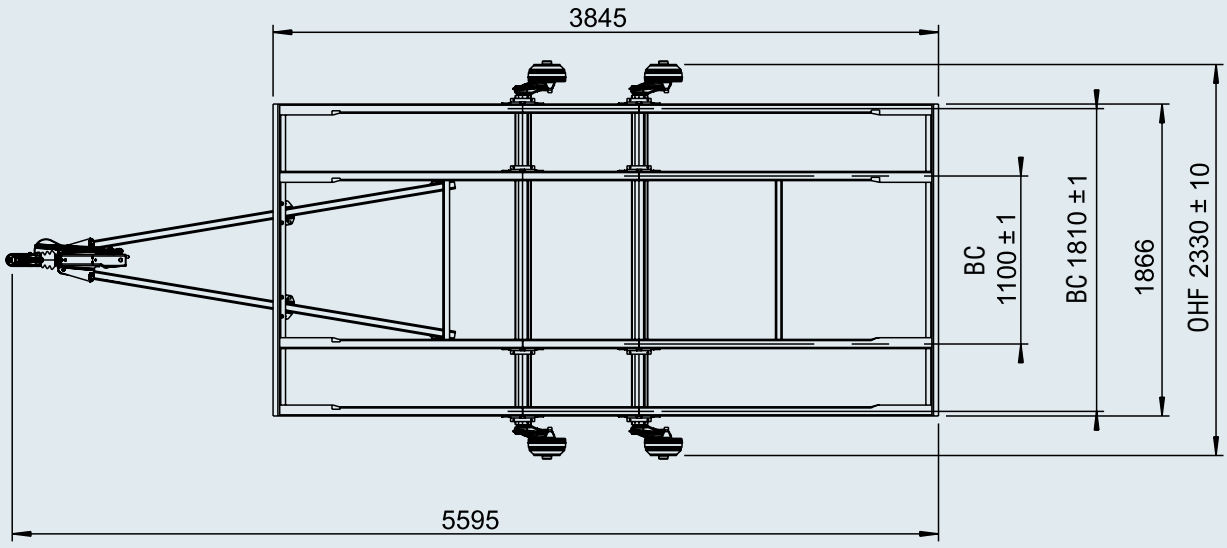
Chassis for car transporters with sloping rear	
Part No.	244081
Gross weight	2,600 kg
	275 kg
	On request



Minimum order quantity per date and item number is

5 units

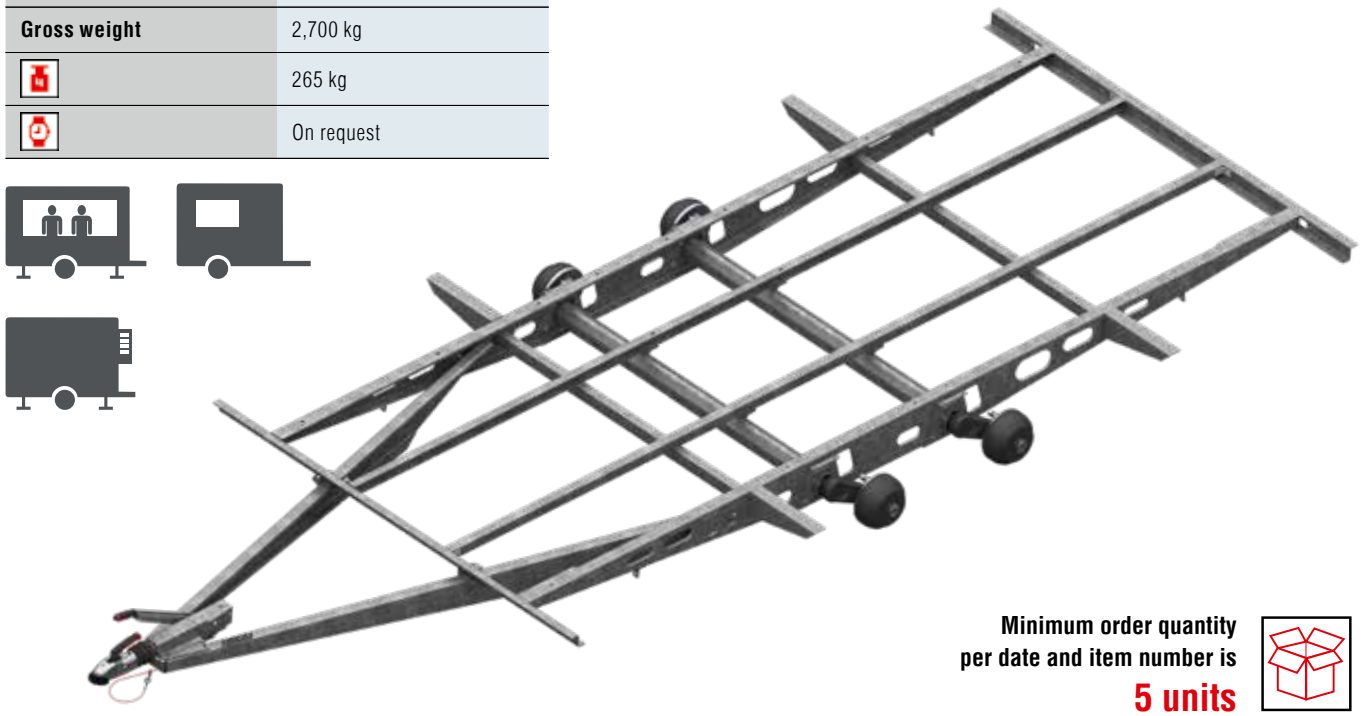




A-FRAME LOW-LOADER CHASSIS

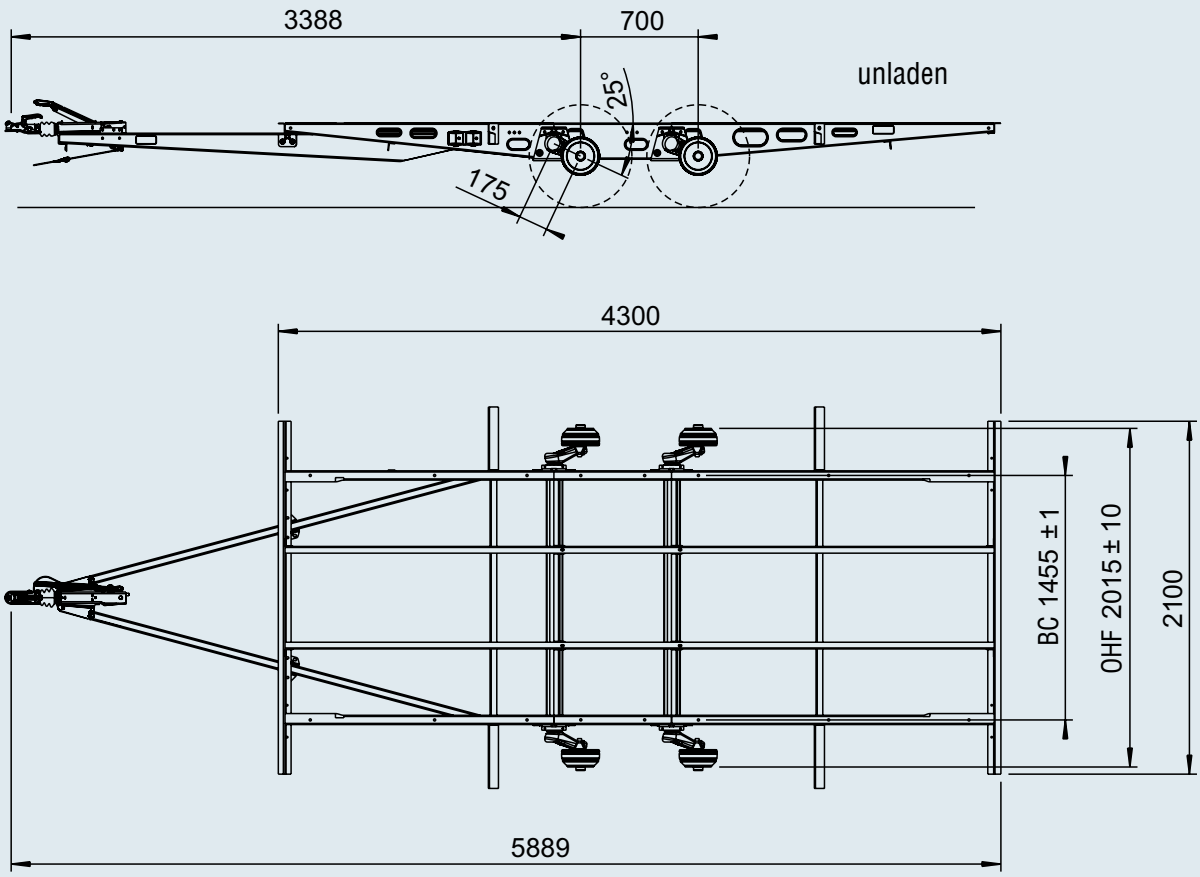
TA 2,700 kg, with frame

Chassis for closed bodies, e.g. sales trailers	
Part No.	1421724
Gross weight	2,700 kg
	265 kg
	On request



Minimum order quantity per date and item number is

5 units



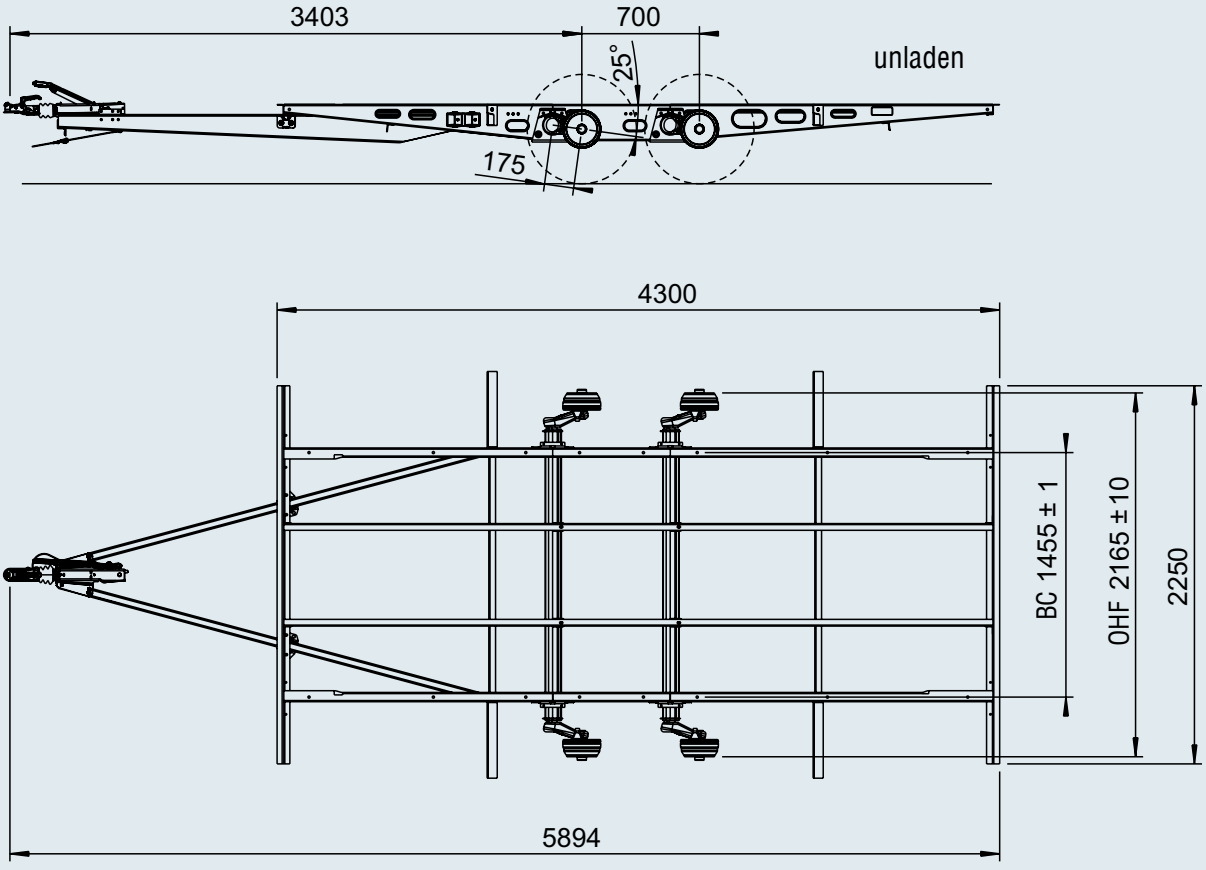
A-FRAME LOW-LOADER CHASSIS

TA 3,000 kg, with frame

Chassis for closed bodies, e.g. sales trailers	
Part No.	1423954
Gross weight	3,000 kg
	277 kg
	On request

Minimum order quantity per date and item number is

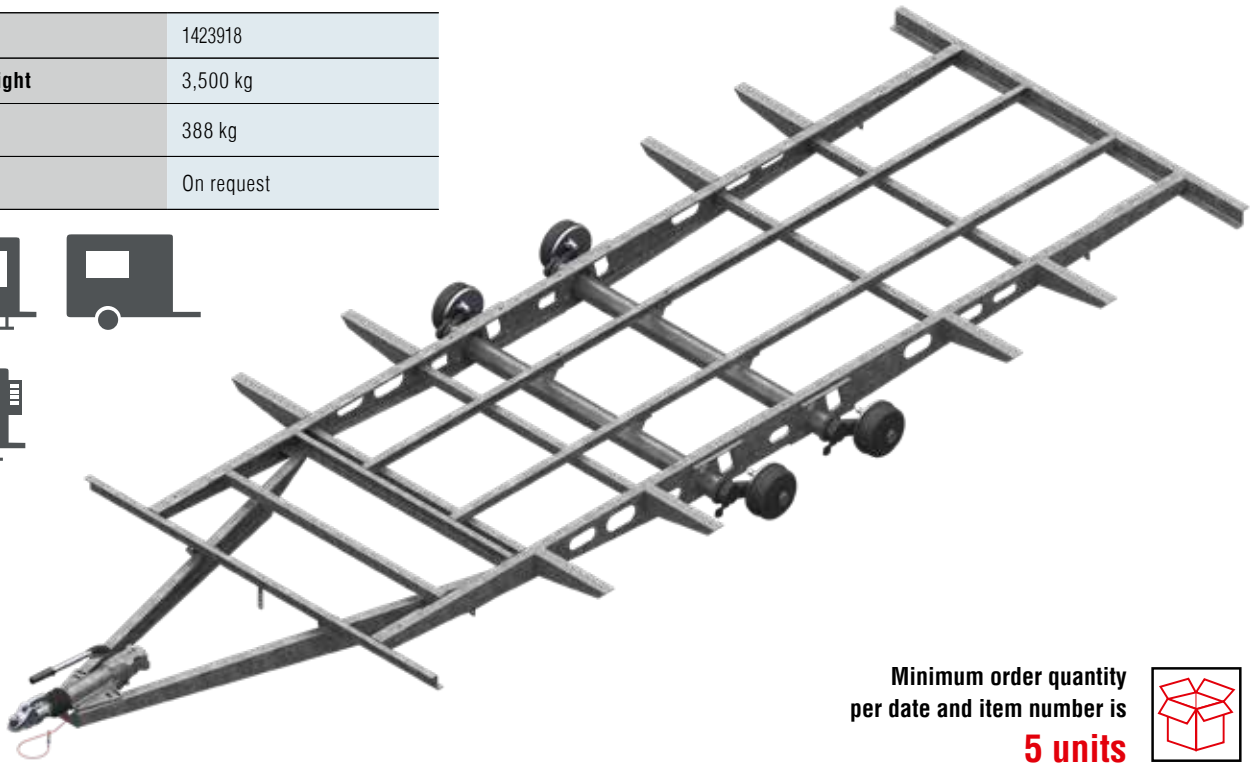
5 units



A-FRAME LOW-LOADER CHASSIS

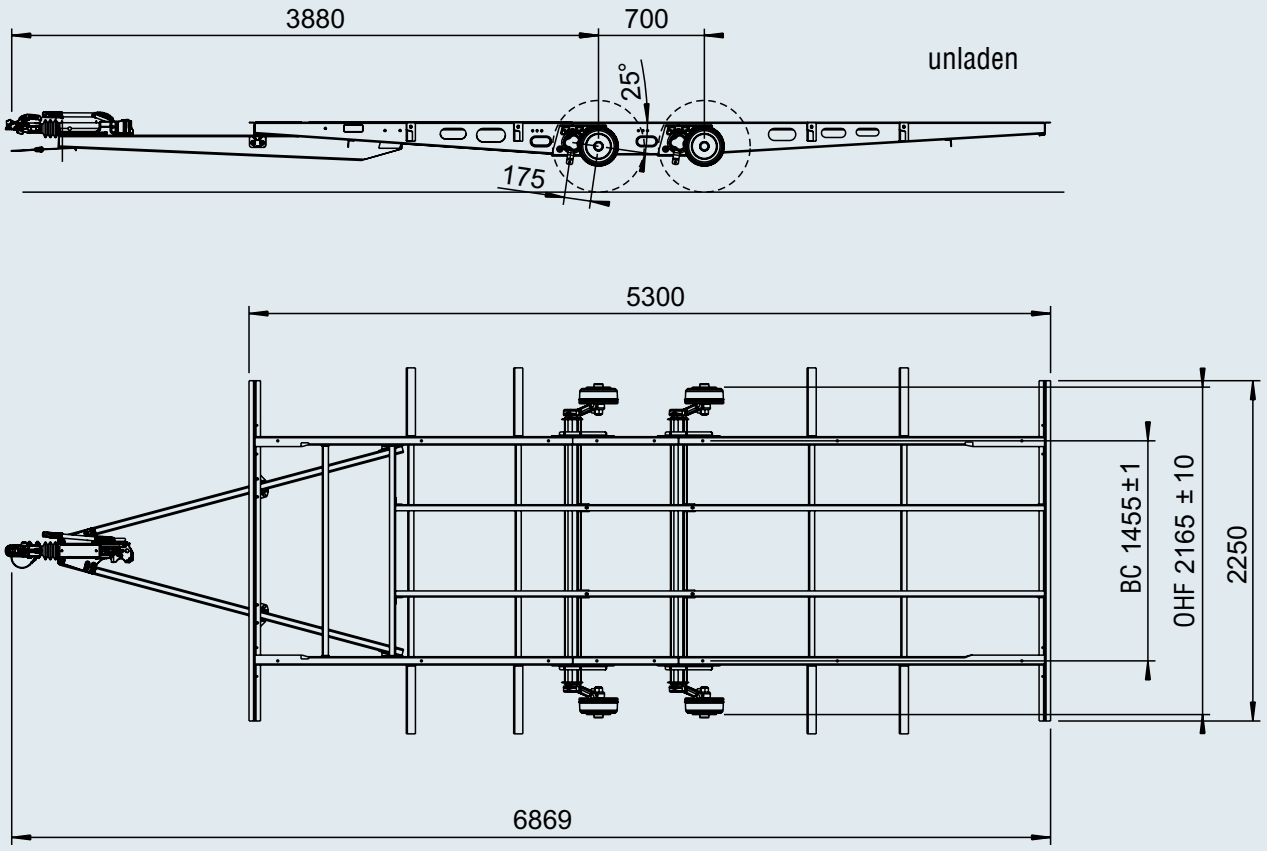
TA 3,500 kg, with frame

Chassis for closed bodies, e.g. sales trailers	
Part No.	1423918
Gross weight	3,500 kg
	388 kg
	On request



Minimum order quantity per date and item number is

5 units

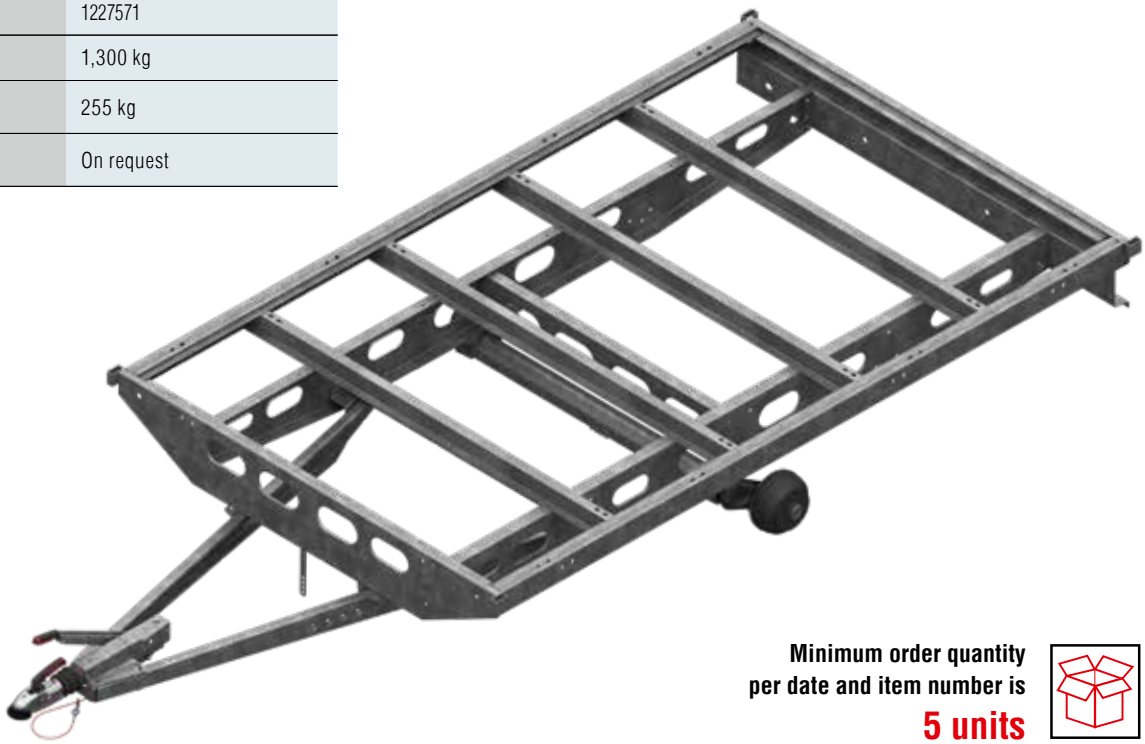


A-FRAME HIGH-LOADER CHASSIS

SA 1,300 kg, with frame

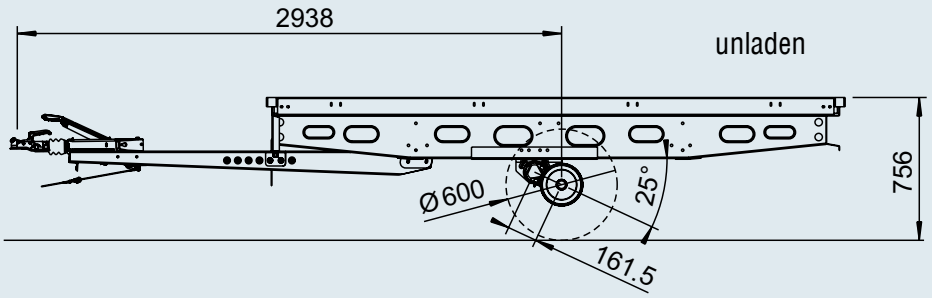
Chassis for transport trailer

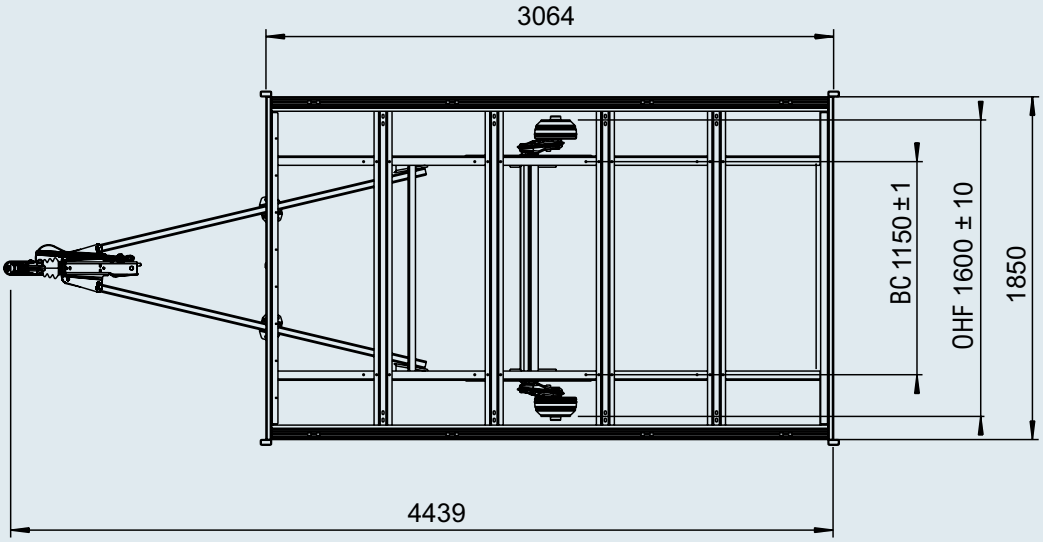
Part No.	1227571
Gross weight	1,300 kg
	255 kg
	On request



Minimum order quantity per date and item number is

5 units



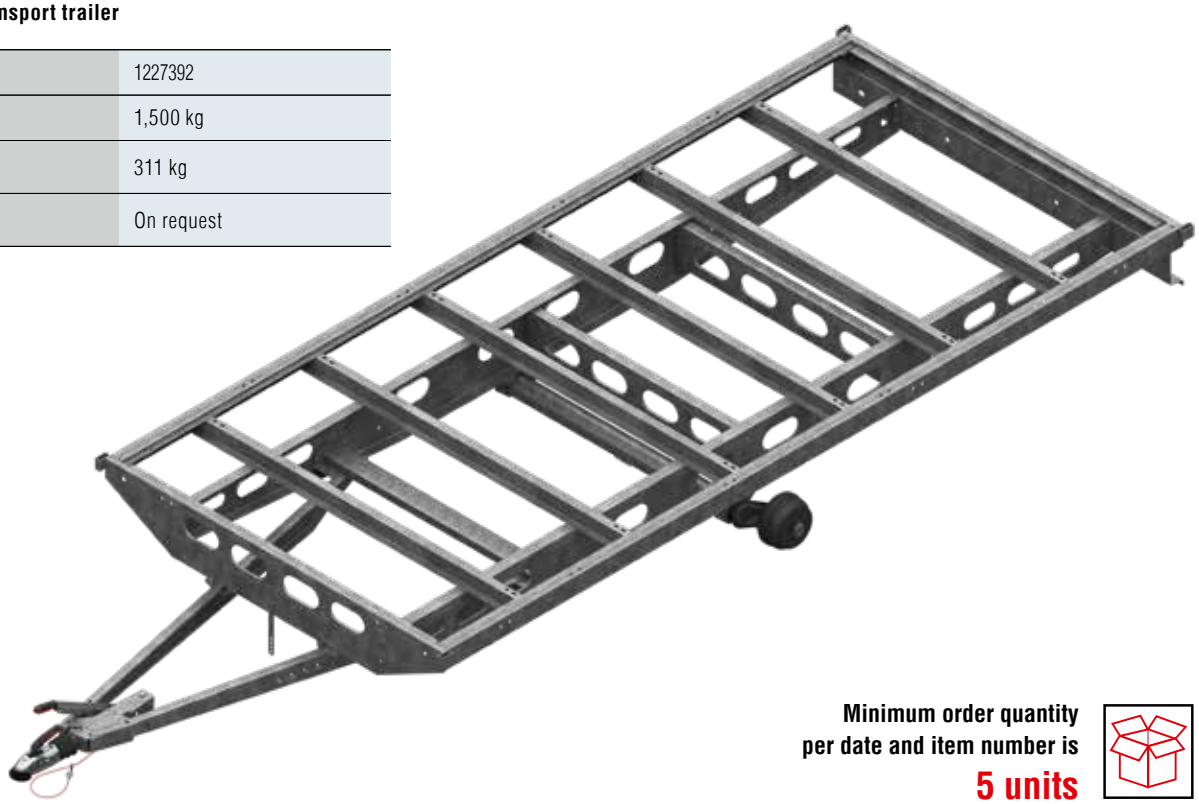


A-FRAME HIGH-LOADER CHASSIS

SA 1,500 kg, with frame

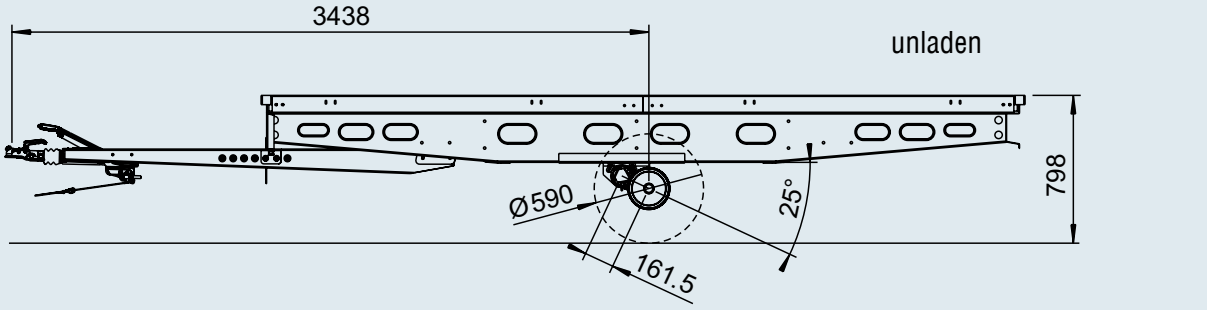
Chassis for transport trailer

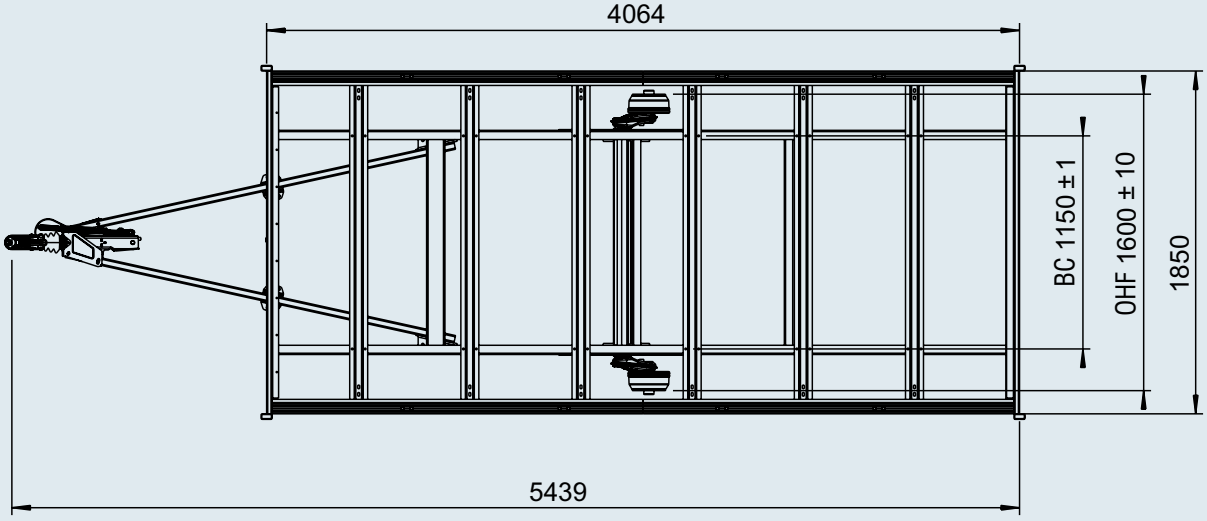
Part No.	1227392
Gross weight	1,500 kg
	311 kg
	On request



Minimum order quantity per date and item number is

5 units



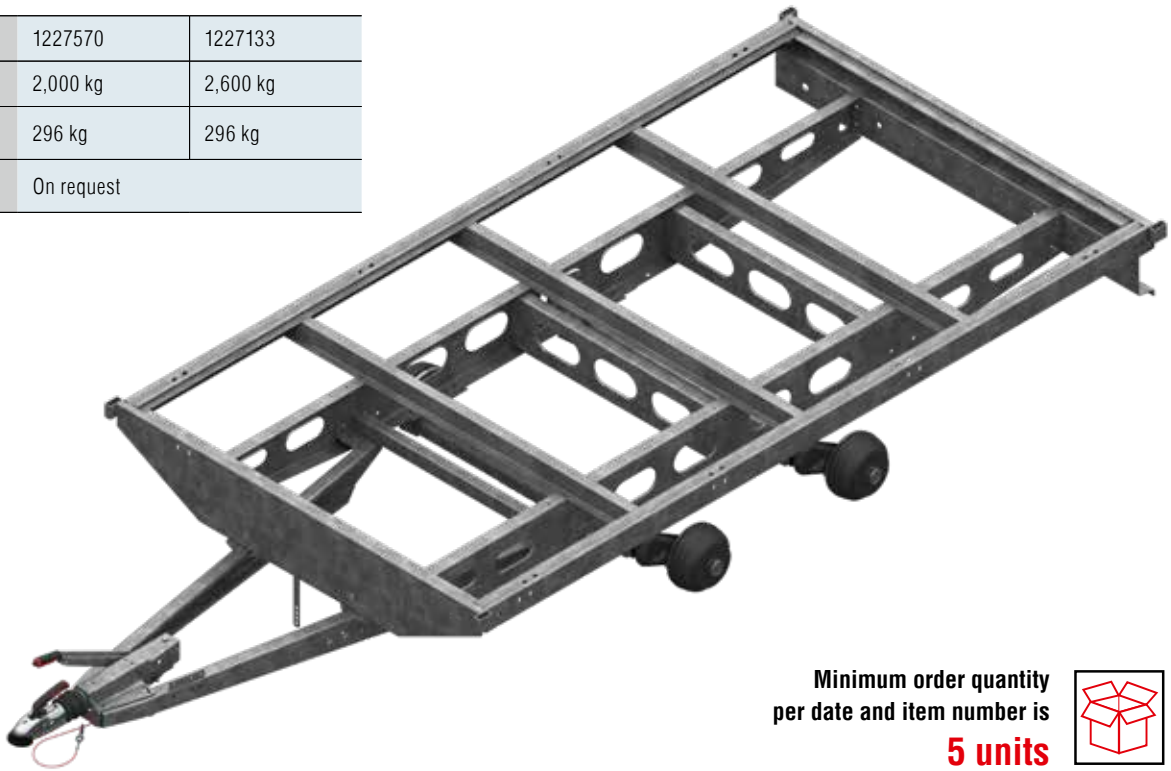


A-FRAME HIGH-LOADER CHASSIS

TA 2,000 kg / 2,600 kg, with frame

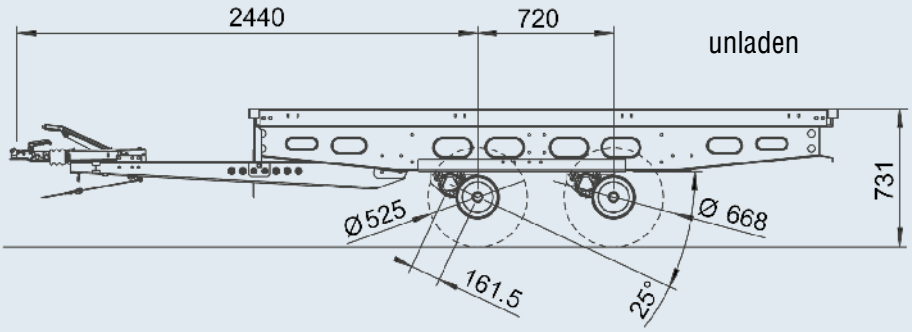
Chassis for transport trailer

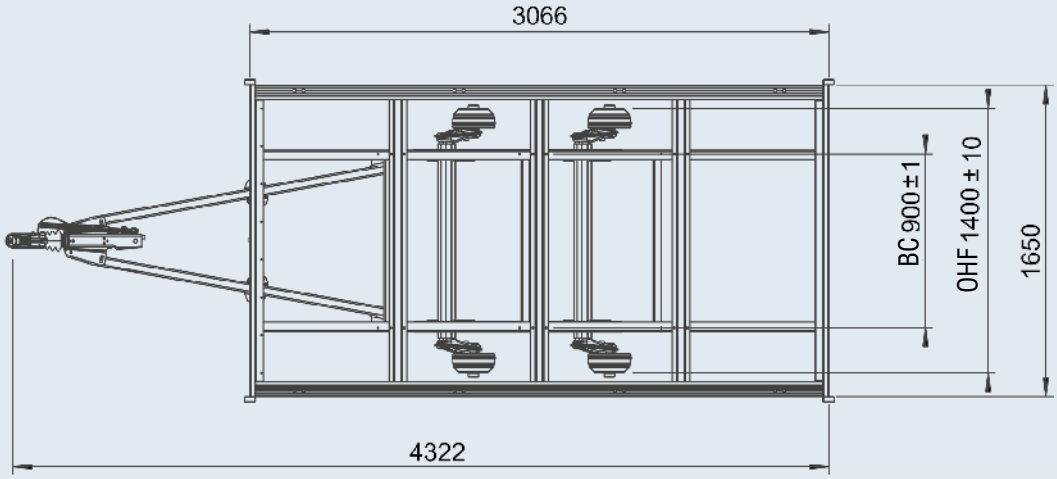
Part No.	1227570	1227133
Gross weight	2,000 kg	2,600 kg
	296 kg	296 kg
	On request	



Minimum order quantity per date and item number is

5 units



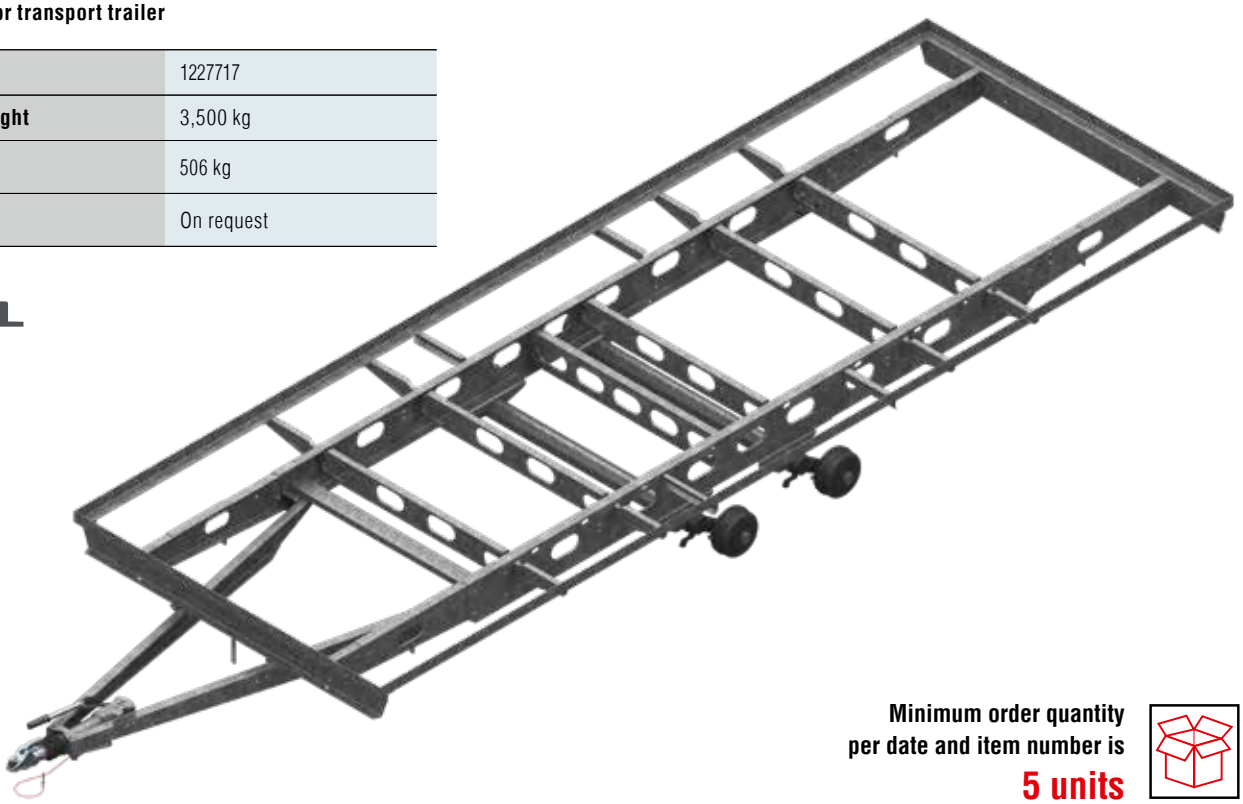


A-FRAME HIGH-LOADER CHASSIS

TA 3,500 kg, with frame

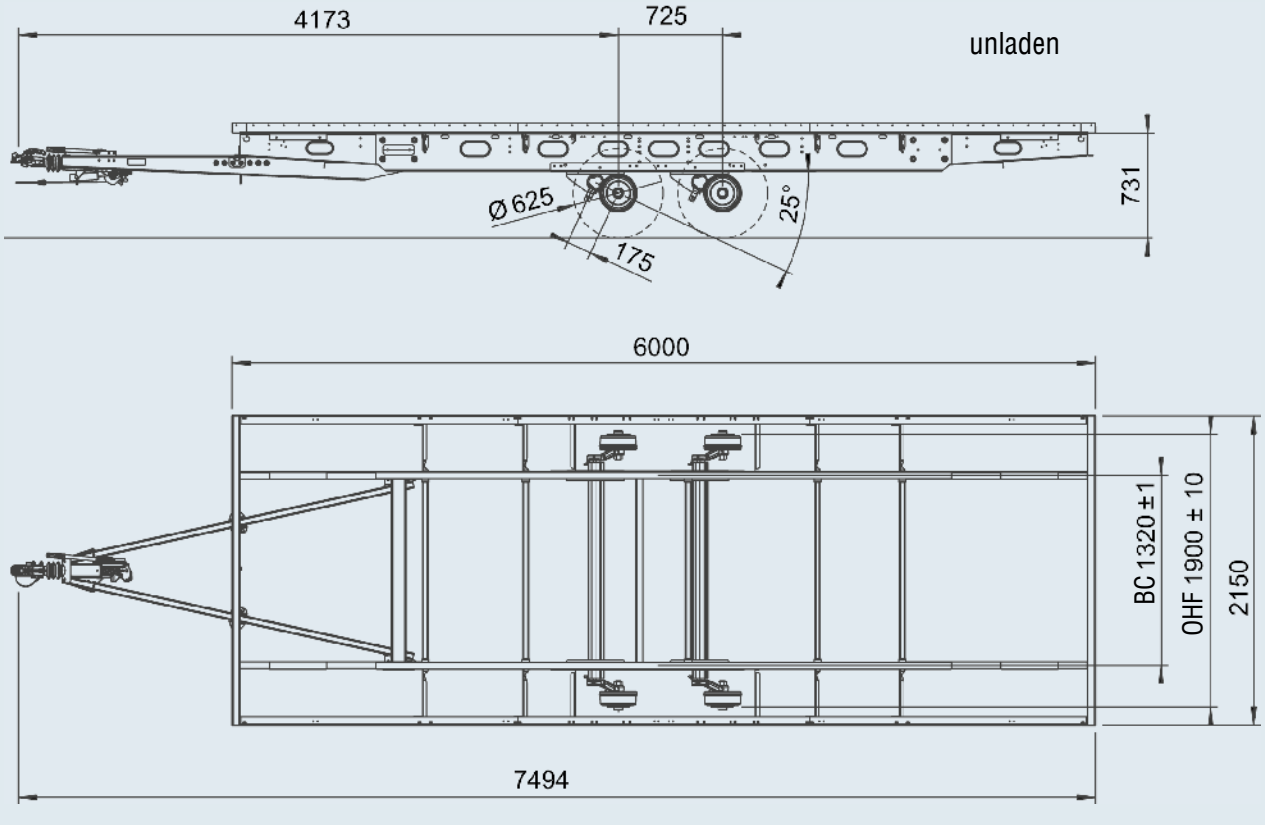
Chassis for transport trailer

Part No.	1227717
Gross weight	3,500 kg
	506 kg
	On request



Minimum order quantity per date and item number is

5 units



CHASSIS WITH STEERING FRAME

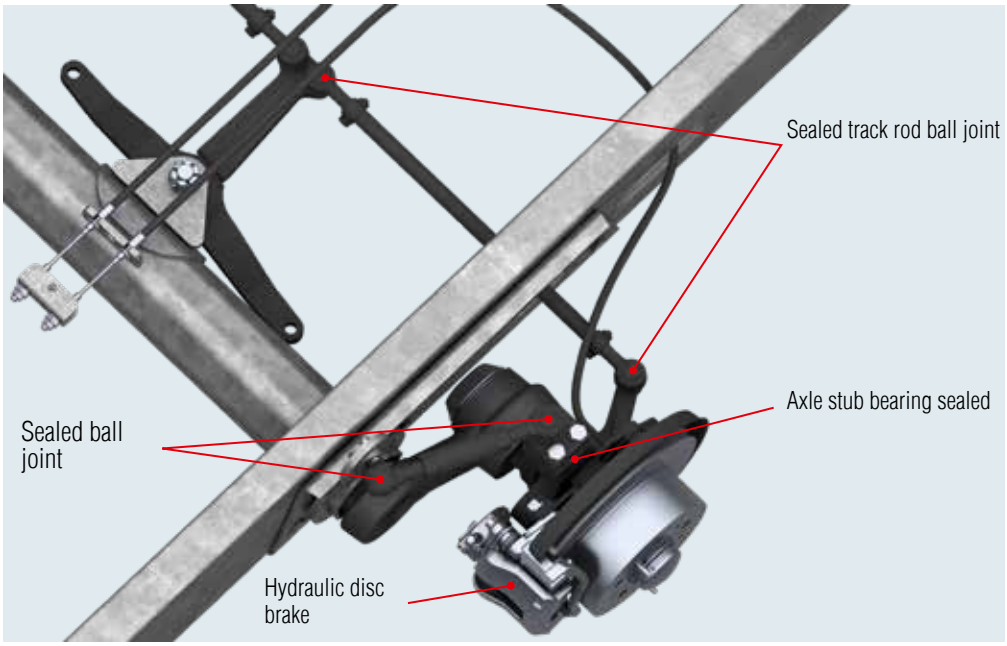
Up to 7,200 kg for transporting people

YOUR ADVANTAGE
The trailer runs in almost perfect directional stability behind the towing vehicle.

SAMPLE APPLICATIONS
Funfairs

SCOPE OF SUPPLY
Complete axles with frame without tyres and rims.

MAIN-TENANCE-FREE AL-KO HEXAGONAL RUBBER SUS-PENSION



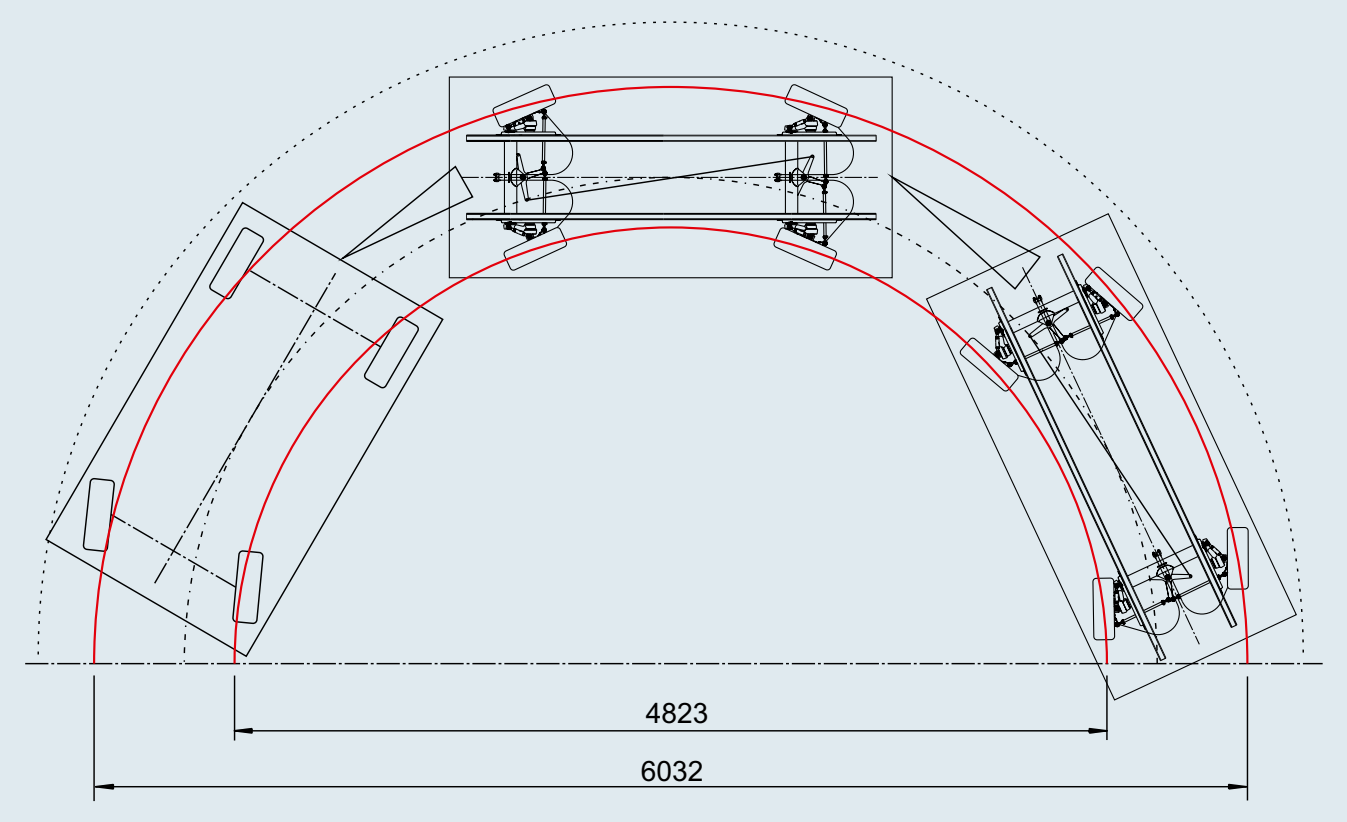


Illustration with 2 axles

TECHNOLOGY

- **Service brake:**
  Hydraulic actuation of the wheel brake cylinders

- **Parking brake:**
  Mechanical actuation via Bowden cables

- For building these special trailers, refer to our body instructions no. 1 312 133 as a guide.

- The trailer must be serviced regularly (see operating instructions no. 1 311 308).

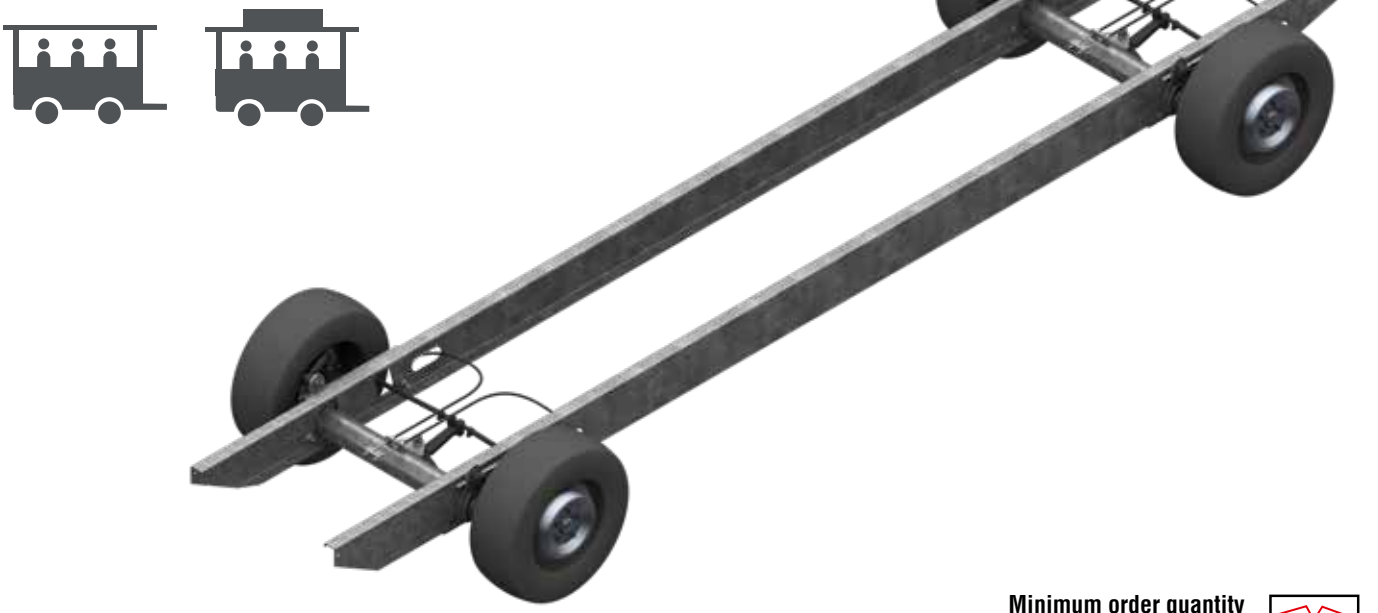
Wheelbase and frame length are variable.
The installation guidelines must be complied with however!

Number of trailers	A maximum of 4 trailers are possible	
Wheels / tyres	Wheel connection	Ø 118x5
	Tyres	185/45 R15
	Rims	6J x 15
	Taper-head wheel bolts	M14x1.5 x 43 AF 17
	Offset	68
Perm. maximum speed	**Number of trailers:**	
max. 25 km/h	2 trailers	
	3 trailers	
	4 trailers	
max. 40 km/h	2 trailers	

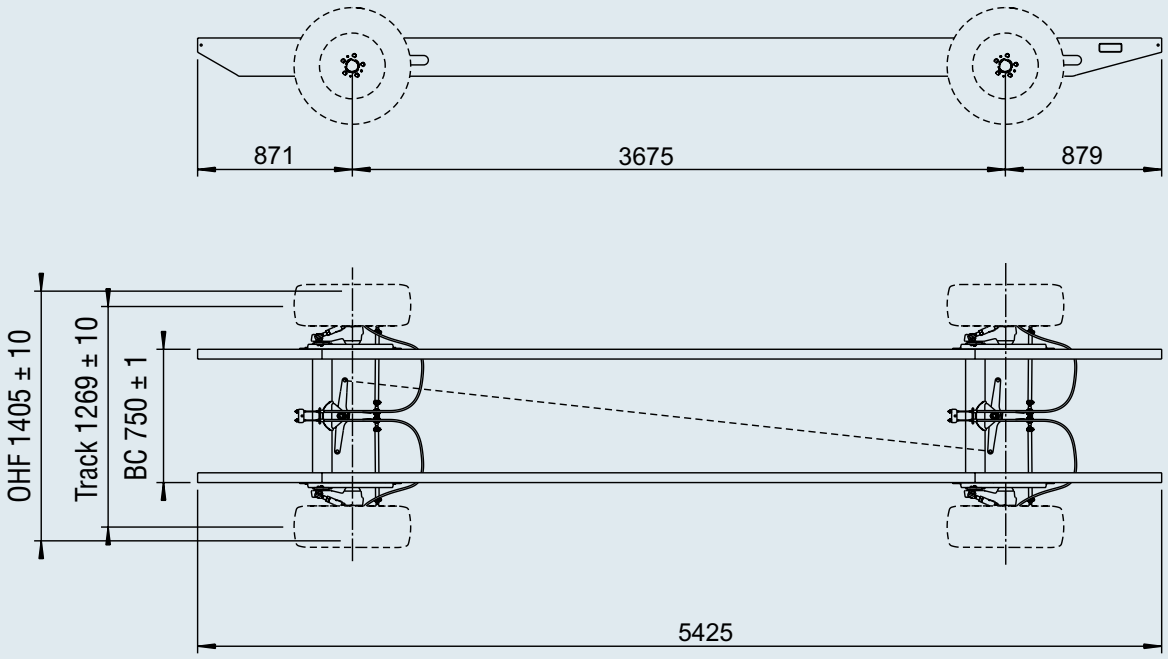
CHASSIS WITH STEERING FRAME

Up to 3,500 kg for transporting people

SCOPE OF SUPPLY
Complete axles with frame
without tyres and rims.



Minimum order quantity per date and item number is
5 units

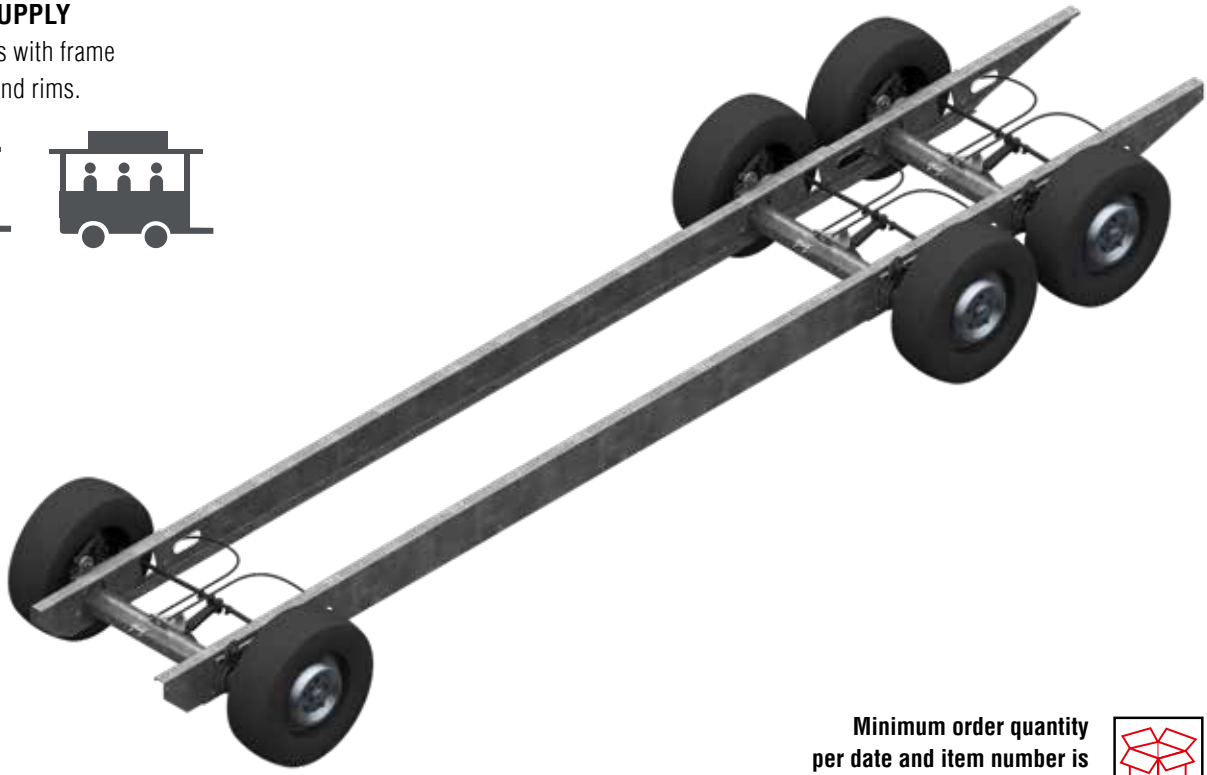


Part No.	Type	Gross weight kg				
1730195	2 axles	3,500 kg	300	–	–	On request

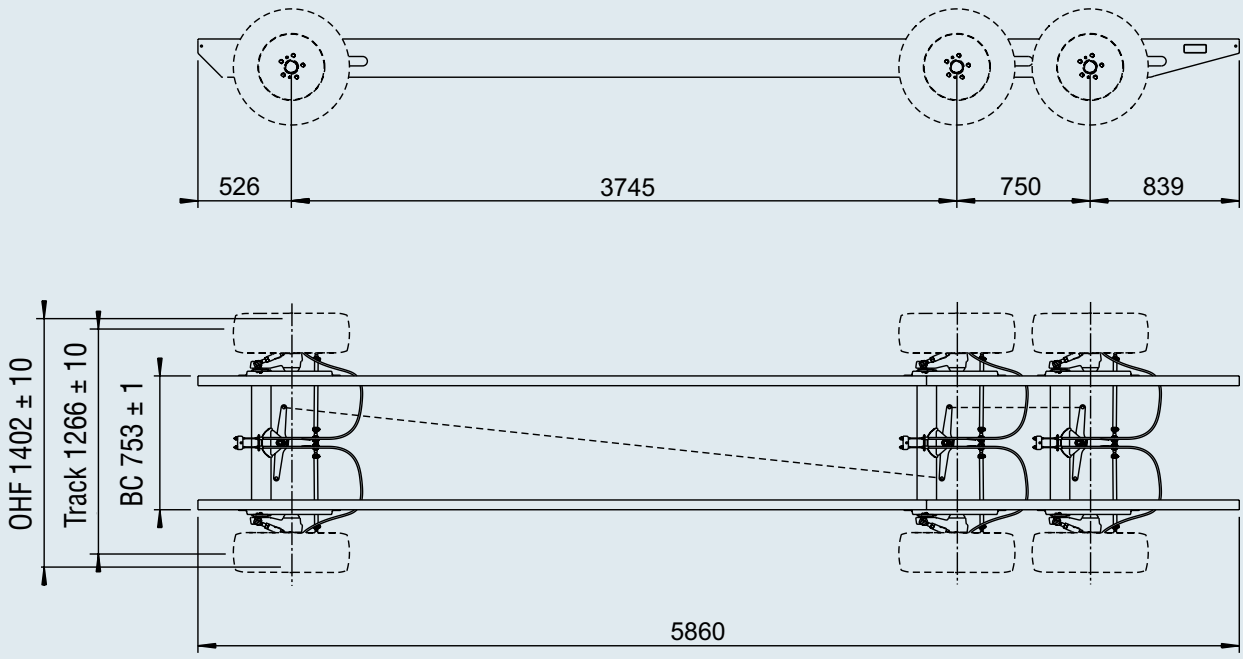
CHASSIS WITH STEERING FRAME

Up to 5,400 kg for transporting people

SCOPE OF SUPPLY
Complete axles with frame
without tyres and rims.



Minimum order quantity per date and item number is
5 units



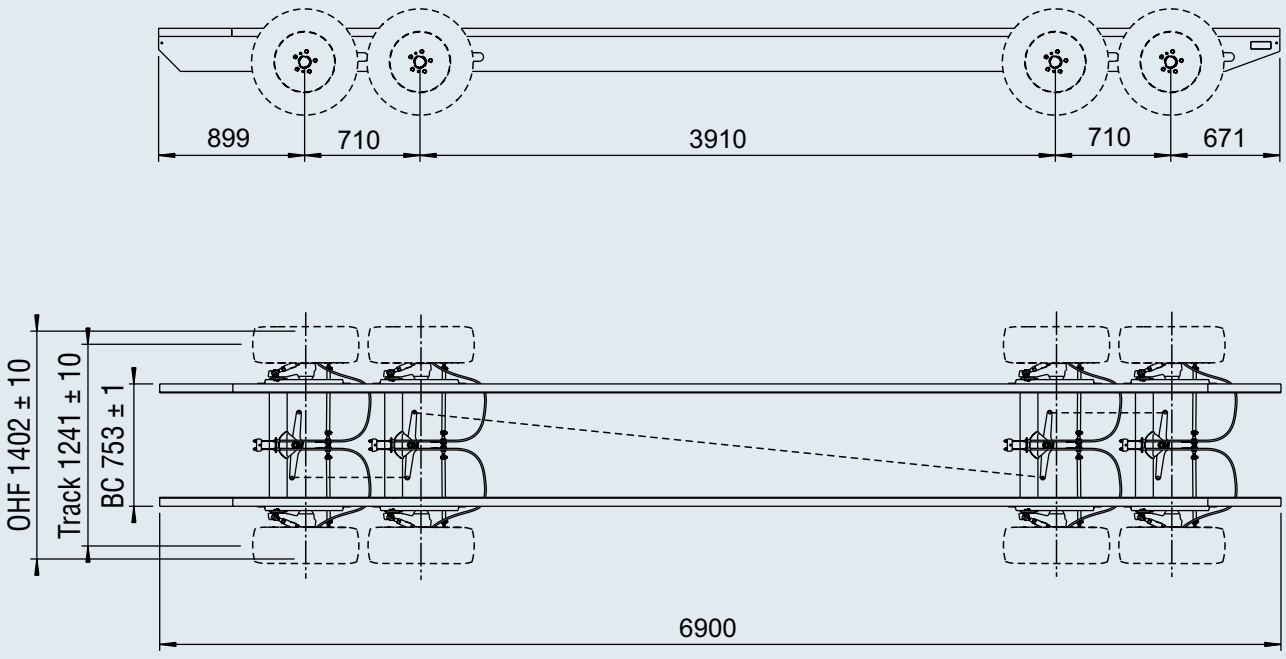
Part No.	Type	Gross weight kg				
1730730	3 axles	5,400 kg	400	–	–	On request

CHASSIS WITH STEERING FRAME

Up to 7,200 kg for transporting people

SCOPE OF SUPPLY
Complete axles with frame
without tyres and rims.

Minimum order quantity per date and item number is
5 units



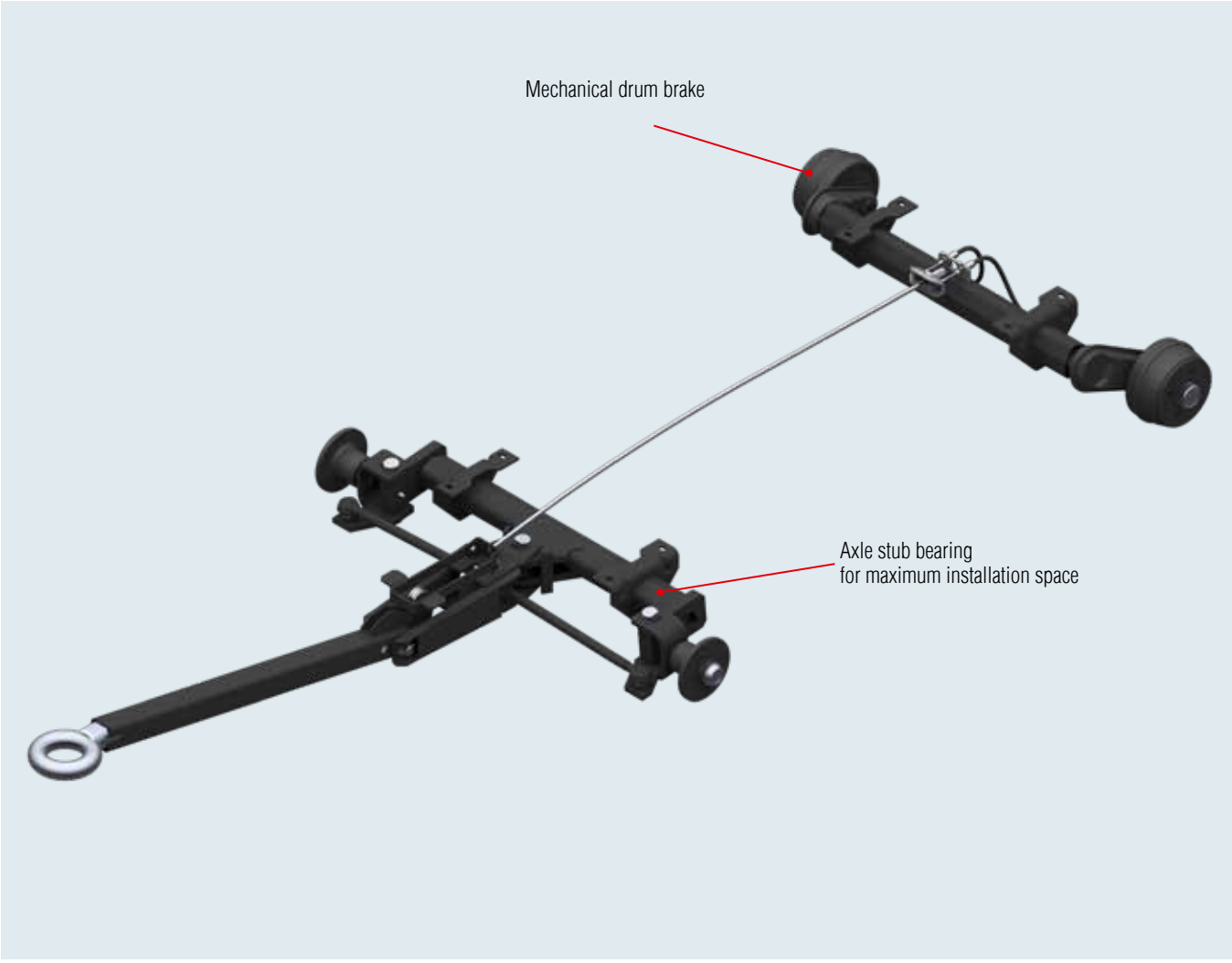
Part No.	Type	Gross weight kg				
1730731	4 axles	7,200 kg	500	–	–	On request

CHASSIS WITHOUT STEERING FRAME

Up to 6,000 kg for transporting goods

APPLICATION EXAMPLES
In-plant transportation

SCOPE OF SUPPLY
Complete axles
without tyres and rims.



Permitted maximum speed

max. 25 km/h

CHASSIS WITHOUT STEERING FRAME

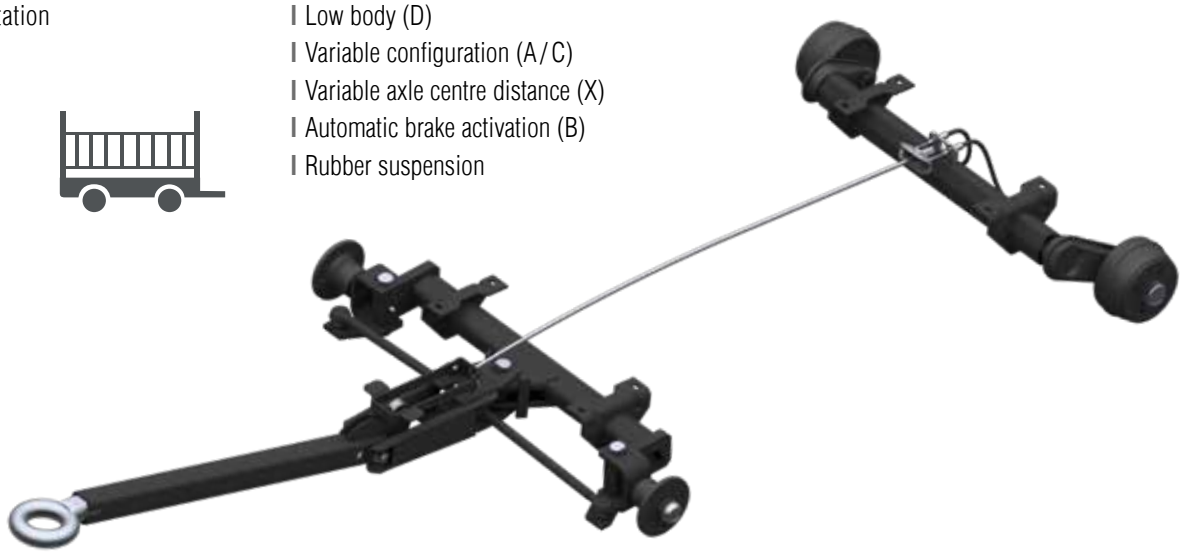
with automatic parking brake 1,200 kg with rubber suspension

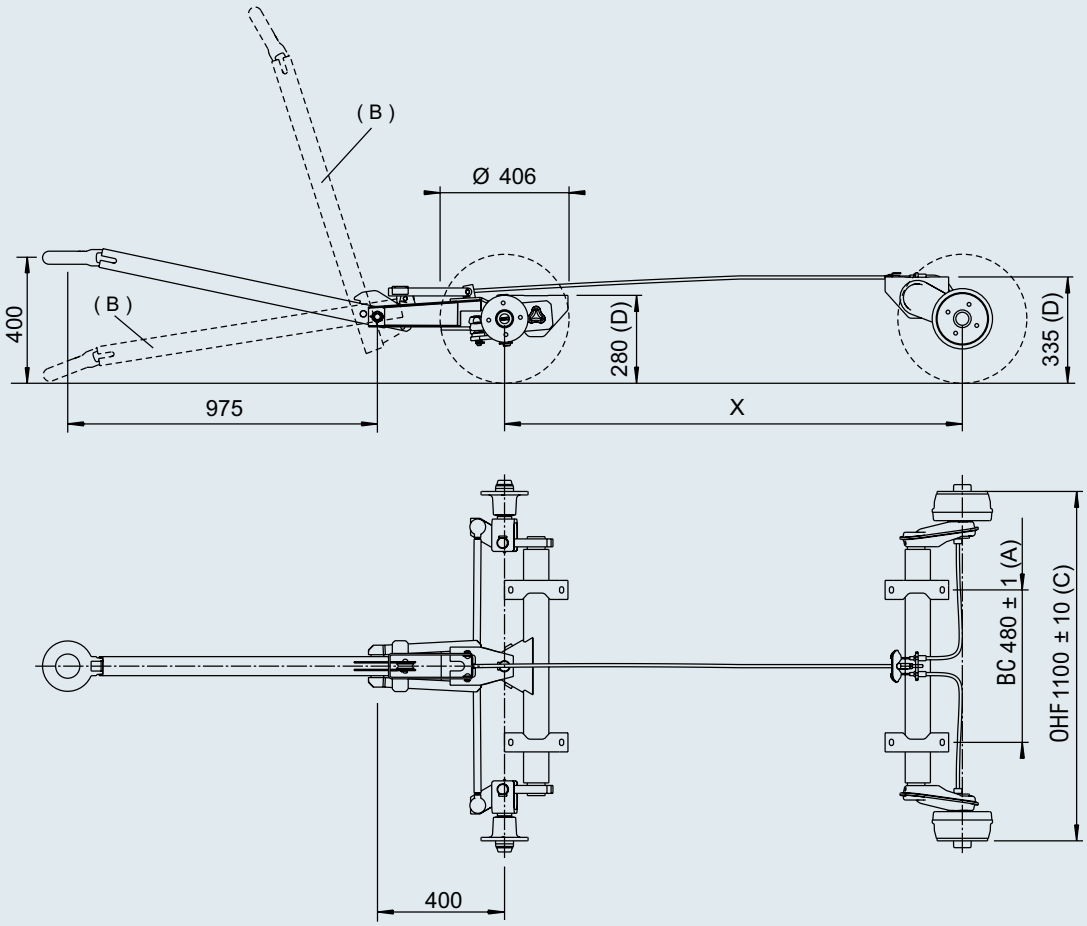
APPLICATION EXAMPLES

In-plant transportation

YOUR ADVANTAGE

- Low body (D)
- Variable configuration (A / C)
- Variable axle centre distance (X)
- Automatic brake activation (B)
- Rubber suspension





Part No.	Gross weight kg				
1226367	1,200 kg	82	–	–	On request

CHASSIS WITHOUT STEERING FRAME

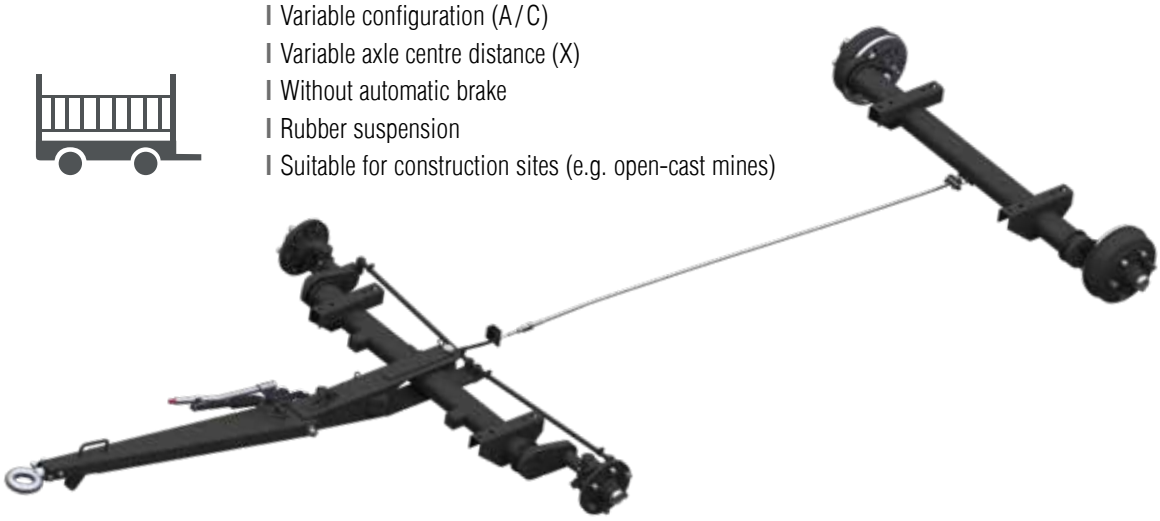
with automatic parking brake 6,000 kg with rubber suspension

APPLICATION EXAMPLES

In-plant transportation

YOUR ADVANTAGE

- Low body (D)
- Variable configuration (A/C)
- Variable axle centre distance (X)
- Without automatic brake
- Rubber suspension
- Suitable for construction sites (e.g. open-cast mines)



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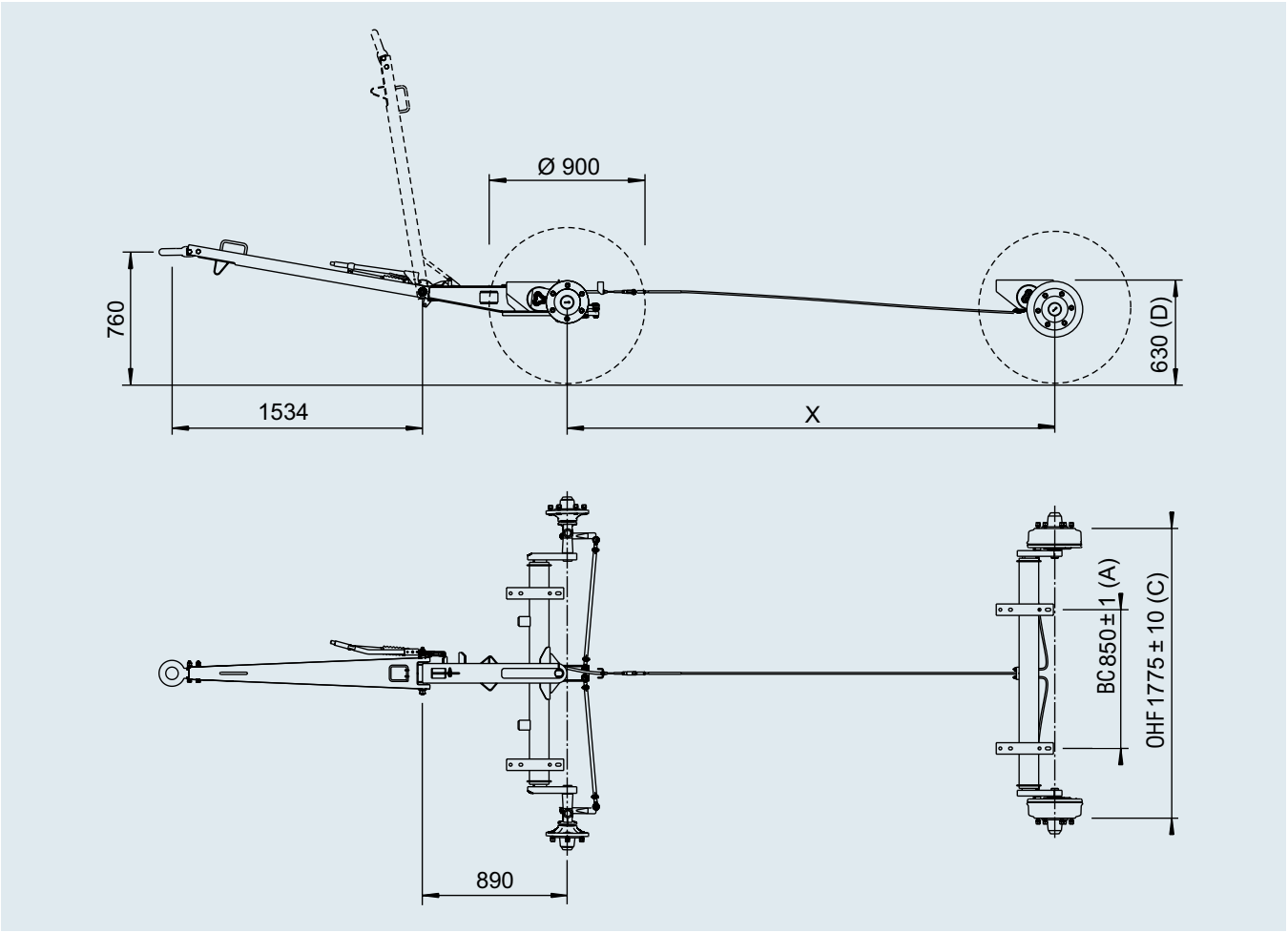
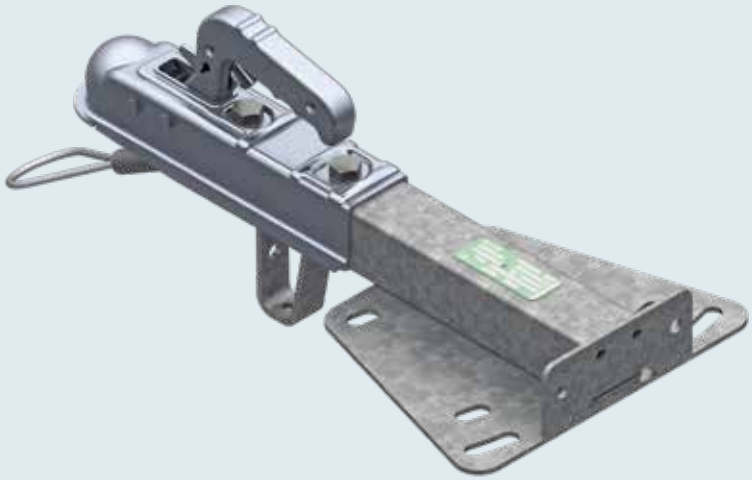


Part No.	Gross weight kg				
1208420 (steered front axle with drawbar)	3,000 kg	270	–	–	On request
1424164 (rear axle)	3,000 kg	125	–	–	On request

6. COUPLING HEADS



COUPLING HEADS

Product differentiation	346
Coupling heads for unbraked trailers	347 – 353
Coupling heads for braked trailers	354 – 359
Stabiliser coupling for braked trailers	360 – 363
Accessories	364 – 365

COUPLING HEADS

Product differentiation

Hitches are used in diverse areas

The extensive range of anti-theft devices are designed for a diverse selection of applications. To make the choice easier, the following symbols specify the product group, additional uses and product features.

Galvanised
Standard corrosion protection

Soft touch grip
Prevents hands from slipping

Coupling indicator
Indicator for correct coupling

Wear indicator
Wear indicator for the coupling head

No unsuccessful locking
Protects against unsuccessful locking

Anti-swinging
Cushions swinging movements

Anti-pitching
Cushions pitching movements

Wear indicator
Wear indicator for the friction linings

Maximum speed
Higher theoretical maximum speed

Soft-dock option
Protects the shin and rear of the vehicle

Lock option
Anti-theft device to prevent rapid access

BASIC PRODUCT LINE

The **BASIC** products are entirely solid and robust. They are characterised by very good processing properties for the respective area of use, and are essential in day-to-day trailer use, as they fulfil the basic needs of the trailer users.

We ensure that these Basic variants also meet our high quality standards and exceed the legal minimum requirements.

PLUS PRODUCT LINE

The products from the **PLUS** category impress with high-quality workmanship, reliability, high-quality materials and long service life. Their high stability and clever technical details meet the increased demands of day-to-day work with trailers.
All products have extended functions and are nevertheless user-friendly and have an attractive design.

PREMIUM PROFI PRODUCT LINE

PREMIUM PROFI products are characterised by trail-blazing design, sophisticated functions and top quality. They are innovative and traditional products for the highest demands and challenging areas of application. They are the gold standard in terms of processing, material and design. Their longevity ensures that you will have many years of joy with these products.

COUPLING HEAD AK 7

for unbraked trailers up to 750 kg

Powerful connection

Your safety is important to us, which is why the AK 7 PLUS complies with all quality requirements that a coupling head for unbraked trailers up to 750 kg might be expected to meet, whether they have a round or square-profile drawbar. Place your trust in the unique quality of AL-KO products engineered in Germany!

Safe and simple – operation of the AK 7 PLUS

Opened hitch

The hand grip of the coupling head of your trailer points upwards at an angle, showing the user a luminous red mark: I'm not yet locked!

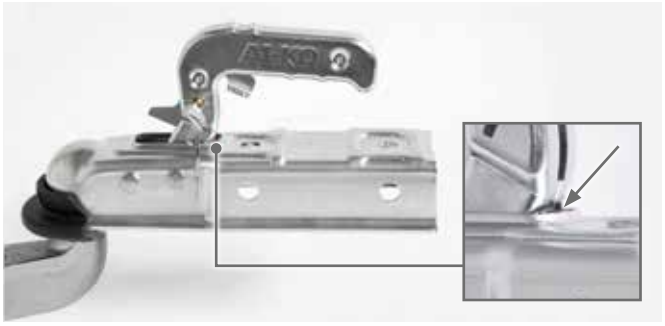
Closed hitch

The towing hitch of the towing vehicle is completely enclosed by the ball socket of the AK 7 PLUS. The hand grip visibly and audibly engages in the horizontal position, and indicates to the user: the trailer is securely connected to the towing vehicle!

Foolproof maintenance

Wear limit not reached

If the red indicator on the bottom part of the hitch handle is visible when the hitch is fastened (ready for towing), the wear limit of the towbar in combination with the ball has not yet been reached. You do not need to take any action.



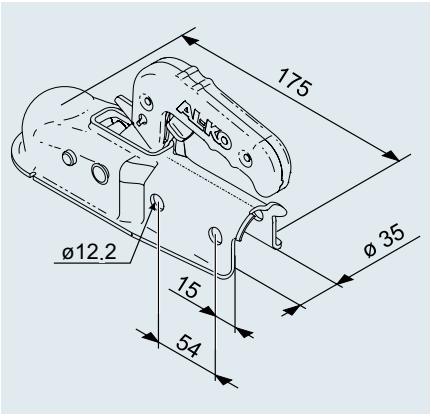
Wear limit reached

The red indicator on the hitch handle is no longer visible when the trailer is hitched up (condition suitable for towing). This indicates wear and means that immediate maintenance of the hitch at an AL-KO partner is required to continue towing safely.

COUPLING HEAD AK 7

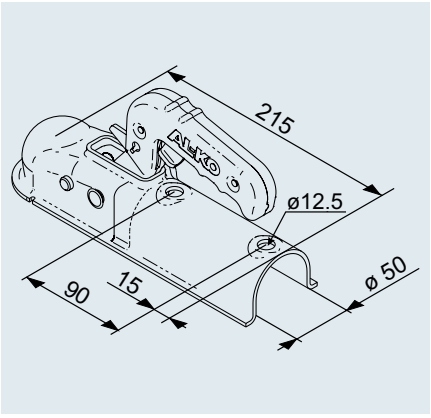
for unbraked trailers up to 750 kg

Version with plug holder
Part No. 1808571



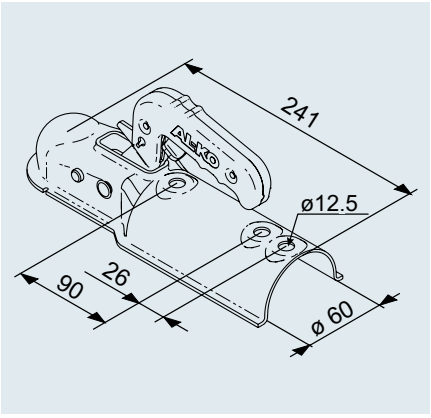
Coupling head AK 7 PLUS – 35 round version A	
SAP: KUPLNG KUGL AK7/A RD 35 PLUS	
Part No.	1367022
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 0164
	1.3 kg
	– 400 units

Version with plug holder
Part No. 1808580



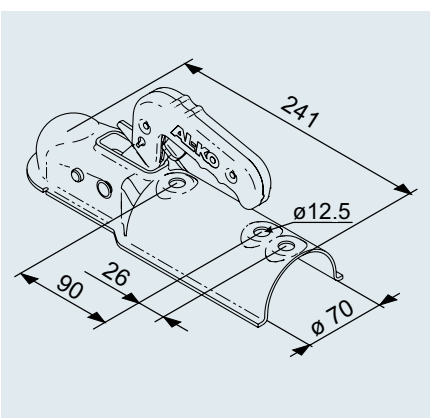
Coupling head AK 7 PLUS – 50 round version F	
SAP: KUPLNG KUGL AK7/F RD 50 PLUS	
Part No.	1367023
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 0164
	1.3 kg
	– 400 units

Version with plug holder
Part No. 1808572



Coupling head AK 7 PLUS – 60 round version B	
SAP: KUPLNG KUGL AK7/B RD 60 PLUS	
Part No.	1367024
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 0164
	1.3 kg
	– 400 units

Version with plug holder
Part No. 1808573

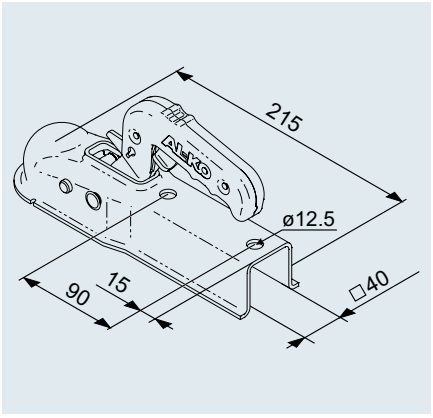


Coupling head AK 7 PLUS – 70 round version C	
SAP: KUPLNG KUGL AK7/C RD 70 PLUS	
Part No.	1367025
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 0164
	1.3 kg
	– 400 units

COUPLING HEAD AK 7

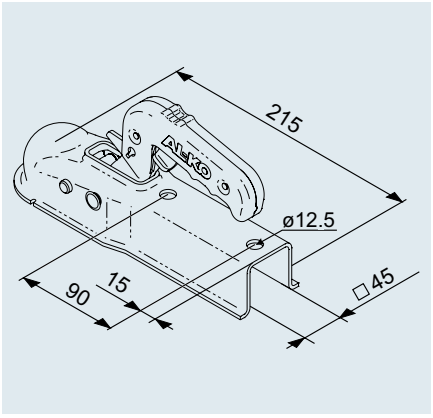
for unbraked trailers up to 750 kg

Version with plug holder
Part No. 1808583



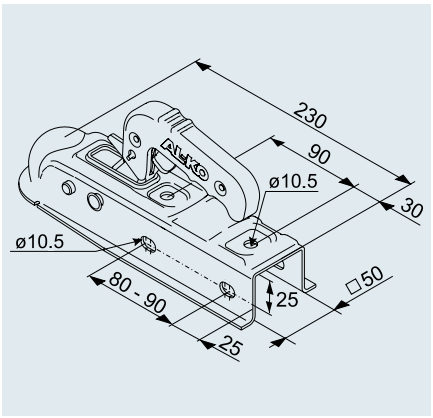
Coupling head AK 7 V PLUS – 40 square version I	
SAP: KUPLNG KUGL AK7 V/I VKT 40 PLUS	
Part No.	1367026
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 0232
	1.3 kg
	– 400 units

Version with plug holder
Part No. 1808581



Coupling head AK 7 V PLUS – 45 square version G	
SAP: KUPLNG KUGL AK7 V/G VKT 45 PLUS	
Part No.	1367027
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 0232
	1.3 kg
	– 400 units

Version with plug holder
Part No. 1808576

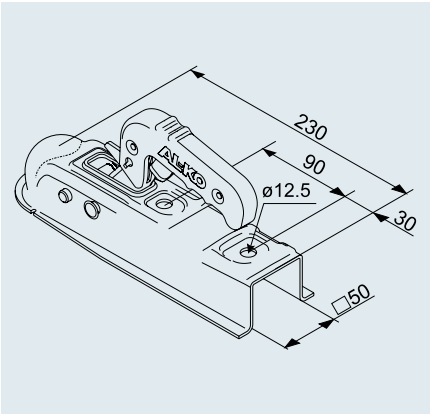


Coupling head AK 7 V PLUS – 50 square version D	
SAP: KUPLNG KUGL AK7 V/D VKT50 PLUS	
Part No.	1224339
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	46 Nm
ECE type approval no.	E1 55R-01 0232
	1.3 kg
	– 400 units

COUPLING HEAD AK 7

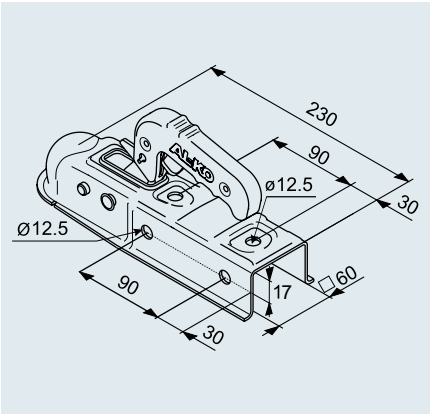
for unbraked trailers up to 750 kg

Version with plug holder
Part No. 1808575



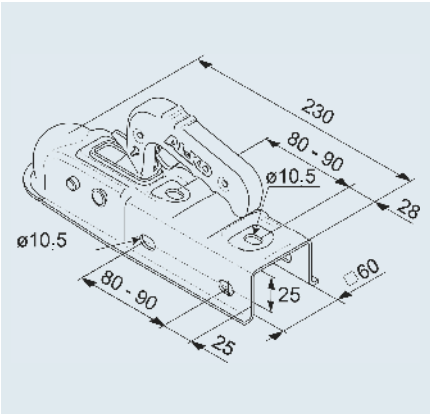
Coupling head AK 7 V PLUS – 50 square version D	
SAP: KUPLNG KUGL AK7 V/D VKT50 PLUS	
Part No.	1224334
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 0232
	1.3 kg
	– 400 units

Version with plug holder
Part No. 1808579



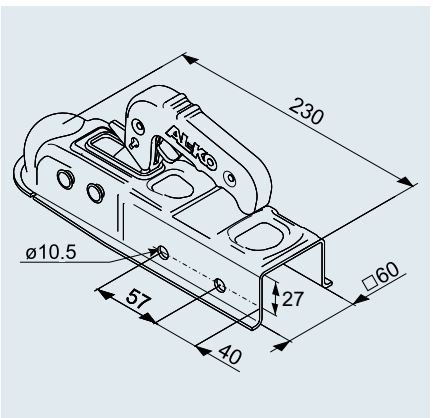
Coupling head AK 7 V PLUS – 60 square version E	
SAP: KUPLNG KUGL AK7 V/E VKT60 PLUS	
Part No.	1224743
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 0232
	1.3 kg
	– 400 units

Version with plug holder
Part No. 1808578



Coupling head AK 7 V PLUS – 60 square version E	
SAP: KUPLNG KUGL AK7 V/E VKT60 PLUS	
Part No.	1224343
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	46 Nm
ECE type approval no.	E1 55R-01 0232
	1.3 kg
	– 400 units

Version with plug holder
Part No. 1808577

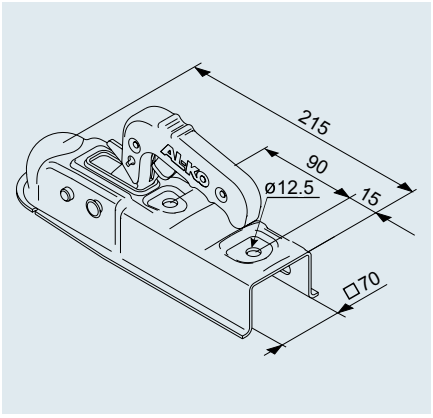


Coupling head AK 7 V PLUS – 60 square version E	
SAP: KUPLNG KUGL AK7 V/E VKT60 PLUS	
Part No.	1224342
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	46 Nm
ECE type approval no.	E1 55R-01 0232
	1.3 kg
	– 400 units

COUPLING HEAD AK 7

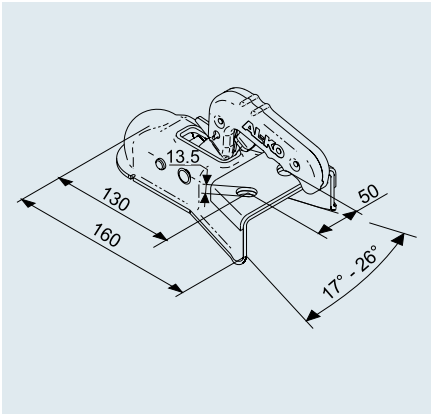
for unbraked trailers up to 750 kg

Version with plug holder
Part No. 1808582



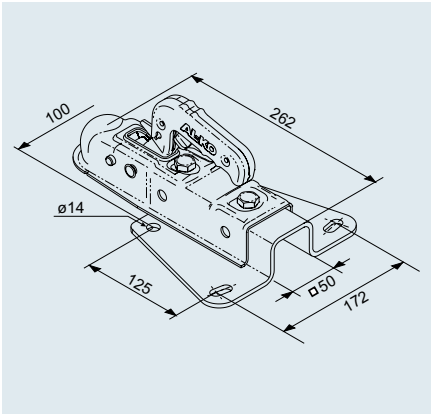
Coupling head AK 7 V PLUS – 70 square version H	
SAP: KUPLNG KUGL AK7 V/H VKT 70 PLUS	
Part No.	1367028
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 0232
	1.3 kg
	– 400 units

Version with plug holder
Part No. 1808585



Coupling head AK 750 PLUS version A	
SAP: KUPLNG KUGL AK750 PLUS MIT PLATTE	
Part No.	1367021
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 0385
	1.3 kg
	– 300 units

Version with plug holder
Part No. 1808586

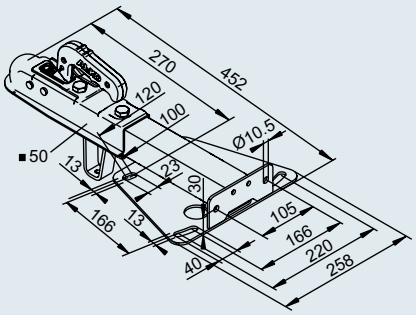


Coupling head AK 7 PLUS – 75 V version A	
SAP: ZUGVERBNDG 75 V-AK7	
Part No.	202602
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 0848
	3.0 kg
	– 100 units

Soft-Dock	
SAP: SOFT-DOCK SCHWARZ AK7	
Part No.	693552
suitable for coupling head	Type AK 7 PLUS, new version, with open position and prepared hook-in notches on the housing
Material	Rubber
	0.07 kg
	– –

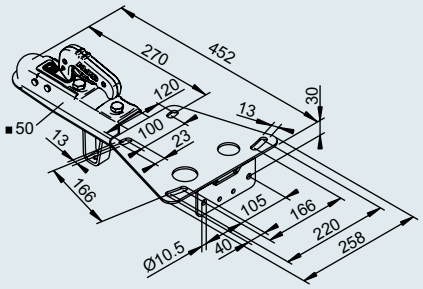
DRAWBAR INSTALLATION 75 VR

for unbraked trailers up to 750 kg



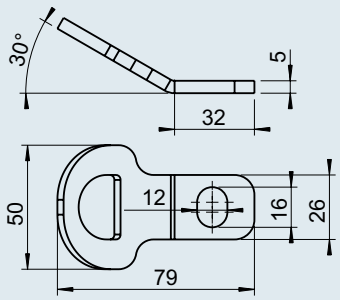
Drawbar installation 75 VR with coupling head AK 7 PLUS ☐50 – top installation without safety wire

SAP: ZUGVERBNDG 75 VR OBENEINB M AK7	
Part No.	1225712
Barcode no.	4003718047752
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	M10: 46 Nm; M12: 75 Nm
ECE type approval no.	Drawbar installation: E1 55R-01 2358 Coupling head: E1 55R-01 0232
	5.1 kg
	– 40 units



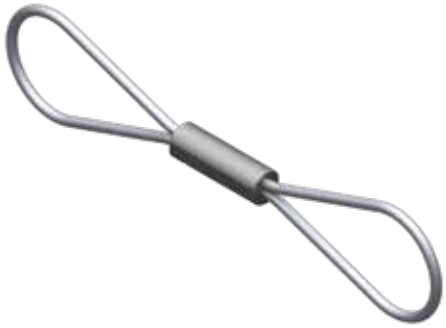
Drawbar installation 75 VR with coupling head AK 7 PLUS ☐50 – bottom installation without safety wire

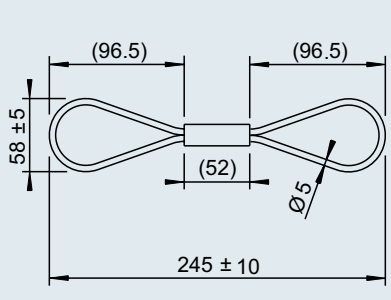
SAP: ZUGVERBNDG 75 VR UNTENEINB M AK7	
Part No.	1225713
Barcode no.	4003718047769
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	M10: 46 Nm; M12: 75 Nm
ECE type approval no.	Drawbar installation: E1 55R-01 2358 Coupling head: E1 55R-01 0232
	5.1 kg
	– 40 units



Strap

SAP: LASCHE ABREISSSEIL FÜHRUNG	
Part No.	1651594
Barcode no.	4003718051537
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
	0.8 kg
	– –



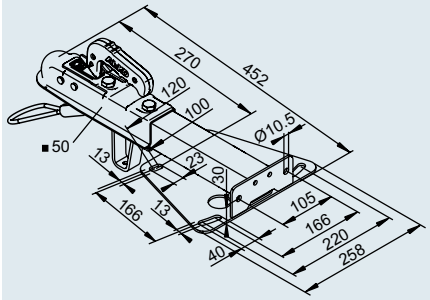


Safety wire

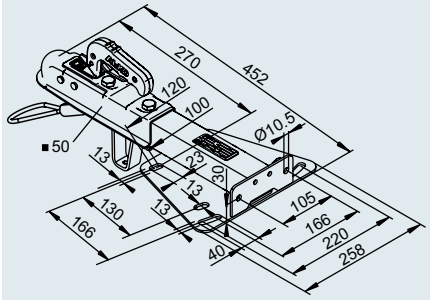
SAP: FANGSEIL FÜR UNGEBREMSTE ANHÄNGER	
Part No.	1236099
Barcode no.	4003718047790
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
	0.3 kg
	– –

DRAWBAR INSTALLATION 75 VR

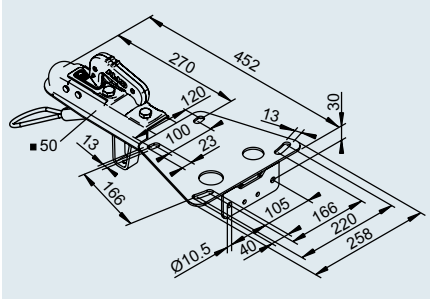
for unbraked trailers up to 750 kg



Drawbar installation 75 VR with coupling head AK 7 PLUS ☐50 – top installation with safety wire	
SAP: ZUGVERBNDG 75 VR OBENEINB M AK7	
Part No.	1225801
Barcode no.	4003718047776
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	M10: 46 Nm; M12: 75 Nm
ECE type approval no.	Drawbar installation: E1 55R-01 2358 Coupling head: E1 55R-01 0232
	5.4 kg
	– 40 units



Drawbar installation 75 VR with coupling head AK 7 PLUS ☐50 – top installation with safety wire	
SAP: ZUGVERBNDG 75 VR OBENEINB M AK7	
Part No.	1730076
Barcode no.	4003718051544
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	M10: 46 Nm; M12: 75 Nm
ECE type approval no.	Drawbar installation: E1 55R-01 2358 Coupling head: E1 55R-01 0232
	5.4 kg
	– 40 units



Drawbar installation 75 VR with coupling head AK 7 PLUS ☐50 – bottom installation with safety wire	
SAP: ZUGVERBNDG 75 VR UNTENEINB M AK7	
Part No.	1225723
Barcode no.	4003718047783
Perm. gross weight	750 kg
Nose load	75 kg
D/Dc value	7.19 kN
Material	Steel
Tightening torque	M10: 46 Nm; M12: 75 Nm
ECE type approval no.	Drawbar installation: E1 55R-01 2358 Coupling head: E1 55R-01 0232
	5.4 kg
	– 40 units

COUPLING HEAD AK 161 / AK 270

for braked trailers up to 2,700 kg

SAFETY ADVANTAGE 1

Open position
The hand grip points diagonally upwards and indicates to the operator that it is open.

SOFT TOUCH GRIP

A soft and therefore adhesive plastic mixture is used in the red area of the hand grip. In addition, the projection on the end of the hand grip serves as an anti-slip protection.

SAFETY ADVANTAGE 2

Closed position
The vehicle's ball is fully inserted and has released the securing lever.
Only now does the hand grip assume the horizontal position and indicate to the operator that a secure connection has been created.

WEAR INDICATOR

As long as the marking is in the positive range, the tow hitch is OK.

SOFT-DOCK AS STANDARD

- Protection against scratching
- Shin protection

Securing lever for flawless hitching

SAFETY ADVANTAGE 3

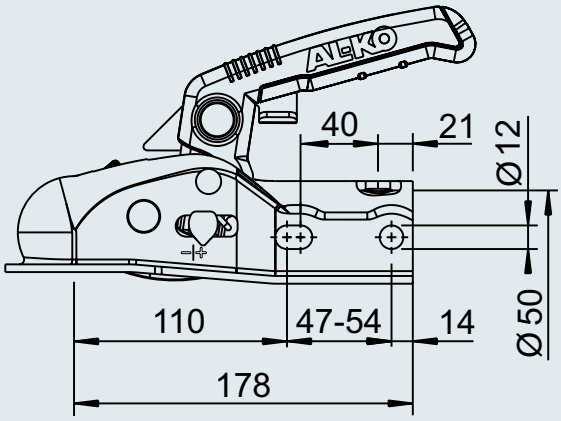
Indicator for correct hitching
In the closed position, the green safety indicator is additionally pushed out by the vehicle's coupling head, and is therefore visible. It once again indicates to the operator that the trailer is securely connected to the vehicle. This prevents unsuccessful locking. The journey may now start.

OPTIONAL LOCK ACCESSORY

Effective protection against rapid unauthorised access in the coupled and uncoupled state.

COUPLING HEAD AK 161

for braked trailers up to 1,600 kg



Coupling head AK 161 with Soft-Dock	
SAP: KUPLNG KUGL AK161 D50 M BEDANLEIT	
Part No.	1730219
Barcode no.	4003718049756
Perm. gross weight	1,600 kg
Nose load	120 kg
D/Dc value	14.95 kN
Material	Steel
Holes	horizontal + cross
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 2671
	1.6 kg
	– 288 units

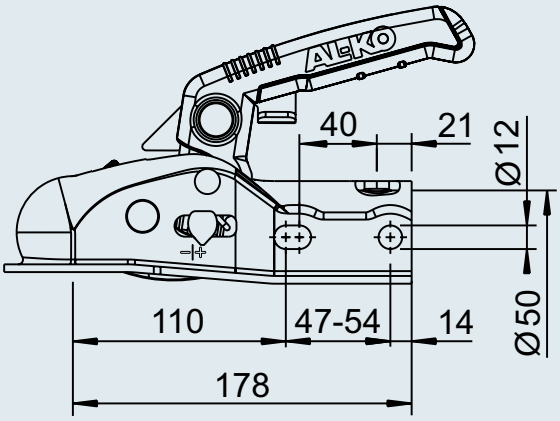
Coupling head AK 161 with Soft-Dock, spacers Ø 35/45	
SAP: KUPLNG KUGL AK161 D50/45/35 M BEDANLEIT	
Part No.	1730218
Barcode no.	4003718049749
Perm. gross weight	1,600 kg
Nose load	120 kg
D/Dc value	14.95 kN
Material	Steel
Holes	horizontal + cross
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 2671
	1.7 kg
	– 156 units

Safety kit for coupling head AK 161 with Soft-Dock, spacers Ø 35/45, lock	
SAP: KIT SAFETY AK161 D50/45/35 M ZUBEHÖR	
Part No.	1730220
Barcode no.	4003718049763
Perm. gross weight	1,600 kg
Nose load	120 kg
D/Dc value	14.95 kN
Material	Steel
Holes	horizontal + cross
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 2671
	1.9 kg
	– 156 units

Soft-Dock suitable for coupling head AK 161 / AK 270	
SAP: SOFT-DOCK SCHWARZ	
Part No.	693394
Barcode no.	4003718051698
	0.04 kg
	– –

COUPLING HEAD AK 270

for braked trailers up to 2,700 kg



Coupling head AK 270 with Soft-Dock	
SAP: KUPLNG KUGL AK270 D50 M BEDANLEIT	
Part No.	1730082
Barcode no.	4003718049770
Perm. gross weight	2,700 kg
Nose load	120 kg
D/Dc value	21.6 kN
Material	Steel
Holes	horizontal + cross
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 2669
	1.7 kg
	– 288 units

Coupling head AK 270 with Soft-Dock, spacers Ø 35/40/45	
SAP: KUGL AK270 D50/45/40/35 M BA	
Part No.	1730083
Barcode no.	4003718049787
Perm. gross weight	2,700 kg
Nose load	120 kg
D/Dc value	21.6 kN
Material	Steel
Holes	horizontal + cross
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 2669
	1.9 kg
	– 156 units

Safety kit for AK 270 with Soft-Dock, spacers Ø 35/40/45, lock	
SAP: KIT SAFETY AK270 D50/45/40/35 ZUBEHÖR	
Part No.	1730084
Barcode no.	4003718049794
Perm. gross weight	2,700 kg
Nose load	120 kg
D/Dc value	21.6 kN
Material	Steel
Holes	horizontal + cross
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 2669
	1.9 kg
	– 156 units

Lock barrel with Safety-Ball suitable for coupling head AK 161 / AK 270	
SAP: KIT STECKSCHLOSS AK161/AK270	
Part No.	1730411
Barcode no.	4003718051704
	0.15 kg
	– –

COUPLING HEAD AK 301 / AK 351

for braked trailers up to 3,500 kg

SAFE HITCHING UP

Clear open position
The hand grip points diagonally upwards and indicates to the operator:
Hitch is not yet locked!

Protective cover for safe hitching

Wear indicator
Provides information about the status of your trailer's hitch as well as the towing hitch of your car.

Clear closed position
The car's towing hitch engages. Only at this point does the hand grip move to the horizontal position, and indicate to the user:
Hitch is locked!

Safety indicator
If the green cylinder is visible in hitched condition, you know that the hitch has been positioned correctly on your towing vehicle's ball.

MORE SAFETY – MORE PROTECTION

"Safety-Ball" option for when the trailer is stationary

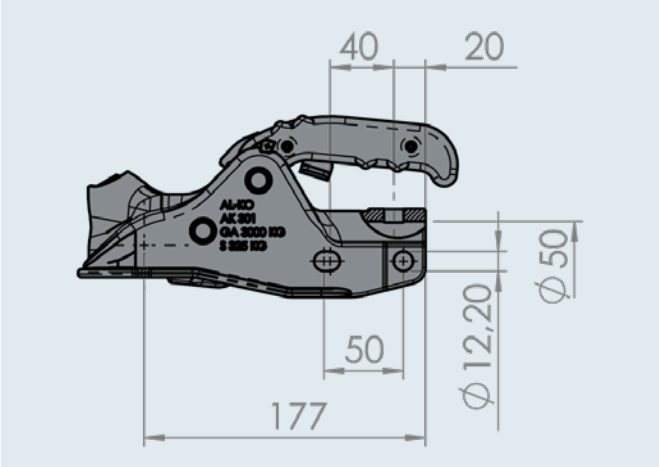
1. When the trailer is unhitched, simply insert the Safety-Ball into the hitch. The hitch handle automatically moves to the "Closed" position.
2. The hitch can now be secured with the key to prevent quick access.
   (For details, see instructions for use).

"Anti-theft device" option for towing and when stationary
Insert key into lock barrel and secure it. *(For details, see instructions for use).*

"Soft-Dock" option
(Ramming protection) Protects the rear of the vehicle against damage.

COUPLING HEAD AK 301

for braked trailers up to 3,000 kg



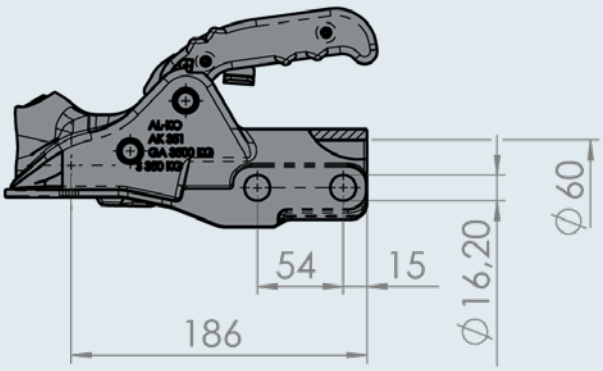
PROFI coupling head type AK 301	
SAP: KUPLNG KUGL AK301 D50	
Part No.	1221746
Perm. gross weight	3,000 kg
Nose load	325 kg
D/Dc value	26.9 kN
Material	Cast iron
Holes	horizontal + cross
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 1594
	2.85 kg
	– 104 units

PROFI coupling head type AK 301 with Soft-Dock	
SAP: KUPLNG KUGL AK301 D50/45 SOFTDOCK VERP	
Part No.	1223715
Perm. gross weight	3,000 kg
Nose load	325 kg
D/Dc value	26.9 kN
Material	Cast iron
Holes	horizontal + cross
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 1594
	3.25 kg
	– 50 units

PROFI Safety Kit for AK 301	
SAP: KIT SAFETY AK301 D50/45 M ZUBEHÖR VERP	
Part No.	1223427
Perm. gross weight	3,000 kg
Nose load	325 kg
D/Dc value	26.9 kN
Material	Cast iron
Holes	horizontal + cross
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 1594
	3.45 kg
	– 125 units

COUPLING HEAD AK 351

for braked trailers up to 3,500 kg



PROFI coupling head type AK 351

SAP: KUPLNG KUGL AK351 D60	
Part No.	1222636
Perm. gross weight	3,500 kg
Nose load	350 kg
D/Dc value	31.0 kN
Material	Cast iron
Holes	horizontal
Tightening torque	195 Nm
ECE type approval no.	E1 55R-01 1595
	3.0 kg
	– 200 units

PROFI coupling head type AK 351-351 ZA

SAP: KUPLNG KUGL AK351-351ZA D60 M12 VERP	
Part No.	1224333
Perm. gross weight	3,500 kg
Nose load	350 kg
D/Dc value	31.0 kN
Material	Cast iron
Holes	horizontal + cross
Tightening torque	75 Nm
ECE type approval no.	E1 55R-01 1594
	3.0 kg
	– 200 units

PROFI coupling head type AK 351 with Soft-Dock

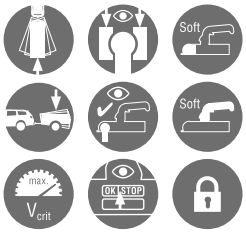
SAP: KUPLNG KUGL AK351 D60 M SOFTDOCK VERP	
Part No.	1223716
Perm. gross weight	3,500 kg
Nose load	350 kg
D/Dc value	31.0 kN
Material	Cast iron
Holes	horizontal
Tightening torque	195 Nm
ECE type approval no.	E1 55R-01 1595
	3.4 kg
	– 125 units

PROFI Safety Kit for AK 351

SAP: KIT SAFETY AK351 D60 M ZUBEHÖR VERP	
Part No.	1223428
Perm. gross weight	3,500 kg
Nose load	350 kg
D/Dc value	31.0 kN
Material	Cast iron
Holes	horizontal
Tightening torque	195 Nm
ECE type approval no.	E1 55R-01 1595
	3.6 kg
	– 125 units

STABILISER COUPLING AKS™

for braked trailers up to 3,500 kg



YOUR ADVANTAGE

Safe and relaxed driving with the AKS™

Swaying and pitching movements of the trailer are effectively suppressed with the stabiliser coupling.

Emergency situations

The vehicle combination can be restored to stability faster in an emergency situation with the AKS™. Furthermore,
the stabiliser coupling permits a higher theoretical maximum speed (pay attention to permitted maximum speed).
The AKS™ 3004/3504 complies with ISO 11555-1 (100 km/h approval possible).

Function

Operating the stabilisation handle presses four special friction pads against the car's towball from the left and right as well as the front and rear. The maximum braking torque of the pads can be 320 Nm. Swaying or pitching movements are thus effectively suppressed before they become serious.

Operation

The hitch and stabilisation handles are separate from one another, and each can be operated with one hand. No complicated additional securing devices. The stabilisation handle is simply opened for easier manoeuvring of the trailer.

Function and operation

How to hitch up correctly:

Use the hitch handle to place the AKS™ on the ball (ball must be free from grease and have a bare metal surface).
Push the hitch handle down.

Push the stabilisation handle down.
The AKS™ is now ready for towing.

The AKS – with even better ergonomics – has been presented with the **Caravaning Design Award** and the **Red Dot Design Award** for its particularly successful design!

On request as standard equipment or can be retrofitted to trailers with AL-KO chassis

STABILISER COUPLING AKS™

for braked trailers up to 3,500 kg

YOUR ADVANTAGE

- **ECE approval – no TÜV registration is therefore necessary**
- **Approved for 100 km/h operation according to ISO 11555-1**

SURFACE TREATMENT

Housing: Dacromet-coated
Hitch handle: galvanised
Soft-Dock: rubber mixture
Stabilisation handle:
Aluminium and Dacromet-coated, grip area additionally with plastic

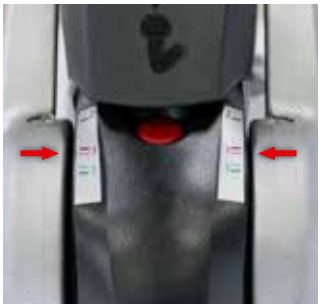
CHECKING AND MAINTENANCE

- **Safety indicator**

If the green cylinder is visible, the AKS™ is correctly mounted on the ball.

- **Left/right friction pad wear indicator**

Friction linings are still OK.



Friction linings are worn.

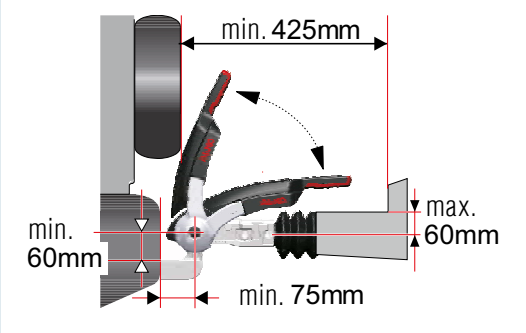
- **Wear indicator**

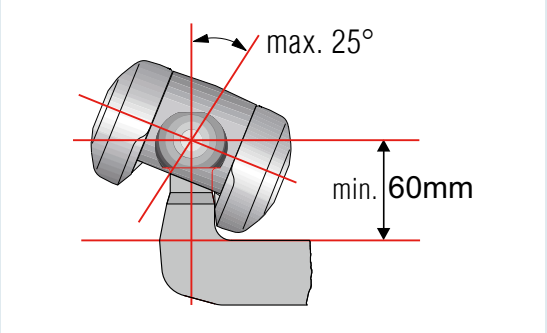
Wear indicator for front/rear friction pads and hitch mechanism.

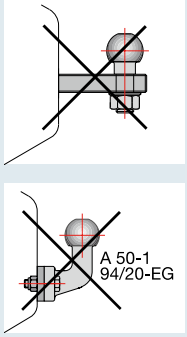
MOUNTING

Before mounting the AKS, check that the preconditions stated here have been met.

Please note: The ball head of the towing hitch must be free from grease and have a bare metal surface (paint must be removed).

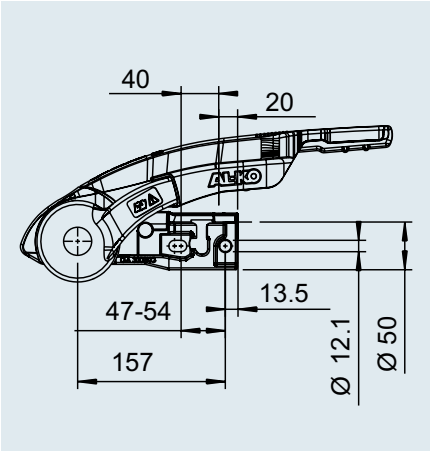




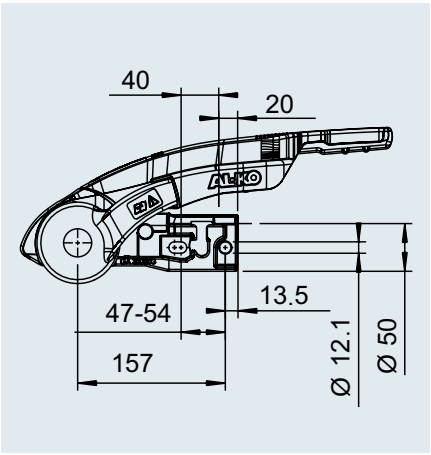


STABILISER COUPLING AKS™ 3004

for braked trailers up to 3,000 kg



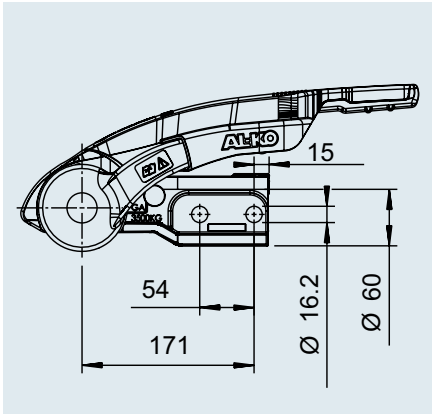
AKS™ 3004	
SAP: AKS3004 VERP GA3000 FL	
Part No.	1225158
Perm. gross weight	3,000 kg
Nose load	150 kg
D/Dc value	26.9 kN
Minimum dimensions	200 kg
Tightening torque Strength class 8.8	M12: 75 Nm
ECE type approval no.	E1 55R-01 0930
	4.2 kg
	– 37 units



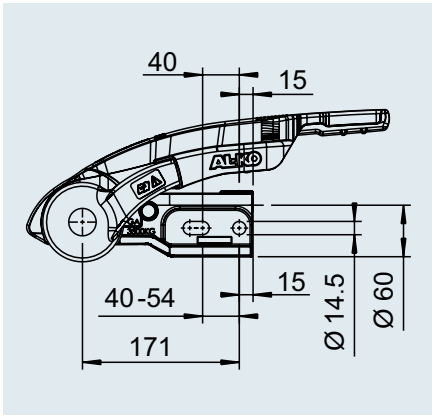
Safety three-pack AKS™ 3004	
SAP: AKS3004 (3-ER-PACK) SAFETY+BALL COMP	
Part No.	1225155
	5.4 kg
	– 37 units

STABILISER COUPLING AKS™ 3504

for braked trailers up to 3,500 kg



AKS™ 3504 with integrated lock and Safety-Ball	
SAP: AKS3504 VERP GA3500 M SCHLIESSZYL	
Part No.	1225761
Perm. gross weight	3,500 kg
Nose load	350 kg
D/Dc value	31.0 kN
Minimum dimensions	200 kg
Tightening torque Strength class 8.8	M16: 195 Nm
ECE type approval no.	E1 55R-01 1796
	5.2 kg
	– 37 units



AKS™ 3504 – cross hole with integrated lock and Safety-Ball	
SAP: AKS3504 VERP GA3500 M14 M SCHLIESSZYL	
Part No.	1225763
Tightening torque Strength class 10.9	M14: 175 Nm
	5.2 kg
	– 37 units

6

ACCESSORIES

for coupling heads

Cardboard box is transport packaging and can be used as a sales display after being opened.

Soft-Dock suitable for coupling head AK 7, AK 10/2, AK 252, AK 160, AK 300

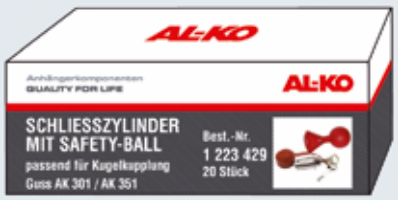
SAP: SOFT-DOCK FEUERROT	
Part No. per unit	603 952
	0.3 kg
Part No. PU 12 units	246412
	2.5 kg (12 units)
	12 units –

Packing unit

Soft-Dock
suitable for coupling head AK 301/AK 351 PROFI

SAP: SOFT-DOCK RAL 3000 FEUERRROT AK301	
Part No. per unit	691937
Part No. PU 20 units	1223714
	1.4 kg (20 units)
	20 units –

Simultaneous locking anti-theft devices for retailers / hire companies on request!



Packing unit

Plus lock barrel with Safety-Ball
suitable for coupling head AK 301/AK 351 PROFI

SAP: KIT STECKSCHLOSS AK301/AK351	
Part No. per unit	1222692
Part No. PU 20 units	1223429
	3.8 kg (20 units)
	20 units –

Lock barrel with Safety-Ball

suitable for coupling head AK 161 / AK 270

SAP: KIT STECKSCHLOSS AK161/AK270	
Part No.	1730411
Barcode no.	4003718051704
	0.15 kg
	– –

ACCESSORIES

for coupling heads

7 – 13-pin plug holder
suitable for coupling head AK 7

SAP: STECKERHALTER 7-13 POLIG KUNSTSTOFF	
Part No.	1860545
Material	Plastic
	0.02 kg
	1,000 units –
	12

Soft-Dock
Suitable for coupling head type AK 7, new version, with open position and prepared hook-in notches on the housing

SAP: SOFT-DOCK SCHWARZ AK7	
Part No.	693552
Material	Rubber
	0.07 kg
	– –

Soft-Dock
suitable for coupling heads AK 161 / AK 270

SAP: SOFT-DOCK SCHWARZ	
Part No.	693394
Material	Rubber
	0.04 kg
	– –

7. ANTI-THEFT DEVICES

ANTI-THEFT DEVICES

Product differentiation	368
Anti-theft devices	369 – 372
Accessories	372 – 373

ANTI-THEFT DEVICES

Product differentiation

Anti-theft devices are used in diverse areas

The extensive range of anti-theft devices are designed for a diverse selection of applications. To make the choice easier, the following symbols specify the product group, additional uses and product features.

Secures when trailer is coupled

Secures when trailer is uncoupled

Protects against hitch removal

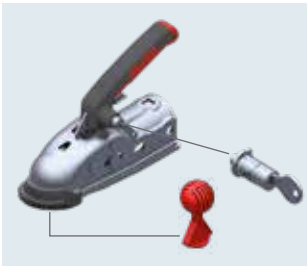
ANTI-THEFT DEVICES

Compact barrel lock and shackle lock

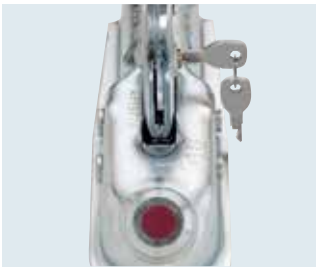
Barrel lock with Safety-Ball	
SAP: STECKSCHLOSS AK7/SAFETYBALL VERP EAN	
Part No.	1225494
Suitable for coupling head	Type AK 7 / AK 7V / AK 750
	0.09 kg
	1 unit –

Simultaneous locking anti-theft devices for retailers / hire companies on request!

Lock barrel Plus with Safety-Ball	
SAP: KIT STECKSCHLOSS AK301 / AK351	
Part No. (Units)	1222692
Part No. (PU)	1223429
Suitable for coupling head	Type AK 301 / AK 351
(PU)	3.8 kg
	20 units –



Lock barrel Plus with Safety-Ball	
SAP: KIT STECKSCHLOSS AK161/AK270	
Part No. (Units)	1730411
Suitable for coupling head	AK 161 / AK 270
(PU)	0.15 kg
	– –



Compact barrel lock	
SAP: STECKSCHLOSS AK	
Part No.	203141
Suitable for coupling head	Typ AKS 2000 / AK 30 / AK 35
	0.025 kg
	100 units (cardboard box) –

Compact barrel lock	
SAP: STECKSCHLOSS AKS1300	
Part No.	245737
Suitable for coupling head	AKS 1300
	0.046 kg
	25 units (cardboard box) –

Compact shackle lock	
SAP: BÜGELSCHLOSS	
Part No. (Units)	247589
Part No. (PU)	247925
Suitable for coupling head	AKS 160, AK 300, AK 350
(Units)	0.103 kg
	20 units (cardboard box) –

ANTI-THEFT DEVICES

Premium, Compact and Plus coupling head security devices

Safety Premium coupling head security device	
SAP: SAFETY PREMIUM UK AK	
Part No. **suitable for coupling head**	1730538 AK 160 – Ø 35 mm
Part No. **suitable for coupling head**	1730539 AK 160 – Ø 50 mm
Part No. **suitable for coupling head**	1730540 AK 300 / AKS 1300 – Ø 50 mm
Part No. **suitable for coupling head**	1730541 AKS 3004 – Ø 50 mm
Test	Sold Secure
	4.9 kg
	– 120 units

Safety Plus coupling head security device	
SAP: AL-KO SAFETY AK	
Part No. **suitable for coupling head**	1225258 AKS™ 1300
Part No. **suitable for coupling head**	247632 AKS™ 2000
Part No. **suitable for coupling head**	1225260 AKS™ 3004
Part No. **suitable for coupling head**	1225261 AK 160 – Ø 35
Part No. **suitable for coupling head**	1225259 AK 160 / 300
	1.5 kg
	– 100 units / 70 units (247 632)

Safety Compact coupling head security device	
SAP: AL-KO SAFETY AK	
Part No. **suitable for coupling head**	1310944 AKS™ 1300
Part No. **suitable for coupling head**	1310892 AKS™ 3004
Part No. **suitable for coupling head**	1310943 AK 160 – Ø 35
Part No. **suitable for coupling head**	1310890 AK 160 / 300
	1.4 kg
	– 150 units

Simultaneous locking anti-theft devices for retailers / hire companies on request!

ANTI-THEFT DEVICES

AL-KO Safety AK 161 / AK 270

AL-KO Safety type for AK 161 / AK 270	
SAP: SAFETY PREMIUM UK AK	
Part No. **AL-KO Safety**	1732594 All countries
Part No. **AL-KO Safety SCM**	1731934 Netherlands
Part No. **AL-KO Safety Sold Secure**	1731935 England
Part No. **AL-KO Safety SBSC**	1731936 Sweden
Test	SCM (NL), Sold Secure (GB), SBSC (SE)
	2.5 kg
	– –

7

Universal Compact shackle lock

Universal Compact shackle lock	
SAP: DIEBSTAHLSICH KUGKUP UNI VERP	
Part No. (Units)	1224081
Suitable for coupling head	Universal; not suitable for coupling heads with stabilisation device
Material	Cast aluminium
	0.956 kg
	20 units –

Simultaneous locking anti-theft devices for retailers / hire companies on request!

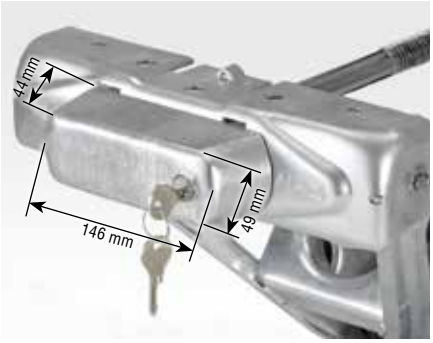
Operation

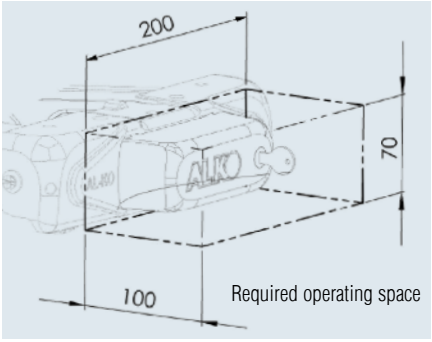
Open hitch

Insert bottom part into the coupling head

Push the securing bar down. Done!

AL-KO ANTI-THEFT DEVICE FOR CORNER STEADIES





Safety Compact anti-theft device	
SAP: AL-KO SAFETY VERP FÜR PREMIUMSTÜTZE	
Part No. (Units)	1222515
Suitable for	Corner steadies Premium 1,250 kg, from production date 2006
Contents	2 units
	0.8 kg
	– –

OPERATION

Attach anti-rotation device

Insert the security device into the slot and push to the right

Push the lock in

SAFETY-BALL

YOUR ADVANTAGE

Supplementary product for commercially available anti-theft devices on the towbar – **especially for stationary use.**

ANTI-THEFT PROTECTION

When the trailer is uncoupled, the AL-KO Safety-Ball in connection with anti-theft device is used to fill the space inside the coupling head.

SURFACE TREATMENT

Hard plastic

SAFETY

An anti-theft device protects the Safety-Ball against being removed quickly. Inserting a hook or an unscrewed towing vehicle ball is only possible with significant criminal effort.

AL-KO TIP

To store it while driving, the **AL-KO Safety-Ball** can be inserted in the **AL-KO Soft-Ball**, and both can be stored together in the vehicle's luggage compartment.

SCOPE OF SUPPLY

Loose without packaging material.
1 cardboard box with 24 AL-KO Safety-Balls packed in a cardboard box. The cardboard box is transport packaging and can be used as a sales display after being opened.

MOUNTING

In unhitched condition, open the coupling head, insert the Safety-Ball and then secure with an anti-theft device.

Safety-Ball	
SAP: AL-KO SAFETY-BALL	
Part No. (Units)	605305
	0.07 kg
Part No. (PU)	247104
	2.00 kg
	24 units -

SAFE

The safe solution for all valuables

YOUR ADVANTAGE

- On request as standard equipment or can be retrofitted to caravans with AL-KO chassis.

INSTALLATION

Individual installation is possible, e.g. on the floor, cabinet wall, storage box, bed frame wall, etc.

SAFETY

Professional thieves can break into almost any caravan within a matter of minutes. Valuables are better protected against easy access in the permanently installed AL-KO safe for caravans, motorhomes and boats. The door of the sturdy safe is locked by two strong round bolts.

SURFACE TREATMENT

primed and painted

SCOPE OF SUPPLY

- 1 Safe with intermediate floor
- 2 Double sided keys
- 4 Fastening screws, nuts and cover caps with sealing lip
- 1 Mounting plate (also for use as drilling template)
- 1 Operating and mounting instructions

Safe	
SAP: TRESOR CARAVAN-VERPACKT	
Part No. (Units)	245091
External dimensions LxWxH	300 x 240 x 200mm
Internal dimensions LxWxH	285 x 230 x 180 mm
Volume	14 litres
	12.5 kg
	– 33 units

8. JOCKEY WHEELS

JOCKEY WHEELS

Product differentiation	376
Ø 48 mm	377 – 382
Ø 60 mm	383 – 384
Ø 73 mm	385
Ø 70 mm	386
Accessories for jockey wheels	387 – 389

JOCKEY WHEELS

Product differentiation

Jockey wheels are used in diverse areas

The extensive range of anti-theft devices are designed for a diverse selection of applications. To make the choice easier, the following symbols specify the product group, additional uses and product features.

Long design
More adjustment range (adjustment stroke)

Galvanised
Standard corrosion protection

Hot-dip galvanised
High-quality corrosion protection

Crank with thrust block
Easier to use the crank

Removable crank
Removable crank prevents unintentional operation

Folding crank
Space-saving

Rotation lock
Prevents loss while driving

Anti-slip device
Prevents slipping in the clamp

Nose load scale
Displays nose load on the coupling point

Grease nipple
Ensures smooth operation

Manual operation
Pivoting the wheel up by hand

Foot operation
Pivoting the wheel up by foot

Fully automatic
Wheel is pivoted up fully automatically

Wheel is removable

Swing arm suspension
Cushions ground irregularities

Wheel load scale
Displays wheel load on the wheel

Wheel stop
Blocks the wheel

BASIC PRODUCT LINE

The **BASIC** products are entirely solid and robust. They are characterised by very good processing properties for the respective area of use, and are essential in day-to-day trailer use, as they fulfil the basic needs of the trailer users. We ensure that these Basic variants also meet our high quality standards and exceed the legal minimum requirements.

PLUS PRODUCT LINE

The products from the **PLUS** category impress with high-quality workmanship, reliability, high-quality materials and long service life. Their high stability and clever technical details meet the increased demands of day-to-day work with trailers. All products have extended functions and are nevertheless user-friendly and have an attractive design.

PREMIUM PROFI PRODUCT LINE

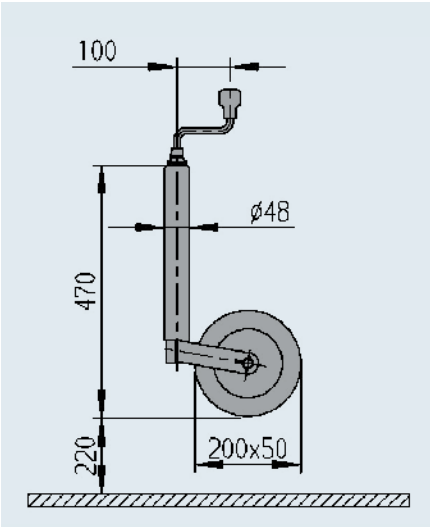
PREMIUM PROFI products are characterised by trail-blazing design, sophisticated functions and top quality. They are innovative and traditional products for the highest demands and challenging areas of application. They are the gold standard in terms of processing, material and design. Their longevity ensures that you will have many years of joy with these products.

COMPACT JOCKEY WHEELS

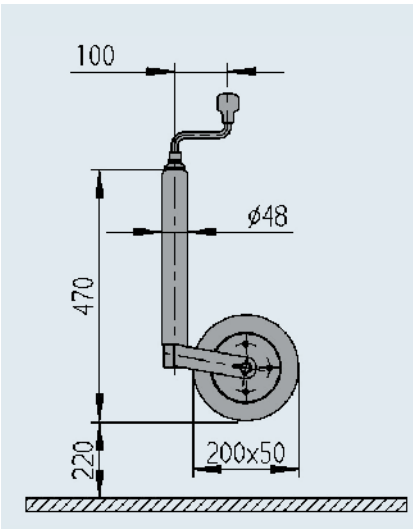
Ø 48 mm, max. 150 kg

YOUR ADVANTAGE

- **Standard corrosion protection**
  Galvanised, coat thickness 8 µm.
- **Short design**



SAP: STÜTZRAD48COM 150KG 200X50KS-FELGE	
Jockey wheel Compact	
Part No.	1222433
Stationary nose load	max. 150 kg
Nose load when manoeuvring	max. 90 kg
Rim	plastic
Wheel	200 x 50 solid rubber
Extended length	220 mm
	4.8 kg
	– 125 units



SAP: STÜTZRAD48COM 150KG 200X50ST-FELGE	
Jockey wheel Compact	
Part No.	1222434
Stationary nose load	max. 150 kg
Nose load when manoeuvring	max. 90 kg
Rim	steel
Wheel	200 x 50 solid rubber
Extended length	220 mm
	4.8 kg
	– 125 units

JOCKEY WHEEL WITH PINSTOP

Ø 48 mm, max. 150 kg

YOUR ADVANTAGE

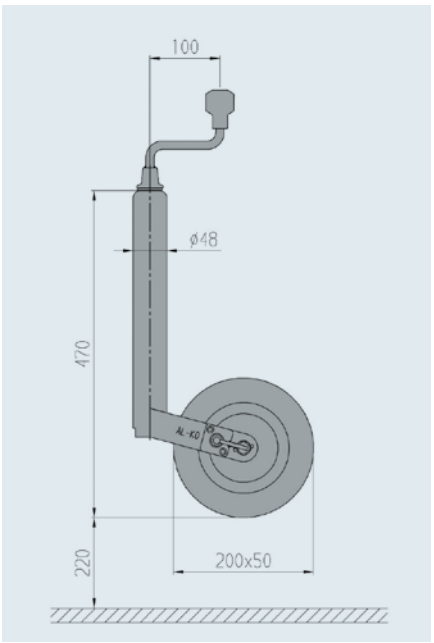
- The AL-KO PINSTOP is a parking assistance system for small unbraked and braked trailers on relatively even ground. The legislator only specifies 2 wheel chocks as of a gross weight of 750 kg.
- The effect depends on the nose load, ground composition and gross trailer weight. Therefore, we recommend always conducting a function check after you have activated the PINSTOP on your trailer.

ATTENTION!

The PINSTOP does not replace a handbrake or the obligation to secure trailers weighing over 750 kg with wheel chocks.

OPERATION

Move the PINSTOP by hand or with your foot to the corresponding position. When doing this, the locking pin is moved into the indentation in the rim by spring force, thereby stopping the wheel from turning and preventing the trailer from rolling away.



SAP: STÜTZRAD48COM AR150KG 200X50KS-FELG

Jockey wheel with PINSTOP

Part No.	1224351
Stationary nose load	max. 150 kg
Nose load when manoeuvring	max. 90 kg
Rim	plastic
Wheel	200 x 50 solid rubber
Extended length	220 mm
	4.8 kg
	– 50 units

PLUS JOCKEY WHEELS

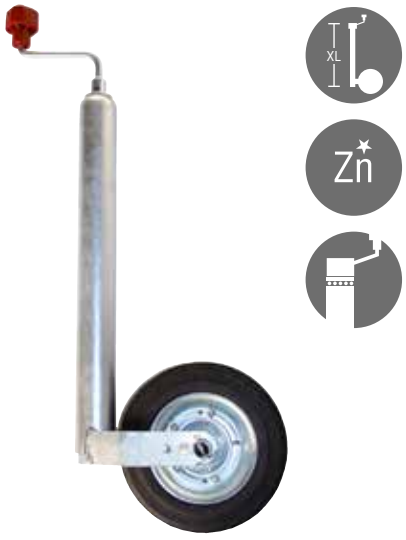
Ø 48 mm, max. 150 kg

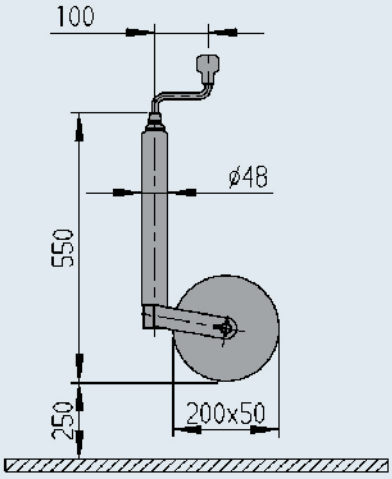
YOUR ADVANTAGE

High-quality corrosion protection
Hot-dip galvanisation with high coat thickness up to 70 µm. Abrasion of the zinc coat during height adjustment with the clamp is thus not critical. The structure of the zinc coating is flowery.

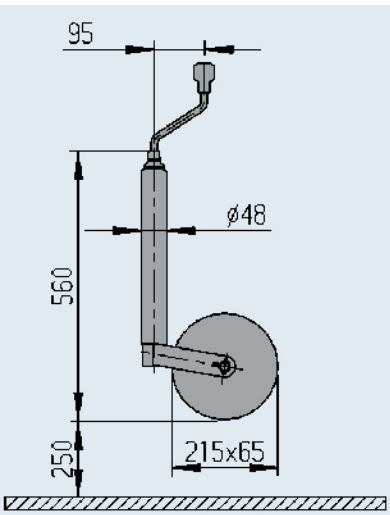
Extended version

Crank easy to turn
The built-in thrust bearing under the crank facilitates operation.





SAP: STÜTZRAD48PLUS 150KG 200X50ST-FELGE	
PLUS jockey wheel	
Part No.	1222436
Stationary nose load	max. 150 kg
Nose load when manoeuvring	max. 90 kg
Rim	steel
Wheel	200 x 50 solid rubber
Extended length	250 mm
	5.0 kg
	– 125 units



SAP: STÜTZRAD48PLUS 150KG 215X65SOFT-RAD	
PLUS jockey wheel	
Part No.	1222435
Stationary nose load	max. 150 kg
Nose load when manoeuvring	max. 90 kg
Rim	plastic
Wheel	215 x 65 soft rubber
Extended length	250 mm
	5.0 kg
	– 75 units

PLUS JOCKEY WHEELS

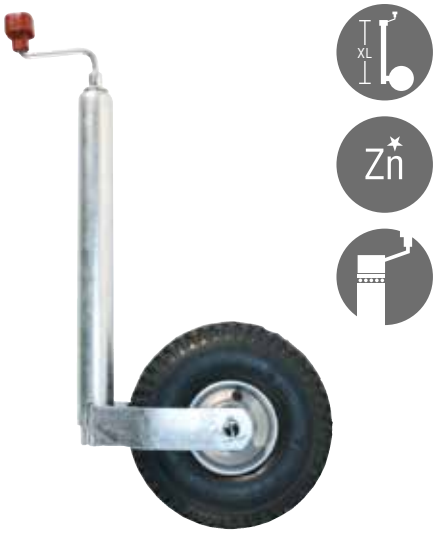
Ø 48 mm, max. 200 to 300 kg

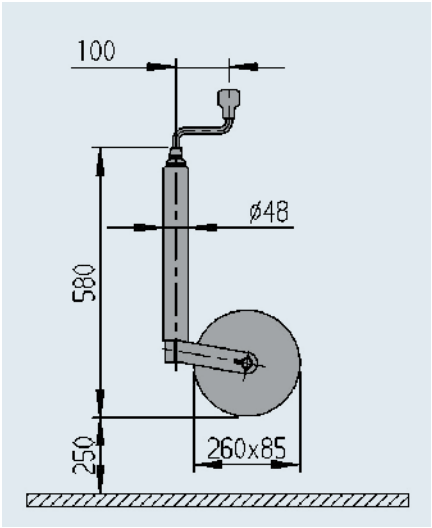
YOUR ADVANTAGE

High-quality corrosion protection
Hot-dip galvanisation with high coat thickness up to 70 µm. Abrasion of the zinc coat during height adjustment with the clamp is thus not critical. The structure of the zinc coating is flowery.

Extended version

Crank easy to turn
The built-in thrust bearing under the crank facilitates operation.

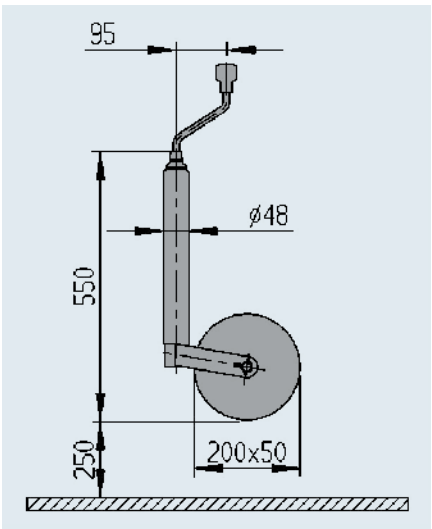




SAP: STÜTZRAD48PLUS 200KG 260X85LUFT-RAD

PLUS jockey wheel

Part No.	1222438
Stationary nose load	max. 200 kg
Nose load when manoeuvring	max. 120 kg
Rim	steel
Wheel	260 x 85, air
Extended length	250 mm
	5.0 kg
	– 70 units



SAP: STÜTZRAD48PLUS 300KG 200X50ST-FELGE

PLUS jockey wheel

Part No.	1222437
Stationary nose load	max. 300 kg
Nose load when manoeuvring	max. 180 kg
Rim	steel
Wheel	200 x 50 solid rubber
Extended length	250 mm
	7.0 kg
	– 70 units

JOCKEY WHEEL WITH ANTI-SLIP DEVICE

Ø 48 mm, max. 300 kg

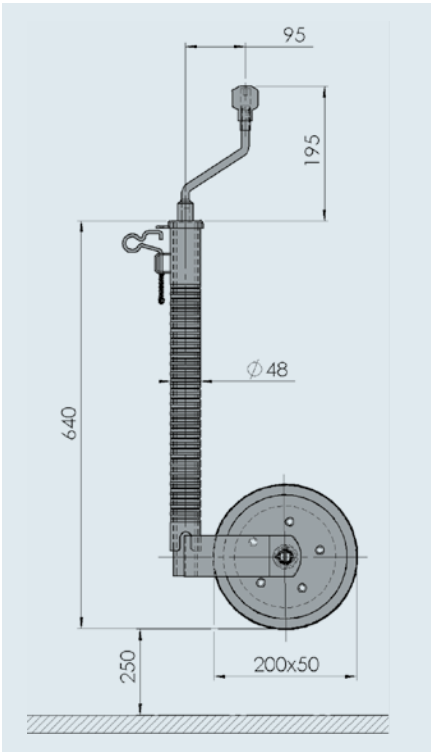
YOUR ADVANTAGE

Prevents the crank from shaking loose

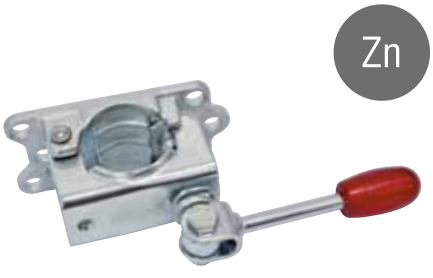
During towing, vibrations can move the crank. Consequently, it is possible that the inside tube with wheel could move downwards out of the outside tube. A wire bracket welded onto the outside tube can be hooked onto the crank in this jockey wheel, thereby preventing this extreme case.

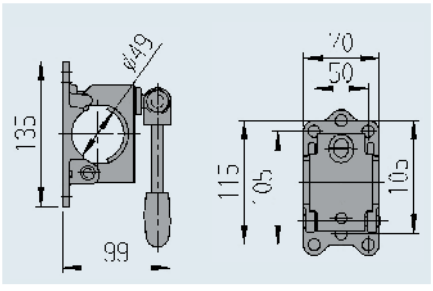
Prevents slipping

The outside tube of the jockey wheel has fluted indentations. The top part of the clamp of the new AE cast-iron Profi or the corresponding cast clamp have corresponding grooves. If the T-bar of the clamp is only tightened slightly, the jockey wheel cannot slip through; we refer to this as an **anti-slip device**. If the T-bar is not tightened at all, this anti-slip device will not function either.



SAP: STÜTZRAD48RILLE300KG 200X50ST-FELGE	
Jockey wheel Ø 48, 300 kg with anti-slip device	
Part No.	1223614
Stationary nose load	max. 300 kg
Nose load when manoeuvring	max. 180 kg
Rim	steel
Wheel	200 x 50 solid rubber
Extended length	250 mm
	8.0 kg
	– 70 units





SAP: KLEMMSCHELLE M RILLE KPL GUSS 48 VZ	
Clamp Ø 48 folding T-bar	
Part No.	249804
Stationary nose load	max. 300 kg
	1.0 kg
	– 155 units

Can also be used for jockey wheel with anti-slip device (part no. 1 223 614)

PREMIUM JOCKEY WHEEL

Ø 48 mm, max. 300 kg

PREMIUM PROFI

YOUR ADVANTAGE

1 Extremely stable design
(Stationary nose load max. 300 kg)

2 With integrated swing arm suspension
Unevenness in the ground (e.g. kerb stones) is cushioned by the suspension

3 With integrated wheel load indicator
I No separate balance necessary

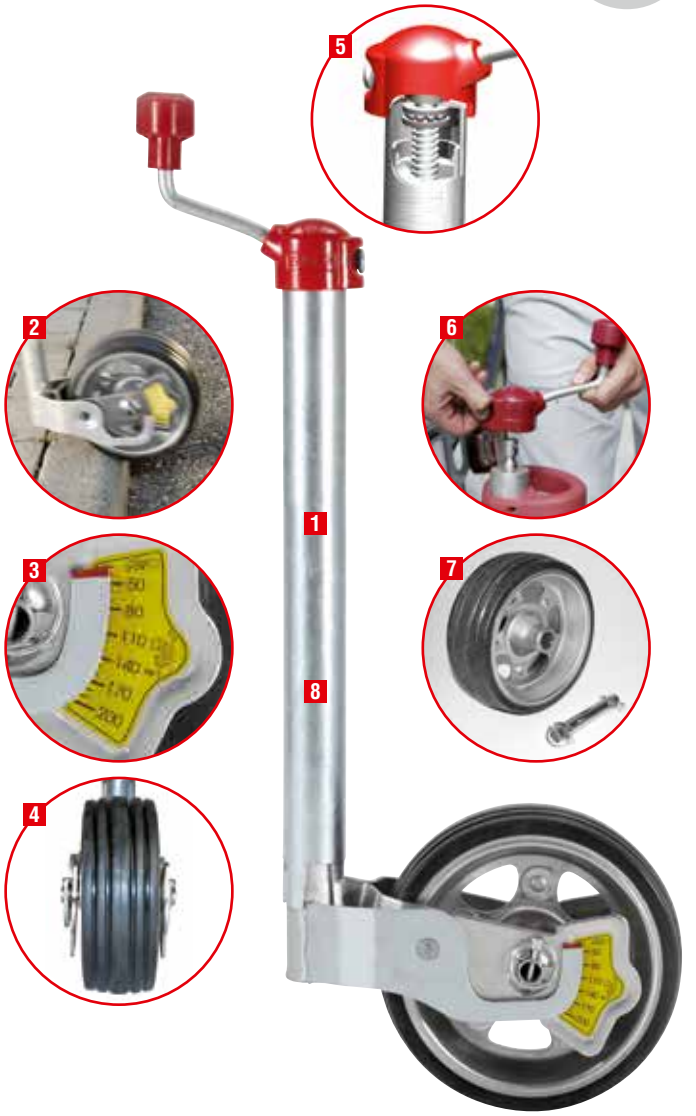
4 Wide, crowned wheel 230x80 mm with a modern design, easy to manoeuvre
I Small contact area on hard ground
I Large contact area on soft ground

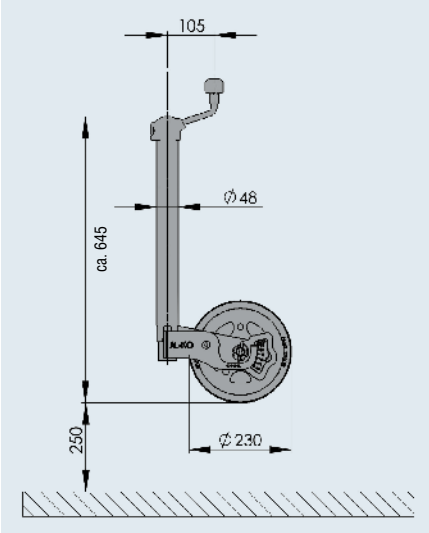
5 Crank easy to turn
The built-in thrust bearing under the crank facilitates operation.

6 Crank with ergonomic shape, removable

7 Wheel is removable

8 High-quality corrosion protection
Hot-dip galvanisation with high coat thickness up to 70 µm. Abrasion of the zinc coat during height adjustment with the clamp is thus not critical. The structure of the zinc coat is uneven (flowery)

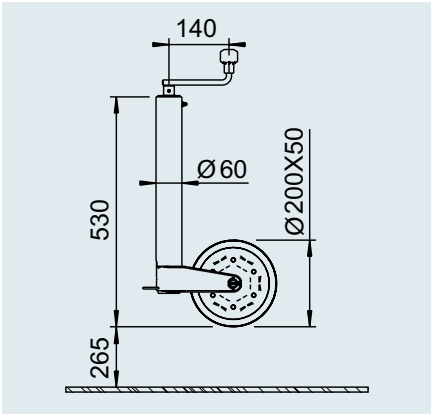




SAP: STÜTZRAD48PREM 300KG 230X80 LASTANZ	
Premium jockey wheel	
Part No.	1221695
Stationary nose load	max. 300 kg
Nose load when manoeuvring	max. 180 kg
Rim	steel
Wheel	230 x 80, solid rubber
Extended length	250 mm
	9.8 kg
	– 40 units

JOCKEY WHEEL

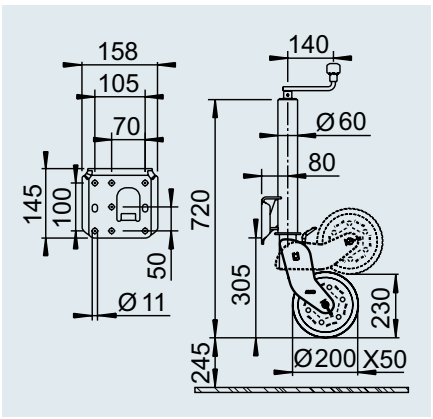
Ø 60 mm, max. 500 kg



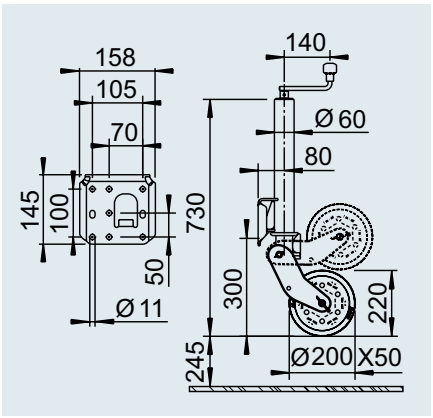
SAP: STUETZRAD SPNDL 500	
Jockey wheel, support shoe rigid	
Part No. (crank length 140 mm)	243888
Part No. (crank length 105 mm)	1730023
Stationary nose load	max. 500 kg
Nose load when manoeuvring	max. 300 kg
Rim	steel
Wheel	200 x 50 solid rubber
Extended length	265 mm
	8.0 kg
	– 75 units

JOCKEY WHEELS

Ø 60 mm, max. 500 kg



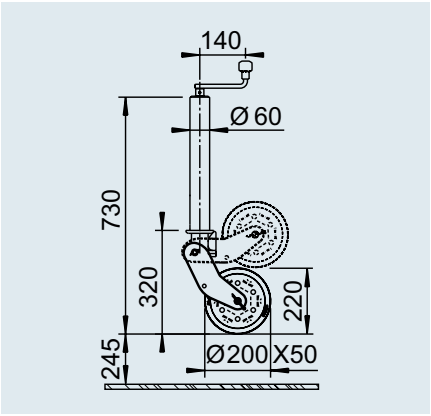
SAP: STUETZRAD SPNDL AUTOM 500 VERZINKT	
Jockey wheel, support shoe semi-automatic	
Part No.	242061
Stationary nose load	max. 500 kg
Nose load when manoeuvring	max. 300 kg
Rim	steel
Wheel	200 x 50 solid rubber
Extended length	245 mm
	10.0 kg
	– 60 units



SAP: STÜTZRAD SPNDL AUTOM 500KG FEUVZ830	
Jockey wheel, support shoe fully automatic	
Part No.	1212382
Stationary nose load	max. 500 kg
Nose load when manoeuvring	max. 300 kg
Rim	steel
Wheel	200 x 50 solid rubber
Extended length	245 mm
	9.8 kg
	– 50 units

JOCKEY WHEELS

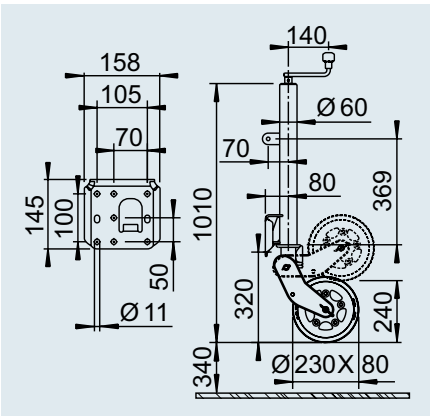
Ø 60 mm, max. 500 kg



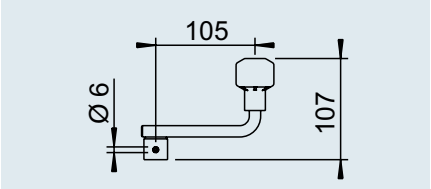
SAP: STÜTZRAD SPNDL AUTOM 500KG FEUVZ830	
Jockey wheel, support shoe fully automatic, without flange	
Part No.	1654777
Stationary nose load	max. 500 kg
Nose load when manoeuvring	max. 300 kg
Rim	steel
Wheel	200 x 50 solid rubber
Extended length	245 mm
	9.3 kg
	– 50 units

YOUR ADVANTAGE

- Long version for greater adjustment stroke
- Jockey wheel flange welded on low so there is greater swivel room for the support shoe when moving up
- Wide and crowned wheel 230 x 80 mm with very good manoeuvring properties and a modern design, small contact surface on hard ground, large contact surface on soft ground
- With grease nipple



SAP: STÜTZRAD SPNDL AUTOM 500KG FEUVZ	
Jockey wheel, fully automatic with flange, extended	
Part No.	1223638
Stationary nose load	max. 500 kg
Nose load when manoeuvring	max. 300 kg
Rim	steel
Wheel	230 x 80, solid rubber
Extended length	340 mm
	12.0 kg
	– 30 units



SAP: KURBEL KPL 105 LANG	
Loose crank	
Part No.	693555
Length	105 mm
	0.3 kg

JOCKEY WHEELS

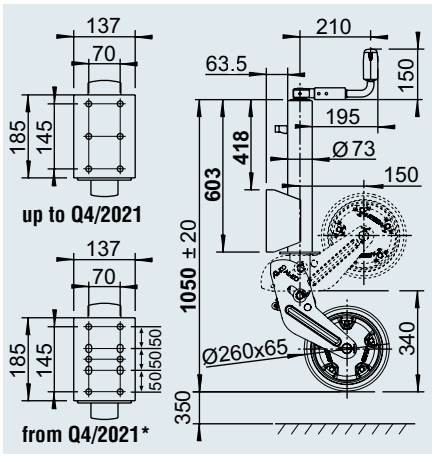
Ø 73 mm, max. 800 kg
for truck and agricultural trailers

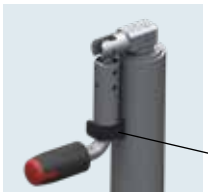
YOUR ADVANTAGE

- **Sturdy construction** due to thick-walled steel tubes, rolled spindles.
- **Wide wheel** made of rubber with a steel rim and plastic bearings.
- **Folding crank,** ergonomically shaped and protected from shaking loose.
- **Hot-dip galvanised** outer and inner tube, support shoe/rim galvanised and cataphoretically coated in black. Small parts/screws galvanised.

SAFETY

If the wheel is loaded when the supporting shoe is pivoted, the supporting shoe with wheel remains stationary. An uncontrollable and, for the operator, dangerous free swivelling in this intermediate position is thus impossible.

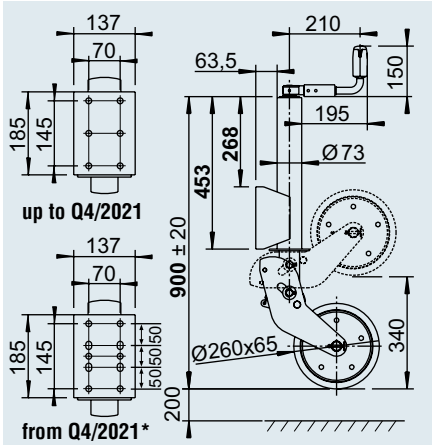




Strap on outer tube with shrink-on sleeve (dampens noises and vibrations)

SAP: STÜTZRAD SPNDL AUTOM 800 L1050	
Jockey wheel, fully autom. support shoe, extended	
Part No.	1657239
Stationary* nose load	max. 800 kg
Nose load when manoeuvring	max. 480 kg
Rim	steel
Wheel	260 x 65, solid rubber
Extended length	350 mm
	22.5 kg
	– 30 units

*When using a 50 x 70 hole pattern only a max. nose load (stationary) of 500 kg is possible.

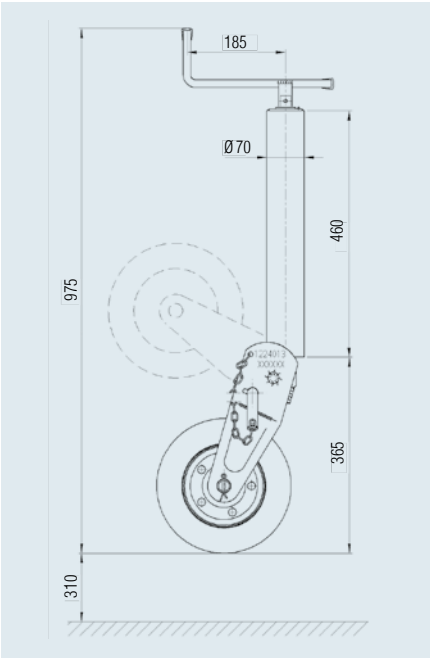


SAP: STÜTZRAD SPNDL AUTOM 800	
Jockey wheel, fully autom. support shoe	
Part No.	1366155
Stationary* nose load	max. 800 kg
Nose load when manoeuvring	max. 480 kg
Rim	steel
Wheel	260 x 65, solid rubber
Extended length	200 mm
	21.2 kg
	– 30 units

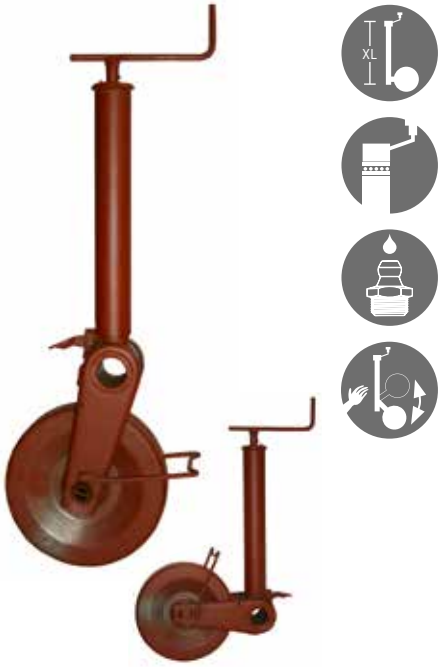
*When using a 50 x 70 hole pattern only a max. nose load (stationary) of 500 kg is possible.

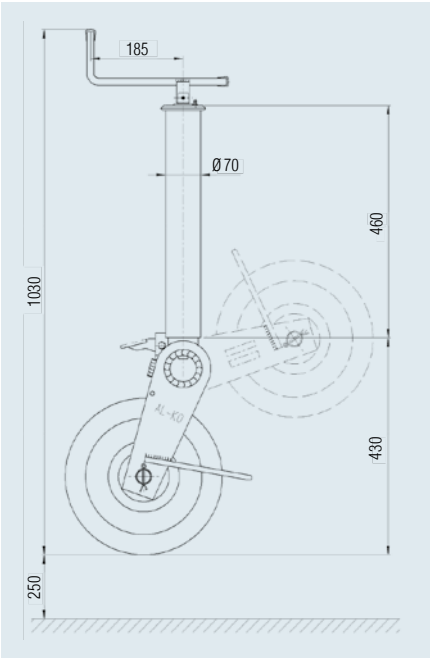
JOCKEY WHEELS

Ø 70 mm, max. 1,200 to 1,500 kg
for truck and agricultural trailers



SAP: STUETZRAD SPNDL AUTOM 1200	
Jockey wheel, support shoe semi-automatic	
Part No.	1224013
Stationary nose load	max. 1,200 kg
Nose load when manoeuvring	max. 720 kg
Surface treatment	primed
Rim	steel
Wheel	250 x 80, solid rubber
Extended length	310 mm
	17.7 kg
	– 25 units



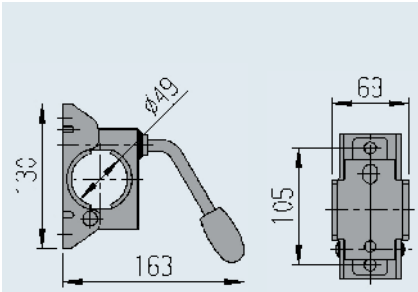


SAP: STUETZRAD SPNDL AUTOM 1500	
Jockey wheel, support shoe semi-automatic	
Part No.	1224012
Stationary nose load	max. 1,500 kg
Nose load when manoeuvring	max. 900 kg
Surface treatment	primed
Rim	steel
Wheel	310 x 90, steel
Extended length	250 mm
	25.0 kg
	– 20 units

ACCESSORIES FOR JOCKEY WHEELS

Clamps, Ø 48 to 60 mm

Zn

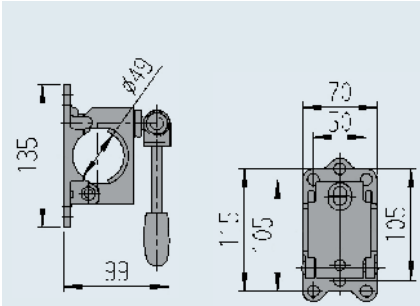


SAP: KLEMMSCHELLE F ROHR 48 VZ MONT WH

Clamp Ø 48, rigid T-bar

Part No. (mounted)	20531810
Part No. (loose)	205318
Stationary nose load	max. 200 kg
	0.8 kg
	– 300 units

Zn

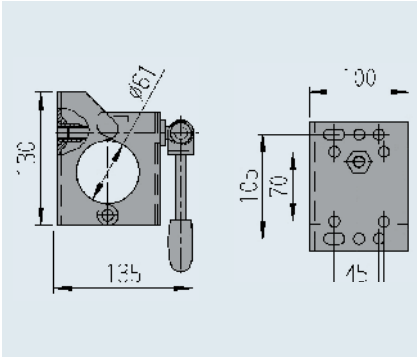


SAP: KLEMMSCHELLE M RILLE KPL GUSS 48 VZ

Clamp Ø 48, folding T-bar

Part No.	249804
Stationary nose load	max. 300 kg
	1.0 kg
	– 125 units

Zn



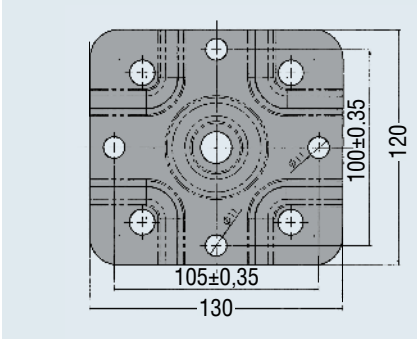
SAP: KLEMMSCHELLE KPL 60

Clamp Ø 60, folding T-bar

Part No.	249859
Stationary nose load	max. 500 kg
	2.0 kg
	– 125 units

Zn

Jockey wheel can be swivelled 90° parallel to the drawbar



SAP: SCHWENKKOPF KPL MONT

Clamp Ø 48, pivoting

Part No.	1335092
Stationary nose load	max. 300 kg
	2.42 kg
	– 50 units

8

ACCESSORIES FOR JOCKEY WHEELS

Manoeuvring handle, Ø 48 mm

YOUR ADVANTAGE

Manoeuvring aid

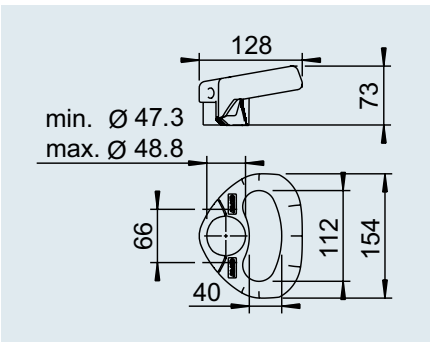
The sturdy handle is the ideal aid when manoeuvring caravans and car trailers of all kinds. Can be retrofitted to jockey wheels with Ø 48 mm outside tube.

Protection

The manoeuvring handle also prevents loss of the jockey wheel when driving if a locking bar has not been tightened properly.

SCOPE OF SUPPLY

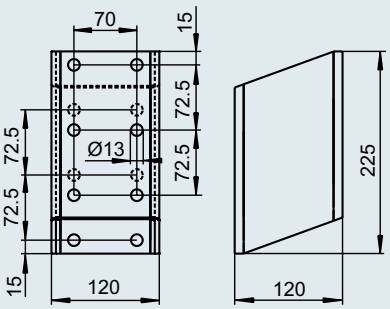
Manoeuvring handle including fastening material and mounting instructions, packaged



SAP: RANGIERGRIFF STÜTZRAD48 VE-1 STÜCK	
Manoeuvring handle for jockey wheels Ø 48	
Part No. (individual)	1210182
Part No. (PU)	1210867
Surface treatment	Plastic, red RAL 3000
	0.2 kg
	– 20 units

ACCESSORIES FOR JOCKEY WHEELS

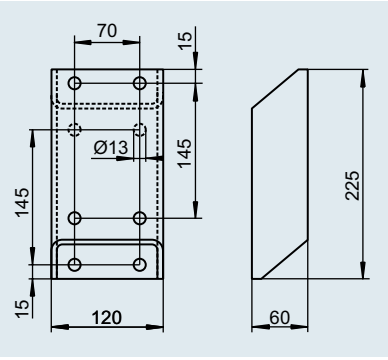
Spacer / jockey wheel flange



SAP: DISTANZ STÜTZRADHALTER

Spacer for jockey wheel carrier

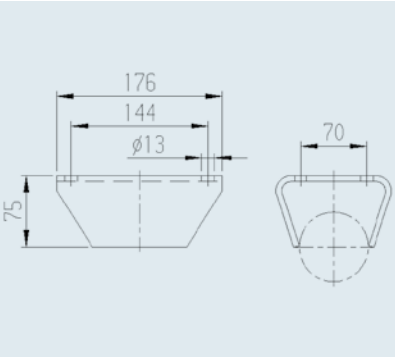
Part No.	1362106
	3.0 kg
	1 unit –



SAP: DISTANZ STÜTZRADHALTER FEUVZ

Spacer for jockey wheel carrier

Part No.	1336503
	2.0 kg
	1 unit –



SAP: FLANSCH STUETZRAD 70 D

Jockey wheel flange Ø 70

Part No.	1224014
Stationary nose load	max. 1,500 kg
Nose load when manoeuvring	max. 900 kg
	1.7 kg
	– 100 units

8

9. STEADY LEGS AND CORNER STEADIES

STEADY LEGS AND CORNER STEADIES

Product differentiation 392

Steady legs

Steady legs, rigid 393

Steady legs, spindle 394

Steady legs, pivoting 395

Corner steadies

Corner steadies, mechanical 396 – 400

Accessories 401 – 405

The electronic support system 406 – 407

STEADY LEGS AND CORNER STEADIES
Product differentiation

Steadies are used in diverse areas

The extensive range of anti-theft devices are designed for a diverse selection of applications. To make the choice easier, the following symbols specify the product group, additional uses and product features.

Long design
More adjustment range

Galvanised
Standard corrosion protection

Hot-dip galvanised
High-quality corrosion protection

Push-on crank
Operation with hexagon

Top crank
Operation with top crank

Side crank
Operation with side crank

Pivoting
Pivoting to save space

Electrically pivoting
via radio remote control

Height adjustment
Additional height adjustment possible by hand by plug-in system

BASIC PRODUCT LINE

The **BASIC** products are entirely solid and robust. They are characterised by very good processing properties for the respective area of use, and are essential in day-to-day trailer use, as they fulfil the basic needs of the trailer users. We ensure that these Basic variants also meet our high quality standards and exceed the legal minimum requirements.

PLUS PRODUCT LINE

The products from the **PLUS** category impress with high-quality workmanship, reliability, high-quality materials and long service life. Their high stability and clever technical details meet the increased demands of day-to-day work with trailers. All products have extended functions and are nevertheless user-friendly and have an attractive design.

PREMIUM PROFI PRODUCT LINE

PREMIUM PROFI products are characterised by trail-blazing design, sophisticated functions and top quality. They are innovative and traditional products for the highest demands and challenging areas of application. They are the gold standard in terms of processing, material and design. Their longevity ensures that you will have many years of joy with these products.

STEADY LEGS, RIGID

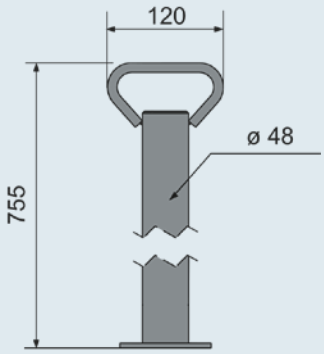
max. 200 – 400 kg

YOUR ADVANTAGE

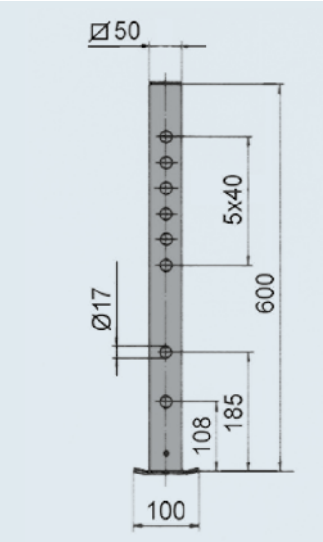
- Wherever anything needs to be lifted, secured or stabilised, AL-KO support legs have successfully delivered the solution for more than 50 years.
- AL-KO support legs have proven their effectiveness hundreds of thousands of times over. Thick-walled steel tubes mean we achieve an extremely sturdy and functionally reliable design.
- These steadies can also be used in a variety of applications to improve stability, e.g. on hydraulic ramps, forest cabins, compressors, standby generators, car trailers and horse boxes.

SCOPE OF SUPPLY

- Loose steady leg



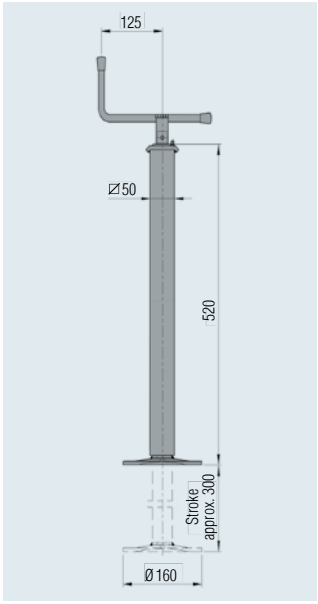
SAP: STUETZE GKLMT STARR 200 FEUVZ	
Rigid steady leg Ø 48	
Part No.	205617
Stationary nose load	max. 200 kg
	4.0 kg
	– 200 units



SAP: STUETZE ARRET STARR 400	
Rigid steady leg ⍁ 50	
Part No.	205702
Stationary nose load	max. 400 kg
	3.0 kg
	– 150 units

STEADY LEGS, SPINDLE

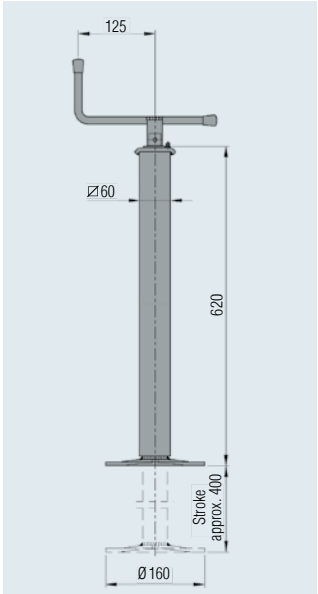
max. 400 – 800 kg



SAP: STUETZE SPNDL 500

Steady leg, spindle ⍁ 50

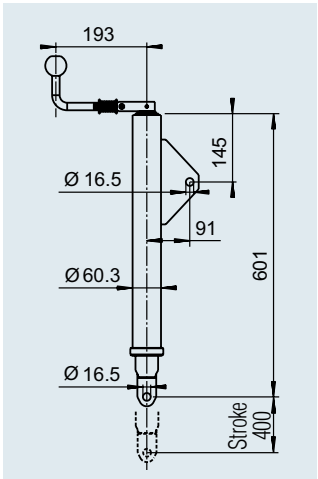
Part No.	1224015
Stationary nose load	max. 500 kg
Surface treatment	primed
	6.5 kg
	– 100 units



SAP: STUETZE SPNDL 800

Steady leg, spindle ⍁ 60

Part No.	1224016
Stationary nose load	max. 800 kg
Surface treatment	primed
	9.1 kg
	– 80 units



SAP: SCHURRENSTUETZE HANDGRIFF KLAPP

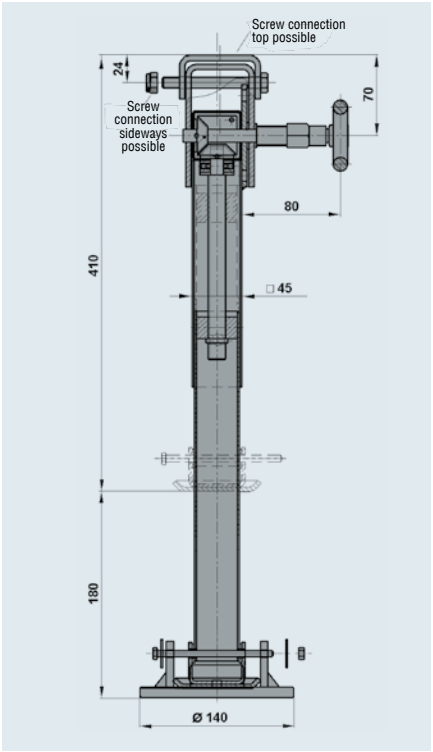
Chute support Ø 60.3

For supporting chutes on concrete mixer vehicles

Part No.	205807
Stationary nose load	max. 400 kg
Surface treatment	Black primed, powder-coated
	8.0 kg
	– 50 units

STEADY LEGS, PIVOTING

max. 500 kg



SAP: STÜTZFUSS SCHWENK 410/590 500KG

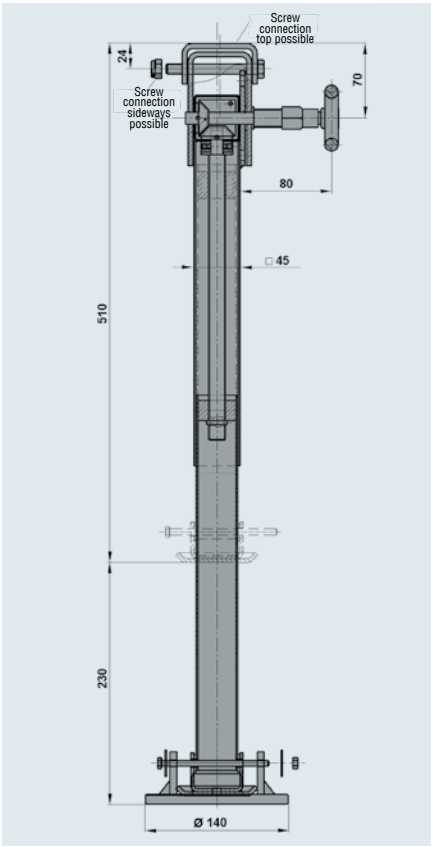
Steady leg, spindle ⍁ 45, pivoting sideways (steps of 6 x 30°)

Part No.	1224068
Stationary nose load	max. 500 kg
	5.0 kg
	– –

RANGE OF APPLICATIONS

High-loader bottom installation:
Necessary ground clearance 450 – 500 mm

Low-loader outside on the side:
With two M10 bolts (hole distance 80 mm) screwed on at either the side or top



SAP: STÜTZFUSS SCHWENK 510/740 500KG

Steady leg, spindle ⍁ 45, pivoting sideways (steps of 6 x 30°)

Part No.	1224069
Stationary nose load	max. 500 kg
	5.4 kg
	– –

RANGE OF APPLICATIONS

High-loader bottom installation:
Necessary ground clearance 550 – 650 mm

Low-loader outside on the side:
With two M10 bolts (hole distance 80 mm) screwed on at either the side or top

CORNER STEADIES, MECHANICAL

Advantages / fitting / operation

YOUR ADVANTAGE

Easy to install
Mounting brackets provided on the chassis enable quick and easy mounting of the AL-KO corner steadies. One end is plugged in, the other end is attached to the caravan floor using two bolts.

Stable
AL-KO corner steadies are particularly stable
because they are pressed sections with side bracings and strong, rolled trapezoidal threaded spindles.

High-quality corrosion protection
The hot-dip galvanisation with high coat thickness of up to 70 µm means that the corner steadies are virtually indestructible.

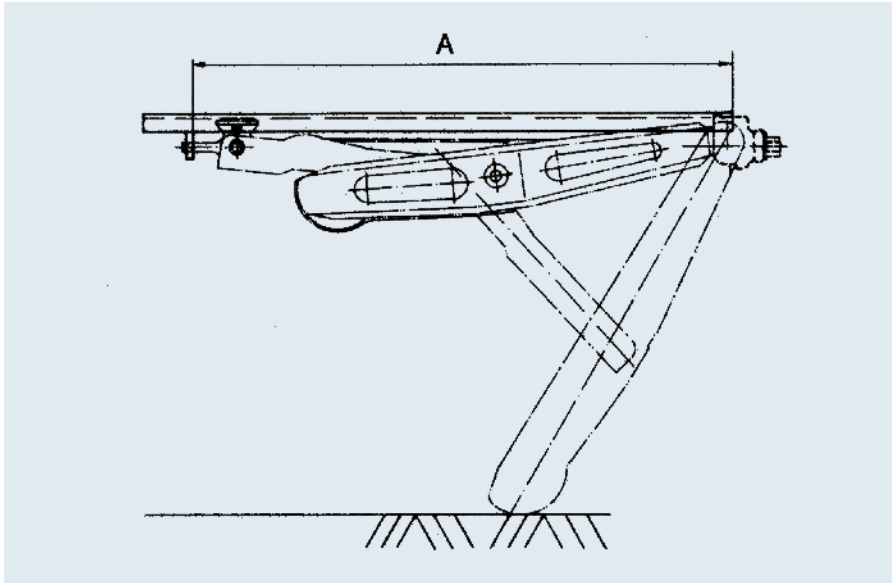
MOUNTING

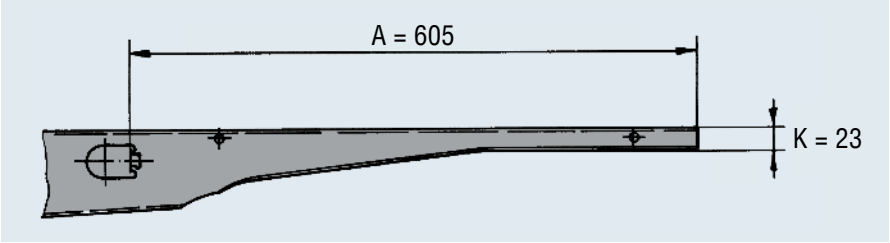
Retrofitting on other chassis:
The AL-KO Stabilform steady can also be retrofitted to other chassis.
Please talk to your specialist workshop or call us so we can clarify your specific installation conditions and handle the mounting for you if necessary. Depending on the installation situation, special mounting rails, part no. 294370 per unit, or holding links, part no. 365100 per unit, can be used for this application.

AL-KO Stabilform or Premium corner steadies can be retrofitted on all caravans with AL-KO chassis.

To make sure, however, the installation conditions stated below must be checked on your trailer.

1. Check mounting dimension A as shown in the diagram. If the dimension is 605 mm, the Stabilform steady will fit. With dimension A 505 mm, it **cannot** be retrofitted.
2. Check extension height dimension K as shown in the diagram. If the dimension is 23 mm, the Stabilform steady will fit. With dimension K 30, it **cannot** be retrofitted.





RETROFITTING

on the AL-KO system chassis:
To ensure a secure stance even in extreme situations, we recommend retrofitting the Premium steadies, thus increasing the load capacity by 25%.

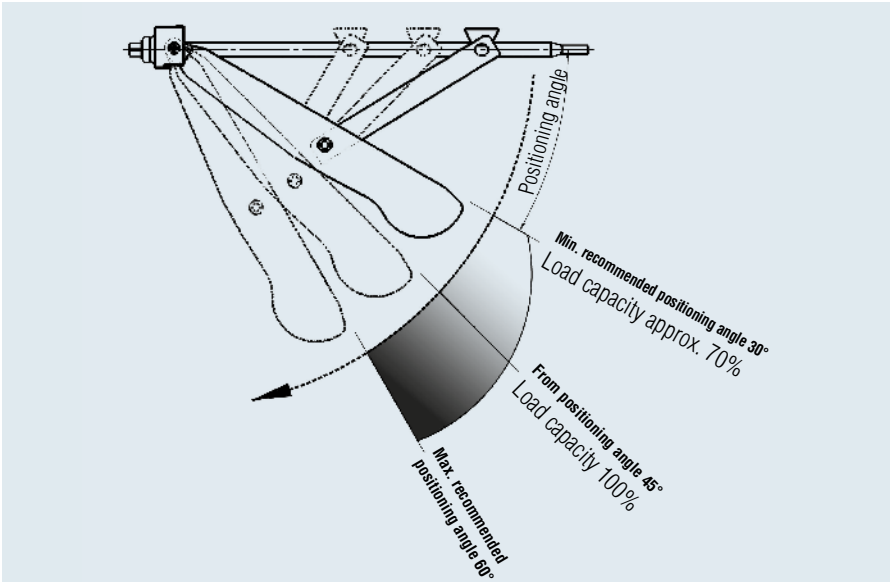
Operation

The steady is wound up or down easily using a push-on crank (without additional locking or releasing).

Generally speaking, steadies are only provided for supporting the trailer. They must not be used as a jack for changing tyres, etc.

The threaded spindle must be cleaned and greased regularly.

AL-KO corner steadies achieve their maximum load capacity from a positioning angle of 45° onwards. If the corner steady is positioned at a very flat angle (e.g. 30°), the load capacity will be reduced *(see diagram)*.



CORNER STEADIES

with folding foot, max. 600 kg

YOUR ADVANTAGE

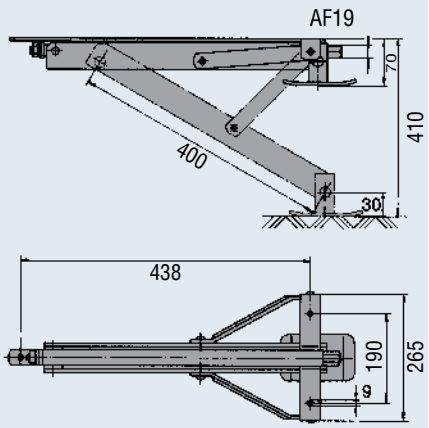
Mounting brackets provided on the chassis enable quick and easy mounting of the AL-KO corner steadies. One end is plugged in, the other end is attached to the caravan floor using two bolts.

SURFACE TREATMENT

Galvanised

MOUNTING

The extendable corner steadies should be mounted towards the rear and the outside as far as possible. This increases the stability of your trailer. We recommend bolting the extendable corner steadies onto the frame. If mounting on a sandwich floor (wooden floor) – without storage space – it is essential to make sure that the screw connection passes through solid wood. The bolt head must be provided with a large washer Ø 50 x 4mm (plate).
The best stability can be achieved if the 4 extendable corner steadies are fitted at an angle of about 30-45°.

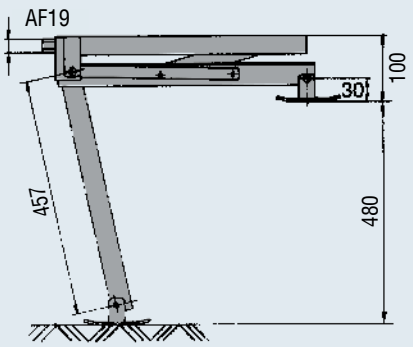


SAP: STÜTZE SPNDL KLAPP 500	
Steady with folding foot load capacity 800 kg	
Part No.	205712
Stationary nose load	max. 500 kg
Perm. gross weight* of the trailer (recommendation)	max. 1,000 kg
	3.0 kg
	– 150 units

Zn

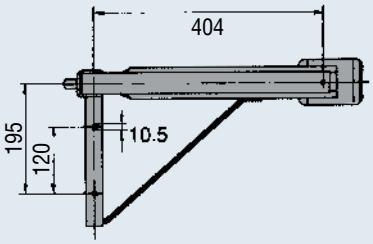
For front right and rear left

Part No. 205 713 + 205 714



SAP: STÜTZE SPNDL KLAPP 600	
Steady with folding foot load capacity 800 kg	
Part No.	205713
Stationary nose load	max. 600 kg
Perm. gross weight* of the trailer (recommendation)	max. 1,200 kg
	4.5 kg
	– 80 units

For front left and rear right



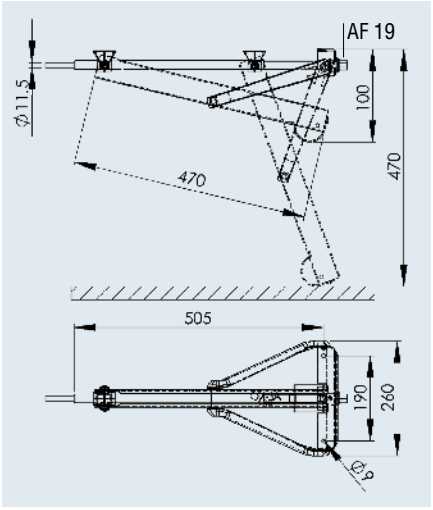
SAP: STÜTZE SPNDL KLAPP 600	
Steady with folding foot load capacity 800 kg	
Part No.	205714
Stationary nose load	max. 600 kg
Perm. gross weight* of the trailer (recommendation)	max. 1,200 kg
	4.5 kg
	– 80 units

Zn

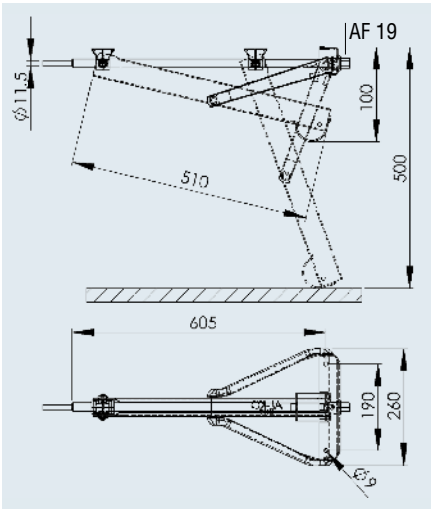
*The permitted gross weight assumes that 4 steadies are used

CORNER STEADIES

max. 800 kg



SAP: STÜTZE SPNDL KLAPP 800	
Corner steady 800 kg short	
Part No.	205808
Stationary nose load	max. 800 kg
Perm. gross weight* of the trailer (recommendation)	max. 1,600 kg
	3.4 kg
	– 100 units



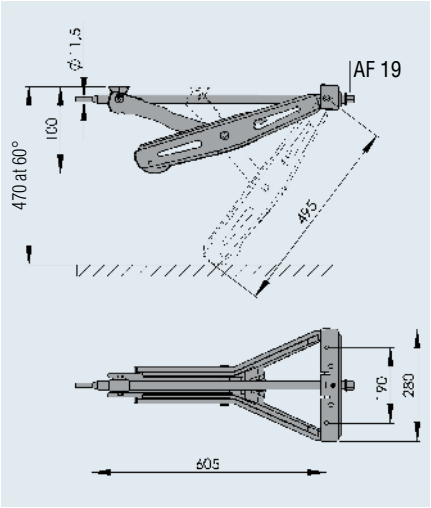
SAP: STÜTZE SPNDL KLAPP 800	
Corner steady 800 kg long	
Part No.	205817
Stationary nose load	max. 800 kg
Perm. gross weight* of the trailer (recommendation)	max. 1,600 kg
	4.2 kg
	– 100 units

9

*The permitted gross weight assumes that 4 steadies are used

CORNER STEADIES

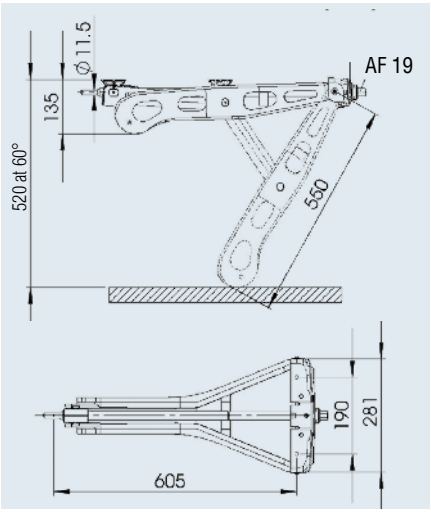
max. 1,000 kg



SAP: STUETZE SPNDL - LEICHTBAU STECKBAR	
Corner steady 1,000 kg short	
Part No.	267265
Stationary nose load	max. 1,000 kg
Perm. gross weight* of the trailer (recommendation)	max. 2,000 kg
	4.2 kg
	– 70 units

CORNER STEADIES

max. 1,250 kg



SAP: STUETZE SPNDL - LEICHTBAU PREMIUM	
Premium corner steadies 1,250 kg long	
Part No.	1221694
Stationary nose load	max. 1,250 kg
Perm. gross weight* of the trailer (recommendation)	max. 2,500 kg
	4.95 kg
	– 50 units

ACCESSORIES FOR CORNER STEADIES

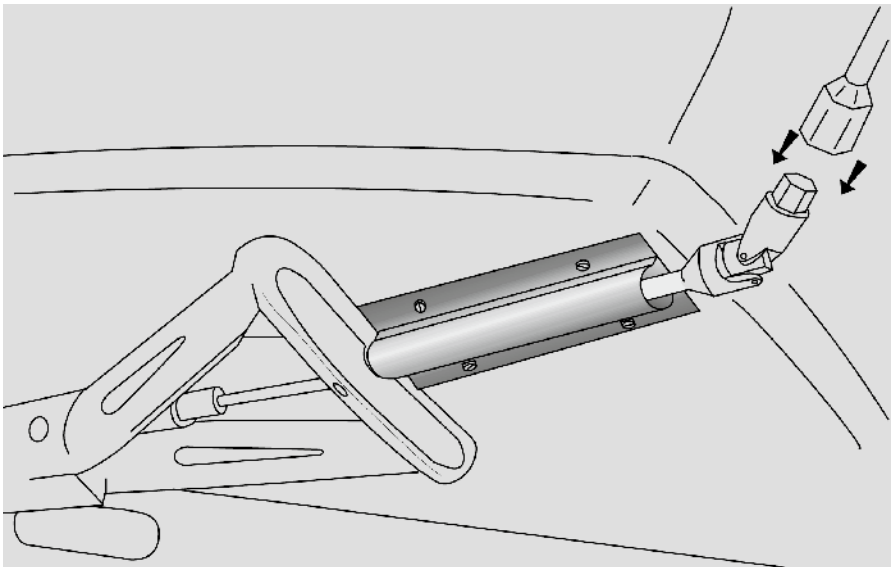
Comfort Kit

YOUR ADVANTAGE

- On request as standard equipment or can be retrofitted to caravans with AL-KO chassis.
- **No bending down**
  The AL-KO Comfort Kit makes it possible to operate the steadies whilst standing upright, using a universal joint.
- **No kneeling down**
  The universal joint holder, i.e. the plastic guide tube, is clearly visible. No need to kneel down to search for the hexagonal mount, no need to kneel down when operating the steadies using the crank.

MOUNTING

The mounting area for the plastic section on the ground must be free, i.e. without any cables or other components. On vehicles with a skirt, a hole must be provided in the skirt. The 4 plastic sections are sawn off to the required length, and then secured to the floor using wood screws in order to guide the crank.



SCOPE OF SUPPLY

- 2 plastic sections, 400 mm long
- 2 plastic sections, 200 mm long
- 1 universal joint, long
- 1 universal joint, short
- 1 x installation manual

SAP: KOMFORTKIT STÜTZE	
Comfort Kit	
Part No.	1210506
Suitable for	All extendable corner steadies with hexagon AF 19
	2.3 kg
	– 100 units

ACCESSORIES FOR CORNER STEADIES

big foot™ support

YOUR ADVANTAGE

Secure stance
With the large standing area (200x180 mm) and cross ribs, the AL-KO big foot™ prevents the steadies from sliding away or sinking in, ensuring that the caravan will stand in an absolutely secure position. The support has a load capacity of maximum 1,250 kg static.

Functional
The long slot allows the steady to slide directly onto the AL-KO big foot™ when it makes contact with the ground; this means the steady does not have to push the support foot as well.

Low space requirement
During towing, the AL-KO big foot™ is held positively against the steady by spring force.

Can be retrofitted to caravans with AL-KO chassis and Stabilform steady.

Retracted

Engaged on flat

Engaged on slope

SCOPE OF SUPPLY

Packed in a cardboard box with the following content:

4 x AL-KO big foot™ with
- Fastening spindles
- Thread washers
- Springs and nuts
- 1 set of mounting and operating manuals

MOUNTING

The big foot™ is mounted on the AL-KO "Stabilform" and "Premium" corner steadies. From production date 2001 the corresponding mounting holes are already provided on the Stabilform steadies.

Up to production date 2000, the mounting holes must be drilled according to the operating instructions.

EU patent
EP 1174 317 B1

SAP: BIG-FOOT KPL IM KARTON	
big foot™ support	
Part No. (content 4 units)	1212458
Suitable for	Stabilform steadies and Premium corner steadies
Surface treatment	Plastic PA grey
	2.5 kg per set
	– 48 units (cardboard box)

ACCESSORIES FOR CORNER STEADIES

Adapter for big foot™ support

YOUR ADVANTAGE

Additional 45 mm height for the AL-KO Stabilform and Premium corner steadies.

SCOPE OF SUPPLY

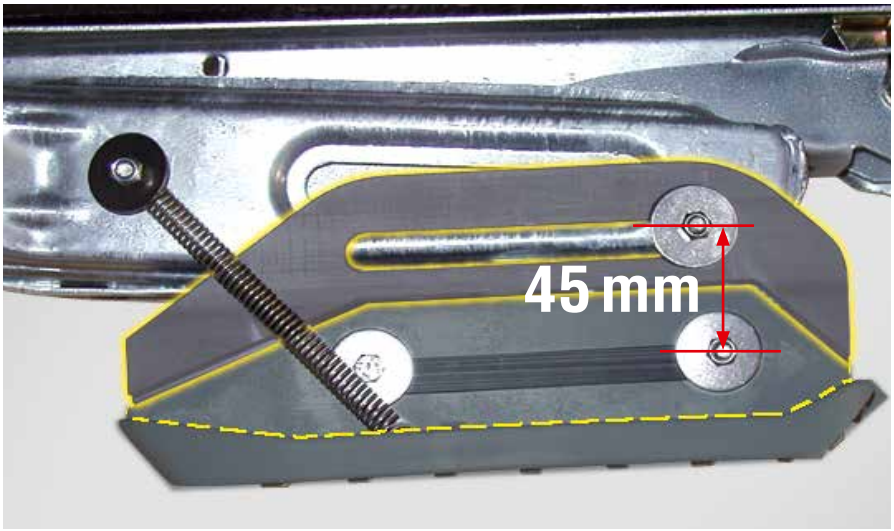
Packed in a cardboard box with the following content:

- 4 adapters 45 mm
- 4 sets of fastening material on the steady
- 1 x installation manual

MOUNTING

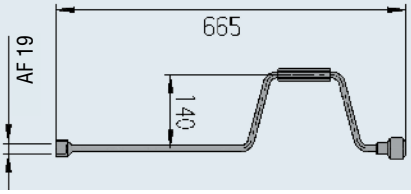
The adapter means the AL-KO big foot™ is moved 45 mm closer to the ground.
To prevent the AL-KO big foot™ from making contact with the ground, the specific vehicle must be inspected to ensure there is still sufficient ground clearance.

From production date 2001 onwards, the corresponding mounting holes are already provided on AL-KO Stabilform steadies and AL-KO Premium corner steadies. Up to production date 2000, the mounting holes must be drilled according to the operating instructions.



SAP: BIG-FOOT ADAPTER KPL IM KARTON	
Adapter 45 mm for AL-KO big foot™	
Part No. (content 4 units)	1213899
Suitable for	Stabilform steadies and Premium corner steadies
Surface treatment	Plastic PA grey
	2.5 kg per set
	– 48 units (cardboard box)

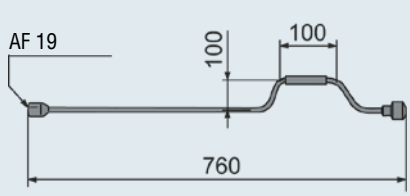
ACCESSORIES FOR CORNER STEADIES



SAP: KURBEL KPL 140X 665X12 SW19 ZN12A

Extending crank, 665 mm

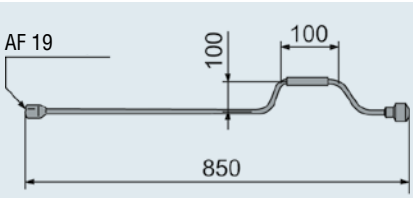
Part No.	205520
	1.0 kg
	– –



SAP: KURBEL KPL 100X 760X10 SW19 ZN12A

Extending crank, 760 mm

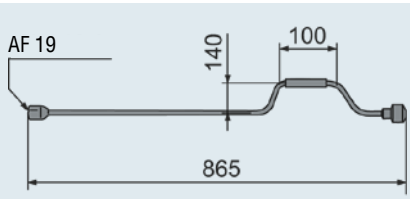
Part No.	1213048
	1.0 kg
	– –



SAP: KURBEL KPL 100X 850X10 SW19 ZN12A

Extending crank, 850 mm

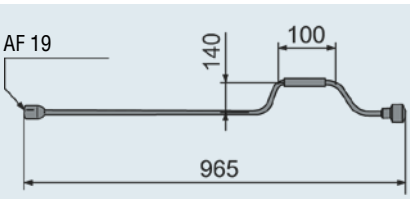
Part No.	1213049
	1.0 kg
	– –



SAP: KURBEL KPL 140X 865X12 SW19 ZN12A

Extending crank, 865 mm

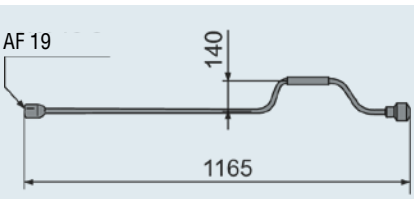
Part No.	267363
	1.0 kg
	– –



SAP: KURBEL KPL 140X 965X12SW19 ZN12A

Extending crank, 965 mm

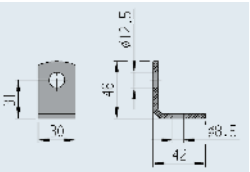
Part No.	1221457
	1.0 kg
	– –



SAP: KURBEL KPL 140X1165X12SW19 ZN12A

Extending crank, 1,165 mm

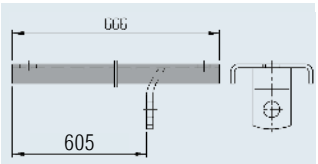
Part No.	1224784
	1.0 kg
	– –



SAP: WINKEL FEUVZ

Holding link for screwing on

Part No.	365100
	0.05 kg



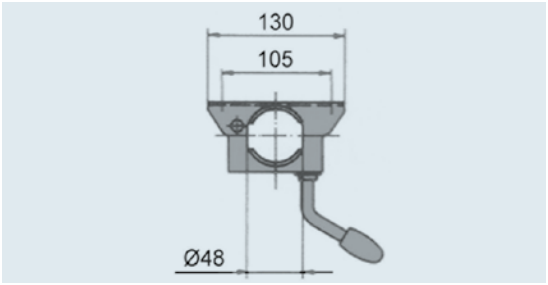
SAP: MONTAGESCHIENE VZ LANG

Mounting rail

Part No.	294370
	0.5 kg

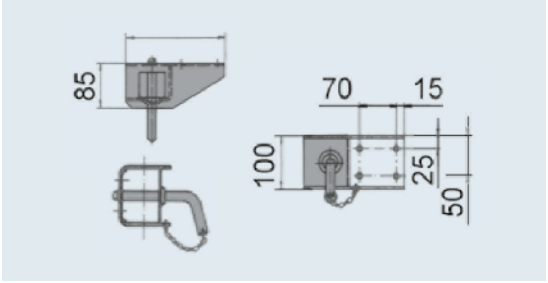
ACCESSORIES FOR CORNER STEADIES
Clamps

Zn



SAP: KLEMMSCHELLE F ROHR 48 VZ MONT WH	
Clamp Ø 48 rigid T-Bar	
Part No.	20531810
Stationary nose load	max. 200 kg
	0.8 kg
	– 300 units

Zn



SAP: STECKTEIL KPL	
Clamp ⍁ 50	
Part No.	205701
Stationary nose load	max. 400 kg
	2.0 kg
	– 300 units

9

ELECTRONIC CORNER STEADY SYSTEM

UP4

DEVELOPED FOR CAMPING TODAY

With UP4 from AL-KO, you raise the legs of your caravan and adjust them precisely by remote control. It was never so quick, easy and safe.
UP4 is more than just a further technical accessory.
It upgrades your holiday because you spare your back and nerves and can start to relax as soon as you arrive at the camp site. Your neighbours will envy you!

One step faster
No matter how fast you can crank: The UP4 electronic support system does it faster. And more conveniently.

One step more comfortable
Lower and adjust the steadies simply by remote control. Spares your back. And your nerves.

One step more stable
With UP4, you compensate unevenness electrically and the big foot™ is already included. For secure positioning and greater stability whatever the ground.

One step more intelligent
Combine the UP4 with the RANGER: Elegant parking and manoeuvring in future with just one remote control.

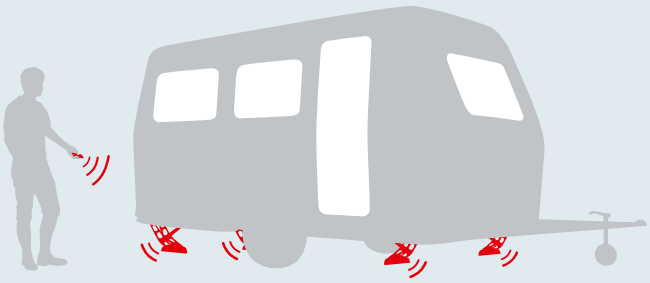
AN EVOLUTIONARY STEP AHEAD

UP4, the new electronic support system for caravans up to 2.5 t is carefully designed right down to the last detail. And the best of all: UP4 can be retrofitted on your AL-KO CHASSIS at any time.

COMBINATION REMOTE CONTROL FOR UP4 AND RANGER

SAP: ELEKTRISCHES STÜTZENSYSTEM ESS1	
UP4	
Part No.	1731376
Power supply	12 V DC
Average current consumption	6 amps
Maximum current consumption	24 amps
Support power source (battery)	12 V, 20 Ah (min.)
Remote control power source (battery)	PP3 9V
Remote control transmitter frequency	868 MHz
Min. permitted gross weight of the caravan	800 kg
Max. permitted gross weight of the caravan	2,500 kg
Additional weight	Approx. 17.5 kg System weight approx. 40 kg (without battery)
	– –

One step safer!
Extended at just the push of a button and thus ideally protected against theft. A special adapter prevents unauthorised manual resetting.



10. MUDGUARDS

MUDGUARDS

Product differentiation 410 – 411

Mudguard BASIC
Single axle trailer 412 – 414
High-loader 415
Tandem 416 – 417

Mudguard PLUS
Single axle trailer 418 – 420
High-loader 421
Tandem 422 – 423

Accessories
Splash guard 424
Support step 425

MUDGUARDS

Product differentiation

Support step, load capacity 90 kg
Material PA GF30 (polyamide with 30% glass fibres).
To reach heights ergonomically with ease,
a support step is additionally available; this can also be
mounted rotated 180° on the side wall
or the frame.

Splash guard / mud flap
LDPE material. Complies with the splash protection directive 91/226/EC, Annex III, section 7.3.6 or 2010/19/EU.
Attention: Regulation for new EC trailer registrations from April 2011 onwards. Further requirements on the splash protection system resulting from this standard must be examined by the trailer manufacturer in conjunction with the trailer in question.
An integrated splash guard controls the rainwater to prevent splashing over the tyre to the traffic behind.

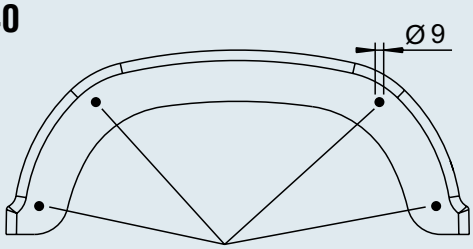
Product details
Shape
Versions available
Elastically mouldable, i.e. returns to shape after minor impacts
Complies with the directive on outside edges 74/483/EEC
Fastening holes inserted
Support step
Mud flap can be supplied already fitted
Loose mud flaps (self-installation) from the trailer manufacturer
Material
Weight
Colour
Corrosion protection
Special colours
Temperature resistance
UV resistance

Mudguard BASIC	**Mudguard PLUS**
Classic	Modern, winner of the IP product design award 2013
SA 140 / 190 / 200 / 220 / 255 TA 200 / 220	SA 180 / 200 / 220 / 240 / 260 TA 200 / 240
Yes - the mudguard returns to its starting position	Yes - the mudguard returns to its starting position
No	Yes
No	Yes - for details see the ordering overview
Possible	Possible
Yes - for details see the ordering overview	Yes - for details see the ordering overview
Yes - for details see the ordering overview	Yes - for details see the ordering overview
PP / EPDM	PP / EPDM
Up to 50% lighter than metal	Up to 50% lighter than metal
Black, similar to RAL 9005	Black, similar to RAL 9005
Permanent corrosion protection, as plastic	Permanent corrosion protection, as plastic
Possible, minimum quantity 1,000 units per date	Possible, minimum quantity 1,000 units per date
+60° to -30°	+60° to -30°
Yes	Yes

MUDGUARDS

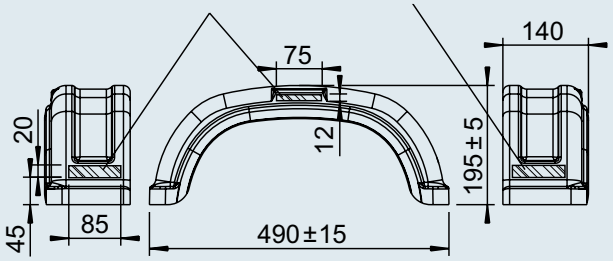
Single axle trailer, without splash guard

SA 140

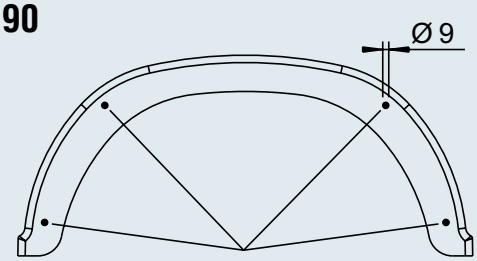


Recommended fastening holes!

Area for customer logo (optional)

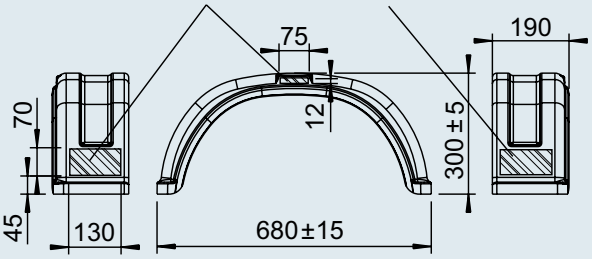


SA 190

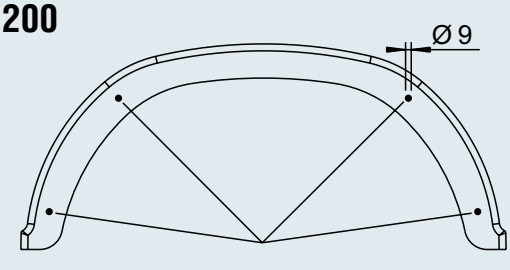


Recommended fastening holes!

Area for customer logo (optional)

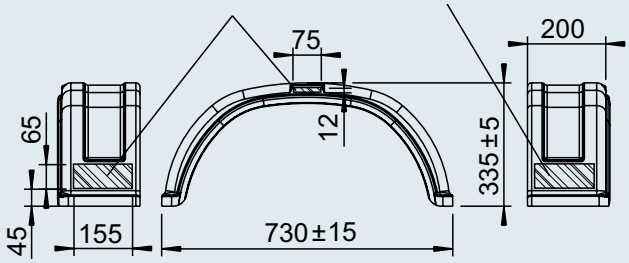


SA 200

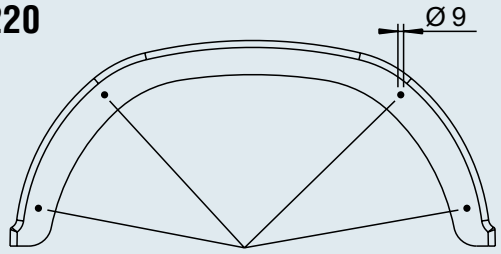


Recommended fastening holes!

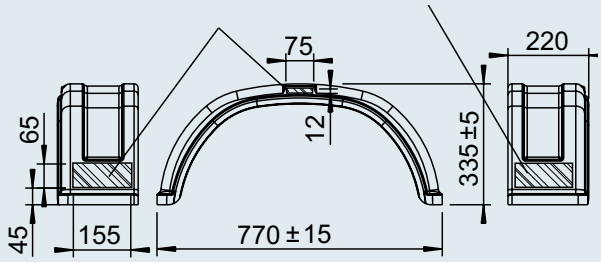
Area for customer logo (optional)



SA 220



Recommended fastening holes!



10

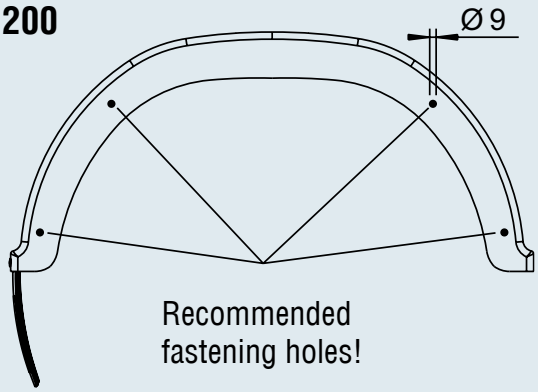
Mudguard BASIC, single axle trailer, without splash guard

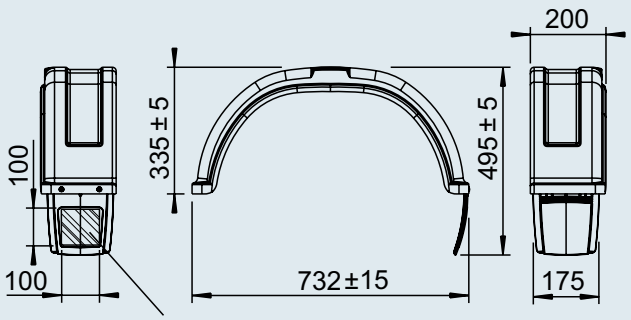
Type	Part No.	SAP	Process	RAL colour	Max. perm. tyre radius				
SA 140	1258169	KOTFLUEGEL-RK EA140/490	injection-moulded	Similar to black RAL 9017	203 mm	0.41	–	100	2
SA 190	1258171	KOTFLÜGEL-RK EA190/680	injection-moulded	Similar to black RAL 9017	283 mm	0.80	–	60	2
SA 200	1257130	KOTFLÜGEL-RK EA200/730	injection-moulded	Similar to black RAL 9017	300 mm	0.87	–	75	2
SA 220	1257131	KOTFLÜGEL-RK EA220/ 770 O BOHRUNGEN	injection-moulded	Similar to black RAL 9017	325 mm	0.87	–	45	2

MUDGUARDS

Single axle trailer, mounted with splash guard

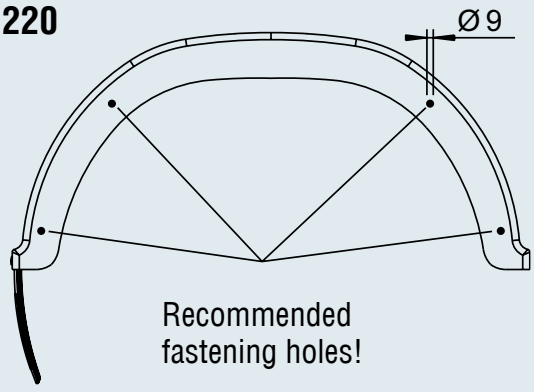
SA 200

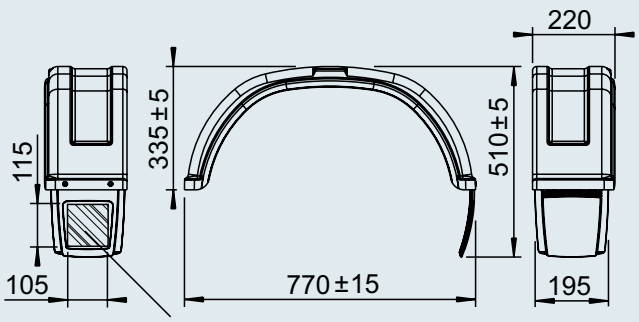




Area for customer logo (optional)

SA 220





Area for customer logo (optional)

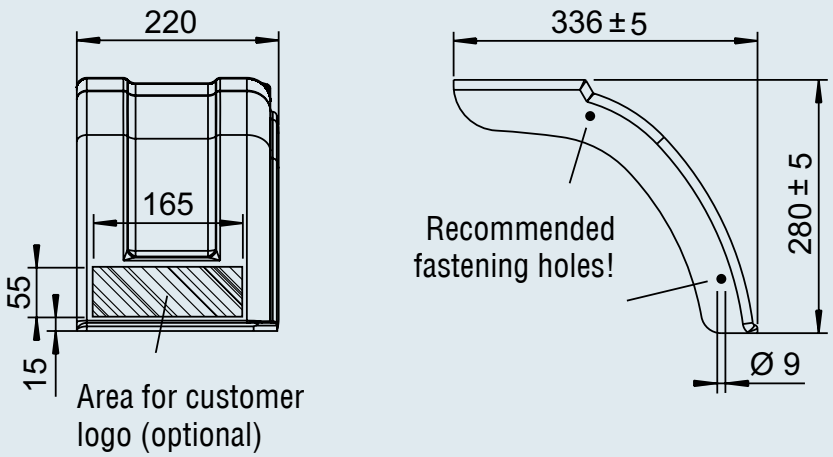
Mudguard BASIC, single axle trailer, mounted with splash guard

Type	Part No.	SAP	For driving direction	Process	RAL colour	Max. perm. tyre radius				
SA 200	1259347	KOTFLÜGEL-RK EA200 SL LI	Left	injection-moulded	Similar to black RAL 9017	300 mm	0.94	–	33	20
SA 200	1259348	KOTFLÜGEL-RK EA200 SL RE	Right	injection-moulded	Similar to black RAL 9017	300 mm	0.94	–	33	20
SA 220	1259349	KOTFLÜGEL-RK EA220 SL LI	Left	injection-moulded	Similar to black RAL 9017	325 mm	0.94	–	24	20
SA 220	1259350	KOTFLÜGEL-RK EA220 SL RE	Right	injection-moulded	Similar to black RAL 9017	325 mm	0.94	–	24	20

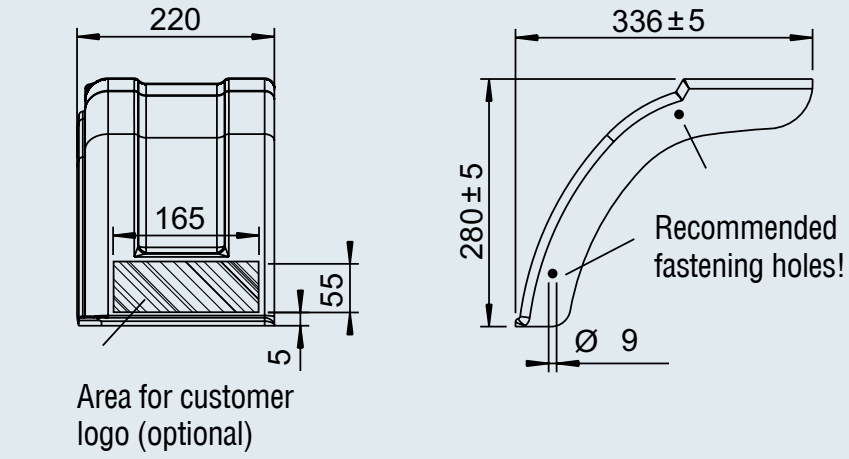
MUDGUARDS

High-loader, without splash guard

1213967



1213968



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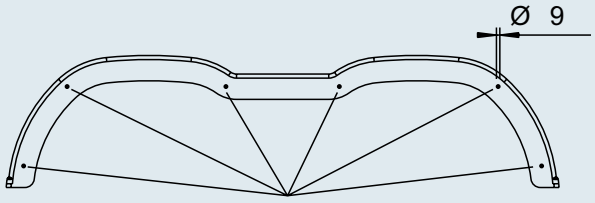
Mudguard BASIC, high-loader, without splash guard

Type	Part No.	SAP	Process	RAL colour	Max. perm. tyre radius				
HL 220	1213967	KOTFLÜGEL-TEIL 10"	deep-drawn	Similar to black RAL 9017	325 mm	0.34	–	60	2
HL 220	1213968	KOTFLÜGEL-TEIL 10"	deep-drawn	Similar to black RAL 9017	325 mm	0.34	–	60	2

MUDGUARDS

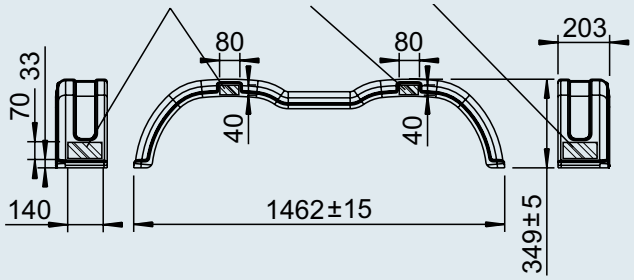
Tandem, without splash guard

TA 200

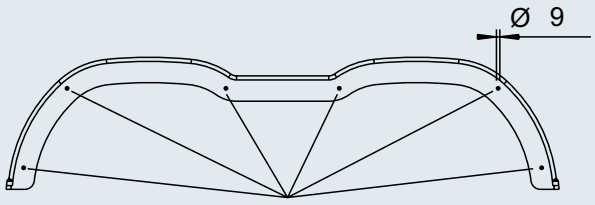


Recommended fastening holes!

Area for customer logo (optional)

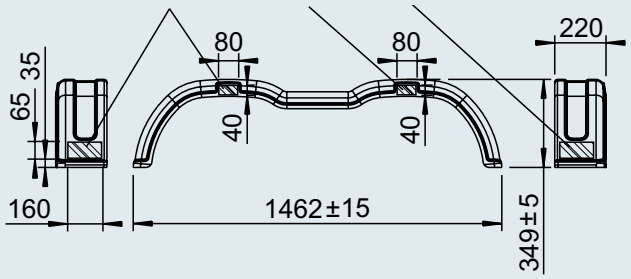


TA 220



Recommended fastening holes!

Area for customer logo (optional)



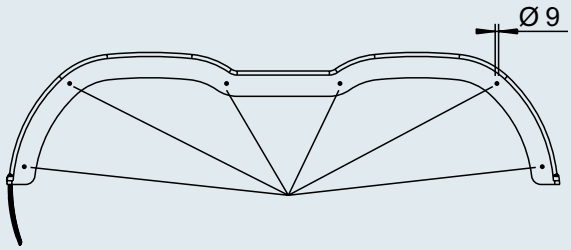
Mudguard BASIC, tandem, without splash guard

Type	Part No.	SAP	Process	RAL colour	Max. perm. tyre radius				
TA 200	1220964	KOTFLÜGEL TA20146	deep-drawn	Similar to black RAL 9017	335 mm	1.85	–	60	2
TA 220	246120	KOTFLÜGEL TA22146	deep-drawn	Similar to black RAL 9017	335 mm	1.85	–	60	2

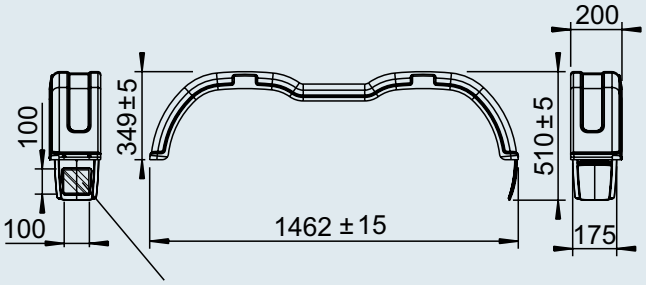
MUDGUARDS

Tandem, mounted with splash guard

TA 200



Recommended fastening holes!



Area for customer logo (optional)

10

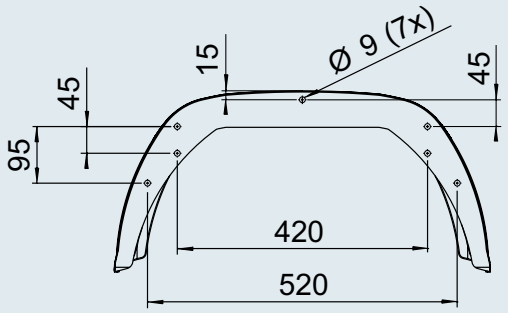
Mudguard BASIC, tandem, mounted with splash guard

Type	Part No.	SAP	For driving direction	Process	RAL colour	Max. perm. tyre radius				
TA 200	1259345	KOTFLÜGEL TA20146 SL LI	Left	deep-drawn	Similar to black RAL 9017	335 mm	1.92	–	21	20
TA 200	1259346	KOTFLÜGEL TA20146 SL RE	Right	deep-drawn	Similar to black RAL 9017	335 mm	1.92	–	21	20

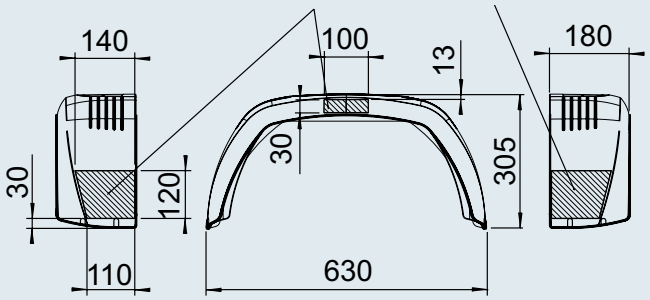
MUDGUARDS

Single axle trailer, without splash guard

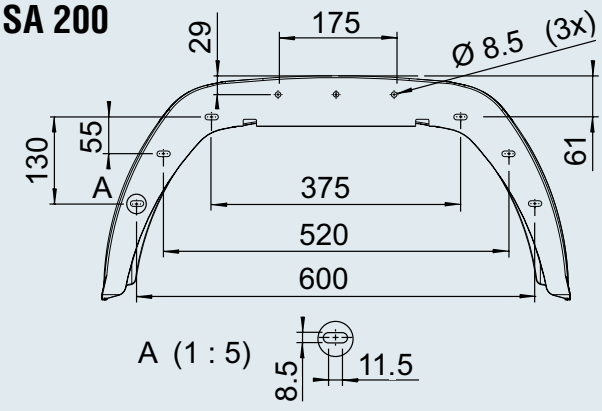
SA 180



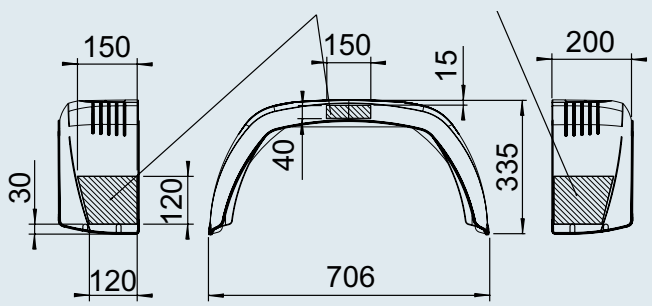
Area for customer logo (optional)



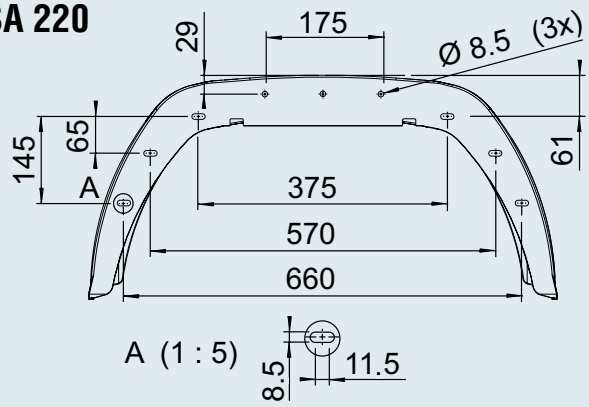
SA 200

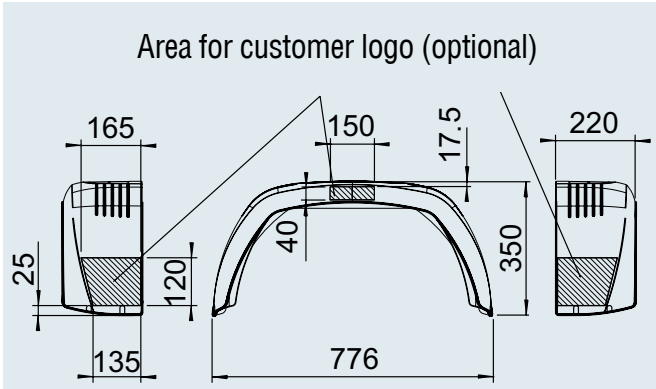


Area for customer logo (optional)

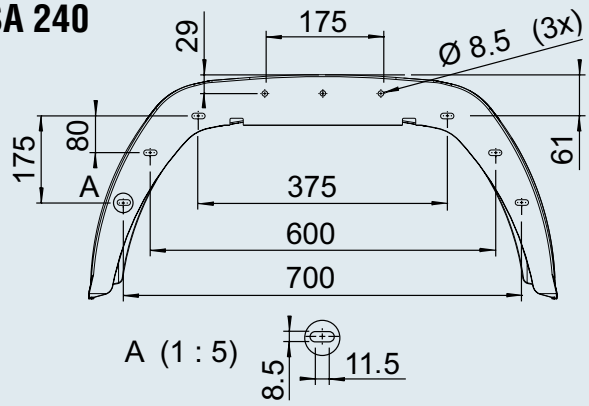


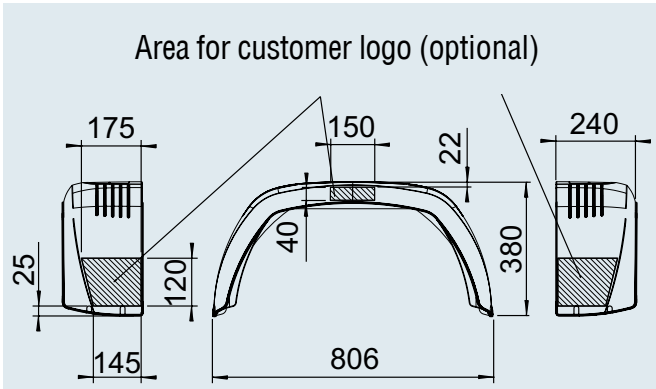
SA 220



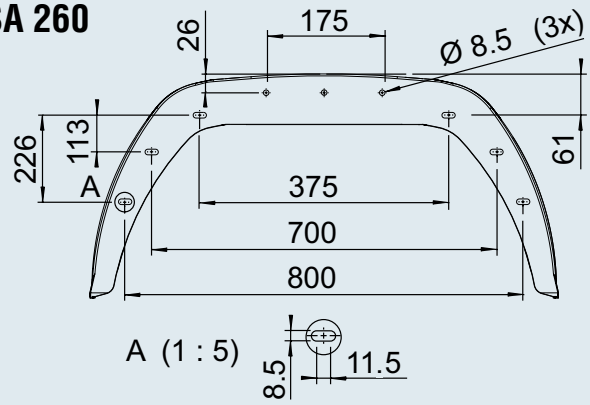


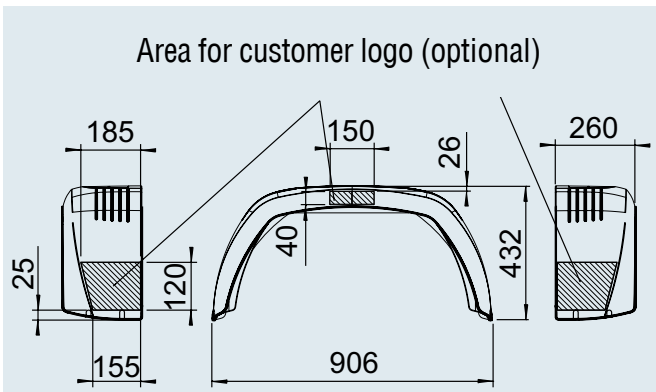
SA 240





SA 260





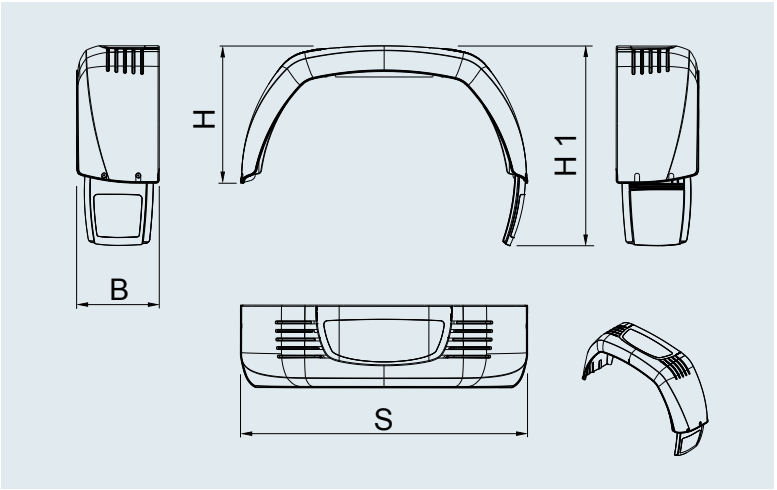
10

Mudguard PLUS, single axle trailer, without splash guard

Type	Part No.	SAP	Process	RAL colour	Max. perm. tyre radius			
SA 180	1258797	KOTFLÜGEL BKS EA180 MM SCHWARZ GL	injection-moulded	Similar to black RAL 9017	260 mm	0.41	–	60	2
SA 200	1259576	KOTFLÜGEL BKS EA200/706 MM SCHWARZ	injection-moulded	Similar to black RAL 9017	285 mm	0.85	–	60	2
SA 220	1259577	KOTFLÜGEL BKS EA220/776 MM SCHWARZ	injection-moulded	Similar to black RAL 9017	300 mm	0.98		40	2
SA 240	1259578	KOTFLÜGEL BKS EA240/806 MM SCHWARZ	injection-moulded	Similar to black RAL 9017	325 mm	1.13	–	30	2
SA 260	1259163	KOTFLÜGEL BKS EA260/900 MM SCHWARZ	injection-moulded	Similar to black RAL 9017	370 mm	1.28	–	30	2

MUDGUARDS

Single axle trailer, mounted with splash guard



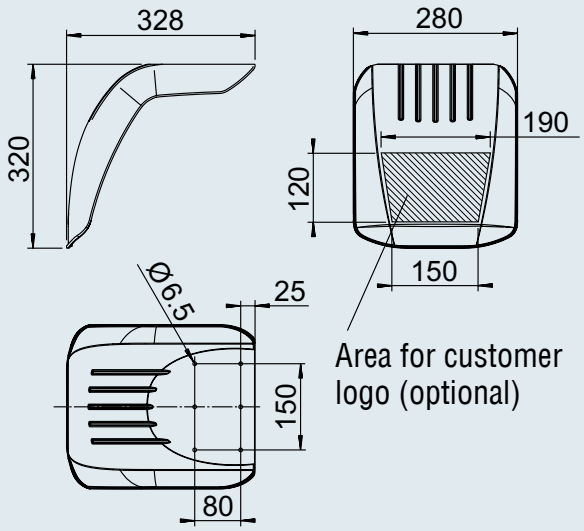
PLUS mudguard, single axle trailer, mounted with splash guard

Type	Part No.	SAP	For driving direction	W mm	H mm	H1 mm	S mm	Process	RAL colour similar	Max. perm. tyre radius mm				
SA 180	1259015 1259016	KOTFLÜGEL BKS EA180 MM SCHWARZ SL LI KOTFLÜGEL BKS EA180 MM SCHWARZ SL RE	left right	180	305	450	630	injec-tion-moulded	Black RAL 9017	260	0.80	–	24	20
SA 200	1259579 1259580	KOTFLÜGEL BKS EA200 MM SCHWARZ SL LI KOTFLÜGEL BKS EA200 MM SCHWARZ SL RE	left right	200	335	490	706	injec-tion-moulded	Black RAL 9017	285	0.92	–	33	20
SA 220	1259581 1259582	KOTFLÜGEL BKS EA220 MM SCHWARZ SL LI KOTFLÜGEL BKS EA220 MM SCHWARZ SL RE	left right	220	350	520	776	injec-tion-moulded	Black RAL 9017	300	1.05	–	24	20
SA 240	1259583 1259584	KOTFLÜGEL BKS EA240 MM SCHWARZ SL LI KOTFLÜGEL BKS EA240 MM SCHWARZ SL RE	left right	240	380	570	806	injec-tion-moulded	Black RAL 9017	325	1.22	–	24	20
SA 260	1259166 1259167	KOTFLÜGEL BKS EA260 MM SCHWARZ SL LI KOTFLÜGEL BKS EA260 MM SCHWARZ SL RE	left right	260	432	635	906	injec-tion-moulded	Black RAL 9017	370	1.60	–	24	20

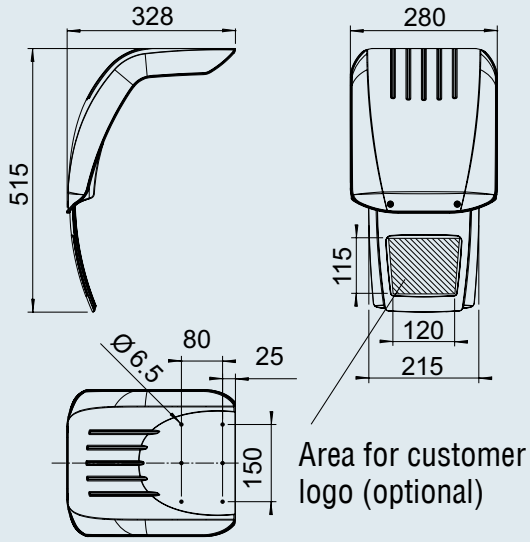
MUDGUARDS

High-loader, mounted with and without splash guard

1258634



1258898



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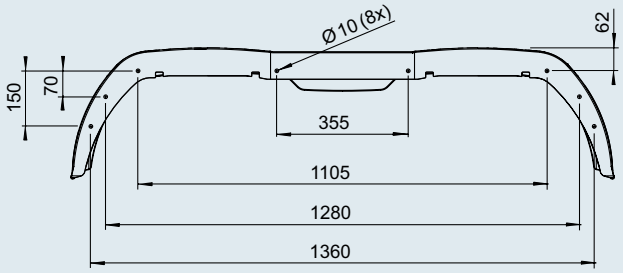
Mudguard PLUS, high-loader, mounted with splash guard

Type	Part No.	SAP	Process	RAL colour	Max. perm. tyre radius				
HL 280	1258634	KOTFLÜGEL BKS HL280/328 MM SCHWARZ	injection-moulded	Similar to black RAL 9017	300 mm	0.46	–	184	2
HL 280	1258898	KOTFLÜGEL BKS HL280/328 MM SCHWARZ SL	injection-moulded	Similar to black RAL 9017	300 mm	0.55	–	330	20

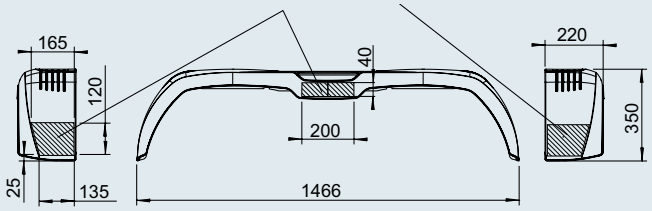
MUDGUARDS

Tandem, without splash guard

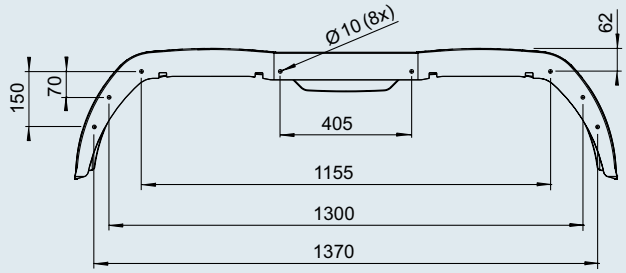
TA 220



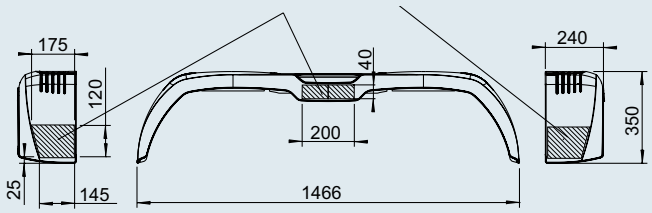
Area for customer logo (optional)



TA 240



Area for customer logo (optional)

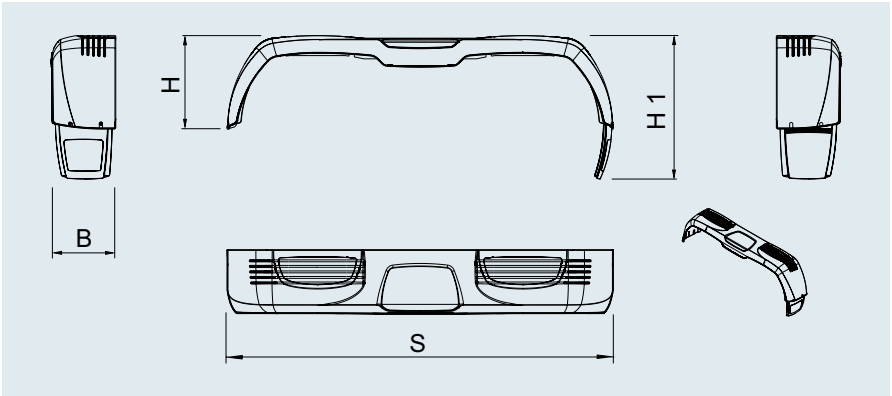


Mudguard PLUS, tandem, without splash guard

Type	Part No.	SAP	Process	RAL colour	Max. perm. tyre radius				
TA 220	1259585	KOTFLÜGEL BKS TA220/ 1466 MM SCHWARZ	injection-moulded	Similar to black RAL 9017	300 mm	1.58	–	30	2
TA 240	1259586	KOTFLÜGEL BKS TA240/ 1466 MM SCHWARZ	injection-moulded	Similar to black RAL 9017	325 mm	1.71	–	30	2

MUDGUARDS

Tandem, mounted with splash guard



Mudguard PLUS, tandem, mounted with splash guard

Type	Part No.	SAP	For driving direction	B mm	H mm	H1 mm	S mm	Process	RAL colour similar	Max. perm. tyre radius mm				
TA 220	1259587	KOTFLÜGEL BKS TA220 MM SCHWARZ SL LI	left	220	350	520	1466	injec-tion-moulded	Black RAL 9017	300	1.65	–	21	20
TA 220	1259588	KOTFLÜGEL BKS TA220 MM SCHWARZ SL RE	right	220	350	520	1466	injec-tion-moulded	Black RAL 9017	300	1.65	–	21	20
TA 240	1259589	KOTFLÜGEL BKS TA240 MM SCHWARZ SL LI	left	240	350	520	1466	injec-tion-moulded	Black RAL 9017	325	1.80	–	21	20
TA 240	1259590	KOTFLÜGEL BKS TA240 MM SCHWARZ SL RE	right	240	350	520	1466	injec-tion-moulded	Black RAL 9017	325	1.80	–	21	20

ACCESSORIES

Splash guard

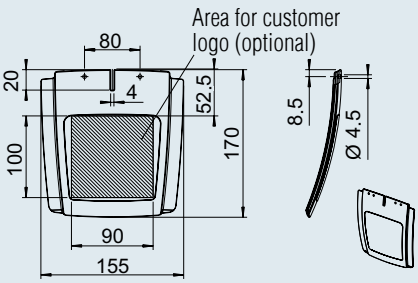
Splash guard/mud flap

LDPE material. Complies with the splash protection directive 91/226/EC, Annex III, section 7.3.6 or 2010/19/EU.

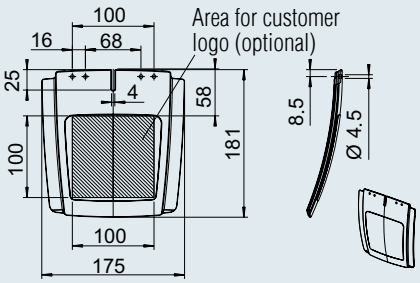
Attention: Regulation for new EC trailer registrations from April 2011 onwards. Further requirements on the splash guard system resulting from this standard must be examined by the trailer manufacturer in conjunction with the trailer in question.

An integrated splash guard controls the rainwater to prevent splashing over the tyre to the traffic behind.

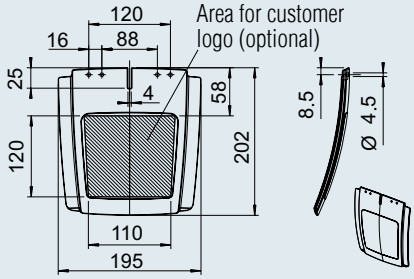
1258648



1258651



1258654



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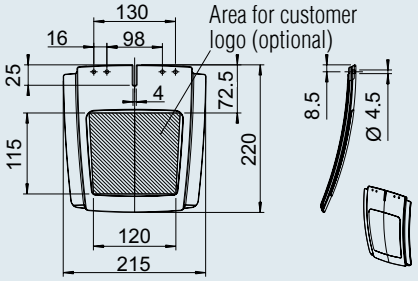
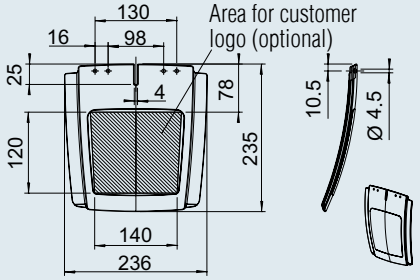


1259165



Splash guard

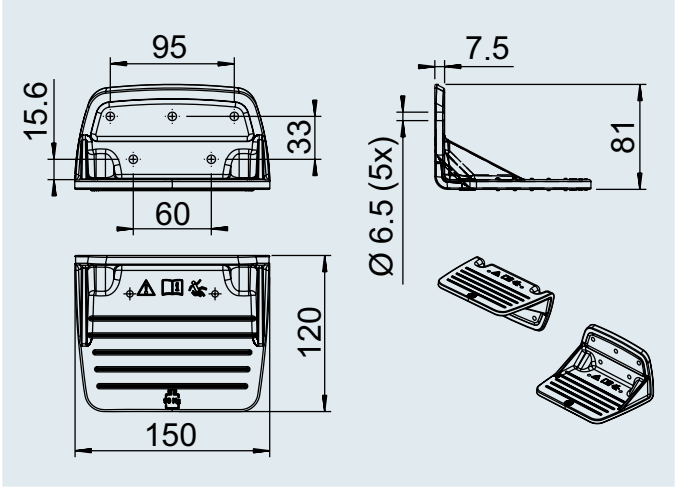
Part No.	SAP	Suitable for mudguard	RAL colour similar				
1258648	SPRITZLAPPEN BKS 180 MM SCHWARZ	SA 180	black RAL 9017	0.06	–	–	2
1258651	SPRITZLAPPEN BKS 200 MM SCHWARZ	SA 200	black RAL 9017	0.07	200	–	2
1258654	SPRITZLAPPEN BKS 220 MM SCHWARZ	SA 220/TA 220/HL 280	black RAL 9017	0.08	140	–	2
1258657	SPRITZLAPPEN BKS 240 MM SCHWARZ	SA 240/TA 240/HL 280	black RAL 9017	0.09	70	–	2
1259165	SPRITZLAPPEN BKS 260 MM SCHWARZ	SA 260	black RAL 9017	0.10	–	–	2

ACCESSORIES

Support step

Support step, load capacity 90 kg

Material PA GF30 (polyamide with 30% glass fibres). To reach heights ergonomically with ease, a support step is additionally available; this can also be mounted rotated 180° on the side wall or the frame.



Support step

Part No.	SAP	Load capacity	RAL colour similar				
1258642	AUFSTIEGHILFE BKS UNTEN SCHWARZ	90 kg	black RAL 9017	0.30	90	–	2

11. WINCHES

WINCHES

Product differentiation 428 - 429

Cable winches PLUS 430
350 kg 431
500 kg 432
500 kg with automatic unwinder 433
900 kg 434
900 kg with automatic unwinder 435
1,150 kg with automatic unwinder 436

Cable winches BASIC 437
450 kg 438
900 kg 439

Towing winches BASIC
250 kg 440
500 kg 441

Accessories 442 - 443

Technical data 444 - 445

WINCHES

Product differentiation

AL-KO WINCHES

DESIGN AND UTILITY FOR DEMANDING REQUIREMENTS

For 35 years, AL-KO cable winches have proved to be effective helpers in the industrial and leisure sectors. Experience from over 1.5 million units sold speaks for itself. The console-mounted winches made of steel with gear drive and polymer cover are robust and reliable. Smart details such as the load pressure brake, the automatic unwinder or the removable crank facilitate operation and protect the loads to be moved. The unusual design and high-quality corrosion protection guarantee convenient use, even in the long-term.

You can choose between the BASIC product line for normal applications, e.g. in the leisure sector, or the PLUS product line "Made in Austria" for more demanding requirements, e.g. in the commercial sector.

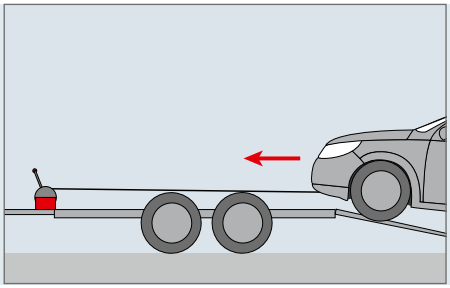
AL-KO cable winches meet the following requirements:

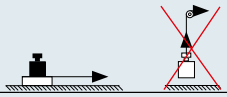
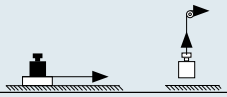
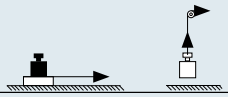
- **EC standard EN 13157**
- **CE Directive**
- **Machinery Directive**

Range of applications **Attention!** The buyer of the cable winch must check whether the product has the properties that their individual usage requires.
Usage examples **Trailer sector:** e.g. transport of boats or cars, inclined lifts or floodlights **Agricultural sector:**e.g. sprayers, slurry pumps **In-house transport sector:**e.g. hand winch lift trucks **Private usage:**e.g. pulling trailers against the wall
Special fields of application: Construction hoists, stages, Studios, liftable suspended access equipment
BG inspection available (DGUV test)
Fulfils EC standard EN 13157
Fulfils the requirements of the CE Directive
Fulfils the requirements of the Machinery Directive
Load pressure brake available
Quality/processing/robustness
Made in
Securing when lifting/pulling
Securing when lowering
Automatic unwinder available for cable or band
Crank can be removed quickly
Cable drum with plain bearing
Suitable for continuous operation
Corrosion protection
Gear wheel cover
Design
Cable for lifting and towing
Band for towing
Wall mounting possible

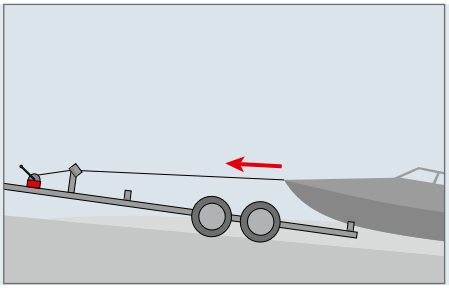
USAGE EXAMPLES

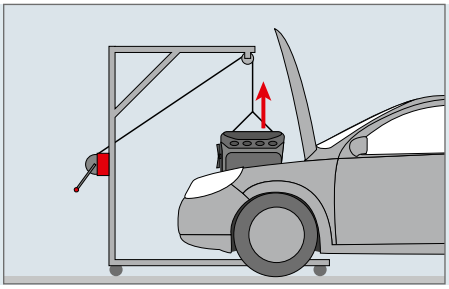
Boat trailers, car transporters, agricultural sprayer equipment, slurry pumps, mobile inclined lifts, mobile installation stackers, mobile floodlights, hand operated forklifts, private usage, e.g. pulling the trailer to the ceiling in the garage.

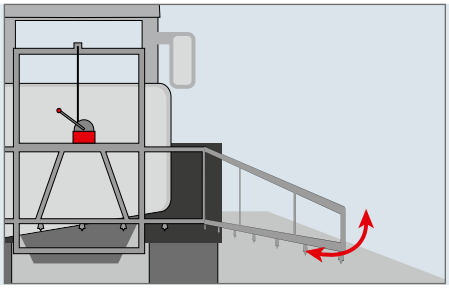


Towing winch unbraked BASIC	**Cable winch braked BASIC**	**Cable winch braked PLUS**
		
No, only for towing a non-rolling load	Yes	Yes
No, only for towing a non-rolling load	Yes	Yes
No, only for towing a non-rolling load	Yes	Yes
No, only for towing a non-rolling load	Yes	Yes
Cannot be used This area has additional requirements	Cannot be used This area has additional requirements	Cannot be used This area has additional requirements
No	No	Yes*
No	Yes	Yes
No	Yes	Yes
No	Yes	Yes
No	Yes	Yes
Basic, e.g. private use	Basic, e.g. private use	Professional, e.g. commercial use
Far East	Far East	Austria
Yes, locking catch engages	Yes, load pressure brake, observe minimum load	Yes, load pressure brake, observe minimum load
No, no securing available	Yes, load pressure brake, observe minimum load	Yes, load pressure brake, observe minimum load
Yes, optionally possible, see range	Yes, optionally possible, see range	Yes, optionally possible, see range
Yes, optionally possible, see range	Yes, optionally possible, see range	Yes, optionally possible, see range
No	No	Yes
No	No	No
approx. 200 hours salt spray test, Galvanised with thick layer passivation	approx. 200 hours salt spray test, Galvanised with thick layer passivation	approx. 400 hours salt spray test, zinc-nickel coating
No	Yes, optionally possible, see range	Yes
Classic	Classic	Modern
Yes, not fitted as accessory, available	Yes, not fitted as accessory, available	Yes, variant with cable fitted can be ordered
Yes, variant with band fitted can be ordered	Yes, variant with band fitted can be ordered	Yes, variant with band fitted can be ordered
No, winch has no load pressure brake	Yes, however a console for wall mounting is necessary (accessory)	Yes, however a console for wall mounting is necessary (accessory)

* stipulated for commercial use in Germany





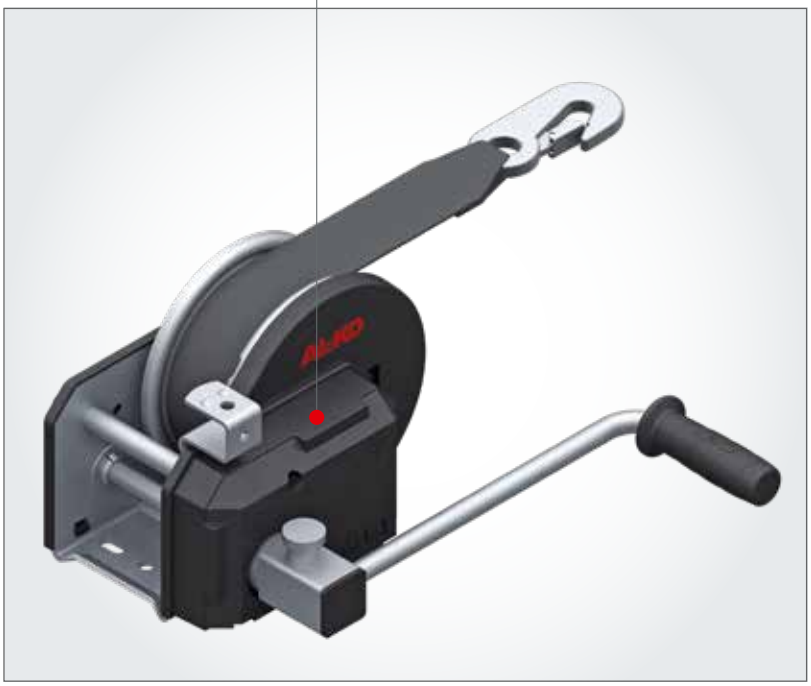


CABLE WINCHES

with automatic load pressure brake

LOAD PRESSURE BRAKE

Automatic



YOUR ADVANTAGE

- Modern design
- High-quality corrosion protection
- Automatic load pressure brake
- Cable drum with plain bearing
- Automatic unwinder for rope or band (optional)
- Removable crank (optional)
- Plastic gear cover
- Range: 350 / 500 / 900 / 1150 kg

SURFACE TREATMENT

High-quality zinc-nickel coating
approx. 400 hours salt spray test

tested

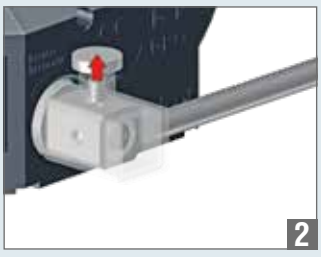
tested

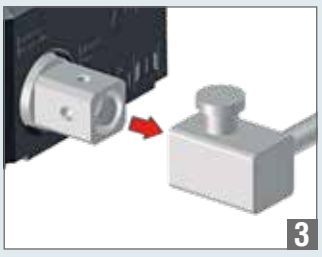
CABLE WINCH OPERATION

Lifting: Turn the hand crank in a clockwise direction
Stopping: Let go of the hand crank in any position (automatic load pressure brake)
Lowering: Turn the hand crank in a counter-clockwise direction

AUTOMATIC UNWINDER OPERATION

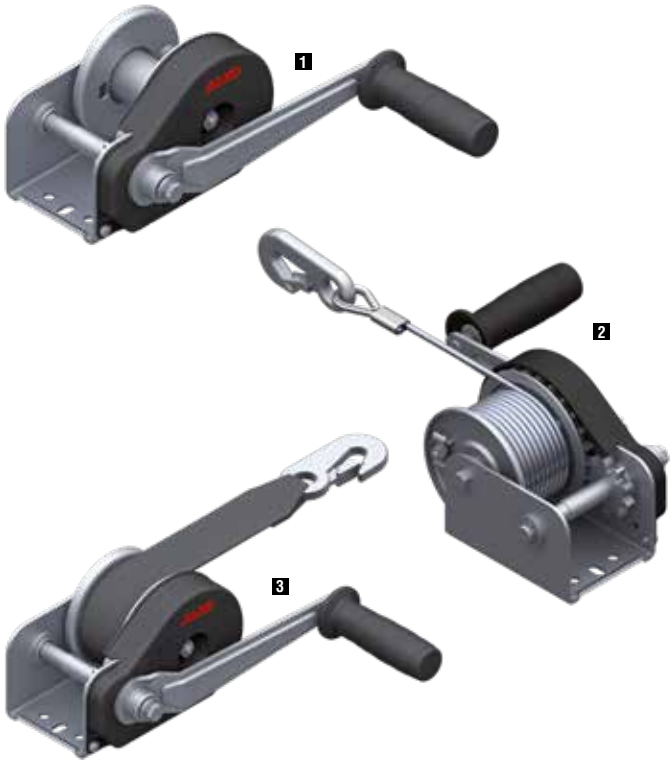
1. Turn the hand crank in a counter-clockwise for one rotation, this will cause the load pressure brake to be deactivated
2. Pull up locking sleeve
3. Remove crank
4. The band or cable can now be removed





CABLE WINCHES

350 kg



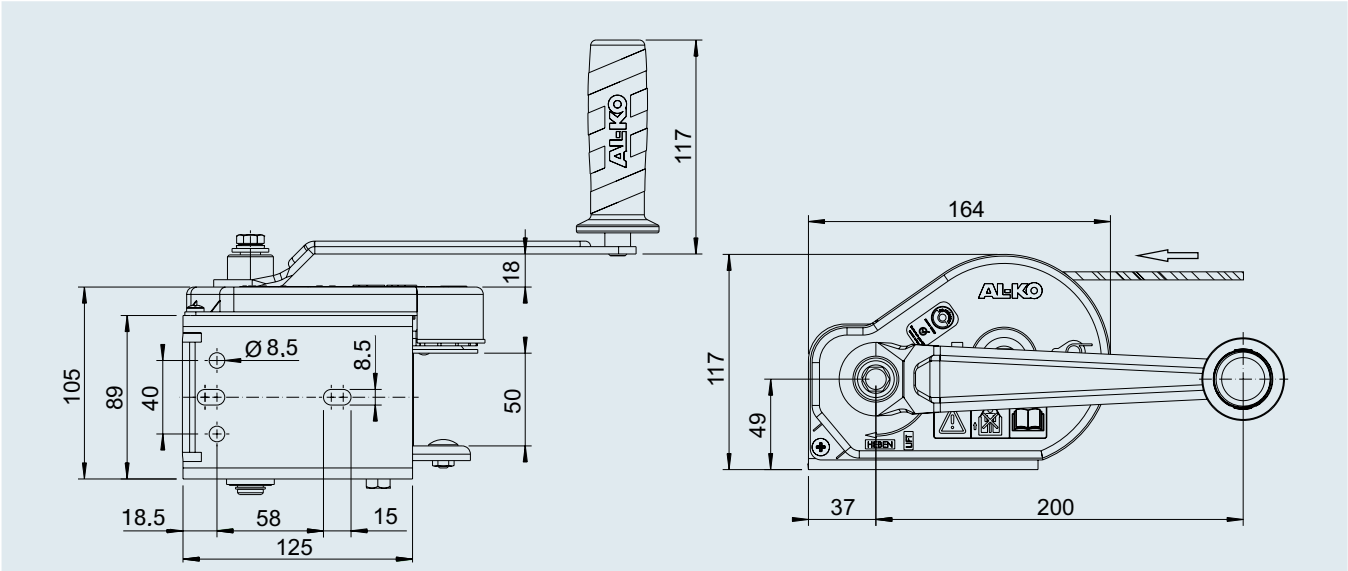
SAP: WINDE 351PLUS

Cable winch braked – type 351 PLUS

Tensile load max. lowest cable position	350 kg
Manual force	200 N
Minimum load	25 kg
Reduction	2.50 : 1
Lift per crank rotation	From 53 – 100 mm
Drum capacity for 4 mm Ø cable	15 m
Drum capacity for towing band	4 m
	– 120 units

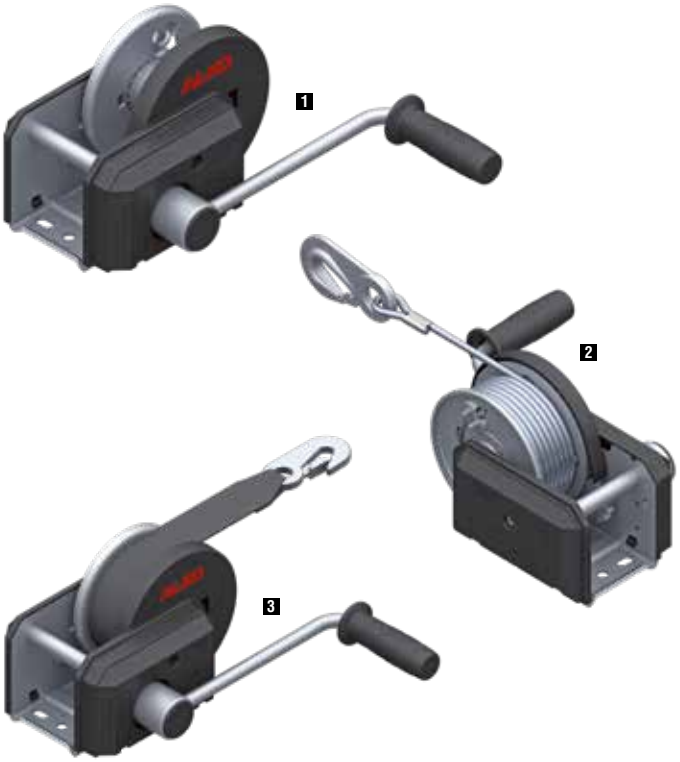
Designation	**Part no.**	
1 without cable/band	1225998	2.0 kg
2 fitted with 10 m cable for lifting	1225999	3.0 kg
2 fitted with 15 m cable for lifting	1730001	3.5 kg
3 fitted with 4 m band for towing	1730002	2.5 kg

PLUS cable winch 350 kg	**Slope**	**Lowest cable position**	**Middle cable position**	**Highest cable position**
Vertical lifting of loads – (guidance values)	–	350 kg	250 kg	150 kg
Horizontal and angled pulling	10% (6°)	600 kg	400 kg	250 kg
of a (non-rolling) load (guidance values)	20% (11°)	500 kg	350 kg	200 kg
friction factor approx. 0.5	30% (17°)	450 kg	300 kg	150 kg
Angled pulling of a rolling load (guidance values)	10% (6°)	2,300 kg	1,600 kg	800 kg
	20% (11°)	1,400 kg	1,000 kg	500 kg
	30% (17°)	1,100 kg	800 kg	400 kg



CABLE WINCHES

500 kg

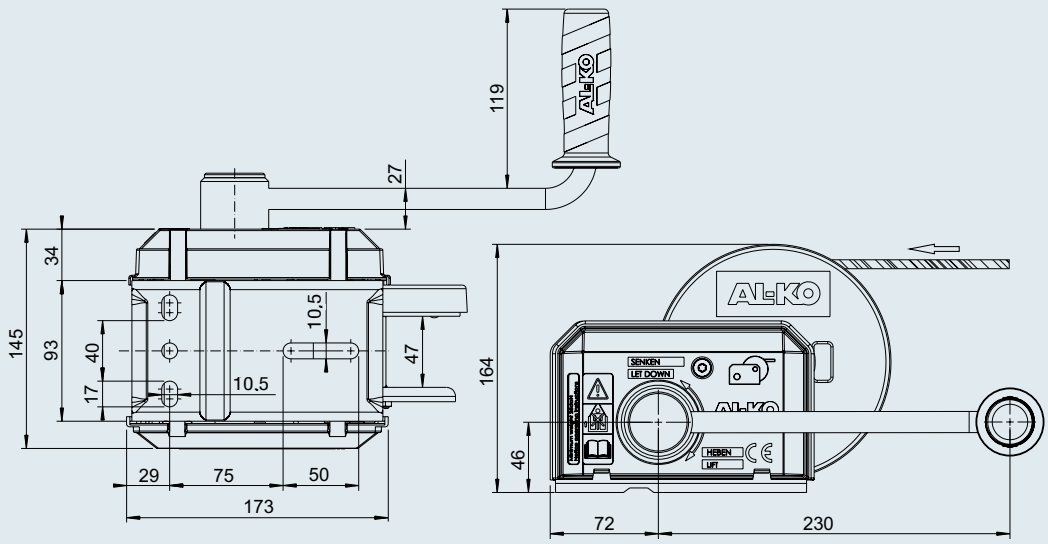


SAP: WINDE 501PLUS

Cable winch braked – type 501 PLUS	
Tensile load max. lowest cable position	500 kg
Manual force	200 N
Minimum load	25 kg
Reduction	3.75 : 1
Lift per crank rotation	From 45 – 100 mm
Drum capacity for 5 mm Ø cable	20 m
Drum capacity for towing band	7 m
	– 64 units

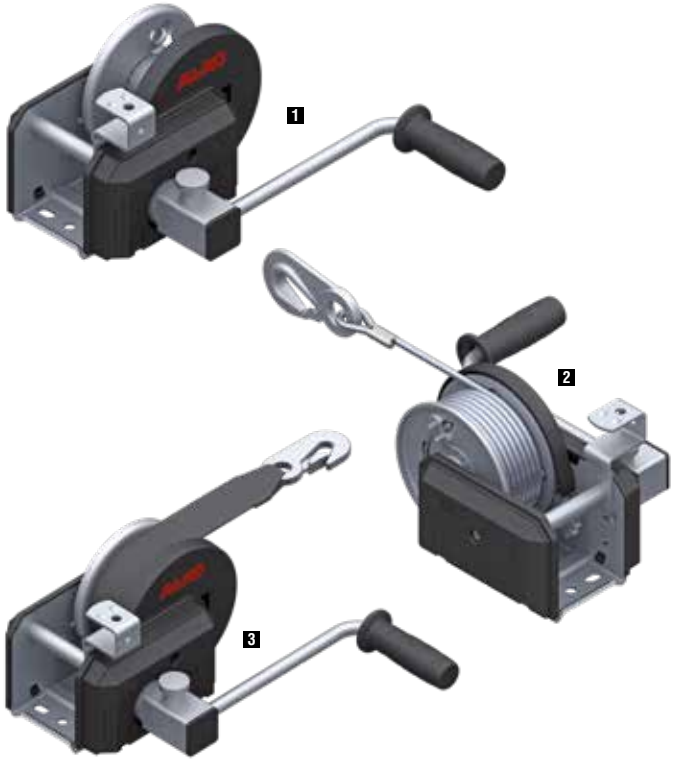
Designation	Part no.	
1 without cable/band	1730003	4.0 kg
2 fitted with 10 m cable for lifting	1730004	5.0 kg
2 fitted with 20 m cable for lifting	1730005	6.0 kg
3 fitted with 7 m band for towing	1730006	5.0 kg

Cable winch PLUS 500 kg	Slope	Lowest cable position	Middle cable position	Highest cable position
Vertical lifting of loads – (guidance values)	–	500 kg	330 kg	170 kg
Horizontal and angled pulling	10% (6°)	800 kg	550 kg	300 kg
of a (non-rolling) load (guidance values)	20% (11°)	700 kg	500 kg	250 kg
friction factor approx. 0.5	30% (17°)	650 kg	450 kg	220 kg
Angled pulling of a rolling load (guidance values)	10% (6°)	3,300 kg	2,200 kg	1,100 kg
	20% (11°)	2,000 kg	1,300 kg	700 kg
	30% (17°)	1,500 kg	1,000 kg	500 kg



CABLE WINCHES

500 kg, with automatic unwinder

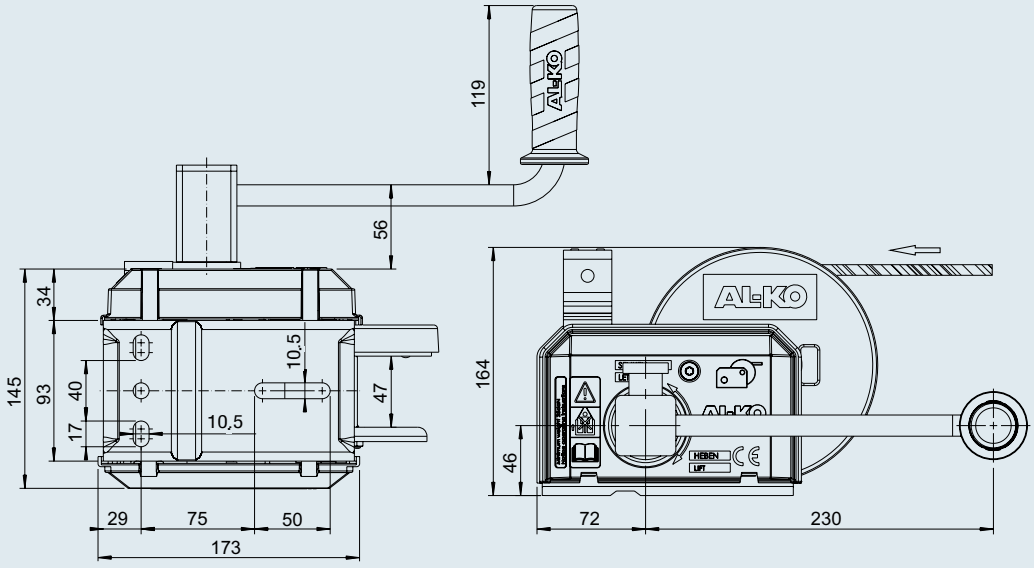


SAP: WINDE 501PLUS A

Cable winch braked – type 501 PLUS with automatic unwinder	
Tensile load max. lowest cable position	500 kg
Manual force	200 N
Minimum load	25 kg
Reduction	3.75 : 1
Lift per crank rotation	From 45 – 100 mm
Drum capacity for 7 mm Ø cable	20 m
Drum capacity for towing band	7 m
	– 64 units

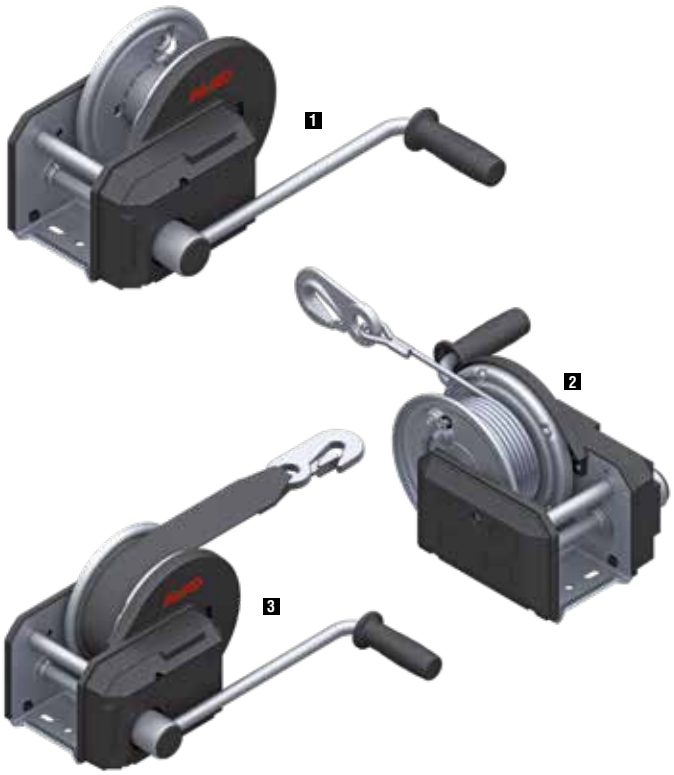
Designation	Part no.	
1 without cable/band	1730024	4.0 kg
2 fitted with 10 m cable for lifting	1730007	5.0 kg
2 fitted with 20 m cable for lifting	1730008	6.0 kg
3 fitted with 7 m band for towing	1730009	5.0 kg

Cable winch PLUS 500 kg	Slope	Lowest cable position	Middle cable position	Highest cable position
Vertical lifting of loads – (guidance values)	–	500 kg	330 kg	170 kg
Horizontal and angled pulling	10% (6°)	800 kg	550 kg	300 kg
of a (non-rolling) load (guidance values)	20% (11°)	700 kg	500 kg	250 kg
friction factor approx. 0.5	30% (17°)	650 kg	450 kg	220 kg
Angled pulling of a rolling load (guidance values)	10% (6°)	3,300 kg	2,200 kg	1,100 kg
	20% (11°)	2,000 kg	1,300 kg	700 kg
	30% (17°)	1,500 kg	1,000 kg	500 kg



CABLE WINCHES

900 kg

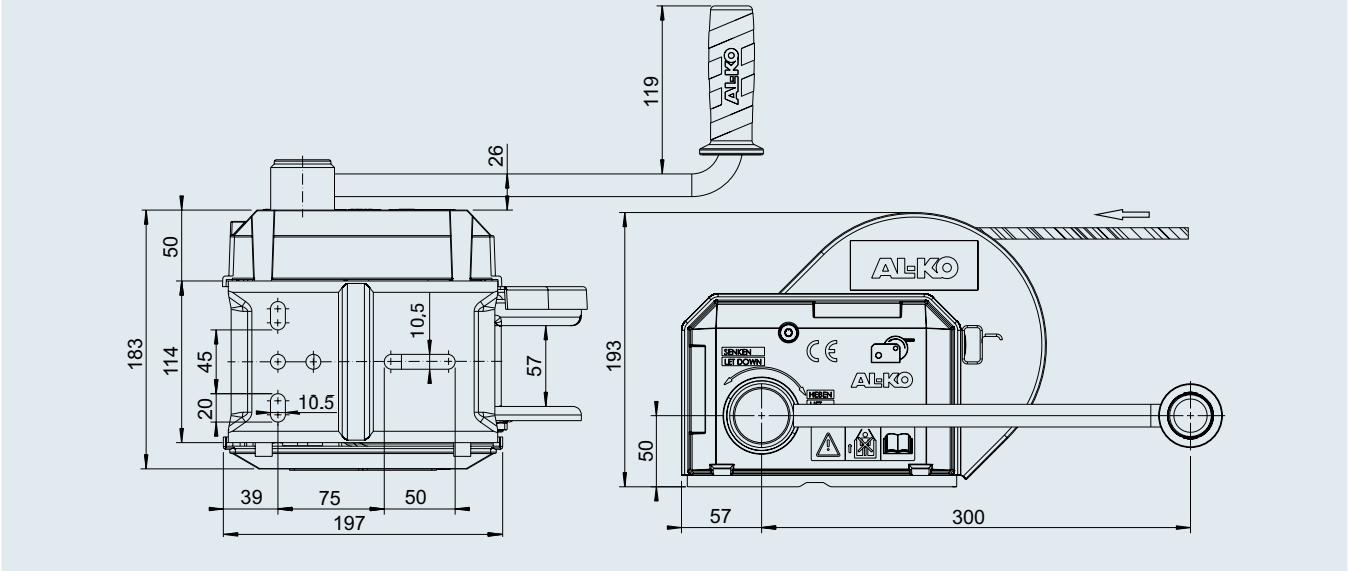


SAP: WINDE 901PLUS

Cable winch braked – type 901 PLUS	
Tensile load max. lowest cable position	900 kg
Manual force	190 N
Minimum load	25 kg
Reduction	8.75 : 1
Lift per crank rotation	From 25 – 55 mm
Drum capacity for 7 mm Ø cable	17 m
Drum capacity for towing band	10 m
	– 39 units

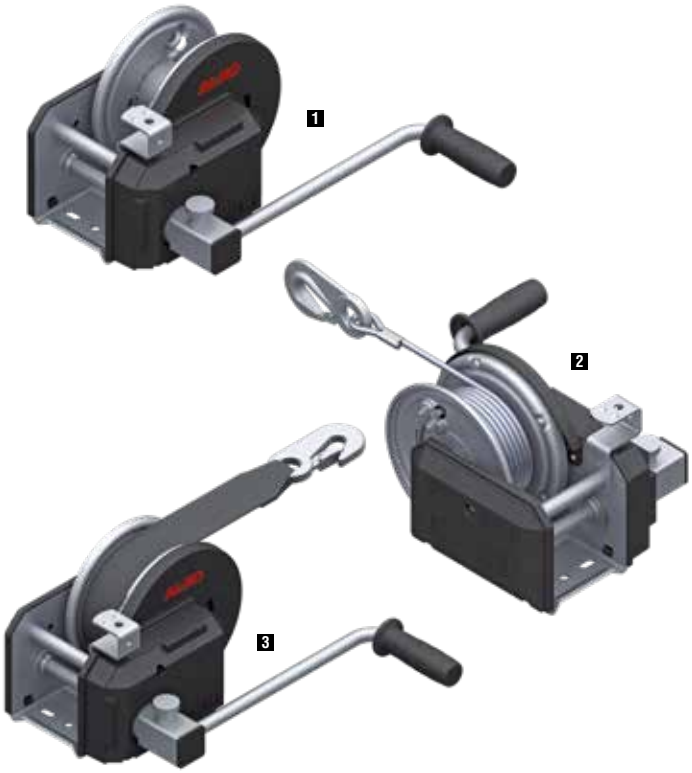
Designation	Part no.	
1 without cable/band	1730010	7.0 kg
2 fitted with 12.5 m cable for lifting	1730011	8.5 kg
2 fitted with 17 m cable for lifting	1732835	9.0 kg
3 fitted with 10 m band for towing	1730013	8.0 kg

Cable winch PLUS 900 kg	Slope	Lowest cable position	Middle cable position	Highest cable position
Vertical lifting of loads – (guidance values)	–	900 kg	600 kg	330 kg
Horizontal and angled pulling	10% (6°)	1,500 kg	1,000 kg	550 kg
of a (non-rolling) load (guidance values)	20% (11°)	1,300 kg	900 kg	500 kg
friction factor approx. 0.5	30% (17°)	1,150 kg	800 kg	400 kg
Angled pulling of a rolling load (guidance values)	10% (6°)	5,800 kg	3,900 kg	2,100 kg
	20% (11°)	3,600 kg	2,400 kg	1,300 kg
	30% (17°)	2,700 kg	1,800 kg	1,000 kg



CABLE WINCHES

900 kg, with automatic unwinder



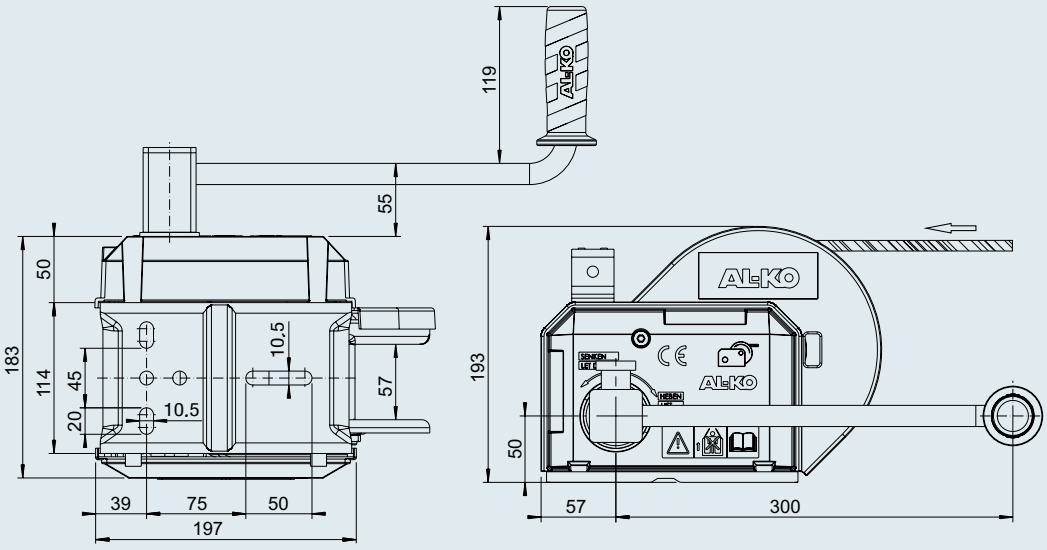
SAP: WINDE 901PLUS A

Cable winch braked – type 901 PLUS with automatic unwinder

Tensile load max. lowest cable position	900 kg
Manual force	190 N
Minimum load	25 kg
Reduction	8.75 : 1
Lift per crank rotation	From 25 – 55 mm
Drum capacity for 7 mm Ø cable	17 m
Drum capacity for towing band	10 m
	– 39 units

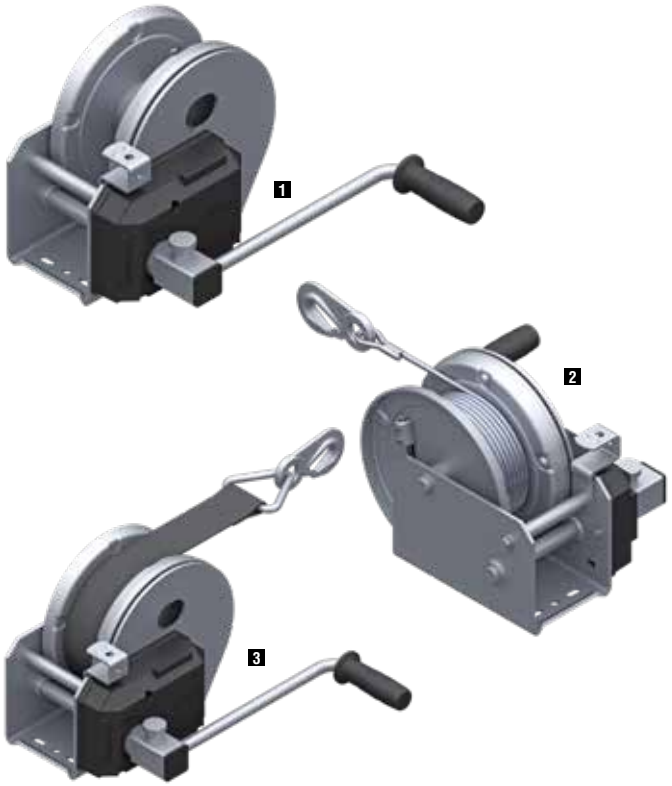
Designation	**Part no.**	
1 without cable/band	1730014	8.0 kg
2 fitted with 12.5 m cable for lifting	1730015	9.5 kg
2 fitted with 17 m cable for lifting	1732836	10.0 kg
3 fitted with 10 m band for towing	1730017	9.0 kg

Cable winch PLUS 900 kg with automatic unwinder	**Slope**	**Lowest cable position**	**Middle cable position**	**Highest cable position**
Vertical lifting of loads – (guidance values)	–	900 kg	600 kg	330 kg
Horizontal and angled pulling	10% (6°)	1,500 kg	1,000 kg	550 kg
of a (non-rolling) load (guidance values)	20% (11°)	1,300 kg	900 kg	500 kg
friction factor approx. 0.5	30% (17°)	1,150 kg	800 kg	400 kg
Angled pulling of a rolling load (guidance values)	10% (6°)	5,800 kg	3,900 kg	2,100 kg
	20% (11°)	3,600 kg	2,400 kg	1,300 kg
	30% (17°)	2,700 kg	1,800 kg	1,000 kg



CABLE WINCHES

1,150 kg, with automatic unwinder



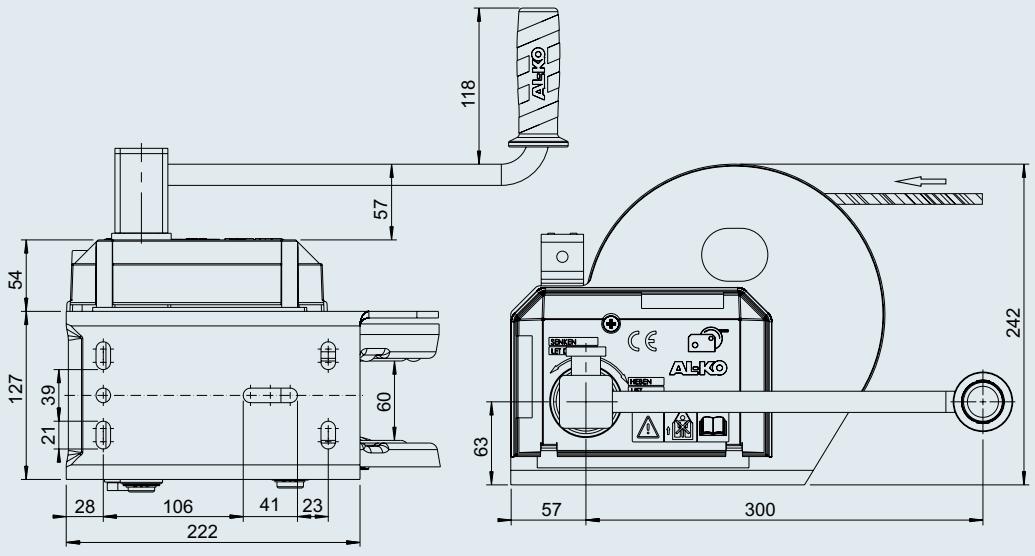
SAP: WINDE 1201PLUS A

Cable winch braked – type 1201 PLUS with automatic unwinder

Tensile load max. lowest cable position	1,150 kg
Manual force	200 N
Minimum load	25 kg
Reduction	10.5 : 1
Lift per crank rotation	From 23 – 57 mm
Drum capacity for 7 mm Ø cable	25 m
Drum capacity for towing band	12.5 m
	– 25 units

Designation	**Part no.**	
1 without cable/band	1730018	13.0 kg
2 fitted with 12.5 m cable for lifting	1730019	15.0 kg
2 fitted with 25 m cable for lifting	1730020	17.0 kg
3 fitted with 12.5 m band for towing	1730021	14.0 kg

Cable winch PLUS 1,150 kg with automatic unwinder	**Slope**	**Lowest cable position**	**Middle cable position**	**Highest cable position**
Vertical lifting of loads – (guidance values)	–	1,150 kg	830 kg	500 kg
Horizontal and angled pulling	10% (6°)	2,000 kg	1,400 kg	850 kg
of a (non-rolling) load (guidance values)	20% (11°)	1,700 kg	1,250 kg	750 kg
friction factor approx. 0.5	30% (17°)	1,500 kg	1,100 kg	650 kg
Angled pulling of a rolling load (guidance values)	10% (6°)	7,400 kg	5,300 kg	3,200 kg
	20% (11°)	4,800 kg	3,300 kg	2,000 kg
	30% (17°)	3,500 kg	2,500 kg	1,500 kg



CABLE WINCHES

with automatic load pressure brake

YOUR ADVANTAGE

- Automatic load pressure brake
- Automatic unwinder for rope or band (optional)
- Removable crank (optional)
- Plastic gear cover
- Range:
- 450 and 900 kg
- Surface treatment:
- Galvanised with thick layer passivation, salt spray test approx. 200 hours

LOAD PRESSURE BRAKE

Automatic

CABLE WINCH OPERATION

Lifting: Turn the hand crank in a clockwise direction

Stopping: Let go of the hand crank in any position (automatic load pressure brake)

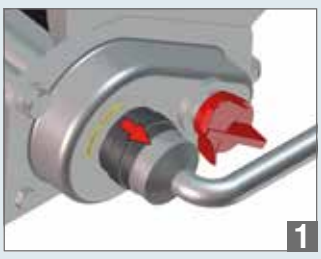
Lowering: Turn the hand crank in a counter-clockwise direction

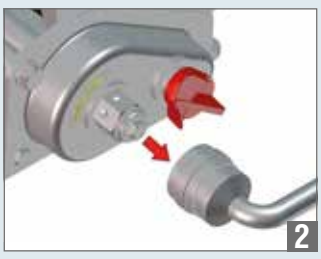
11

AUTOMATIC UNWINDER OPERATION

CE tested

1. Pull up locking sleeve
2. Remove crank
3. Press red lever and turn (deactivate load pressure brake)
4. The cable or band can now be pulled off





CABLE WINCHES

450 kg

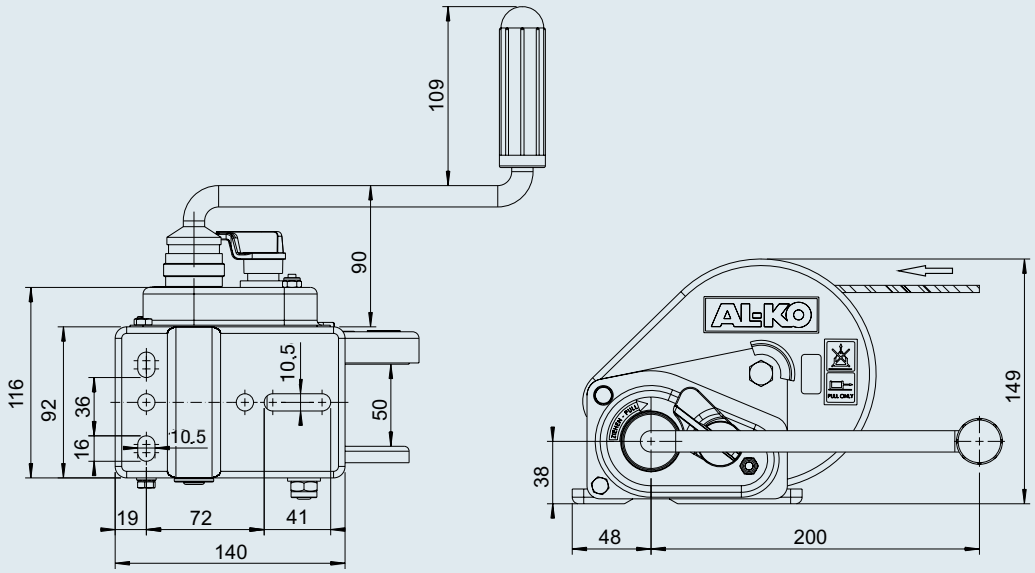
SAP: WINDE 450 COMP

Cable winch type 450 Compact braked

Tensile load max. lowest cable position	450 kg
Manual force	220 N
Minimum load	25 kg
Reduction	3.50 : 1
Lift per crank rotation	From 45 – 100 mm
Drum capacity for 5 mm Ø cable	15 m
Drum capacity for towing band	6 m

Designation	**Part no.**		
without automatic unwinder			
1 without cable/band	1210653	4.0 kg	72 units
with automatic unwinder			
2 without cable/band	1225298	4.0 kg	72 units
3 fitted with 6 m band for towing	1225300	5.0 kg	72 units

BASIC cable winch 450 kg	**Slope**	**Lowest cable position**	**Middle cable position**	**Highest cable position**
Vertical lifting of loads – (guidance values)	–	450 kg	300 kg	170 kg
Horizontal and angled pulling	10% (6°)	750 kg	500 kg	300 kg
of a (non-rolling) load (guidance values)	20% (11°)	650 kg	450 kg	250 kg
friction factor approx. 0.5	30% (17°)	550 kg	400 kg	200 kg
Angled pulling of a rolling load (guidance values)	10% (6°)	2,900 kg	2,000 kg	1,100 kg
	20% (11°)	1,800 kg	1,200 kg	700 kg
	30% (17°)	1,350 kg	900 kg	500 kg



CABLE WINCHES

900 kg

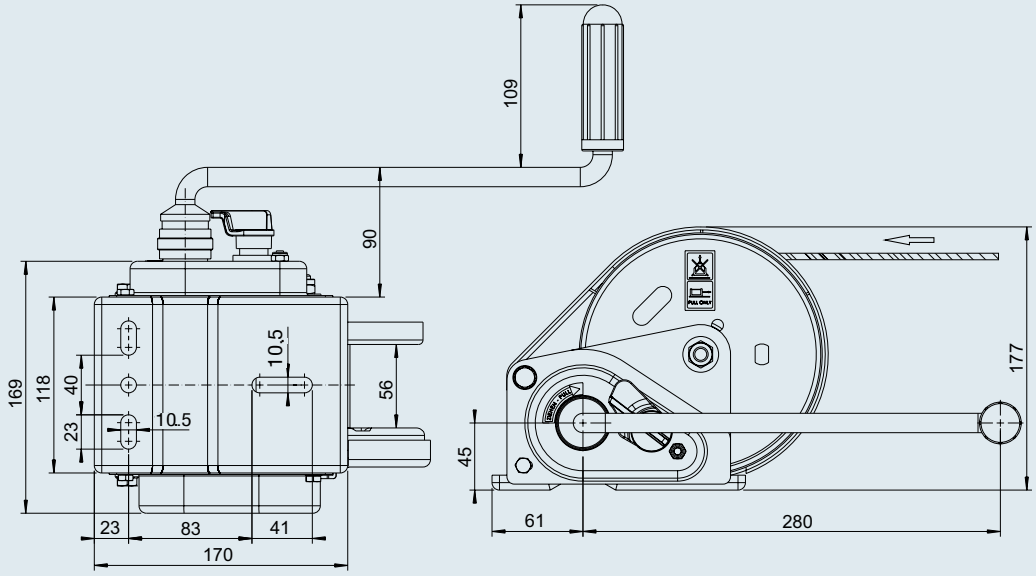
SAP: WINDE 900 COMP

Cable winch type 900 Compact braked

Tensile load max. lowest cable position	900 kg
Manual force	230 N
Minimum load	25 kg
Reduction	8.75 : 1
Lift per crank rotation	From 25 – 53 mm
Drum capacity for 7 mm Ø cable	17 m
Drum capacity for towing band	7 m

Designation	**Part no.**		
without automatic unwinder			
1 without cable/band	1210654	7.0 kg	48 units
with automatic unwinder			
2 without cable/band	1225301	7.0 kg	48 units
3 fitted with 7 m band for towing	1225303	8.0 kg	48 units

Cable winch BASIC 900 kg	**Slope**	**Lowest cable position**	**Middle cable position**	**Highest cable position**
Vertical lifting of loads – (guidance values)	–	900 kg	600 kg	330 kg
Horizontal and angled pulling	10% (6°)	1,500 kg	1,000 kg	550 kg
of a (non-rolling) load (guidance values)	20% (11°)	1,300 kg	900 kg	500 kg
friction factor approx. 0.5	30% (17°)	1,150 kg	800 kg	400 kg
Angled pulling of a rolling load (guidance values)	10% (6°)	5,800 kg	3,900 kg	3,900 kg
	20% (11°)	3,600 kg	2,400 kg	2,400 kg
	30% (17°)	2,700 kg	1,800 kg	1,800 kg



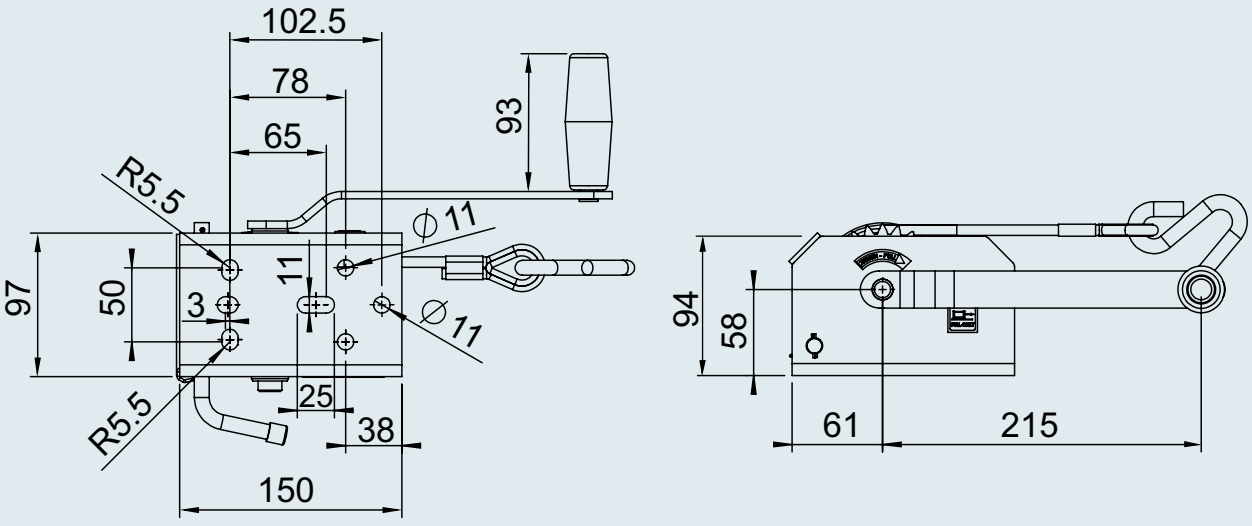
TOWING WINCHES

250 kg

SAP: SCHLEPPWINDE 250 MIT SEIL

Towing winch type 250 – unbraked	
Part No. with 6 m cable	1210211
Max. tensile load	see table
Manual force	250 N
Reduction	none
Lift per crank rotation	From 120 – 150 mm
Drum capacity for 3.5 mm Ø cable	6 m
	3 kg
	– 72 units

Towing winch BASIC 250 kg	Slope	Lowest cable position	Middle cable position	Highest cable position
Horizontal and angled pulling of a (non-rolling) load (guidance values) friction factor approx. 0.5	0% (0°)	400 kg	300 kg	200 kg



TOWING WINCHES

500 kg

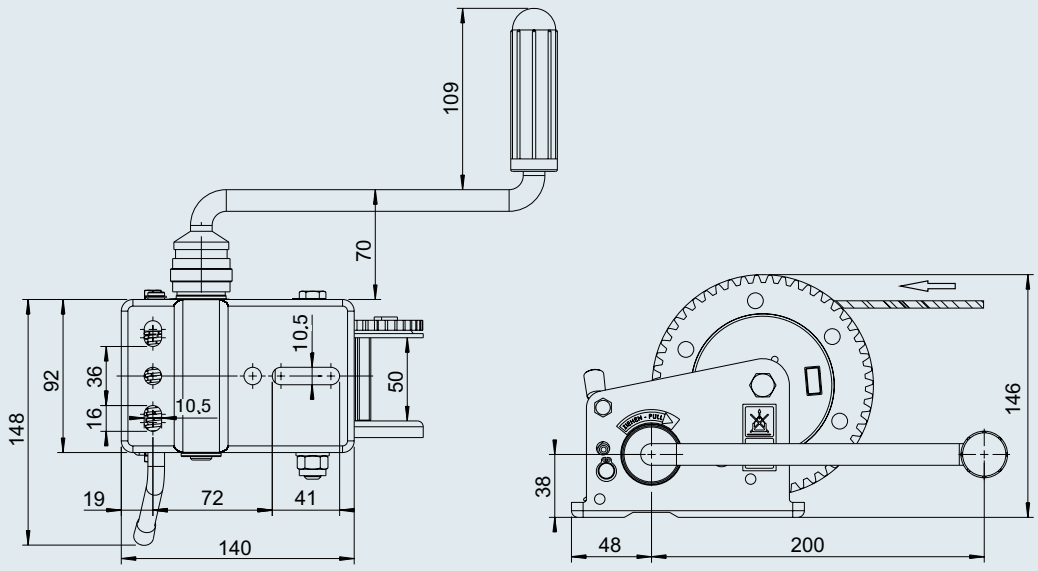
SAP: SCHLEPPWINDE 500A

Towing winch type 500 A– unbraked

Max. tensile load	see table
Manual force	200 N
Reduction	4.25 : 1
Lift per crank rotation	From 37 – 90 mm
Drum capacity for 5 mm Ø cable	15 m

Designation	**Part no.**		
Removable crank			
1 without cable/band	1225543	3.0 kg	96 units
2 fitted with 7 m band for towing	1225547	4.0 kg	96 units
Crank cannot be removed			
3 without cable/band	1213856	4.0 kg	96 units

Towing winch BASIC 500 kg	**Slope**	**Lowest cable position**	**Middle cable position**	**Highest cable position**
Horizontal and angled pulling of a (non-rolling) load (guidance values) friction factor approx. 0.5	0% (0°)	800 kg	550 kg	300 kg

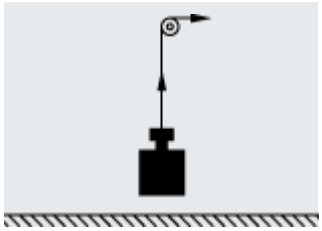


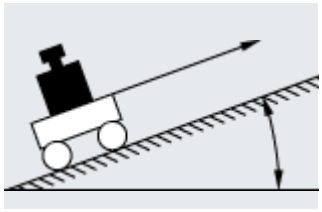
ACCESSORIES

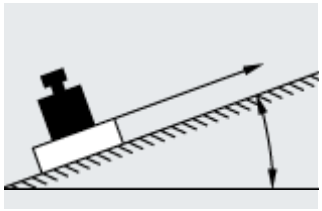
Winches

Cables

Attention:
The cables are suitable for towing, lifting and holding of loads, however not for usage with a free hanging load which may twist when being lifted. For this application, low-twist or twist-free cables should be used.

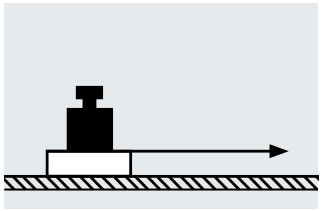






Part No.	For winch type	Tensile load kg	Cable Ø mm EN 12385-4	Cable length m	Weight kg	Hook coating
1730137	351 PLUS	350	4	15	1.1	galvanised CR 6-free
1730136	351 PLUS	350	4	10	0.8	galvanised CR 6-free
1730139	501 PLUS	500	5	20	2.2	galvanised CR 6-free
1730138	450/500 BASIC 501 PLUS	500	5	10	1.2	galvanised CR 6-free
1732837	901 PLUS	900	7	17	4.6	galvanised CR 6-free
1730140	901 PLUS 900 BASIC	900	7	12.5	2.9	galvanised CR 6-free
249980	1201 PLUS	1150	7	25	4.3	galvanised CR 6-free

Bands for towing



Attention:
The available bands are only constructed for the horizontal towing of loads.
When lifting loads, bands in accordance with DIN EN 13157 must be used.

Part No.	For winch type	Max. tensile load band daN kg*	Band width mm	Band length m	Weight kg	Hook coating
1730041	351 PLUS	350	40	4	0.5	galvanised CR 6-free
1730043	501 PLUS	500	40	7	0.9	galvanised CR 6-free
1730032	901 PLUS	900	50	10	1.2	galvanised CR 6-free
1730042	1201 PLUS	1150	55	12.5	1.5	galvanised CR 6-free
1225319	450 BASIC	450	40	6	0.9	galvanised CR 6-free
1225768	501 PLUS 500 BASIC	500	40	7	1.0	galvanised CR 6-free
1225631	901 PLUS 900 BASIC	900	50	7	1.2	galvanised CR 6-free

*The tensile load corresponds with the tensile load of the winch in the lowest cable position. Band with safety factor min. 2.5

Weather protection

Weather protection	
Part No.	1730824
Suitable for winches	AL-KO PLUS types 901 and 901 A
Weight	0.3 kg

ACCESSORIES

Winches

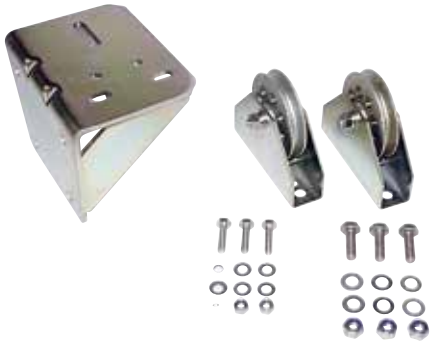
Connection part for band fastening

Part No.	for winch type
1730133	351 PLUS
1730134	501 PLUS
1730135	901 PLUS

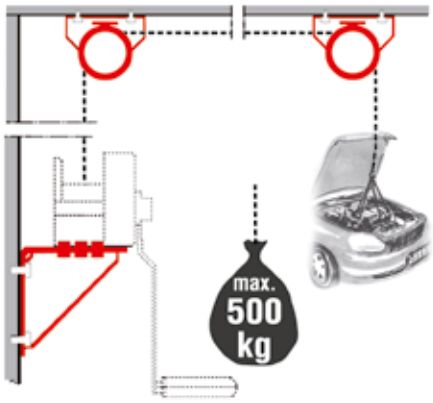
Part No.	for winch type
352657	1201 PLUS

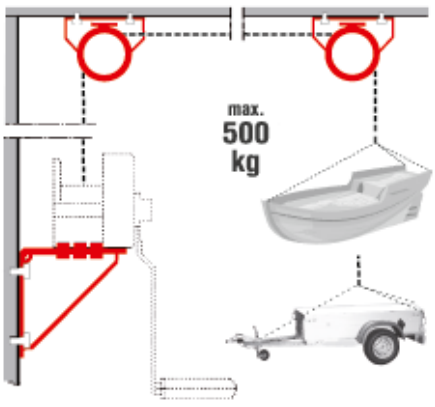
Part No.	for winch type
352514	450 BASIC & towing winch 500
352516	900 BASIC

Garage wall holder



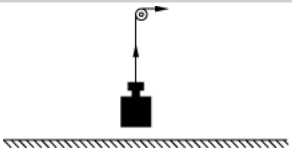
Garage wall holder	
Part No.	1221151
For AL-KO winch types	BASIC and PLUS up to max. 500 kg
Weight	3.5 kg

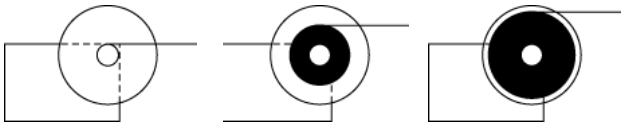




TECHNICAL DATA

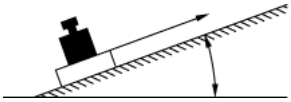
Winches

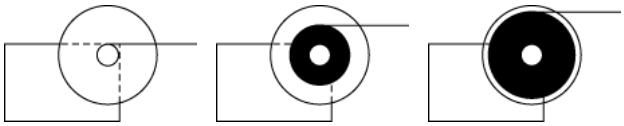




Vertical lifting of loads – (reference values)

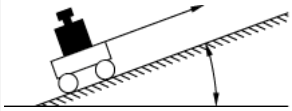
Winch	Lowest cable position	Middle cable position	Highest cable position
BASIC cable winch 450 kg	450 kg	300 kg	170 kg
Cable winch BASIC 900 kg	900 kg	600 kg	330 kg
PLUS cable winch 350 kg	350 kg	250 kg	150 kg
Cable winch PLUS 500 kg	500 kg	330 kg	170 kg
Cable winch PLUS 900 kg	900 kg	600 kg	330 kg
Cable winch PLUS 900 kg automatic unwinder	900 kg	600 kg	330 kg
Cable winch PLUS 1,150 kg automatic unwinder	1,150 kg	830 kg	500 kg

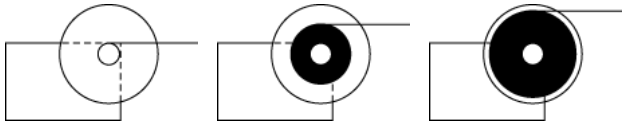




Horizontal and angled pulling of a (non-rolling) load (reference values) friction factor approx. 0.5

Winch	Slope	Lowest cable position	Middle cable position	Highest cable position
Towing winch BASIC 250 kg	0% (0°)	400 kg	300 kg	200 kg
Towing winch BASIC 500 kg	0% (0°)	800 kg	550 kg	300 kg
BASIC cable winch 450 kg	10% (6°)	750 kg	500 kg	300 kg
	20% (11°)	650 kg	450 kg	250 kg
	30% (17°)	550 kg	400 kg	200 kg
Cable winch BASIC 900 kg	10% (6°)	1,500 kg	1,000 kg	550 kg
	20% (11°)	1,300 kg	900 kg	500 kg
	30% (17°)	1,150 kg	800 kg	400 kg
PLUS cable winch 350 kg	10% (6°)	600 kg	400 kg	250 kg
	20% (11°)	500 kg	350 kg	200 kg
	30% (17°)	450 kg	300 kg	150 kg
Cable winch PLUS 500 kg	10% (6°)	800 kg	550 kg	300 kg
	20% (11°)	700 kg	500 kg	250 kg
	30% (17°)	650 kg	450 kg	220 kg
Cable winch PLUS 900 kg	10% (6°)	1,500 kg	1,000 kg	550 kg
	20% (11°)	1,300 kg	900 kg	500 kg
	30% (17°)	1,150 kg	800 kg	400 kg
Cable winch PLUS 900 kg automatic unwinder	10% (6°)	1,500 kg	1,000 kg	550 kg
	20% (11°)	1,300 kg	900 kg	500 kg
	30% (17°)	1,150 kg	800 kg	400 kg
Cable winch PLUS 1150 kg automatic unwinder	10% (6°)	2,000 kg	1,400 kg	850 kg
	20% (11°)	1,700 kg	1,250 kg	750 kg
	30% (17°)	1,500 kg	1,100 kg	650 kg





Angled pulling of a rolling load – (reference values)

Winch	Slope	Lowest cable position	Middle cable position	Highest cable position
Cable winch BASIC 450 kg	10% (6°)	2,900 kg	2,000 kg	1,100 kg
	20% (11°)	1,800 kg	1,200 kg	700 kg
	30% (17°)	1,350 kg	900 kg	500 kg
Cable winch BASIC 900 kg	10% (6°)	5,800 kg	3,900 kg	2,100 kg
	20% (11°)	3,600 kg	2,400 kg	1,300 kg
	30% (17°)	2,700 kg	1,800 kg	1,000 kg
PLUS cable winch 350 kg	10% (6°)	2,300 kg	1,600 kg	800 kg
	20% (11°)	1,400 kg	1,000 kg	500 kg
	30% (17°)	1,100 kg	800 kg	400 kg
Cable winch PLUS 500 kg	10% (6°)	3,300 kg	2,200 kg	1,100 kg
	20% (11°)	2,000 kg	1,300 kg	700 kg
	30% (17°)	1,500 kg	1,000 kg	500 kg
Cable winch PLUS 900 kg	10% (6°)	5,800 kg	3,900 kg	2,100 kg
	20% (11°)	3,600 kg	2,400 kg	1,300 kg
	30% (17°)	2,700 kg	1,800 kg	1,000 kg
Cable winch PLUS 900 kg automatic unwinder	10% (6°)	5,800 kg	3,900 kg	2,100 kg
	20% (11°)	3,600 kg	2,400 kg	1,300 kg
	30% (17°)	2,700 kg	1,800 kg	1,000 kg
Cable winch PLUS 1,150 kg automatic unwinder	10% (6°)	7,400 kg	5,300 kg	3,200 kg
	20% (11°)	4,800 kg	3,300 kg	2,000 kg
	30% (17°)	3,500 kg	2,500 kg	1,500 kg

SAFETY

The buyer of the cable winch must check whether the product has the properties that their individual usage requires.

1. Load pressure brake:
Depending on the type, cable winches with load pressure brakes must be operated with the minimum weight specified in the delivery overview. If this minimum load is not met, the braking function does not come into force.

2. Applications of a braked cable winch:
The braked cable winches fulfil the requirements of the new EC standard EN 13157. Our winches cannot be used in the following fields of application:
Construction lifts, stages, studios and liftable suspended access equipment.

Mechanical drive prohibited.
Not approved for continuous operation.
Not approved as lashing device.
(Load pressure brake can release itself due to alternating movements).
The AL-KO cable winches can be used for various applications. The regulations that need to be observed in these fields of application must be checked by the manufacturer or user responsible for this application.
I.e. the buyer of the cable winch must check whether the product has the properties that their individual usage requires. The service life will vary depending on the load (low, medium, max. load). To increase the service life, it is advantageous to use the cable winches only for medium loads. Select the higher capacity winch type if necessary.

It is strictly prohibited to stand beneath overhead loads. At least two winds of the rope must stay on the drum when carrying a load.

3. Cables:
The specified cables are designed according to EN 13157 and EN 12385-4. Our cables are suitable for towing, pulling up and lifting loads, but not for use with a freely hanging load that can twist during the lifting operation. For this application, low-twist or twist-free cables should be used.

4. Bands:
The available bands are only constructed for the horizontal towing of loads.
When lifting loads, bands in accordance with DIN EN 13157 must be used.

12. MANOEUVRING SYSTEMS

MANOEUVRING SYSTEMS

MAMMUT 448 - 451

MAMMUT CTRAIL 452 - 453

RANGER 454 – 455

Technical data 456 – 457

MAMMUT / MAMMUT TANDEM

The clever manoeuvring system for caravans

5 Jahre Garantie gemäß AL-KO Garantiebedingungen
5 years warranty according to AL-KO warranty conditions

The AL-KO MAMMUT manoeuvring system makes light work of positioning a caravan. Whether on rough ground or inclines, the system moves the vehicle easily and effectively. With just your thumb and without having anyone to help you.

YOUR ADVANTAGE

Comfort

- Easy, smooth manoeuvring thanks to joy-stick with soft start and soft stop technology
- Immediate stop on inclines: Automatically stops the caravan as soon as the joystick is released

Power

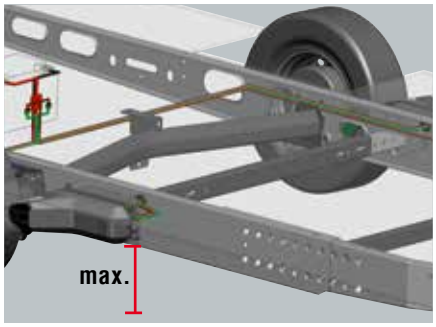
- On the spot manoeuvring with intuitive one handed operation
- Infinitely variable control
- Powerful movement: Easily moves up inclines of up to 28% and can overcome kerbs and obstacles up to 4 cm high
- Maximum contact pressure applied to the wheels by the electric wind on function of the rollers

Safety

- **Maximum ground clearance** thanks to flat design
- Lightweight, without battery in top installation variant from 32 kg upwards (SA)
- Plug & Play installation on AL-KO chassis embossed with "M" for Mammut (SA from model year 2010 / TA from model year 2015)
- Perfect protection of the chassis thanks to solid, computer-optimised cross members
- Robust solid metal housing with metal gear unit
- Drive fully sealed, splash-proof (IP 65)
- No TÜV registration required
- Made in Germany
- Worldwide service network
- **5-year warranty** (according to AL-KO Warranty Conditions) at every retailer

360°-turns | Soft start soft stop | Obstacles up to 4 cm | Gradients up to 28% | Infinitely variable control

Robust aluminium drives with double-mounted drive rollers. Perfect protection against damage and moisture (IP65).



AL-KO chassis with the embossed “M” on the longitudinal frame (SA from model year 2010, TA from model year 2015) have standard mounting holes for the MAMMUT system. The cross member required for stability does not take up any space under the chassis. This ensures **maximum ground clearance**.

Easy one-handed operation

Adjustable speed and direction control via joystick
If the joystick is only moved horizontally to the right or left, the caravan pivots on the spot in the required direction. Releasing the joystick immediately stops the wheels.

Remove MAMMUT drive from the wheel

Engage MAMMUT drive at the wheel

LED status displays

System is ready to operate

Maximum climbing ability reached

Maximum drive temperature reached

Battery state of hand-held radio transmitter

Battery state of supply battery drive unit

Magnetic switch for activating the transmitter

Fingertip manoeuvring

Only the AL-KO MAMMUT offers a caravan manoeuvring system with joystick control. Contrary to button operation, you can use one hand to easily steer, accelerate and brake.

Playing it safe

To prevent inadvertent operation, the system has to be enabled. The remote control is simply held against the sensor on the drawbar to activate the system.

Optimal grip

Two motors are integrated into every drive unit: one for the positioning drive and one for the wheel drive. One push of the button on the remote control and the sturdy sandblasted drive rollers mounted in double bearings press against the tyres. The permanent electronic control of the contact pressure ensures optimum grip under all conditions. The second motor in the drive housing is responsible for the wheel drive.

Soft start and soft stop

Gentle, soft start
and soft stop technology
ensures no sudden uncontrolled movements.

Immediate stop on downhill gradients

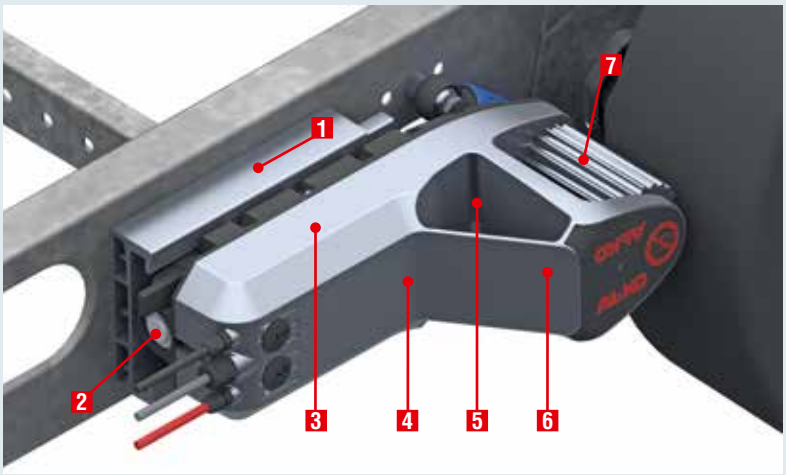
As soon as the joystick is released,
the trailer is braked and remains stationary
on the slope.

MAMMUT / MAMMUT TANDEM

Ingenuous details

YOUR ADVANTAGE
Overview of other performance features

- **Protection against misuse:** Authorisation by magnetic switch on the overrun device (hand-held radio transmitter)
- **Electric control of the drive rollers.** The electronics make sure that the maximum permitted contact pressure is always applied. That means top grip under all conditions.
- **Immediate stop** on the slope as soon as the joystick is released
- **On the spot manoeuvring** up to 360° on the spot manoeuvring
- **Maximum speed** approx. 0.5 km/h
- **LED displays in the hand-held radio transmitter** for: System ready, maximum climbing ability on inclines reached, maximum drive temperature reached, battery status of hand-held transmitter, battery status of drive
- **Infinitely variable speed control** by joystick
- **Infinitely variable steering** via the joystick
- **Manual emergency turn** of positioning drive
- **Splash and saltwater protection (IP65) for motor and electronics**
- **Sturdy drive rollers that protect the tyres**
- **Diagnostic capability** at the diagnostic interface in the vehicle
- **CAN bus-compatible**
- **Power consumption**: Peak current 120 A (SA) / 240 A (TA), idle current max. 5 mA
- **No TÜV registration** required– General operating permit is available



1 **Mounting adapter for fixing** MAMMUT to the chassis

2 **Manual emergency turn** one direction

3 **Control unit** internal / encapsulated

4 **Motor for positioning drive** internal / encapsulated

5 **Motor for drive** internal / encapsulated, powerful, robust, with overload protection

6 **Aluminium housing** Sealed drive unit to IP65 to protect against spray water ingress

7 **High-grip aluminium rollers to protect the tyres**

MAMMUT / MAMMUT TANDEM

Installation options / accessory recommendation

I Top installation variant

For maximum ground clearance. For AL-KO chassis with the M design on the longitudinal frame (single axle trailer from year of manufacture 2010, tandem from year of manufacture 2015). In most cases, the mounting holes for MAMMUT will be provided as standard.
AL-KO MAMMUT can then be mounted ahead of the axle in the driving direction (where it is protected against stone chippings and general dirt!). In this installation variant, the ground clearance between the bottom edge of the frame and road is retained in full.

I Bottom installation variant

The classic installation for retrofitting.
For AL-KO chassis without the M design on the longitudinal frame and commonly encountered competitors' chassis. Here, AL-KO MAMMUT is typically bolted on through a cross member under the frame. This reduces the ground clearance by the height of the cross member (approx. 50 mm). In this installation variant, installation is possible either in front of or behind the axle.

Simple installation

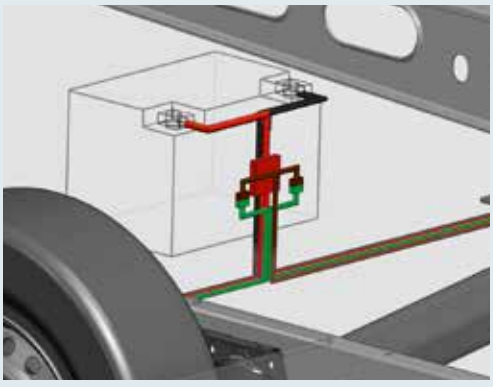
Bolt both drives onto the frame through the cross member. Connect positive/negative cable to the battery. Mount magnetic switch on the drawbar. Done. The complete control unit on the single-axle variant is protected in the MAMMUT and does not have to be installed and wired separately.
The tandem version has a small controller, the size of a cigarette box, additionally mounted inside.

12

I Accessory recommendation

Battery/charger

We recommend maintenance-free AGM batteries with suitable and matching charging technology. In caravans with a permitted gross weight up to 1800 kg without additional consumers (e.g. light, water pump), AGM batteries with a capacity of at least 80 Ah. With a permitted gross weight of more than 1800 kg, for tandem caravans or for caravans with additional consumers, AGM batteries with a capacity of at least 100 Ah. AGM batteries with spiral cell technology should have a capacity of at least 66 Ah (SA without autonomy) or 75 Ah (TA or SA with autonomy).



Jockey wheel

Manoeuvring systems may overload jockey wheels on softground.
Narrow wheels can dig into the soft or loose ground.

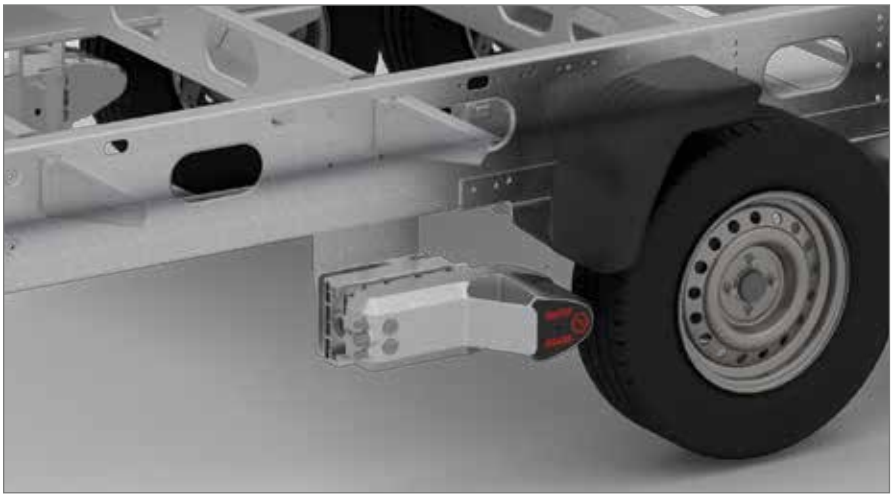
Consequently, AL-KO recommends:

- Use a tall, wide wheel
- Use a sturdy jockey wheel with a load capacity of more than 200 kg, e.g. the AL-KO Premium jockey wheel

MAMMUT CTRAIL

The manoeuvring system for commercial trailers

The AL-KO MAMMUT CTRAIL manoeuvring system makes light work of positioning your trailer. Whether on rough ground or slopes, the system moves the vehicle easily and effectively. With just your thumb and without having anyone to help you.



YOUR ADVANTAGE

- Easy, smooth and infinitely variable manoeuvring thanks to joystick with soft start and soft stop technology
- Immediate stop on inclines: Release the joystick and the trailer is braked to a halt immediately
- Electric control of the drive rollers. The electronics make sure that the maximum permitted contact pressure is always applied. That means top grip under all conditions.
- Rotation on the spot up to 360° – with intuitive one- handed operation via the joystick
- Powerful movement: Easily moves up inclines of up to 28% and can overcome kerbs and obstacles up to 4 cm high
- Maximum contact pressure applied to the wheels by the electric wind on function of the rollers
- Maximum ground clearance thanks to flat design
- Lightweight, without battery from 32 kg (SA)
- Perfect protection of the chassis thanks to solid, computer-optimised cross members
- Robust solid metal housing with metal gear unit
- No TÜV registration required thanks to general operating permit
- Made in Germany
- Power consumption: Peak current 120 A (SA), idle current max. 5 mA
- CAN bus-compatible
- Infinitely variable speed control by joystick (max. speed approx. 0.5 km/h)
- LED displays in the hand-held radio transmitter for: System is ready to operate, max. Maximum climbing ability reached, max. Drive temperature reached, battery status of handheld transmitter, battery status of drive
- Manual emergency turn of positioning drive
- Sturdy drive rollers that protect the tyres
- Diagnostic capability at the diagnostic interface in the vehicle

1 **Guide block**

2 **Emergency turn**
by hand, one-way

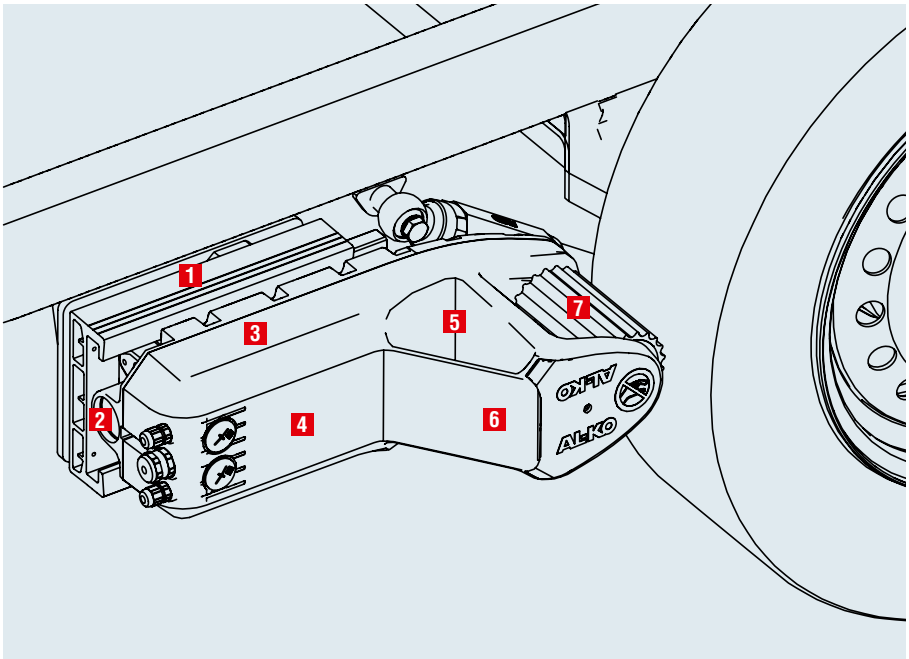
3 **Control**
internal / encapsulated

4 **Motor for positioning drive**
internal / encapsulated

5 **Motor for drive**
internal / encapsulated,
powerful, sturdy, with overload protection

6 **Aluminium housing**
Drive unit sealed unit
(spray water-proof to IP65)

7 **High-grip aluminium rollers to protect the tyres**



MAMMUT CTRAIL

The manoeuvring system for commercial trailers

NOTE: MAMMUT CTRAIL can only be ordered as original equipment from retailers or body manufacturers!

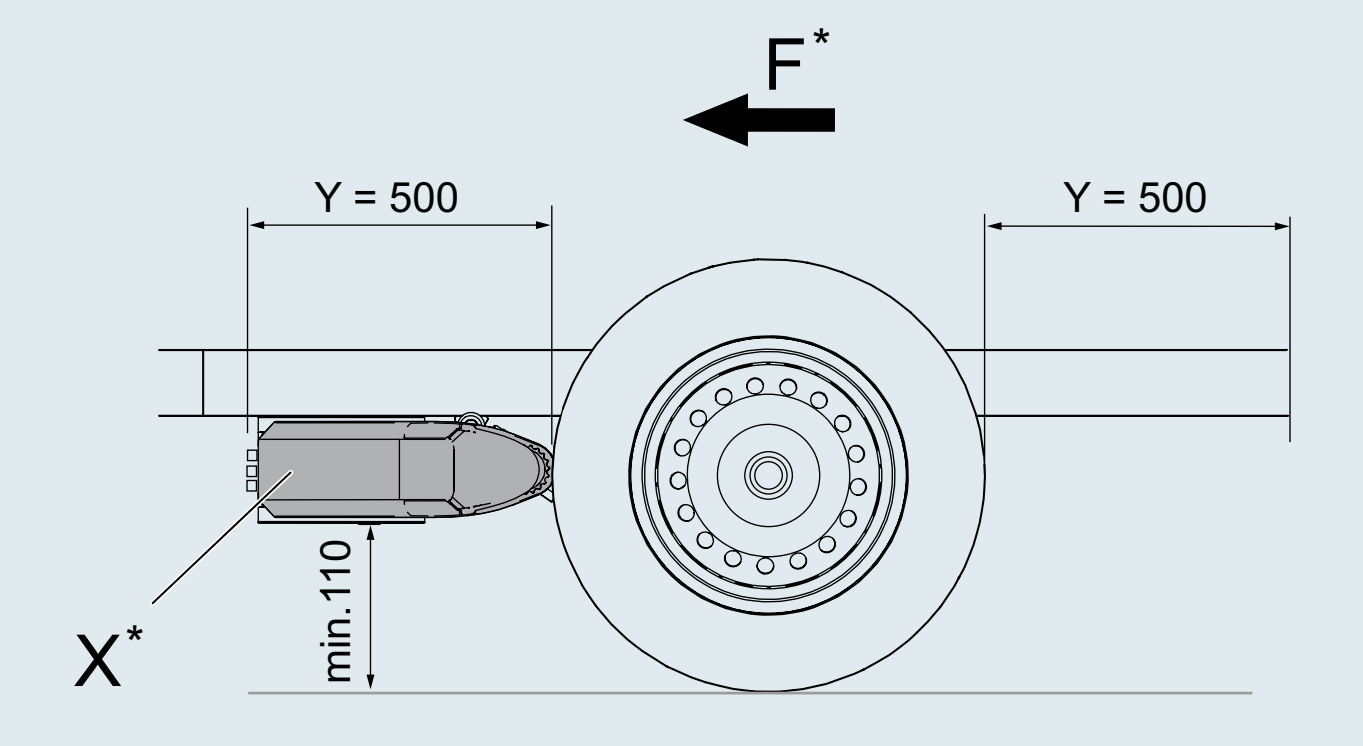
Simple installation

Weld the two drives to the frame via the cross member and adapter plates. Connect positive/negative cable to the battery. Mount magnetic switch on the drawbar. Done! The complete control unit on the single-axle variant is protected in the MAMMUT CTRAIL drive and does not have to be installed and wired separately.

Strong, sturdy, compact: Powerful electric motors in each unit drive the trailer wheels.

GRADEABILITY

Type	Gross weight	Max. gradeability
Single axle trailer	1.2 t	28%
	1.8 t	17%
	2.5 t	10%



*F = Driving direction
*X = Preferred mounting position

Preconditions for installation

- Square tubular frame or similar strong chassis
- Distance between tyre inner face and mounting plate: min. 125 mm!
- When using shock absorber, the minimum distance between tyre inner face and chassis outer edge must not be less than 120 mm!
- Installation area free of lines and other interference contours
- Gusset plates & crossmembers manufactured by the customer
- Installation of the individual gusset plates & crossmembers
- Carry out installation with two persons

RANGER / RANGER TANDEM

The clever manoeuvring system for caravans

5 Jahre Garantie
gemäß AL-KO Garantiebedingungen
years warranty
according to AL-KO warranty conditions

AL-KO QUALITY AND DESIGN AT AN AFFORDABLE PRICE

The new, powerful entry model for single axle caravans up to 1.8 tonnes and tandem caravan up to 2.5 tonnes.
Millimetre-precise manoeuvring without needing anyone's help.
Even on uneven terrain.

- AL-KO quality and design
- Climbing power up to 18% (long gradient) / over 18% (short gradient, e.g. drive-on ramps)
- Perfect and tested AL-KO CHASSIS connection from Europe's chassis market leader
- Soft start and soft stop
- Ergonomic remote control with lanyard
- Suitable for almost any caravan up to 1.8 t (single-axle) or 2.5 t (tandem)
- Protected mechanical system
- Worldwide service network
- 5-year warranty (as per AL-KO warranty conditions)

360°-turns

Soft start soft stop

Obstacles up to 2 cm

Gradients up to 18%

Direction control via buttons

Green status LED light

On/Off

Battery (caravan / remote control) and overload display

THE RIGHT MANOEUVRING SYSTEM FOR ME

MAMMUT	RANGER
Electric control	Manual control
Joystick remote control	Button remote control
M-connection / Underneath connection	Underneath connection
Aluminium housing (IP65)	Plastic housing
Electronics in drive	Electronics in caravan (storage space)
Aluminium rollers on both sides	Aluminium rollers on both sides
5-year warranty	5-year warranty
Gross weight of caravan*: 2.25 t / 3.0 t	Gross weight of caravan*: 1.8 t / 2.5 t
Maximum gradeability up to 28 %	Maximum gradeability up to 18 %

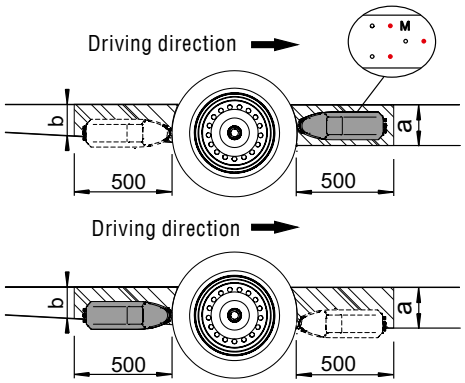
*Single axle trailer / tandem

Our tip:
RANGER and UP4 are unbeatable in a package because both systems can be operated with just one remote control!
See Chapter 10

"MAMMUT" MANOEUVRING SYSTEM

Type	Weight kg	Part no.
M20	32	1730367
S21 S22	42 42	1730368 1730369

Max. perm. gross caravan weight 2.25 t, max. gradeability (gross weight):
15% (2.0 t) / 17% (1.8 t) / 28% (1.2 t)

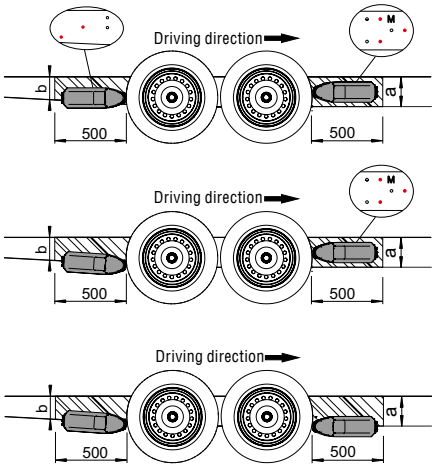


	Installation in front of axle		Installation behind axle		
	"M" in front of axle from model year 2010		"M" behind axle		
	Yes	No		No	
Height a > 184 mm Height a = 125-184 mm Height a < 125 mm	M20 S22 ***S23***	S21 S22 ***S23***		S21 S22 ***S23***	Height b > 184 mm Height b = 125-184 mm Height b < 125 mm

Height a / b: Bottom edge of the frame until interference contour (steps, water pipe, etc.)
Version in italics = note ground clearance, consultation and installation by AL-KO + dealer

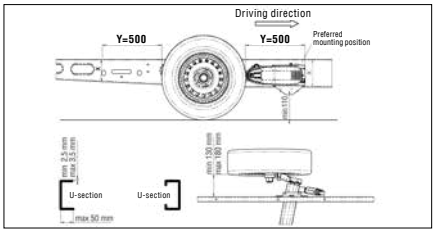
Type	Weight kg	Part no.
TM400 TM410 TM420	67 kg 77 kg 77 kg	1730287 1730288 1730289
TM401 TM402	74 kg 74 kg	1730238 1730054
TS411 TS412 / TS421 TS422	84 kg 84 kg 84 kg	1730237 1730233 1730049

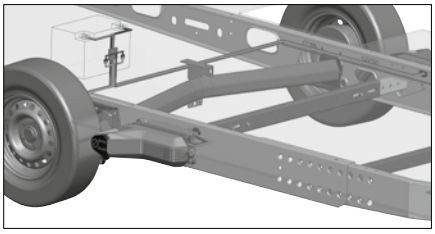
Max. perm. gross caravan weight 3.0 t max. Gradeability (gross weight): 15% (3.0t)



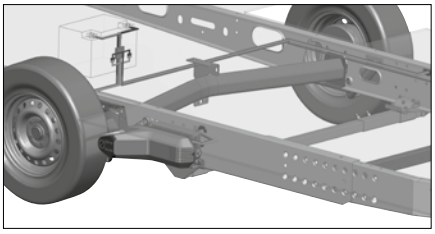
Installation in front of + behind axle					
	"M" in front of axle from model year 2010		2 holes behind the axle as per fig. (from model year 2015)		
	Yes	No	Yes	No	
Height a > 184 mm	TM400 TM401 TM402 ***TM403***		X X	 X X X	Height b > 125 mm Height b > 184 mm Height b = 125–184 mm Height b < 125 mm
Height a > 184 mm	TM410	 TS411 TS412 ***TS413***	X 	 X X X	Height b > 125 mm Height b > 184 mm Height b = 125–184 mm Height b < 125 mm
Height a = 125–184 mm	TM420 TS421 TS422 ***TS423***	 TS421 TS422 ***TS423***	X X	 X X X	Height b > 125 mm Height b > 184 mm Height b = 125–184 mm Height b < 125 mm
Height a < 125 mm	***TM430*** TS431 ***TS432*** ***TS433***	 TS431 ***TS432*** ***TS433***	X X	 X X X	Height b > 125 mm Height b > 184 mm Height b = 125–184 mm Height b < 125 mm

Height a / b: Bottom edge of the frame until interference contour (steps, water pipe, etc.)
Version in italics = note ground clearance, consultation and installation by AL-KO + dealer





M20 (fig. MAMMUT)



S21 (fig. MAMMUT)

The S and TS variants can be used for AL-KO and third-party chassis under the following conditions: The frame profile must be a U or C profile and have a material thickness of 2.5 to 3.5 mm. The distance between the outside edge of the frame and the inside of the tyre must be at least 130 mm for the Mammut and at least 85 mm for the Ranger. The remaining ground clearance must be at least 110 mm.

"MAMMUT CTRAIL" MANOEUVRING SYSTEM

Type	Weight	Part no.
Single axle trailer S24 CTRAIL (welded version) *Max. permitted gross weight of trailer up to 2.5 t*	above 37.5 kg	1732472

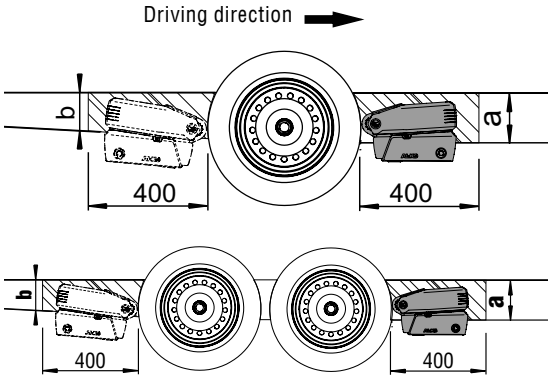
NOTE
MAMMUT CTRAIL can only be ordered as original equipment from retailers or body manufacturers!

"RANGER" MANOEUVRING SYSTEM

Type	Axles	Weight kg	Part no.
S21 **(single axle trailer)**	1	37	1731051
TS411 **(tandem)**	2	74	1731211

Max. perm. gross caravan weight: 1.8 t (S21) / 2.5 t (TS411); max. gradeability 18% at 1.5 t (S21) or 1.8 t (TS411)

Clearance (a/b) min. 193 mm from the bottom edge of the frame until interfering contour (steps, water pipe etc.). For clearance less than 193 mm, use distance plates item no. 1731063 (see installation accessories).



OPTIONAL INSTALLATION ACCESSORIES "MAMMUT / RANGER"

Add-on kit for variant S/TS*	Contents	Recommended for MAMMUT	Recommended for RANGER	Part no.
Add-on kit AL-KO Vario III AV / IV AV (installation behind the axle, reinforcement of frame profile 2 mm)**	2 reinforcement plates with fixing bolts	X	X	1224882
Add-on kit AL-KO Vario III AV / IV AV (installation in front of the axle, overlapping adapter)***	2 adapter plates with fixing bolts	–	X	1731042
Add-on kit AL-KO Vario II (installation in front of the axle, overlapping adapter)***	2 adapter plates with fixing bolts	–	X	1731044
Add-on kit for frame height (X) less than 185 mm and more than 150 mm	3 x 2 spacer plates each 10 mm with fixing bolts	X	–	1224883
Add-on kit for frame height (X) less than 193 mm and more than 147 mm****	2 spacer plates each 15 mm with fixing bolts	–	X	1731063

* The field of application of the variants S / TS can be expanded with add-on kits.
** if required, with spacer plates 1224883 or 1731063 *** if required, with spacer plates 1731063 ****can be combined with a max. of 3

13. ELECTRONICS

ELECTRONICS

ATC Trailer Control 460 – 461

Technical data 462

FAQ 463

GPS tracker 464 – 465

13

ATC TRAILER CONTROL

Anti-snaking system for caravans and commercial trailers*

KEEP SAFELY IN THE TRAFFIC LANE

The emergency system responds automatically when the vehicle combination swaying exceeds limit values.

- Sensors react even to slight lateral accelerations.
- The trailer immediately brakes automatically. The driver barely notices this correction.
- Braking automatically puts the trailer back on track, i.e. there is little risk of a rear-end collision due to sudden, sharp braking, and an overtaking manoeuvre is not affected.

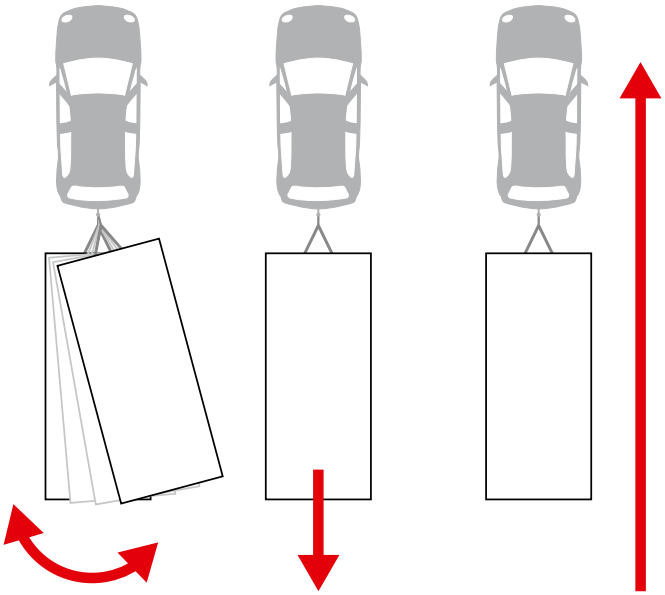
NEW AND IMPROVED

- Improved early detection of risk of snaking
- Faster brake access
- Use up to GA of 3.5 tonnes
- Optimised weight & design
- Horizontal installation (installation space and ground clearance)

SIMPLY CLEVER

Avoidance manoeuvres or side winds can cause trailers to start swinging. AL-KO Trailer Control actively counteracts these forces. It detects the swinging motion directly at the axle and automatically brakes the trailer gently.

Put your trust in ATC and contact your insurance company to ask for a discount on the premiums for your caravan.



The driving behaviour of the trailer is permanently monitored by the ATC. Sensors detect dangerous lateral movements directly on the trailer axle, even before an ESP system for trailers installed in the car is able to sense the pendulum movement. The trailer will immediately – without any action on the part of the driver – brake gently and return to a stable driving condition.

The AL-KO ATC stabilisation system can be operated in addition to trailer ESP in the car, such as is offered by some car manufacturers.

AL-KO ATC Trailer Control is a one-off investment that will constantly deliver maximum safety when towing trailers.

| Excellently equipped!
AL-KO offers several safety components for vehicle combinations, which can be used independently from one another, and ensure more stable driving with caravans or trailers.

| ATC – The system for passive safety:
The ATC AL-KO Trailer Control is an emergency braking system and is activated automatically if the vehicle combination encounters a critical instability situation, i.e. if the swinging of the trailer reaches a critical level.

| AKS – The system for active safety:
The AL-KO AKS™ stabiliser permanently suppresses minor swaying and pitching movements of the trailer, and increases the critical driving speed by approx. 20% (ADAC test winner).

Thus, both systems supplement one another to make a perfect safety program:
The new formula for maximum driving safety:

1 ATC + 1 AKS = 3

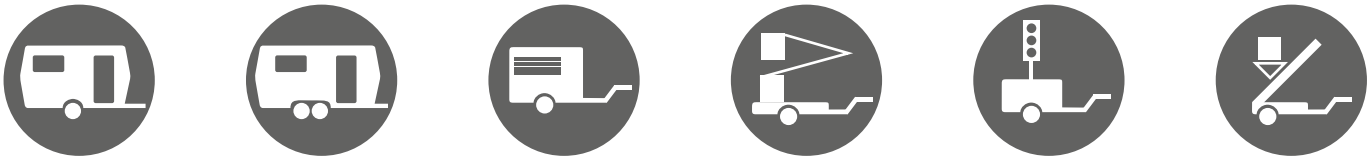
1. **prevents skidding**
2. **suppresses pitching**
3. **counteracts swaying**

Automatic: The safety check!

The 13-pin plug establishes the electrical power supply to the car.

The ATC Trailer Control system automatically starts a function test.

The LED on the overrun device lights up green. The system is 100% functional.

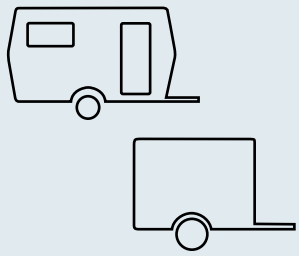
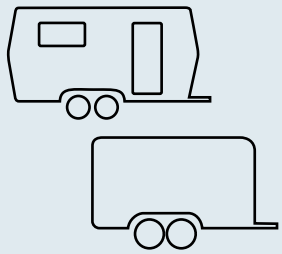


* Only suitable for trailers with a defined weight corridor

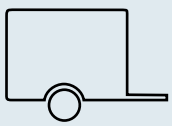
TECHNICAL DATA

ATC Trailer Control

ATC installation in AL-KO chassis

AL-KO chassis	Gross weight min. – max. kg	Unladen weight min. kg	Part no.
	750/1,000	500	1732871
	1,001–1,300	800	1732871
	1,301–1,500	1,000	1732872
	1,501–1,800	1,100	1732873
	1,801–2,000	1,300	1732874
	2,001–2,500	1,600	1732875
	2,501/3,000	2,000	1732876
	3,001–3,500	2,500	1732877
	1,300–1,600	1,000	1732878
	1,601–2,000	1,200	1732879
	2,001–2,500	1,600	1732880
	2,501–2,800	1,800	1732881
	2,801–3,500	2,200	1732882

ATC installation in hobby caravan (from model year 1997) with Knott axle

Hobby caravan	Gross weight min. – max. kg	Unladen weight min. kg	Part no.
	750–1,000	500	1225429
	1,001–1,300	800	1225429
	1,301–1,600	1,000	1225430
	1,601–1,900	1,100	1225431

FAQ

ATC Trailer Control

How long does it take to install ATC?	Retrofitting in about 2-4 hours.
Does ATC need to be registered when retrofitted?	No. It is sufficient for the general operating permit to be included with the vehicle documents.
Where does the ATC get its electrical power from?	The ATC is connected to the trailer's distribution box, from where it is supplied by the continuous positive of the 13-pin plug when travelling.
How much current does the ATC need?	(Standard fuse) 15 amps.
Can the ATC also be fitted to trailers with a 7-pin plug?	No. The electrical power supply via the 7-pin plug is not sufficient.
Where does the LED have to be mounted?	In the area of the overrun device (visual range when coupling).
Does the brake light come on when ATC is working?	No. The ATC brakes the vehicle combination gently, comparable to the engine brake of a car. As a result, there is no need for the brake light to be activated.
Does the ATC (e.g. like the AKS stabiliser coupling) fulfil the new criteria for a 100 km/h speed limit (factor 1.0 in the caravan and factor 1.2 for other trailers)?	No. ATC (like ESP in a car) is solely an emergency system and does not improve the critical speed range like an AKS does.
Does ATC require maintenance?	No. The system is maintenance-free.
How do I detect when ATC is ready to operate?	As soon as the 13-pin plug from the trailer or caravan is connected to the towing vehicle, ATC performs a complete self-check (1 brake activation and plausibility check of the electronics system). The function status is displayed by a green LED on the overrun device. Green = ready to function Red = non-functional (but ready for driving) Red flashing = trailer is braking (not ready for driving)
How can I tell in the car when the ATC emergency system is operating?	The gentle braking effect can be felt in the car.

COBBLESTONE –

The first GPS tracker without fees or subscription!

The COBBLESTONE is an all-round mobile GPS tracker.
It allows users to find all kinds of movable objects with the help of GPS positioning. It is small, handy and ideal for use in motorhomes, caravans, trailers, etc.
It has a long battery life and can be easily set up using the free app or PC version. It is also very simple to activate. Before mounting, shake the GPS tracker vigorously for 10 seconds, and it's ready to go. Activation can take up to 6 minutes and the first position may be inaccurate.

THE ADVANTAGES FOR YOU:

- No subscription, no fees
- No power supply required
- Battery life up to 10* years
- No installation costs
- Easy installation and operation via app (CPH Trackers)
- Anti-jamming sleep mode, as the tracker only activates when there is movement.
- 5 different profiles possible
- Suitable for outdoor use
- Waterproof – IP67

FUNCTIONALITY

As soon as the GPS tracker is moved, it switches on and receives a satellite signal to calculate its position. The GPS data** will be sent directly to your app
and your e-mail address simultaneously. The whole process takes about 30-50 seconds.

EXTREMELY EASY SETTING UP THE TRACKER APP

1. Download the "CPH Trackers" app
2. Create user
   (e-mail & password)
3. Press "+"
4. Enter Tracker ID
5. Set device name
6. Select profile
7. Shake the
   GPS Tracker
   for 10 seconds

MOUNTING:

The tracker must be activated before the device is attached with the supplied double-sided tape. The device must not be mounted directly behind metal, in a metal pipe or similar. Please mount the device so that it points towards the sky.

THE PROFILES:

- **Live Tracking:** is triggered by movement: Sends its position the first time it's moved, every 15 minutes while moving, 15 minutes after the last movement and once a week while not moving.
- **After Movement:** is triggered by movement: Sends its position after 1 hour without movement. The device does not transmit positions while moving. Sends 1 position every week, even when it hasn't moved.
- **Burn Mode:** ATTENTION: Battery life less than 5 weeks. Sends its position every 10 minutes. Recommendation – only use this profile if you are looking for a lost device
- **1 Track / Day:** Sends its position once a day. Takes about one day to change the profile
- **1 Track / Week:** Sends its position once a week. Takes about one week to change the profile

We recommend the Live Tracking profile to protect property from theft.

COBBLESTONE GPS Tracker TECHNICAL DATA

Item no.	1732934
Battery life	4 years with 1 track per day – up to 10 years*
Dimensions	6.4 cm x 6.4 cm x 2.3 cm
Weight	88 g
GPS accuracy	2 – 30 metres**
Tracks	4,000 max. possible
Battery capacity	4.4 Ah
Rechargeable	No
SIM card	Yes – permanently integrated in the Tracker
Can be used in the following countries	EU, Norway and Switzerland
Operating environment	-30° to +80° Celsius
Humidity	10% – 70%
Housing material	Impact-resistant, waterproof, dustproof
Protection class	IP 67

SCOPE OF SUPPLY:

- COBBLESTONE from Copenhagen Trackers
- Double-sided tape
- GPS Tracking info label
- Additional sticker with IMEI number
- COBBLESTONE data sheet in different languages

* Battery life depends on usage and external factors such as transmission and temperature conditions.

** GPS accuracy is approximately 2-30 meters, depending on signal strength. If the Tracker does not receive a GPS signal, it will attempt to determine its location via the GSM (mobile phone) network. The accuracy also depends on the signal strength.

14. LIGHTING SYSTEMS

LIGHTING SYSTEMS

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Limit lights	472 – 473
Side marker lights	473
Cable sets + snap-in	474
Plugs + plug adapters	475
Number plate lights	476
Holder	477

COMPETENCIES

AL-KO is a JOKON contractual partner for lighting systems in commercial trailers in Poland, Slovakia and Czech Republic among others.

JOKON has been meeting the high expectations of the international vehicle industry for many decades now. From the initial idea to development, to production and spare parts supply, JOKON is a flexible and reliable partner.

In particular, manufacturers of buses, trucks, caravans, forklifts, trailers, agricultural machinery, construction vehicles, tracked vehicles and bicycle carriers appreciate the flexibility and innovative power of a medium-sized company.
Even manufacturers in the automotive industry, special vehicle construction as well as the quickly-growing electric car segment rely on JOKON.

With the latest production systems on nearly 10,000 square metres, JOKON manufactures according to DIN ISO 9001:2008 standards. Maximum customer satisfaction is the business focus for over 100 employees.

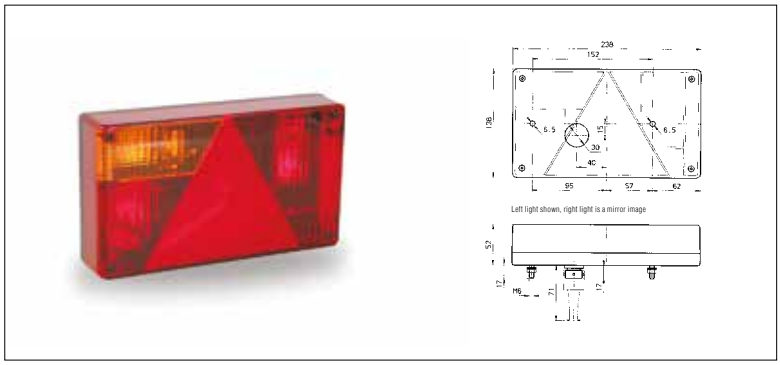
PRODUCT DIFFERENTIATION

Product name	**BASIC lighting systems**	**PROFI lighting systems**
Lighting technology	Bulbs	LEDs
Operating hours (service life)	Approx. 1,000 h	Approx. 25,000 h
Power consumption	5 W – 21 W, depending on the lighting function	1 W – 4 W, depending on the lighting function
Quality "Made in Germany"	Yes	Yes
Design	Classic	Modern
Watertight	Protected against spray water IP 54	Waterproof sealed IP67 - IP6K9K (depending on the light)
Over-heating prevention	No	Yes, when overheating occurs, the luminosity is reduced protecting against premature failure (depending on the light)
Tolerates temperature fluctuations	-20°C to +30°C	-20°C to +50°C
Membrane technology present	Yes (covered for thermodynamic compensation)	Yes (covered for thermodynamic compensation)
Light source	Tungsten wire	Semiconductor
Colour temperature	2,700 Kelvin	Variable, depending on the light
Indicator diagnostic as per ECE R48	Yes	Yes, via intelligent LED light failure control.

Legend:

BL	**BR**	**S**	**W**	**SN**	**R**	**K**	**SM**
Indicator light	Brake light	Tail light	Reversing light	Rear fog light	Rear reflector	Number plate light	Side marker light

BULB-TYPE LIGHTS



Multifunction light "L 595", left	
Part No.	1499012
SAP	MULTIFUNKTIONSLE. LI 12V 5-POL ROT/GELB
Packing unit	16 units
Features	BL, BR, S, SN, R, K
Voltage	12 V
Power	P21; P21/5W; C5W
Material	PMMA / ABS
Colour	Red-yellow
Connection	Central - 5-pin
Weight	0.6 kg
Homologation	E2-1281

Multifunction light "L 595", right	
Part No.	1499647
SAP	MULTIFUNKTIONSLE. RE 12V 5-POL ROT/GELB
Packing unit	16 units
Features	BL, BR, S, R, K
Voltage	12 V
Power	P21; P21/5W; C5W
Material	PMMA / ABS
Colour	Red-yellow
Connection	Central - 5-pin
Weight	0.6 kg
Homologation	E2-1281

1498831 1498832 + 1656848

Multifunction light "L 830", left	
Part No.	1498831
SAP	MULTIFUNKTIONSLEUCHTE LI 12V 5-POL ROT
Packing unit	16 units
Features	BL, BR, S, SN, R, K
Voltage	12 V
Power	PY21; P21/5W; P21W; C5W
Material	PMMA / PP T 60
Colour	Red-clear
Connection	Central - 5-pin
Weight	0.5 kg
Homologation	E2-06061

Multifunction light "L 830", right	
Part No.	1498832
SAP	MULTIFUNKTIONSLEUCHTE RE 12V 5-POL ROT
Packing unit	16 units
Features	BL, BR, S, W, R, K
Voltage	12 V
Power	PY21; P21/5W; P21W; C5W
Material	PMMA / PP T 60
Colour	Red-clear
Connection	Central - 5-pin
Weight	0.5 kg
Homologation	E2-06061

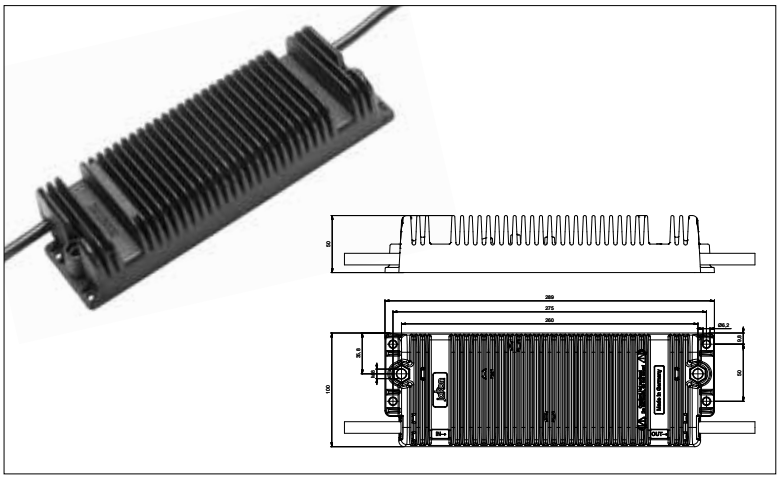
Multifunction light "L 830", right	
Part No.	1656848
SAP	MULTIFUNKTIONSLEUCHTE RE 12V 5-POL ROT
Packing unit	16 units
Features	BL, BR, S, R, K
Voltage	12 V
Power	PY21; P21/5W; C5W
Material	PMMA / PP T 60
Colour	Red-clear
Connection	Central - 5-pin
Weight	0.5 kg
Homologation	E2-06061

LED LIGHTING

LED multifunction light "L 915", left	
Part No.	1499637
SAP	MULTIFUNKTIONSLEUCHTE LI LED 9-32V ROT
Packing unit	20 units
Features	BL, BR, S, W, SN, R
Voltage	9 – 32 V
Power	S-1.5W; BR-3.0W; BL-3.0W; SN-4.5W; W-3.0W
Material	PC
Colour	Red-clear
Connection	Central connection
Weight	0.5 kg
Homologation	E13-13359; EMV / EMC
Temperature	(-20 °C / +50 °C)

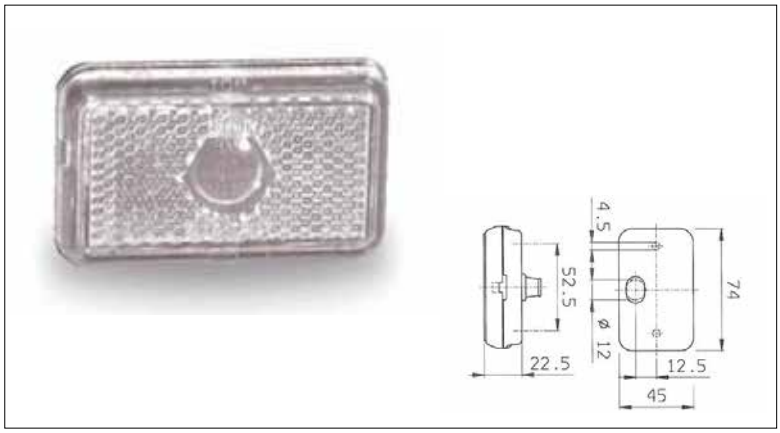
LED multifunction light "L 915", right	
Part No.	1499638
SAP	MULTIFUNKTIONSLEUCHTE RE LED 9-32V ROT
Packing unit	20 units
Features	BL, BR, S, W, SN, R
Voltage	9 – 32 V
Power	S-1.5W; BR-3.0W; BL-3.0W; SN-4.5W; W-3.0W
Material	PC
Colour	Red-clear
Connection	Central connection
Weight	0.5 kg
Homologation	E13-13359; EMV / EMC
Temperature	(-20 °C / +50 °C)

LED CONTROLLER



LED controller "LK 2000-1"	
Part No.	1499960
SAP	LED-KONTROLLBOX 12V ALU SCHWARZ
Packing unit	1 unit
Voltage	12 V
Power	max. 140 W
Material	Aluminium / PU
Colour	black
Connection	Cable 1 x 1,500 mm / 1 x 3,500 mm
Weight	2.6 kg
Homologation	EMV / EMC
Temperature	(-20 °C / +50 °C)

LIMIT LIGHTS



Limit light "PL (R) 130", right	
Part No.	254847
SAP	BEGRENZUNGSLEUCHTE 12V RE
Packing unit	100 units
Voltage	12 V
Power	C 5 W
Material	PMMA / PC
Colour	Clear
Connection	Flat-pin connectors
Weight	0.05 kg
Homologation	A-0221653 + IA-0221339

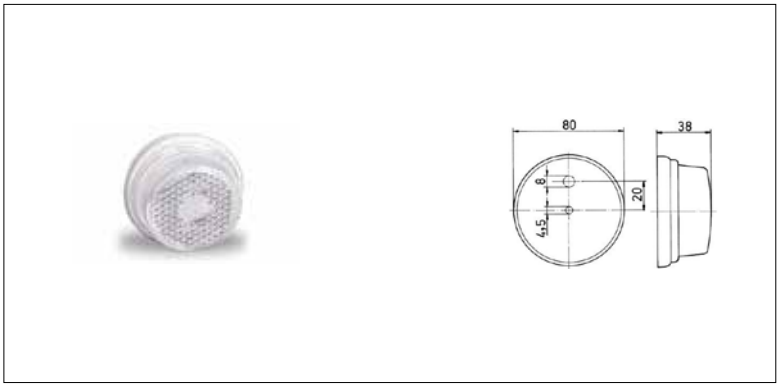
Limit light "PL (R) 130", left	
Part No.	1499892
SAP	BEGRENZUNGSLEUCHTE 12V LI
Packing unit	100 units
Voltage	12 V
Power	C 5 W
Material	PMMA / PC
Colour	Clear
Connection	Flat-pin connectors
Weight	0.05 kg
Homologation	A-0221653 + IA-0221339

Limit light "PL (R) 130" + snap-in, right	
Part No.	1656864
SAP	BEGRENZUNGSLEUCHTE 12V RE+SNAP IN
Packing unit	50 units
Voltage	12 V
Power	C 5 W
Material	PMMA / PC
Colour	Clear
Connection	Flat-pin connectors
Weight	0.09 kg
Homologation	A-0221653 + IA-0221339

Limit light "PL (R) 130" + snap-in, left	
Part No.	1656865
SAP	BEGRENZUNGSLEUCHTE 12V LI+SNAP IN
Packing unit	50 units
Voltage	12 V
Power	C 5 W
Material	PMMA / PC
Colour	Clear
Connection	Flat-pin connectors
Weight	0.09 kg
Homologation	A-0221653 + IA-0221339

LIMIT LIGHTS

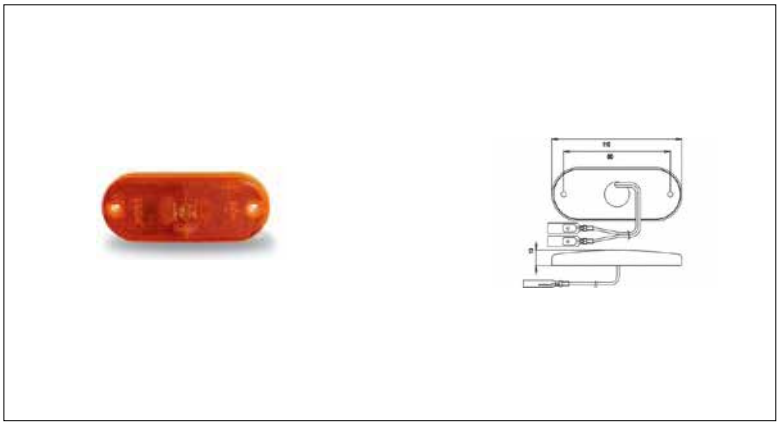
Rear reflector "R 170", with self-adhesive film	
Part No.	1656855
SAP	RÜCKSTRAHLER GELB MIT SELBSTKLEBEFOLIE
Packing unit	100 units
Material	SAN / ABS
Colour	yellow
Weight	0.04 kg
Homologation	E3-0251007



Limit light "PLR 272",
with integrated rear reflector

Part No.	1656856
SAP	BEGRENZUNGSLEUCHTE 12-24V KLAR
Packing unit	10 units
Voltage	12 – 24 V
Power	C 5 W
Material	PMMA / ABS
Colour	Clear
Connection	Flat-pin connectors
Weight	0.05 kg
Homologation	E1-0221633 + IAE1-0221378

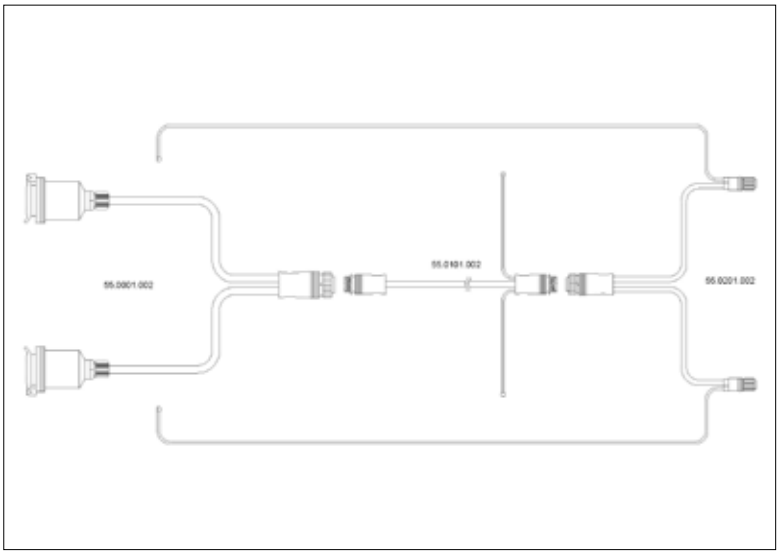
SIDE MARKER LIGHTS



LED side marker light "SMLR 2002",
with integrated rear reflector

Part No.	1656866
SAP	SEITENMARKIERUNGSLEUCHTE 12V+24V
Packing unit	20 units
Voltage	12 – 24 V
Power	0.6 – 1.2 W
Material	PMMA / ABS
Colour	Orange
Connection	Cable with snap-in plug
Weight	0.098 kg
Homologation	E2-0062 + SAE
IP	IP67

CABLE SET + SNAP-IN

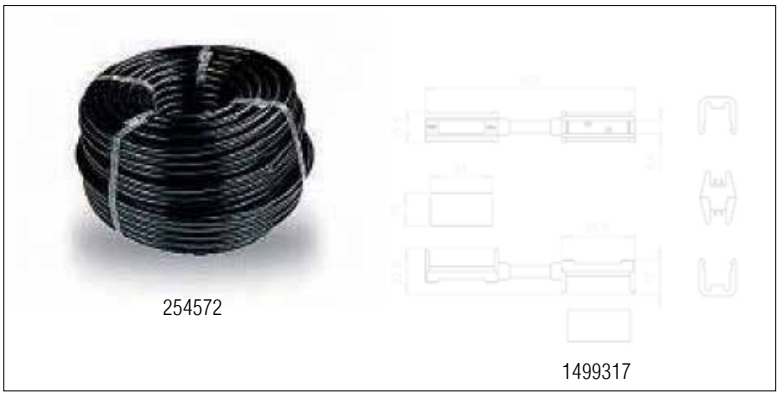


Cable set (power cable 3.5 m) multi-core, black	
Part No.	1656851
SAP	KABELSATZ MEHRADRIG SCHWARZ
Packing unit	30 units
Voltage	12 V
Connection	Plug 7-pin, central connection 5-pin
Weight	0.589 kg

Cable set (power cable 4.15 m) multi-core, black	
Part No.	1656852
SAP	KABELSATZ MEHRADRIG SCHWARZ
Packing unit	25 units
Voltage	12 V
Connection	Plug 7-pin, central connection 5-pin
Weight	0.68 kg

Cable set (power cable 7.70 m) multi-core, black	
Part No.	1656940
SAP	ANSCHLUSSKABEL
Packing unit	10 units
Voltage	12 V
Connection	Plug 13-pin, central connection 6-pin, flat cable
Weight	1.94 kg

Cable set (power cable 4.15 m + connection cable 2.25 m) multi-core, black	
Part No.	1656853
SAP	KABELSATZ MEHRADRIG SCHWARZ
Packing unit	15 units
Voltage	12 V
Connection	Plug 7-pin, central connection 5-pin, flat-pin sleeves
Weight	0.925 kg

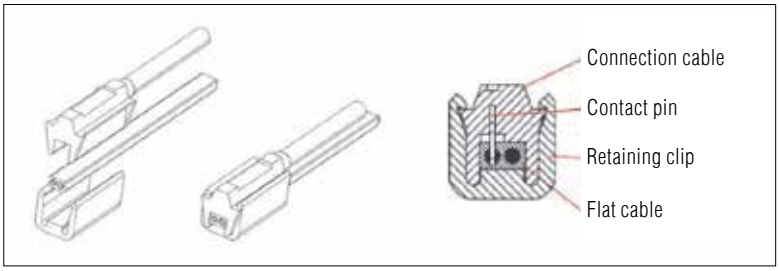


254572

1499317

Snap-in flat cable (2-wired)	
Part No.	254572
SAP	FLACHKABEL 2x1,5mm² SNAP-IN 100m Rolle
Packing unit	Roll (100 m)
Features	2 x 1.5 mm²

Double snap-in	
Part No.	1499317
SAP	DOPPEL SNAP-IN MIT 20 MM KABEL
Packing unit	10 units
Features	With cable (20 mm)
Weight	0.02 kg



Snap-in retaining clip	
Part No.	254650
SAP	HALTEKLAMMER SNAP-IN WEISS
Packing unit	20 units
Colour	white
Weight	0.004 kg

PLUGS + PLUG ADAPTERS

Plug 7-pin, type 12N, ISO 1724

Part No.	1656857
SAP	STECKER 7-POL 12V KUNSTSTOFF SCHWARZ
Packing unit	20 units
Voltage	12 V
Material	Plastic
Colour	black
Connection	Screw connection
Weight	0.08 kg

Plug 13-pin, ISO 11446

Part No.	1656858
SAP	STECKER 13-POL 12V KUNSTSTOFF SCHWARZ
Packing unit	10 units
Voltage	12 V
Material	Plastic
Colour	black
Connection	Screw connection
Weight	0.14 kg

Adapter piece 13/7, mini VL9/3M

Part No.	1656859
SAP	ADAPTER KURZ 13/7POL 12V KUNSTST SCHW
Packing unit	10 units
Voltage	12 V
Material	Plastic
Colour	black
Connection	Screw connection
Weight	0.08 kg

Adapter piece 7/13, mini VL9/4M

Part No.	1656860
SAP	ADAPTER KURZ 7/13POL 12V KUNSTST SCHW
Packing unit	10 units
Voltage	12 V
Material	Plastic
Colour	black
Connection	Screw connection
Weight	0.08 kg

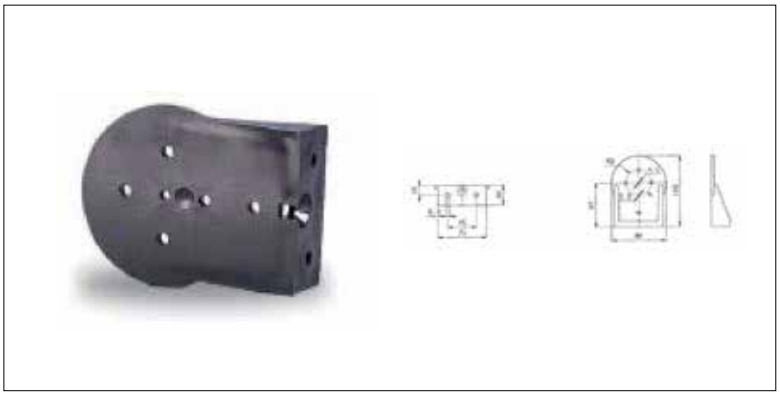
NUMBER PLATE LIGHTS

Number plate light K 415, without bulb	
Part No.	250006
SAP	KENNZEICHENLEUCHTE K 415 12V SCHWARZ
Packing unit	10 units
Voltage	12 V
Power	R 10 W
Material	PMMA / ABS
Connection	Flat-pin connectors
Weight	0.08 kg
Homologation	E1-22838

Number light K 415 + 50 cm snap-in *(no illustration)*	
Part No.	1656862
SAP	KENNZEICHENLEUCHTE K 415 12V+50CM SNAP
Packing unit	50 units
Voltage	12 V
Power	R 10 W
Material	PMMA / ABS
Connection	Flat-pin connectors
Weight	0.11 kg
Homologation	E1-22838

Number light K 415 + 100 cm snap-in *(no illustration)*	
Part No.	1656863
SAP	KENNZEICHENLEUCHTE K 415 12V+100CM SNAP
Packing unit	50 units
Voltage	12 V
Power	R 10 W
Material	PMMA / ABS
Connection	Flat-pin connectors
Weight	0.14 kg
Homologation	E1-22838

HOLDER



Holder WHL 272	
Part No.	1656861
SAP	HALTER SCHWARZ
Packing unit	50 units
Material	TPU
Colour	black
Weight	0.08 kg

15. OTHER ACCESSORIES

OTHER ACCESSORIES

Wheel chocks, product differentiation	480 – 481
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Jack	494 – 495
Ramps	496 – 501
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WHEEL CHOCKS

Product differentiation

YOUR ADVANTAGE

AL-KO metal or plastic wheel chocks secure motor vehicles and trailers by blocking the wheels so they cannot roll away.

GERMAN REGULATIONS

Section 41(14) of the German Road Traffic Licensing Regulations (StVZO) prescribes that the **following** motor vehicles and trailers must be fitted with at least **one wheel chock**.

1. Motor vehicles – except for tracked vehicles – with a permitted gross weight of more than 4 t.
2. Twin-axle trailers (except for semi-trailers, rigid-axle trailers and centre-axle trailers) with a permitted gross weight of more than 750 kg

According to the same regulations, at least **two wheel chocks** must be fitted to the following:

1. Three-axle and multi-axle vehicles
2. Semi-trailers
3. Rigid-axle trailers and centre-axle trailers with a permitted gross weight of more than 750 kg

When not in use, the wheel chocks of the motor vehicle or trailer must be attached in or on the vehicle in an easily accessible place with holders in such a way that they cannot be lost or rattle around. Hooks or chains may not be used as holders for wheel chocks for this reason. The effectiveness of the wheel chocks according to Section 41 of the StVZO must be checked by the vehicle manufacturer (18% uphill and downhill at kerb weight and permitted gross weight).

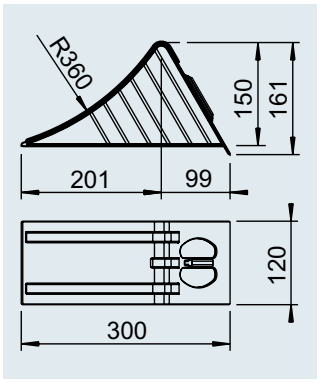
Our wheel chocks are in accordance with DIN 76051 edition 11/92. DIN 76051 is generally recognised in all countries of Europe. However, regulations of specific countries must be complied with.

Product name
Wheel load per chock (variants)
Material
Net weight
Certified to DIN 76051
Corrosion protection
Colour
Special colours according to RAL colour card
Customer logo
Style
Temperature resistance
UV resistance
Wheel chock holder

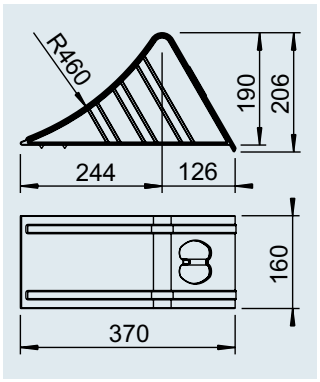
BASIC wheel chocks	PLUS wheel chocks
1,600 / 5,000 / 6,500 kg	800 / 1,600 / 5,000 / 6,500 kg
Sendzimir-galvanised steel plate, spot welded	Plastic, PE
high	Low
Yes	Yes
Limited corrosion protection (galvanised spot welded)	Durable corrosion protection (plastic)
Silver (galvanised)	Black RAL 9005
not possible	possible starting from 1,000 units per date (additional cost)
not possible	possible starting from 1,000 units per date (additional cost)
Classic	Modern
+60° to -30°	+60° to -30°
Yes	Yes
Available, can be used for BASIC and PLUS product line	Available, can be used for BASIC and PLUS product line

WHEEL CHOCKS

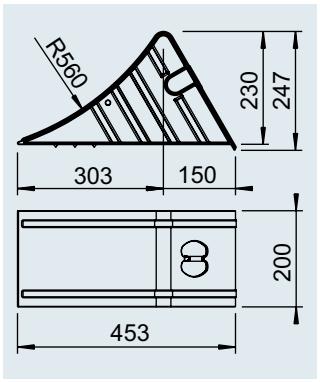
Metal



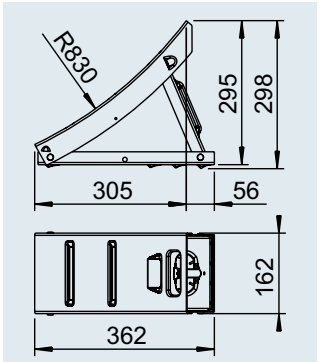
Wheel chock UK 36 St	
SAP: UNTERLEGKEIL UK36 VZ DIN76051	
Part No.	244373
Material/colour	Metal Sendzimir-galvanised
Wheel load per chock	1,600 kg
Static tyre radius	max. up to 360 mm
	1.25 kg
	– 210 units



Wheel chock UK 46 St	
SAP: UNTERLEGKEIL UK46 VZ DIN76051 - 4635370	
Part No.	244374
Material/colour	Metal Sendzimir-galvanised
Wheel load per chock	5,000 kg
Static tyre radius	max. up to 460 mm
	3.05 kg
	– 110 units



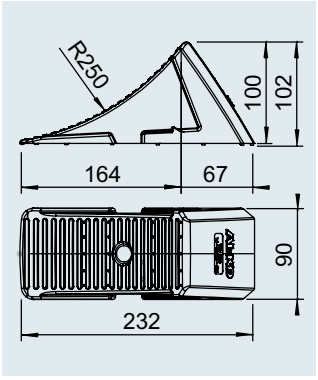
Wheel chock UK 53 St	
SAP: UNTERLEGKEIL UK53 VZ DIN76051 - 7622418	
Part No.	244375
Material/colour	Metal Sendzimir-galvanised
Wheel load per chock	6,500 kg
Static tyre radius	max. up to 560 mm
	5 kg
	– 60 units



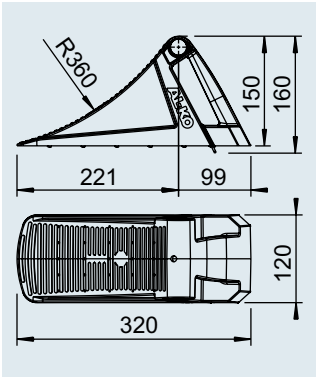
Wheel chock UK 800 St folding	
SAP: UNTERLEGKEIL 800 KLAPPBAR SCHW GRUND	
Part No.	1250015
Material/colour	Metal black primed
Wheel load per chock	2,500 kg
Static tyre radius	max. up to 830 mm
	5 kg
	– 100 units

WHEEL CHOCKS

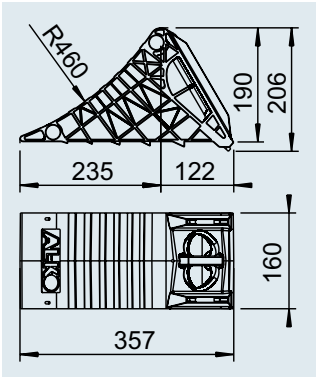
Plastic



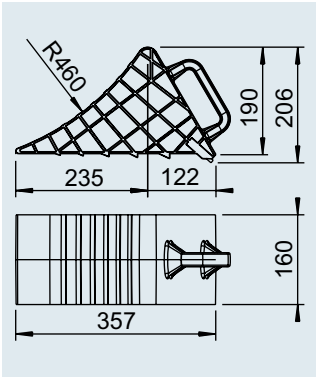
Wheel chock UK 10 K-2	
SAP: UNTERLEGKEIL UK 10	
Part No.	1237250
Material/colour	Plastic black
Wheel load per chock	800 kg
Static tyre radius	max. up to 310 mm
	0.18 kg
/	50 / 400 units



Wheel chock UK 36 KL	
SAP: UNTERLEGKEIL UK 36KL SCHWARZ	
Part No.	1235990
Material/colour	Plastic black
Wheel load per chock	1,600 kg
Static tyre radius	max. up to 360 mm
	0.6 kg
/	– / 192 units



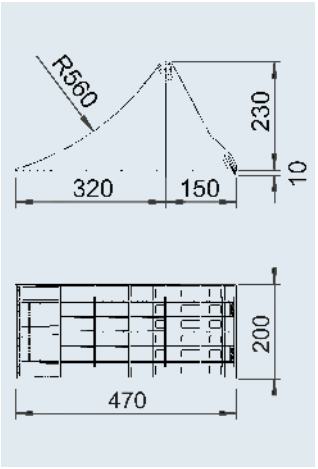
UK 46 K wheel chock	
SAP: UNTERLEGKEIL UK46 KUNSTSTOFF	
Part No.	1221517
Material/colour	Plastic black
Wheel load per chock	5,000 kg
Static tyre radius	max. up to 460 mm
	1.92 kg
/	– / 80 units



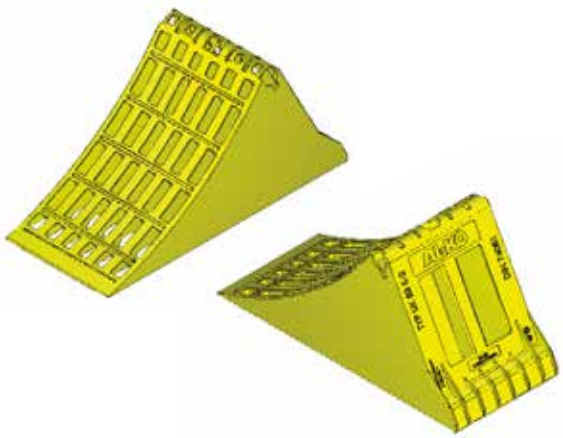
UK 46 K wheel chock	
SAP: UNTERLEGKEIL UK46	
Part No.	1213314
Material/colour	Plastic black
Wheel load per chock	5,000 kg
Static tyre radius	max. up to 460 mm
	1.85 kg
/	– / 64 units

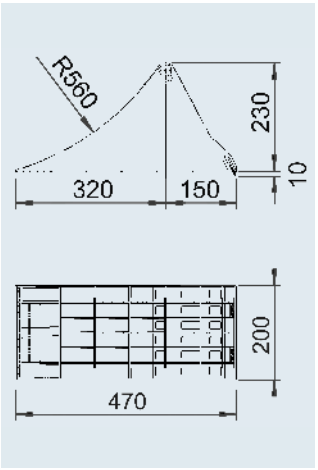
WHEEL CHOCKS

Plastic



UK 53 K-2 wheel chock	
SAP: UNTERLEGKEIL UK53-K2 KPL SCHWARZ	
Part No. (with metal slide protection)	1732681
Part No. (without metal slide protection)	1732642
Material / colour	Plastic black
Wheel load per chock	6,500 kg
Static tyre radius	max. up to 560 mm
	1.61 kg / 1.39 kg
/	– / 42 units

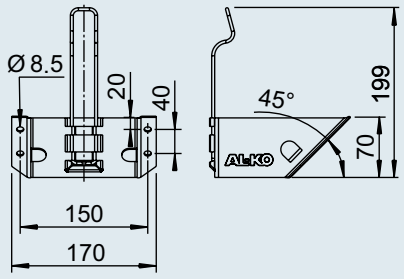




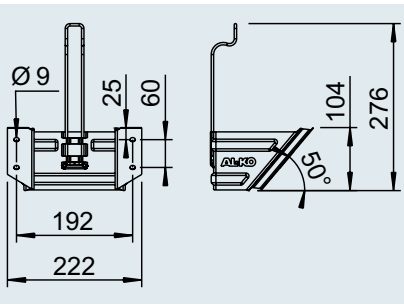
UK 53 K-2 wheel chock	
SAP: UNTERLEGKEIL UK53-K2 KPL GELB	
Part No. (with metal slide protection)	1732683
Part No. (without metal slide protection)	1732682
Material / colour	Plastic yellow
Wheel load per chock	6,500 kg
Static tyre radius	max. up to 560 mm
	1.61 kg / 1.39 kg
/	– / 42 units

HOLDERS

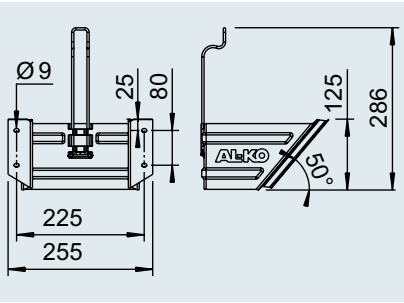
Metal



Holder HA 36 St for UK 36 steel and plastic	
SAP: HALTER UK36 VZ AL-KO	
Part No.	244376
Material/colour	Metal Sendzimir-galvanised
	0.50 kg
	– 600 units



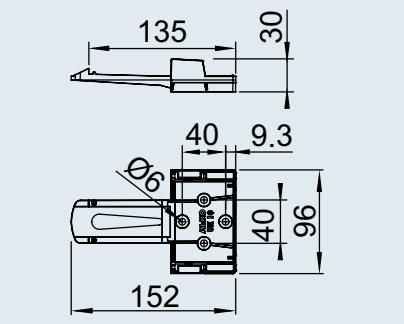
Holder HA 46 St for UK 46 steel and plastic	
SAP: HALTER UK46 VZ AL-KO - 7620776	
Part No.	244377
Material/colour	Metal Sendzimir-galvanised
	0.80 kg
	– 360 units



Holder HA 53 St for UK 53 steel and plastic	
SAP: HALTER UK53 VZ AL-KO - 7622417	
Part No.	244378
Material/colour	Metal Sendzimir-galvanised
	1.20 kg
	– 200 units

HOLDER

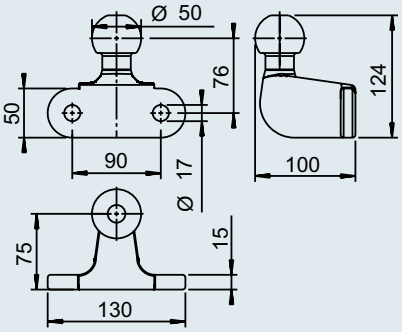
Plastic



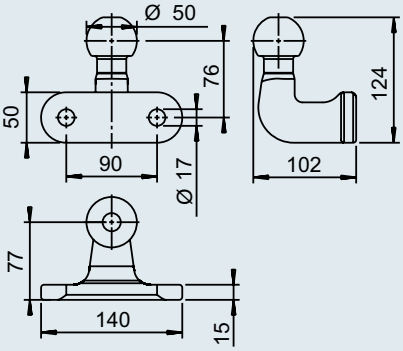
Holder HA 10 K-2 for UK 10 K-2	
SAP: HALTER UK10	
Part No.	1237251
Material/colour	Plastic black
	0.03 kg
/	50 / 1,200 units

TOWBALL Ø 50

2-hole



Towball Ø 50 - BC 75 / 200	
SAP: KUPLNGSKUGEL BC75/200	
Part No.	1275101
Perm. towable load	max. 3,500 kg
Nose load	200 kg
D/Dc value	17.0 kN
ECE type approval no.	E2 55R-01 12208
Range of applications	Off-road vehicles, vans **Attention:** Cannot be used in conjunction with an AKS
	2.0 kg
	– –



Towball UN 252 D	
SAP: KUPP KUG MIT FLANSCH UN252D ECE-R55	
Part No.	1202305
Perm. towable load	max. 3,500 kg
Nose load	150 kg
D/Dc value	17.0 kN
ECE type approval no.	E13 55R-01 4042
Range of applications	Off-road vehicles, vans **Attention:** Suitable for AKS
	2.0 kg
	– –

ACCESSORIES

Soft-Ball				
SAP:	SOFT-BALL RAL3000 FEUERROT	SOFT-BALL RAL9011-SCHWARZ	SOFT-BALL RAL5002-BLAU	SOFT-BALL RAL9006 ALUMINIUMWEISS
Part No. unit for towing hitch	605307 with 50 mm ball	1310913 with 50 mm ball	1337726 with 50 mm ball	1651589 with 50 mm ball
Colour	Red, similar to RAL 3000	Black, similar to RAL 9011	Blue, similar to RAL 5002	White aluminium, similar to RAL 9006
	0.055 kg	0.055 kg	0.055 kg	0.055 kg
SAP:	SOFT-BALL FEUERROT VE 24 STÜCK	SOFT-BALL SCHWARZ VE 24 STÜCK	SOFT-BALL BLAU VE 24 STÜCK	SOFT-BALL RAL 9006 VE 24 STÜCK
Part No. PU	247095 (content 24 units)	1211738 (content 24 units)	1222223 (content 24 units)	1225991 (content 24 units)
	1.6 kg	1.6 kg	1.6 kg	1.6 kg
/	24 / –	24 / –	24 / –	24 / –

8 units in red

8 units in black

8 units in white aluminium

Soft-Ball	
SAP: SOFT-BALL GEMISCHT VE 24 STÜCK	
Part No. PU for towing hitch	1225992 (content 24 units) with 50 mm ball
Colours mixed	Red, black, white aluminium
	1.6 kg
/	24 / –

Plug holder with triple use

USE 1 – Holder for 7-pin electric plug

The narrower area of the plug holder provides a positive- locking space for the 7-pin electric plug.

USE 2 – Holder for 13-pin electric plug

The wider area of the plug holder provides a positive-locking space for the 13-pin electric plug.

USE 3 – Holder for the Soft-Ball

The holder serves as a storage space for the Soft-Ball while driving.

Plug holder (turning tulip)	
SAP: STECKERHALTER KPL RAL3000	
Part No. Units	2182600004
Max. Ø electric plug	13-pin 41.5 mm 7-pin 36.0 mm
	0.07 kg

STAUBOX

für PKW-Anhänger

YOUR ADVANTAGE

- Lashing straps, gloves, tools, etc. are securely stored on the trailer, while still being easily accessible
- Double sided
- High-grade metal lock (lockable)
- Spray water-proof
- Suspended up to max. 25 kg load
- Suspended installation on the drawbar also possible

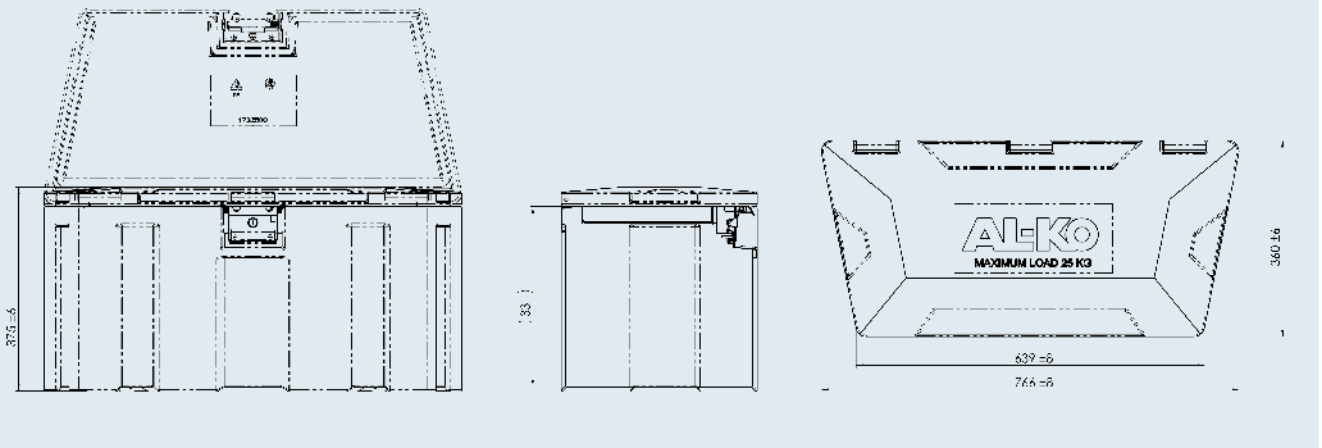
SCOPE OF SUPPLY

Storage box cpl. (see illustration) with mounting instructions, two keys, without fastening material

MATERIAL

Black plastic

Storage box for car trailer Cover hinges on the side	
SAP: ALKO V-BOX PROFI	
Part No.	1732800
Max. load	25 kg suspended
External dimensions LxWxH	766/639 x 360 x 375 mm
Internal dimensions LxWxH	445 x 145 x 220 mm
	6.6 kg / – / 18 units



STORAGE BOX

for car trailer

YOUR ADVANTAGE

- Lashing straps, gloves, tools, etc. are securely stored on the trailer, while still being easily accessible
- Double sided
- Lockable
- Spray water-proof
- Suspended up to max. 25 kg load

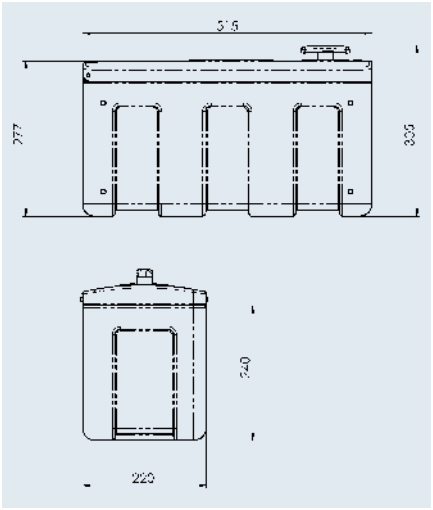
SCOPE OF SUPPLY

Storage box cpl. (see illustration) with mounting instructions, two keys, without fastening material

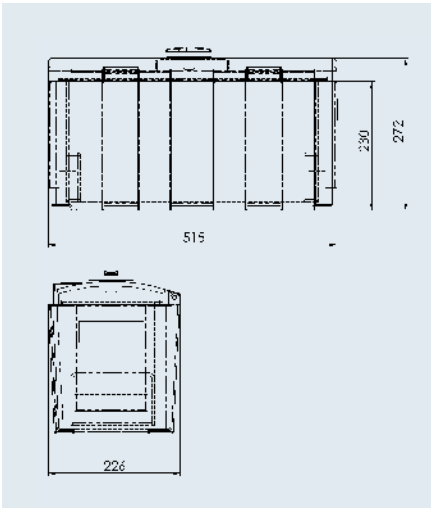
MATERIAL

Black plastic

MOUNTING EXAMPLE



Storage box for car trailer Cover hinges on the end	
SAP: WERKZEUGBOX M LOGO AL-KO	
Part No.	1224324
Max. load	25 kg suspended
External dimensions LxWxH	515 x 220 x 277 mm
Height inc. turning handle	305 mm
Internal dimensions LxWxH	457 x 185 x 232 mm
Large opening	457 x 185 mm
	3.5 kg / – / 20 units



Storage box for car trailer Cover hinges on the side	
SAP: STAUBOX DECKELSCHANIER LANGE SEITE	
Part No.	1211807
Max. load	20 kg suspended
External dimensions LxWxH	515 x 226 x 272 mm
Height inc. turning handle	305 mm
Internal dimensions LxWxH	445 x 145 x 220 mm
	3.2 kg / – / 19 units

WEATHER PROTECTION

YOUR ADVANTAGE

- High-quality polyester material
- Edged seams
- With metal eyelets and Velcro fastener

Weather protection for overrun devices	
SAP: AL-KO WETTERSCHUTZ PREMIUM	
Part No.	1732883
Suitable for	AL-KO overrun devices (V and square) as well as competitor
Colour	black
Printed colour	grey
	0.4 kg
/	– / 100 units

Weather protection for coupling heads	
SAP: WETTERSCHUTZ KUGELKUPPLUNG SCHWARZ	
Part No.	1732884
Suitable for	AL-KO coupling heads as well as competitor
Colour	black
Printed colour	grey
	0.2 kg
/	– / 250 units

Weather protection for stabiliser couplings	
SAP: WETTERSCHUTZ AKS KUPPLUNG SCHWARZ	
Part No.	1732885
Suitable for	AKS 1300 / 2004 / 3004 / 3504
Colour	black
Printed colour	grey
	0.2 kg
/	– / 250 units

WEATHER PROTECTION

YOUR ADVANTAGE

- High-quality polyester material
- Edged seams
- With metal eyelets and Velcro fastener

Weather protection for winches	
SAP: WETTERSCHUTZ F WINDE 650/901/901A	
Part No.	1732886
Suitable for	AL-KO PLUS type 901 and 901 A
Colour	black
Printed colour	grey
	0.2 kg
/	– / 250 units

SPARE WHEEL CARRIER

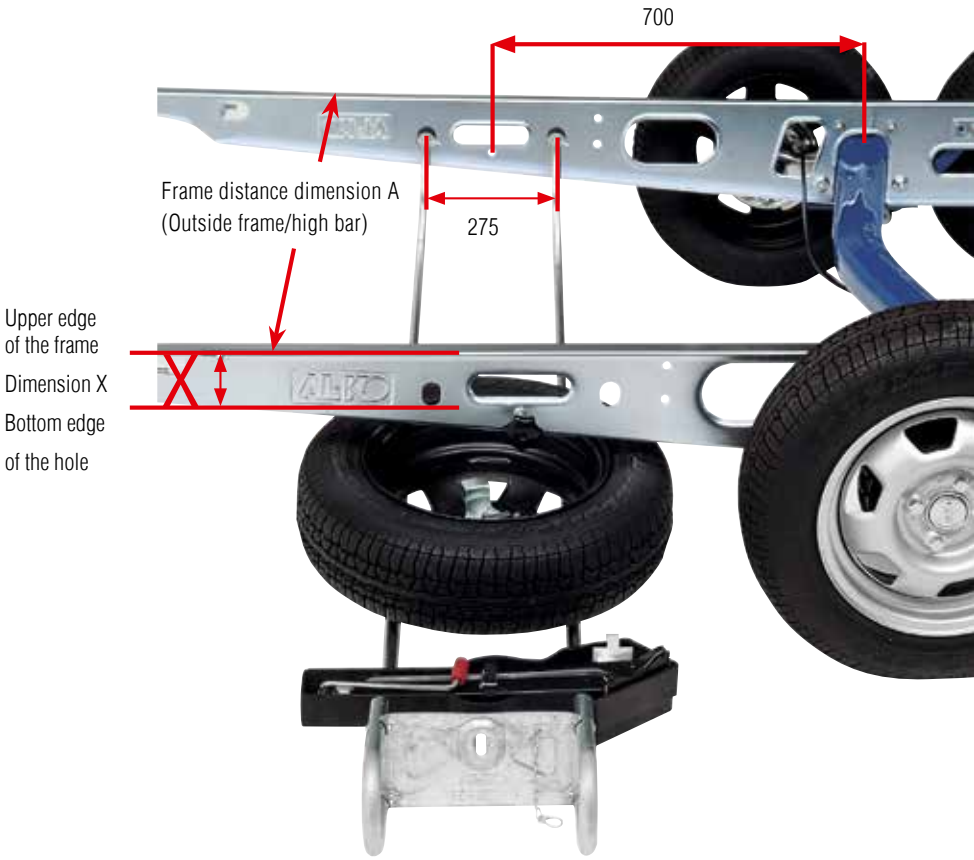
YOUR ADVANTAGE

I More room

Accommodating the spare wheel under the trailer makes for more storage space inside.

I Driving response

To achieve optimum driving response, ADAC and DCC recommend transporting the spare wheel close to the axle.



MOUNTING

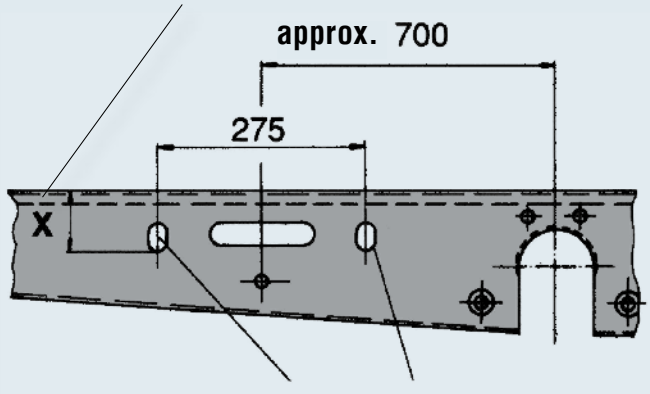
For most AL-KO chassis from production date 1985, the mounting holes for the spare wheel carrier are included. The holes in the longitudinal frame (dimension X) for accommodating the spare wheel carrier are positioned so that the tyres intended for this vehicle can be attached there.
When installed properly according to the installation and operating manual, there is no need for inspection or acceptance by an officially recognised expert (e.g. TÜV).

ATTENTION: TÜV approval is required for mounting with holding plates.

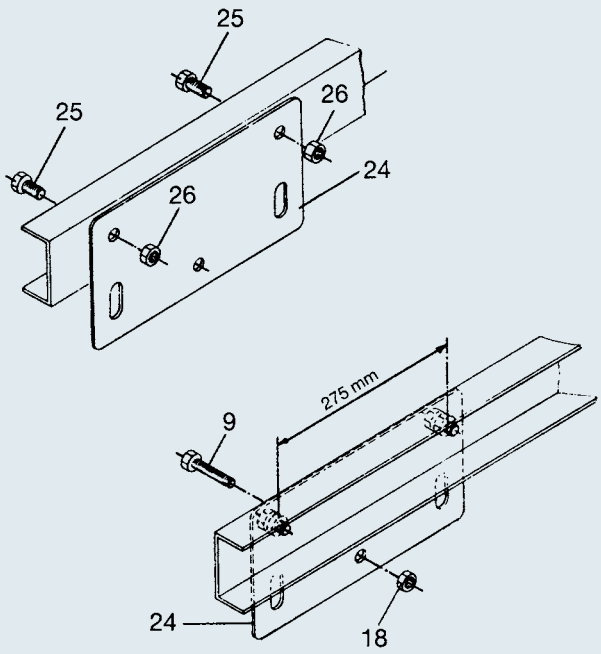
I Operation

Unhook safety chain, open and remove star handle. Grip the spare wheel carrier with both hands and pull out until the spare wheel is easily accessible. Raise the caravan using a jack if there is insufficient clearance between the frame and ground.

Dimension X for determining the maximum possible tyre



Mounting holes for spare wheel carrier



Installation notes:

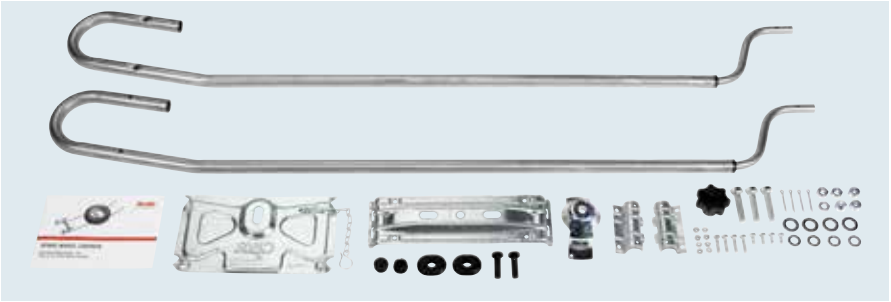
The distance from the holding plates to the axle should be about 700 mm (diagram). Two holes Ø 12.5 mm are drilled 275 mm apart in both frame parts. The holes must be fitted in the middle of the web (neutral zone).
The two holding plates (24) are secured with two hex bolts (25) M12x 25 and hex nuts (26) M12 self-locking.
The locking screw (9) is fitted in the right holding plate with the hex nut (18). Locking screw (9) and hex nut (18) are supplied with the spare wheel carrier.

Retrofit accessory kit EH2

Part No. 294 284 consisting of:

2 holding plates	(24)	Part No. 209 499 01
4 hex bolts	(25)	Part No. 700 460
4 Hex nuts	(26)	Part No. 700 645

Spare wheel carrier EH1/BR



Retrofit accessory kit EH2

SAP: ERSATZRADHALTER EH/

Dimension X, min. mm		75	85	95	105	115	125	Frame spacing mm	Design	Part no.			
EH1	Tyre width mm*	155	165	175	185	195	205	1,050 – 1,250	A	1555934	6.4	–	5
								1,250 – 1,550	B	1555943	6.8	–	20
								1,450 – 1,850	C	1555955	7.7	–	20
EH1/BR		175	185	195	205	215	215	1,265 – 1,515	D	1556005	6.8	–	20
								1,465 – 1,815	E	1556010	7.7	–	20
Retrofit accessory kit EH2										294284	1.85	20	–

* Tyre widths are only reference values due to permitted tolerances in the production of tyres.
With a tyre width of 215 mm, it is possible for jamming between the tyre and frame when the spare wheel carrier is pulled out. The ability to use the spare wheel carrier must be checked before installation!

JACK

YOUR ADVANTAGE

- **On request** as standard equipment or **can be retrofitted** to caravans with AL-KO chassis production date 1980 onwards.

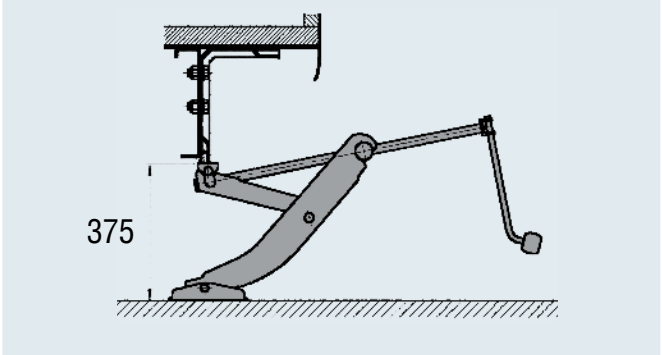
- **Support**
  The AL-KO jack can also be used for supporting the caravan (leave the towing vehicle hitched up).

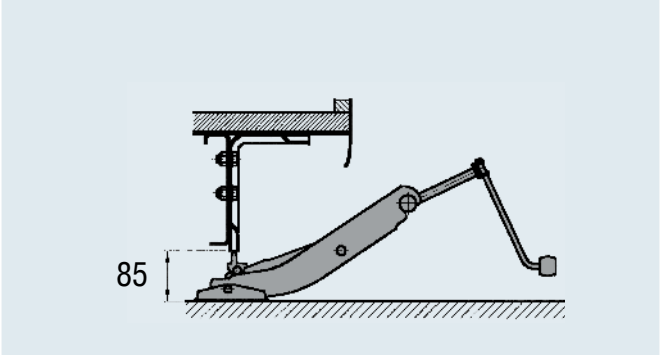
- **Plug-in system**
  No slipping due to special plug-in system (leave the towing vehicle hitched up). Special insertion pockets reinforce the frame and are additionally supported against the floor of the caravan (800 kg/1,000 kg).

Kit 1,500 kg: Only for use on caravans with a tandem chassis and in combination with hydraulic jacks (min. 2000 kg load capacity, stamp Ø 28 - 40 mm, flat head or grooved, heights, see tables).

MOUNTING

From production date 1991, most caravans with AL-KO chassis have already been drilled with mounting holes.
In all other vehicles from production date 1980, you can drill the holes yourself as described in the operating instructions.

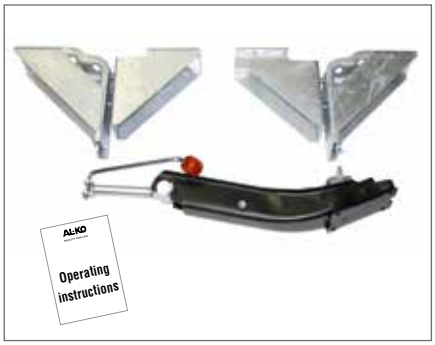




Kit 800 kg with box

1 plastic box in two parts
1 jack
2 insertion pockets
1 set bolted fasteners
1 x operating instructions

Jack kit 800 kg	
SAP: WAGENHEBER-SET	
Part No. with box	246059
Part No. without box*	246157
Load capacity stat.	800 kg
Suitable for trailers up to max. total weight	1,600 kg
Initial height	85 mm
Lifting height	290 mm
Final height	375 mm
	2.9 kg / – / 50 units



Kit 1,000 kg without box

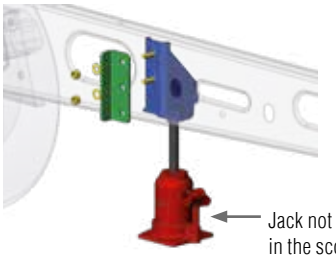
1 jack
2 insertion pockets
2 support brackets
1 set bolted fasteners
1 x operating instructions

Jack kit 1000 kg	
SAP: WAGENHEBER-SET 1000KG	
Part No. with box	1730304
Part No. without box*	1222530
Load capacity stat.	1,000 kg
Suitable for trailers up to max. total weight	2,000 kg
Initial height	85 mm
Lifting height	290 mm
Final height	375 mm
	5.5 kg / – / 50 units

Kit 1,500 kg Tandem without box

2 mounting brackets
2 reinforcement brackets
1 set bolted fasteners
1 x operating instructions

Jack kit	Consoles	Jack
SAP	AUFNAHME WAGENHEBER VERP 2,1-3,0	WAGENHEBER TYP WEBER-HYDRAULIK A2-170
Part No. with box	1730240	1730395*
Load capacity stat.	1,500 kg	2,000 kg
Suitable for trailers up to max. total weight	3,000 kg	4,000 kg
Initial height	max. 200 mm**	170 mm**
Lifting height	min. 190 mm**	213 mm**
Final height		383 mm**
	4.5 kg	2.9 kg
	1 / 56	1 / 42



Jack not included in the scope of delivery!

* Not illustrated
** Values for hydraulic jack
*** If necessary, the final height must be adapted taking account of the initial height by using a stable underlay.

RAMPS

for small and medium loads

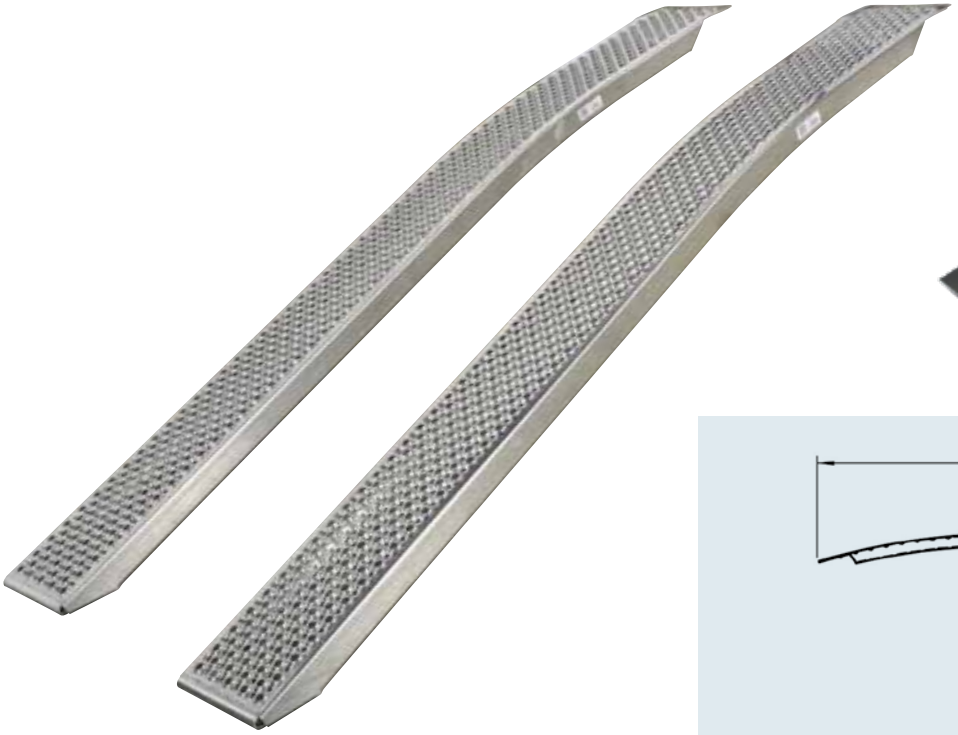
FORZALINE®

YOUR ADVANTAGE

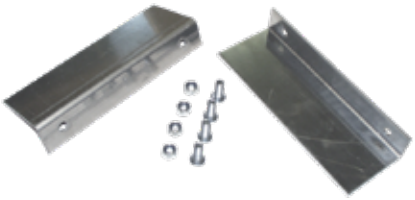
- Smooth transition from loading edge to ramp
- High-grip because of non-slip perforated edge profile
- Light version for small and medium loads

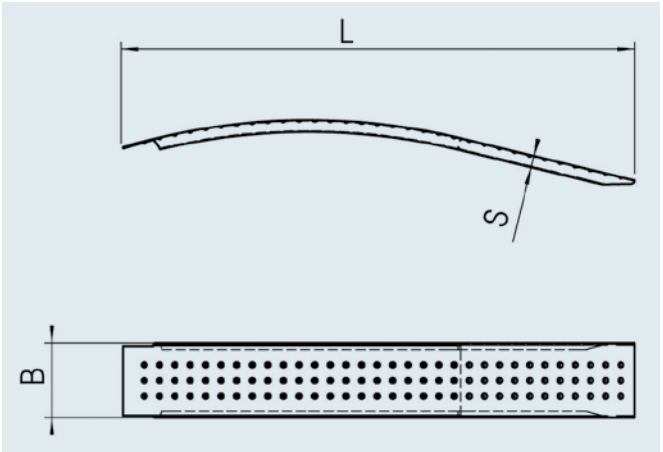
SAFETY

- The maximum permitted ramp gradient is 30% = 16.5°
- The ramps must be anchored on the loading surface
- Only use ramps in pairs
- Using ramps horizontally is not permitted
- Only drive on under supervision from a second person
- The ramps are exclusively to be used for loading and unloading powered vehicles with brakes
- Avoid driving on and braking rapidly, since this subjects the ramps to additional loads
- Refer to the operating instructions for additional safety notes



Mounting bracket
(not included in the scope of supply)
Part No. 1732823





SAP: AUFFAHRRAMPE KPL GEBOGEN

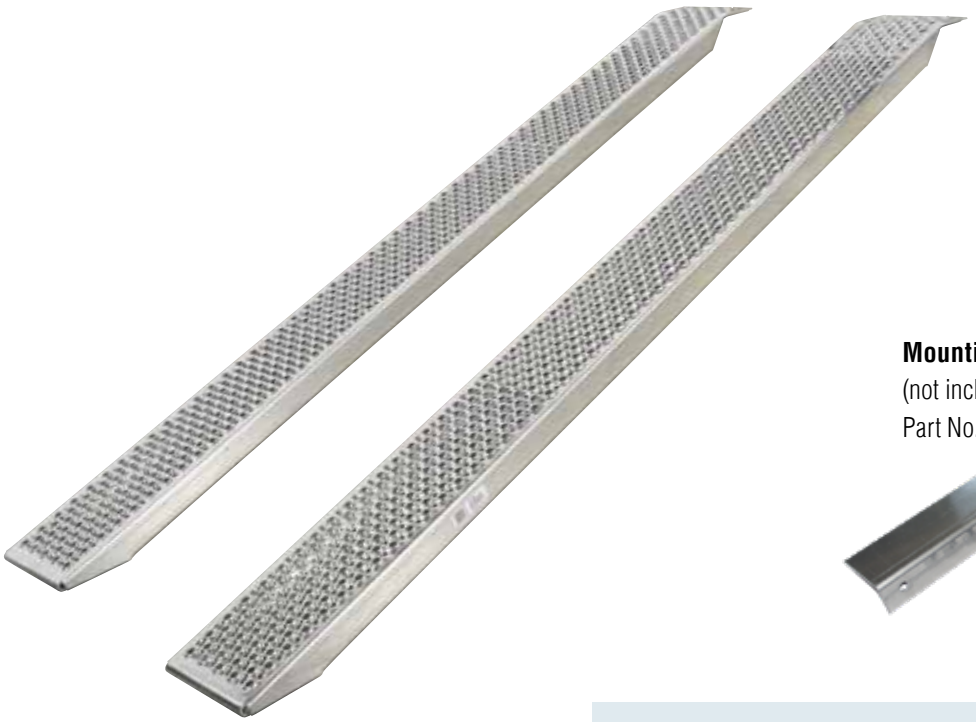
Curved loading ramps

Part No. per pair	Type	Length L mm	Width B mm	Height S mm	Loading height min. - max H mm	Load capacity per pair with axle distance				Weight per pair kg
							500-750 mm	751-1200 mm	>1200 mm	
1732817	400/1500/200	1500	200	35	230 – 450	220 kg	330 kg	419 kg	704 kg	6.0
1732818	400/2000/200	1995	200	50	340 – 600	335 kg	433 kg	508 kg	705 kg	9.0

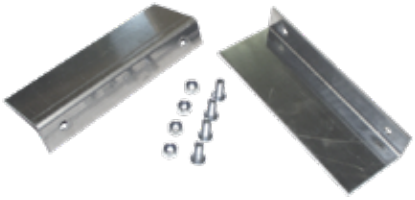
RAMPS

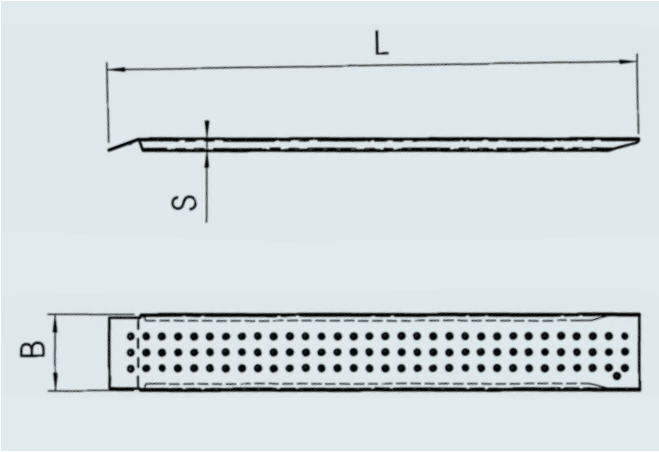
for small and medium loads

FORZALINE®



Mounting bracket
(not included in the scope of supply)
Part No. 1732823





SAP: AUFFAHRRAMPE KPL GERADE

Straight loading ramps

Part No. per pair	Type	Length L mm	Width B mm	Height S mm	Loading height min. - max H mm	Load capacity per pair with axle distance				Weight per pair kg
							500-750 mm	751-1200 mm	>1200 mm	
1732819	400/1500/200	1500	200	35	300 – 450	285 kg	432 kg	553 kg	946 kg	6.0
1732820	400/2000/200	2000	200	50	400 – 600	385 kg	514 kg	604 kg	839 kg	9.0
1732821	1000/2000/260	2000	260	60	540 – 600	770 kg	1026 kg	1205 kg	1669 kg	15.0
1732822	1000/2500/260	2500	260	75	675 – 750	860 kg	1074 kg	1212 kg	1537 kg	19.7

RAMPS

made from aluminium for heavy loads

YOUR ADVANTAGE

- All ramps are CE and GS tested and certified.
  Many applications require only one ramp, not a pair of ramps (e.g. transporting motor cycles). This is why AL-KO provides individual units, offering you an optimum cost/benefit ratio.
- NOT all grades of aluminium are the same! This is why AL-KO uses a combination of the alloys 6005 + 6082: 6005 offers good welding properties
  and optimum corrosion protection, while the outstanding strength of AL-KO ramps is achieved by using 6082 aluminium: This alloy guarantees the highest strength of all the 6000 alloys, and is normally used in bridge construction because of its very high strength.
- 100%-quality control. Each ramp is individually checked.

You should not be satisfied with anything less, because you are entitled to expect from AL-KO: **QUALITY FOR LIFE!**

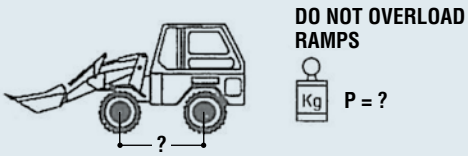
SAFETY

- The maximum permitted ramp gradient is 30% = 16.5°.
- The ramps must be anchored on the loading surface.
- Only use ramps in pairs for multi-track vehicles.
- Using ramps horizontally is not permitted.
- Only drive on under supervision from a second person.
- The ramps are exclusively to be used for loading and unloading powered vehicles with brakes.

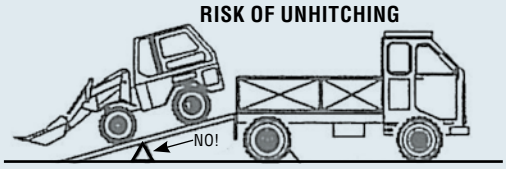
RAMPS

Instructions for use

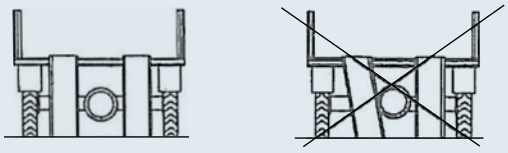
1 Before loading, make sure that the axle distance, vehicle's own weight and load distribution on the axles is within the standard bandwidth.



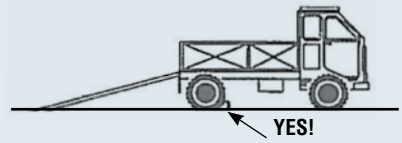
2 Do not support the ramps to increase their load bearing capacities.



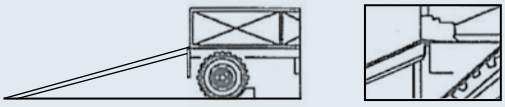
3 Check the vehicle track and adjust the distance between the axles accordingly. Make sure that the ramps are parallel.



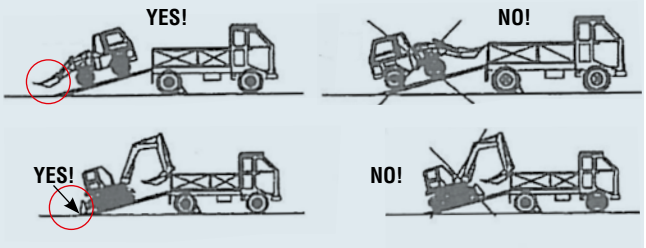
4 Lower the transport vehicle for loading, lock the wheels and engage the handbrake. Switch off the engine and remove the key. The loading surface should be horizontal.



5 Lean the ramps against the truck structure and fix them in place. Check the load bearing capacity of the ramps before using them.



6 When using the ramps, take account of the axle load distribution: the axle under a greater load should always be higher. If there is an attachment available that can stabilise the machine, it should be lower down.

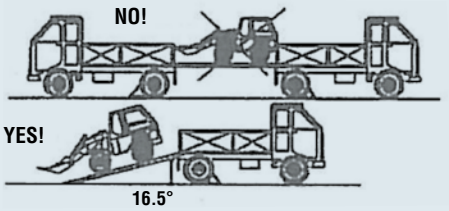


7 Lower scoops and similar attachments and empty them before the loading procedure, even if the gross weight is less than the max. permitted weight.

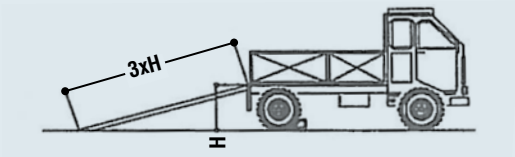
8 Only drive up and down the ramp under supervision of a second person.

9 Max. permitted speed on ramps: 2 m/min.
Sudden braking or starting must be avoided at all costs.

10 The ramps should not be used as running boards.



11 The max. permitted height of the higher end of the ramp – in relation to the ground – is not allowed to exceed 1/3 of the length of one ramp.



12 After loading, the ramps must be unhooked and placed on the ground. Do not allow ramps to drop onto parts of the body, fixtures or electrical cables.

13 Loading ramps with a weight of more than 30 kg must be moved using lifting gear or with the help of several persons.

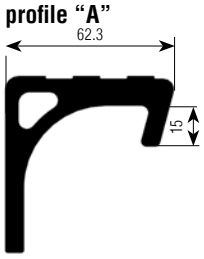
Attention: Please check the ramps regularly for possible cracks and gap formation.

RAMPS

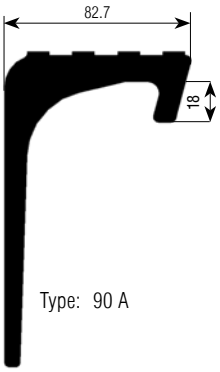
made from aluminium for heavy loads

Version A

Supporting profile "A"



Type: 60 A
70 A
80 A



Type: 90 A

SAP: AUFFAHRRAMPE PROFI- ALU

Part No. per unit	Type	Ver-sion	Length L mm	Width External B mm	Height H mm	max. loading height LH mm	Load capacity with axle distance X 1.00 m Unit [kg]	1.00 m Pair [kg]	1.50 m Unit [kg]	1.50 m Pair [kg]
1224700	60A20GH450	A	1,930	300	60	450	1,215	2,430	1,215	2,430
1224701	60A20GH600	A	1,928	300	60	600	1,215	2,430	1,215	2,430
1224702	60A20 H539	B	1,928	300	60	539	1,215	2,430	1,215	2,430
1224703	60A25GH450	A	2,370	300	60	450	870	1,740	950	1,900
1224704	60A25GH600	A	2,369	300	60	600	870	1,740	950	1,900
1224705	60A25 H665	B	2,439	300	60	665	870	1,740	950	1,900
1224706	70A20GH450	A	1,930	300	70	450	1,500	3,000	1,500	3,000
1224707	70A20GH600	A	1,928	300	70	600	1,500	3,000	1,500	3,000
1224708	70A20 H552	B	2,020	300	70	552	1,500	3,000	1,500	3,000
1224709	70A25GH450	A	2,370	300	70	450	1,070	2,140	1,165	2,330
1224710	70A25GH600	A	2,369	300	70	600	1,070	2,140	1,165	2,330
1224711	70A25 H679	B	2,460	300	70	679	1,070	2,140	1,165	2,330
1224712	80A20GH450	A	1,930	300	80	450	1,745	3,490	1,745	3,490
1224713	80A20GH600	A	1,928	300	80	600	1,745	3,490	1,745	3,490
1224714	80A20 H552	B	2,020	300	80	552	1,745	3,490	1,745	3,490
1224715	80A25GH450	A	2,370	300	80	450	1,250	2,500	1,355	2,710
1224716	80A25GH600	A	2,369	300	80	600	1,250	2,500	1,355	2,710
1224717	80A25 H679	B	2,460	300	80	679	1,250	2,500	1,355	2,710
1224718	90A20GH450	A	1,950	400	90	450	2,030	4,060	2,030	4,060
1224719	90A20GH600	A	1,948	400	90	600	2,030	4,060	2,030	4,060
1224720	90A20 H552	B	2,020	400	90	552	2,030	4,060	2,030	4,060
1224721	90A25GH450	A	2,391	400	90	450	1,450	2,900	1,580	3,160
1224722	90A25GH600	A	2,391	400	90	600	1,450	2,900	1,580	3,160
1224723	90A25 H679	B	2,460	400	90	679	1,450	2,900	1,580	3,160

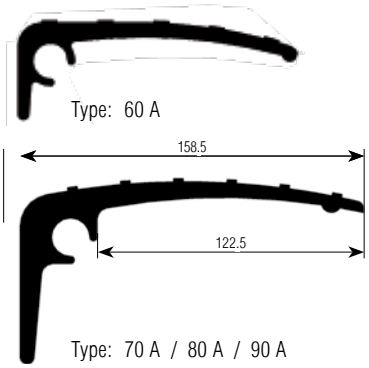
RAMPS

made from aluminium for heavy loads

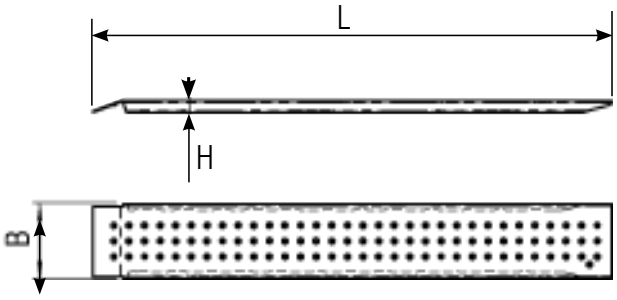
Version B

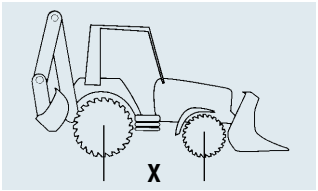
Supplied package version B

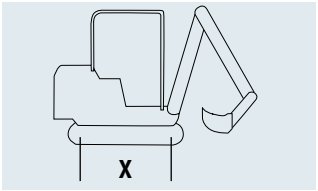
Supporting profile “B”



Load capacity with axle distance X 2.00 m		Inherent weight of the ramp	
Unit [kg]	Pair [kg]	Unit [kg]	Pair [kg]
1,215	2,430	10.4	20.8
1,215	2,430	10.4	20.8
1,215	2,430	11.0	22.0
950	1,900	12.6	25.2
950	1,900	12.6	25.2
950	1,900	13.0	26.0
1,500	3,000	10.7	21.4
1,500	3,000	10.7	21.4
1,500	3,000	11.6	23.2
1,165	2,330	13.0	26.0
1,165	2,330	13.0	26.0
1,165	2,330	13.9	27.8
1,745	3,490	10.7	21.4
1,745	3,490	10.7	21.4
1,745	3,490	11.6	23.2
1,355	2,710	13.0	26.0
1,355	2,710	13.0	26.0
1,355	2,710	13.9	27.8
2,030	4,060	13.7	27.4
2,030	4,060	13.7	27.4
2,030	4,060	13.7	27.4
1,580	3,160	16.3	32.6
1,580	3,160	16.3	32.6
1,580	3,160	16.4	32.8







BOAT ROLLERS

YOUR ADVANTAGE

Advantage	COMPACT boat roller	PROFI boat roller “STOLTZ”
Material	Rubber	Polyurethane
Colour	Black	Transparent yellow
Cushions shocks	Yes	No
Material abrasion on the hull of the boat possible	Yes	No
Extremely high load capacity	No	Yes
Durable and largely wear-free	No	Yes
UV-resistant	No	Yes
Scratch-proof	No	Yes
No deformation of the roller if the boat is stored on the trailer for a long time	No	Yes

Boats are expensive. As a result, you as a professional watersports enthusiast carefully look after your sports equipment in the water. But what about when it comes to transport or storage on the trailer? When transporting, loading and unloading, appropriate precautions **must be taken to** avoid damaging the precious cargo.

As Europe's leading manufacturer of trailer components, AL-KO offers you two **different ranges of professional boat rollers for this** purpose, so you can design the trailer that is optimum for you.

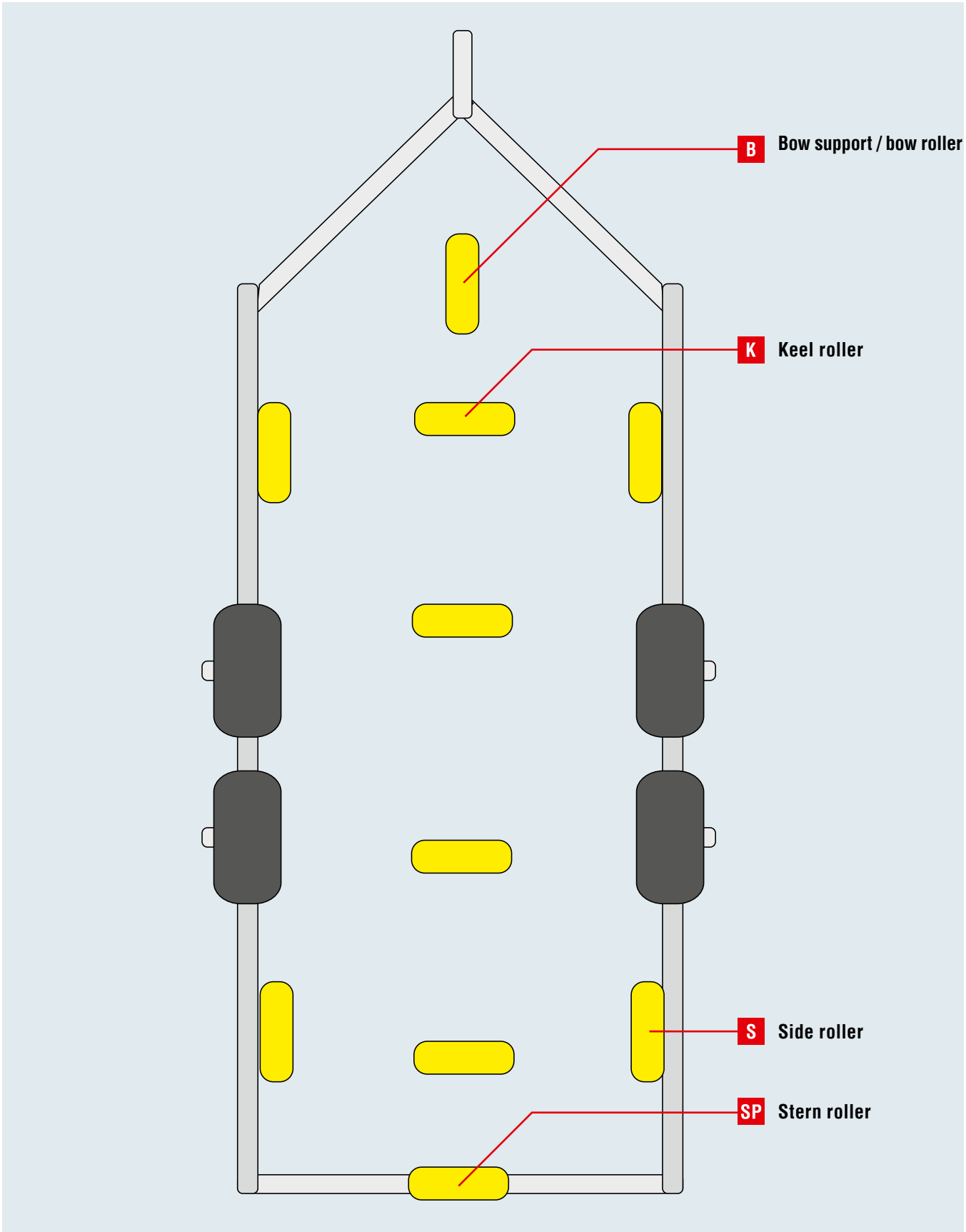
In the **entry-level** category, we can offer you inexpensive boat rollers based on **rubber**. As you would expect, we place the greatest emphasis on quality and safety in this segment too, so we offer you exclusively brand-name products made in Europe.

The **genuine STOLTZ** rollers in the **Profi Line** made from polyurethane offer you absolutely **premium quality;** they have been selected as the winner in many tests and in the Internet forums of the trade press, they are permanently referred to as THE best rollers for boat trailers.

Genuine STOLTZ rollers make loading and unloading child's play. The **extreme ease of movement** means that boats slip easily into the water – so you can save your strength for sports on the water!
You will be delighted to observe that using STOLTZ rollers **means that black stripes** on the hull of the boat caused by launching **are now a thing of the past.**

A **distinctly visible signal** of these famous STOLTZ rollers **is the striking, transparent yellow colour** which makes it clear to everyone that you are a professional watersports enthusiast in the know.

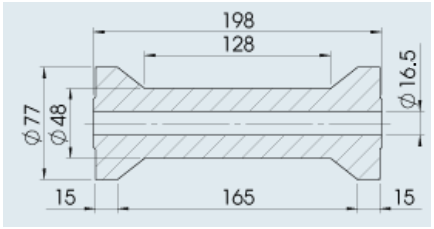
BOAT ROLLERS



BOAT ROLLERS

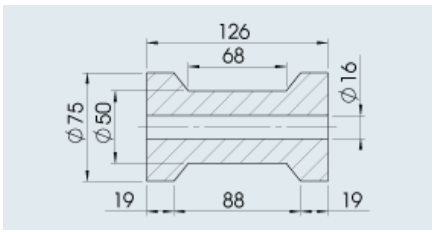
SAP: KIELROLLE SCHWARZ

K



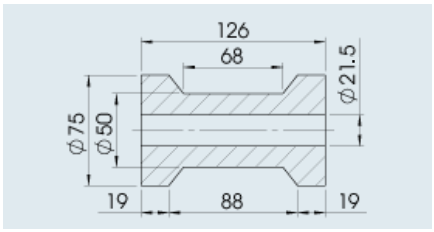
Keel roller	
Part No.	360710
Material/Surface/Colour	Rubber/matt/black
Dimensions (D x L) / hole	Ø 77 x 198 mm / Ø 16.5 mm
	0.660 kg
	1 unit –

K



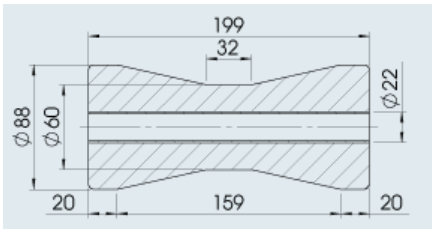
Keel roller	
Part No.	360711
Material/Surface/Colour	Rubber/matt/black
Dimensions (D x L) / hole	Ø 75 x 126 mm / Ø 16 mm
	0.510 kg
	1 unit –

K



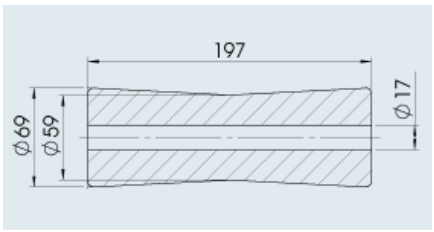
Keel roller	
Part No.	360712
Material/Surface/Colour	Rubber/matt/black
Dimensions (D x L) / hole	Ø 75 x 126 mm / Ø 21.5 mm
	0.490 kg
	1 unit –

K



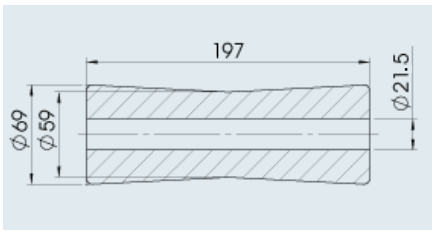
Keel roller	
Part No.	360713
Material/Surface/Colour	Rubber/matt/black
Dimensions (D x L) / hole	Ø 88 x 199 mm / Ø 22 mm (steel tube)
	1,400 kg
	1 unit –

K



Keel roller	
Part No.	360715
Material/Surface/Colour	Rubber/matt/black
Dimensions (D x L) / hole	Ø 69 x 197 mm / Ø 17 mm
	0.910 kg
	1 unit –

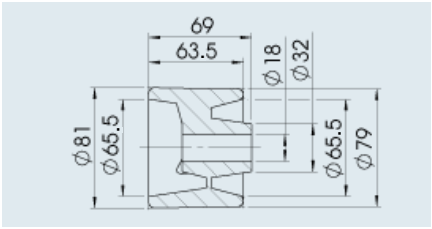
K



Keel roller	
Part No.	360716
Material/Surface/Colour	Rubber/matt/black
Dimensions (D x L) / hole	Ø 69 x 197 mm / Ø 21.5 mm
	0.850 kg
	1 unit –

BOAT ROLLERS

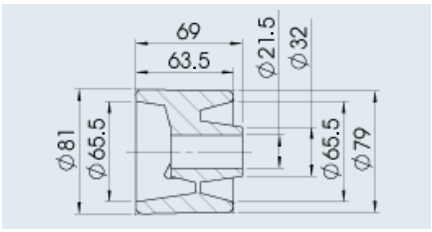
S



SAP: SEITENROLLE SCHWARZ

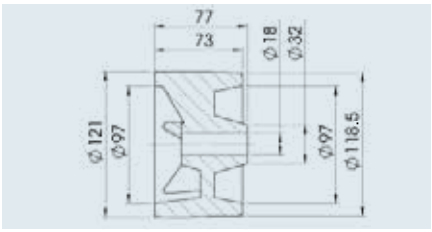
Side roller	
Part No.	360717
Material/Surface/Colour	Rubber/matt/black
Dimensions (D x L) / hole	Ø 81 x 69 mm / Ø 18 mm
	0.270 kg
	1 unit –

S



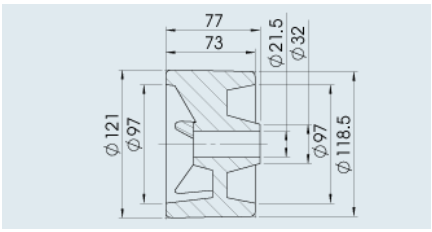
Side roller	
Part No.	360718
Material/Surface/Colour	Rubber/matt/black
Dimensions (D x L) / hole	Ø 81 x 69 mm / Ø 21.5 mm
	0.260 kg
	1 unit –

S



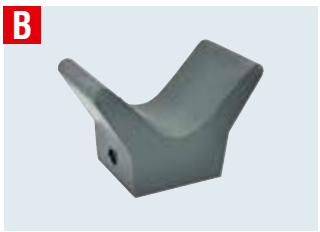
Side roller	
Part No.	360719
Material/Surface/Colour	Rubber/matt/black
Dimensions (D x L) / hole	Ø 121 x 77 mm / Ø 18 mm
	0.740 kg
	1 unit –

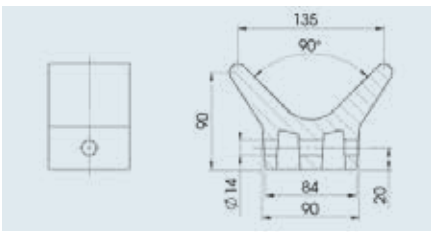
S



Side roller	
Part No.	360720
Material/Surface/Colour	Rubber/matt/black
Dimensions (D x L) / hole	Ø 121 x 77 mm / Ø 21.5 mm
	0.720 kg
	1 unit –

B





SAP: V BUGSTOPPER GRAU

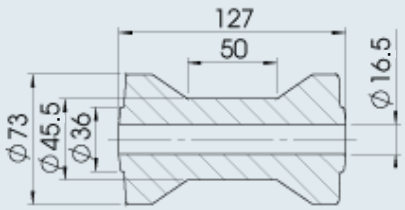
Bow buffer	
Part No.	360722
Material/Surface/Colour	Rubber/matt/grey
Dimensions (D x L) / hole	Ø 135 x 75 mm / Ø 14 mm
	0.630 kg
	1 unit –

PROFI BOAT ROLLERS

PREMIUM PROFI

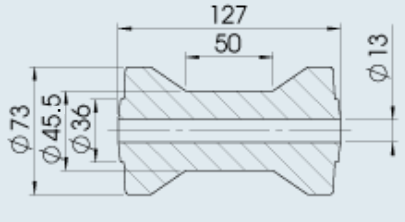
SAP: KIELROLLE RP-

K



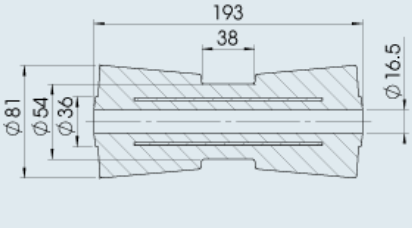
Keel roller type RP-5	
Part No.	1224415
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 73 x 127 mm / Ø 16.5 mm
	0.340 kg
	1 unit –

K



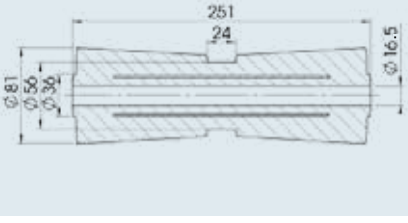
Keel roller type RP-55	
Part No.	1224418
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 73 x 127 mm / Ø 13 mm
	0.350 kg
	1 unit –

K



Keel roller type RP-8	
Part No.	1224421
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 81 x 193 mm / Ø 16.5 mm
	0.810 kg
	1 unit –

K



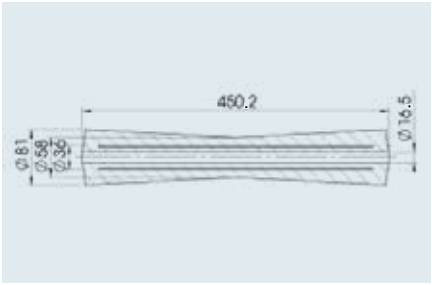
Keel roller type RP-10	
Part No.	1224422
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 81 x 251 mm / Ø 16.5 mm
	1.120 kg
	1 unit –

K

Keel roller type RP-12	
Part No.	1224425
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 81 x 296 mm / Ø 16.5 mm
	1.370 kg
	1 unit –

PROFI BOAT ROLLERS

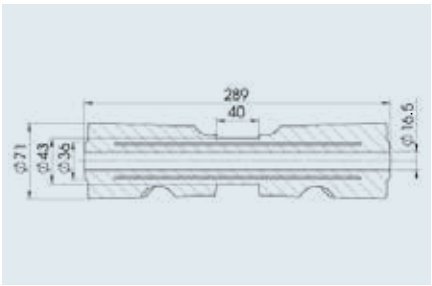
K



SAP: KIELROLLE RP-

Keel roller type RP-18	
Part No.	1224426
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 81 x 450.2 mm / Ø 16.5 mm
	1.930 kg
	1 unit –

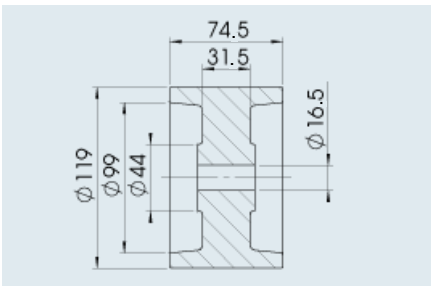
K



Keel roller type RPSC-12	
Part No.	1224424
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 71 x 289 mm / Ø 16.5 mm
	0.960 kg
	1 unit –

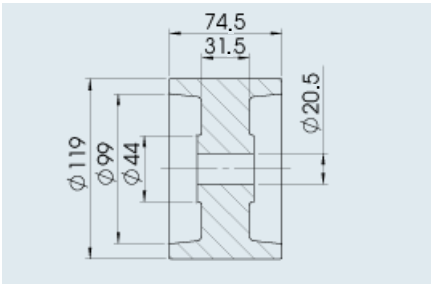
SAP: ROLLE RP-

K
S



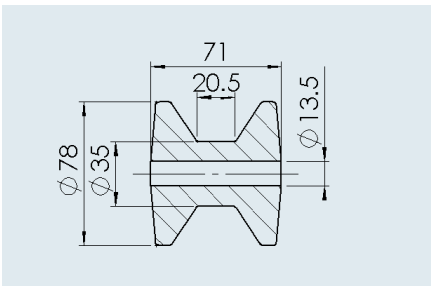
Keel roller type RP-53A	
Part No.	1224461
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 119 x 74.5 mm / Ø 16.5 mm
	0.600 kg
	1 unit –

K
S



Keel roller type RP-54	
Part No.	1224462
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 119 x 74.5 mm / Ø 20.5 mm
	0.590 kg
	1 unit –

B

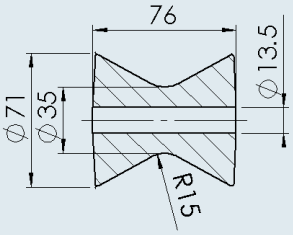


SAP: BUGROLLE RP-33

Bow roller type RP-33	
Part No.	1224431
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 78 x 71 mm / Ø 13.5 mm
	0.210 kg
	1 unit –

PROFI BOAT ROLLERS

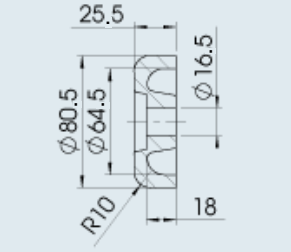
B
SP



SAP: V ROLLE RP-335

V-roller type RP-335

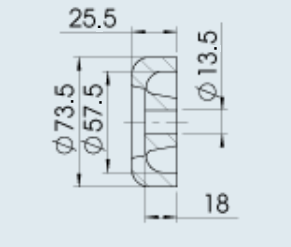
Part No.	1224432
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 71 x 76 mm / Ø 13.5 mm
	0.190 kg
	1 unit –



SAP: ROLLE RP-

End cap for RP 8/10/12/18 - type RP-32

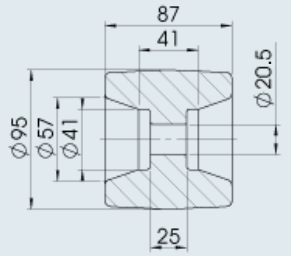
Part No.	1224444
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 80.5 x 25.5 mm / Ø 16.5 mm
	0.090 kg
	1 unit –



End cap for RP-33+RP-335 type RP-325

Part No.	1224433
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 73.5 x 25.5 mm / Ø 13.5 mm
	0.080 kg
	1 unit –

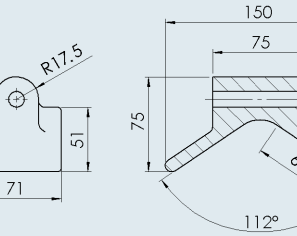
S



Wobble roller type RP-44

Part No.	1224460
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 95 x 87 mm / Ø 20,5 mm
	0.550 kg
	1 unit –

B



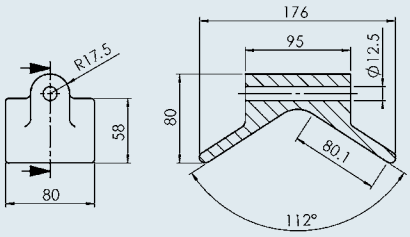
SAP: V BUGSTOPPER RP-3

V bow buffer type RP-3

Part No.	1224429
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	150 x 71 mm / Ø 12.5 mm
	0.220 kg
	1 unit –

PROFI BOAT ROLLERS

B

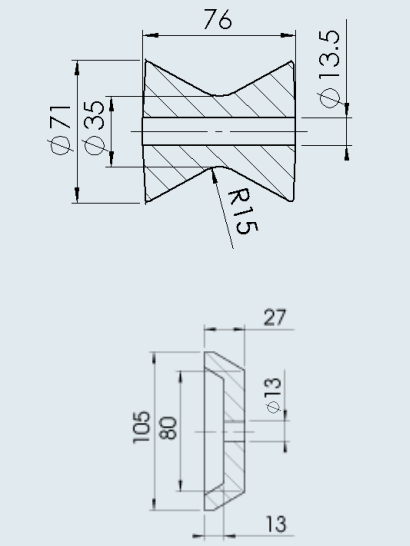


SAP: V BUGSTOPPER RP-404

V bow buffer type RP-404

Part No.	1225124
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	176 x 80 mm / Ø 12.5 mm
	0.330 kg
	1 unit –

SP



SAP: V ROLLE RP-335

Set of stern rollers large type RP-335

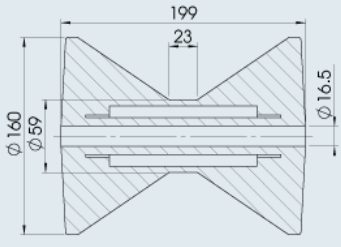
Part No.	1224432
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 71 x 76 mm / Ø 13.5 mm
	0.190 kg
	1 unit –

SAP: ENDKAPPE RP-435A - 2STÜCK

End cap RP-435A (2 units)

Part No.	1224434
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 105 x 27 mm / Ø 13 mm
	0.140 kg
	2 units –

SP



SAP: ROLLE RP-87

V-roller type RP-87

Part No.	1224452
Material/Surface/Colour	PU/matt/transparent yellow
Dimensions (D x L) / hole	Ø 160 x 199 mm / Ø 16.5 mm
	2.190 kg
	1 unit –

16. AUTHORISATION AND INSTALLATION NOTES

AUTHORISATION AND INSTALLATION NOTES

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GENERAL NOTES

on European registration regulations in the car trailer area

ECE Directive

The overrun devices and wheel brakes in this catalogue comply with the ECE-R13 / ECE-R55 guidelines with all supplements.

COUNTRY-SPECIFIC REGULATIONS FOR TRAILER REGISTRATION CAN BE FOUND IN:

Belgium / Netherlands

	To be requested from:
I In all cases: ECE-tested drawbar, drawbar shaft and hitches	Corresponding manufacturer
I In the case of ECE type approval: UN/ECE-tested brake system	Corresponding manufacturer
I In case of an individual acceptance or NKS test (national small series), an RDW test report may be sufficient for the Netherlands	Corresponding manufacturer

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Bulgaria

	To be requested from:
I Brake calculation according to Directive ECE-R13	Corresponding manufacturer

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Denmark

	To be requested from:
I Brake calculation according to Directive ECE-R13	Overrun device manufacturer

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Germany

	To be requested from:
I Brake calculation according to Directive ECE-R13	Manufacturer
I Type approval according to ECE-R55-01 for all vehicle connecting parts, e.g. coupling head, drawbar, drawbar installation and drawbar	

France

	To be requested from:
Original warranty for	
I Confirmation of permitted axle load	Axle manufacturer
I Strength calculation for drawbar according to directive dated 28.2.1986	Drawbar manufacturer
I Brake calculation according to Directive ECE-R13	Overrun device manufacturer

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United Kingdom

	To be requested from:
I Brake calculation according to Directive ECE-R13	Overrun device manufacturer

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Italy

	To be requested from:
I Brake calculation according to Directive ECE-R13	Overrun device manufacturer
I Coupling head with I-test no. or according to Directive ECE-R55	Corresponding manufacturer

All documents must be issued in Italian. These documents can be requested from the corresponding trailer importer at our branch in Vintl.

Austria

	To be requested from:
I Brake calculation according to Directive ECE-R13 with EC supplement	Overrun device manufacturer
I Special regulation on trailer loads (mass of motor vehicle in relation to mass of trailer)	Please find out from the corresponding authorities.

	Poland I Technical report for overrun device and wheel brake according to Directive ECE-R13	**To be requested from:** Ministry of Transport
	Romania I Brake calculation according to Directive ECE-R13	**To be requested from:** Corresponding manufacturer
	Russia I Brake calculation according to Directive ECE-R13 I GOST 37.001.220 - 97 of 1997 (Russian industry standard for car trailers)	**To be requested from:** Corresponding manufacturer Corresponding manufacturer
	Sweden I Brake calculation according to Directive ECE-R13	**To be requested from:** Overrun device manufacturer
	Switzerland Original warranty for I Confirmation of permitted axle load I Confirmation of nose load and pulling force on the drawbar as well as overrun devices I Confirmation of nose load and pulling force of the coupling head (also DIN drawbar eye) I Schematic drawing of the service and handbrake system with specification of the ratio and effective brake surface area	**To be requested from:** Axle manufacturer Overrun device manufacturer Corresponding manufacturer Overrun device manufacturer
	Slovakia I Certificate number for axle, overrun device, coupling head, wheels and lighting (according to Directive 315/1996)	**To be requested from:** Ministry of Transport
 	Spain/Portugal I Brake calculation, according to ECE-R13 Directive from the overrun device manufacturer, diagram for central tube drawbars with braked and unbraked trailers, corresponding manufacturer's general operating permit for all vehicle-connecting parts, e.g. coupling head, drawbar, drawbar installation	**To be requested from:** Corresponding manufacturer
	Czech Republic I Brake calculation according to Directive ECE-R13 I Czech report for coupling head, overrun device, axle	**To be requested from:** Overrun device manufacturer Corresponding manufacturer (or importer)

This information is in line with the status of our knowledge as at January 2018. Technical modifications reserved!

BRAKE CALCULATION

according to ECE-R13 Directive

NOTE

Please provide us with the following information to carry out the brake calculation:

1. Type of overrun device, e.g. 161 S vers. A
2. Type of wheel brake, e.g. 2051 vers. A
3. Single axle or tandem trailer = number of wheel brakes
4. Permitted gross weight of the trailer, e.g. 1300 kg
5. Tyres used, e.g. 175 R 14

ECE-R13 Annex 12 App. 4

Report on the compatibility of the overrun device, the transmission device and the brakes on the trailer

Calculation no.:	693767 02a		
Author		Date:	

1. Overrun device		**2. Brake**	
Manufacturer	ALOIS KOBER GMBH	Manufacturer	ALOIS KOBER GMBH
Type	161 S vers. A	Type	2051 vers. A,b
ECE test report no.	361-0047-97	ECE test report no.	361-0031-92
Min. perm. gross weight G_{Amin}	950 kg	Perm. gross weight G_{BO}	750 kg
Max. perm. gross weight G_{Amax}	1600 kg	Braking torque M*	1700 Nm
Perm. stat. nose load S	100 kg	Min. dyn tyre radius R_{Min}	0.280 m
Overrun travel s‘	85 mm	Max. dyn tyre radius R_{Max}	0.321 m
Efficiency η_{H0}	0.940	Min. brake application stroke s_{B^*}	1.6 mm
Response threshold K_A	330 N	Path transmission i_g	15.55
Max. compression force D_1	800 N	Reset force P_0	0 N
Max. pulling force D_2	2750 N	Characteristic value ρ	720 mm
Tensile force K	200 N	Max. braking torque M_r	21 Nm
Travel ratio i_{HO}	= (L1) / (L2) = (90) / (27) = 3.33	Max. permitted travel s_r	27 mm

3. Transmission device			
ECE test report no.	361-120-12	Travel ratio i_{H1}	1.00
		Efficiency η_{H1}	1.00

4. Trailer			
Manufacturer		Min. gross weight G_{Amin}	900 kg
Factory brand		Max. gross weight G_{Amax}	1500 kg
Type			
Type of drawbar connection:	Trailer with rigid drawbar	Min. dyn tyre radius R_{Min}	0.280 m
Number of brakes	**n = 2**	Max. dyn tyre radius R_{Max}	0.321 m

5. Allocation - Test results

Max. perm. gross weight G_A	Perm. drawbar force $D^*=0.1 \cdot g \cdot G_A$	Brake force $B = 0.49 \cdot g \cdot G_A$	Response threshold $100 \cdot KA / (G_A \cdot g)$ $2 < X < 4$	Force transmission (with R_{Max} = 0.321 m) i_{HK}	Largest compression force $100 \cdot D_1 / (G_A \cdot g)$ $X \le 10$	Largest pulling force $100 \cdot D_2 / (G_A \cdot g)$ $10 < X < 50$
[kg]	[N]	[N]				
950	932	4567	3.54	2.96	8.58	29.51
1000	981	4807	3.36	2.92	8.15	28.03
1100	1079	5288	3.06	2.85	7.41	25.48
1200	1177	5768	2.80	2.80	6.80	23.36
1300	1275	6249	2.59	2.76	6.27	21.56
1400	1373	6730	2.40	2.72	5.82	20.02
1500	1472	7210	2.24	2.69	5.44	18.69

Maximum technically permitted gross weight for the overrun device $G'_{A=}$	G_{Amax} =	1600 kg	(≥ 1500)
Maximum technically permitted gross weight for all trailer brakes G_B =	$G_{BO} \cdot n$ =	1500 kg	(≥ 1500)
Braking torque of the brakes M_{BRMax} =	$M^* \cdot n / (B_{max} \cdot R_{Max})$ =	1.47 Nm	(≥ 1,00)
Braking torque when pushing back the trailer including the rolling resistance of MR_{max} =	$0.08 \cdot g \cdot G_{Amin} \cdot R_{Min} / n$ =	98.88 Nm	(≥ 21,00)
Total ratio i_H =	$i_{Ho} \cdot i_{H1}$ =	3.33	
Total efficiency η_H =	$\eta_{Ho} \cdot \eta_{H1}$ =	0.940	
Force ratio i_{HK} =	$(B \cdot R_{Max} / \rho + n \cdot P_0) / (D^* - K) / \eta_H$ =	see table	(≤ 3.33)
Travel ratio i_{HW} =	$s' / (s_B^* \cdot i_g)$ =	3.42	(≥ 3.33)
Ratio when pushing back the trailer =	s' / i_H =	26 mm	(≤ 27)

An overload protection device in accordance with paragraph 3.6 of this Annex is not fitted to the overrun devices or brakes.

6. Differential travel at standard brake compensation

Max. permissible travel at compensation (forwards)	s_{cf} =	18 mm
Max. permissible travel at compensation (backwards)	s_{cr} =	27 mm
Max. permissible differential travel at compensation	s_{cd} =	32.4 mm

7. The performance of this test and the disclosure of the results were carried out in accordance with the relevant provisions of Annex 12 to ECE Directive No. 13, as last amended by Amendment No. 11 with supplement 7.

CRITERIA FOR STABLE DRIVING RESPONSE

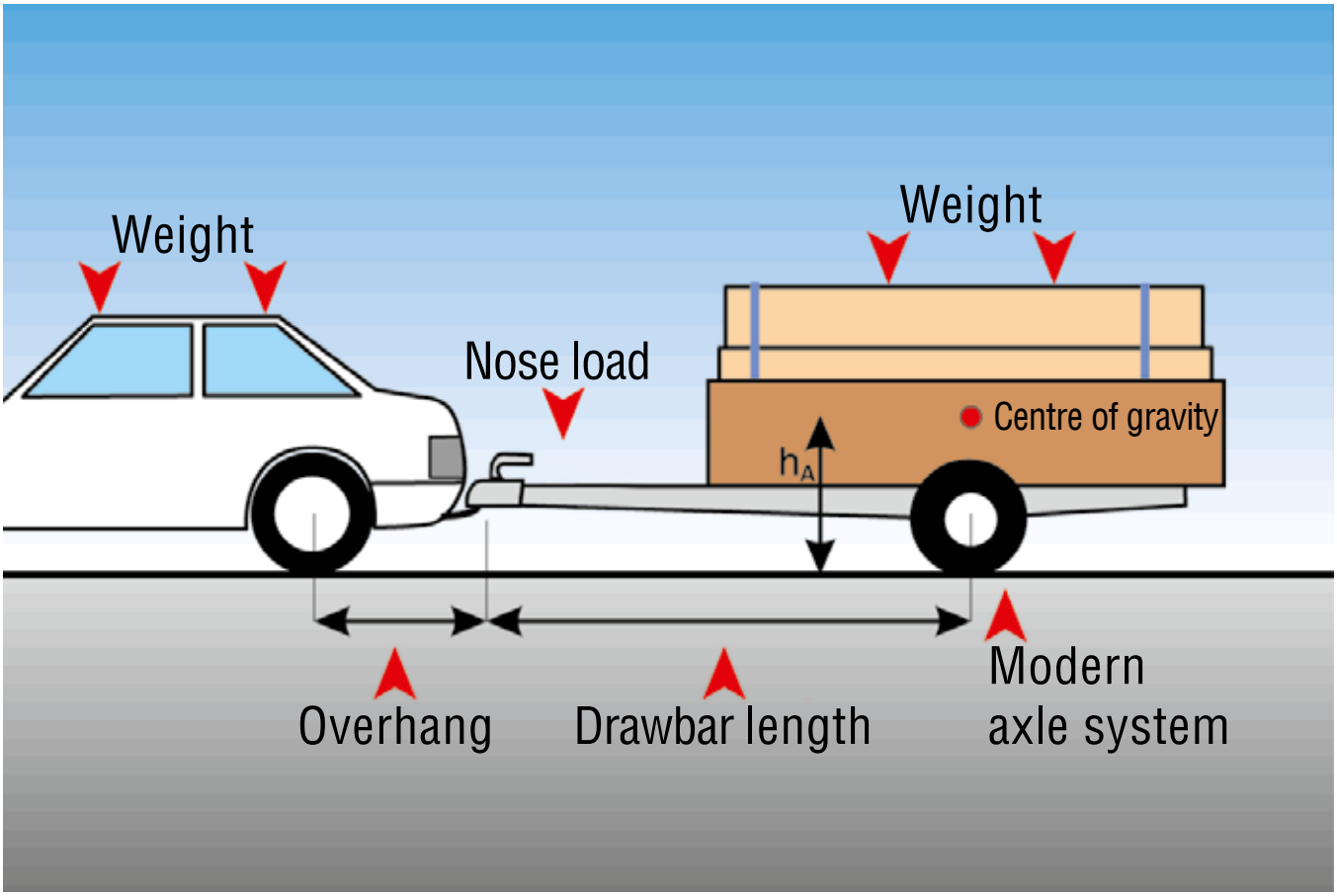
for trailer

CAR

1. Heavy weight
2. Long wheelbase
3. Small overhang
4. Correct tyre pressure
5. Correct function of the shock absorbers

Trailer

1. Low weight
2. Long drawbar
3 Low centre of gravity
4. Utilise max. permitted nose load
5. Large tyres
6. Shock absorbers
7. Optimum loading (heavy items close to the axle)
8. AL-KO hexagonal rubber suspension axle system
9. AKS stabiliser – swaying and pitching movements are effectively suppressed



COUPLING POINT POSITION IN THE TRAILER

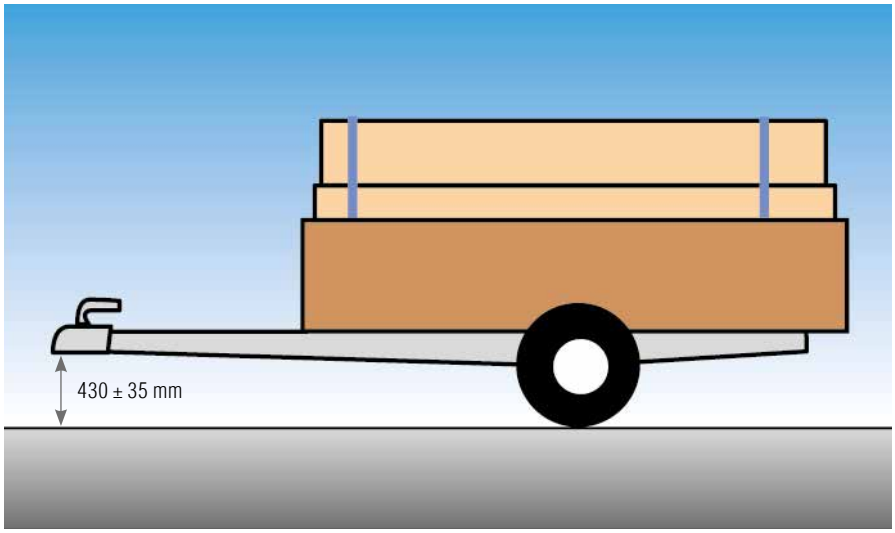
Nose load and axle position

YOUR ADVANTAGE

Coupling point position in the finished trailer

Important to remember!
According to ECE-R55, the coupling point position in the finished trailer should be 430 ± 35 mm
above the horizontal plane on which the wheels of the trailer rest.

Parameters:
- Trailer body aligned horizontally.
- Trailer loaded to the full permitted total weight.
- Tyre pressure as specified by the manufacturer.



YOUR ADVANTAGE

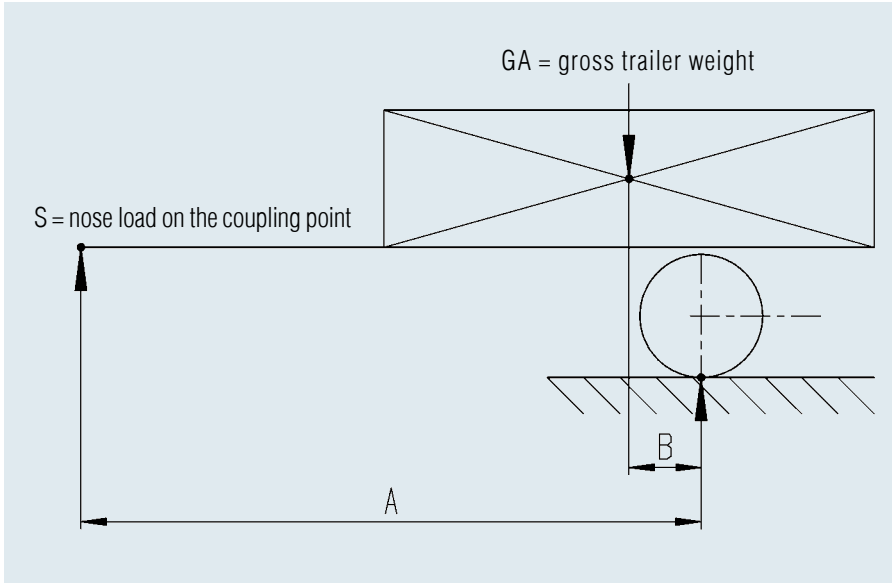
Nose load and axle position

Determination of the axle position
to regulate the nose load
(recommended 25–50 kg)

Axle position: $B = \frac{S \cdot A}{G_A}$

Example:
Single-axle trailer with 1,000 kg gross weight should be given the nose load of 50 kg.
(Dimension A = 1800 mm)
Searching for dimension B?

$B = \frac{S \cdot A}{G_A} = \frac{50\ kg \cdot 1800mm}{1000\ kg} = 90\ mm$



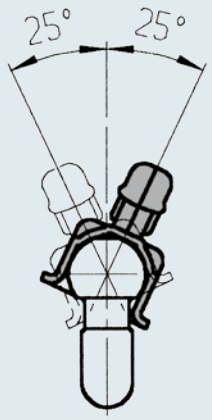
PERMITTED ARTICULATIONS

for trailer coupling heads

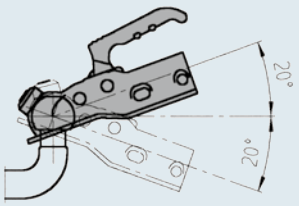
Permitted articulations for coupling heads

Attention: Exceeding the articulation range overloads the components and means correct function is no longer guaranteed.

Vertical ±25°



Horizontal ±20°



§ Acceptance of the mounting

All hitches are ECE-tested, which means they can also be retrofitted or converted. It is a prerequisite for this that the mounting positions of the old and new hitches, and their load capacity, must match.

As a rule, the hitch type is not defined in the vehicle registration document, i.e. there is no need for an entry to be made for the new hitch. In individual cases, the old hitch type is documented.
In this case, the mounting of the new hitch must be checked (by an officially recognised expert) and registered.

AL-KO AXLES

Bodywork regulations

TECHNOLOGY

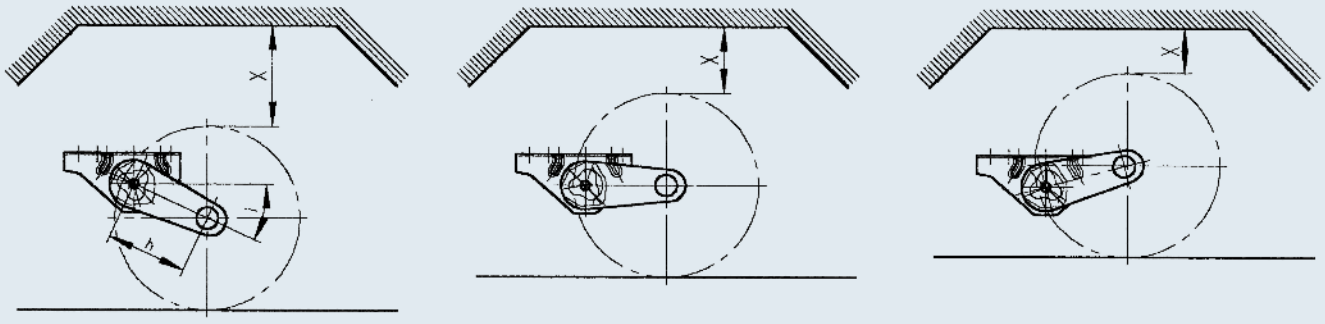
- Axle:
  Trailing arm (rubber and steel spring)
- Swing arm length:
  from 130 mm – 200 mm (dimension h)
- Swing arm position:
  0° – 35° (dimension i)

- **Technical notes**
  Wheel arch sizes for Delta semi-trailing arm axles, please contact the delivery plant.

Wheel arch clearance = dimension X mm

Swing arm length h	Position 1 minimum dimension ~X	Position 2 perm. GA ~X	Position 3 max. deflection ~X
130	110	60	20
145	120	70	20
160	130	80	20
175	140	85	20
200	150	90	20

DRIVING DIRECTION



Position 1 = Resetting, i.e. axle not installed (original delivery condition)

Position 2 = Nominal load, i.e. axle installed and fully loaded (= perm. GA)

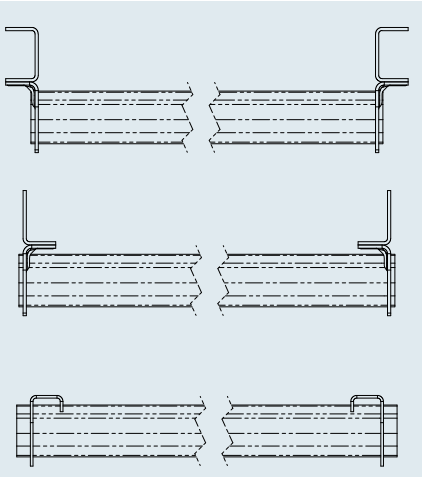
Position 3 = maximum deflection

Frame bodywork regulations

Our axles are equipped with different clamping mount variants. Please consider that the vertical frame crosspiece must be located directly on the vertical crosspiece of our axle bracket *(see graphics)*.

Failure to comply represents a risk of accidents (the axle bracket can break).

Clamping mount variant



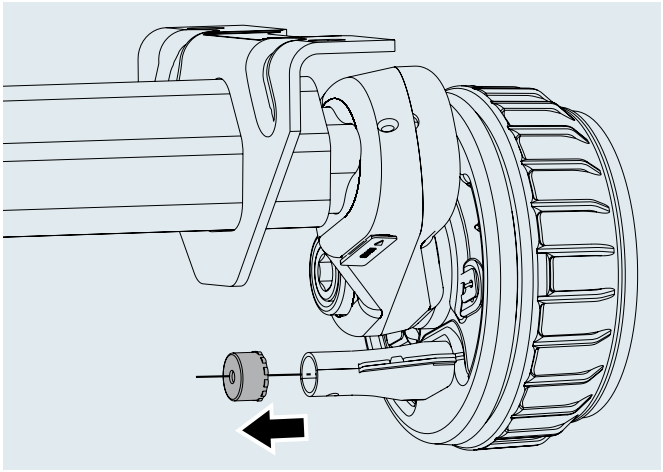
In axles with a tall bearing block, we recommend reinforcing the axle bracket according to the diagram.

AXLE BOWDEN CABLES

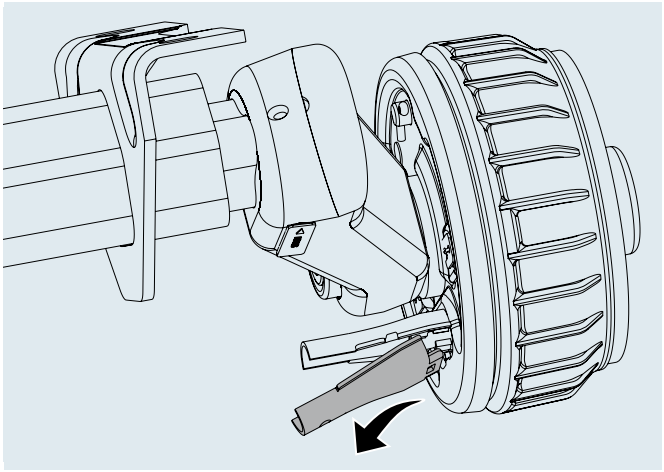
Assembly instructions

HOOK IN BOWDEN CABLE

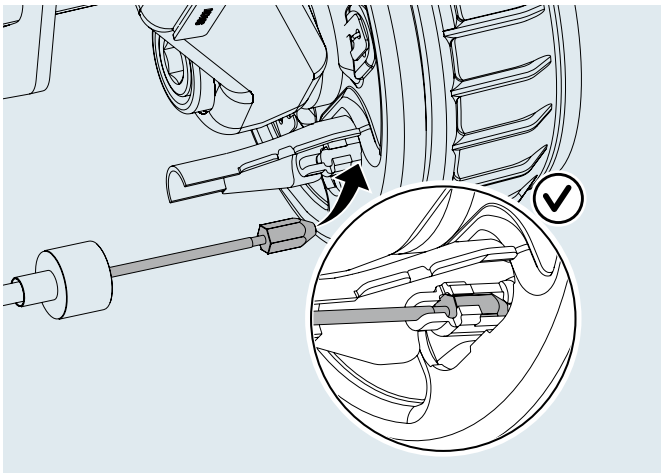
1. Remove cover cap



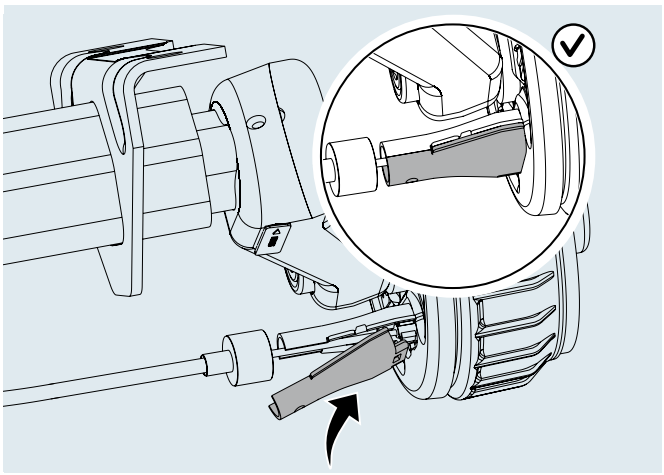
2. Remove top part



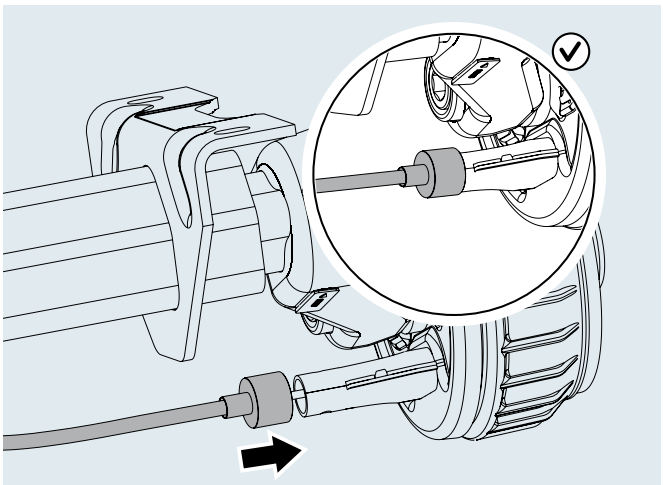
3. Hook in Bowden cable nipple

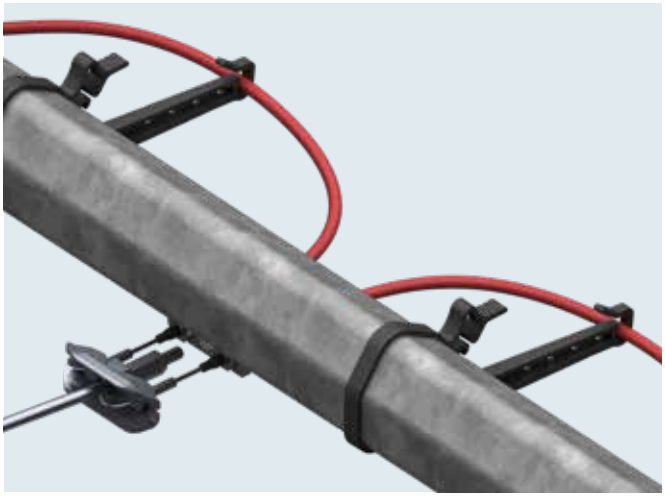


4. Insert top part



5. Push grommet over the top





SHOCK ABSORBER

Mounting

AL-KO shock absorbers can be used for almost all trailer axles.
The sketches (page 603 below) inform you about which installation options are available.

Attachment to the swing arm on AL-KO axles
On AL-KO axles, there are three attachment options for the shock absorber brackets on the swing arm:

1. Bolt-on shock absorber bracket
In certain forged swing arms, mounting holes are provided that make it possible to subsequently screw on a shock absorber bracket.

2. Plug-in shock absorber bracket

On axles with hollow swing arm. This equates to trouble-free retrofitting without welding.
In various hollow swing arms, mounting holes are provided that make it possible to insert a shock absorber bracket there, and then bolt it on subsequently with the shock absorber.

3. Shock absorber bracket for welding on

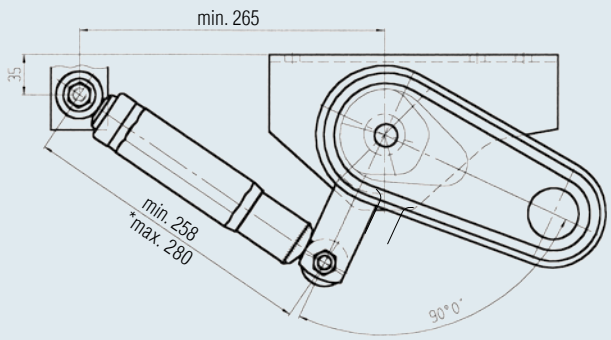
Welded shock absorber brackets for axles with forged swing arms.

For axles with forged swing arms, shock absorber brackets are welded during the building of the axle. They can also be welded by a specialist workshop during retrofitting.

In axles with a 5° swing arm position, it is also possible to retrofit a shock absorber. Please contact us directly regarding the add-on guidelines.

Counter-mounting on the vehicle frame of the trailer manufacturer
Attachment of the shock absorber on the vehicle frame must be coordinated with the vehicle manufacturer. According to the installation situation, AL-KO uses holding bars that are welded onto the frame by the vehicle manufacturer (Part No. 1 312 110) for this purpose.

Conceivable applications
- Long high-volume bodies with a high centre of gravity (high-loader)
- Trailer for transporting mini diggers (risk of exceeding payload capacity)
- Turntable drawbar trailers (risk that the payload will not be evenly distributed when loading)



Important:
Always mount bolt head on the tyre side!
Distance between bolt head and tyre at least 16 mm!
Failure to comply represents a danger of accident!

Installation dimensions in side view with unladen axle link and a *25° swing arm position!

SHOCK ABSORBER BRACKET

1211502
Bolt-on

244088
Plug-in

1211257
Plug-in

2086310202
For welding on

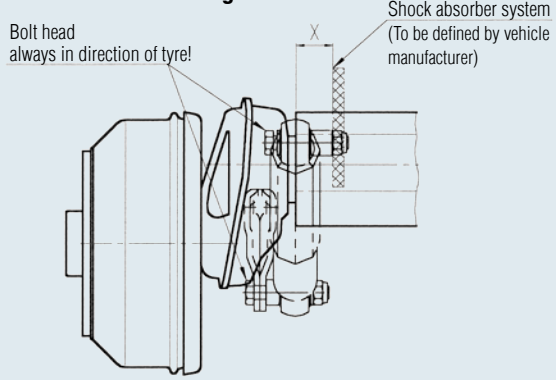
2284680202
For welding on

1312110
For welding on

Shock absorber brackets for AL-KO axle links and holding bars for trailer frame (25° or 20° swing arm position)

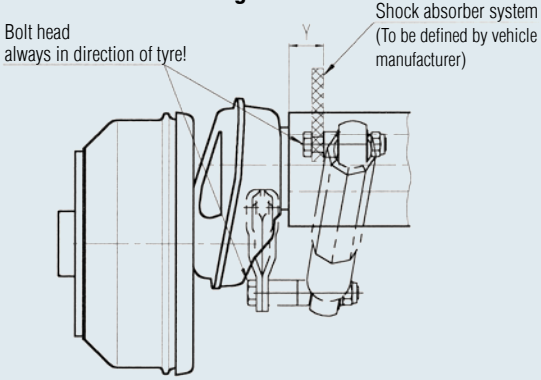
Axle type	possible swing arm versions	Type of retrofit	Outside mounting dimension X	Outside mounting part No. shock absorber brackets for axle links	Inside mounting dimension Y	Inside mounting part No. shock absorber brackets for axle links	Part No. holding bars for trailer frame
B 700	Solid swing arm with mounting hole	Bolt-on shock absorber brackets	20-50mm	per set = 2 units 1211502 (straight)	–	–	per unit 1312110
B 850	Hollow swing arm with mounting hole	Plug-in shock absorber bracket	40–70 mm	per unit 244088 (straight)	0–50 mm	per set = 2 units 1211257 (with spacer bush)	per unit 1312110
B 1000 B 1200	Hollow swing arm with mounting hole	Plug-in shock absorber bracket	40–70 mm	per unit 244088 (straight)	0–50 mm	per set = 2 units 1211257 (with spacer bush)	per unit 1312110
B 1600	Hollow swing arm with mounting hole	Plug-in shock absorber bracket	40–70 mm	per unit 244088 (straight)	0–50 mm	per set = 2 units 1211257 (with spacer bush)	per unit 1312110
B 1000 B 1200	Forged swing arm	Welded shock absorber bracket	50–80 mm	per unit 2086310202 (straight)	20–60 mm	per unit 2284680202 (cranked)	per unit 1312110
B 1600 B 1800	Forged swing arm	Welded shock absorber bracket	50–80 mm	per unit 2086310202 (straight)	20–60 mm	per unit 2284680202 (cranked)	per unit 1312110
B 2500	Forged swing arm	Welded shock absorber bracket	40–70 mm	per unit 2086310202 (straight)	10–50 mm	per unit 2284680202 (cranked)	per unit 1312110

Shock absorber mounting from outside



Dimension X: from outside edge of axle tube to shock absorber system

Shock absorber mounting from inside

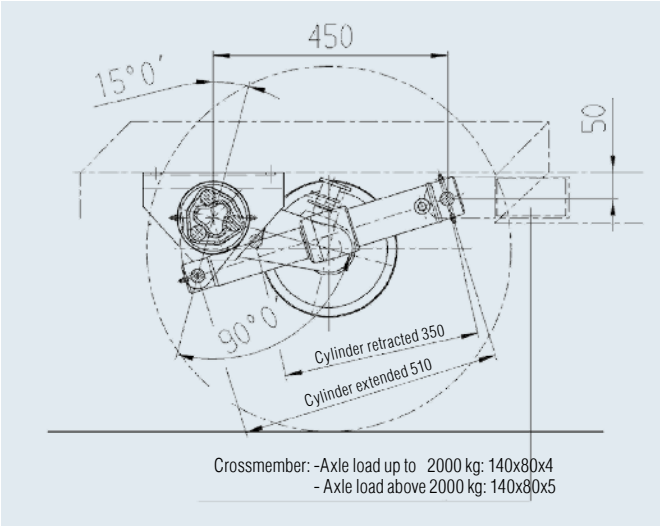


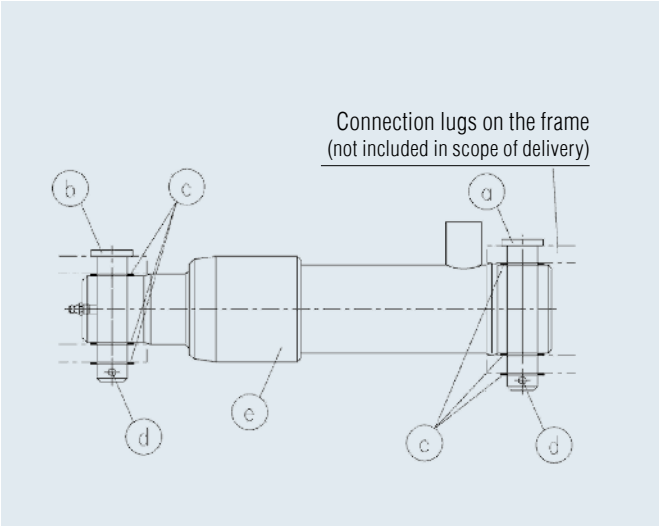
Dimension Y: from outside edge of axle tube to shock absorber system (inner side)

LOWERING AXLES

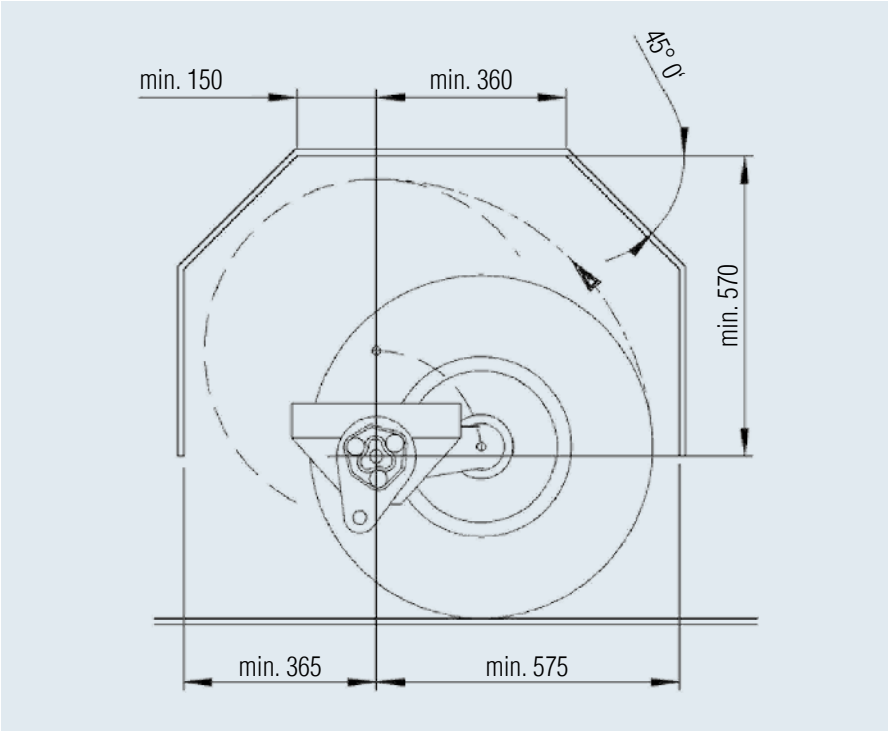
Mounting the cylinder in a single axle trailer

Mounting the cylinder in a single axle trailer





Supplied with the axle		
Item	**Quantity**	**Designation**
a	2	Bolt
b	2	Bolt
c	12	Washer
d	4	Split pin
e	2	Hydraulic cylinder



Note the wheel arch clearances

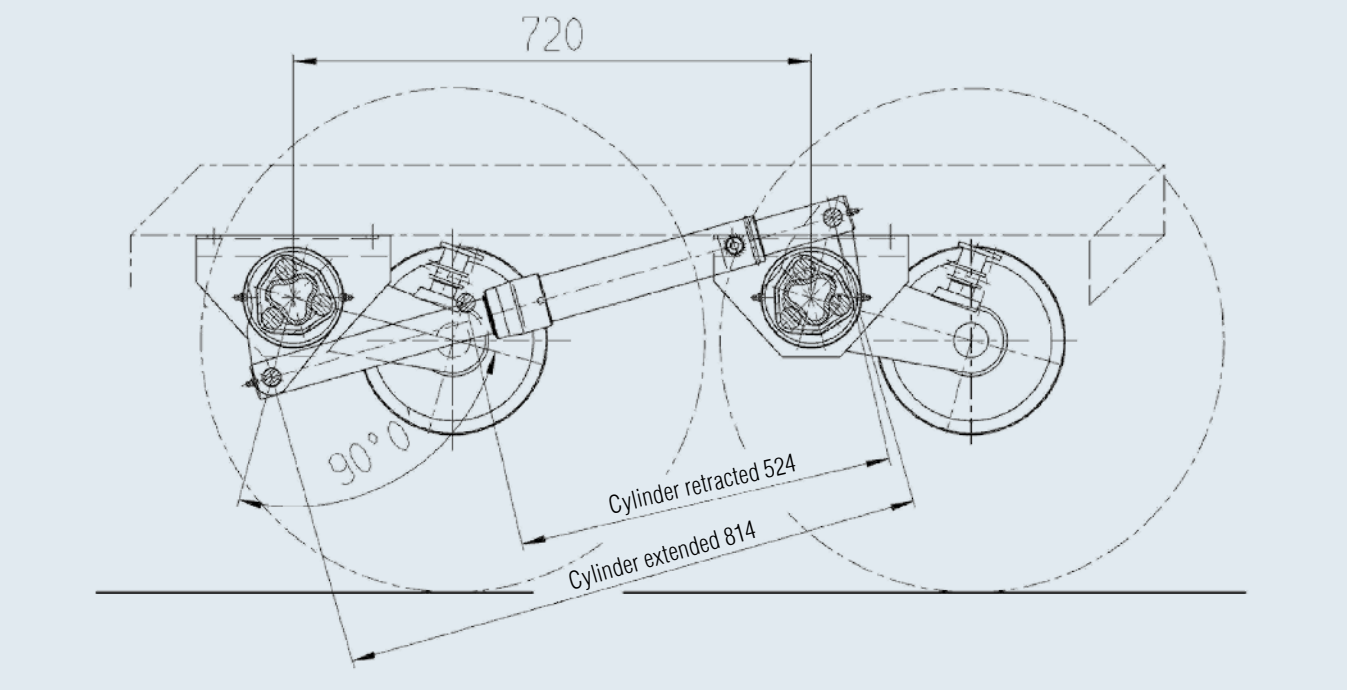
The wheel arch must be configured accordingly with other tyres *(see diagram)*. Particular attention must be paid to the articulations *(see diagram)*.

The specified dimensions apply to 215 R 14 C tyres!

LOWERING AXLES

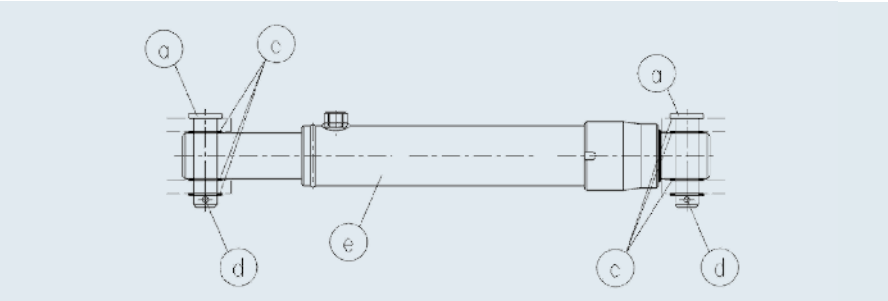
Mounting of the cylinder for tandem axles

Mounting of the cylinder for tandem axles



Mounting Jockey wheel

- In the lowered condition, the lowest point is the bottom edge of the frame. As a result, the jockey wheel must be mounted as high up as possible.
- The jockey wheel is involved in the lowering procedure. As a result, a very stable version should be used.



Supplied with the axle		
Item	**Quantity**	**Designation**
a	4	Bolt
c	12	Washer
d	4	Split pin
e	2	Hydraulic cylinder

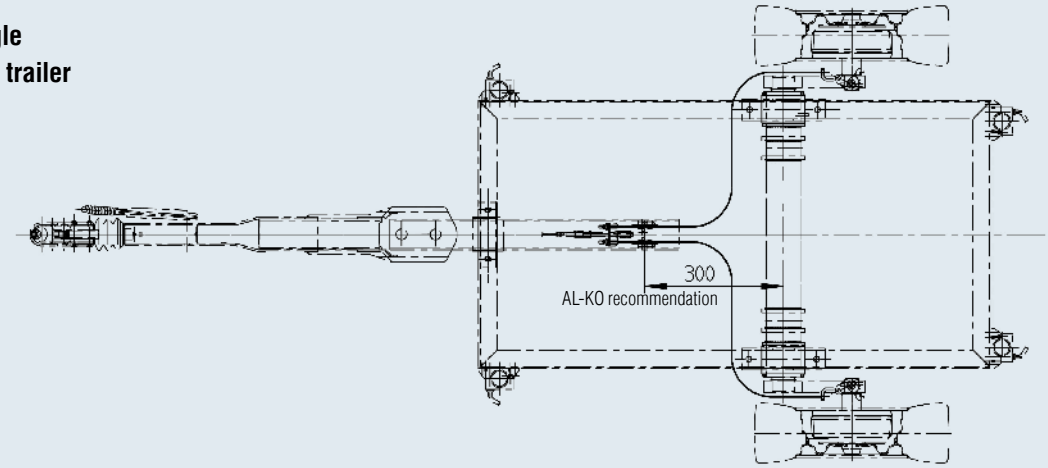
Mounting Axles

- In tandem axles, the axle distance (front-rear axles) of 720 ±1 mm must be strictly maintained.
- The tyre radius must not be less than R stat. 300 mm!
- In catalogue axles, the frame width or body width is not allowed to project more than 30/40 mm beyond the support centre on either side. Larger body widths on request.
- The cylinder spacing must be observed without fail (especially in tandem axles if the frame is offset to the inside away from the support centre). Other spacings on request.
- AL-KO axles have a toe-in, which means they must be installed trailing.

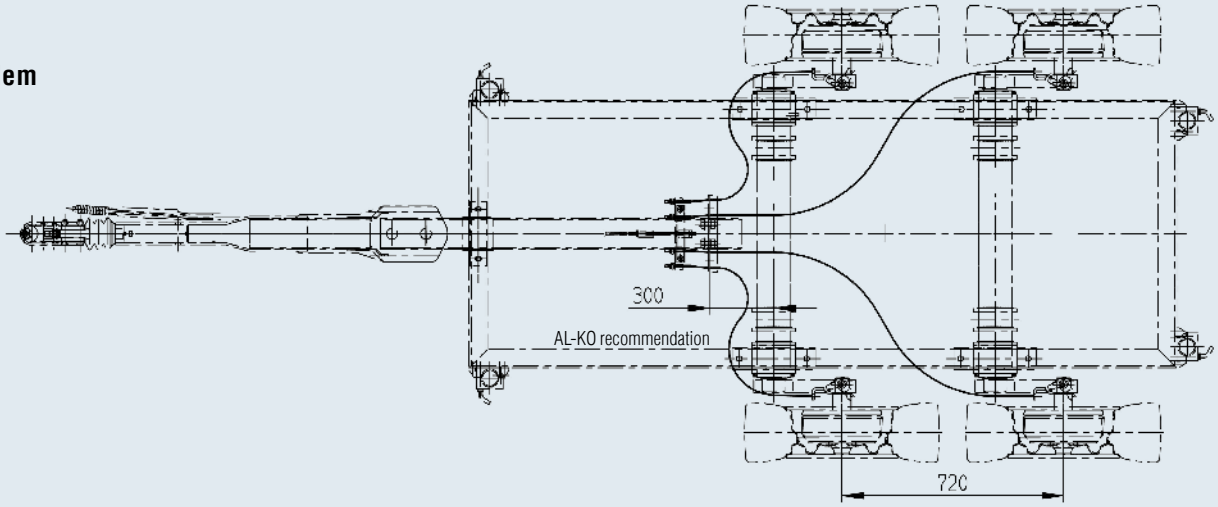
LOWERING AXLES

Mounting Axle Bowden cables

Single axle trailer



Tandem



Bowden cable allocation: Longlife with hook-in eye

for single-axle trailers

OHF from / to (mm)	Wheel brake 2051/2361 Part No. Bowden cable	Sleeve (mm)	Cable (mm)	Wheel brake 3062/3081 Part No. Bowden cable	Sleeve (mm)	Cable (mm)
Up to 1,650	247285	1,020	1,216	2781960403	1,040	1,300
1,650 – 2,050	247287	1,320	1,516	2781960405	1,340	1,600
2,050 – 2,450	247288	1,430	1,626	224609	1,760	2,020

for tandem trailers

OHF from / to (mm)	Wheel brake 2051/2361 Front axle Part No. Bowden cable	Sleeve (mm)	Cable (mm)	Rear axle Part No. Bowden cable	Sleeve (mm)	Cable (mm)
Up to 1,650	247285	1,020	1,216	247289	1,620	1,816
1,650 – 2,050	247287	1,320	1,516	247290	1,790	1,986
2,050 – 2,450	247288	1,430	1,626	1224570	2,170	2,366

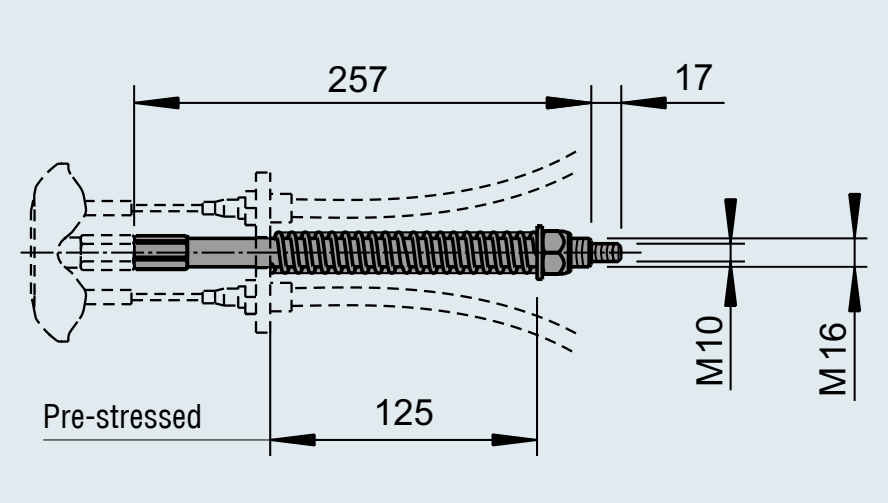
- Bowden cables are supplied with the axles.
- Avoid excessively tight bends or kinks when routing Bowden cables!
- Appropriately large radii must be maintained!
- The Bowden cables must be mounted or guided so as to avoid chafing on the Bowden cables.

LOWERING AXLES

Mounting Recovery device

Recovery device
Part No. 288675 up to 2500 kg (M10)
Part No. 288676 above 2500 kg (M12)

The recovery device is supplied with the axles.



SAFETY AND MAINTENANCE

Safety instructions:

- A warning notice must be attached on all sides of the trailer.
  For example:
  "Attention: Trailer moves down!"
- Work on the hydraulic system is only permitted when the trailer is lowered or the frame has been supported
  (risk of accidents due to lowering)
- The valve lever on the pump must be in the middle position when driving
  (risk of lowering)
- The hand lever on the pump is not allowed to be connected to the pump when driving
  (danger of misuse)

Maintenance notes:

- It is recommended for the body to be lowered after driving, because this allows the scrapers to clean the piston rods of the cylinders by removing salt, dust and moisture
- Apply grease to the grease nipple on the axle brackets at least once a year
- Apply grease to the grease nipple at the hydraulic cylinders at least once a year
- Apply grease to the grease nipple on the Bowden cable deflection on the swing arm at least twice a year

Hydraulics

The hydraulic components are not supplied by AL-KO. This means that order handling, delivery, settlement and service are carried out by the hydraulic supplier in question for reasons of cost.

The information on the following pages is intended
to help you select the hydraulic system quickly and cost-effectively.

If you have further questions about the hydraulic system, the hydraulic supplier in question will be pleased to assist you.

CHASSIS WITH HEIGHT-ADJUSTABLE DRAWBAR

for trailers with pneumatic brakes

YOUR ADVANTAGE

180 kg more payload
In comparison to straight axles with leaf suspension, you save up to 180 kg of net weight
at a total carrying weight of 5 t.
That means more payload for your customers.

Height-adjustable drawbar
If you have different towing vehicles in your fleet with different hitch heights. No problem. The AL-KO drawbars are height adjustable.

No weight compensation required up to 6500 kg
When using the combination of AL-KO height-adjustable drawbar with AL-KO tandem axles, no weight compensation is required (TÜV report can be requested if required).

Robust
- High articulation stability in the toothed washers due to doubling of teeth.
- Robust box section.

Usage examples

Standard
- Automatic adjustment of the brake pads (Directive 71/320/EEC dated 01/10/1994).
- Manoeuvring handle welded onto intermediate piece.
- Holder for blank coupling welded onto intermediate piece.
- Exchangeable hitch components (DIN eye/NATO eye).

ALB preparation
AL-KO axles are prepared for fitting an automatic anti-lock brake (ALB).
For this purpose, the brake drum is provided with a sensor wheel spline profile, and the brake back plate with a pressed-in bush.

In tandem axles, only the rear axle is used for controlling the ALB, i.e. the holes for the sensor are only in place on the rear axle in the brake backing plate for this reason. The sensors are not supplied by AL-KO (Wabco / Knorr / Haldex, etc.).

TECHNICAL NOTES: TRAILER WITH PNEUMATIC BRAKES

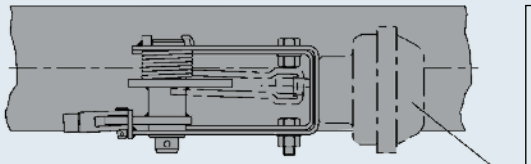
Rubber suspension axles

TECHNOLOGY

Assembly of brake cylinders for axles with rubber suspension

Single axle trailer 1,800 kg wheel brake 2361 AR
Tandem 3,500 kg wheel brake 2361 AR
Tridem 4,300 kg wheel brake 2361 AR
Tridem 5,400 kg wheel brake 2361 AR

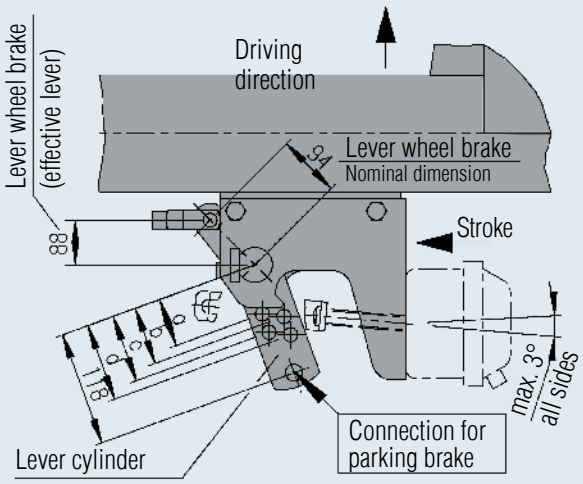
View from front



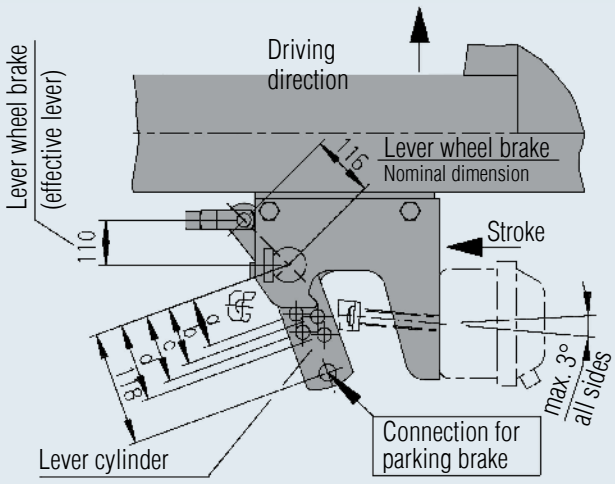
Diaphragm brake cylinder type: 9 is not a part supplied by AL-KO and must be ordered from WABCO, Knorr or Haldex

View from top

Standard brake lever (included in the scope of delivery) for standard tyre (R dyn. 314 mm or larger), e.g. tyre 185 R 14 C



Special brake lever (must be ordered separately) for very small tyres (R dyn. 240 mm to R dyn. 260 mm), e.g. tyres 195/50 R 13 C



Standard brake lever

		Lever cylinder	Lever wheel brake Nominal dimension	Lever wheel brake Eff. lever (for brake calc.)
Single axle trailer	GA 1,800 kg	a = 50 mm	94 mm	88 mm
Tandem axle	GA 3,500 kg	a = 50 mm	94 mm	88 mm
Tri-axle	GA 4,300 kg	a = 50 mm	94 mm	88 mm
Tri-axle	GA 5,400 kg	a = 50 mm	94 mm	88 mm

Special brake lever

		Lever cylinder	Lever wheel brake Nominal dimension	Lever wheel brake Eff. lever (for brake calc.)
Single axle trailer	GA 1,800 kg	a = 50 mm	116 mm	110 mm
Tandem axle	GA 3,500 kg	a = 50 mm	116 mm	110 mm
Tri-axle	GA 4,300 kg	a = 50 mm	116 mm	110 mm
Tri-axle	GA 5,400 kg	a = 50 mm	116 mm	110 mm

TECHNICAL NOTES: TRAILER WITH PNEUMATIC BRAKES

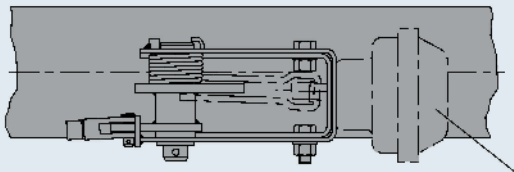
Rubber suspension axles and steel spring axles

TECHNOLOGY

Assembly of brake cylinders for axles with rubber suspension

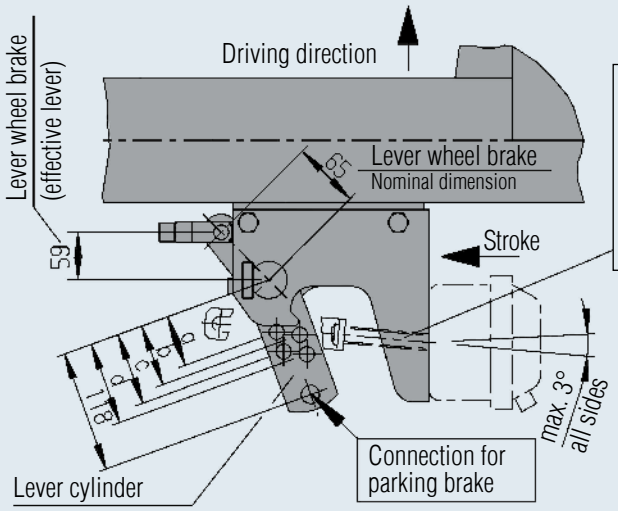
Single axle trailer 3,000 kg wheel brake 3062 AR
Single axle trailer 4,000 kg wheel brake 3081 AR/B
Tandem 5,000 kg wheel brake 3062 AR
Tandem 6,000 kg wheel brake 3062 AR
Tandem 7,500 kg wheel brake 3081 AR/B

View from front



Diaphragm brake cylinder type: 9 is not a part supplied by AL-KO and must be ordered from WAB-CO, Knorr or Haldex

View from top



Pushrod of diaphragm cylinder must be shortened to dimension 95-110 mm by the vehicle builder – depending on which hole the fork head is attached to!

		Lever cylinder	Lever wheel brake	
			Nominal dimension	eff. Lever (for brake calc.)
Single axle trailer	GA 3,000 kg - axle type BL 3000 rubber suspension	c = 70 mm	65 mm	59 mm
Single axle trailer	GA 4,000 kg - axle type BT 4000 steel suspension	d = 80 mm	65 mm	59 mm
Tandem axle	GA 5,000 kg - axle type BL 2700 rubber suspension	a = 50 mm	65 mm	59 mm
Tandem axle	GA 6,500 kg - axle type BL 3000 rubber suspension	b = 60 mm	65 mm	59 mm
Tandem axle	GA 7,500 kg - axle type BT 4000 steel suspension	c = 70 mm	65 mm	59 mm

TECHNICAL NOTES: TRAILER WITH PNEUMATIC BRAKES

Rubber suspension axles and steel spring axles

TECHNOLOGY

- AL-KO axles have a toe-in, which means they must be installed trailing.
- According to ECE-R13 Directive, the brake system of trailers with more than 3.5 t permitted gross weight must be equipped with an automatic anti-lock brake (ALB)!
- AL-KO axles above (GA) 3.5 t are prepared for installation of ALB.
- In tandem or tri-axles, only the rear axle is prepared for installation of the sensors on the brake backing plate for controlling the automatic anti-lock brake (ALB).
- The sensors are not supplied. Suppliers: WABCO, Knorr, Haldex.

The following information is required for the brake calculation:

- Permitted gross weight of the trailer
- Intended nose load on the coupling point
- Unladen weight of the trailer
- Single axle trailer, tandem, tridem or semi-trailer
- Wheel brake AL-KO 2361AR or wheel brake AL-KO 3062AR or wheel brake AL-KO 3081AR vers. A or vers. B
- Diaphragm cylinder: Type 9
  WABCO No. 423 102 900 0
  Knorr no. K010241
  Haldex No. 120 311 101
- Specify brake lever ratio
- Copies of wheel brake ECE test report (provided by AL-KO on request)

WABCO
Sensor part no.: 441 032 905 0
Clamping bush part No.: 899 759 815 4

KNORR
Sensor part no.: 0 486 001 032 100
Clamping bush part No.: □16774

HALDEX
Sensor part no.: 364 208 001
Clamping bush part No.: 059 5123 09

- Please request the brake calculation from Wabco, Knorr or Haldex (manufacturers of the pneumatic system).

Brake diagram recommendation

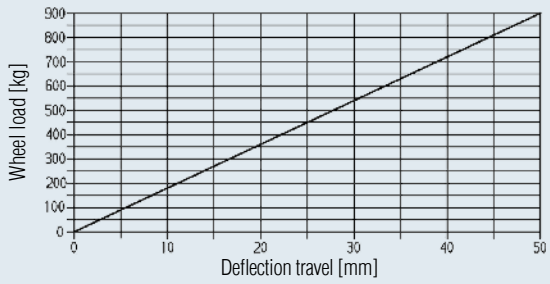
WABCO
Single axle trailer no.: 841 601 101 0
Tandem no.: 841 601 174 0
Tridem no.: 841 601 251 0

KNORR
Single axle trailer no.: BC1A2P-AGK
Tandem no.: BC2A2P-AGK
Tridem no.: BC3A2P-AGK

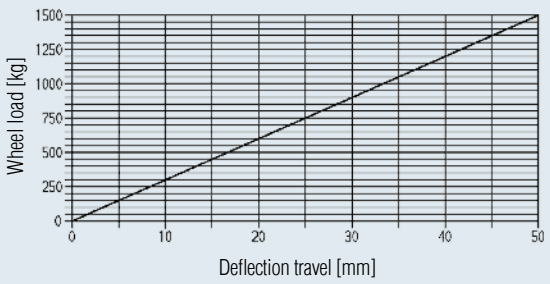
HALDEX
Single axle trailer no.: 380 098 190
Tandem no.: 380 095 320
Tridem no.: 380 095 330

Deflection diagrams (for setting the ALB controller)

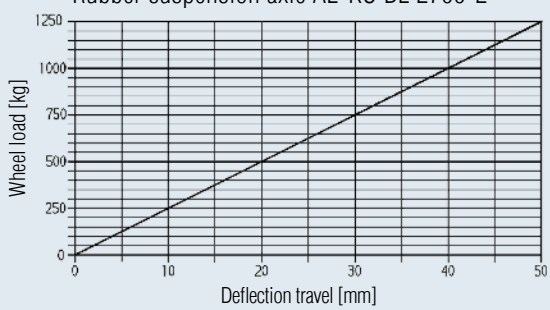
Rubber suspension axle AL-KO BL 1900-9



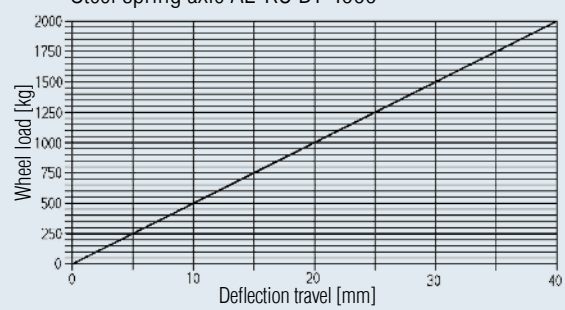
Rubber suspension axle AL-KO BL 3000-2



Rubber suspension axle AL-KO BL 2700-2



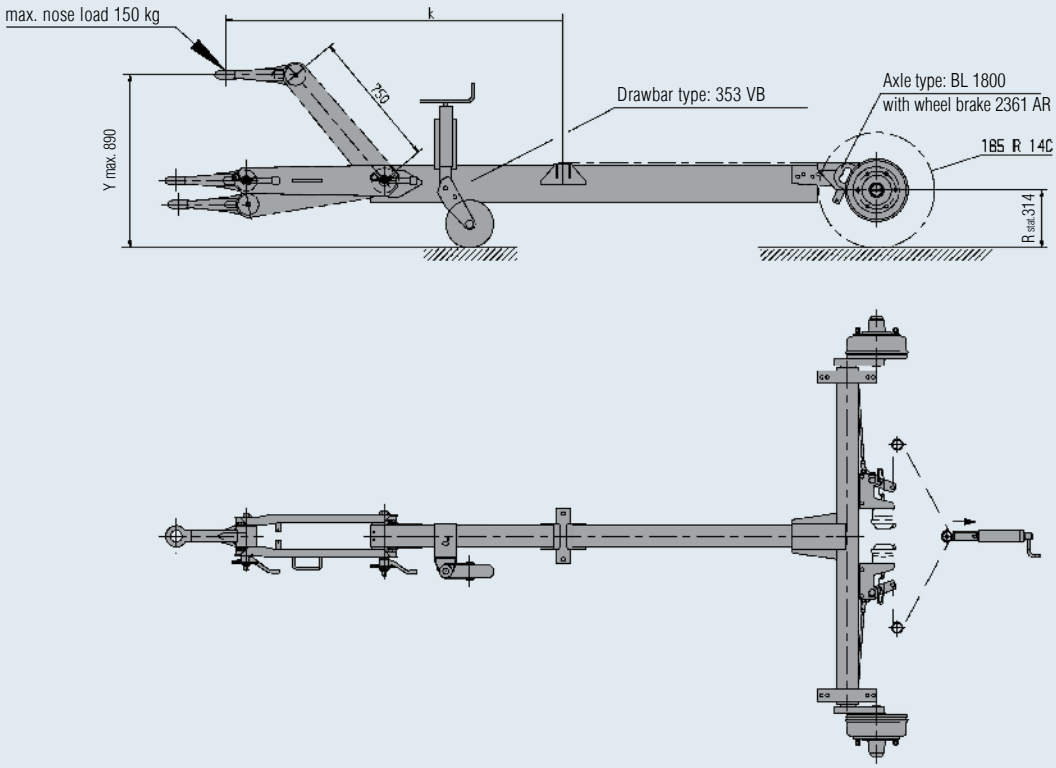
Steel spring axle AL-KO BT 4000



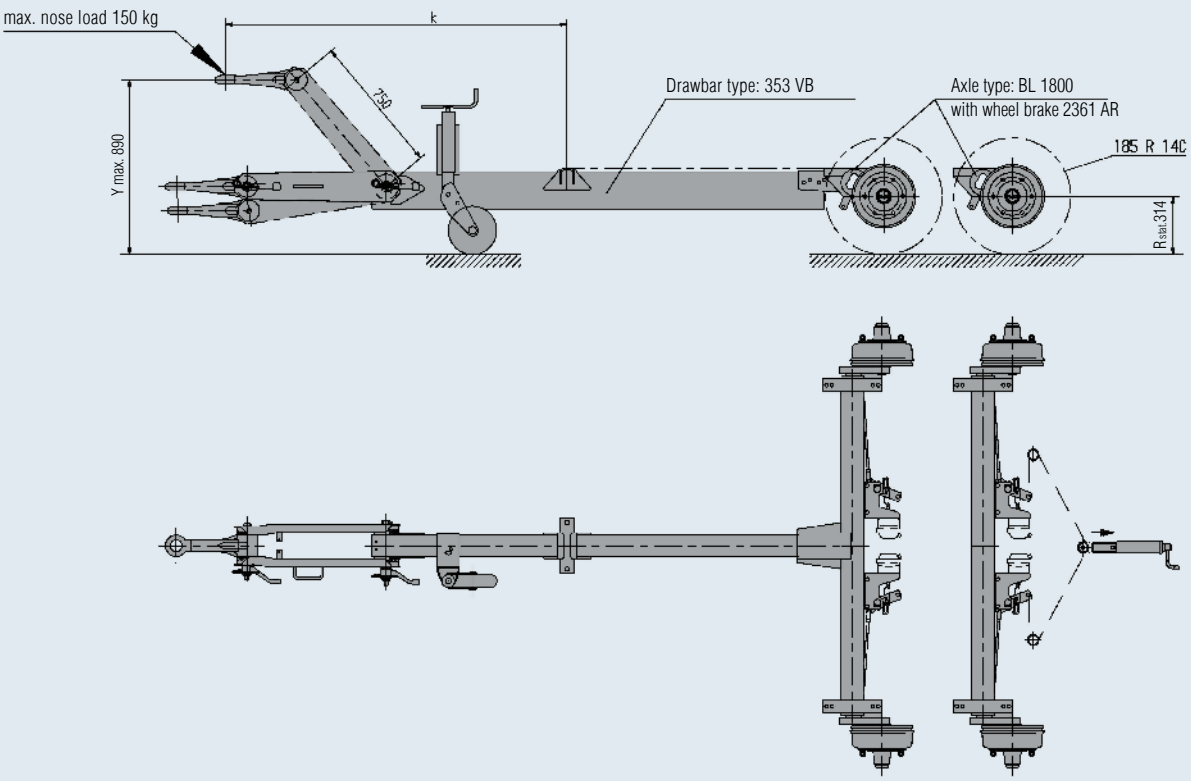
INSTALLATION SUGGESTIONS

for trailers with pneumatic brakes

Installation suggestion up to GA 1.8 t (with single axle with rubber suspension max. axle load 1.8 t)



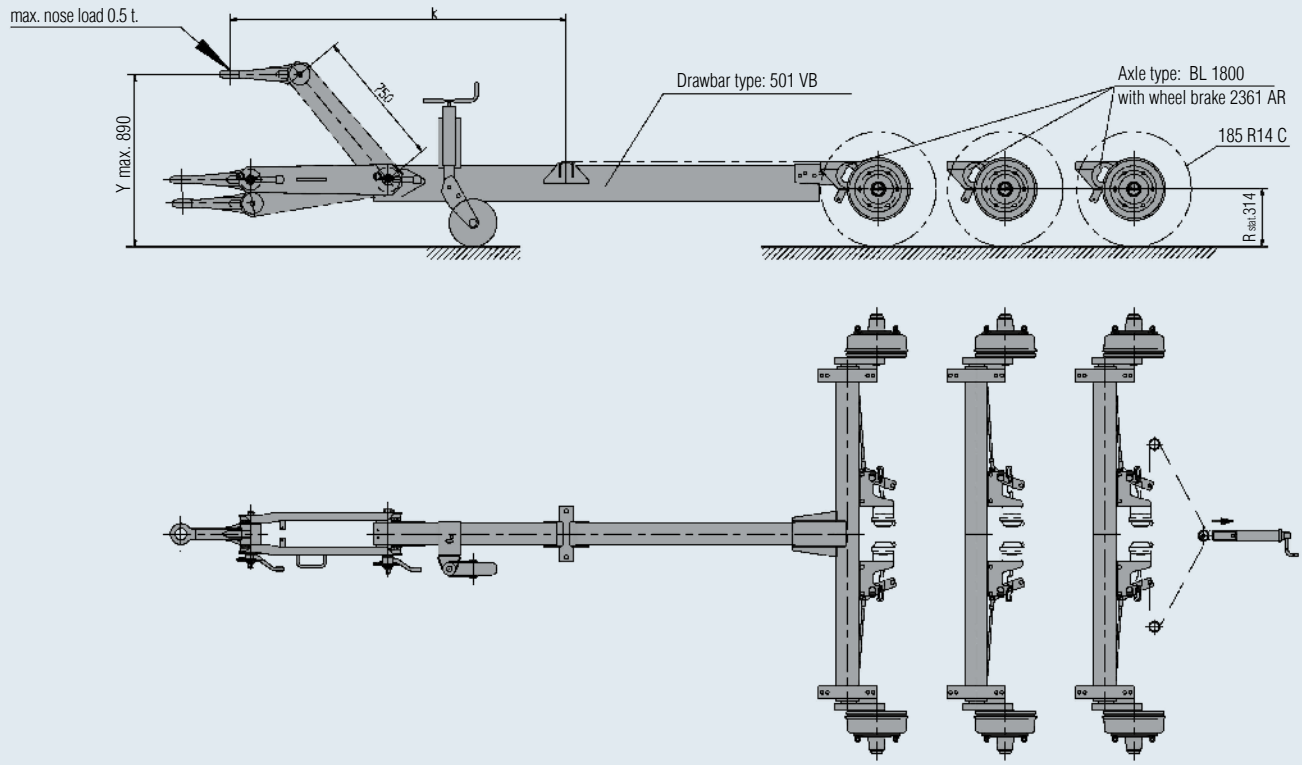
Installation suggestion up to GA 3.5 t (with tandem axle with rubber suspension max. axle load 3.5 t)



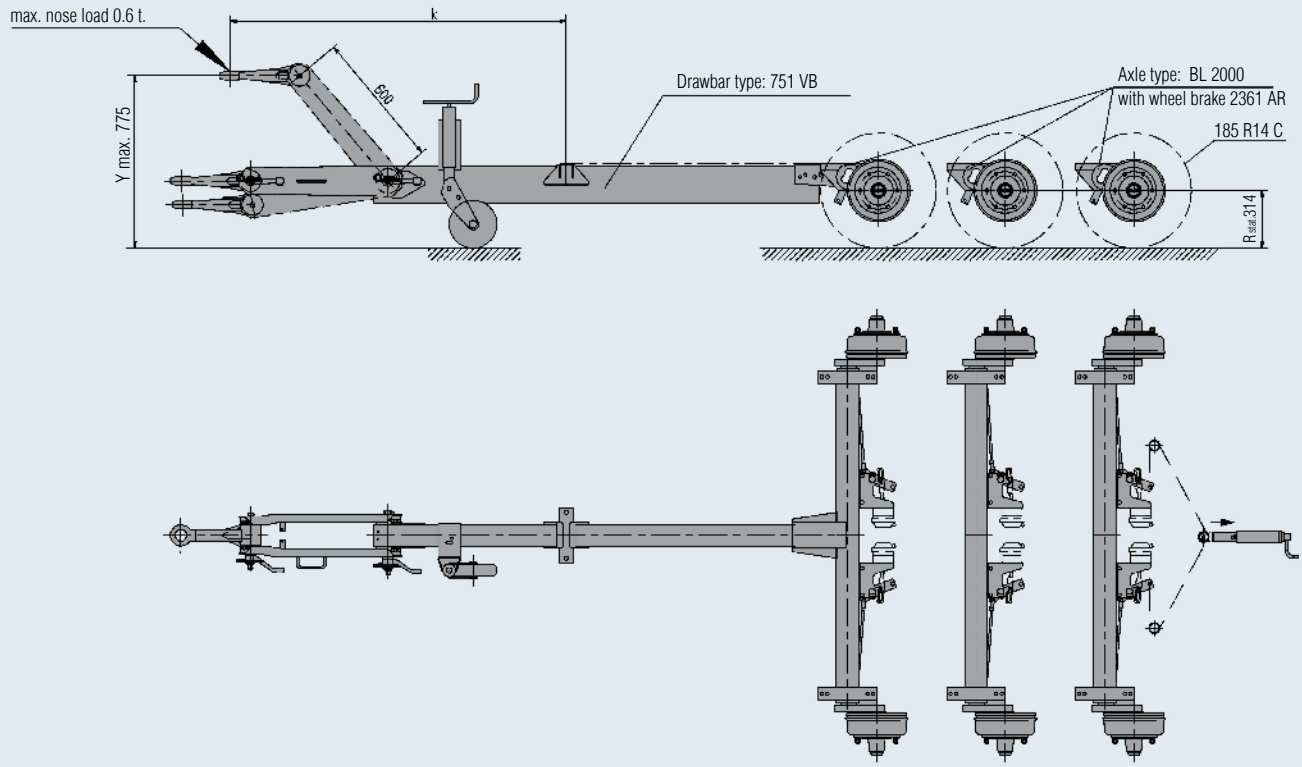
INSTALLATION SUGGESTIONS

for trailers with pneumatic brakes

Installation suggestion up to GA 4.8 t (with tridem axles with rubber suspension axle max. axle load 4.3 t)



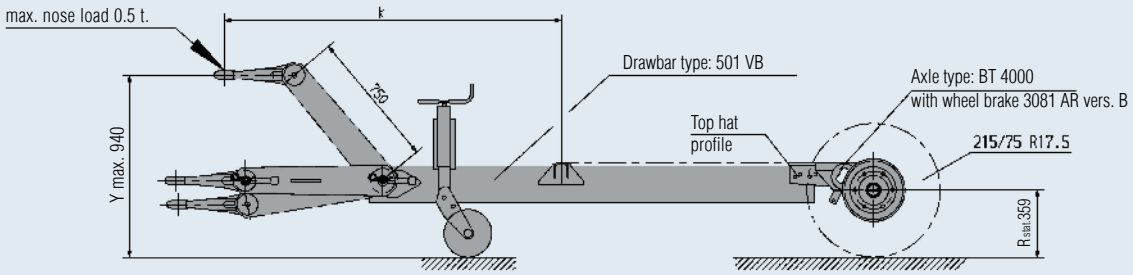
Installation suggestion up to GA 6.0 t (with tridem axles with rubber suspension axle max. axle load 5.4 t)



INSTALLATION SUGGESTIONS

for trailers with pneumatic brakes

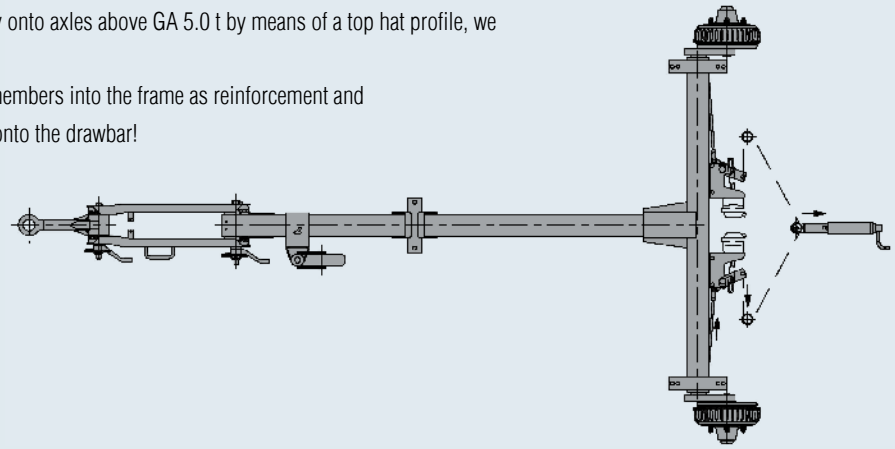
Installation suggestion up to GA 4.5 t (with single axle with steel spring axle max. axle load 4.0 t)



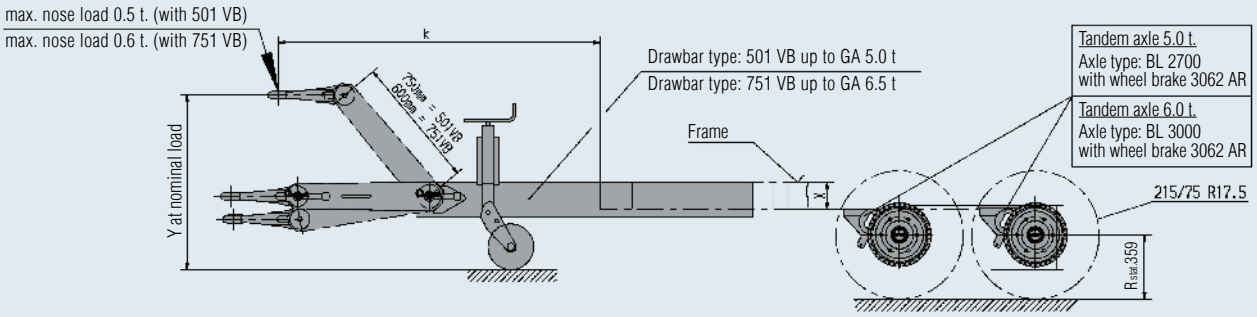
If the drawbar is bolted directly onto axles above GA 5.0 t by means of a top hat profile, we recommend:

a) Welding additional cross members into the frame as reinforcement and

b) Additionally bolting these onto the drawbar!



Installation suggestion up to GA 5.0 t / GA 6.5 t (with tandem with rubber suspension max. axle load 5.0 t or 6.0 t)

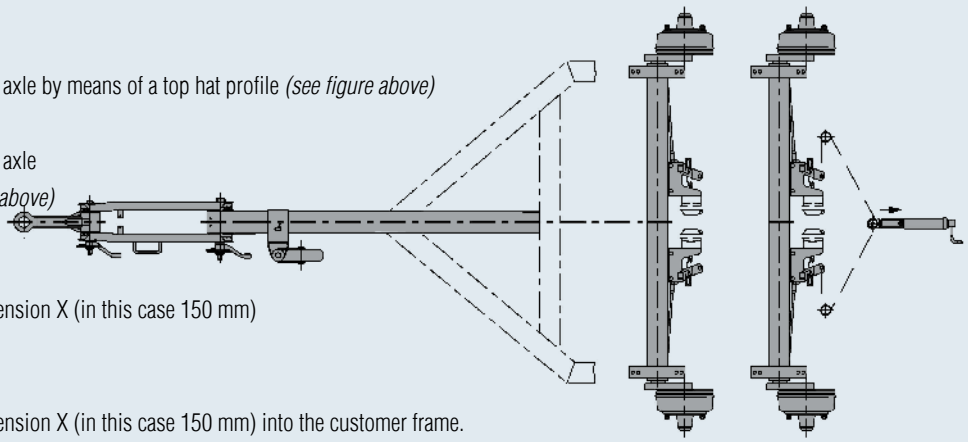


Y = 940 mm (501 VB)

Attachment of the drawbar directly to the axle by means of a top hat profile *(see figure above)*

Y = 825 mm (751 VB)

Attachment of the drawbar directly to the axle by means of a top hat profile *(see figure above)*



Y = 1090 mm (501 VB)

If the drawbar is moved upwards by dimension X (in this case 150 mm) into the customer frame.

Y = 875 mm (751 VB)

If the drawbar is moved upwards by dimension X (in this case 150 mm) into the customer frame.

TYRES AND RIMS

for trailers with pneumatic brakes

Permitted gross weight of the trailer (tyre table for permitted maximum speed 80 km/h)	AL-KO axle type B = rubber suspension axle with mechanical brakes BL = rubber suspension axle with pneumatic brakes BRA = lowering rubber suspension axle down to 210 mm ASB = lowering rubber suspension axle down to 270 mm BT = steel spring axle (lowering or with pneumatic brakes)	Recommended tyres Tyre size	R stat. mm	R dyn. mm	PR*	Load capacity kg	 bar	Recommended rims Size	Wheel connection
Single axle up to max. 1,800 kg	B 1800 / BRA 1800 / ASB 1800 / BL 1800	185 R 14 C 195 R 14 C	300 302	320 321	8 8	900 900	4.5	5.5J x 14 6.5J x 14	112 x 5 112 x 5
Single axle up to max. 2,500 kg	B 2500 / BRA 2500 / BL 2700	215 R 14 C (Bridgest) 7.00 R 16 C	310 361	331 377	8 12	1250 1285	 6.00	6J x 14 6.00G-16	205 x 6 205 x 6
Single axle up to max. 3,000 kg	BRA 3000 / BL 3000	7.50 R 16 C 225 / 75 R 16 C 215 / 75 R 17,5	371 338 359	389 358 371	12	1500 1575 1600	6.75 6.75 7.00	6.00G-16 6J x 16H2 17.5 x 4.00	205 x 6 205 x 6 205 x 6
Single axle up to max. 3,500 kg	BT 3500 (lowering)	235 / 75 R 17.5	363	387		2 725	9.00	17.5 x 6.75	205 x 6
Single axle up to max. 4,000 kg	BT 4000 (with pneumatic brakes)	235 / 75 R 17.5	363	387		2725	9.00	17.5 x 6.75	205 x 6
Tandem axle up to max. 3,500 kg	2 x BRA 1800 / 2 x BL 1800	185 R 14 C 195 R 14 C	300 320	320 321	8 8	900 900	4.50	5.5J x 14 5.5J x 14	112 x 5 112 x 5
Tandem axle up to max. 5,000 kg	2 x BL 2700	215 R 14 C (Bridgest) 7.00 R 16 C	310 361	331 377	8 12	1250 1285	 6.0	6J x 14 6.00G-16	205 x 6 205 x 6
Tandem axle up to max. 6,500 kg	2 x BL 3000	7.50 R 16 225 / 75 R 16 215 / 75 R 17.5	371 338 371	389 358 371	12	1500 1575 1600	6.75 6.75 7.00	6.00G-16 6J x 16H2 17.5 x 6.00	205 x 6 205 x 6 205 x 6
Tandem axle up to max. 7,500 kg	2 x BT 4000 (with pneumatic brakes)	235 / 75 R 17.5	363	387		2725	9.00	17.5 x 6.75	205 x 6
Tridem up to max. 4,300 kg	3 x BL 1800	195 / 50 R 13 C 185 R 14 C	240 300	255 320	8 8	900 900	6.25 4.50	5.5J x 13 5.5J x 14	112 x 5 112 x 5
Tridem up to max. 5,400 kg	3 x BL 2000	195 / 50 R 13 C 185 R 14 C	240 300	255 320	8 8	900 900	6.25 4.50	5.5J x 13 5.5J x 14	112 x 5 112 x 5

* = Ply rating = number of layers in carcass

All tyre and rim information is subject to correction. Contact the retailer or manufacturer to confirm the load rating of tyres and rims.

The tyres and rims specified in the table are only excerpts from tyre and rim handbooks. If you have further detailed questions about tyres and rims, please contact your tyre and rim dealer or your tyre and rim manufacturer.

The vehicle manufacturer must coordinate the tyres and rims with the axle. AL-KO's warranty does not apply. Tyres and rims are not included in the AL-KO delivery range.

TYRES

for trailers up to 3.5 to – car as towing vehicle

For trailer and caravan towed by car – permitted maximum speed 100 km/h

Car tyres with belt construction				
Tyre designation	Normal version		Radius	
	Max. tyre load capacity kg	Air pressure bar	R stat. mm	R dyn. mm
135 R 12	320	2.4	238	253
145 R 12	400	2.5	246	263
155 R 12	455	2.5	249	267
145 R 13	425	2.5	256	275
155 R 13	480	2.5	263	281
165 R 13	525	2.5	270	290
175 R 13	585	2.5	275	295
175/70 R 13	525	2.7	264	282
185/70 R 13	585	2.7	271	290
195/70 R 13	660	2.7	275	295
175/70 R 14	550	2.7	277	294
185/70 R 14	615	2.7	284	303
195/70 R 14	675	2.7	289	309
205/70 R 14	760	2.7	295	317
215/70 R 14	805	2.7	300	323
165 R 14	550	2.5	283	302
175 R 14	615	2.5	288	308
185 R 14	660	2.5	294	316
195 R 14	715	2.5	300	323
205 R 14	780	2.5	308	333
175/65 R 14	525	2.7	268	283
185/65 R 14	585	2.7	273	290
195/65 R 14	660	2.7	278	296
195/65 R 15	675	2.7	291	308
205/65 R 15	735	2.7	296	314
175 R 14C	815	4.5	289	306
185 R 14C	895	4.5	296	314
195 R 14C	1,000	4.5	302	321
205 R 14C	1,080	4.5	310	331
215 R 14 C	1,250	4.5	316	337

The data specified in the table is taken from tyre handbooks.
For other details, please refer to the tyre handbooks or contact your tyre dealer/tyre manufacturer.
Please note: Tyres and rims are not included in the AL-KO delivery range.

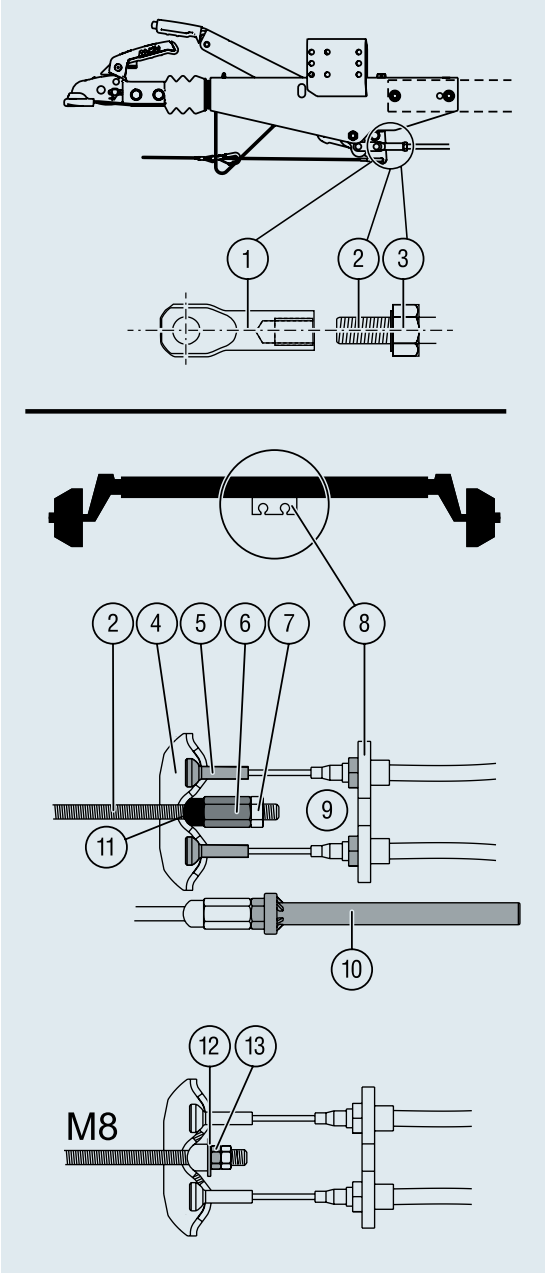
INSTALLATION AND SETTING INSTRUCTIONS

on the AL-KO automatic reverse mechanical brake system

Version without spring accumulator

Type RB 1637, RB 2051, RB 2361

1. Mount overrun device and axle on chassis.
2. Release handbrake lever completely.
3. Pull out the overrun device's drawbar tube fully towards the front.
4. Screw pull bar (2) at least 15 mm into the articulated head (1) of the overrun device and lock with hex nut (3).
5. Hook the Bowden cable into the wheel brake.
6. Connect Bowden cables (5) with adapter bracket (8) and lock with hex nut M12x1.5 (9).
7. Pass Bowden cables (5) into the compensation profile (4).
8. Insert pull bar (2) into compensation profile (4).
9. Put on the spacer (11).
10. Secure adapter bracket.
    For pull bar M10
    Screw long nut (6) onto pull bar (2) and tighten by hand.
    For pull bar M8
    Put washer (12) on pull bar (2).
    Screw nut (13) onto pull bar (2) and tighten by hand.
11. Firmly apply and release the handbrake lever 3 times.
12. Turn the wheel forwards, tightening the long nut (6) or nut (13) until brake resistance can be felt.
    The wheel needs to be turnable by hand in the driving direction.
13. Lock long nut (6) or nut (13) with hex nut (7) or alternatively use brake rod holder (10).



Tightening torques	
M 8	12 Nm
M 10	20 – 25 Nm
M 12	40 – 45 Nm

AL-KO brake rod holder	
Pull bar	Part No.
M 10	228827

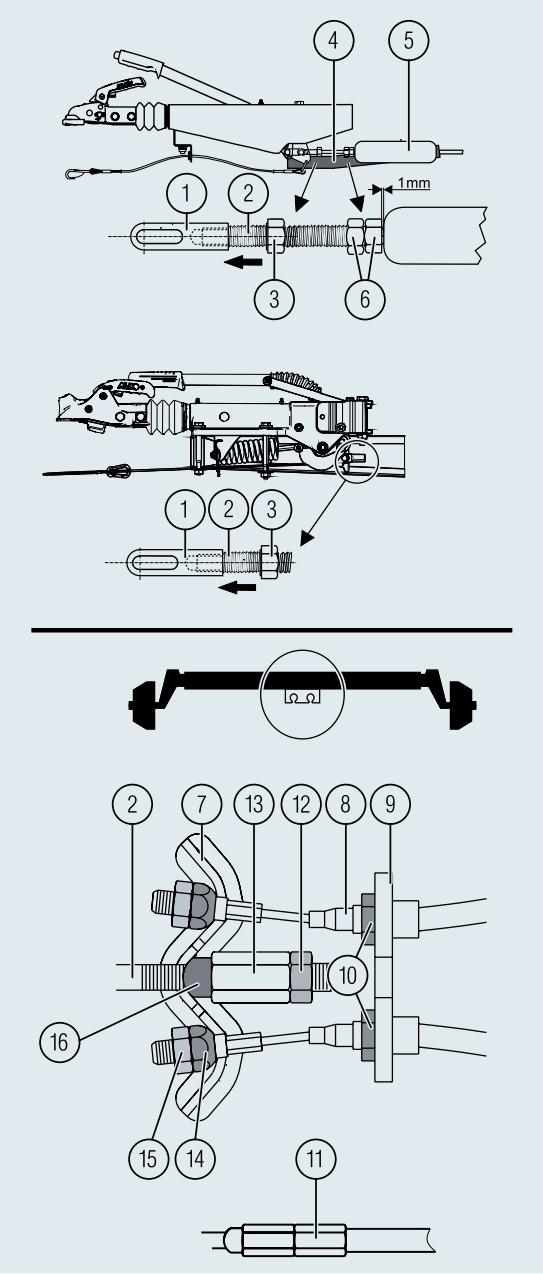
INSTALLATION AND SETTING INSTRUCTIONS

on the AL-KO automatic reverse mechanical brake system

Version with spring accumulator

Type RB 3062, RB 3081

1. Mount overrun device and axle on chassis.
2. Release the handbrake lever fully.
3. Pull the drawbar tube of the overrun device as far forwards as it will go.
4. Push handbrake bar (4) and spring cylinder (5) onto pull bar (2).
5. Screw hexagon nuts (3; 6) onto pull bar.
6. Screw pull bar (2) at least 15 mm
   into the fork head of the overrun device (1)and lock with hex nut (3).
7. Pull pull bar backwards until relay lever makes contact.
8. Turn hexagon nut (6) up to 1 mm against the spring cylinder
   and lock with a second hexagon nut.
9. Hook the Bowden cable into the wheel brake.
10. Connect Bowden cables (8) with adapter bracket (9) and
    lock with hex nut M16x1.5 (10).
11. Connect pull bar (2) with compensation profile (7).
12. Pass Bowden cables (8) into the compensation profile (7).
13. Screw on ball nut M10 (14) and tighten.
    Lock with hex nut M10 (15).
14. Connect the spacer (16).
15. Screw long nut (13) onto pull bar (2) and tighten by hand.
16. Firmly apply and release the handbrake lever 3 times.
17. Turn the wheel forwards, tightening the long nut (13) until brake resistance
    can be felt.
    The wheel needs to be turnable by hand in the driving direction.
18. Lock long nut (13) with hex nut (12) or alternatively
    use brake rod holder (11).



Tightening torques	
M 10	20 – 25 Nm
M 12	40 – 45 Nm
M 16	90 – 100 Nm

AL-KO brake rod holder	
Pull bar	Part No.
M 12	28867601

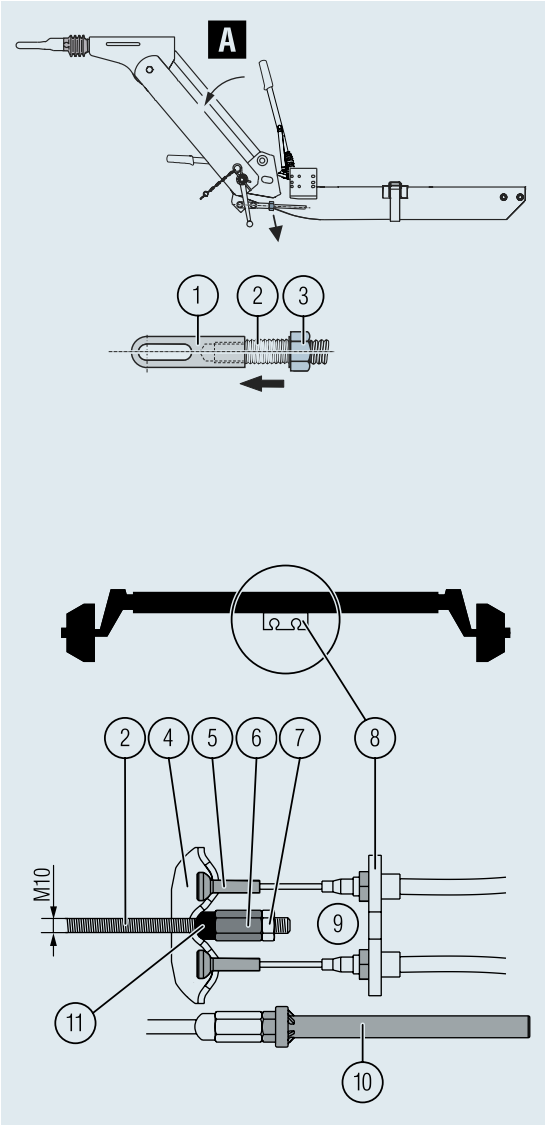
INSTALLATION AND SETTING INSTRUCTIONS

on the AL-KO automatic reverse mechanical brake system

Version without spring accumulator incl. height-adjustable version

Type RB 1637, RB 2051, RB 2361

1. Mount height-adjustable overrun device with drawbar and axle on chassis.
2. Raise drawbar to the highest setting.
3. Release handbrake lever completely (A).
4. Pull the drawbar tube of the overrun device as far forwards as it will go.
5. Screw pull bar (2) at least 15 mm into the articulated head (1) of the overrun device and lock with hex nut (3).
6. Pull pull bar backwards until relay lever makes contact.
   – The Bowden cable needs to be tight.
   – The relay lever in the overrun device needs to lie against the drawbar tube.
7. Hook the Bowden cable into the wheel brake
8. Connect Bowden cables (5) with adapter bracket (8) and lock with hex nut M12x1.5 (9).
9. Pass Bowden cables (5) into the compensation profile (4).
10. Insert pull bar (2) into compensation profile (4).
11. Connect the spacer (11).
12. Secure adapter bracket.
13. Screw long nut (6) onto pull bar (2) and tighten by hand.
14. Firmly apply and release the handbrake lever 3 times.
15. Turn the wheel forwards, tightening the long nut (6) until brake resistance can be felt.
    The wheel needs to be turnable by hand in the driving direction.
16. Lock long nut (6) with hex nut (7) or alternatively use brake rod holder (10).



INSTALLATION AND SETTING INSTRUCTIONS

on the AL-KO automatic reverse mechanical brake system

Version without spring accumulator incl. height-adjustable version

Type RB 3062, RB 3081

1. Mount height-adjustable overrun device with drawbar and axle on chassis.
2. Raise drawbar to the highest setting.
3. Release handbrake lever completely (A).
4. Pull out the overrun device's drawbar tube fully towards the front.
5. Screw pull bar (2) at least 15 mm into the articulated head (1) of the overrun device and lock with hex nut (3).
6. Pull pull bar backwards until relay lever makes contact.
   – The Bowden cable needs to be tight.
   – The relay lever in the overrun device needs to lie against the drawbar tube.
7. Hook the Bowden cable into the wheel brake.
8. Connect Bowden cables (8) with adapter bracket (9) and lock with hex nut M16x1.5 (10).
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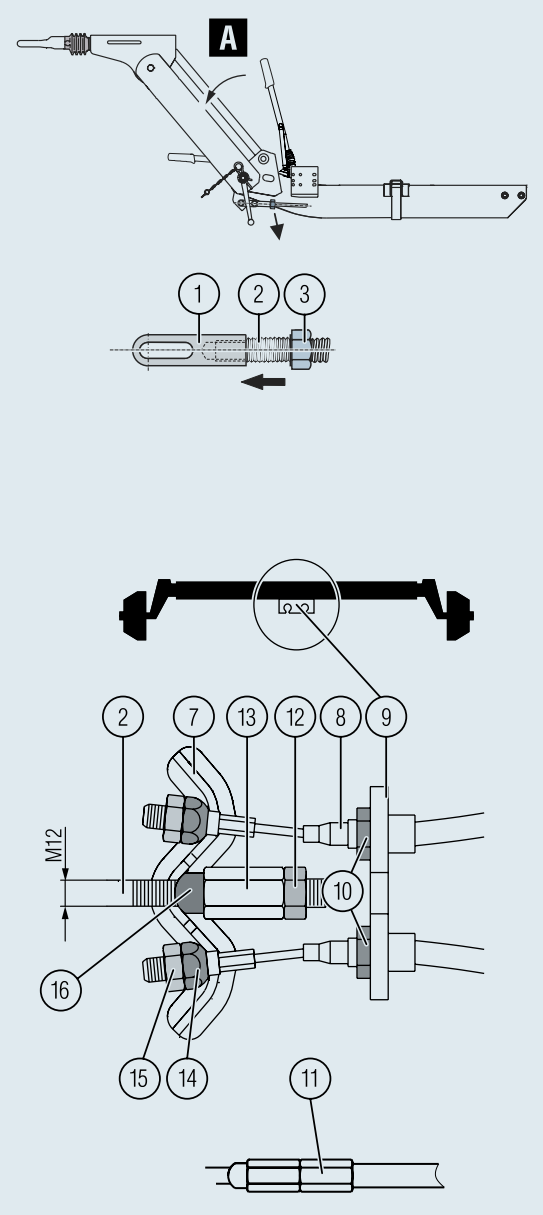
10. Pass Bowden cables (8) into the compensation profile (7).
11. Screw on ball nut M10 (14) and tighten. Lock with hex nut M10 (15).
12. Connect the spacer (16).
13. Screw long nut (13) onto pull bar (2) and tighten by hand.
14. Firmly apply and release the handbrake lever 3 times.
15. Turn the wheel forwards, tightening the long nut (13) until brake resistance can be felt. The wheel needs to be turnable by hand in the driving direction.
16. Lock long nut (13) with hex nut (12) or alternatively use brake rod holder (10).



Tightening torques	
M 10	20 – 25 Nm
M 12	40 – 45 Nm
M 16	90 – 100 Nm

AL-KO brake rod holder	
Pull bar	Part No.
M 10	228827
M 12	28867601

NOTES

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