



BPW drawbar assemblies
for centre axle drawbar trailers
and turntable drawbar trailers



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Towing with safety.

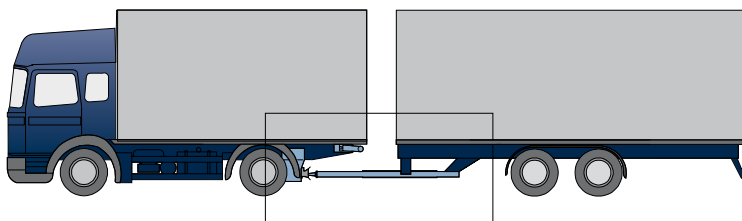
BPW drawbar assemblies.

Drawbar assemblies represent the connection between the tractor unit and the trailer. These components have the job of transmitting all relative forces between the tractor unit and the trailer safely and over a long period. As a result, they are some of the most important safety components in the entire commercial vehicle.

The choice of drawbar assembly depends on the tractor/trailer combination used. The two most important combinations involve a tractor unit and centre axle drawbar trailer, then a tractor unit and a drawbar trailer with turntable steering. BPW offers a full range of drawbar assemblies for both combinations.

Mode of function of the centre axle drawbar trailer: These trailers have between one and up to three axles in the centre of the vehicle. A rigid drawbar on the trailer frame connects it to the tractor unit. The trailer can be steered because the axle(s) is/are installed in the centre. The drawbar installation is described as "rigid" because not only horizontal forces but also vertical forces are transmitted. As a static load, these make up between min. 4% and max. 10% (or 2000 kg) of the gross trailer weight. Centre axle drawbar trailers are connected as low as possible under the tractor unit to improve their driving characteristics.

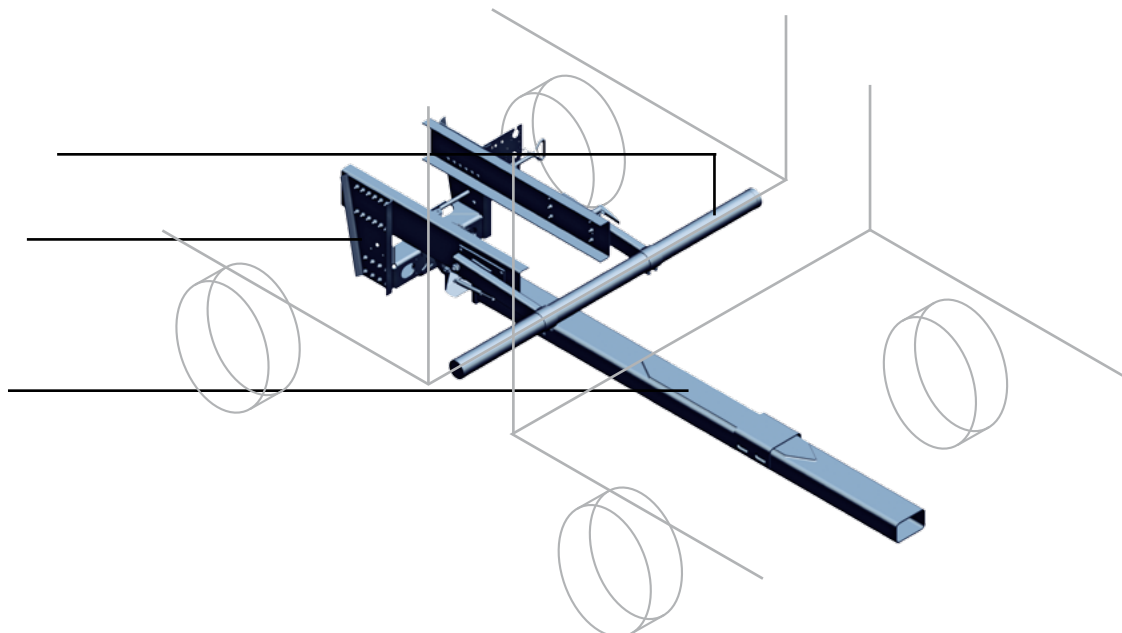
Tractor vehicle with centre axle drawbar trailer



Underrun bar

Hitch block

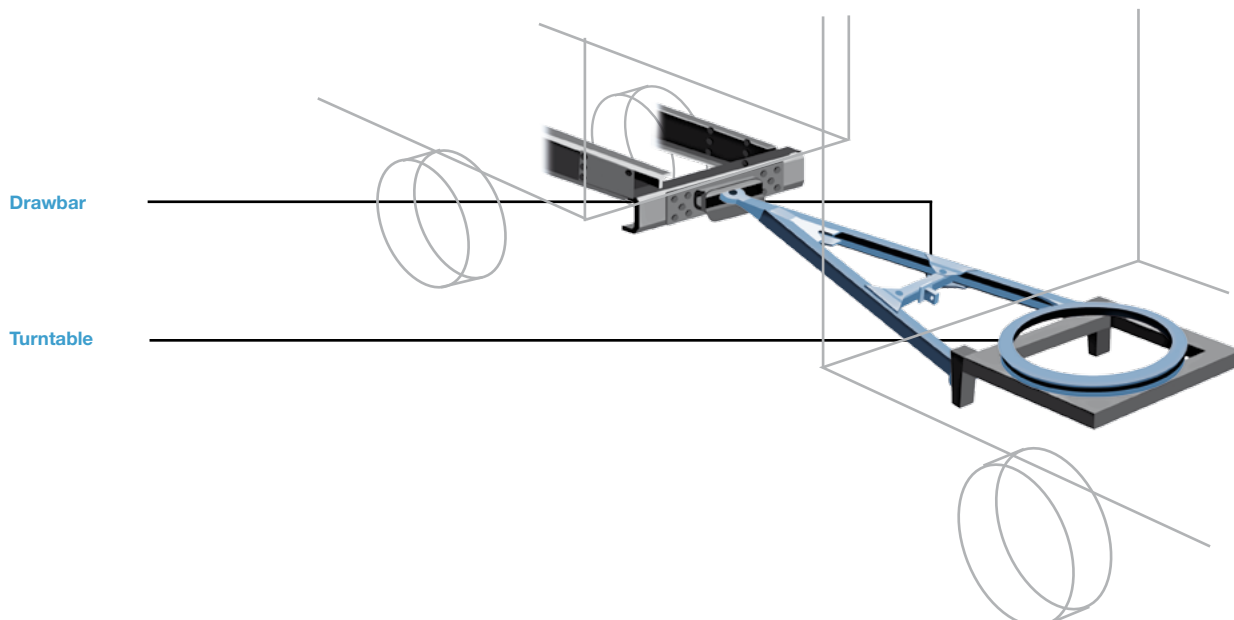
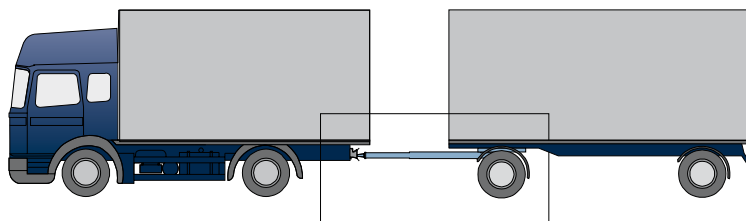
Drawbar




Mode of function of the turntable drawbar trailer: A turntable drawbar trailer can be steered because it has a separate articulation joint. This means the rigid front axle of the trailer is mounted in the chassis so it can turn by means of a sub-frame with a turntable. The BPW product range includes twin-row turntables

for this purpose offering the highest levels of quality and service life. The drawbar and its associated height adjustment features are attached to the sub-frame. Various versions are available, and they can also be coupled low down like rigid drawbars.

Tractor vehicle with turntable drawbar trailer





No chance for rust and stone impact.
**Optimum corrosion protection for all
BPW components.**

Running gear from BPW offers robust technology for a long vehicle life. An important quality feature of our products is cathaphoretic dip-coating with zinc-phosphating (KTL_{Zn}). This is a special surface finish that provides 5 times more effective corrosion protection than conventional painting processes.

Cataphoretic dip-coating with zinc-phosphating (KTL_{zn}) provides a deep shield and meets the most exacting requirements for corrosion protection. For example, KTL_{zn}-coated BPW components can withstand a 504-hour salt-spray mist test without any problems. The result is convincing – Corrosion, cleaning chemicals and even stone impacts don't stand a chance. And the components are ready to install without requiring further painting.

Function

The vehicle components are given a painstaking 10-zone pre-treatment (including zinc-phosphating), after which they are immersed in the cathoretic dip-coating tank. A direct electric current is applied in order to coat the components with a water-soluble epoxy resin varnish. This coating is then baked on at 185°C. Result: The best possible corrosion protection, even without a topcoat of paint.



BPW KTL_{zn} surface treatment – Features and benefits

- ▶ Wide-area corrosion protection, even on inaccessible points such as in cavities (5 times better than conventional primers and topcoat paints)
- ▶ Minimum rust creepage, e.g. after surface damage by stone or chipping impact
- ▶ High chemical resistance, e.g. when high-pressure cleaners are used with detergent additives
- ▶ Longer service life of the entire BPW chassis
- ▶ Outstanding look: Surfaces without drips or runs and with an even coat thickness
- ▶ No further topcoat required. Where there are individual requirements for a particular lustre and colour, these finishes can be painted over using inexpensive topcoat systems without pre-treatment
- ▶ Hard surface: Less transport and installation damage
- ▶ Easier maintenance and repair procedures
- ▶ Reduced downtime
- ▶ High level of heat resistance
- ▶ Environmentally friendly coating process: No liberation of polluting substances

Configuration of drawbar assemblies acc. to Directive 94/20/EC

The most important characteristic values for drawbar assemblies acc. to EC Directive 94/20/EC are calculated as follows:

The V value must be calculated in vehicle combinations with centre axle drawbar trailer and is defined as a theoretical comparative force for the vertical component of the thrust on coupling between towing vehicle and centre axle drawbar trailer (unit of measurement is kN).

The maximum permitted V values are stated for BPW connecting assemblies such as hitch blocks and drawbars. The smallest **V value** of all connecting assemblies used in a vehicle combination is decisive.

Mechanical connecting assemblies that transmit drawbar loads, such as drawbars and hitch blocks in centre axle drawbar trailers, must be marked with a maximum permitted **Dc value**.

Mechanical connecting assemblies that cannot transmit any drawbar load, such as drawbars and hitch blocks in turntable drawbar trailers must be marked with a maximum **D value**.

The V value can be calculated based on the vehicle data:

X = Length of the load bed of the trailer (mm)

L = Theoretical drawbar length (mm)

a = Vertical acceleration at connection point 1.8 m/s² for towing vehicles with air suspension, 2.4 m/s² for towing vehicles with other suspension

C = Total weight of the trailer

$$V = \left\{ \frac{X}{L} \right\}^2 \cdot a \cdot C$$

The Dc value can be calculated as follows:

T = Gross vehicle weight rating of the towing vehicle in tonnes

C = Total weight of the trailer

g = 9.81 m/s²

$$D_c = \left\{ \frac{T \cdot C}{T + C} \right\} \cdot g$$

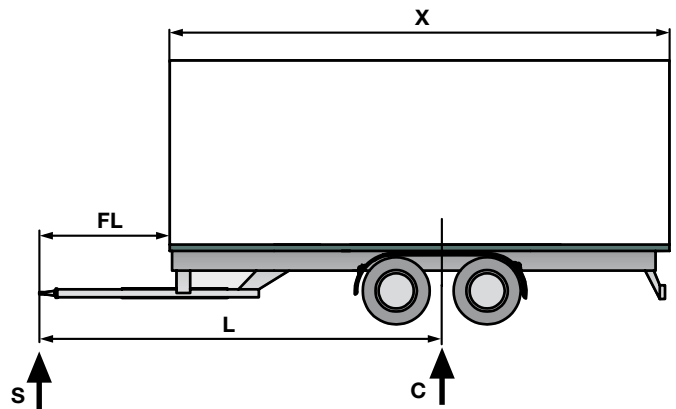
The D value can be calculated as follows:

T = Gross vehicle weight rating of the towing vehicle in tonnes

R = Gross vehicle weight rating of the turntable drawbar trailer in tonnes

g = 9.81 m/s²

$$D = \left\{ \frac{T \cdot R}{T + R} \right\} \cdot g$$



Sample calculation for the configuration of a centre axle tractor/trailer combination

Total weight of the tractor vehicle	T = 20,000 kg
Vertical acceleration of towing vehicle with air suspension	a = 1.8 m/s ²
Drawbar load	S = 1,000 kg
Total weight of the trailer	C = 18,000 kg
Length of the load bed of the trailer	X = 7,820 mm
Theoretical free drawbar length	L = 6,555 mm
Free drawbar length	FL = 2,300 mm

The BPW drawbar **ZD 18** (**V_{max.}** = 51.8 kN/Dc = 110 kN) and the BPW hitch block **AB 75** (**V_{min.}** = 75 kN/Dc = 130 kN) are sufficient for this requirement.

On request, we will be happy to calculate the **V** and **Dc values** for your vehicle combination in order to select the appropriate BPW connecting assembly (BPW drawbar and BPW hitch block). (You can download a corresponding data sheet from our website.)

$$V = \left\{ \frac{X}{L} \right\}^2 \cdot a \cdot C$$

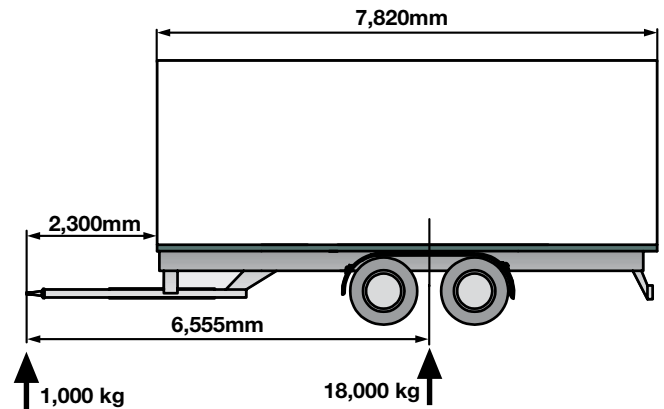
$$V = \left\{ \frac{7,820 \text{ mm}}{6,555 \text{ mm}} \right\}^2 \cdot 1.8 \text{ m/s}^2 \cdot 18,000 \text{ kg}$$

$$V = 46112 \text{ N} = 46.1 \text{ kN}$$

$$D_c = \left\{ \frac{T \cdot C}{T + C} \right\} \cdot 9.81 \text{ m/s}^2$$

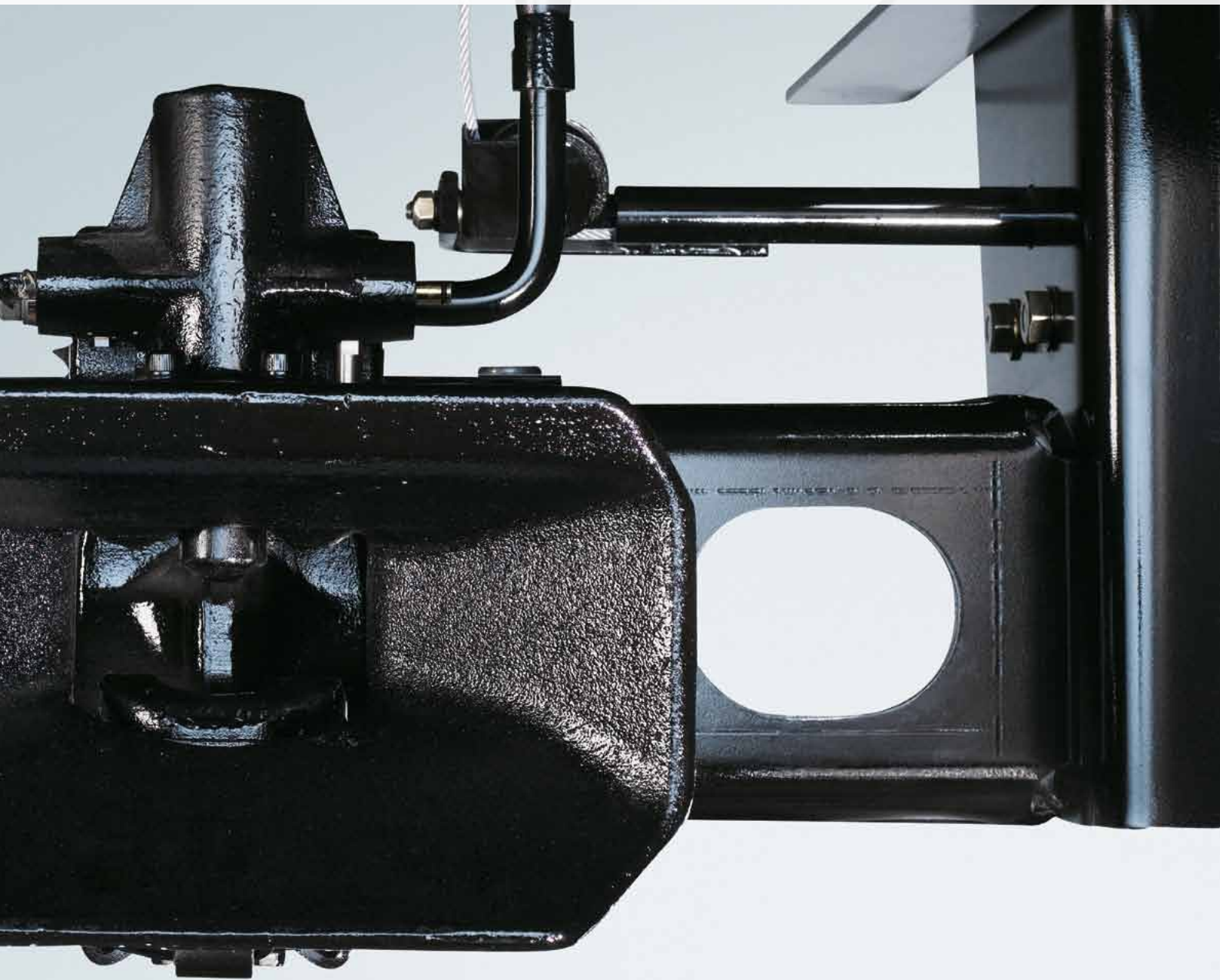
$$D_c = \left\{ \frac{22 \cdot 18}{22 + 18} \right\} \cdot 9.81 \text{ m/s}^2$$

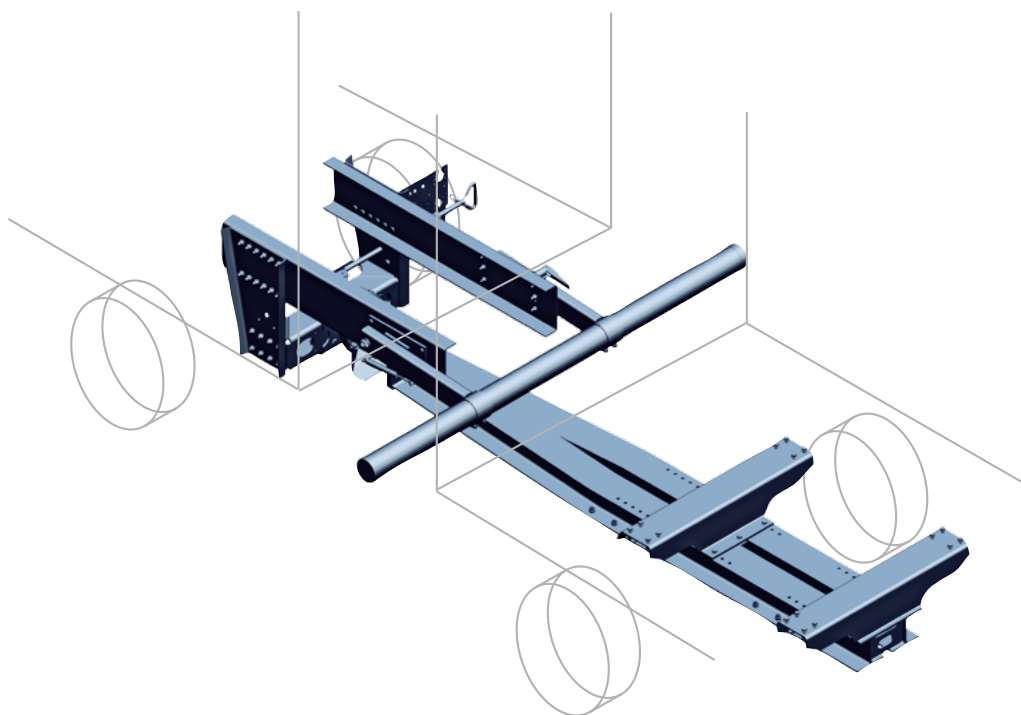
$$D_c = 97.12 \text{ kN}$$



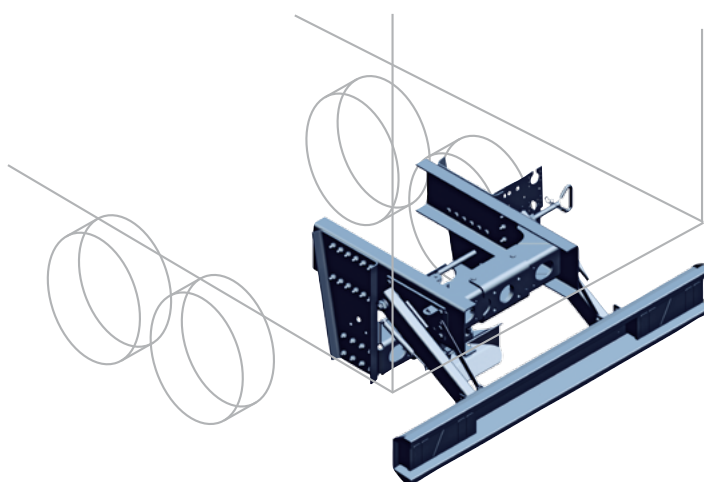
For installation on the tractor vehicle. **Hitch blocks and crossmembers from BPW.**

BPW hitch blocks are mounted close to the rear axle of the tractor vehicle and give a secure connection between the towing vehicle and trailer. Developed for trailers with a gross vehicle weight rating up to 24 t, they are suitable for even the heaviest loads.





The hitch block – mounted on the chassis of the tractor vehicle – makes it possible to connect a centre axle drawbar trailer or a low-coupled turntable drawbar trailer. It is equipped with a suitable hitch for accommodating the towing eye.



BPW end crossmembers for internal installation on the chassis of the tractor vehicle round off the product range.



BPW hitch blocks – Features and benefits

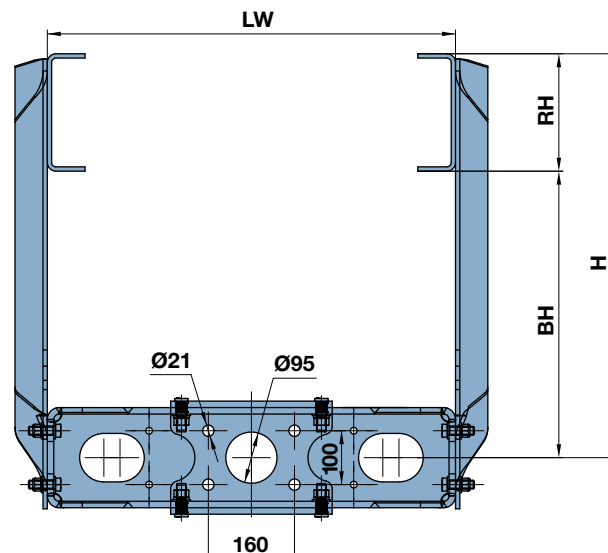
- ▶ Permitted total trailer weight up to 24 t
- ▶ Drawbar loads up to 2,500 kg (V value up to 75 kN)
- ▶ Heights from 145 to 400 mm, depending on version
- ▶ With EC approval E4*94/20*3173*00 or individual certificate
- ▶ BPW remote control devices available with general certification
- ▶ For bolting onto the vehicle frame
- ▶ Optional vehicle-specific hole pattern
- ▶ Option of hitches (e.g. Orlandi, Ringfeder, Rockinger) and plug holders
- ▶ Cataphoretic dip-coating with zinc-phosphating

BPW hitch block

Series AB 75

(EC approval)

- With EC approval EC no. e4*94/20*3173*00
- Cathaphoretic dip-coating and zinc-phosphating to give a finish with topcoat quality
- For steering angles up to 90°
- Attachment directly on the vehicle frame by bolted connection
- The permitted V value depends on the MK dimension of the hitch
- Hole pattern for hitches corresponding to DIN 74051/74052
- Cable remote control FB10, can be mounted on both sides
- Alternatively also available with mechanical remote control device
- For drawbar loads up to 2,500 kg
- Infinitely variable heights up to BH=400 mm
- Any combination with various clear widths LW
- Technical support in calculating the max. permitted V values and configuring suitable bolted connections
- Detailed information can be found in the technical data sheets



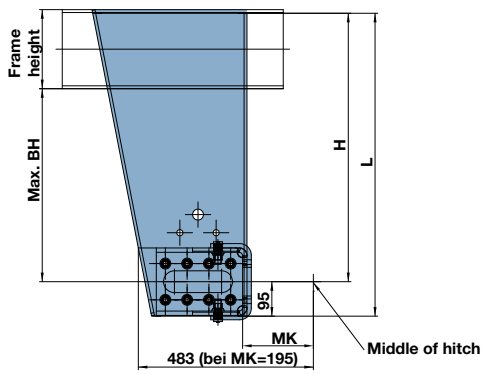
Type	Version	Overall widths LW (mm)	Side panel height H* (mm)	Max. height BH** (mm)	Higher draw-bar loads	BPW no.	Weight (GK/758) (kg)
AB 75... V value= 75 kN (with MK= 195mm) D value= 190 kN Dc value= 130 kN Drawbar load 1000 kg EC no.: e4*94/20*3173*00	-SV -SH -GK	758/762 770/790 802/850 854/862 866	415	130	2,000 kg (V= 58.7 kN)	51.47.41.xxxx	74
			440	150		51.47.44.xxxx	75
			480	200		51.47.48.xxxx	78
			510	230		51.47.51.xxxx	80
			540	250		51.47.54.xxxx	81
			570	300		51.47.57.xxxx	83
			610	330		51.47.61.xxxx	85
			640	350		51.47.64.xxxx	87
			690	400		51.47.69.xxxx	90
			740	400		51.47.74.xxxx	93
	-QT End cross-member for tractor vehicle	742/752 774/784 794				51.47.00.4xxx	45

Higher characteristic values depending on MK, see data sheet. * Standard dimensions printed in bold ** Height depending on frame height All versions can be delivered with hole pattern and mounted hitch on request.

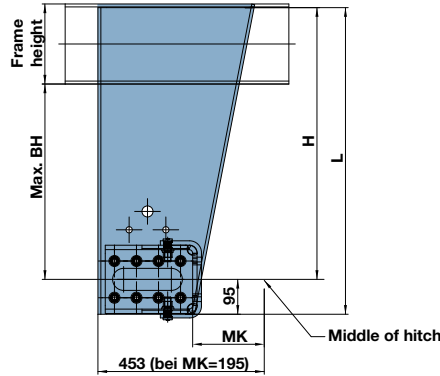
Possible hitch variants mounted in hitch block or loose.

Trailer couplings	Bolt diameter (mm)	Hole pattern (mm)	MK (mm)	V value Max. (kN)	Draw-bar load (kg)	BPW no.	Weight (kg)
Orlandi E509 D=200 kN/Dc= 135 kN	50	160x100	195	75	1,000	05.801.90.70.0	48
				50	2,500		
Rockinger 500A65 D=200 kN/Dc= 135 kN	50	160x100	170	90	1,000	05.801.95.08.0	48
				55	2,500		
Ringfeder 5055A D=200 kN/Dc= 135 kN	50	160x100	175	75	1,000	05.801.95.57.0	50
				63	2,000		
Rockinger 400A51 D=130 kN/Dc= 90 kN	40	160x100	165	35	1,000	05.801.95.11.0	35

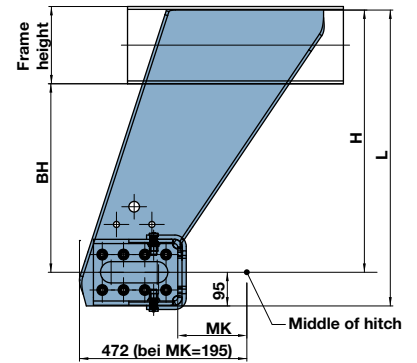
All versions incl. electric remote display. Please note that the permitted Dc and V values of the hitch block have to be adapted to the required trailer hitch and the towing eye.



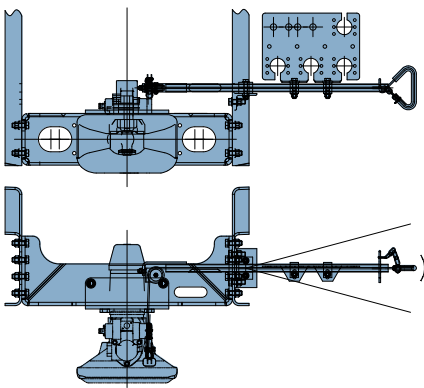
Version SV (inclined front)



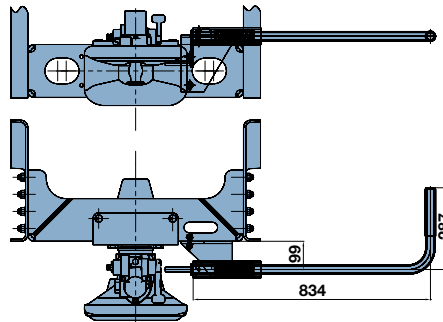
Version SH (inclined rear)



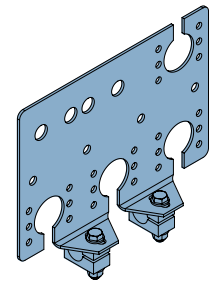
Version GK (offset)



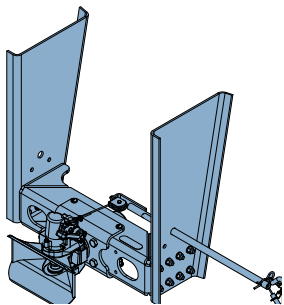
Cable remote control FB10
General certification 90779*01



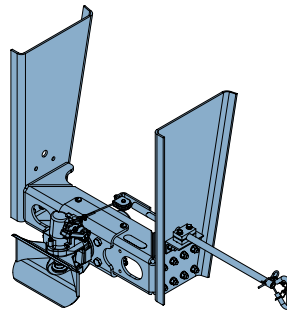
Remote control device,
mechanical



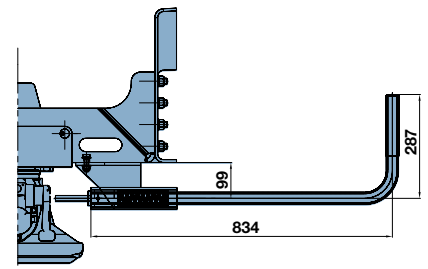
Plug holder



FB10, welded version



FB10, clamped version



Remote control device, mechanical

BPW accessories for AB 75

BPW no.

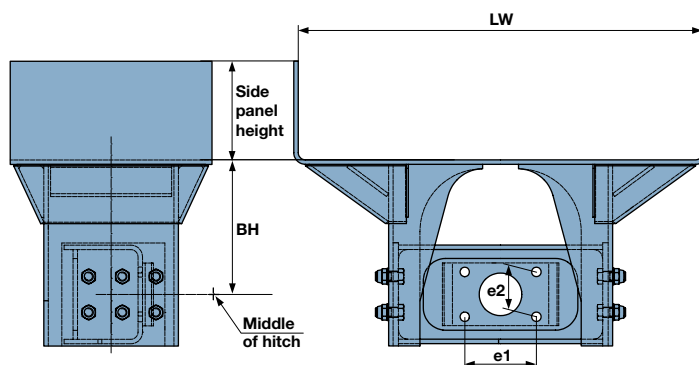
Cable remote control FB10, welded version	51.98.11.0018
Cable remote control FB10, clamped version	51.98.11.0019
Remote control device, mechanical	51.98.11.0020
Plug holding plate	05.801.95.16.0
Upper crossmember for Mercedes (in frame)	05.801.96.67.0
Adapter plates side panel/crossmember t=2 mm (2 pcs.)	09.801.95.14.0
Adapter plates side panel/crossmember t=6 mm (2 pcs.)	09.801.95.15.0
Bolt kit side panel/crossmember (16 pcs., bolts M16x50, nuts, washers)	09.801.95.12.0
Bolt kit side panel/crossmember (16 pcs., bolts M16x60, nuts, washers)	09.801.95.16.0
Bolt kit side panel/frame (24 pcs., bolts M16x50, nuts, washers)	09.801.95.13.0
Side panels for AB 75 in pairs	on request

BPW hitch block

Series PAB 17 straight

(Individual certificate)

- As standard, the specified heights (BH) and clear widths (LW) can be combined together.
- Cathaphoretic dip-coating and zinc-phosphating to give a finish with topcoat quality
- For steering angles of at least 90°.
- Attachment directly on the vehicle frame by bolted connection.
- The permitted V value depends on the MK dimension of the hitch.
- Hole pattern for hitches 160x100 mm, corresponding to DIN 74051/74052.
- Use of cable remote control FB10
- Alternatively also available with mechanical remote control device
- Drawbar loads up to 2,500 kg possible.
- Technical support in calculating the max. permitted V values and configuring suitable bolted connections.
- Detailed information can be found in the technical data sheets
- Side panel height depending on overall width LW.



Type	Version	Overall widths LW (mm)	Max. height BH (mm)	Draw-bar load (kg)	Dc value (D value) (kN)	BPW no.	Weight ca. (kg)
PAB 17/1 V value=50 kN (with MK = 195 mm) 18t with individual certificate	Straight	758 762 770	145 / 175 200 / 230 260 / 290 330	1,000	100 (110)	51.40.xx.xxxx	120
PAB 17/3 V value=75 kN (with MK = 195 mm) 24t with individual certificate	Straight	790 802 850 854	190 / 230 260 / 290	1,000	101 (120)	51.42.xx.xxxx	130
PAB 17/3 V value=47 kN (with MK=195 mm) 18t with individual certificate	Straight	862 866	190 / 230 260 / 290	2,000	101 (120)	51.42.xx.xxx	130

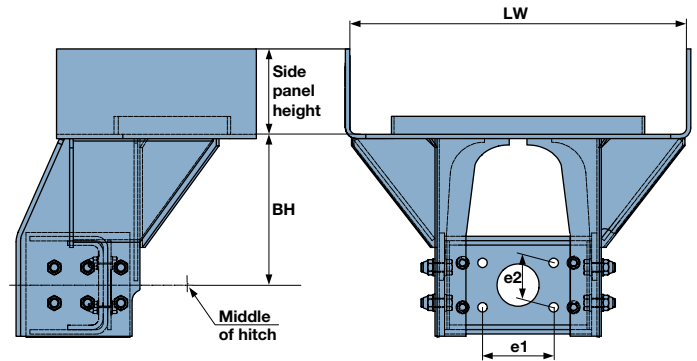
See page 12 for hitches. See page 13 for accessories. Please note that the permitted Dc and V values of the hitch block have to be adapted to the required trailer hitch and towing eye.

BPW hitch block

Series PAB 17 offset

(Individual certificate)

- As standard, the specified heights (BH) and overall widths (LW) can be combined together.
- Cathaphoretic dip-coating and zinc-phosphating to give a finish with topcoat quality
- For steering angles of at least 90°.
- Attachment directly on the vehicle frame by bolted connection.
- The permitted V value depends on the MK dimension of the hitch.
- Hole pattern for hitches 160x100 mm, corresponding to DIN 74051/74052.
- Use of cable remote control FB10
- Alternatively also available with mechanical remote control device
- Drawbar loads up to 2,500 kg possible.
- Technical support in calculating the max. permitted V values and configuring suitable bolted connections.
- Detailed information can be found in the technical data sheets
- Side panel height depending on overall widths LW.

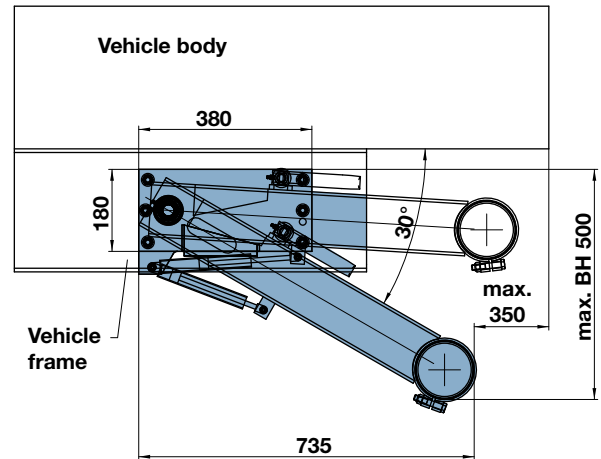
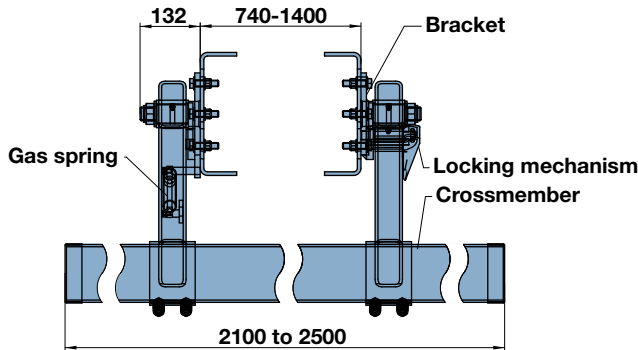


Type	Version	Overall widths LW (mm)	Max. height BH (mm)	Draw-bar load (kg)	Dc value (D value) (kN)	BPW no.	Weight ca. (kg)
PAB 17/1-G V value=50 kN (with MK = 195 mm) 18 t with individual certificate	Offset	758 762 770	240 / 270 300 / 340	1,000	110 (120)	51.41.xx.xxxx	120
PAB 17/2-G V value=75 kN (with MK = 195 mm) 24 t with individual certificate	Offset	790 802 850 854	240	1,000	110 (120)	51.45.xx.xxxx	130
PAB 17/2-G V value=47 kN (with MK = 195 mm) 18 t with individual certificate	Offset	862 866	300	2,000	105 (120)	51.45.xx.xxx	130

See page 12 for hitches. See page 13 for accessories. Please note that the permitted Dc and V values of the hitch block have to be adapted to the required trailer hitch and towing eye.

Folding BPW underrun bar UFK 100 III

(EC approval)



The folding BPW underrun bar, type UFK 100 III, has been developed for using drawbar installations with a long recess dimension on tractive units and trailers.

The EC type approval of the underrun bar no. e4*70/221*2006/20*0360*01 is authorised for vehicle classes N3, N2 and O4. The frame width can be varied between 740 mm and 1,400 mm, depending on the type.

The permitted underbody dimension from the rear edge of the vehicle to the front edge of the folded-down underrun bar is maximum 350 mm. When the vehicle is unladen, the lower edge of the folded-down underrun bar is not allowed to be more than 550 mm above the carriageway at any point.

The width of the rear underrun bar is not allowed to exceed the width of the rear axle, measured between the outermost points

of both wheels, and is not allowed to be less than 100 mm at any point. If there are several rear axles, the widest axle is the determining factor.

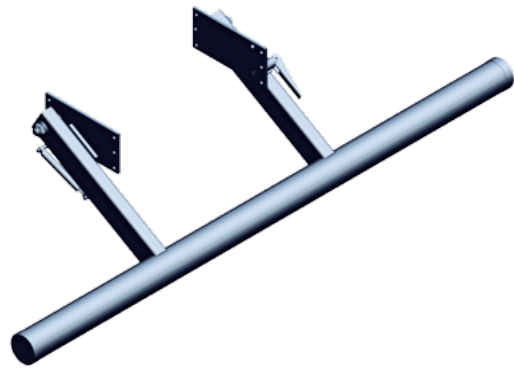
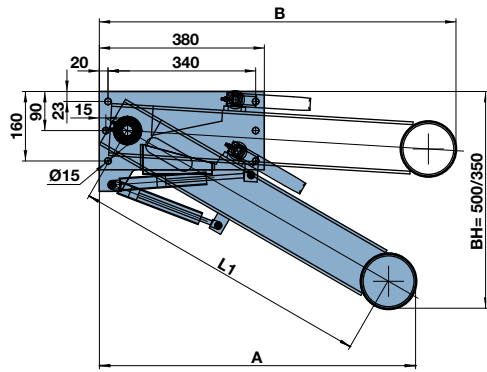
Advantages of the new folding BPW underrun bar UFK 100 III

- Type approval according to EC directive 70/221/EEC
- Increase in permitted vehicle frame width to 1,400 mm
- Optionally available in heights 350 mm and 500 mm
- Installation and operating instructions
- Optionally with clamped, welded crossmember or without crossmember
- Parallelogram version: Locking on both sides, for approved crossmembers (not supplied)

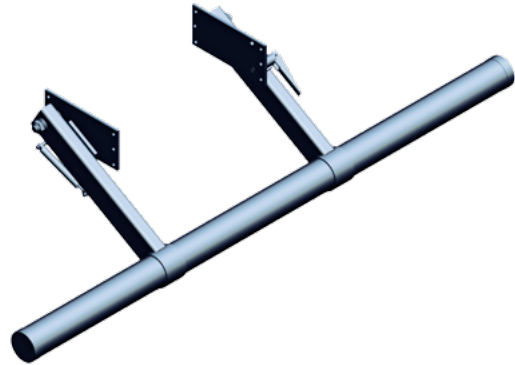
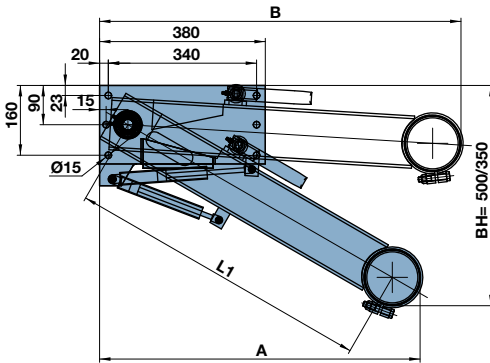
Type EC no. e4*70/221*2006/20*0360*01	Height BH (mm)	Arm length (pivot point/middle tube) L1 (mm)	Remarks	BPW no.	Weight (kg)
UFK 100 III Welded crossmember	350	394	Individual tube adaptation Ø 127 x 2500 mm	51.98.21.0206	70
UFK 100 III Welded crossmember	500	694		51.98.21.0205	80
UFK 100 III Clamped crossmember	350	400	Quick installation without welding work on tube Ø 127 x 2500 mm	51.98.21.0402	75
UFK 100 III Clamped crossmember	500	700		51.98.21.0401	85
UFK 100 III without crossmember	350		As for the welded version, but without tube	51.98.21.0208	30
UFK 100 III without crossmember	500			51.98.21.0207	40
UFK 100 III Parallelogram (cross- member not supplied)	470		For approved crossmembers, e.g. with integrated rear lights	51.98.21.0302	48

Spare parts for underrun bar	Number per underrun bar	BPW no.
Plastic cap for crossmember	2	02.3505.25.00
Installation parts group spring bolt	1 ¹⁾	09.801.90.34.0
Gas spring for UFK 100 III from build year 2001	1	02.0600.03.00

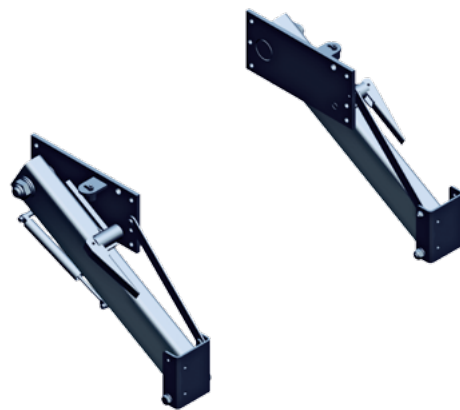
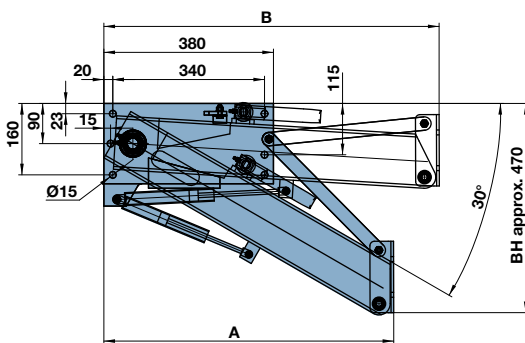
¹⁾ Parallelogram versions 2x.



UFK III Cross tube welded	Height BH (mm)	L1 (mm)	A	B	BPW no.
	350	394	730	822	51.98.21.0206
	500	694	475	522	51.98.21.0205



UFK III Cross tube clamped	Height BH (mm)	L1 (mm)	A	B	BPW no.
	350	400	735	825	51.98.21.0402
	500	700	480	525	51.98.21.0401



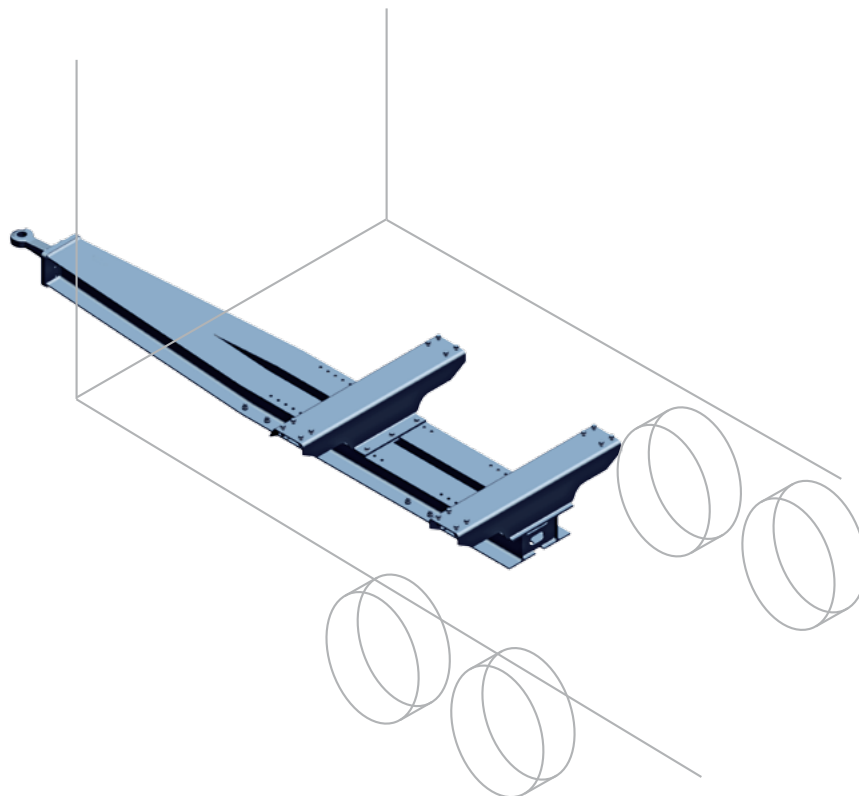
UFK III Parallelo- gram	Height BH (mm)	L1 (mm)	A	B	BPW no.
	470	-	750	650	51.98.21.0302

Other special versions on request.

For installation on the trailer. **Drawbars from BPW**

The BPW drawbar is a rigid drawbar installation for centre axle drawbar trailers that is mounted on the frame of the trailer vehicle. Designed for centre axle drawbar trailers with a gross vehicle weight rating of 6-24t, it is the reliable drawbar assembly for conventional transport.





The rigid drawbar connected to the vehicle frame provides the connection to the tractor unit. As well as transmitting towing and braking forces (horizontal forces) it also transmits a part of the gross trailer weight to the tractor vehicle via the drawbar load, and additionally the dynamic drawbar load when braking (vertical forces).



BPW drawbars – Features and benefits

- ▶ For centre axle drawbar trailers with a gross vehicle weight rating of 6-24 t
- ▶ Drawbar load up to 2,500 kg
- ▶ Various versions available:
 - Rigid, adjustable length or adjustable height
 - Different types of towing eye
 - Special versions for higher tonnages
- ▶ With EC approval or individual certificates
- ▶ Cathaphoretic dip-coating with zinc-phosphating
- ▶ Competent advice and calculation of the characteristic values (e.g. for optimum equalisation between the BPW hitch block and the BPW drawbar)
- ▶ High level of corrosion resistance due to galvanised internal tubes in drawbars with variable length

BPW drawbars up to 24,000 kg

Series ZD rigid

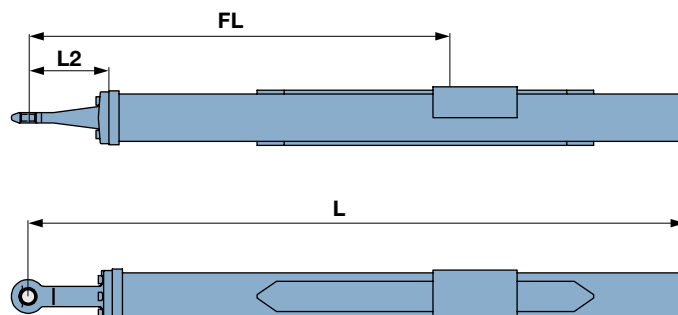
(EC approval)

As well as the standard dimensions shown in the following tables, it is also possible to have the following options on request:

- Special versions with higher V value
- Use of other towing eye types
- Other dimensions

Please use the data sheet on our website for this purpose.

Please remember that the permitted Dc and V values of the drawbars have to be adapted to the required towing eye and trailer hitch.



Type	Towing eye (DIN) L2 (mm)	Total length L (mm)	Max. free drawbar length FL (mm)	Max. V value (kN)	BPW no.	Weight (kg)			
ZD 06 Dc=35 kN 6 t Drawbar load 500 kg Tube 160x160 with individual certificate	Ø 40 ZE 13/1 (74054-40) L2=250	2,300	1,700	15.3	51.31.06.0100	87			
		3,200	1,800	14.1	51.31.06.0101	94			
			1,900	13.1					
			2,000	12.2					
		3,500	2,100	11.4	51.31.06.0102	101			
			2,200	10.7					
			2,300	10.0					
			2,400	9.4					
		3,800	2,500	8.8	51.31.06.0103	108			
			2,600	8.3					
ZD 10-1¹⁾ Dc=70 kN 10 t Drawbar load 1,000 kg Tube 140x140 EC no.: e4*94/20*0872*00	Ø 40 ZE 13/1 (74054-40) L2=250		2,900	1,700			30.8	51.31.10.0100	145
			3,200	1,800			28.5	51.31.10.0101	160
		1,900		26.5					
		2,000		24.7					
		3,500	2,100	23.0	51.31.10.0102	173			
			2,200	21.5					
			2,300	20.2					
			2,400	18.9					
		3,800	2,500	17.8	51.31.10.0103	185			
			2,600	16.7					
ZD 13.5-1²⁾ Dc=90 kN 13.5 t Drawbar load 1,000 kg Tube 160x160 EC no.: e4*94/20*0956*00	Ø 40 ZE 13/1 (74054-40) L2=250		2,900	1,700			46.7	51.31.14.0100	160
			3,200	1,800			43.6	51.31.14.0101	175
		1,900		40.8					
		2,000		38.3					
		3,500	2,100	36.0	51.31.14.0102	190			
			2,200	33.9					
			2,300	32.0					
			2,400	30.2					
		3,800	2,500	28.6	51.31.14.0103	205			
			2,600	27.2					

¹⁾ Also available with 150 mm offset on request. ²⁾ Also available with 200 mm offset on request.

See page 34 for use of other towing eye types.
Additional U-bolt for tube 140x140, 03.114.00.02.0.
Additional U-bolt for tube 160x160, 03.114.00.01.0.
Additional U-bolt for tube 250x150, 03.114.00.03.0.
Additional U-bolt for tube 220x220, 03.114.00.22.0.
Additional U-bolt for tube 260x180, 03.114.00.04.0.

Type	Towing eye (DIN) L2 (mm)	Total length L (mm)	Max. free drawbar length FL (mm)	Max. V value(kN)	BPW no.	Weight (kg)
ZD 18³⁾ Dc= 110kN 18 t Drawbar load 1,000kg Tube 250x150 EC no.: e4*94/20*0957*00	Ø 50 D50-C (74053-50) L2=250	2,900	1,700	60.5	51.31.18.0124	220
		3,200	1,800	60.5	51.31.18.0118	240
			1,900	60.5		
			2,000	60.5		
		3,500	2,100	57.6	51.31.18.0119	260
			2,200	54.6		
		3,800	2,300	51.8	51.31.18.0105	280
			2,400	49.2		
			2,500	46.9		
				2,600	44.7	

3) Also available with 250mm offset on request.

Type	Towing eye (DIN) L2 (mm)	Total length L (mm)	Max. free drawbar length FL (mm)	Max. V value (kN)		BPW no.	Weight (kg)
				Drawbar load (kg)	1000 2000		
ZD 20-1A Dc= 130kN 24 t Drawbar load 1,000kg Drawbar load 2,000kg Tube 220x220 EC no.: e4*94/20*2143*00	Ø 50 D50-C (74053-50) L2=250	2,900	1,700	90.0	75.0	51.31.20.0110	220
		3,200	1,800	90.0	75.0	51.31.20.0114	240
			1,900	88.6	75.0		
			2,000	83.6	73.8		
		3,500	2,100	79.2	69.4	51.31.20.0105	260
			2,200	75.2	65.3		
		3,800	2,300	71.4	61.6	51.31.20.0104	280
			2,400	68.1	58.3		
			2,500	64.9	55.1		
				2,600	62.1	52.3	
ZD 24-1A⁴⁾ Dc= 130kN 24 t Drawbar load 1,000kg Drawbar load 2,500kg Tube 260x180 EC no.: e4*94/20*0958*01	Ø 50 D50-C (74053-50) L2=250	2,900	1,700	90.0	75.0	51.31.24.0126	250
		3,200	1,800	90.0	75.0	51.31.24.0120	275
			1,900	87.4	72.7		
			2,000	82.6	67.9		
		3,500	2,100	78.2	63.5	51.31.24.0110	300
			2,200	74.2	59.5		
		3,800	2,300	70.5	55.8	51.31.24.0122	325
			2,400	67.2	52.8		
			2,500	64.1	49.4		
				2,600	61.3	46.5	

4) Also available with 250mm offset on request.
 See page 34 for use of additional towing eye types.

BPW drawbars up to 24,000 kg

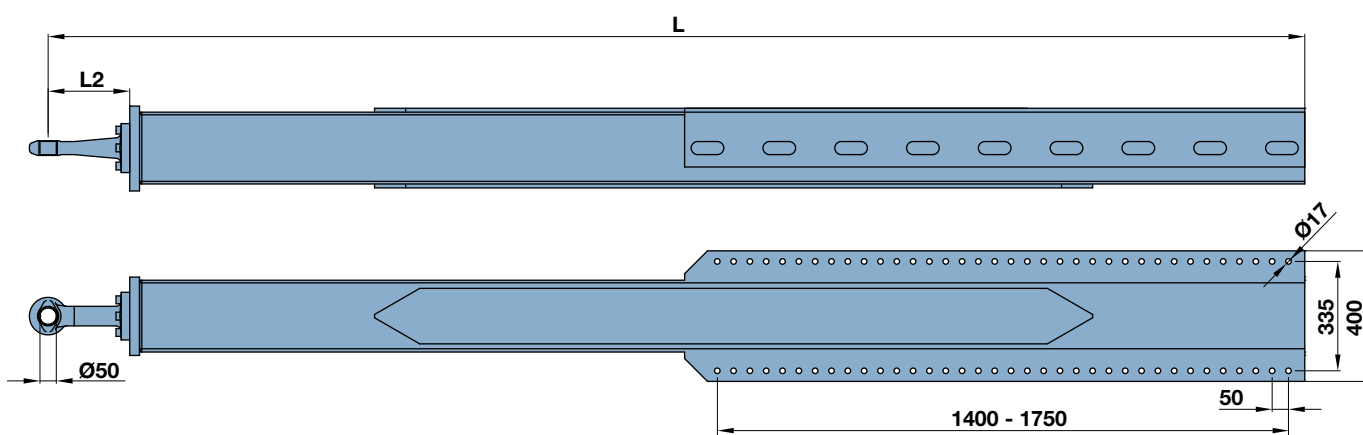
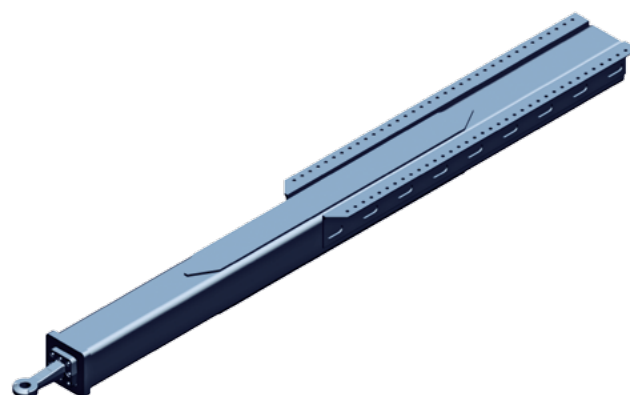
Series ZD rigid, bolted on with adjustment rail

(EC approval)

As well as the standard dimensions shown in the following tables, it is also possible to have the following options on request:

- Special versions with higher V value
- Use of other towing eye types
- Other dimensions

Please use the data sheet on our website for this purpose. Please remember that the permitted Dc and V values of the drawbars have to be adapted to the required towing eye and trailer hitch.



Type	Towing eye (DIN) L2 (mm)	Total length L (mm)	Max. free drawbar length FL (mm)	Length of adjustment rail LV (mm)	Max. V value (kN) Drawbar load (kg)		BPW no.	Weight (kg)
					1000	2000		
ZD 20-1B¹⁾ Dc= 130 kN 24 t Drawbar load 1000 kg Drawbar load 2000 kg Tube 220 x 220 EC no.: e4*94/20*2143*00	Ø 50 D50-C (74053-50) L2=250	2,900	1,700	Hole pattern 335 x 50 x Ø17	90.0	75.0	51.33.20.0002	260
		3,200	1,800		88.6	75.0	51.33.20.xxxx	290
		3,500	1,900		83.6	73.8	51.33.20.0003	310
		3,800	2,000		79.2	69.4	51.33.20.xxxx	330
		2,100	2,200		75.2	65.3		
	2,300	71.4	61.6					
	2,400	68.1	58.3					
	2,500	64.9	55.1					
	2,600	62.1	52.3					

¹⁾ Combination of ZD20-1B with bolted crossmembers on request.

BPW drawbars up to 24,000 kg

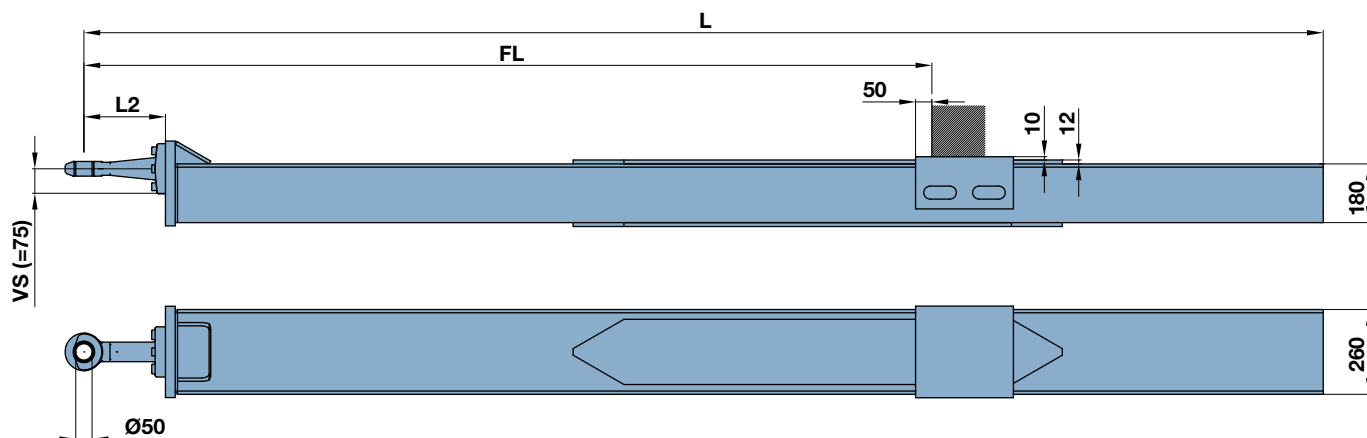
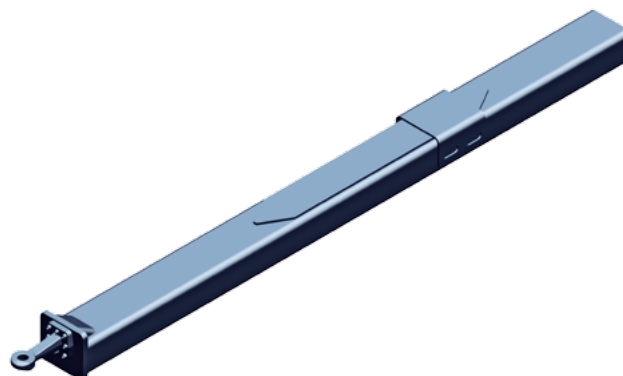
Series ZD rigid, with offset towing eye

(EC approval)

As well as the standard dimensions shown in the following tables, it is also possible to have the following options on request:

- Special versions with higher V value
- Use of other towing eye types
- Other dimensions

Please use the data sheet on our website for this purpose. Please remember that the permitted Dc and V values of the drawbars have to be adapted to the required towing eye and trailer hitch.



Type	Towing eye (DIN) L2 (mm)	Total length L (mm)	Max. free drawbar length FL (mm)	Towing eye offset VS (mm)	Max. V value (kN)	BPW no.	Weight (kg)
ZD 24-2A²⁾ Dc = 130 kN 24 t Drawbar load 1,000 kg Tube 260x180 EC no.: e4*94/20*0958*01	Ø 50 D50-C (74053-50) L2 = 250	2,900	1,700	75 (Standard)	81.2	51.31.24.xxxx	255
		3,200	1,800		81.2	51.31.24.xxxx	280
		3,500	2,000		77.7	51.31.24.xxxx	305
			2,100		72.9		
		3,800	2,200		69.7	51.31.24.0130	330
			2,300		66.3		
	2,400	63.1					
	2,500	60.1					
	2,600	57.5					

²⁾ The standard offset of the towing eye (KR) is 75mm. Other special dimensions on request. See page 34 for use of other towing eye types. See page 20 for additional U-bolts.

BPW modular drawbar up to 24,000 kg

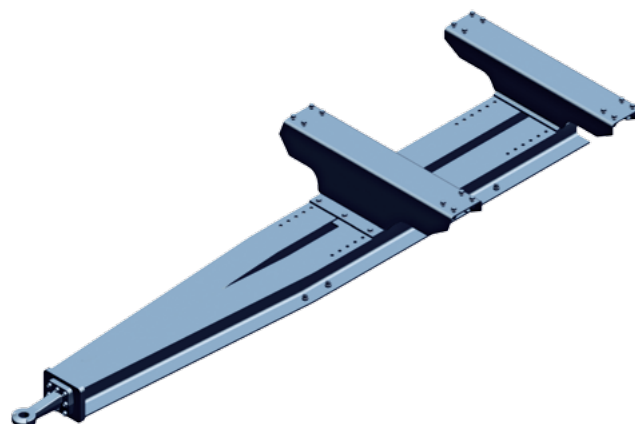
Series ZDM 20 rigid, bolt-on crossmembers

(Individual certificate)

The modular drawbar ZDM 20 consists of a drawbar and two bolt-on crossmembers. These can be bolted on every 50 mm with a minimum support width (SW) of 1,100 mm.

Non-installed on delivery. Pre-installed units are also possible on request.

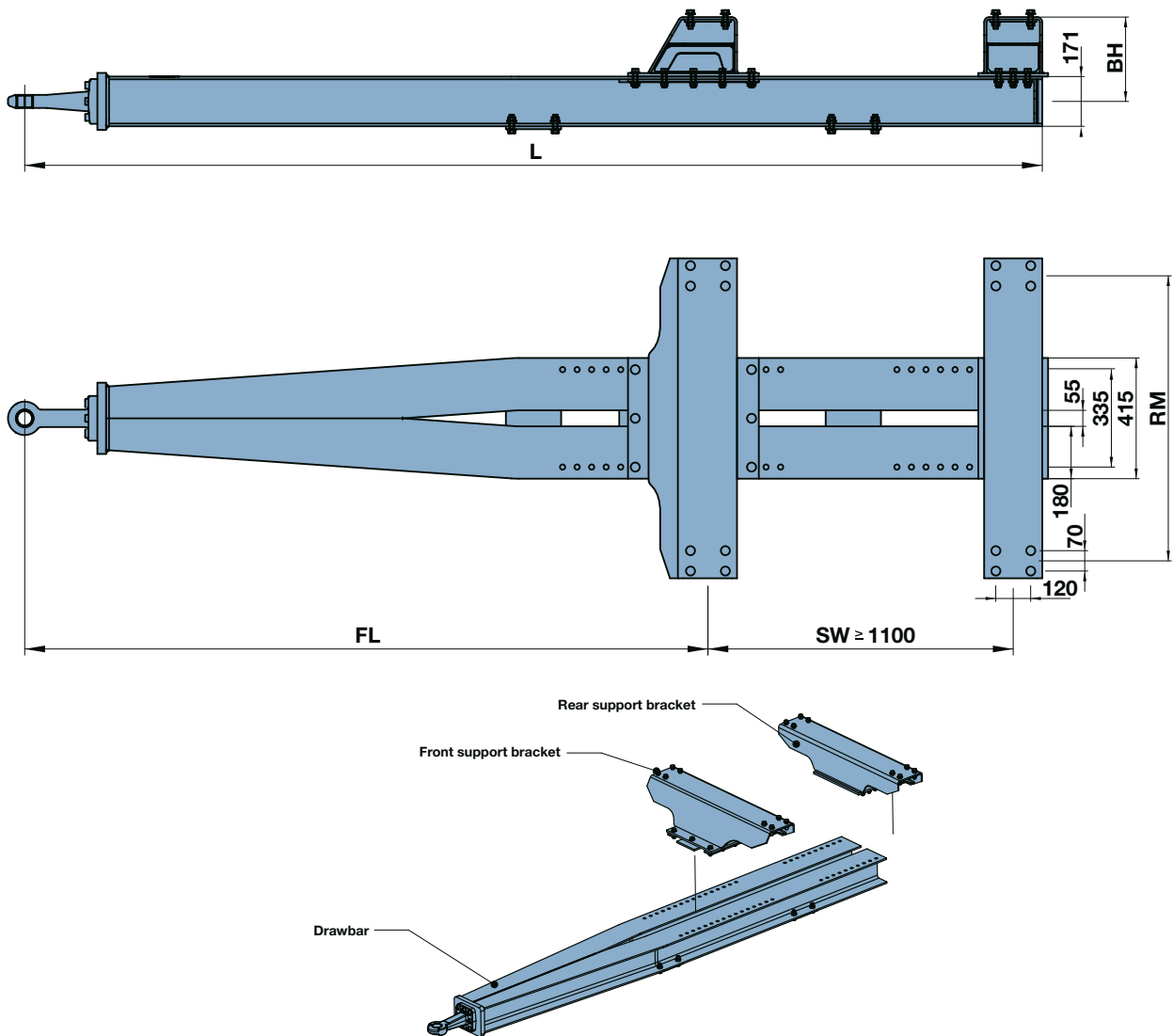
Use of crossmembers in combination with other series on request. (See installation and operating instructions)



Type	Towing eye (DIN)	Total length L (mm)	Max. free drawbar length FL (mm)	Frame middle RM (mm)	Height BH (mm)	Max. V value (kN)	BPW no.	Weight (kg)
ZDM 20 D _c = 130 kN 24 t Support width SW min. 1,100 mm Drawbar load 1,000 kg HEA 180 with individual certificate	Ø 50 D50-C (74053-50)	3,500	2,100			63.2	51.34.20.0017	388
			2,150			61.5		
			2,200			59.9		
			2,250			58.3		
			2,300			56.8		
		3,800	2,350	220	55.4	51.34.20.0016	410	
			2,400	270	54.1			
			2,450	320	52.8			
			2,500	370	51.5			
			2,550	420	50.3			
		4,200	2,600	1,200	49.2	51.34.20.0018	438	
			2,650	1,300	48.0			
			2,700	470	47.0			
			2,750	520	45.9			
			2,800	570	44.9			
			2,850	44.0				
			2,900	43.1				
			2,950	42.2				
			3,000	41.3				

Type	Height BH (mm)	Frame middle RM (mm)			
		980	1100	1200	1300
Crossmember set front/rear for ZDM 20	220	09.801.22.98.0	09.801.22.11.0	09.801.22.12.0	09.801.22.13.0
	270	09.801.27.98.0	09.801.27.11.0	09.801.27.12.0	09.801.27.13.0
	320	09.801.32.98.0	09.801.32.11.0	09.801.32.12.0	09.801.32.13.0
	370	09.801.37.98.0	09.801.37.11.0	09.801.37.12.0	09.801.37.13.0
	420	09.801.42.98.0	09.801.42.11.0	09.801.42.12.0	09.801.42.13.0
	470	09.801.47.98.0	09.801.47.11.0	09.801.47.12.0	09.801.47.13.0
	520	09.801.52.98.0	09.801.52.11.0	09.801.52.12.0	09.801.52.13.0
	570	09.801.57.98.0	09.801.57.11.0	09.801.57.12.0	09.801.57.13.0

Weld-on crossmember set on request



If the supports (front and rear) are supplied non-installed then they must be bolted on according to the installation and operating instructions. (FL=acc. to type plate). Characteristic values for drawbar and mounting according to drawbar type plate. The drawbar must only be used with a holder from BPW!

BPW drawbars up to 18,000 kg

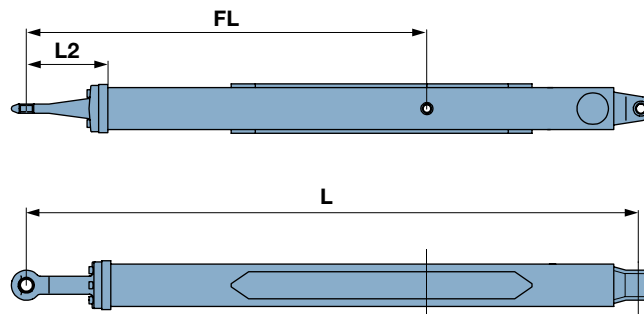
Series ZEQ variable height

(Individual certificate)

As well as the standard dimensions shown in the following tables, it is also possible to have the following options on request:

- Special versions with higher V value
- Use of other towing eye types
- Other dimensions

Please use the data sheet on our website for this purpose. Please remember that the permitted Dc and V values of the drawbars have to be adapted to the required towing eye and trailer hitch.

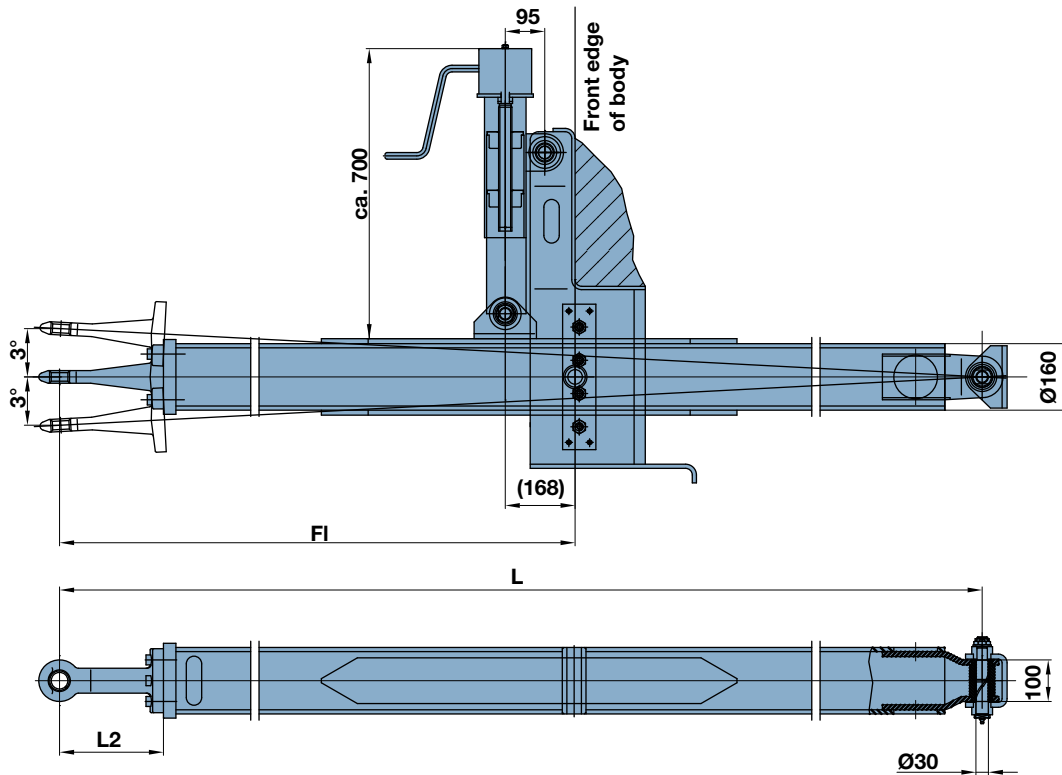


Type	Towing eye (DIN) L2 (mm)	Total length L (mm)	Max. free drawbar length FL (mm)	Max. V value (kN)	BPW no.	Weight (kg)	
ZEQ 10-1 Dc = 70 kN 10 t Drawbar load 1,000 kg Tube 140x140 with individual certificate	Ø 40 ZE 13/1 (74054-40) L2 = 250	2,990	1,700	30.1	51.32.10.0100	150	
		3,290	1,800	28.5	51.32.10.0101	162	
			1,900	26.5			
			2,000	24.1			
			2,100	22.3			
3,590	2,200	21.5	51.32.10.0102	174			
	2,300	19.6					
	2,400	18.4					
	3,890	2,500			17.4	51.32.10.0103	186
		2,600			16.2		
ZEQ 13,5 Dc = 90 kN 2x 13.5 t Drawbar load 1,000 kg Tube 160x160 with individual certificate	Ø 40 ZE 13/1 (74054-40) L2 = 250	2,990	1,700	46.7	51.32.14.0100	160	
		3,290	1,800	43.6	51.32.14.0101	175	
			1,900	40.8			
			2,000	38.3			
			2,100	36.0			
3,590	2,200	33.9	51.32.14.0102	190			
	2,300	32.0					
	2,400	30.2					
	3,890	2,500			28.6	51.32.14.0103	205
		2,600			27.2		
ZEQ 18 Dc = 110 kN 18 t Drawbar load 1,000 kg Tube 250x150 with individual certificate	Ø 50 D50-C (74053-50) L2 = 250	3,050	1,700	60.5	51.32.18.xxxx	270	
		3,350	1,800	60.5	51.32.18.xxxx	290	
			1,900	60.5			
			2,000	60.5			
			2,100	57.6			
3,650	2,200	54.6	51.32.18.xxxx	310			
	2,300	51.8					
	2,400	49.2					
	3,950	2,500			46.9	51.32.18.xxxx	330
		2,600			44.7		

See page 34 for use of additional towing eye types

BPW height adjustment device for drawbars in series ZEQ 13.5

(Individual certificate)



Type	Description	Quantity per vehicle	BPW no.	Weight (kg)
Height adjustment device For drawbars in series ZEQ 13.5 with individual certificate	For ZEQ 13.5, box incl. crank spindle, front spring shoe and spring bolt Info: ZEQ 13.5 acc. to page 28, rear spring shoe and pin ordered separately	1	05.031.00.18.0	60
Spring shoe	For bearing eye 100/30 mm	1	02.1004.22.00	3.6
Spring bolt E 11	M24 x 1.5, with castle nut, washer, split pin and grease nipple	1	02.1019.08.00	1

BPW drawbars up to 24,000 kg

Series ZFL20-1A / ZFL20-3A variable length

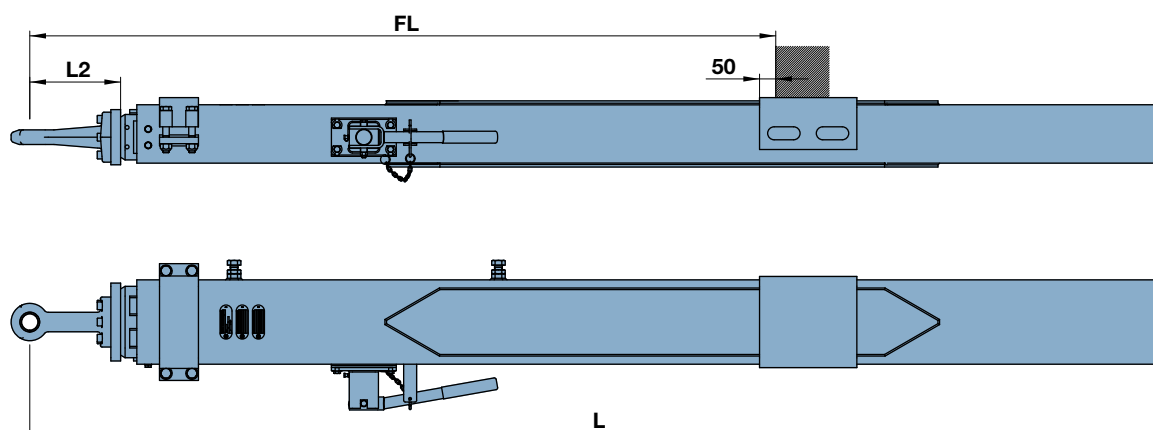
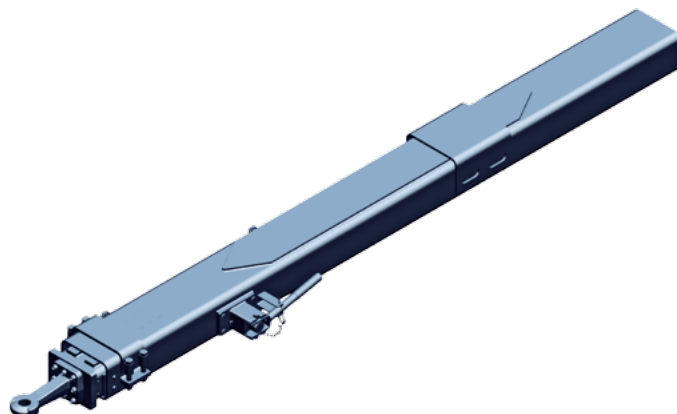
(EC approval)

As well as the standard dimensions shown in the following tables, it is also possible to have the following options on request:

- Adjustment up to 6x100/8x100 mm
- Special adjustment for through loading operation
- Special versions with higher V value
- Use of other towing eye types
- Other dimensions

The variable length BPW drawbar ZFL 20 features a hand lever adjustment of 4x100mm as standard. Pneumatic adjustment can also be supplied on request (also for retrofitting). The specified V values apply for adjustment 0mm (basic condition) and 4x100mm.

Please note that the permitted Dc and V values of the drawbars must be adapted to the required towing eye and trailer hitch.



Type	Towing eye (DIN) L2 (mm)	Total length L (mm)	Max. free drawbar length FL (mm)	Max. V value on adjustment 0/4x100 (kN)		BPW no.	Weight (kg)
				1000	2000		
ZFL20-1A Drawbar load 1,000 kg ZFL20-3A Drawbar load 2,000 kg Dc = 130 kN 24t Tube 260x180 with weld-in U-bolt EC no.: E4*94/20*1141*01	Ø 50 D50-C (74053-50) L2 = 280	2,900	1,700	90/76	75/66	51.21.21.xxxx	350
		3,200	1,800	90/76	75/66		375
		3,500	1,900	90/73	75/63		405
			2,000	86/70	75/60		
			2,100	81/66	71/57		
3,800	2,200	77/63	67/54	430			
	2,300	73/61	63/51				
	2,400	70/58	60/48				
		2,500	66/56	57/46			
		2,600	63/54	54/44			

Additional types available on request. Towing eyes page 34.
 Additional weld-in U-bolt 03.114.00.04.0.
 Pneumatic locking retrofit kit 09.801.95.37.0.
 Manual locking retrofit kit 09.801.90.71.0

BPW drawbars up to 24,000 kg

Series ZFL20-1A/A / ZFL20-3A/A variable length

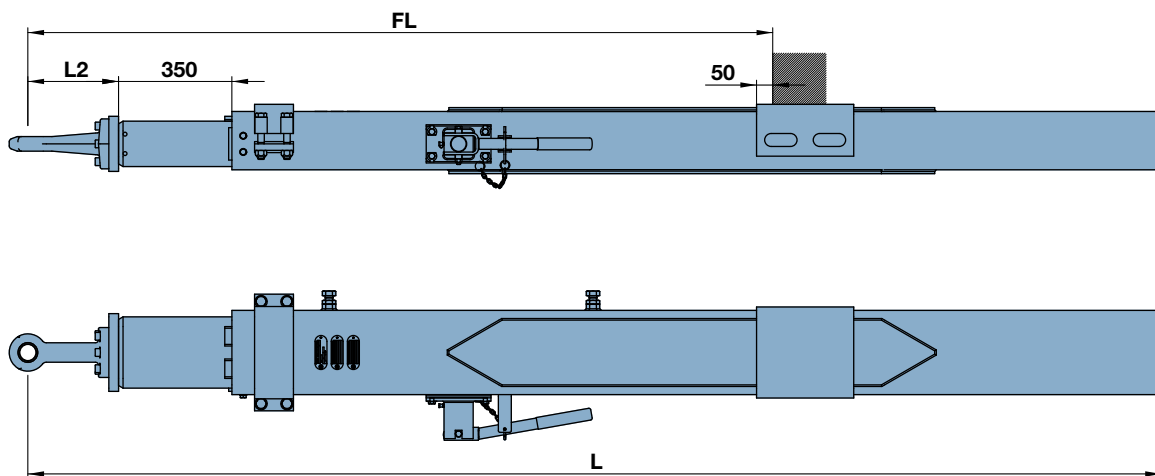
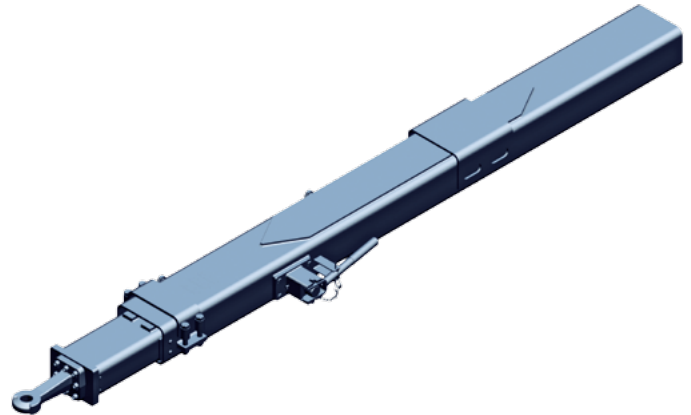
Inside tube in home position 350mm pushed out
(EC approval)

As well as the standard dimensions shown in the following tables, it is also possible to have the following options on request:

- Adjustment up to 6x100/8x100mm
- Special adjustment for through loading operation
- Special versions with higher V value
- Use of other towing eye types
- Other dimensions

The variable length BPW drawbar ZFL 20 features a hand lever adjustment of 4x100mm as standard. Pneumatic adjustment can also be supplied on request (also for retrofitting). The specified V values apply for adjustment 0mm (basic condition) and 4x100mm.

Please note that the permitted Dc and V values of the drawbars must be adapted to the required towing eye and trailer hitch.



Type	Towing eye (DIN) L2 (mm)	Total length L (mm)	Max. free drawbar length FL (mm)	Max. V value on adjustment 0/4x100 (kN)		BPW no.	Weight (kg)
				1000	2000		
ZFL20-1A/A Drawbar load 1,000 kg ZFL20-3A/A Drawbar load 2,000 kg with inner tube in home position 350mm pushed out Dc = 130 kN 24t Tube 260x180 with weld-in U-bolt EC no.: E4*94/20*1141*01	Ø 50 D50-C (74053-50) L2 = 280	2,900	1,700	86/55	75/45	51.21.21.xxxx	335
		3,200	1,800	80/55	70/45		360
			1,900	80/55	70/45		
			2,000	80/55	70/45		
		3,500	2,100	68/52	58/42		390
			2,200	68/52	58/42		
			2,300	68/52	58/42		
3,800	2,400	59/48	49/38	415			
	2,500	59/48	49/38				
		2,600	59/48	49/38			

Additional types available on request. Towing eyes page 34.
 Additional weld-in U-bolt 03.114.00.04.0.
 Pneumatic locking retrofit kit 09.801.95.37.0.
 Manual locking retrofit kit 09.801.90.71.0

BPW drawbars up to 24,000 kg

Series ZFL20-1B / ZFL20-3B variable length

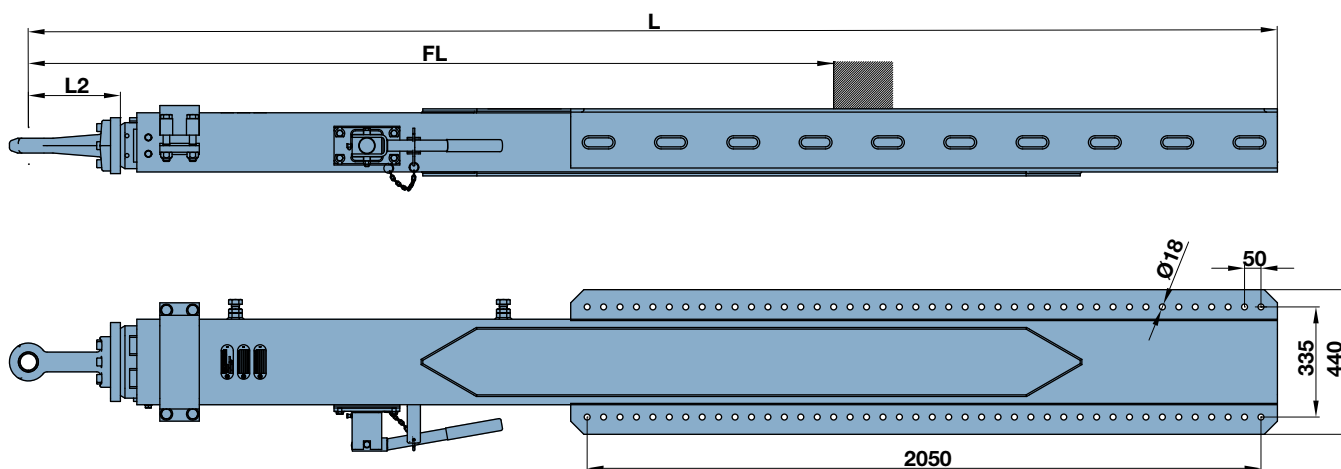
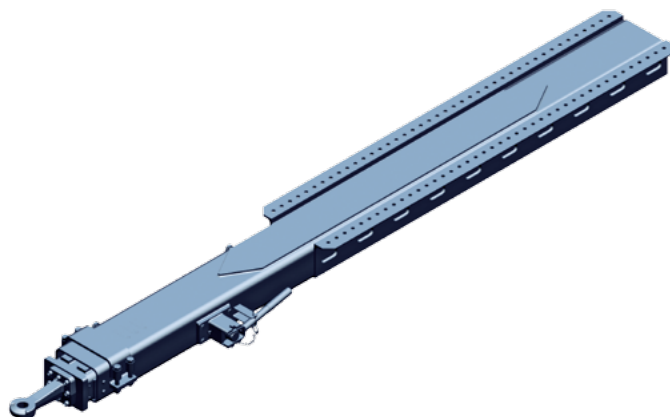
bolt-on with adjustment rail
(EC approval)

As well as the standard dimensions shown in the following tables, it is also possible to have the following options on request:

- Adjustment up to 6 x 100/8 x 100 mm
- Special adjustment for through loading operation
- Special versions with higher V value
- Use of other towing eye types
- Other dimensions

The variable length BPW drawbar ZFL 20 features a hand lever adjustment of 4x100mm as standard. Pneumatic adjustment can also be supplied on request (also for retrofitting). The specified V values apply for adjustment 0mm (basic condition) and 4x100mm.

Please remember that the permitted Dc and V values of the drawbars have to be adapted to the required towing eye and trailer hitch.



Type	Towing eye (DIN) L2 (mm)	Total length L (mm)	Max. free drawbar length FL (mm)	Adjustment rail LV (mm)	Max. V value on adjustment 0/4x100 (kN)		BPW no.	Weight (kg)
					1000	2000		
ZFL20-1B Drawbar load 1,000 kg	Ø 50 D50-C (74053-50) L2=280	3,800	1,950	Hole pattern	88/71	75/61	51.21.21.xxxx	480
ZFL20-3B Drawbar load 2,000 kg			2,000		86/70	75/60		
Dc=130 kN			2,100		81/66	71/57		
24 t			2,200		77/63	67/54		
Tube 260 x 180 with adjustment rail			2,300		73/61	63/51		
Min. support width SW=1200 mm			2,400		70/58	60/48		
EC no.:		2,500	66/56	57/46				
E4*94/20*1141*01		2,600	63/54	54/44				
		2,700	61/52	51/42				
		2,750	59/51	49/41				

Additional types available on request. Towing eyes page 34.
Pneumatic locking retrofit kit 09.801.95.37.0.
Manual locking retrofit kit 09.801.90.71.0

BPW drawbars up to 24,000 kg

Series ZFL20-2A variable length

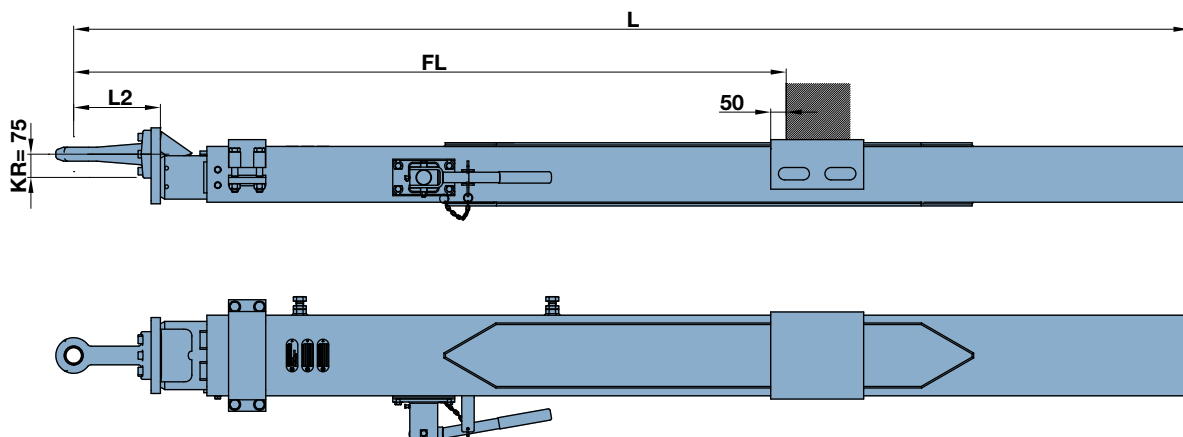
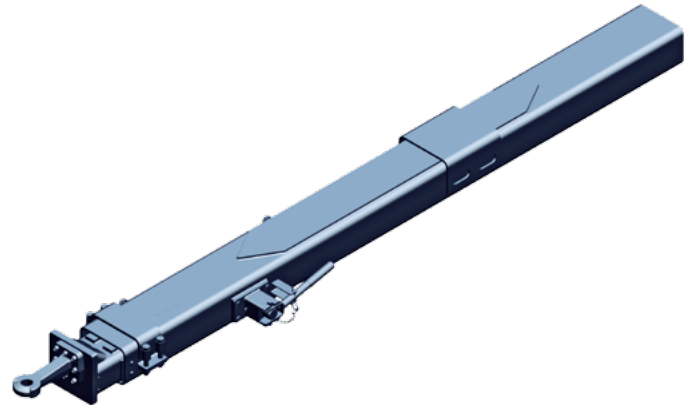
with height offset of the towing eye
(EC approval)

As well as the standard dimensions shown in the following tables, it is also possible to have the following options on request:

- Adjustment up to 6x100/8x100 mm
- Special adjustment for through loading operation
- Special versions with higher V value
- Use of other towing eye types
- Other dimensions

The variable length BPW drawbar ZFL 20 features a hand lever adjustment of 4x100 mm as standard. Pneumatic adjustment can also be supplied on request (also for retrofitting). The specified V values apply for adjustment 0 mm (basic condition) and 4x100 mm.

Please remember that the permitted Dc and V values of the drawbars have to be adapted to the required towing eye and trailer hitch.



Type	Towing eye (DIN) L2 (mm)	Total length L (mm)	Max. free drawbar length FL (mm)	Towing eye offset VS (mm)	Max. V value on adjustment 0/4 x 100 (kN)	BPW no.	Weight (kg)
ZFL20-2A Drawbar load 1,000 kg with height offset of the towing eye Dc=130 kN 24 t Tube 260x180 with weld-in U-bolt EC no.: E4*94/20*1141*01	Ø 50 D50-C (74053-50) L2=280	3,000	1,700	75 Standard	90/58	51.21.21.xxxx	355
		3,300	1,800		87/58		380
		3,600	1,900		82/58		405
			2,000		77/58		
			2,100		73/58		
			2,200		69/57		
3,900	2,300	66/55	435				
	2,400	63/52					
		2,500	60/50				
		2,600	57/48				

Additional types available on request. Towing eyes page 34.
 Additional weld-in U-bolt 03.114.00.04.0.
 Pneumatic locking retrofit kit 09.801.95.37.0.
 Manual locking retrofit kit 09.801.90.71.0

BPW modular drawbars up to 24,000 kg

Series ZFL20-1B variable length

with bolted crossmembers

(Individual certificate)

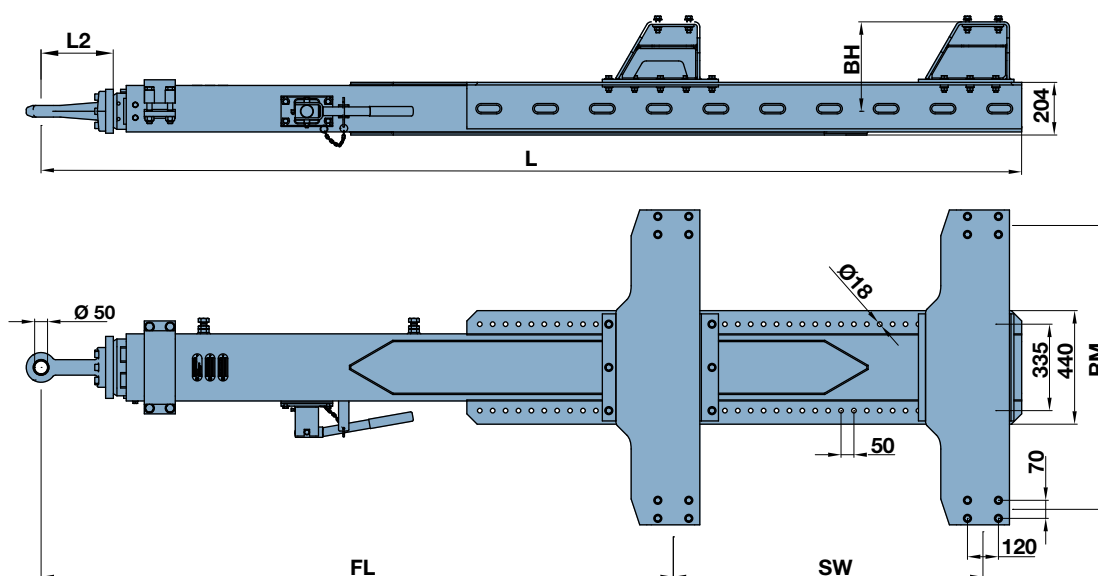
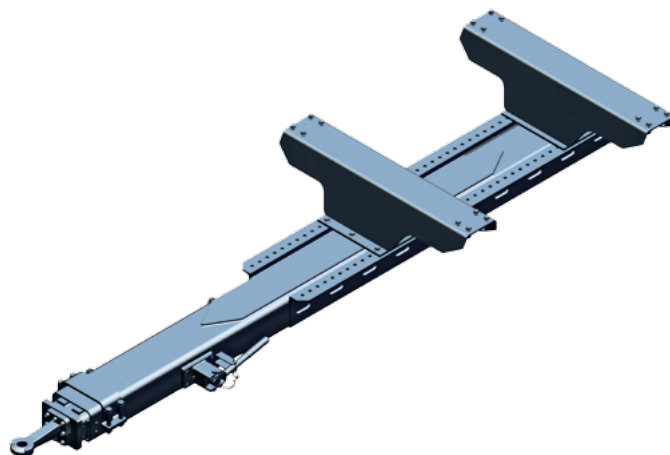
The specified V values apply to adjustment 0mm (initial status) and 4x100 mm.

Please note that the permitted Dc and V values of the drawbars must be adapted to the required towing eye and trailer hitch.

Drawbars in Series ZFL20-1B can also be supplied as modular units with bolt-on crossmembers. With a minimum support width (SW) of 1,200mm, the crossmembers can be bolted on every 50 mm.

Non-installed on delivery. Pre-installed units are also possible on request.

Use of crossmembers in combination with other series on request. (See installation and operating instructions)



Type	Towing eye (DIN) L2 (mm)	Total length L (mm)	Max. free drawbar length FL (mm)	Adjustment rail LV (mm)	Frame middle RM (mm)	Height BH (mm)	V value on adjustment 0/4x100 (kN)	Weight with RM=1100 BH=346 (kg)
ZFL20-1B with bolted crossmembers Drawbar load 1,000kg Dc=130kN 24t Tube 260x180 with adjustment rail Min. support width SW= 1,200mm in modular design with individual certificate	Ø 50 D50-C (74053-50) L2=280	3,800	1,950	Hole pattern 2,050x335 x50xØ 18	980	246	88/71	685
			2,000				86/70	
			2,100				81/66	
			2,200				77/63	
			2,300				73/61	
			2,400				70/58	
		4,100	2,500		66/56			
			2,600		63/54			
			2,700		61/52			
			2,750		59/51			

Additional types available on request. Towing eyes page 34.
Pneumatic locking retrofit kit 09.801.95.37.0.
Manual locking retrofit kit 09.801.90.71.0

BPW drawbars up to 13,500 kg

Series ZFL13.5-1A variable length

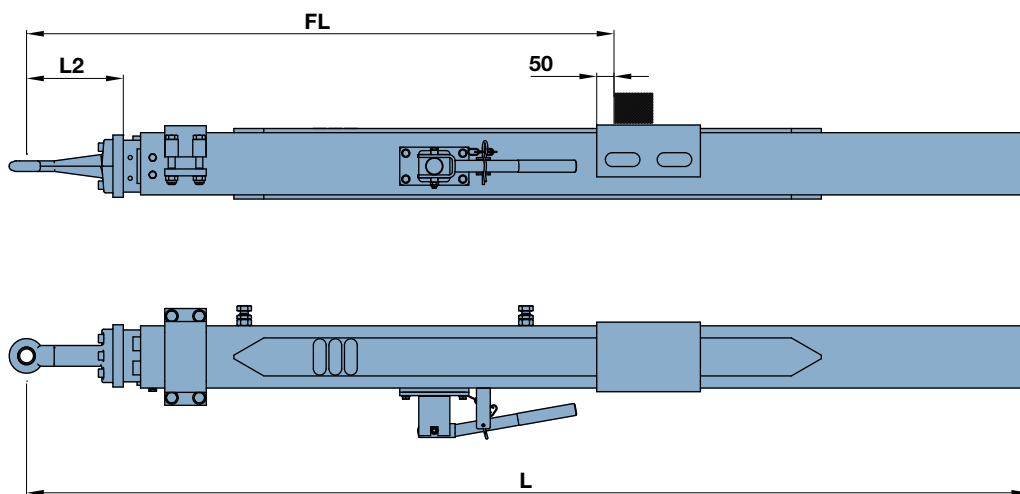
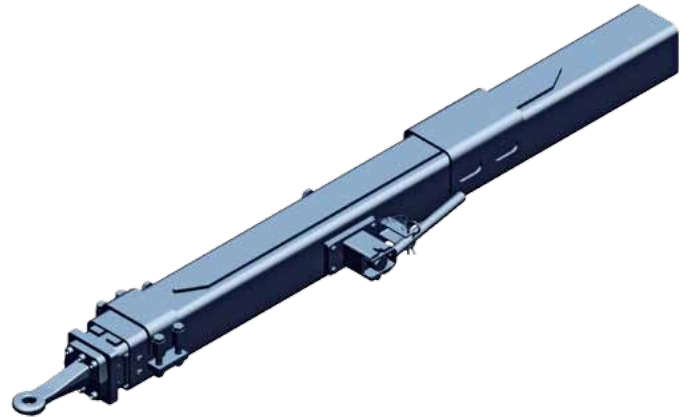
(Individual certificate)

BPW has a variable length drawbar in its range for vehicles up to 13.5t gross vehicle weight rating, with the ZPF13.5. As well as the standard dimensions shown in the following tables, it is also possible to have the following options on request:

- Adjustment up to 6x100/8x100mm
- Special adjustments
- Use of other towing eye types
- Other dimensions

The variable length BPW drawbar ZFL13.5 is provided with manual lever adjustment of 4x100mm as standard. Pneumatic adjustment can also be supplied on request (also for retrofitting). The specified V values apply for adjustment 0mm (initial condition) and 4x100mm.

Please note that the permitted Dc and V values of the drawbars must be adapted to the required towing eye and trailer hitch.



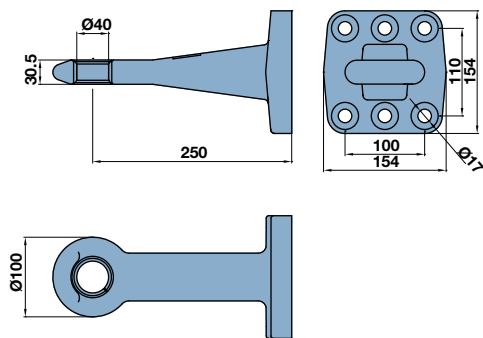
Type	Towing eye (DIN) L2 (mm)	Total length L (mm)	Max. free drawbar length FL (mm)	Max. V value on adjustment 0/4x100 (kN)	BPW no.	Weight (kg)
ZFL13.5-1A Drawbar load 1,000kg Dc=90kN 13.5t Tube 180x180 with weld-in U-bolt with individual certificate	Ø 40 ZE 13/1 (74054-40) L2=280	2,900	1,700	53/41	51.21.13.xxxx	265
		3,200	1,800	50/39		280
		3,500	1,900	47/37		295
			2,000	44/35		
		3,800	2,100	41/33		310
			2,200	39/31		
			2,300	37/30		
			2,400	35/28		
		2,500	33/27			
		2,600	31/26			

Additional types available on request. Towing eyes page 34.
 Additional weld-in U-bolt 03.114.76.07.0.
 Pneumatic locking retrofit kit 05.801.95.37.0.
 Manual locking retrofit kit 09.801.90.71.0

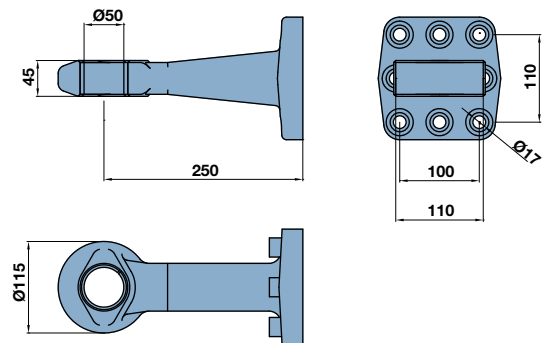
BPW drawbars - general

Towing eyes and bolt-on flanges

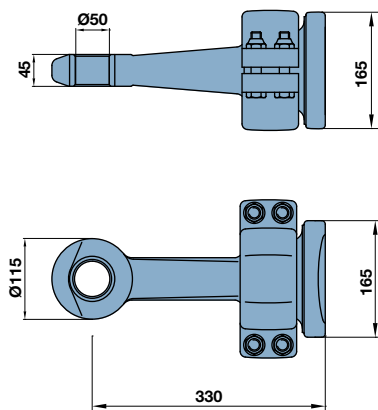
With its drawbar range, BPW offers an extensive modular system that permits individual combinations. An overview of the BPW standard product range follows.



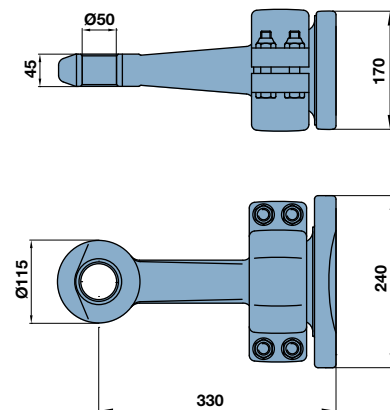
Towing eye DIN 40 (ZE/13)
51.30.14.0002



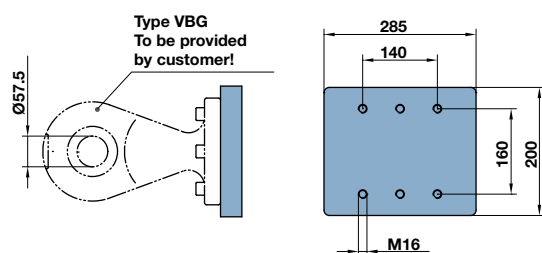
Towing eye DIN 50 (D50-C)
02.4904.27.00



Towing eye DIN 50 (480)
02.4904.17.00



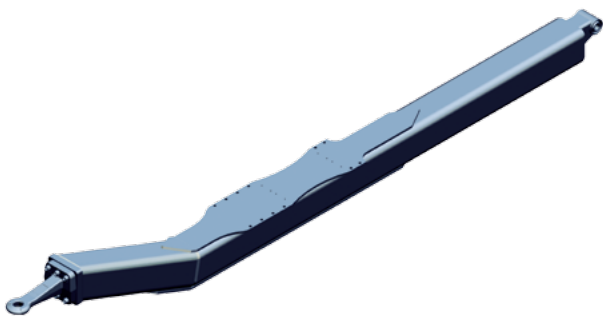
Towing eye DIN 50 (480/1)
02.4904.22.00



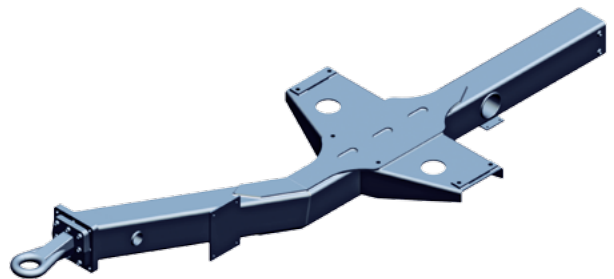
Flange for towing eye
Type VBG-15

BPW drawbars - general Special construction

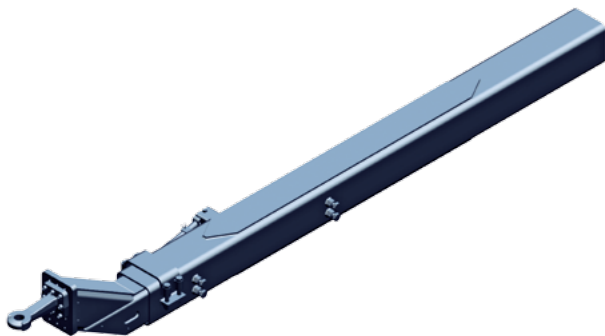
In addition to the modular system, BPW also offers a wide range of individual solutions in order to comply with specific customer requirements. Some of the special constructions are shown below.



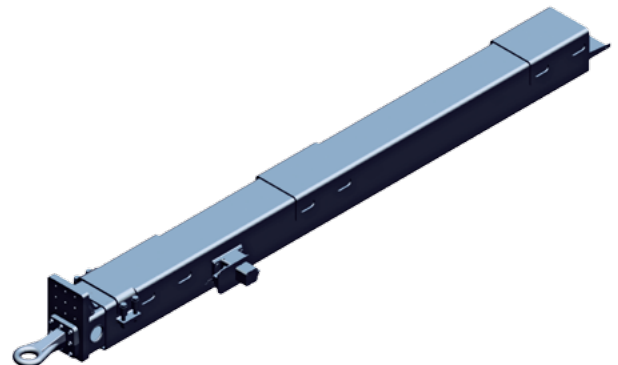
Series ZDK



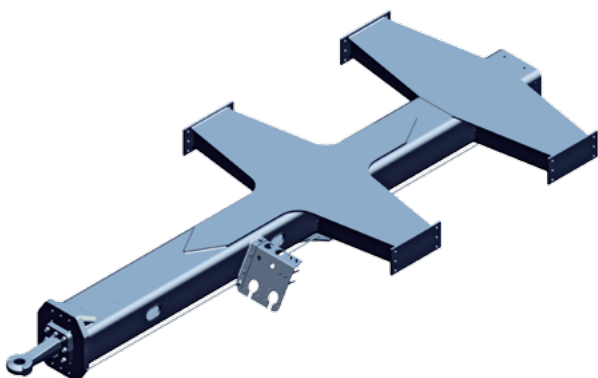
Series ZDK



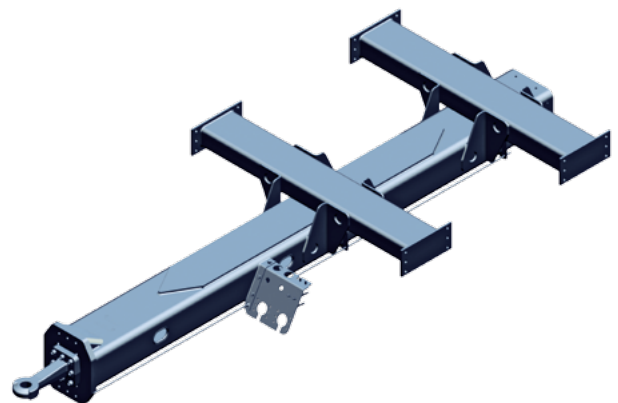
Series ZFLK



Series ZFL



Series ZD with crossmembers

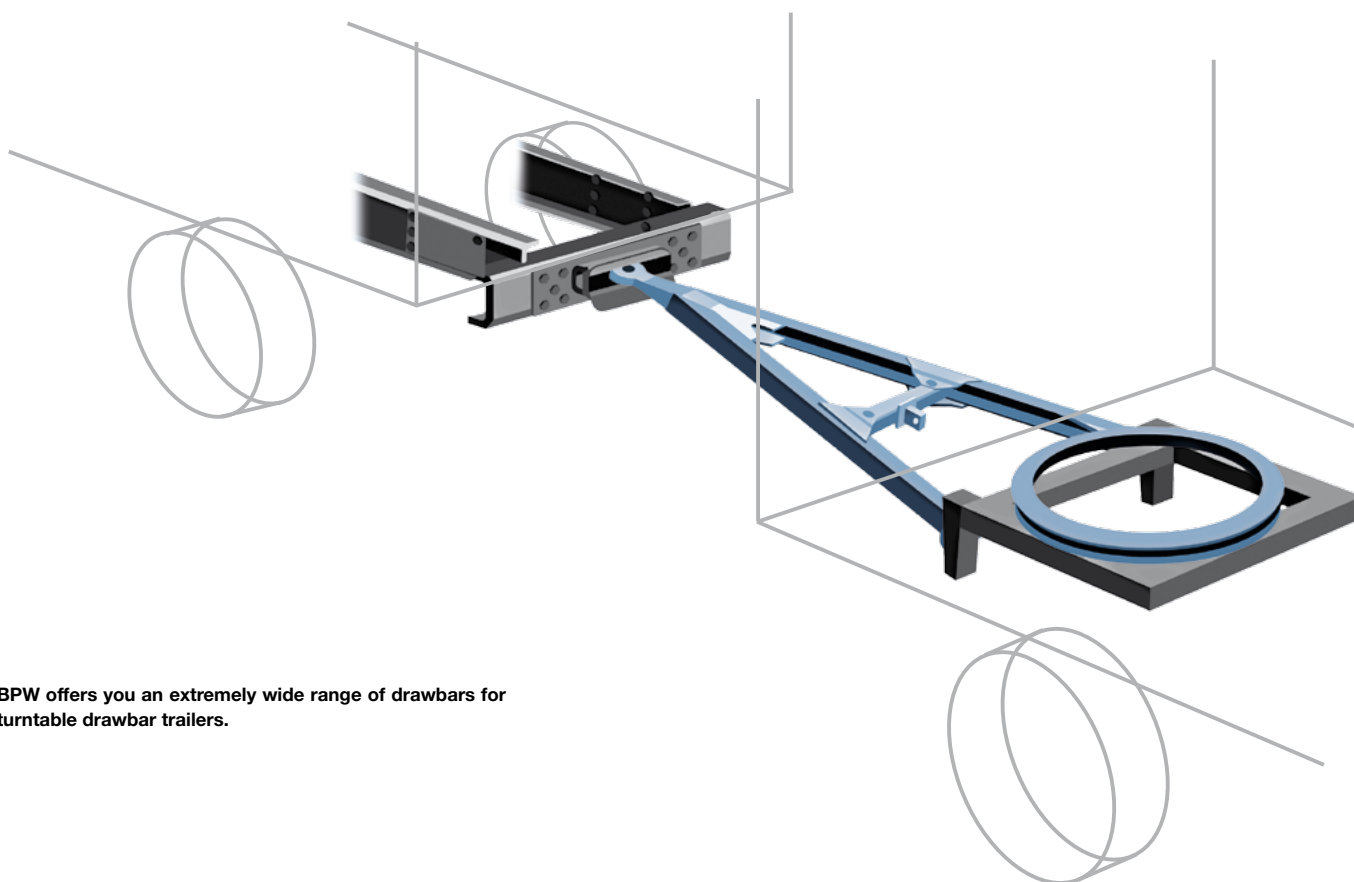


Series ZD with crossmembers

Perfect towing for turntable drawbar trailers. **Drawbars from BPW.**

BPW drawbars for turntable drawbar trailer with a gross vehicle weight rating of 12 to 48 t are the perfect connection between a tractor vehicle and trailer with turntable steering. BPW supplies all versions necessary in practice, e.g. with a straight or angled towing eye, or with adjustable length and/or offset. Furthermore, all standard BPW drawbars have EC approval, special versions are type approved.





BPW offers you an extremely wide range of drawbars for turntable drawbar trailers.



BPW drawbars – Features and benefits

- ▶ For turntable drawbar trailer with a gross vehicle weight rating of 12 to 48t
- ▶ Common dimensions are available immediately
- ▶ With EC approval or individual certificates
- ▶ Cathaphoretic dip-coating with zinc-phosphating
- ▶ High level of corrosion resistance due to galvanized drawbar tubes in assemblies with adjustable length.
- ▶ Various versions available:
 - With inclined towing eye
 - With fixed central tube
 - Straight or offset
 - Variable length
 - With swivelling eye
 - With semi-automatic length adjustment
 - With low-maintenance silent bushes

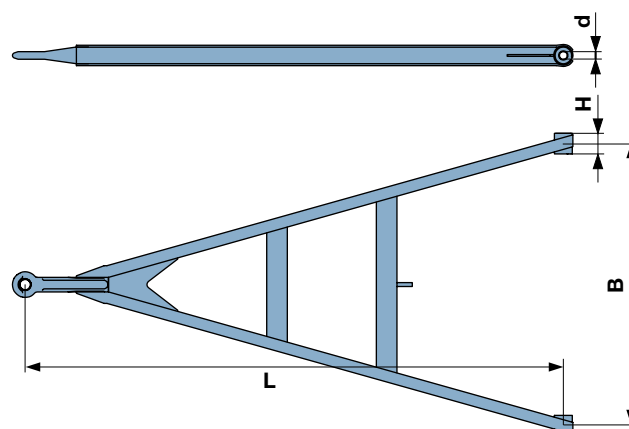
BPW drawbars to 48,000 kg

Series TBZ from standard U-section

(EC approval)

With towing eye Ø 40 mm (DIN 74054-40A) as standard. Drawbars are also available with towing eye Ø 50 mm (DIN 74053-50A).

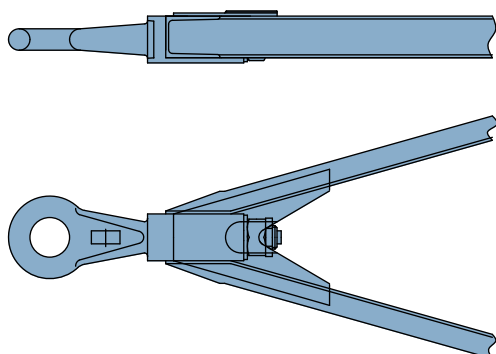
The bearing assembly of all standard versions are equipped with plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 56 onwards.



Type	Length L (mm)	Centre width B (mm)	Bearing assy. H/d (mm)	Number of struts	Weight ca. kg	
TBZ 27 D = 125 kN 27t max. front axle load 12t EC no.: e4*94/20*0119*01 Section U 80	1,100			1	31.0	
	1,200				33.0	
	1,300				35.0	
	1,400				37.0	
	1,500	860			39.0	
	1,600	900			41.0	
	1,700	980			42.5	
	1,800	1,000	100/30 ¹⁾		44.0	
	1,900	1,100			45.5	
	2,000	1,200	Other dimensions		47.0	
	2,100	1,300	70/26		51.0	
	2,200	1,400	80/28		52.5	
	2,300		80/30		54.0	
	2,400	Other dimensions			56.0	
	2,500	on request.			58.0	
	2,600				2	60.0
	2,700				61.5	
	2,800				63.0	
	2,900				64.5	
3,000			66.0			

¹⁾ Also available with low-maintenance silent bush on request (see page 52).

Also drawbar fork TBZ 27 as special request available with bolted eye.



Type	Length L (mm)	Centre width B (mm)	Bearing assy. H/d (mm)	Number of struts	Weight ca. kg
TBZ 32 D= 125 kN 32t max. front axle load 16t EC no.: e4*94/20*0139*01 Section U 100	1,400			1	41.0
	1,500				43.0
	1,600	330			45.0
	1,700	860			47.0
	1,800	900			49.0
	1,900	980			51.0
	2,000	1,000	100/30 ³⁾		53.0
	2,100	1,100			56.0
	2,200	1,200	Other dimensions on request.		60.0
	2,300	1,300			62.0
	2,400	1,400		64.0	
	2,500			2	66.0
	2,600	Other dimensions on request.			68.0
	2,700				70.0
	2,800				72.0
	2,900				74.0
3,000			76.0		
TBZ 48²⁾ D= 190 kN 48t max. front axle load 2 x 12t EC no.: e4*94/20*0469*01 Section U 120	1,500			1	62.0
	1,600				64.5
	1,700				67.0
	1,800				69.5
	1,900				72.0
	2,000	860			2
	2,100	900		79.0	
	2,200	980	100/30 ³⁾	82.0	
	2,300	1,000		85.0	
	2,400	1,100		87.5	
	2,500	1,200	Other dimensions on request.	90.0	
	2,600	1,300		3	93.0
	2,700		100/32 ⁴⁾		98.0
	2,800	Other dimensions on request.	100/40 ⁵⁾		100.5
	2,900				103.0
	3,000				105.5
	3,100				108.0
	3,200			111.0	
3,300			114.0		
3,400			116.0		
3,500			118.0		

²⁾ Only available with type 56 towing eye (heavy-duty towing eye) and type VBG towing eye.

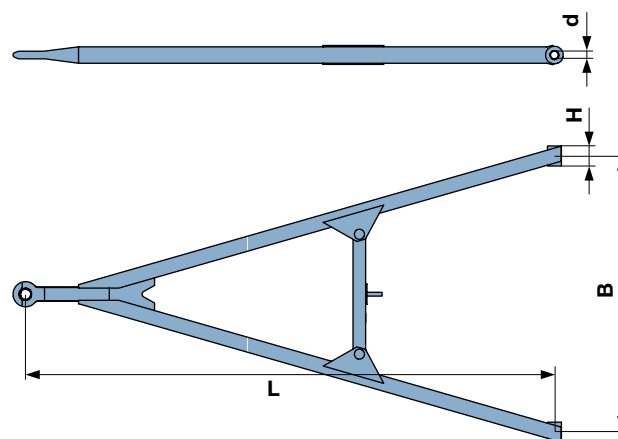
³⁾ Also available with low-maintenance silent bush on request (see page 52). ⁴⁾ With Kronrohr block. ⁵⁾ Brass bush.

BPW drawbars to 27,000 kg

Series SL made from lightweight U-section

(EC approval)

With towing eye Ø 40mm (DIN 74054-40A) as standard. Drawbars are also available with towing eye Ø 50mm (DIN 74053-50A). The bearing assembly of all standard versions are equipped with plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 56 onwards.



Type	Length L (mm)	Centre width B (mm)	Bearing assy. H/d (mm)	Number of struts	Weight ca. kg
SL 12 D=82.4 kN 12t max. front axle load 6t EC no.: e4*94/20*0318*00 Section 65/57.5/4	1,400	800	100/30 ¹⁾	1	27.0
	1,500				28.0
	1,600				29.0
	1,700				30.0
	1,800				31.0
	1,900				32.0
	2,000				33.0
	2,100				34.0
	2,200				35.0
SL 27 D=125 kN 27t max. front axle load 10t EC no.: e4*94/20*0319*01 Section 80/70/6	1,400	800	100/30 ¹⁾	1	37.0
	1,500				39.0
	1,600				41.0
	1,700				42.5
	1,800				44.0
	1,900				45.5
	2,000				47.0
	2,100				50.0
	2,200				52.0
	2,300				54.0
	2,400				56.0
	2,500				58.0
	2,600				62.0
	2,700				64.0
2,800	66.0				
2,900	68.0				
				2	

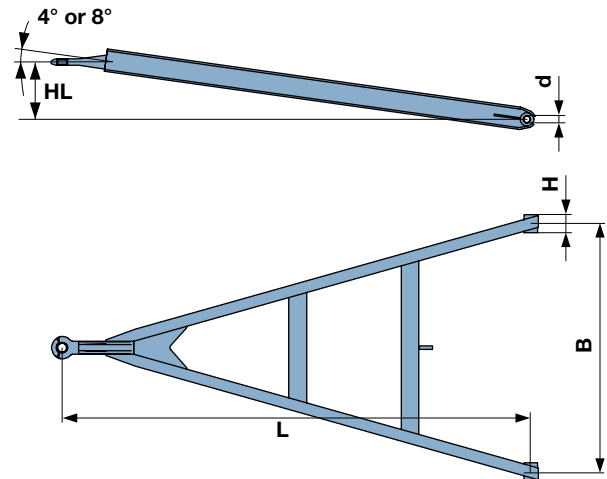
¹⁾ Also available with low-maintenance silent bush on request (see page 52).

BPW drawbars to 32,000 kg

Series ZGS with angled towing eye

(EC approval)

With towing eye Ø 40mm (DIN 74054-40A) as standard. Drawbars are also available with towing eye Ø 50mm (DIN 74053-50A). The bearing assembly of all standard versions is equipped with plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 56 onwards.



Type	Length L (mm)	Centre width B (mm)	Bearing assy. H/d (mm)	Number of struts	Height HL ca. mm (4°/8°)	Weight ca. kg
ZGS 27 D= 125 kN 27t max. front axle load 10t EC no.: e4*94/20*0585*00 Section UNP 80	1,400	600	100/30 ²⁾	1	84 168	37.0
	1,500				91 182	39.0
	1,600				98 196	41.0
	1,700	105 210			42.5	
	1,800	112 224			44.0	
	1,900	119 238			48.0	
	2,000	Other dimensions on request.		2	126 252	49.5
	2,100				133 266	51.0
	2,200				140 280	52.5
	2,300				146 294	54.0
	2,400				153 308	56.0
	2,500				160 323	58.0
	2,600				167 337	60.0
ZGS 32 D= 125 kN 32t max. front axle load 12t EC no.: e4*94/20*0586*00 Section UNP 100	1,400	600	100/30 ²⁾	1	84 168	41.0
	1,500				91 182	43.0
	1,600				98 196	45.0
	1,700	105 210			47.0	
	1,800	112 224			49.0	
	1,900	119 238			51.0	
	2,000	Other dimensions on request.		2	126 252	53.0
	2,100				133 266	56.0
	2,200				140 280	60.0
	2,300				146 294	62.0
	2,400				153 308	64.0
	2,500				160 323	66.0
	2,600				167 337	68.0
	2,700				174 351	70.0
	2,800				181 365	72.0
2,900	188 379	74.0				
3,000	195 393	76.0				

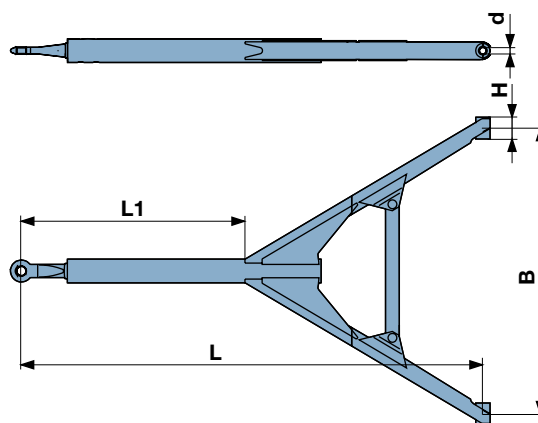
¹⁾ Also available with low-maintenance silent bush on request (see page 52).

BPW drawbars to 26,000 kg

Series PZM with fixed central tube

(EC approval)

With towing eye \varnothing 40mm (DIN 74054-40A) as standard. Drawbars are also available with towing eye \varnothing 50mm (DIN 74053-50A). The bearing assembly of all standard versions is equipped with plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 56 onwards.



Type	Length L (mm)	Centre width B (mm)	Bearing assy. H/d (mm)	Length L1 (mm)	Number of struts	Weight ca. kg
PZM 26 D=107 kN 26t max. front axle load 10t EC no.: e4*94/20*0116*00 Section U 80/70/6 Drawbar tube \varnothing 108	1,600	860	100/30 ¹⁾	740	1	70.0
	1,700			75.0		
	1,800			77.0		
	1,900			79.0		
	2,000			81.0		
	2,100			82.5		
	2,200			84.0		
	2,300			87.0		
	2,400			89.0		
	2,500			91.0		
	2,600			94.0		
	2,700			95.5		
	2,800			97.0		
	2,900			101.0		
	3,000			103.0		
	3,100			105.0		
3,200	107.0					
3,300	109.0					
3,400	112.0					

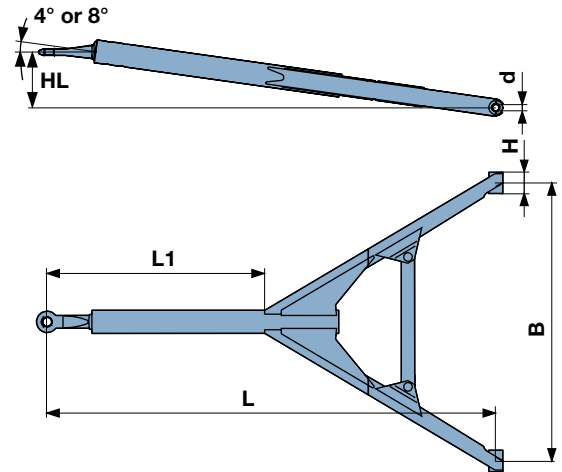
¹⁾ Also available with low-maintenance silent bush on request (see page 52).

BPW drawbars to 26,000 kg

Series PZMS fixed central tube, angled towing eye

(EC approval)

With towing eye Ø 40 mm (DIN 74054-40 A) as standard. Drawbars are also available with towing eye Ø 50 mm (DIN 74053-50 A). The bearing assembly of all standard versions is equipped with plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 56 onwards.



Type	Length L (mm)	Centre width B (mm)	Bearing assy. H/d (mm)	Length L 1 (mm)	Number of struts	Height HL ca. mm (4°/8°)	Weight ca. kg
PZMS 26 D= 107 kN 26t max. front axle load 10t EC no.: e4*94/20*0116*00 Section U 80/70/6 Drawbar tube Ø 108	1,600	860	100/30 ²⁾	740	1	97	70.0
	1,700					195	75.0
	1,800			840		111	77.0
	1,900			118		79.0	
	2,000			125		81.0	
	2,100			132		82.5	
	2,200			139		84.0	
	2,300			146		87.0	
	2,400			153		89.0	
	2,500			160		91.0	
	2,600	167	94.0				
	2,700	174	95.5				
	2,800	181	97.0				
	2,900	188	101.0				
	3,000	195	103.0				
	3,100	202	105.0				
3,200	209	107.0					
3,300	218	109.0					
3,400	223	112.0					

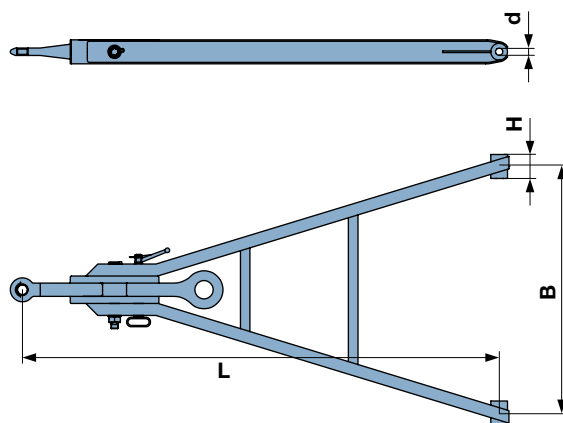
²⁾ Also available with low-maintenance silent bush on request (see page 52).

BPW drawbars to 40,000 kg

Series PZS with swivelling eye

(EC approval)

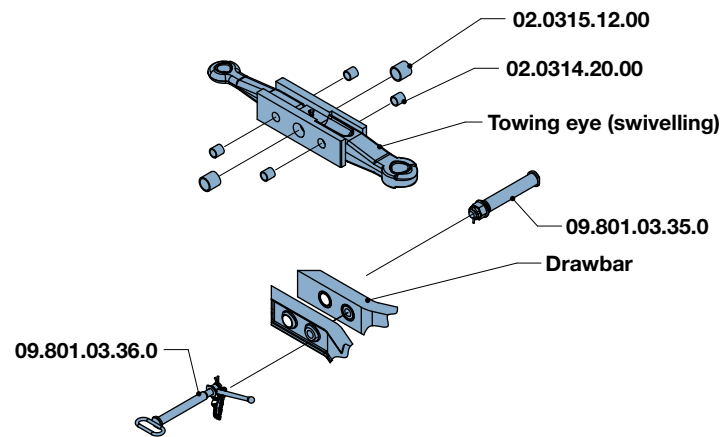
Available with swivelling towing eye Ø 40mm (DIN 74054-40A) and towing eye Ø 50mm (DIN 74053-50A) as standard. The bearing assembly of all standard versions is equipped with plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 56 onwards.



Type	Length L (mm)	Centre width B (mm)	Bearing assy. H/d (mm)	Number of struts	Weight ca. kg			
PZS 26 D=125 kN ¹⁾ 26t max. front axle load 10t Individual certificate Section UNP 80	1,400	900	100/30 ²⁾	1	71			
	1,500				73			
	1,600				75			
	1,700				77			
	1,800				79			
	1,900				81			
	2,000				84			
	2,100			1,100	Other dimensions on request.	2	86	
							2,200	88
							2,300	90
							2,400	92
							2,500	94
							2,600	96
							2,700	98
PZS 32 D=125 kN ¹⁾ 32t max. front axle load 12t Individual certificate Section UNP 100	1,400	980	100/30 ²⁾	1	77			
	1,500				79			
	1,600				81			
	1,700				83			
	1,800				85			
	1,900				87			
	2,000				90			
	2,100			1,100	Other dimensions on request.	2	92	
							2,200	94
							2,300	96
							2,400	98
							2,500	100
							2,600	102
							2,700	104

¹⁾ The value depends on the selected towing eye combination.

²⁾ On request, also available with low-maintenance silent bush (see page 52).



Type	Length L (mm)	Centre width B (mm)	Bearing assy. H/d (mm)	Number of struts	Weight ca. kg	
PZS 40 D = 175 kN ³⁾ Heavy-duty eye Typ 56 40t max. front axle load 2 x 10t Individual certificate Section UNP 120	1,600	900	100/30 ⁴⁾	1	90	
	1,700				93	
	1,800				95	
	1,900	1,000		Other dimensions on request.	2	98
	2,000	1,100				102
	2,100	1,200				105
	2,200	1,300	107			
	2,300	Other dimensions on request.	110			
	2,400		112			
	2,500		115			
	2,600		117			
	2,700		120			

³⁾ The value depends on the selected towing eye combination. ⁴⁾ Also available with low-maintenance silent bush on request (see page 52).

Spare parts for PZS	Qty.	Code number
Silent bush 100/30	2	02.0316.06.00
Plastic bush 100/30	4	02.0315.22.00
Bolt 40 with castle nut, washer and split pin (holding pin)	1	09.801.03.35.0
Bolt 26 with adjustable stop, cotter pin and chain (locking pin)	1	09.801.03.36.0
Bush for locking pin	4	02.0314.20.00
Bush for holding pin	2	02.0315.12.00
Towing eye 40 / towing eye 50 swivelling	1	05.398.02.49.0
Towing eye 40 / towing eye type 56 swivelling	1	05.398.02.28.0
Towing eye 40 / FBS towing eye swivelling	1	05.398.40.14.0
Towing eye 40 / NATO towing eye swivelling	1	05.398.33.13.0
Towing eye 50 / NATO towing eye swivelling	1	05.398.02.50.0
Towing eye 40 / towing eye 57.5 VBG15 swivelling	1	05.398.31.28.0

See page 52 for towing eye types.

BPW drawbars to 48,000 kg

Series PZG offset

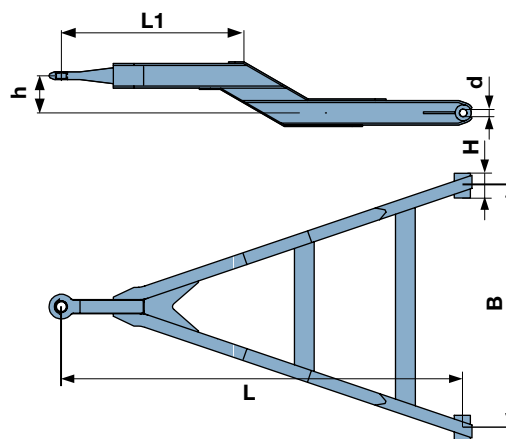
(EC approval)

PZG 18: With towing eye Ø 40 mm (DIN 74054-40A) as standard.

PZG 48-1: With heavy-duty towing eye Ø 50 mm (type 56) as standard.

PZG 48-2: With towing eye Ø 40 mm (DIN 74054-40A) and offset $h = 150$ mm as standard. Drawbars are also available with towing eye Ø 50 mm (DIN 74053-50A).

The bearing assembly of all standard versions are equipped with plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 56 onwards.



Type	Length L (mm)	Centre width B (mm)	Bearing assy. H/d (mm)	Length L 1 (mm)	Number of struts	Cranking h (mm)	Weight ca. kg
PZG 18 D=100 kN 18t max. front axle load 9t Individual certi- ficate Section UNP 80 (bei $h = 150$)	1,400	860	100/30*	600	1	150 200 250	53.0
	1,500						55.0
	1,600						57.0
	1,700						59.0
	1,800						61.0
	1,900						63.0
	2,000	65.0					
	2,100	67.0					
	2,200	70.0					
	2,300	73.0					
	2,400	76.0					
	2,500	80.0					
	2,600	83.0					
2,700	87.0						
2,800	90.0						
2,900	93.0						
PZG 48-1 D=160 kN PZG 48-2 D=125 kN 48t max. front axle loadt 24t EC no.: e4*94/20*2104*00 Section UNP 120	1,400	860	100/30*	600	1	150 200 250	66.0
	1,500						69.0
	1,600						72.0
	1,700						75.0
	1,800						78.0
	1,900						81.0
	2,000	84.0					
	2,100	89.0					
	2,200	92.0					
	2,300	94.5					
	2,400	97.0					
	2,500	99.5					
	2,600	102.0					
2,700	105.0						
2,800	108.0						

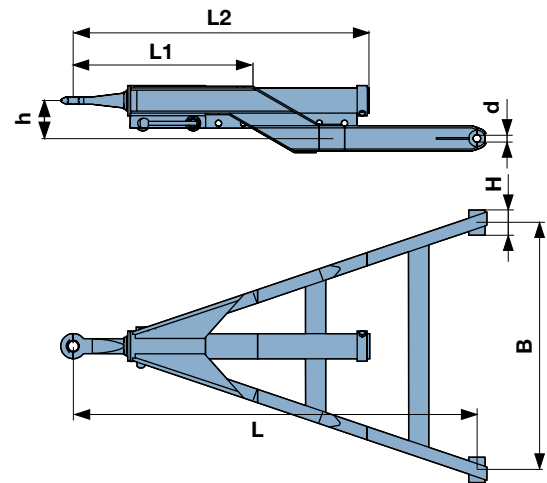
BPW drawbars to 32,000 kg

Series PZGL offset and adjustable length

(EC approval)

With towing eye \varnothing 40 mm (DIN 74054-40A), offset $h=150$ mm and adjustable length 12x50 mm as standard. Drawbars are also available with towing eye \varnothing 50 mm (DIN 74053-50A). Available with locking nuts on request (version V).

The bearing assembly of all standard versions are equipped with plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 56 onwards.

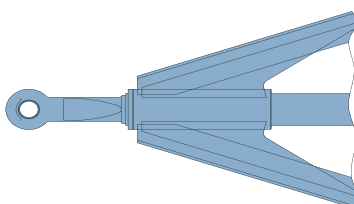
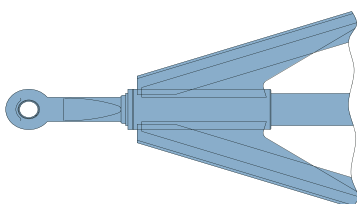
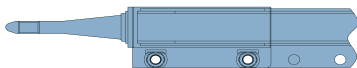


Type	Length L (mm)	Centre width B (mm)	Bearing assy. H/d (mm)	Length L1 (mm)	Length L2 (mm)	Number of struts	Weight ca. kg
PZGL 32-E D=125kN 32t max. front axle load 10t EC no.: e4*94/20*3449*00 Section UNP 100 Drawbar tube \varnothing 100	1,400	860	100/30 ¹⁾	400	12 x 50 (L ₂ = 1175)	1	106.0
	1,500	900		108.0			
	1,600	980		110.0			
	1,700	1,000		112.0			
	1,800	1,100		114.0			
	1,900	1,200		116.0			
	2,000	1,300	Other dimensions on request.	750	16 x 50 (L ₂ = 1375)	2	118.0
	2,100	1,400		500			120.0
	2,200			550			124.0
	2,300			600			126.0
	2,400			650			128.0
	2,500						130.0
	2,600						132.0

¹⁾ Also available with low-maintenance silent bush on request (see page 52).

Version "E" adjustable
(with bolt and nut)

Version "V" variable
(with bolt and locking nut)



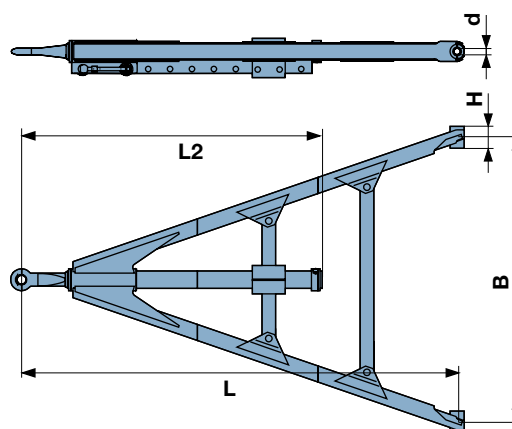
BPW drawbars to 48,000 kg

Series PZL adjustable length

(EC approval and individual certificate)

With towing eye Ø 40 mm (DIN 74054-40A) and adjustable length 12x50 mm as standard. Drawbars are also available with towing eye Ø 50 mm (DIN 74053-50A). On request, can be delivered with locking nuts (version V).

The bearing assembly of all standard versions are equipped with plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 56 onwards.



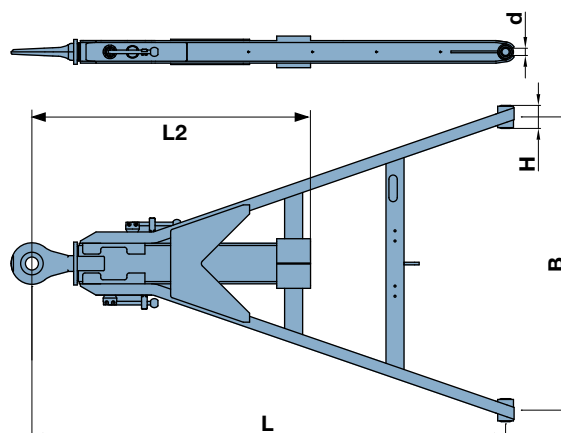
Type	Length L (mm)	Centre width B (mm)	Bearing assy. H/d (mm)	Length L2 (mm)	Number of struts	Weight ca. kg
PZL 27-E D= 125 kN 27t max. front axle load 10t EG-Nr. e4*94/20*0061*01 Section 80/70/6 Drawbar tube Ø 80	1,000	860	100/30 ¹⁾ Other dimensions on request.	12 x 50	1	80.0
	1,100					82.0
	1,200					84.0
	1,300					86.0
	1,400					88.0
	1,500			90.0		
	1,600			92.0		
	1,700			94.0		
	1,800			96.0		
	1,900			98.0		
	2,000	100.0				
	2,100	Other dimensions on request.		16 x 50	2	104.0
	2,200					106.0
	2,300					108.0
	2,400					110.0
2,500	112.0					
2,600	114.0					
PZL 32-E D= 125 kN 32t max. front axle load 12t Individual certificate Section UNP 100 Drawbar tube Ø 100	1,100	860	100/30 ¹⁾ Other dimensions on request.	12 x 50	1	94.0
	1,200					96.0
	1,300					98.0
	1,400					100.0
	1,500					102.0
	1,600			104.0		
	1,700			106.0		
	1,800			108.0		
	1,900			110.0		
	2,000			116.0		
	2,100	Other dimensions on request.		16 x 50	2	118.0
	2,200					120.0
	2,300					122.0
	2,400					124.0
	2,500					126.0

¹⁾Also available with low-maintenance silent bush on request (see page 52).

Figures show version "E" adjustable (with bolt and nut) and version "V" variable (with bolt and locking nut), see page 47.

PZL 48-1: With heavy-duty towing eye Ø 50mm (type 56) as standard.
 PZL 48-2: With towing eye Ø 40mm (DIN 74054-40A) and adjustable length 6 x 100mm as standard. Drawbars are also available with towing eye Ø 50mm (DIN 74053-50A). Available with locking nuts on request (version V).

The bearing assembly of all standard versions are equipped with plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 56 onwards.



Type	Length L (mm)	Centre width B (mm)	Bearing assy. H/d (mm)	Length L2 (mm)	Number of struts	Weight ca. kg	
PZL 48-1 D=190 kN 48t max. front axle load 24t	1,200	860	100/30 ²⁾	6 x 100	1	92.0	
	1,300					95.0	
	1,400					97.0	
	1,500					99.0	
	1,600					101.0	
PZL 48-2 D=125 kN 48 t max. front axle load 18 t EC no.: e4*94/20*2599.*01 Section UNP 100	1,700	1,000	Other dimensions 100/32 ³⁾ 100/40 ⁴⁾	6 x 100	1	103.0	
	1,800	1,100				105.0	
	1,900	1,200				107.0	
	2,000	1,300				109.0	
	2,100	1,400				115.0	
	2,200	Other dimensions on request.				2	117.0
	2,300						120.0
	2,400						122.0
	2,500						125.0
	2,600						127.0

²⁾ Also available with low-maintenance silent bush on request (see page 52). ³⁾ With Kronrohr block. ⁴⁾ With brass bush.

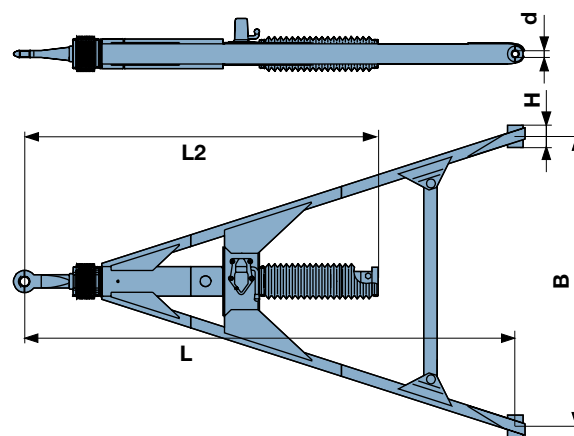
BPW drawbars to 26,000 kg

Series LPS 26 variable length, and semi-automatic with automatic hitch

(EC approval)

The LPS 26 offers a particularly convenient adjustment mechanism - the length adjustment is semi-automatic. Unlocking is performed by hand at the automatic hitch. The hitch locks automatically after 100 mm adjustment travel. The drawbar tube can be adjusted by hand or by moving the tractor vehicle. Larger or different adjustment travels, e.g. 1x400 mm, can be achieved using stop plugs in the drawbar tube.

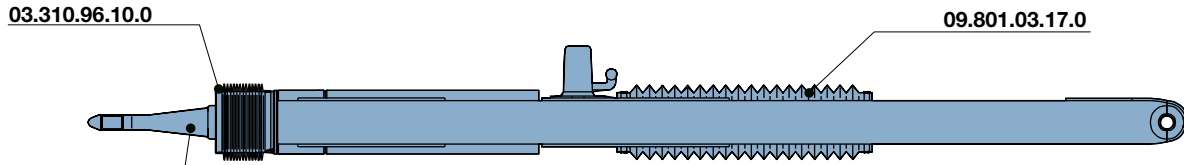
With towing eye Ø 40 mm (DIN 74054-40 A) and adjustable length 4 x 100 mm as standard. Drawbars are also available with towing eye Ø 50 mm (DIN 74053-50 A). The bearing assembly of all standard versions are equipped with plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 56 onwards.



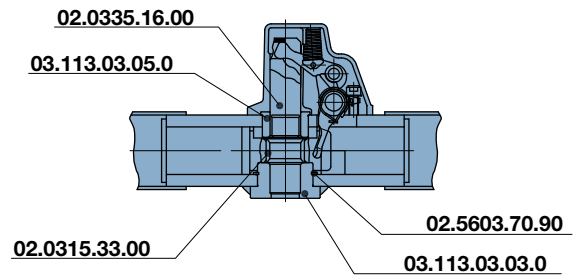
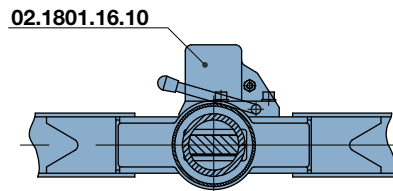
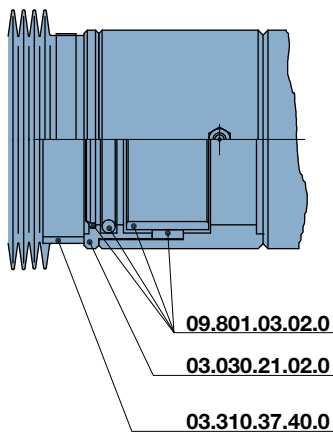
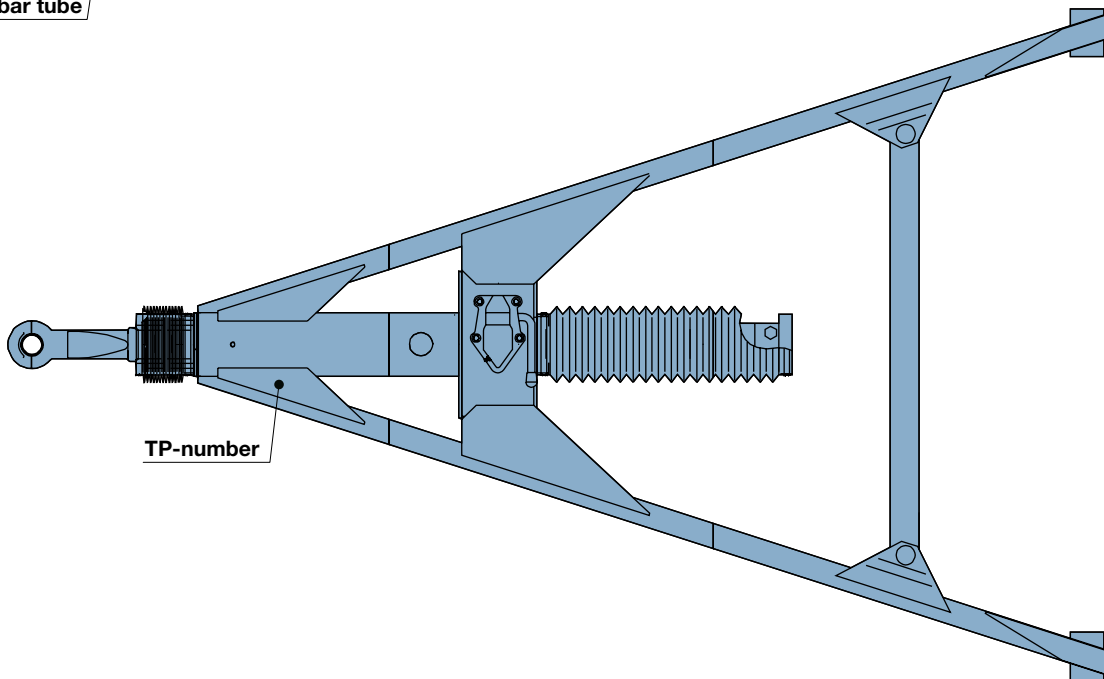
Type	Length L (mm)	Centre width B (mm)	Bearing assy. H/d (mm)	Length L2 (mm)	Number of struts	Weight ca. kg
LPS 26 D=120 kN 26t Individual certificate Section 90/50/5 Drawbar tube Ø 100	1,300	980	100/30 ¹⁾ Other dimensions on request.	4 x 100	1	122
	1,400	1,000				124
	1,500	1,100				126
	1,600	1,200				128
	1,700	1,300				130
	1,800	1,400				132
	1,900	Other dimensions on request.				134
	2,000					136
	2,100					144
	2,200					146

¹⁾ Also available with low-maintenance silent bush on request (see page 52).

Spare parts for LPS 26	Qty.	Code number
Bush 62/38.6x32	1	03.113.03.05.0
Bush 34.15x88x45	1	03.113.03.03.0
Circlip 70x2.5xDIN 471	1	02.5603.70.90
Bush 48.3/39x30	1x per opening	02.0315.33.00
Hitch bolt 38.5/34x129	1	02.0335.16.00
Automatic hitch	1	02.1801.16.10
Set of pivot bearings	1	09.801.03.02.0
Pivot bearing	1	03.030.21.02.0
Weld-on ring for bellows	1	03.310.37.40.0
Ring 120/80x20	1	03.310.96.10.0
MT-TGRP bellow front and rear	2	09.801.03.17.0
Drawbar tube cpl. 100, towing eye DIN74054 40A 4 x 100	1	09.028.51.11.0
Drawbar tube cpl. 100, towing eye version CH 40 4 x 100	1	09.028.51.14.0
Drawbar tube cpl. 100, towing eye DIN74054 40A 6 x 100	1	09.028.51.68.0
Drawbar tube cpl. 100, towing eye DIN74054 40A adjustment 80-150-170	1	09.028.51.48.0
Plug	1x per opening	09.801.03.53.0



Drawbar tube

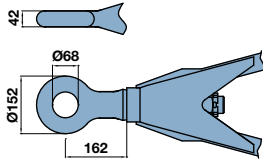


BPW drawbars - general

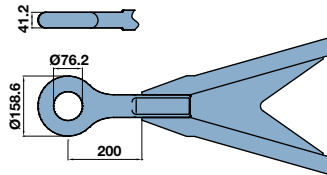
Towing eyes and bushes

With its range of drawbars, BPW offers an extensive modular system in which individual combinations can be made. An overview of the BPW standard product range follows

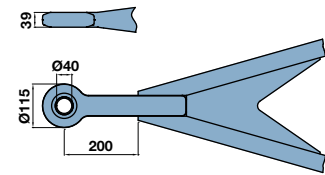
BPW towing eyes:



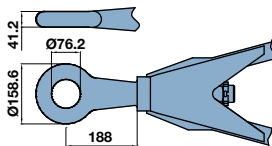
Bolted-in towing eye
Type BNA 8911 as part provided by the customer



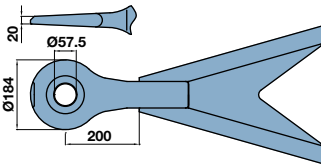
Towing eye similar to VG-74059 type
NATO



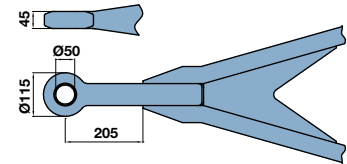
Towing eye version Switzerland



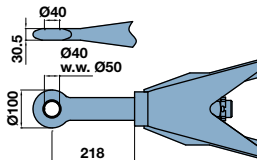
Bolted-in towing eye
Type NATO VG-74059



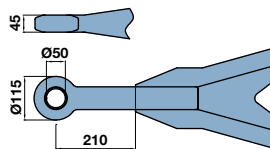
Towing eye VBG 15-173



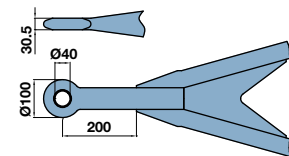
Towing eye VBG 16-0895



Bolted-in towing eye
DIN 74054-40B
alt. DIN 74053-50B

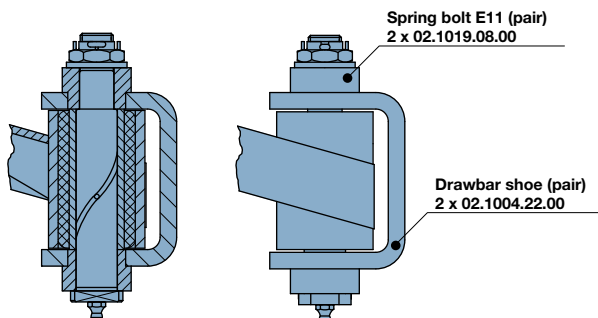


Towing eye acc. to DIN 74053-50A alt.
towing eye type 56
similar to DIN 74053-50A

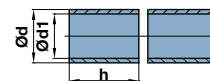


Towing eye similar to DIN 74054-40A
with profile shaft
alt. towing eye DIN 74054-40A

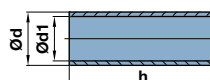
BPW bushes:



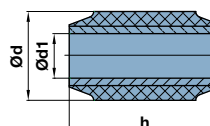
Shown with silent bush



Plastic bush



Brass bush



Silent bush

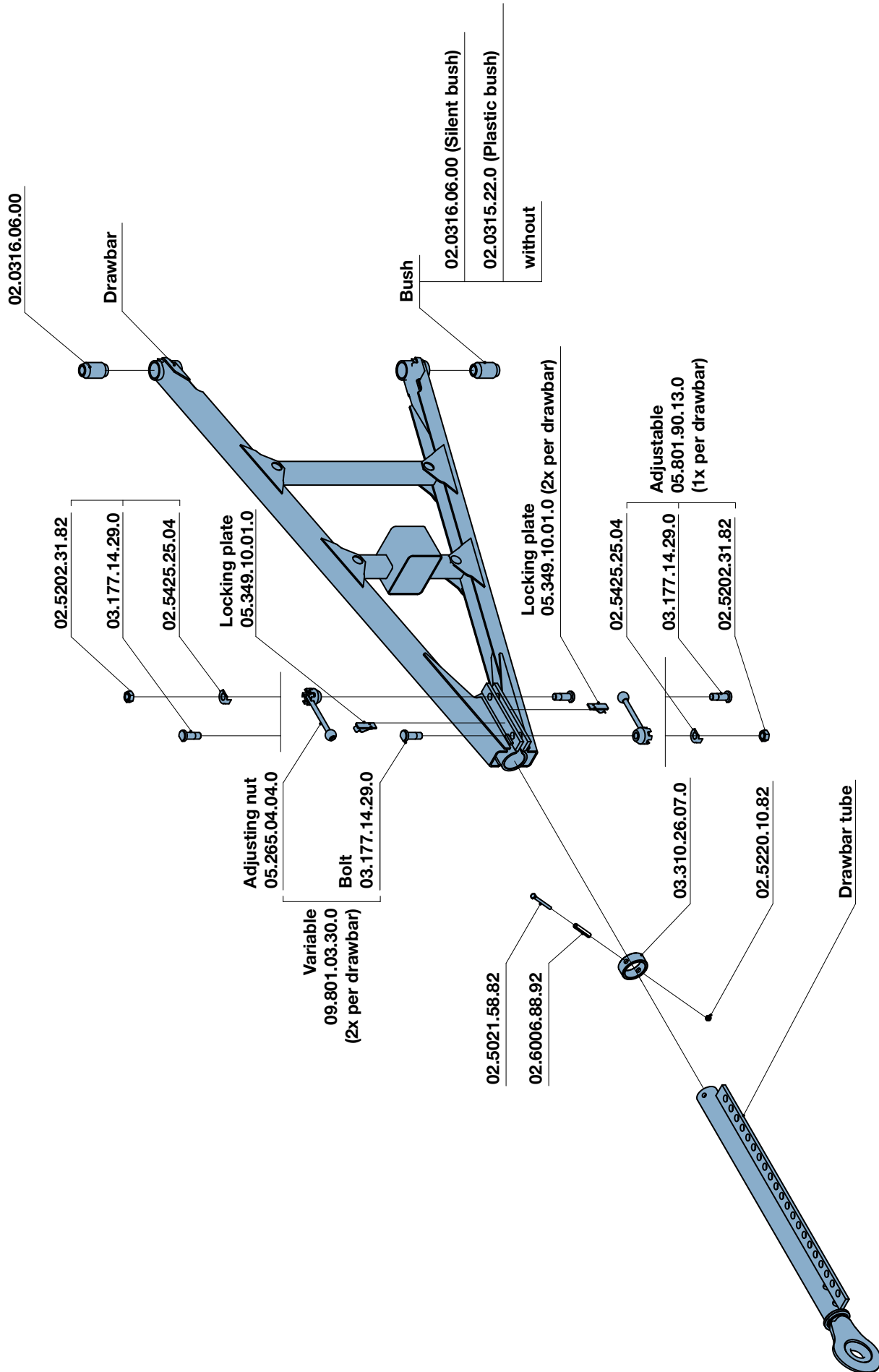
Refer to the technical data sheets for the dimensions of the bearing eye bushes.

BPW drawbars

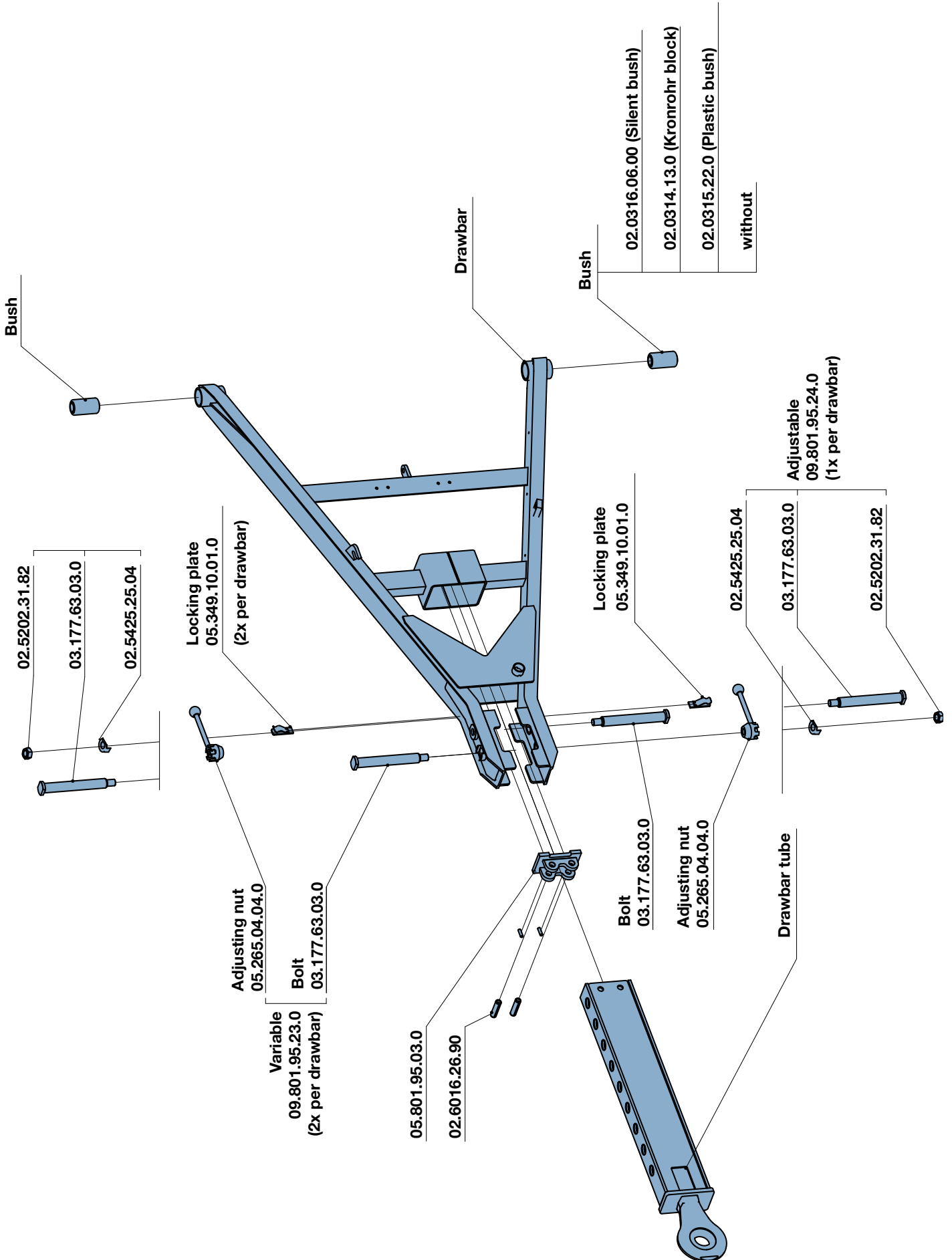
Spare parts

Application	Designation															BPW no.	
	TBZ 27	TBZ 32	TBZ 48	SL 12	SL 27	ZGS 27	ZGS 32	PZM 26	PZMS 26	PZG 18	PZG 48	PZGL 32	PZL 27	PZL 32	PZL 48		
For bearing eye	Number per drawbar																
Plastic bush 80/28	4x	4x	-	4x	4x	4x	-	4x	4x	4x	-	4x	4x	-	-	02.0315.20.00	
Plastic bush 80/30	4x	4x	-	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	-	-	02.0315.21.00	
Plastic bush 100/30	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	02.0315.22.00	
Silent bush 100/30	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	02.0316.06.00	
Brass bush 100/30	2x	2x	-	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	-	2x	02.0315.17.00	
Brass bush 100/40	2x	2x	2x	-	2x	2x	-	-	-	2x	-	-	-	-	2x	10.03.707258	
Kronrohr block	-	-	2x	-	-	-	-	-	-	-	-	-	-	-	2x	02.0314.13.00	
Drawbar tube Ø80 with towing eye 40																	
Drawbar tube 12x50 length 1175	Adjustment opening 17											1x		09.028.45.02.0			
Drawbar tube 16x50 length 1375	Adjustment opening 21											1x		09.028.45.03.0			
Drawbar tube Ø80 with towing eye 50																	
Drawbar tube 12x50 length 1175	Adjustment opening 17											1x		09.028.45.28.0			
Drawbar tube 16x50 length 1375	Adjustment opening 21											1x		09.028.45.17.0			
Drawbar tube Ø80 with towing eye CH																	
Drawbar tube 12x50 length 1175	Adjustment opening 17											1x		09.028.45.52.0			
Drawbar tube 16x50 length 1375	Adjustment opening 21											1x		09.028.45.85.0			
Drawbar tube Ø80 with towing eye VBG-15																	
Drawbar tube 12x50 length 1135	Adjustment opening 17											1x		09.028.45.95.0			
Drawbar tube 16x50 length 1335	Adjustment opening 21											1x		09.028.45.90.0			
Drawbar tube Ø100 with towing eye 40																	
Drawbar tube 12x50 length 1175	Adjustment opening 17											1x	1x	09.028.51.02.0			
Drawbar tube 16x50 length 1375	Adjustment opening 21											1x	1x	09.028.51.08.0			
Drawbar tube Ø100 with towing eye 50																	
Drawbar tube 12x50 length 1175	Adjustment opening 17											1x	1x	09.028.51.09.0			
Drawbar tube 16x50 length 1375	Adjustment opening 21											1x	1x	09.028.51.10.0			
Drawbar tube Ø100 with towing eye VBG-15																	
Drawbar tube 12x50 length 1135	Adjustment opening 17											1x	1x	09.028.51.38.0			
Locking mechanism	Number per drawbar fork																
Bolt with locking nut version "V" plus retainers												2x	2x	2x	09.801.03.30.0		
												2x	2x	2x	05.349.10.01.0		
Bolt with nut version "E" incl. lock washer												1x	1x	1x	05.801.90.13.0		
Bolt with locking nut version "V" plus retainers															2x	09.801.95.23.0	
															2x	05.349.10.01.0	
Bolt with nut version "E" incl. lock washer																1x	09.801.95.24.0

PZS spare parts, see page 45. LPS spare parts, see page 50.



PZL 48



BPW height adjustment devices

Klemmfix 72

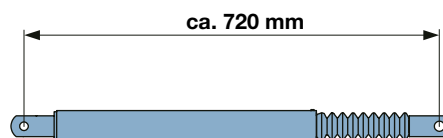
Klemmfix 72 is a height adjustment device for vertically swivelling drawbar installations.

Given optimum setting, it is possible to adjust the towing eye infinitely variably from the horizontal position by at least 300 mm (measured from the drawbar) upwards and downwards. The drawbar installation can be set to the required height by one person without the need for tools or other equipment. A Klemmfix 72 can only be used as a height adjustment device to a limited extent without a supporting hold-up device. A hold-up device (e.g. return spring with turnbuckle or spring washers) must additionally be attached to take part of the weight if the drawbar is heavier than 75 kg (s. diagram). For more information about this, see the installation instructions.

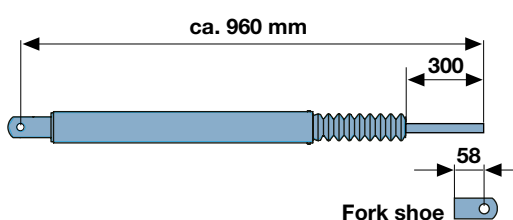
BPW code number:

Klemmfix 72/Z (tension) 51.98.01.0013

Klemmfix 72/D (compression) 51.98.01.0014



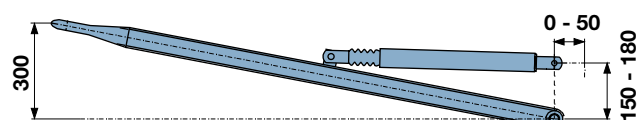
Klemmfix 72/Z



Klemmfix 72/D

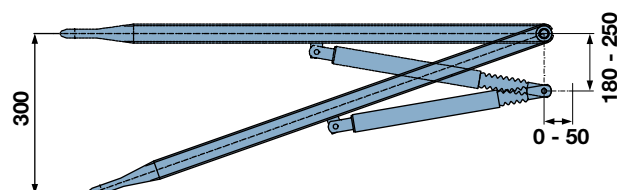
Installation of Klemmfix 75/Z (Tension)

Please comply with the operating and installation instructions!

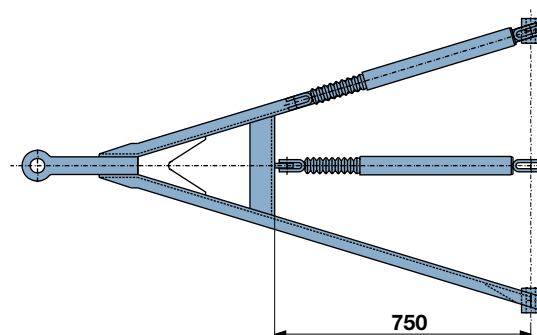


Installation of Klemmfix 72/D (Compression)

Please comply with the operating and installation instructions!



Connection of the Klemmfix on a longitudinal or lateral strut



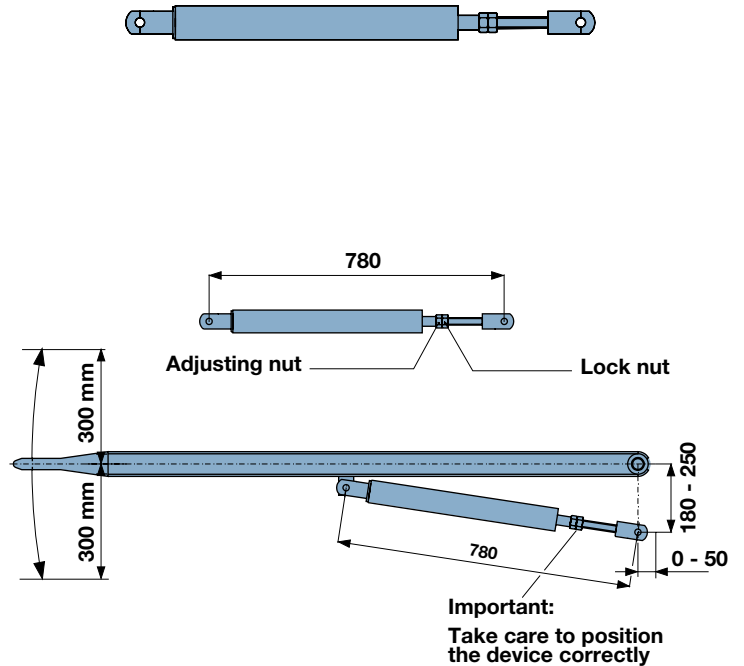
BPW support device

Compression spring pack

The adjustable compression spring pack is used as friction device in conjunction with the Klemmfix 72. Through the combination of the adjustable compression spring pack and the Klemmfix 72 an optimum height adjustment is possible. It is not permitted for the assembly on its own to be used for adjusting the height of the drawbar.

BPW code number:

Spring washers 51.98.03.0001



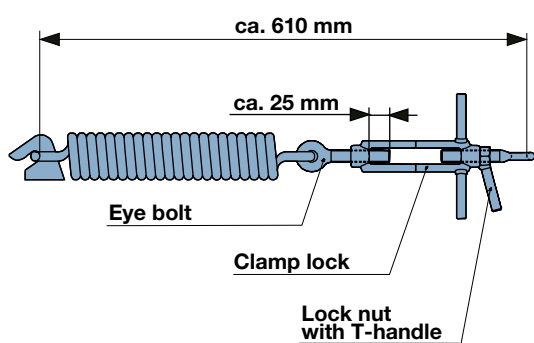
BPW height adjustment device

Return spring with turnbuckle

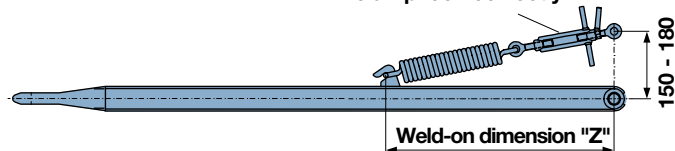
The return spring with turnbuckle can be directly used as a height adjustment device. The height is adjusted by turning the turnbuckle. The return spring used means that it is normally sufficient to use one return spring even with heavy drawbar forks (see diagram). The return spring and turnbuckle can also be used as a support device in conjunction with the Klemmfix 72.

BPW code number:

Return spring with turnbuckle 09.801.03.18.0



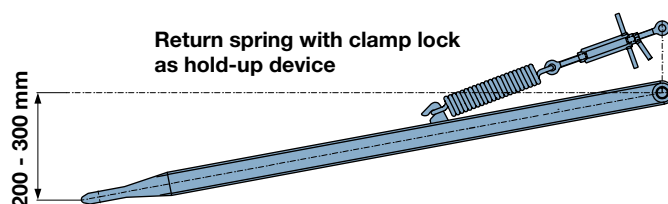
Important:
Take care to position the clamp lock correctly



Return spring with clamp lock as height adjustment device



Return spring with clamp lock as hold-up device



Installation of return spring with turnbuckle on the drawbar

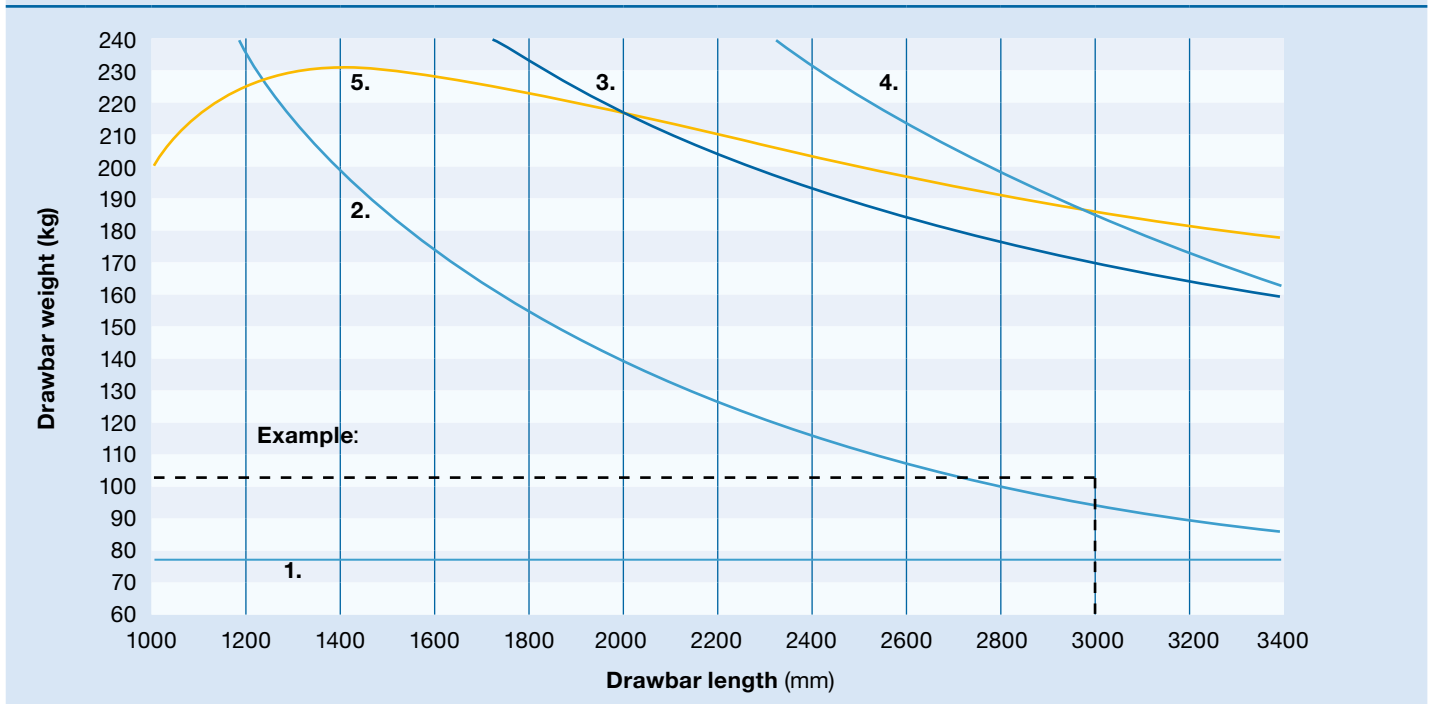
BPW height adjustment and support devices

Selecting the required products

The following information is needed for selecting height adjustment products with regard to the drawbar used:

1. Drawbar length (mm)
2. Drawbar weight (kg)

Diagram for determining the necessary support or height adjustment devices



The diagram enables the following combinations to be selected:

Combination	Height adjustment device	Support device
1.	Klemmfix 72*	-
2.	One return spring	-
3.	Klemmfix 72	one return spring
4.	One return spring	one return spring
5.	Klemmfix 72	Compression spring pack

* Single use only possible with drawbar up to 75 kg.

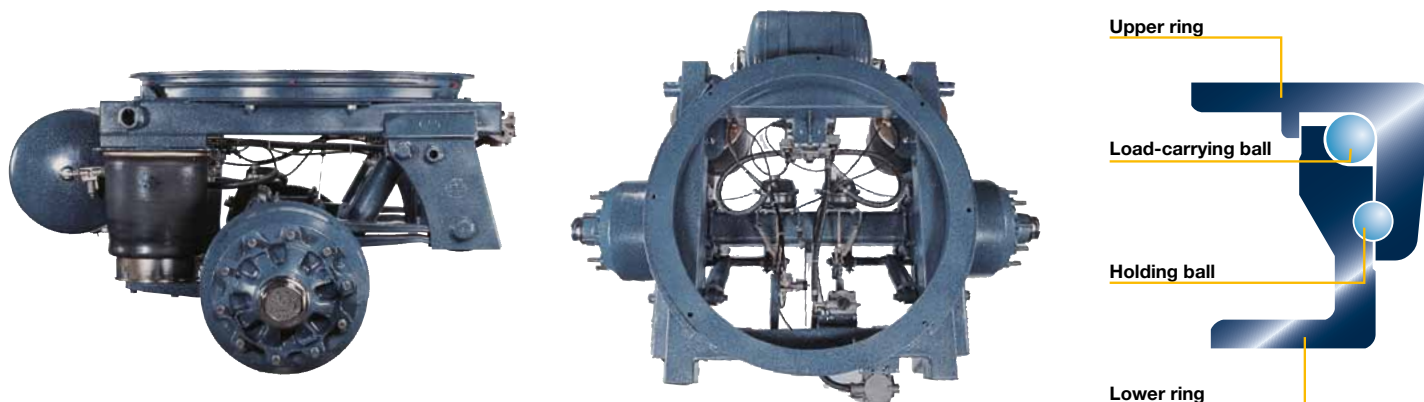
Example:

Drawbar: PZM L=3,000mm m=103kg

The diagram above shows the possible combinations 3, 4 and 5 (see table)!

BPW turntables

With double ball race construction



The no. 1 in system comparison

Compared to conventional, single-row systems, BPW turntables are characterised by the high-quality feature of a double ball race to guarantee optimum distribution of the axial and radial forces that arise.

The design superiority of this system that has proven itself in years of application is demonstrated in everyday use of truck trailers, semi-trailers, heavy transporters and special vehicles. BPW turntables are used in particular when the vehicle construction places the most exacting requirements on design and material.

Optimum force transmission

BPW turntables have one axial and one radial ball race between the upper and lower rings.

- ▶ The vertical loads acting on the turntable are absorbed by the larger axial ball race.
- ▶ The horizontal forces are absorbed by the smaller radial ball race.
- ▶ The torque loadings arising from braking and centrifugal force are absorbed in the interplay between the two ball races.
- ▶ The radial ball race retains the upper and lower rings in place.

Absolute functional reliability

- ▶ The design principle guarantees the greatest possible safety, because the acting axial and radial forces are transmitted onto the two ball races separately.
- ▶ The special selection of material and production processes achieves the highest quality. The turntable sections made from high-strength steel are cold formed, butt welded and heat treated. Turntables can be used even under extreme conditions.

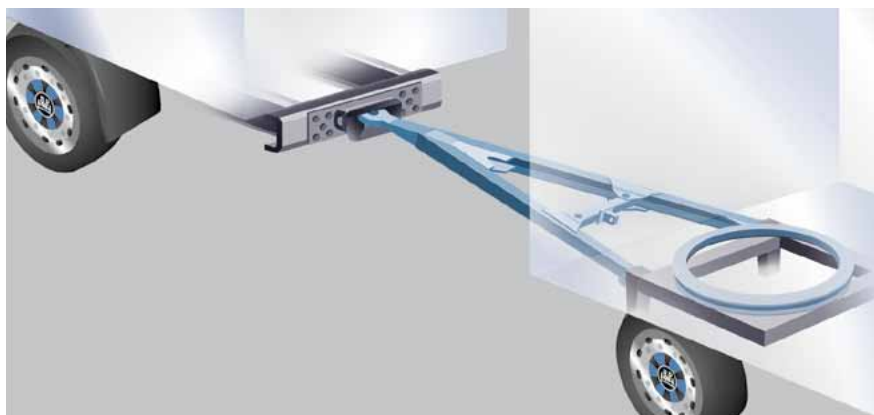
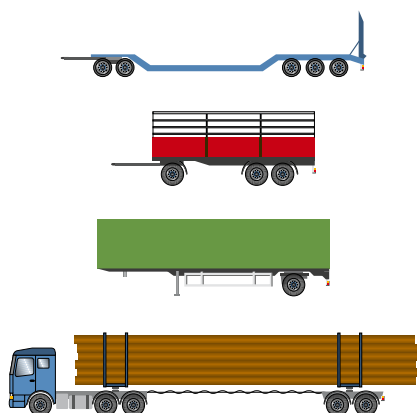
Economy through long service life

BPW turntables guarantee a minimum of downtime due to their long service life.

- ▶ The ball race is secured under load by the axial ball race.
- ▶ The space inside the turntable is provided with long-lasting protection against dust and dirt by a labyrinth seal.
- ▶ The sum of all these advantages ensures reliability, freedom of movement and the highest possible service life.

BPW turntables

In service



Design and installation notes

- ▶ The permitted axial load (see table on pages 62-63) is the static vertical load acting on the turntable. In the compression direction, it only applies to vehicles with a speed up to 105km/h. A 25% higher axial load is permitted for vehicles with a speed up to 30km/h. The BPW code number, production data, turntable type and permitted axial load are punched into the rating plate.
- ▶ The support structure for the lower and upper rings must be smooth, level and torsionally rigid, otherwise deformation can be expected during operation and operational safety might thereby be impaired. Flatness of the contact surfaces must be within 1mm. Unevenness values greater than this must be corrected. The contact surface, divided into at least 4 equally sized surface portions evenly distributed around the circumference, must support at least 50% of the turntable flanges.
- ▶ The turntable flanges must additionally be secured against movement at the top and bottom following bolting, using at least 4 weld-on plates (shear blocks) each. This means that the radial forces occurring do not have to be absorbed exclusively by the connection bolts.
- ▶ We recommend using drilled turntables. No drilling chips or coolant is allowed to penetrate the ball races if drilling work is carried out subsequently.
- ▶ Turntables must be filled with BPW special long-life grease ECO-Li 91 (lithium complex grease) prior to operation, filling via the grease nipples. They are only lightly greased when new, which means the lubrication is only sufficient for emergency running.
- ▶ BPW turntables are not suitable for applications involving repeated rotations of more than 360°.
- ▶ BPW turntables are not suitable for off-centre loads.
- ▶ Special applications require consultation with us.

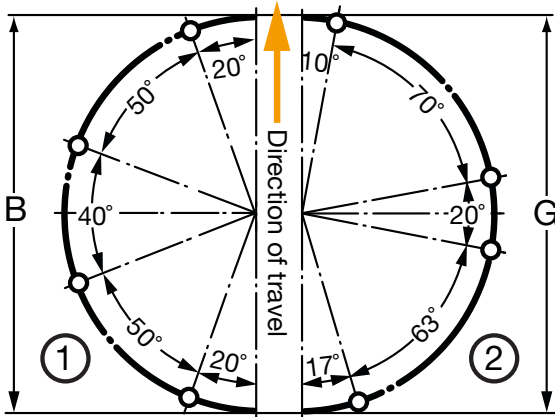
Maintenance

- ▶ Every 25,000 kilometres of driving, however at least quarterly (every 2-3 weeks under extreme application conditions), lubricate the turntable bearing with BPW special long-life grease ECO-Li 91 via the grease nipples (lithium complex grease). The grease must not be mixed with different types of grease (calcium or sodium-saponified).
- ▶ Regularly check all bolted connections and tighten if necessary.
- ▶ No welding work is allowed to be performed on BPW turntables, i.e. no parts are to be welded to it. When welding work is performed on the vehicle, the earth cable must be attached so as to ensure no current can flow through the turntable, otherwise the balls and races may be damaged.

BPW turntables

Standard product range

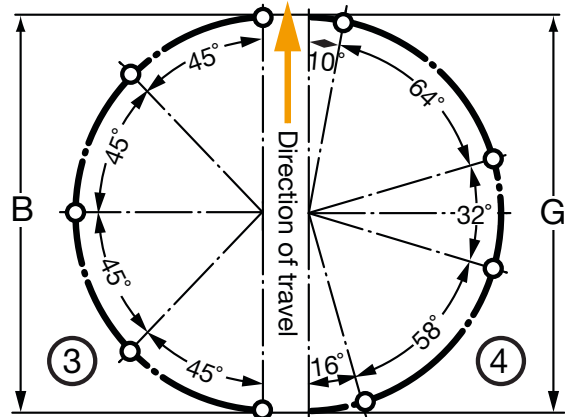
8-Hole
only DK 80/8



Upper ring

Lower ring

8-Hole



Upper ring

Lower ring

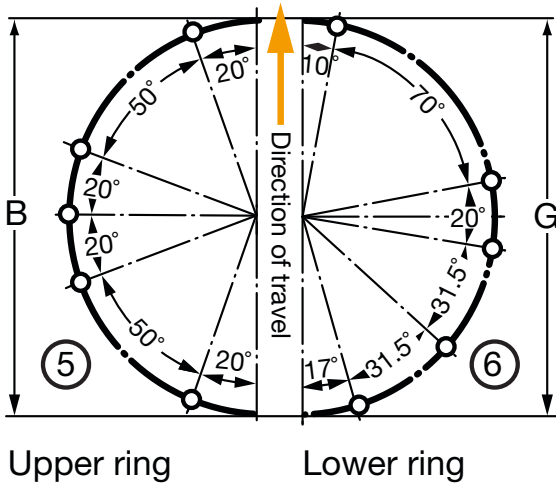
BPW turntable - drilled 1) 2)		BPW turntable - undrilled		Upper ring							
Type	BPW no.	Type	BPW no.	Perm. axial load in t ⁴⁾	Perm. gross trailer weight in t	Exterior ø A mm	Hole circle ø B mm	Hole pattern O	Interior ø C mm	Bore ø D mm	Flange thickness E mm
DK 80/8	02.6415.10.00	DK 80/5	02.6415.01.00	5	25	664	(636)		519.5	(14)	9
DK 80/10	02.6415.13.00	DK 80/8	02.6415.11.00	8	40	894	866	①	749.5	16	9
DK 80/16 A ³⁾	02.6415.17.00 ³⁾	DK 80/10	02.6415.14.00	10	50	1,108	1,074	③	959.5	16	9
DK 90/10/1208	02.6415.66.00	DK/80/16 A ³⁾	02.6415.18.00 ³⁾	16	50	894	866	⑤	749.5	16	9
DK 90/10/1212	02.6415.70.00			10	50	1,208	1,174	③	1,042.0	18	10
DK 90/12	02.6415.24.00	DK 90/10/1200	02.6415.71.00	10	50	1,208	1,174	⑦	1,042.0	18	10
DK 90/13	02.6415.20.00	DK 90/12	02.6415.23.00	12	50	1,000	966	③	834.0	18	10
DK 90/13/1208	02.6415.67.00	DK 90/13	02.6415.22.00	13	55	1,108	1,074	③	942.0	18	10
DK 90/13/1212	02.6415.72.00			13	55	1,208	1,174	③	1,042.0	18	10
DK 90/14	02.6415.34.00	DK 90/13/1200	02.6415.73.00	13	55	1,208	1,174	⑦	1,042.0	18	10
DK 90/16	02.6415.30.00	DK 90/14	02.6415.33.00	14	55	1,000	966	③	834.0	18	10
DK 90/16/1212	02.6415.74.00	DK 90/16	02.6415.31.00	16	60	1,108	1,074	③	942.0	18	10
DK 90/20	02.6415.41.00	DK 90/16/1200	02.6415.75.00	16	60	1,208	1,174	⑦	1,042.0	18	10
DK 90/20/1212	02.6415.76.00	DK 90/20	02.6415.40.00	20	60	1,108	1,074	③	942.0	18	10
DK 90/26/1212	02.6415.78.00	DK 90/20/1200	02.6415.77.00	20	60	1,208	1,174	⑦	1,042.0	18	10
DK 90/30/1212 SP	02.6415.80.00	DK 90/26/1200	02.6415.79.00	26	70	1,208	1,174	⑦	1,042.0	18	10
		DK 90/30/1200 SP	02.6415.81.00	30	70	1,208	1,174	⑦	1,042.0	18	10

¹⁾ Special versions on request.

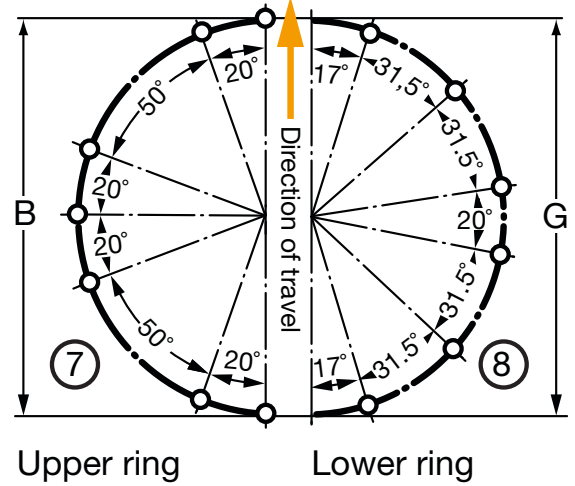
²⁾ See figures for hole patterns.

³⁾ Only used for semi-trailer coupling.

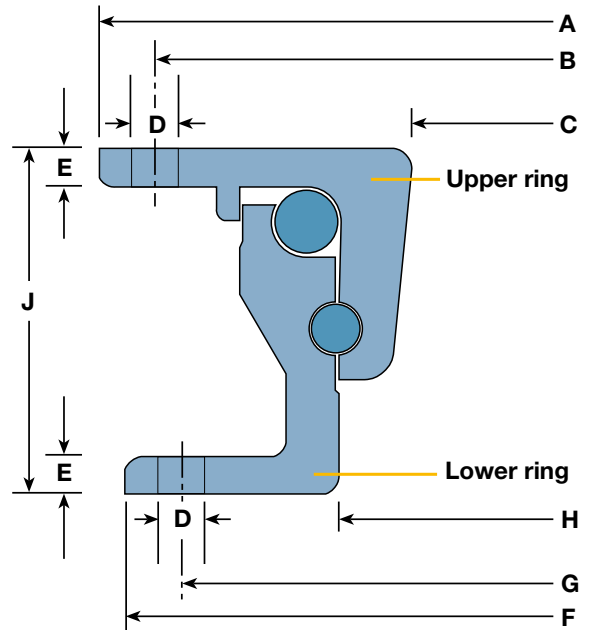
10-Hole
only DK 80/16A



12-Hole



Lower ring						Bolts per ring		Height J min.	Weight (kg)
Exterior ø F mm	Hole circle ø G mm	Hole pattern O	Interior ø H mm	Bore ø D mm	Flange thickness E mm	Quantity	Thread ø min.		
650	(622)		554	(14)	9	8	(M 12)	80	38
880	852	②	784	16	9	8	M 14	80	49
1,095	1,060	④	994	16	9	8	M 14	80	64
880	852	⑥	784	16	9	10	M 14	80	49
1,195	1,160	④	1,079	18	10	8	M 16	90	92
1,195	1,160	⑧	1,079	18	10	12	M 16	90	92
987	952	④	871	18	10	8	M 16	90	72
1,095	1,060	④	979	18	10	8	M 16	90	82
1,195	1,160	④	1,079	18	10	8	M 16	90	92
1,195	1,160	⑧	1,079	18	10	12	M 16	90	92
987	952	④	871	18	10	8	M 16	90	72
1,095	1,060	④	979	18	10	8	M 16	90	82
1,195	1,160	⑧	1,079	18	10	12	M 16	90	95
1,095	1,060	④	979	18	10	8	M 16	90	82
1,195	1,160	⑧	1,079	18	10	12	M 16	90	95
1,195	1,160	⑧	1,079	18	10	12	M 16	90	96
1,195	1,160	⑧	1,079	18	10	12	M 16	90	96



⁴⁾ Permitted axial load = static axial load over the steered axle which acts on the turntable.
Subject to modifications!



regenbogenjaeger.net BPW-ZGD 1452901e

