#### BPW drawbar assemblies

For centre axle drawbar trailers and turntable drawbar trailers







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### Product overview

Rigid drawbar type	ZD	ZDM	ZEQ	ZFL	
unction					
Rigid	0	0	0		
Vith screw-on crossmembers		0		0	
leight adjustable			0	0	
ength adjustable	••••			0	•
Page	22	26	28	30	

Drawbar type	TBZ	SL	ZGS	PZM	PZMS	PZS	PZSG	PZG	PZGL/PZLG	PZL	PML	LPS
Function		•	•	0	0	•	0	0	•		•	
Rigid (normal profile)	0	•	0	0	0	0	0	0	0	0	0	0
Rigid (lightweight profile)		0	•	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0	0		0	
Angled towing eye	•••••		0		0							
Rigid central tube (Y shape)		•	•	0	0	0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			•	
Swivelling towing eye		•				0	0	0 0 0 0 0 0			•	
Cranked drawbar	•••••						0	0	0			
Length adjustable				0 0 0 0 0 0 0 0			000000000000000000000000000000000000000		0	0	0	
Length adjustment (semi-)automatic	•••••							0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0	0
Length adjustment > 600 mm	•••••										0	
Dogo	42	. /_/	45	46	47	48	50	51	52	54	56	58

# **Quality** is the be-all and end-all of our solutions.

We are passionate about developing exactly what our customers need in their day-to-day business in the transport industry. That is why quality is a key part of our solutions.

Already at the beginning of the development process of all our products we set the course for Quality, by providing you with optimal support at every stage of development: from consulting through the selection of components through to efficient operation. And because everything comes from a single source, you can be sure that it is not only perfectly matched to each other, but that it is also works optimally together.

This principle forms the basis for the successful application of our solutions, which have proven their worth a million times over in many years of long-term use worldwide.

#### **EXPERTISE/PORTFOLIO**

- ▶ Broad portfolio of drawbar assemblies
- More than 30 years of development and manufacturing expertise

#### AN OVERVIEW OF YOUR BENEFITS:

- ▶ ISO-certified according to ISO 9001:2015
- Excellent corrosion protection with cataphoretic dip-coating (KTL<sub>70</sub>)
- ▶ Robust and long-lasting design for all components
- ▶ High level of availability and delivery performance
- Always the right solution for your needs
- Individual consultation

# QUALITY



### Safe and reliable.

#### BPW drawbar assemblies.

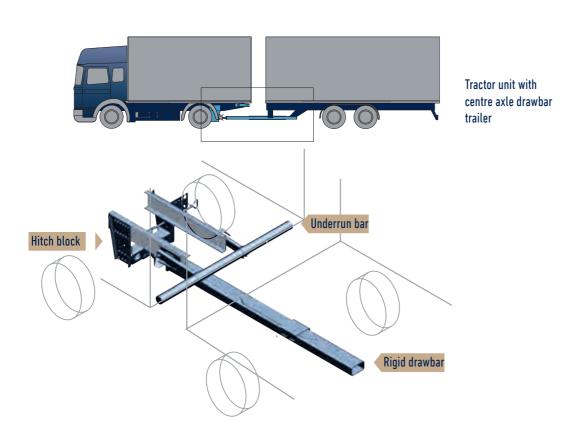
Drawbar assemblies form the link between the tractor unit and the trailer vehicle. These components are designed to continuously and reliably transfer all the relative forces between the towing vehicle and the trailer.

This means they are some of the most safety-critical components on the whole commercial vehicle.

The choice of drawbar assembly depends on the tractor-trailer combination that is being used. The two main combinations are composed of a tractor unit with a centre axle drawbar trailer or a tractor unit with a multi-axle drawbar trailer and turntable steering. BPW offers a complete range of drawbar assemblies for both combinations.

#### **HOW A CENTRE AXLE DRAWBAR TRAILER WORKS:**

These trailers have up to a maximum of three axles in the centre of the vehicle. A rigid drawbar on the vehicle frame forms the connection to the tractor unit. The central position of the axle(s) enables to trailer to be steered. The drawbar installation is described as 'rigid' because horizontal as well as vertical forces are transferred. As a static load, these forces are between min. 4% and max. 10% (or 2,000 kg) of the gross trailer weight. To improve the driving characteristics, centre axle drawbar trailers are coupled as low down as possible below the tractor unit.

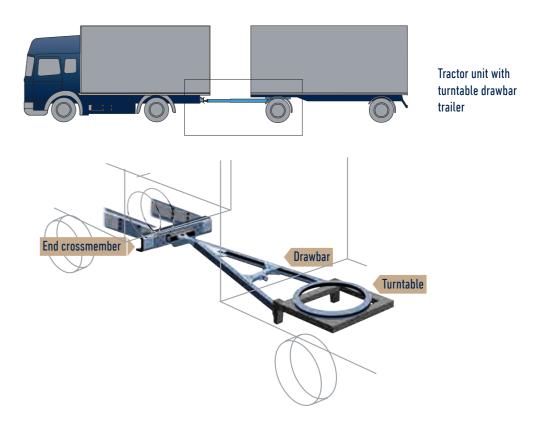


# SAF

#### **HOW A TURNTABLE DRAWBAR TRAILER WORKS:**

The turntable drawbar trailer is steered using a separate pivot joint. For this purpose, the rigid front axle of the trailer is housed in the chassis so that it can be turned via a rotating frame with a turntable. The BPW product range includes double-row turntables

for this purpose, which offer an impressive level of high quality and a long service life. The drawbar and the associated height-adjustment devices are attached to the turntable frame. This equipment is available in various versions and can be coupled low down like rigid drawbars.



Page 8 Page

#### Configuration of drawbar assemblies

#### in accordance with ECE Regulation No. 55

The most important characteristic values for drawbar assemblies in accordance with ECE Regulation No. 55 are calculated as follows:

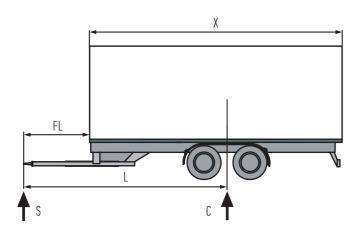
The V value must be determined in combinations of vehicles with a centre axle drawbar trailer and is defined as the theoretical reference force for the vertical component of the drawbar force between the towing vehicle and the centre axle drawbar trailer (unit of measure: kN).

The maximum permissible **V values** are declared for BPW drawbar

assemblies such as hitch blocks and rigid drawbars. The smallest V value of all drawbar assemblies used in a vehicle combination is decisive.

Mechanical drawbar assemblies that transfer drawbar loads (such as rigid drawbars and hitch blocks in centre axle drawbar trailers) must be marked with a maximum permissible **Dc value**.

Mechanical drawbar assemblies that cannot transfer drawbar loads (such as drawbars and hitch blocks on turntable drawbar trailers) must be marked with a maximum **D value**.



#### The V value can be calculated using the vehicle data:

X = Length of the loading area of the trailer (m)

L = Theoretically free drawbar length

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

**C** = Gross weight of the trailer (t)

$$V(kN) = \frac{a \cdot C \cdot X^2}{L^2}$$

#### The Dc value can be calculated as follows:

**T** = Permissible gross weight of the towing vehicle (t)

**C** = Axle load (t) of the loaded centre axle drawbar trailer when coupled

 $q = 9.81 \text{ m/s}^2$ 

$$Dc (kN) = \frac{g \cdot T \cdot C}{T + C}$$

#### The D value can be calculated as follows:

**T** = Permissible gross weight of the towing vehicle (t)

**R** = Permissible gross mass of the turntable drawbar trailer (t)

 $a = 9.81 \text{ m/s}^2$ 

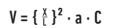
$$D(kN) = \frac{g \cdot T \cdot C}{T + R}$$

### **Example calculation** for the configuration of a centre axle tractor/trailer combination

Permissible gross weight of the towing vehicle	T = 22,000 kg
Vertical acceleration of the towing vehicle with air suspension	a = 1.8 m/s²
Drawbar load	S = 1,000 kg
Permissible gross weight of the trailer	C = 18,000 kg
Length of the loading area of the trailer	X = 7,820 mm
Theoretically free drawbar length	L = 6,555 mm
Free drawbar length	FL = 2,300 mm

The BPW ZD 18 rigid drawbar (V max. = 54.0 kN/Dc = 110 kN) and the BPW AB 75 hitch block (V min. = 75 kN/Dc = 130 kN) are sufficient for this case.

We would be happy to calculate the V and Dc values for your vehicle combination on request so that the appropriate BPW drawbar assembly (BPW rigid drawbar and BPW hitch block) can be selected. (A corresponding data sheet is available to download from our website.)



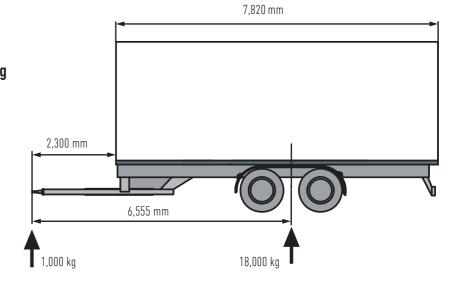
$$V = {\frac{7.820 \text{ mm}}{6.555 \text{ mm}}}^2 \cdot 1.8 \text{ m/s}^2 \cdot 18,000 \text{ kg}$$

$$V = 46.112 N = 46.1 kN$$

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

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

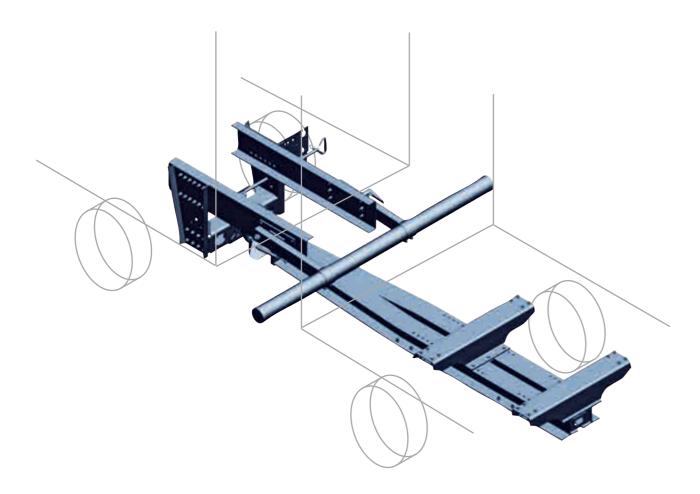
$$D_c = 97.12 \text{ kN}$$



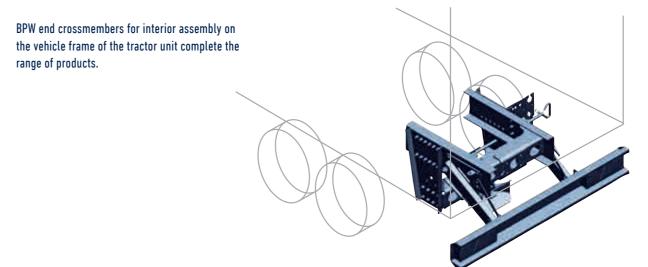
# For assembly on the tractor unit. Hitch blocks and crossmembers from BPW.

BPW hitch blocks are assembled closely on the rear axle of the tractor unit and create a secure connection between the towing vehicle and the trailer. They have been developed for trailers with a permissible gross weight of up to 24 t and are suitable even for extremely heavy loads.





The hitch block – which is fitted on the vehicle frame of the tractor unit – enables a centre axle drawbar trailer or a low-coupled turntable drawbar trailer to be coupled. It features a corresponding coupling to accommodate the towing eye.



#### BPW HITCH BLOCKS - FEATURES AND BENEFITS

- ▶ Permitted gross trailer weight up to 24 t
- ▶ Drawbar loads up to 2,500 kg (V value up to 86 kN)
- ▶ Overall heights of 130 to 400 mm, depending on the version
- ▶ With ECE approval or individual certificate
- ▶ BPW remote operation devices available with general type approval (German ABE)
- ▶ For bolting to vehicle frame
- ▶ Optional vehicle-specific drilling pattern
- ▶ Optionally with couplings (e.g. Orlandi, Ringfeder, Rockinger) and plug holders
- ▶ Treated with zinc phosphate, with cataphoretic dip-coating (KTL<sub>70</sub>)

Page 12 Hitch blocks | Crossmembers Page 1

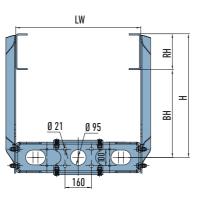
#### BPW hitch block

#### **AB 75 series**

#### (ECE approval)

- ▶ With ECE approval no. E1-55R-012559
- ► Cataphoretic dip-coating (KTL<sub>Zn</sub>) in top-coat quality
- For steering angles of up to 90°
- ▶ Bolted directly to the vehicle frame
- ► The permissible V value depends on the coupling centre (MK) dimension
- ▶ Drilling pattern for couplings in accordance with DIN 74051/74052
- ► FB10 cable remote operation, can be assembled on both sides

- ► Also available with mechanical remote operation
- For drawbar loads up to 2,500 kg
- ▶ Stepless overall heights (BH) up to 400 mm
- ► Any combination with various clear widths (LW)
- ▶ Technical support for calculating the max. permissible V values and designing suitable bolted connections
- ▶ Detailed information is available in the technical data sheets



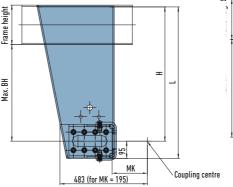
ТҮРЕ	VERSION	CLEAR WIDTH LW (mm)	SIDE SECTION HEIGHT H <sup>1)</sup> (mm)	MAX. OVERALL HEIGHT BH <sup>2)</sup> (mm)	HIGHER DRAWBAR LOADS	BPW NO.	WEIGHT (GK version, LW 758 kg)
			415	130		51.47.41.xxxx	74
			440	150		51.47.44.xxxx	75
	-SV	FF0/F/0	480	200		51.47.48.xxxx	78
AB 75		758/762 770/790	510	230	2,000 kg (V = 58.7 kN)	51.47.51.xxxx	80
V value = 75 kN		802/850	540	250		51.47.54.xxxx	81
(for MK = 195 mm)	-SH -GK	854/862	570	300		51.47.57.xxxx	83
D value = 190 kN	OK .	866	610	330		51.47.61.xxxx	81 83 85 87
Dc value = 130 kN Drawbar load			640	350	2,500 kg	51.47.64.xxxx	87
1,000 kg			690	400	(V = 50.5 kN)	51.47.69.xxxx	90
			740	400		51.47.74.xxxx	93
	-QT End crossmember for tractor unit	742/752 774/784 794				51.47.00.4xxx	45

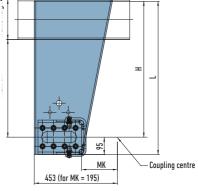
Higher characteristic values depending on coupling centre (MK), see data sheet. <sup>11</sup> Standard dimensions in bold. <sup>21</sup> Overall height depending on frame height. All versions also available on request with drill pattern (SG) and installed coupling.

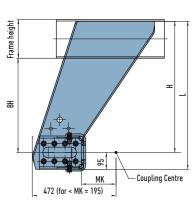
Possible coupling variants assembled in hitch block or loose

TRAILER COUPLINGS	BOLT DIAMETER (mm)	DRILLING PATTERN (mm)	MK (mm)	V VALUE Max. (kN)	DRAWBAR LOAD (kg)	BPW NO.	WEIGHT (kg)
<b>Orlandi E525</b> D = 200 kN/Dc = 135 kN	50	160 x 100	178	75 50	1,000 2,500	05.801.98.63.0	42
Rockinger 500A66200 D = 200 kN/Dc = 135 kN	50	160 x 100	177	90 60	1,000 2,500	05.801.95.08.0	50
<b>Ringfeder 5055A</b> D = 200 kN/Dc = 135 kN	50	160 x 100	175	75 63	1,000 2,000	05.801.95.57.0	50
Rockinger 400A51201 D = 130 kN/Dc= 90 kN	40	160 x 100	164	35	1,000	05.801.95.11.0	35

All versions include electrical remote display. Please note that the permissible Dc and V values of the hitch block must be tailored to the desired trailer coupling and the towing eye.



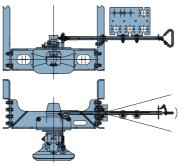


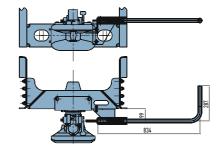


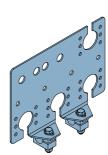
**SV** version (diagonal front)

**SH** version (diagonal rear)

**GK** version (cranked)





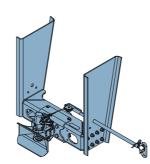


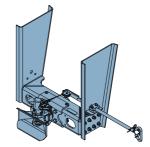
FB10 cable remote operation

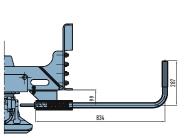
ABE 90779\*02

Mechanical remote operation

Plug holder







FB10, welded version

FB10, clamped version

Mechanical remote operation

BPW ACCESSORIES FOR AB 75	BPW NO.
B10 cable remote operation, welded version, can be assembled on both sides	51.98.11.0018
FB10 cable remote operation, clamped version, can be assembled on both sides	51.98.11.0019
Mechanical remote operation	51.98.11.0020
Plug holding plate	05.801.95.16.0
Jpper crossmember for Mercedes (in frame, LW 850 mm)	05.801.98.56.0
ntermediate plates for side section/crossmember t = 2 mm (2 units), up to max. 20 mm each side	09.801.95.14.0
ntermediate plates for side section/crossmember t = 6 mm (2 units), up to max. 20 mm each side	09.801.95.15.0
Bolt kit for side section/crossmember (16 units, bolts M16 x 50, nuts, washers)	09.801.95.12.0
Bolt kit for side section/crossmember (16 units, bolts M16 x 60, nuts, washers)	09.801.95.16.0
Bolt kit for side section/frame (24 units, bolts M16 x 50, nuts, washers)	09.801.95.13.0
Side sections for AB 75 in pairs	On request

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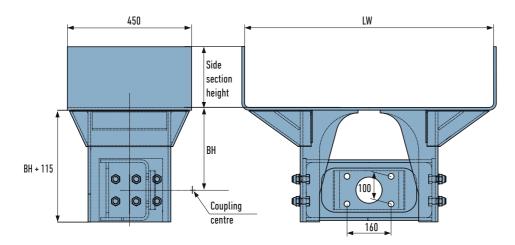
#### BPW hitch block

#### PAB 17 series, straight

#### (Individual certificate)

- ▶ The stated overall heights (BH) and clear widths (LW) can be combined as standard
- ▶ Cataphoretic dip-coating (KTL<sub>7n</sub>) in top-coat quality
- ▶ For steering angles of at least 90°
- ▶ Bolted directly to the vehicle frame
- ▶ The permissible V value depends on the coupling centre (MK) dimension
- ▶ Drilling pattern for couplings 160 x 100 mm, in accordance with DIN 74051/74052

- ▶ Use of FB10 cable remote operation
- ▶ Also available with mechanical remote operation
- ▶ Drawbar loads up to 2,500 kg possible
- ▶ Techn. support for calculating the max. permissible V values and designing suitable bolted connections
- ▶ Detailed information is available in the technical data sheets
- ▶ Side section height depends on the clear width (LW)

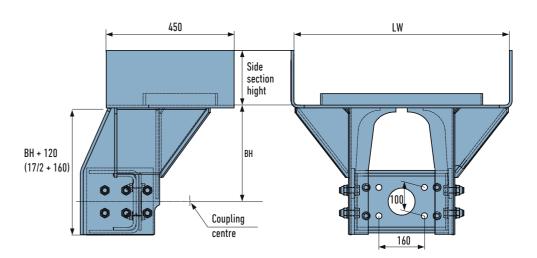


TYPE	VERSION	CLEAR WIDTH LW (mm)	MAX. OVERALL HEIGHT (BH) (mm)	DRAWBAR LOAD (kg)	DC VALUE (D VALUE) (kN)	BPW NO.	WEIGHT Approx. (kg)
PAB 17/1 V value = 50 kN (for Mk = 195 mm) 18 t with individual approval	Straight	758 762	145/175 200/230 260/290 330	1,000	<b>100</b> (110)	51.40.xx.xxxx	120
PAB 17/3 V value = 75 kN (for Mk = 195 mm) 24 t with individual approval	Straight	770 790 802 850 854	190/230 260/290	1,000	<b>101</b> (120)	51.42.xx.xxxx	130
PAB 17/3 V value = 47 kN (for Mk = 195 mm) 18 t with individual approval	Straight	862 866	190/230 260/290	2,000	101 (120)	51.42.xx.xxx	130

For couplings, see page 14. For accessories, see page 15.

Please note that the permissible Dc and V values of the hitch block must be tailored to the desired trailer coupling and the towing eye.

#### PAB 17 series, cranked



ТҮРЕ	VERSION	CLEAR WIDTH LW (mm)	MAX. OVERALL HEIGHT BH (mm)	DRAWBAR LOAD (kg)	DC VALUE (D VALUE) (kN)	BPW NO.	WEIGHT Approx. (kg)
PAB 17/1-G V value = 50 kN (for Mk = 195 mm) 18 t with individual approval	Cranked	758 762	240/270 300/340	1,000	<b>110</b> (120)	51.41.xx.xxxx	120
PAB 17/2-G V value = 75 kN (for Mk = 195 mm) 24 t with individual approval	Cranked	770 790 802 850 854	240	1,000	<b>110</b> (120)	51.45.xx.xxxx	130
PAB 17/2-G V value = 47 kN (for Mk = 195 mm) 18 t with individual approval	Cranked	854 862 866	300	2,000	<b>105</b> (120)	51.45.xx.xxx	130

For couplings, see page 14. For accessories, see page 15.

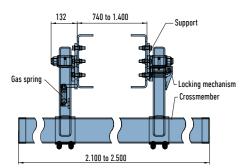
Please note that the permissible Dc and V values of the hitch block must be tailored to the desired trailer coupling and the towing eye.

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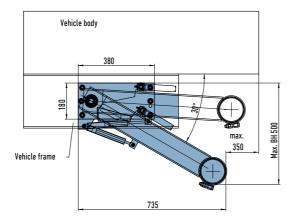
#### BPW folding underrun bar

#### **UFK 100 III**

(ECE resp. EG approval)



The BPW folding underrun bar, type UFK 100 III, was developed for the use of drawbar installations that are coupled very low down on the tractor unit and trailer. The ECE type approval no. E4-58R-020262 for the underrun bar is approved for vehicle classes N2, N3, O3 and O4. The frame width can be varied between 740 mm and 1,400 mm, depending on the type. The maximum permissible underbody dimension is 350 mm from the rear edge of the vehicle to the front edge of the folded-down underrun bar. When the vehicle is not loaded, the lower edge of the folded-down underrun bar must not be more than 550 mm above the road surface in any place. The width of the rear underrun bar must not exceed the width of the rear axle (measured at the outermost point of the wheels) in any place and must not be more than 100 mm smaller than this measurement in any place. If there are several rear axles, the widest axle is used as the definitive measurement.

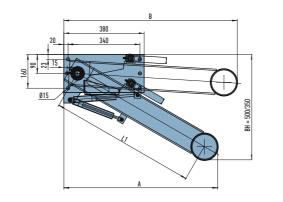


#### THE BENEFITS OF THE NEW BPW UFK 100 III FOLDING UNDERRUN BAR

- ► Type approval in accordance with Directive UN/ECE No. R58 (parallelogram version in accordance with EC Directive 70/221/EEC)
- Increase in permitted vehicle frame width to 1,400 mm
- ▶ Optionally available in overall heights of 350 mm and 500 mm
- ▶ Assembly and operating instructions
- ▶ Optionally available with clamped, welded crossmember or without crossmember
- ▶ Parallelogram version: locking on both sides, for approved crossmembers (not included in delivery)

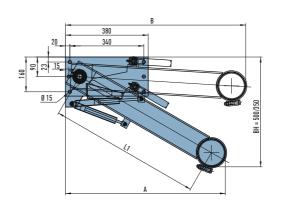
TYPE	OVERALL HEIGHT BH (mm)	ARM LENGTH (Pivot point/tube centre) L1 (mm)	COMMENTS	BPW NO.	WEIGH (kg)
UFK 100 III Crossmember welded	350	394	Individual adaptation	51.98.21.0210	70
E4-58R-020262	500	694	Tube Ø 127 x 2,500 mm	51.98.21.0209	80
UFK 100 III	350	402	Quick assembly without	51.98.21.0408	70
Crossmember clamped E4-58R-020262	500	702	welding work Tube Ø 127 x 2,500 mm	51.98.21.0407	80
UFK 100 III	350		Like the welded version but	51.98.21.0212	30
No crossmember E4-58R-020262	500		without a tube	51.98.21.0211	40
UFK 100 III parallelogram (crossmember not included in delivery) e4*70/221*2006/20*0360*02	470		For approved crossmembers, e.g. with integrated tail lamps	51.98.21.0302	48
SPARE PARTS FOR UNDERRUN BAR		<b>QUANTITY</b> per underrun bar	BPW NO.		
Plastic cap for crossmember		2	02.3505.25.00		
Assembly parts group for spring bolt	1 <sup>1)</sup>	09.801.90.34.0			
Gas spring for UFK 100 III from year of ma	nufacture 2001	1	02.0600.03.00		

1) Parallelogram versions 2x



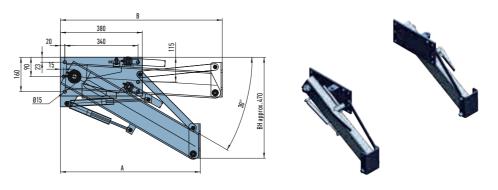


UFK III Welded cross-	OVERALL HEIGHT BH (mm)	<b>L1</b> (mm)	A	В	BPW NO.
tube	350	394	475	522	51.98.21.0210
	500	694	730	822	51.98.21.0209





UFK III Clamped cross-	OVERALL HEIGHT BH (mm)	<b>L1</b> (mm)	A	В	BPW NO.
tube	350	402	480	525	51.98.21.0408
	500	702	735	825	51.98.21.0407



<b>UFK III</b> Parallelogram	OVERALL HEIGHT BH (mm)	L1 (mm)	A	В	BPW NO.
	470	-	650	750	51.98.21.0302

Other special versions on request.

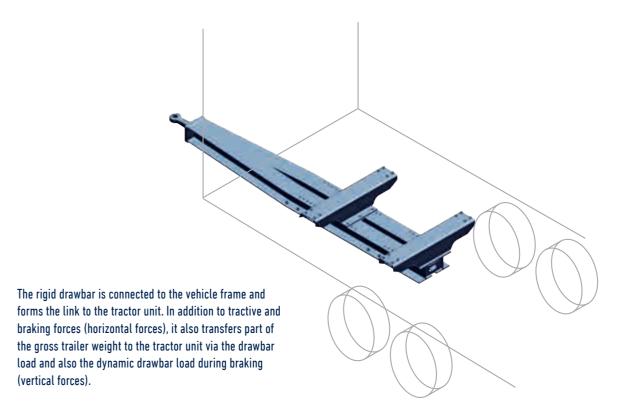
Hitch blocks | UFK 100 III underrun bar Page 19



#### For assembly on the trailer. Rigid drawbars from BPW.

The BPW rigid drawbar is a drawbar installation for centre axle drawbar trailers that is installed on the vehicle frame of the trailer. It is designed for centre axle drawbar trailers with a permissible

gross weight of 6 to 24 t and provides a reliable drawbar assembly for conventional transport.



#### BPW RIGID DRAWBARS - FEATURES AND BENEFITS

- ▶ For centre axle drawbar trailers with a permissible gross weight of 6 to 24 t
- ▶ Drawbar load up to 2,500 kg
- ▶ Various versions are available:
- Rigid, length-adjustable or height-adjustable
- Different towing eye types
- Special versions for higher tonnages

- → With ECE approval or individual certificate
- ▶ Treated with zinc phosphate, with cataphoretic dip-coating (KTL<sub>70</sub>)
- ▶ Expert advice and calculation of characteristic values (e.g. for optimum matching of the BPW hitch block and the BPW rigid
- ▶ High level of corrosion resistance due to galvanised inner tubes in drawbars with variable length

#### BPW rigid drawbars up to 24,000 kg

#### **ZD** series, rigid

(ECE approval)

In addition to the standard dimensions shown in the tables below, the following options are also available on request:

▶ Special versions with a higher V value

▶ Use of other towing eye types

▶ Other dimensions

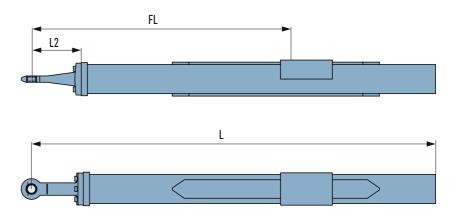
Please see the data sheet on our website for further information.

Please note that the permissible Dc and V values of the rigid drawbar must be tailored to the desired towing eye and trailer coupling.

TYPE	TOWING EYE (DIN) L2 (mm)	TOTAL LENGTH L (mm)	MAX. FREE DRAWBAR LENGTH FL (mm)	MAX. V VALUE (kN)	BPW NO.	WEIGHT (kg)
		2,900	1,700	15.3	51.31.06.0100	87
			1,800	14.1		
ZD 06		3,200	1,900	13.1	51.31.06.0101	94
Dc = 35 kN	Ø 40		2,000	12.2		
6 t	ZE 13/1		2,100	11.4		
Drawbar load 500 kg Tube 160 x 160	DIN 74054-40D	3,500	2,200	10.7	51.31.06.0102	101
With individual certi-	L2 = 250		2,300	10.0		
ficate			2,400	9.4		
		3,800	2,500	8.8	51.31.06.0103	108
			2,600	8.3		
		2,900	1,700	30.8	51.31.10.0100	142
ZD 10-1 <sup>1)</sup>			1,800	28.5		
		3,200	1,900	26.5	51.31.10.0101	156
Dc = 70 kN	Ø 40		2,000	24.7		
10 t Drawbar load 1,000 kg	ZE 13/1	3,500	2,100	23.0		
Tube 140 x 140	DIN 74054-40D		2,200	21.5	51.31.10.0102	169
ECE no.	L2 = 250		2,300	20.2		
E1-55R-012555			2,400	18.9		182
		3,800	2,500	17.8	51.31.10.0103	
			2,600	16.7		
		2,900	1,700	48.9	51.31.14.0100	165
			1,800	43.6		
ZD 13,5-1 <sup>2)</sup>		3,200	1,900	42.7	51.31.14.0101	182
Dc = 90 kN	Ø 40		2,000	40.1		
13.5 t Drawbar load 1,000 kg Tube 160 x 160 ECE no.	ZE 13/1		2,100	37.7		
	DIN 74054-40D	3,500	2,200	35.5	51.31.14.0102	199
	L2 = 250		2,300	33.6		
E1-55R-012553			2,400	31.8		
		3,800	2,500	30.1	51.31.14.0103	214
			2,600	28.6		

 $^{\rm 1)}$  Also available cranked 150 mm on request.  $^{\rm 2)}$  Also available cranked on request.

"Also available cranked 150 mm on request. "Also av For use of other towing eye types, see page 36. Additional U-bolt for tube 140 x 140, 03.114.00.02.0 Additional U-bolt for tube 160 x 160, 03.114.00.01.0 Additional U-bolt for tube 250 x 150, 03.114.00.03.0 Additional U-bolt for tube 220 x 220, 03.114.00.22.0 Additional U-bolt for tube 260 x 180, 03.114.00.04.0



ТҮРЕ	TOWING EYE (DIN) L2 (mm)	TOTAL LENGTH L (mm)	MAX. FREE DRAWBAR LENGTH FL (mm)	MAX. V VALUE	BPW NO.	<b>WEIGHT</b> (kg)
		2,900	1,700	76.5	51.31.18.0124	226
		3,200	1,800	71.7		
ZD 18 <sup>3)</sup>			1,900	67.4	51.31.18.0118	250
Dc = 110 kN			2,000	63.5		
18 t	D50-C		2,100	60.0		
Drawbar load 1,000 kg Tube 250 x 150	DIN 74053-50D1	3,500	2,200	56.9	51.31.18.0119	274
ECE no.	L2 = 250		2,300	54.0		
E1-55R-012556	2556		2,400	51.3		
		3,800	2,500	48.9	51.31.18.0105	294
			2,600	46.6		

<sup>3)</sup> Also available cranked on request.

ТҮРЕ	TOWING EYE (DIN) L2 (mm)	TOTAL LENGTH L (mm)	MAX. FREE DRAWBAR LENGTH FL (mm)	MAX. V (kN) DRAWB (kg) 1,000	VALUE AR LOAD 2,000	BPW NO.	WEIGHT (kg)
		2.900	1.700	90.0	75.0	51.31.20.0110	214
		2,700	1.800	90.0	75.0	01.01.20.0110	214
ZD 20-1A		3,200	1,900	90.0	75.0	51.31.20.0114	238
Dc = 130 kN	Ø 50	1,200	2,000	87.0	75.0		
24 t Drawbar load 1,000 kg	D50-C		2,100	82.4	72.6		
Drawbar load 2,000 kg	DIN 74053-50D1	3,500	2,200	78.2	68.4	51.31.20.0105	256
Tube 220 x 220 ECE no. E1-55R-012557	L2 = 250		2,300	74.4	64.6		
			2,400	70.9	61.1		
		3,800	2,500	67.7	57.8	51.31.20.0104	277
			2,600	64.7	54.9		
		2,900	1,700	90.0	75.0	51.31.24.0126	250
			1,800	90.0	75.0		
ZD 24-1A <sup>4)</sup>		3,200	1,900	87.4	72.7	51.31.24.0120	275
Dc = 130 kN 24 t	Ø 50		2,000	82.6	67.9		
Drawbar load 1,000 kg	D50-C		2,100	78.2	63.5		
Drawbar load 2,500 kg	DIN 74053-50D1	3,500	2,200	74.2	59.5	51.31.24.0110	300
Tube 260 x 180 L2 = 250 ECE no. E1-55R-012558	L2 = 250		2,300	70.5	55.8		
			2,400	67.2	52.8		
		3,800	2,500	64.1	49.4	51.31.24.0122	325
			2,600	61.3	46.5		

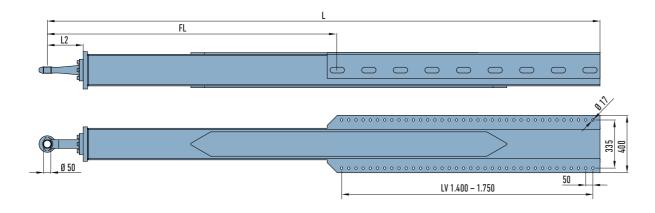
For use of other towing eye types, see page 36.

Page 22 Rigid drawbars | ZD series | Page 23

#### BPW rigid drawbars up to 24,000 kg

#### **ZD** series, rigid, bolted on with adjusting rail

(ECE approval)



In addition to the standard dimensions shown in the tables below, the following options are also available on request:

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

Please see the data sheet on our website for further information. Please note that the permissible Dc and V values of the rigid drawbar must be tailored to the desired towing eye and trailer coupling.

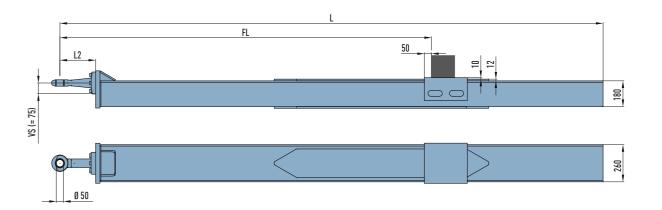


TYPE	TOWING EYE (DIN) L2 (mm)	TOTAL LENGTH L (mm)	MAX. FREE DRAWBAR LENGTH FL (mm)	LENGTH OF ADJUSTING RAIL LV (mm)	MAX. V (kN) DRAWBA (kg) 1,000		BPW NO.	WEIGHT (kg)	
		2,900	1,700		90.0	75.0	51.33.20.0002	260	
ZD 20-1B <sup>1)</sup>			1,800		90.0	75.0		297	
Dc = 130 kN		3,200	1,900	1,400 -	90.0	75.0	51.33.20.0004		
24 t Drawbar load	Ø 50		2,000	1,700 mm	87.0	75.0			
1,000 kg	D50-C		2,100	Drilling	82.4	72.6			
Drawbar load	DIN 74053-50D1	3,500	2,200	Drilling pattern	78.2	68.4	51.33.20.0003	315	
2,000 kg Tube 220 x 220	L2 = 250		2,300	335 x 50	74.4	64.6			
ECE no.			2,400	x Ø 17	70.9	61.1	51.33.20.xxxx		
E1-55R-012557		3,800	2,500		67.7	57.8		336	
			2,600		64.7	54.9			

<sup>&</sup>lt;sup>1)</sup> Combination of ZD20-1B with bolted crossmembers on request (with individual certificate).

#### **ZD** series, rigid, with height offset towing eye

(ECE approval)





	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)													
		2,900	1,700		81.2	51.31.24.xxxx	250													
ZD 24-2A <sup>2)</sup>				1,800		81.2														
Dc = 130 kN		3,200	1,900		81.2	51.31.24.0140	275													
24 t	Ø 50		2,000		75.0															
Drawbar load	D50-C															2,100	75	72.9		
1,000 kg	DIN 74053-50D1	3,500	2,200	(Standard)	69.7	51.31.24.xxxx	300													
Tube 260 x 180	L2 = 250		2,300		66.3															
ECE no. E1-55R-012558			2,400		63.1	51.31.24.0130														
E1-33K-012338		3,800	2,500		60.1		325													
		2,600		57.5																

For use of other towing eye types, see page 36. For additional U-bolts, see page 22.

Page 24 Rigid drawbars 1 ZD series Page 25

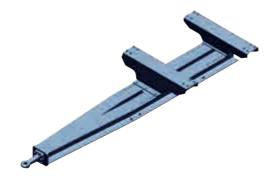
#### BPW modular rigid drawbar up to 24,000 kg

#### ZDM 20 series, rigid, crossmembers bolted on

The ZDM 20 modular rigid drawbar consists of a rigid drawbar and two bolton crossmembers. With minimum supporting width (SW) of 1,100 mm, these can be bolted on every 50 mm.

The as-delivered condition is unmounted. Pre-assembled units are also available on request.

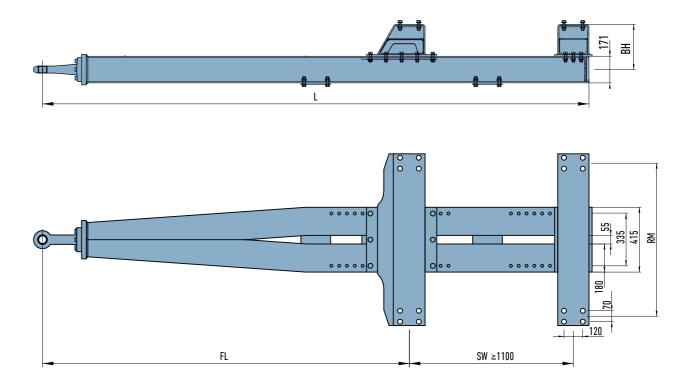
Use of the crossmembers in combination with other series is available on request. (See assembly and operating instructions.)

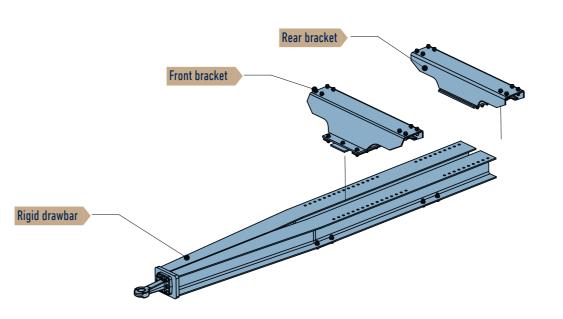


ТҮРЕ	TOWING EYE (DIN)	TOTAL LENGTH L (mm)	MAX. FREE DRAWBAR LENGTH FL (mm)	FRAME CEN- TRE RM (mm)	OVE- RALL HEIGHT BH (mm)	MAX. V VALUE (kN)	BPW NO.	WEIGHT (including crossmem- bers, kg)	
		3,500	2,100 2,150 2,200 2,250 2,300	980 1,100 1,200			63.2 61.5 59.9 58.3 56.8	51.34.20.0017	388
ZDM 20 Dc = 130 kN 24 t Support width (SW) min. 1,100 mm Drawbar load	Ø 50 D50-C DIN 74053-50D1	150-C	2,350 2,400 2,450 2,500 2,550 2,600		220 270 320 370 420	55.4 54.1 52.8 51.5 50.3 49.2	51.34.20.0016	410	
1,000 kg HEA profile 180 With individual certificate		4,200	2,650 2,700 2,750 2,800 2,850 2,900 2,950 3,000	1,300	470 520 570	48.0 47.0 45.9 44.9 44.0 43.1 42.2 41.3	51.34.20.0018	438	

TYPE	OVERALL HEIGHT	FRAME CENTRE RM (mm)					
	BH (mm)	980	1,100	1,200	1,300		
	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		
Crossmember set	370	09.801.37.98.0	09.801.37.11.0	09.801.37.12.0	09.801.37.13.0		
Front/rear for ZDM 20	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		

Crossmember set can be welded on on request.





If the brackets (front and rear) are delivered unassembled, they must be bolted on in accordance with the assembly and operating instructions (FL = in accordance with type plate). Characteristic values for rigid drawbar and brackets in accordance with drawbar type plate. The drawbar is only to be used with the brackets from BPW.

Page 26 Rigid drawbars I ZDM series Page 27

#### BPW rigid drawbars up to 18,000 kg

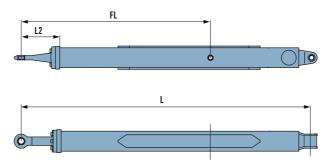
#### **ZEQ** series, height adjustable

(Individual certificate)

In addition to the standard dimensions shown in the tables below, the following options are also available on request:

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

Please see the data sheet on our website for further information. Please note that the permissible Dc and V values of the rigid drawbar must be tailored to the desired towing eye and trailer coupling.



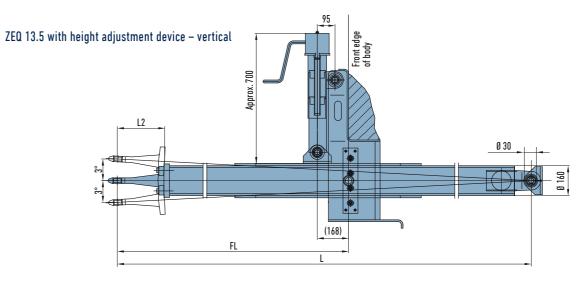
ТҮРЕ	TOWING EYE (DIN) L2 (mm)	TOTAL LENGTH L (mm)	MAX. FREE DRAW- BAR LENGTH FL (mm)	MAX. V VALUE	BPW NO.	WEIGHT (kg)
		2,990	1,700	30.1	51.32.10.0100	150
			1,800	28.5		
<b>ZEQ 10-1</b> Dc = 70 kN		3,290	1,900	26.5	51.32.10.0101	162
10 t	Ø 40		2,000	24.1		
Drawbar load	ZE 13/1		2,100	22.3		
1,000 kg	DIN 74054-40D L2 = 250	3,590	2,200	21.5	51.32.10.0102	174
Tube 140 x 140 With individual	LZ = Z3U		2,300	19.6		
certificate			2,400	18.4		
		3,890	2,500	17.4	51.32.10.0103	186
			2,600	16.2		
		2,990	1,700	46.7	51.32.14.0100	160
			1,800	43.6		
<b>ZEQ 13.5</b> Dc = 90 kN 13.5 t		3,290	1,900	40.8	51.32.14.0101	175
	Ø 40		2,000	38.3		
Drawbar load	ZE 13/1	3,590	2,100	36.0		
1,000 kg	DIN 74054-40D L2 = 250		2,200	33.9	51.32.14.0102	190
Tube 160 x 160 With individual	LZ = 200		2,300	32.0		
certificate			2,400	30.2		
		3,890	2,500	28.6	51.32.14.0103	205
			2,600	27.1		
		3,050	1,700	60.5	51.32.18.0105	270
			1,800	60.5		
ZEQ 18		3,350	1,900	60.5	51.32.18.0108	290
Dc = 110 kN 18 t	Ø 50		2,000	60.5		
Drawbar load	D50-C		2,100	57.6		
1,000 kg	DIN 74053-50D	3,650	2,200	54.6	51.32.18.xxxx	310
Tube 250 x 150 With individual	L2 = 250		2,300	51.8		
certificate			2,400	49.2		
		3,950	2,500	46.9	51.32.18.xxxx	330
			2,600	44.7		

For use of other towing eye types, see page 36.

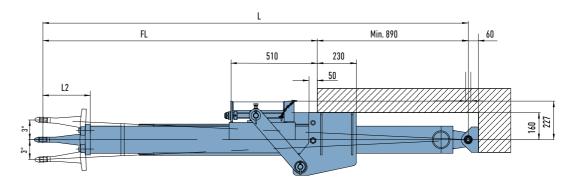
#### BPW height adjustment device

#### for rigid drawbars of the ZEQ 13.5 series

(Individual certificate)



ZEQ 13.5 with height adjustment device - horizontal



ТҮРЕ	DESCRIPTION	<b>QUANTITY</b> per vehicle	BPW NO.	WEIGHT (kg)
Height adjustment dev (vertical) for rigid dra type ZEQ 13.5-1 (Fig. 1 with individual certific	wbar front spring shoe and spring linfo: Rear spring shoe and bo	bolt.	05.031.00.18.0	60
Rigid drawbar type ZE 1-HVL (Fig. 2) includin adjustment device (ho with individual certific	rizontal) ZEW 13.3 With box including in spindle, spring shoe and spring in 2 990 FL = 1,600 - 2,100		51.32.15.0101	221
Spring shoe	For bearing eye 100/30 mm	1	02.1004.22.00	3.6
Spring bolt E 11	M 24 x 1.5, with castle nut, wa and grease nipple	asher, split pin 1	09.801.98.18.0	1

#### BPW rigid drawbars up to 24,000 kg

#### ZFL20 series, length adjustable

(ECE approval)

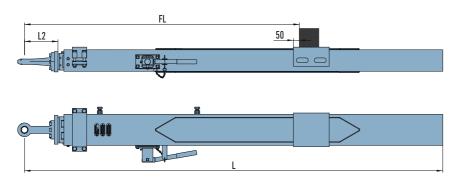
In addition to the standard dimensions shown in the tables below, the following options are also available on request:

- 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

As standard, the length-adjustable BPW ZFL20 rigid drawbar features handle adjustment of 4 x 100 mm. Pneumatic adjustment is available on request (can also be retrofitted). The stated V values are for the adjustment 0 mm (basic state) and 4 x 100 mm.

Please note that the permissible Dc and V values of the rigid drawbar must be tailored to the desired towing eye and trailer coupling.





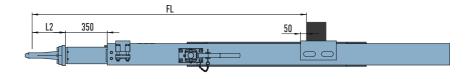
ТҮРЕ	TOWING EYE (DIN) L2 (mm)	TOTAL LENGTH L (MM)	MAX. FREE DRAWBAR LENGTH FL (mm)	MAX. V V FOR ADJU 0/4 X 100 DRAWBA (kg) 1,000	USTMENT (kN)	BPW NO.	WEIGHT (kg)
		2,900	1,700	90/76	75/66		350
ZFL20-1A		3,200	1,800	90/76	75/66		
Drawbar load 1,000 kg ZFL20-3A			1,900	90/73	75/63		375
Drawbar load 2,000 kg	Ø 50		2,000	86/70	75/60		
Dc = 130 kN	D50-C		2,100	81/66	71/57	E1 21 21	
24 t	DIN 74053-50D1	3,500	2,200	77/63	67/54	51.21.21.xxxx	405
Tube 260 x 180	L2 = 280		2,300	73/61	63/51		
with weld-in U-bolt ECE no.			2,400	70/58	60/48		
E1-55R-012554		3,800	2,500	66/56	57/46		430
2. 00 0.2004			2,600	63/54	54/44		

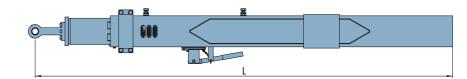
Alternative versions available on request. For towing eyes, see page 36. Additional weld-in U-bolt 03.114.00.04.0 Supplementary installation kit for pneumatic locking 09.801.95.37.0 Supplementary installation kit for manual locking 09.801.90.71.0

#### ZFL20 series, length-adjustable, inner tube extended 350 mm in basic position

(ECE approval)







ТҮРЕ	TOWING EYE (DIN) L2 (mm)	TOTAL LENGTH L (mm)	MAX. FREE DRAWBAR LENGTH FL (mm)	0/4 X 10	JUSTMENT	BPW NO.	WEIGHT (kg)
ZFL20-1A/A		2,900	1,700	86/55	75/45		335
Drawbar load 1,000 kg		3,200	1,800	80/55	70/45		
ZFL20-3A/A drawbar load			1,900	80/55	70/45		360
2,000 kg	Ø 50		2,000	80/55	70/45		
Inner tube extended 350 mm in basic position	D50-C		2,100	68/52	58/42	F1 01 01	
Dc = 130 kN	DIN 74053-50D1	3,500	2,200	68/52	58/42	51.21.21.xxxx	390
24 t	L2 = 280		2,300	68/52	58/42		
Tube 260 x 180			2,400	59/48	49/38		
with weld-in U-bolt		3,800	2,500	59/48	49/38		415
ECE no. E1-55R-012554		3,000	2,600	59/48	49/38		

Alternative versions available on request. For towing eyes, see page 36. Additional weld-in U-bolt 03.114.00.04.0 Supplementary installation kit for pneumatic locking 09.801.95.37.0 Supplementary installation kit for manual locking 09.801.90.71.0

#### BPW rigid drawbars up to 24,000 kg

# ZFL20 series, length-adjustable, bolted on with adjusting rail

(ECE approval)

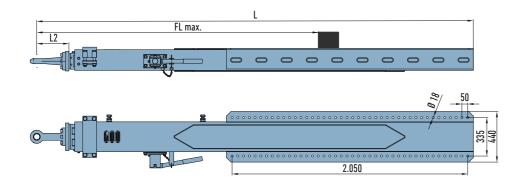
In addition to the standard dimensions shown in the tables below, the following options are also available on request:

- 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

As standard, the length-adjustable BPW ZFL20 rigid drawbar features handle adjustment of  $4 \times 100$  mm. Pneumatic adjustment is available on request (can also be retrofitted). The stated V values are for the adjustment 0 mm (basic state) and  $4 \times 100$  mm.



Please note that the permissible Dc and V values of the rigid drawbar must be tailored to the desired towing eye and trailer coupling.



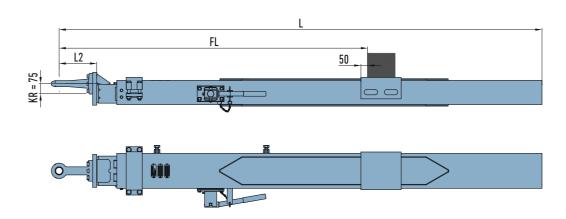
ТҮРЕ	TOWING EYE (DIN) L2 (mm)	TOTAL LENGTH L (MM)	MAX. FREE DRAWBAR LENGTH FL (mm)	LENGTH OF AD- JUSTING RAIL LV (mm)	MAX. V VA FOR ADJU 0/4 X 100 DRAWBAF 1,000	STMENT	BPW NO.	WEIGHT (kg)
ZFL20-1B			1,950		88/71	75/61		505
Drawbar load 1,000 kg		3,800	2,000		86/70	75/60	F1 01 01	
ZFL20-3B			2,100	Drilling pattern 2050 x	81/66	71/57		
Drawbar load 2,000 kg	Ø 50		2,200		77/63	67/54		
Dc = 130 kN 24 t	D50-C		2,300		73/61	63/51		
Tube 260 x 180	DIN 74053-50D1		2,400	335 x	70/58	60/48	51.21.21.xxxx	
With adjusting rail	L2 = 280		2,500	50 x Ø 18	66/56	57/46		
Minimum support width	um support width 200 mm	/ 100	2,600	9 10	63/54	54/44		
SW = 1,200 mm EC no.: E4*94/20*1141*01		4,100	2,700		61/52	51/42		530
20110 24 74/20 1141 01			2750		59/51	49/41		

Alternative versions available on request. For towing eyes, see page 36. Supplementary installation kit for pneumatic locking 09.801.95.37.0 Supplementary installation kit for manual locking 09.801.90.71.0

# ZFL20 series, length adjustable, with height offset of the towing eye

(ECE approval)





TYPE	TOWING EYE (DIN) L2 (mm)	TOTAL LENGTH L (mm)	MAX. FREE DRAWBAR LENGTH FL (mm)	TOWING EYE OFFSET VS (MM)	MAX. V VALUE FOR ADJUSTMENT 0/4 X 100 (kN)	BPW NO.	WEIGHT (kg)
<b>ZFL20-2A</b> Drawbar load 1,000 kg With height offset		3,000	1,700		90/58		355
			1,800		87/58		380
		3,300	1,900		82/58		380
	Ø 50		2,000		77/58		
of towing eye	D50-C		2,100	75	73/58	E1 01 01	
Dc = 130 kN 24 t	DIN 74053-50D1	3,600	2,200	Standard	69/57	51.21.21.xxxx	410
Tube 260 x 180	L2 = 280		2,300		66/55		
with weld-in U-bolt ECE no.: E1-55R-012554			2,400		63/52		
		3,900	2,500		60/50		435
			2,600		57/48		

Alternative versions available on request. For towing eye, see page 36. Additional weld-in U-bolt 03.114.00.04.0 Supplementary installation kit for pneumatic locking 09.801.95.37.0 Supplementary installation kit for manual locking 09.801.90.71.0

#### BPW modular rigid drawbars up to 24,000 kg

### ZFL20 series, length adjustable with bolted crossmembers

(Individual certificate)

The rigid drawbars in the ZFL20 series can also be supplied as modular systems with crossmembers that can be bolted. With a minimum support width (SW) of 1,200 mm, the crossmembers can be bolted on every 50 mm.

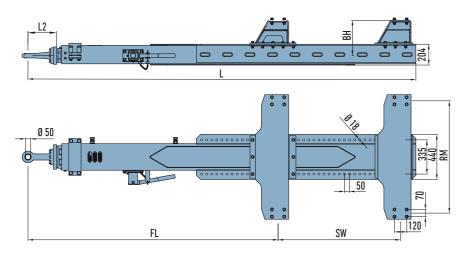
The as-delivered condition is unmounted. Pre-assembled units are also available on request.

The stated V values are for the adjustment 0 mm (basic state) and  $4\,\mathrm{x}\,100$  mm.

Please note that the permissible Dc and V values of the rigid drawbar must be tailored to the desired towing eye and trailer coupling.

Use of the crossmembers in combination with other series is available on request.





ТҮРЕ	TOWING EYE (DIN) L2 (mm)	TOTAL LENGTH L (mm)	MAX. FREE DRAWBAR LENGTH FL (mm)	ADJUSTING RAIL LV (mm)	FRAME CENTRE RM (mm)	OVERALL HEIGHT BH (mm)	V VALUE FOR ADJUSTMENT 0/4 X 100 (kN)	WEIGHT FOR FRAME CENTRE (RM) = 1,100 BH = 346 (kg)
ZFL20-1B	Ø 50		1,950				88/71	
With bolted			2,000			246	86/70	
crossmembers Drawbar load 1,000 kg		Ø 50	Ø 50 3.800	2,100			296	81/66
Dc = 130 kN	D50-C	3,000	2,200	Drilling	980	346	77/63	685
24 t Tube 260 x 180	DIN		2,300	pattern	1,100	395	73/61	
With adjusting rail	74053-		2,400	2050 x 335	1,200	446	70/58	
Minimum support width	h 50D1 L2 = 280		2,500	x 50 x Ø 18	1,300	496	66/56	
SW = 1,200 mm In modular design		/ 100	2,600			546	63/54	710
With individual		4,100	2,700			596	61/52	710
certificate			2.750				59/51	

Alternative versions available on request. For towing eyes, see page 36. Supplementary installation kit for pneumatic locking 09.801.95.37.0 Supplementary installation kit for manual locking 09.801.90.71.0

#### BPW rigid drawbars up to 13,500 kg

#### ZFL13.5 series, length adjustable

(Individual certificate)

With the ZFL13.5, BPW also offers a length-adjustable drawbar for vehicles up to 13.5 t permissible gross weight. In addition to the standard dimensions shown in the tables below, the following options are also available on request:

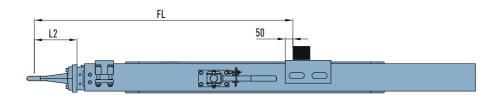
- Adjustment up to 6 x 100/8 x 100 mm
- ▶ Special adjustments
- ▶ Use of other towing eye types
- ▶ Other dimensions

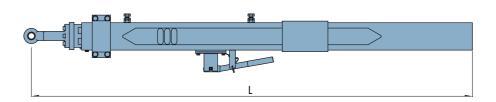
**As standard,** the length-adjustable BPW ZFL13.5 rigid drawbar features **handle adjustment of 4 x 100 mm**. Pneumatic adjustment is available on request (can also be retrofitted).



The stated V values are for the adjustment 0 mm (basic state) and  $4 \times 100$  mm

Please note that the permissible Dc and V values of the rigid drawbar must be tailored to the desired towing eye and trailer coupling.





ТҮРЕ	TOWING EYE (DIN) L2 (mm)	TOTAL LENGTH L (mm)	MAX. FREE DRAWBAR LENGTH FL (mm)	MAX. V VALUE FOR ADJUSTMENT 0/4 X 100 (kN)	BPW NO.	WEIGHT (kg)
		2,900	1,700	53/41		265
			1,800	50/39		280
ZFL13.5-1A	Drawbar load 1,000 kg	3,200	1,900	47/37		
Drawbar toad 1,000 kg			2,000	44/35		
13.5 t	ZE 13/1		2,100	41/33	51.21.13.xxxx	
Tube 180 x 180	DIN 74054-40D	3,500	2,200	39/31	31.Z1.13.XXXX	295
With weld-on U-bolt	L2 = 280		2,300	37/30		
With individual certi- ficate			2,400	35/28		
		3,800	2,500	33/27		310
			2,600	31/26		

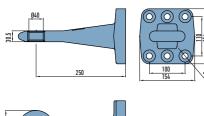
Alternative versions available on request. For towing eyes, see page 36.
Additional weld-on U-bolt 03.114.76.07.0
Supplementary installation kit for pneumatic locking 05.801.95.37.0
Supplementary installation kit for manual locking 09.801.90.71.0

Rigid drawbars I ZFL series Page 35

#### BPW rigid drawbars – general information

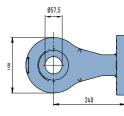
#### Towing eyes and bolt-on flanges

With its range of rigid drawbars, BPW offers a comprehensive modular system that enables individual combinations. Below is an overview of the BPW standard product range.





ECE no. E1-55R-012577 51.30.14.0002

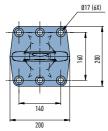


Towing eye Type VBG-15 ECE no. E4-55R-010084 02.4904.25.00



Towing eye DIN 50 (D50-D1)02.4904.27.00

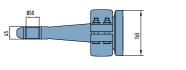


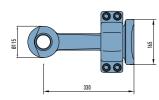


Bolt (6 units) 02.5015.66.23

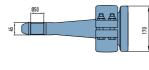
Bolt (6 units)

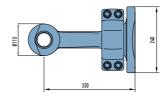
02.5015.64.12





Towing eye DIN 50 (480) 02.4904.17.00





Towing eye DIN 50 (480/1) 02.4904.22.00

#### BPW rigid drawbars – general information

#### **Special versions**

In addition to the modular system, BPW also offers a range of individual solutions and can therefore also fulfil specific customer requirements. Below is a selection from the special design range.

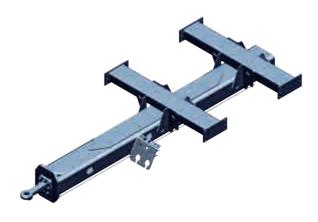


ZDK series with crossmember









ZD series with crossmembers

#### For centre axle drawbar trailers. **BPW drawbar supports.**



# **BPW** drawbar support BPW drawbar support with additional drop-down height

#### BPW DRAWBAR SUPPORTS - YOUR BENEFITS AT A GLANCE

#### **▶** Robust

Perfect for heavy-duty trailer use, thanks to the reinforced shaft for the absorption of lateral forces and the continuous fastening plate for optimum strength. And all of this has reliability built-in, as all BPW drawbar supports are tested before delivery to ensure maximum product reliability.

The long, continuously perforated fastening plate for different fastening positions ensures easy, flexible installation. Low crank forces facilitate day-to-day tasks.

Benefits that pay off: The BPW landing gear is extra-light, which makes it the top choice when every kilo of usable load counts. The longlife lubrication with BPW ECO-Li 91 means that the BPW landing gear requires no maintenance for three years. Another selling point is the very low wear and optimal protection from corrosion through high-quality coatings.

TECHNICAL DATA	LENGTH M (mm)	SIZE H (mm)	QUANTITY D (mm)	BPW NO.
Landing legs <sup>2)</sup>	760	400 spindle stroke 410 drop lift	9	02.3711.11.001)
Lifting capacity12 t (with drop-down height10 t)	715	470	9	02.3711.00.00
Static load 25 t (with drop-down height 12 t)	665	420	9	02.3711.01.00
Travel per stroke rotation Slow gear 0.8 mm	620	375	8	02.3711.02.00
Fast gear 9.6 mm Crank force at 16 t load 200 N	570	325	7	02.3711.03.00

<sup>&</sup>lt;sup>1)</sup> Detachable. Alternative versions available on request.

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<sup>&</sup>lt;sup>2)</sup> Dimension A = 255 mm, Dimension B = 328 mm, Dimension C = 362 mm, BPW NO. 02.1404.00.01

Chain as holder for the crank: 02.1810.37.00



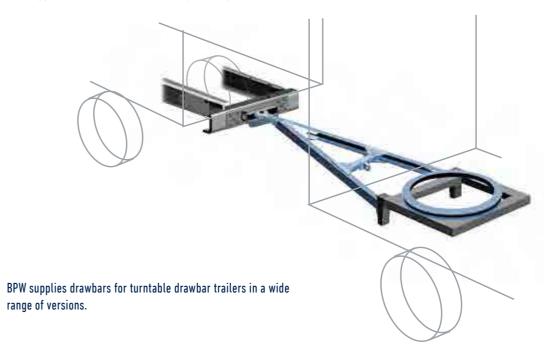
#### The perfect combination for turntable drawbar trailers.

#### **Drawbars from BPW.**

BPW drawbars for turntable drawbar trailers with a permissible gross weight of 12 to 48 t form the perfect link between tractor units and trailers with turntable steering.

BPW supplies all the versions that are required in practice, such

as straight or angled towing eyes, or with length adjustment and/ or cranked. In addition to this, all BPW standard drawbars have ECE approval and special versions are type approved.



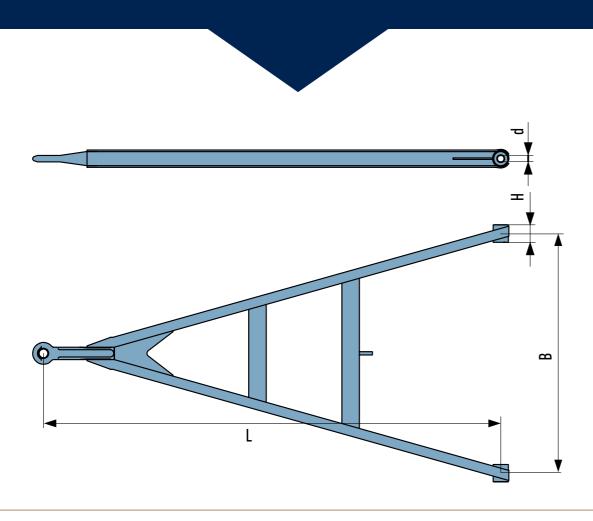
#### BPW DRAWBARS - FEATURES AND BENEFITS

- ▶ For turntable drawbar trailers with a permissible gross weight of 12 to 48 t
- ▶ Common dimensions are available immediately
- ▶ With ECE approval or individual certificate
- ▶ Treated with zinc phosphate, with cataphoretic dip-coating (KTL<sub>zn</sub>)
- ▶ High level of corrosion resistance due to galvanized towing bars on length-adjustable drawbars
- ▶ Various versions available:
- ▶ With angled towing eye
- ▶ With fixed centre tube
- ▶ Straight or cranked
- ▶ Length adjustable
- ▶ With swivelling eye
- ▶ With semi-automatic or pneumatic length adjustment
- ▶ With low-maintenance silent bushes

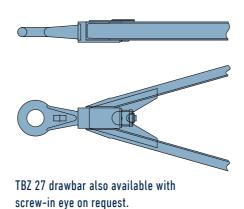
#### TBZ series made of U normal profile

(ECE approval)

The TBZ 27 and 32 series have towing eyes with Ø 40 mm (DIN 74054-40A) as standard. All drawbars are also available with towing eyes Ø 50 mm (DIN 74053-50A). In all standard versions, the bearing eyes have plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 68.



TYPE OF TOWING EYE	0 BUSH (mm)	TBZ 27	TBZ 32	TBZ 48
DIN 74054-40A/40B	40	•	•	
DIN 74053-50A/50B	50	•	•	•
VBG 15-0173/16-0895	57.5/50	•	•	•
NATO	76	•	•	•
Switzerland	40	•	•	
BNA (screw-in)	68	•	•	•
T56 heavy-duty towing eye	40			•



TYPE	<b>LENGTH</b> L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	CROSS STRUTS Quantity	<b>WEIGHT</b> Approx. kg
	1,100				31.0
	1,200				33.0
	1,300				35.0
	1,400				37.0
	1,500				39.0
	1,600			1	41.0
TBZ 27	1,700	0.40			42.5
D = 125 kN	1,800	860 900	100/301)		44.0
27 t	1,900	980	100/30		45.5
Max. front-axle load 12 t	2,000	1,000	Special dimensions		47.0
ECE no. E1-55R-012491	2,100	1,100 1,200	70/26 80/28		51.0
Profile U 80	2,200	1,300	80/30		52.5
Option of screw-in towing eye	2,300	1,400			54.0
phon of scient in towing eye	2,400				56.0
	2,500			•	58.0
	2,600 2,700			2	60.0 61.5
	2,700				63.0
	2,000				64.5
	3,000				66.0
	1,400				41.0
	1,500				43.0
	1,600				45.0
	1,700				47.0
	1,800			1	49.0
	1,900	330			51.0
TBZ 32	2,000	860	100/301)		53.0
D = 125 kN	2,100	900 980	Special dimensions		56.0
32 t Max. front-axle load 16 t ECE no. E1-55R-012498	2,200	1,000	70/26		60.0
	2,300	1,100	80/28		62.0
Profile U 100	2,400	1,200 1,300 1,400	80/30		64.0
	2,500				66.0
	2,600			2	68.0
	2,700				70.0
	2,800				72.0
	2,900				74.0
	3,000				76.0
	1,500				62.0
	1,600 1,700				64.5 67.0
	1,800			1	69.5
	1,900				72.0
	2,000				77.0
	2,100				79.0
	2,200 2,300	0/0			82.0 85.0
TBZ 482)	2,300	860 900	100/30 <sup>1)</sup>	2	85.U 87.5
) = 190 KN 48 T	2,400	980			90.0
Aax. front-axle load 24 t	2,600	1,000	Special dimensions 102/32 <sup>3)</sup>		93.0
CE NO. E1-55R-012497	2,700	1,100 1,200	100/35		98.0
Profile U 120	2,800	1,200 1,300	100/404)		100.5
	2,900	.,000			103.0
	3,000				105.5
	3,100			3	108.0
	3,200				111.0
	3,300				114.0
	3,400				116.0
	3,500				118.0
	0,000				110.0

<sup>1)</sup> Also available on request with low-maintenance silent bush (see page 60). 2) Available with towing eye type 56 (heavy-duty towing eye) and type VBG as standard

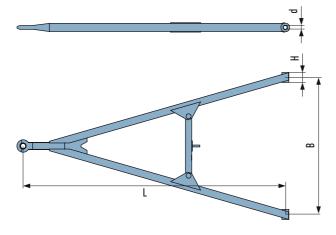
Drawbars | TBZ series Page 43

<sup>3)</sup> With Kronrohr block 4) Brass bush

#### SL series made from lightweight U profile

(ECE approval)

With towing eye  $\emptyset$  40 mm (DIN 74054-40 A) as standard. All drawbars are also available with towing eye  $\emptyset$  50 mm (DIN 74053-50 A). In all standard versions, the bearing eyes have plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 68.



ТҮРЕ	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	CROSS STRUTS Quantity	WEIGHT Approx. kg
	1,400				27.0
	1,500	800			28.0
SL 12	1,600	860	100/301)		29.0
D = 82.4 kN 12 t Max. front-axle load 6 t ECE no. E1-55R-012506 Profile 65/57.5/4	1,700	900	Cassial dimensions		30.0
	1,800	980 1,000 1,100	Special dimensions 70/26 80/28	1	31.0
	1,900				32.0
	2,000	1,200	80/30		33.0
	2,100	1,300			34.0
	2,200				35.0
	1,400				37.0
	1,500				39.0
	1,600				41.0
	1,700		100/30 <sup>1)</sup>		42.5
	1,800			1	44.0
01.00	1,900	800			45.5
S <b>L 27</b> D = 125 kN	2,000	860 900			47.0
27 t	2,100	980	Special dimensions		50.0
Max. front-axle load 12 t	2,200	1,000	70/26		52.0
ECE no. E1-55R-012508 Profile 80/70/6	2,300	1,100 1,200	80/28 80/30		54.0
110110 00/70/0	2,400	1,300	00/00		56.0
	2,500				58.0
	2,600				62.0
	2,700			2	64.0
	2,800			2	66.0
	2,900				68.0

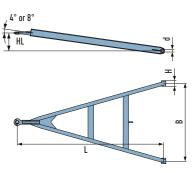
 $<sup>^{</sup> ext{1}}$  Also available on request with low-maintenance silent bush (see page 60).

#### BPW drawbars up to 32,000 kg

#### **ZGS** series with angled towing eye

(ECE approval)

With towing eye  $\emptyset$  40 mm (DIN 74054-40 A) as standard. All drawbars are also available with towing eye  $\emptyset$  50 mm (DIN 74053-50 A). In all standard versions, the bearing eyes have plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 68.



ТҮРЕ	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	CROSS STRUTS Quantity	HEIGHT O HL approx. (4°/8°)		<b>WEIGHT</b> Approx. kg	
	1,400 1,500 1,600 1,700	600	400/00/	1	84 91 98 105	168 182 196 210	37.0 39.0 41.0 42.5	
Z6S 27 D = 125 kN 27 t Max. front-axle load 12 t ECE no. E1-55R-012512 Profile UNP 80	1,800 1,900 2,000 2,100 2,200	860 900 980 1,000 1,100 1,200	Special dimensions 119 126 126 80/28 133 140	224 238 252 266 280	44.0 48.0 49.5 51.0 52.5			
	2,300 2,400 2,500 2,600 1,400	1,300		2	146 153 160 167 84	294 308 323 337 168	54.0 56.0 58.0 60.0 41.0	
Z6S 32	1,500 1,600 1,700 1,800 1,900 600 2,000 860 100/3	860 900	100/30 <sup>1)</sup>	1	91 98 105 112 119	182 196 210 224 238 252	43.0 45.0 47.0 49.0 51.0	
D = 125 kN 32 t Max. front-axle load 16 t ECE no. E1-55R-012511 Profile UNP 100 2,500 2,600 2,700 2,800	2,100 2,200 2,300 2,400 2,500 2,600 2,700		Special dimensions 70/26 80/28 80/30	70/26 80/28	2	133 140 146 153 160 167 174 181	266 280 294 308 323 337 351 365 379	56.0 60.0 62.0 64.0 66.0 68.0 70.0 72.0 74.0
<b>ZGS 48</b> <sup>2)</sup> D = 190 kN 48 t Max. front-axle load 20 t	3,000 1,400 1,500 1,600 1,700 1,800 1,900 2,000	860 900 980 1,000	3,000 1,400 1,500 1,600 1,700 1,800 1,900 1,900 1,000 1,000 Special dim	1100/30 <sup>1)</sup> Special dimensions 102/32 <sup>3)</sup>	1	195 84 91 98 105 112 119	393 168 182 196 210 224 238 252	76.0 59.5 62.0 64.5 67.0 69.5 74.5 77.0
Max. Front-axie load 20 t Individual certificate Profile UNP 120	2,100 2,200 2,300 2,400 2,500 2,600 2,700	1,100 1,200 1,300	100/35 100/40 <sup>4</sup>	2	133 140 146 153 160 167	266 280 294 308 323 337 351	79.0 82.0 85.0 87.5 90.0 93.0 96.0	

<sup>&</sup>lt;sup>11</sup> Also available on request with low-maintenance silent bush (see page 60). <sup>21</sup> Available with towing eye type 56 (heavy-duty towing eye)

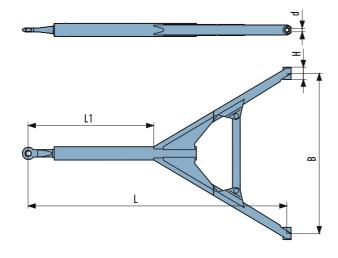
Drawbars | SL and ZGS series Page 45

<sup>3)</sup> With Kronrohr block 4) Brass bush

#### PZM series with fixed centre tube

(ECE approval)

With towing eye Ø 40 mm (DIN 74054-40 A) as standard. All drawbars are also available with towing eye Ø 50 mm (DIN 74053-50 A). In all standard versions, the bearing eyes have plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 68.



ТҮРЕ	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	LENGTH L1 (mm)	CROSS STRUTS Quantity	WEIGHT Approx. kg
	1,600			740		70.0
	1,700					75.0
	1,800			840		77.0
	1,900					79.0
	2,000					81.0
PZM 26 D = 125 kN	2,100			940		82.5
	2,200				1	84.0
	2,300	860 900	100/30 <sup>1)</sup>			87.0
26t	2,400	980		1,040		89.0
Max. front-axle load 10 t	2,500	1,000	Special dimen- sions			91.0
ECE no. E1-55R-012.500 Profile U 80/70/6	2,600	1,100 1,200 1,300	80/28 80/30	1,140		94.0
Towing bar Ø 108	2,700					95.5
<b>,</b>	2,800	,				97.0
	2,900					101.0
	3,000					103.0
	3,100			1,240	2	105.0
	3,200			1,240	2	107.0
	3,300					109.0
	3,400					112.0

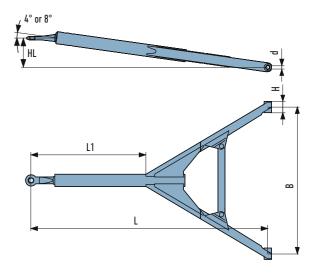
<sup>&</sup>lt;sup>1)</sup> Also available on request with low-maintenance silent bush (see page 60).

#### BPW drawbars up to 26,000 kg

# PZMS series with fixed centre tube and angled towing eye

#### (Individual certificate)

With towing eye  $\emptyset$  40 mm (DIN 74054-40 A) as standard. All drawbars are also available with towing eye  $\emptyset$  50 mm (DIN 74053-50 A). In all standard versions, the bearing eyes have plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 68.



ТҮРЕ	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	LENGTH L1 (mm)	CROSS STRUTS Quantity	HEIGHT O HL APPROX (4°/8°)		WEIGHT Approx. kg
	1,600			740		97	195	70.0
1,700 1,800 1,900 2,000 2,100 2,200 PZMS 26 D = 125 kN	1,700					104	209	75.0
	1,800			840		111	223	77.0
	1,900					118	237	79.0
	2,000					125	251	81.0
				940		132	265	82.5
		860	100/202)		1	139	280	84.0
	,	900	100/30 <sup>2)</sup>	4010		146	294	87.0
26 t	2,400	980	Special dimen-	1,040		153	308	89.0
Max. front-axle load 10 t ECE no. E1-55R-012.500	2,500	1,000 1,100	sions			160	322	91.0
Profile U 80/70/6	2,600	1,200	80/28			167	336	94.0
Towing bar Ø 108	2,700	1,300	80/30	1,140		174	350	95.5
	2,800					181	364	97.0
	2,900					188	378	101.0
	3,000					195	392	103.0
3,100	-,			1,240	2	202	406	105.0
	3,200					209	420	107.0
	3,300 3,400					218 223	434 448	109.0 112.0

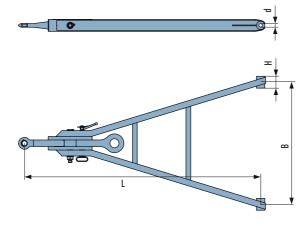
<sup>2)</sup> Also available on request with low-maintenance silent bush (see page 60).

Page 46 Drawbars I PZM and PZMS series Page 47

#### PZS series with swivelling eye

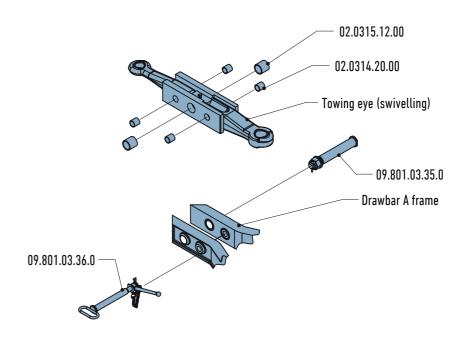
(Individual certificate)

Available as standard with swivelling towing eye  $\emptyset$  40 mm (DIN 74054-40 A) and towing eye  $\emptyset$  50 mm (DIN 74053-50 A). In all standard versions, the bearing eyes have plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 68.



ГҮРЕ	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	CROSS STRUTS Quantity	WEIGHT Approx. kg
	1,400				71
	1,500				73
PZS 26 D = 125 kN <sup>1)</sup> 26 t Max. front-axle load 10 t Individual certificate Profile UNP 80	1,600			1	75
	1,700	900		1	77
	1,800		100/30 <sup>2)</sup> Special dimensions available on		79
	1,900	980			81
	2,000	1,000			84
	2,100	1,100			86
	2,200	1,200	request		88
	2,300	1,300	·	2	90
	2,400			2	92
	2,500				94
	2,600				96
	2,700				98
	1,400			1	77
	1,500				79
	1,600				81
	1,700				83
D70 00	1,800	900			85
<b>PZS 32</b> D = 125 kN <sup>1)</sup>	1,900	980	100/30 <sup>2)</sup>		87
32 t	2,000	1,000	Special dimensi-		90
Max. front-axle load 12 t	2,100	1,100	ons available on		92
Individual certificate Profile UNP 100	2,200	1,200	request		94
TOTAL ON TOO	2,300	1,300		2	96
	2,400			2	98
	2,500				100
	2,600				102
	2,700				104

<sup>1)</sup> The value depends on the selected towing eye combination (e.g. FBS max. 95 kN; NATO max. 120 kN).



ТҮРЕ	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	CROSS STRUTS Quantity	<b>WEIGHT</b> Approx. kg
D7C (03)	1,600		100/30 <sup>5)</sup> Special dimensions available on	1	90
	1,700	900 980			93
	1,800				95
	1,900				98
PZS 40 <sup>3)</sup> D = 175 kN <sup>4)</sup>	2,000			2	102
40 t	2,100	1,000			105
Max. front-axle load 2x 10 t	2,200	1,100			107
Individual certificate Profile UNP 120	2,300	1,200	request		110
TIONE ON 120	2,400	1,300			112
	2,500				115
	2,600				117
	2,700				120

<sup>&</sup>lt;sup>3)</sup> Available as standard with swivelling towing eye DIN 40 and type 56 (heavy-duty towing eye). <sup>4)</sup> The value depends on the selected towing eye combination (e.g. Ø 40 max. 125 kN; FBS max. 95 kN). <sup>5)</sup> Also available on request with low-maintenance silent bush (see page 60).

SPARE PARTS FOR PZS AND PZSG	QUANTITY	BPW NO.
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 (retaining bolt)	1	09.801.03.35.0
Bolt 26 with locking handle, spring plug and chain (lock bolt)	1	09.801.03.36.0
Bush for lock bolt	4	02.0314.20.00
Bush for retaining bolt	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

For towing eye types, see page 36.

Prage 48 Drawbars I PZS series Prage 49

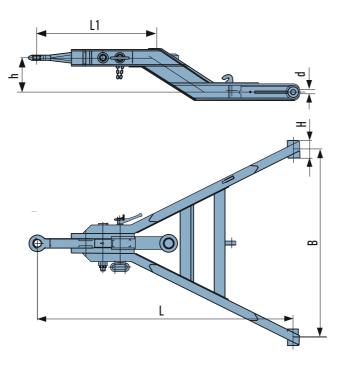
<sup>&</sup>lt;sup>2)</sup> Also available on request with low-maintenance silent bush (see page 60).

#### PZSG series with swivelling eye and cranked

(Individual certificate)

Available as standard with swivelling towing eye Ø 40 mm (DIN 74054-40A) and heavy-duty towing eye Ø 50 mm (type 56), cranked h=150 mm.

In all standard versions, the bearing eyes have plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 68.



TYPE	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	LENGTH L1 (mm)	CROSS STRUTS Quantity	CRANKED h (mm)	<b>WEIGHT</b> Approx. kg
1,400 1,500	,			700			98 100
	1,600 1,700	860 900 980 1,000	100/30 <sup>1)</sup> Special dimensions available on request	800	2	150 200 250	102 104
<b>PZSG 48</b> D = 125/168 kN	1,800 1,900						106 108
48 t Max. front-axle load 24 t	2,000 2,100						110 112
Profile UNP 100 2,200 2,300 2,400 2,500	2,200	1,200 1,300					114
	2,400						118
	2,600						120

<sup>&</sup>lt;sup>1)</sup> Also available on request with low-maintenance silent bush (see page 60).

#### BPW drawbars up to 48,000 kg

#### PZG series, cranked

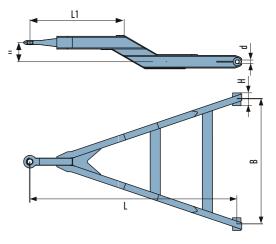
(With ECE approval or individual certificate)

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

**PZG 32:** with towing eye  $\emptyset$  40 mm (DIN 74054-40 A) and cranked h = 150 mm as standard. All drawbars are also available with towing eye  $\emptyset$  50 mm (DIN 74053-50 A)

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

In all standard versions, the bearing eyes have plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 68.



TYPE	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	LENGTH L1 (mm)	CROSS STRUTS Quantity	CRANKED H (mm)	WEIGHT Approx. kg
PZG 18 D = 100 kN 18 t	= 100 kN 2,000	860 900 980	100/30 Special dimensions	700	1	150	53 55 57 59 61 63 65
Max. front-axle load 9 t Individual certificate Profile UNP 80 (for h = 150)	2,200 2,300 2,400 2,500 2,600 2,700 2,800 2,900	1,000 S 1,100 1,200 1,300	70/26 80/28 80/30		2	200 250	70 73 76 80 83 87 90
							PZG 32 PZG 48
	1.400 1.500			600		150 200 250	58,0 66,0 60,0 69,0
PZG 32 D = 125 kN 32 t Max. front-axle load 20 t (dependent on L!)	1.600 1.700 1.800 1.900 2.000	860 900	100/30 <sup>1)</sup>		1		62,0 72,0 65,0 75,0 67,0 78,0 69,0 81,0 71,0 84,0
ECE no. E1-55R-012514 Profile UNP 100  PZG 48 D = 168 kN 48 t Max. front-axle load 24 t ECE no. E1-55R-012499 Profile UNP 120	2.100 2.200 2.300 2.400 2.500 2.600 2.700 2.800 2.900 3.000	980 1.000 1.100 1.200 1.300	Special dimensions 70/26 80/28 80/30	700	2		76,0 89,0 78,0 92,0 81,0 94,5 83,0 97,0 86,0 99,5 88,0 102,0 91,0 105,0 93,0 108,0 96,0 111,0

<sup>&</sup>lt;sup>1)</sup> Also available on request with low-maintenance silent bush (see page 60).

Drawbars 1 PZSG and PZG series Page 1

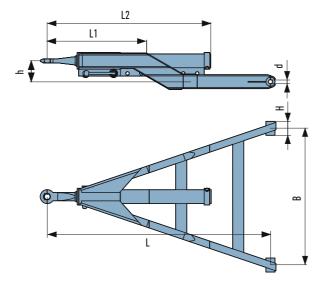
#### PZGL series, cranked and length-adjustable

(With ECE approval or individual certificate)

**PZGL 32:** with towing eye  $\emptyset$  40 mm (DIN 74054-40 A), cranked h = 150 mm and length adjustment 12 x 50 mm as standard. All drawbars are also available with towing eye  $\emptyset$  50 mm (DIN 74053-50 A). Also available with locking nuts on request (version V)

**PZGL 48:** with heavy-duty towing eye  $\emptyset$  50 mm (type 56) as standard

In all standard versions, the bearing eyes have plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 68.



TYPE	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	LENGTH L1 (mm)	EXTENSION L2 (mm)	CROSS STRUTS Quantity	<b>WEIGHT</b> Approx. kg
	1,400			600			106
	1,500						108
	1,600				12 x 50		110
PZGL 32	1,700	860 900 980 1,000 1,100 1,200 1,300 1,400			(L <sub>2</sub> = 1175)	1	112
D = 125 kN	1,800		100/30 <sup>1)</sup>				114
32 t	1,900		Special				116
Max. front-axle load 10 t ECE no. E1-55R-012503	2,000		dimensions	700			118
Profile UNP 100	2,100		available on request	700			120 124
Towing bar Ø 100	2,200 2,300				16 x 50		124
	2,400				(L <sub>2</sub> = 1375)	2	128
	2,500				-	2	130
	2,600						132
	1.400						108
	1,500			600			110
	1,600				6 x 50		112
	1,700				(L <sub>2</sub> = 875)		114
PZGL 48 <sup>2)</sup>	1,800	860			-	1	116
D = 160 kN 48 t	1,900	900 980	100/301)				118
Max. front-axle load 24 t	2,000	1,000	Special				120
Individual certificate	2,100	1,100	dimensions available on	700			126
Profile UNP 100	2,200	1,200 1,300	request				130
Towing bar Ø 102	2,300	1,300			8 x 50		132
	2,400				(L <sub>2</sub> = 975)	2	134
	2,500						136
	2,600						138

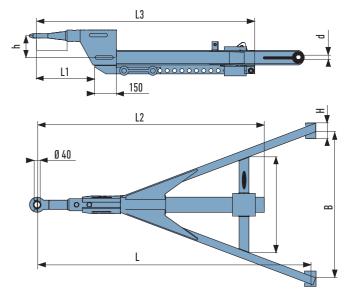
n Also available on request with low-maintenance silent bush (see page 60). 21 Only version 'E' possible with adjustment (with nut and bolt).

#### BPW drawbars up to 32,000 kg

# PZLG 32 series, length-adjustable and cranked (towing bar)

(Individual certificate)

With towing eye  $\emptyset$  40 mm (DIN 74054-40 A), cranked h = 150 mm and length adjustment 12 x 50 mm as standard. All drawbars are also available with towing eye  $\emptyset$  50 mm (DIN 74053-50 A). Also available with locking nuts on request (version V). In all standard versions, the bearing eyes have plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 68.





Standard adjustable version 'E' (with bolt and nut)



Optional at the request of the customer: variable version 'V' (with bolt and locking nut)

ТҮРЕ	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	LENGTH L1 (mm)	EXTENSION L2 (mm)	CROSS STRUTS Quantity	<b>WEIGHT</b> Approx. kg
	1,100			200	8 x 50 (L <sub>2</sub> = 1,100)		104
	1,200				(L <sub>2</sub> - 1,100)		106
	1,300						108
	1,400	860					110
PZLG 32	1,500	900 980	100/30 <sup>3)</sup> Special dimensions available on				112
D = 120 kN	1,600			400		1	114
32 t	1,700	1,000			12 x 50 (L <sub>2</sub> = 1,500)		116
Max. front-axle load 10 t	1,800	1,100					118
Individual certificate	1,900	1,200	request				120
Profile UNP 100	2,000	1,300			2		122
	2,100						124
	2,200						126
	2,300					2	130
	2,400					_	132

 $<sup>^{\</sup>scriptsize 3)}$  Also available on request with low-maintenance silent bush (see page 60).

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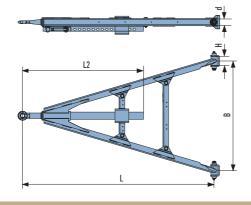
Drawbar | PZGL and PZLG series | Page 53

#### PZL series, length adjustable

(With ECE approval or individual certificate)

With towing eye  $\emptyset$  40 mm (DIN 74054-40 A) and length adjustment 12 x 50 mm as standard. All drawbars are also available with towing eye  $\emptyset$  50 mm (DIN 74053-50 A). Also available with locking nuts on request (version V).

In all standard versions, the bearing eyes have plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 68.

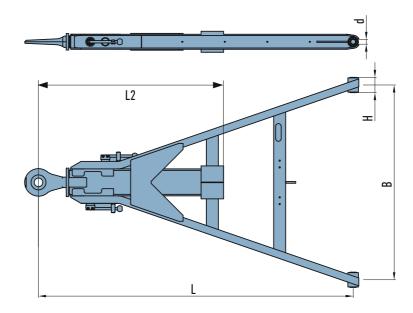


ТҮРЕ	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	EXTENSION L2 (mm)	CROSS STRUTS Quantity	<b>WEIGHT</b> Approx. kg
	1,000			8 x 50 mm (L <sub>2</sub> = 975 mm)		80
	1,100					82
	1,200			12 x 50		84
	1,300			$(L_2 = 1175 \text{ mm})$		86
	1,400					88
PZL 27	1,500	860			1	90
D = 125 kN	1,600	900	100/30 <sup>1)</sup>			92
27 t	1,700	980	0 . 1			94
Max. front-axle load 10 t	1,800	1,000 1,100	Special dimensions 70/26	12 x 50		96
ECE no. E1-55R-012501	0. E1-55K-012501 1,900 1,200 80/28 e 80/70/6 2,000 1,300 80/30	80/28	(L <sub>2</sub> =1175 mm)		98	
Profile 80/70/6		16 x 50		100		
Towing bar Ø 80	2,100	1,400		(L <sub>2</sub> =1375 mm)		104
	2,200					106
	2,300				2	108
	2,400				2	110
	2,500					112
	2,600					114
	1,100			10 50		94
	1,200			12 x 50 (L <sub>2</sub> = 1175 mm)		96
	1,300			(L <sub>2</sub> = 1173 IIIII)		98
	1,400					100
PZL 32	1,500	860			1	102
D = 125 kN	1,600	900	100/301)			104
32 t	1,700	980	100/00			106
Max. front-axle load 12 t	1,800	1,000 1,100	Special dimensions	12 x 50		108
Individual certificate	1,900	1,200	available on	(L <sub>2</sub> = 1175 mm)		110
Profile UNP 100	2,000	1,300	request	16 x 50		116
Towing bar Ø 100	2,100	1,400		(L <sub>2</sub> = 1375 mm)		118
	2,200			•	2	120
	2,300				L	122
	2,400					124
	2,500					126

 $Figures: Adjustable\ version\ 'E'\ (with\ bolt\ and\ nut)\ and\ variable\ version\ 'V'\ (with\ bolt\ and\ locking\ nut),\ see\ page\ 53.$ 

**PZL 48:** with heavy-duty towing eye  $\emptyset$  50 mm (type 56) and length adjustment 6 x 100 mm as standard. Also available with locking nuts on request (version V)

In all standard versions, the bearing eyes have plastic bushes. Other dimensions and towing eyes are available on request. Height adjustment devices from page 68



ТҮРЕ	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	EXTENSION L2 (mm)	CROSS STRUTS Quantity	<b>WEIGHT</b> Approx. kg
	1,200			6 x 100		92
	1,300			(L <sub>2</sub> = 1150 mm)		95
	1,400	860 900 980 1,000 1,100				97
	1,500		100/30 <sup>3)</sup> Special dimensions 102/32 <sup>5)</sup>		1	99
PZL 48 <sup>4)</sup>	1,600					101
D = 190 kN	1,700			6 x 100 (L <sub>2</sub> = 1150 mm)		103
48 t	1,800					105
Max. front-axle load 24 t	1,900					107
ECE no. E1-55R-012502	2,000	1,200	100/35			109
Profile UNP 100	2,100	1,300	100/406	8 x 100		115
	2,200	1,400		(L <sub>2</sub> = 1350 mm)		117
	2,300	., 700			2	120
	2,400				Δ	122
	2,500					125
	2,600					127

<sup>&</sup>lt;sup>3)</sup> Also available on request with low-maintenance silent bush (see page 60). <sup>4)</sup> Available with towing eye type 56 (heavy-duty towing eye) and type VBG as standard.

Drawbars I PZL series Page 55

<sup>&</sup>lt;sup>1)</sup> Also available on request with low-maintenance silent bush (see page 60).

<sup>5)</sup> With Kronrohr block 6) With Brass bush.

# PML series, length adjustable, semi-automatic with automatic coupling or with pneumatic locking

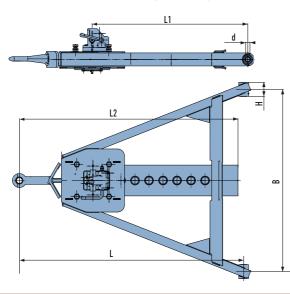
#### (Individual certificate)

The PML series is specifically designed for greater front-axle loads and larger length adjustment. The adjustment is performed semi-automatically be hand at the automatic coupling or via a pneumatic locking device (optional).

The PML 32 has a towing eye  $\emptyset$  40 mm (DIN 74054-40A) and length adjustment of 8 x 100 mm as standard. The PML 48 has a towing

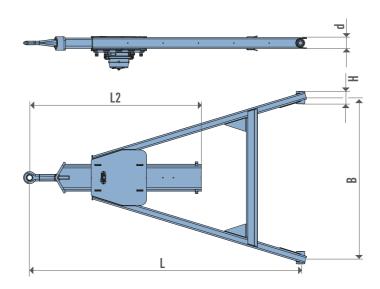
eye Ø 57.5 mm (VBG 15-0173) and length adjustment of 4 x 150 mm as standard. In all standard versions, the bearing eyes have plastic bushes.

Other dimensions and towing eyes are available on request. Height adjustment devices from page 68.



TYPE	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	EXTENSION L2 (mm)	CROSS STRUTS Quantity	WEIGHT Approx. kg
	1,200					160
PML 32	1,300					162
	1,400	900 980 1,000 1,100			1	164
	1,500		100/30 <sup>1)</sup> Special dimensions 80/28			166
	1,600					168
	1,700				'	170
D = 125 kN	1,800			0 100		172
32 t Max. front-axle load 12 t	1,900			8 x 100 1 x 100 + 1 x 900		174
Individual certificate	2,000	1,200				176
Profile 90/60/5	2,100	1,300	80/30			178
	2,200					180
	2,300					190
	2,400				2	192
	2,500					194
	2,600					196

<sup>&</sup>lt;sup>1)</sup> Also available on request with low-maintenance silent bush (see page 60). <sup>2)</sup> With Kronrohr block



TYPE	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	EXTENSION L2 (mm)	CROSS STRUTS Quantity	WEIGHT Approx. kg
	1,200					166
1,400 1,500 1,600 PML 48 1,700	1,300					169
	1,400		100/3011			172
	1,500					175
	1,600					178
	1,700	900			1	181
D = 165 kN	1,800	980 1,000 1,100 1,200	Special	/ 150	'	184
48 t Max. front-axle load 24 t	1,900		dimensions 80/28 80/30	4 x 150 4 x 200		187
Individual certificate	2,000					190
Profile 90/60/6	2,100	1,300	100/322)			193
	2,200		102/32			196
	2,300					210
	2,400					213
	2,500				2	216
	2,600					219

Drawbars I PML series Page 57

# LPS 26 series, length adjustable, semi-automatic with automatic coupling or with pneumatic locking

(Individual certificate)

**LPS 26 semi-automatic with automatic coupling**: The LPS 26 provides particularly convenient adjustment mechanism, with semi-automatic length adjustment. Unlocking is performed by hand with the automatic coupling. After 100 mm of adjustment travel, the coupling locks automatically. The towing bar can be adjusted by hand or by moving the tractor unit. Greater or different adjustment travel, e.g. 1x 400 mm, can be implemented by using plugs in the towing bar.

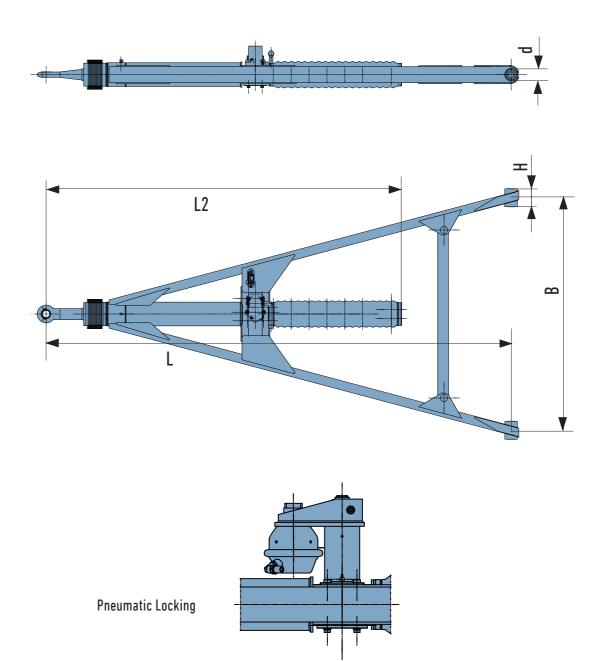
**LPS 26 with pneumatic locking**: The locking and unlocking of the coupling bolt is performed using a button in the cab. This solution therefore provides a particularly convenient adjustment mechanism.

With towing eye  $\emptyset$  40 mm (DIN 74054-40 A) and length adjustment 4 x 100 mm as standard. All drawbars are also available with towing eye  $\emptyset$  50 mm (DIN 74053-50 A). In all standard versions, the bearing eyes have plastic bushes.

Other dimensions and towing eyes are available on request. Height adjustment devices from page 68.

ТҮРЕ	LENGTH L (mm)	WIDTH AT CENTRE B (mm)	BEARING EYES H/d (mm)	LENGTH L2 (mm)	CROSS STRUTS Quantity	WEIGHT <sup>2)</sup> Approx. kg
	1,300					122
LPS 26	1,400	980 1,000 1,100	100/30 <sup>1)</sup> Special dimensions			124
26 t	1,500				1	126
	1,600			4 x 100		128
Individual certificate	1,700					130
Profile 90/50/5	1,800	1,200 1,300				132
	1,900	1,400	80/28			134
Towing bar Ø 100	2,000		80/30			136
	2,100				2	144
	2,200				2	146

<sup>1)</sup> Also available on request with low-maintenance silent bush (see page 60). locking +13 kg



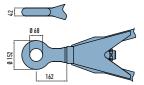
Drawbars I LPS series Page 59

#### BPW drawbars – general information

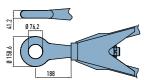
#### Towing eyes and bushes

With its range of drawbars, BPW offers a comprehensive modular system that enables individual combinations. Below is an overview of the BPW standard product range.

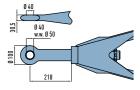
#### **BPW TOWING EYES:**



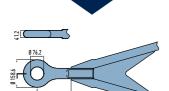
Screw-in towing eyes type BNA 29.05922 D value = 200 kN



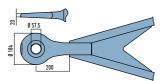
Screw-in towing eyes type NATO VG-74059 D value = 125 kN



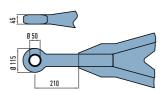
Screw-in towing eyes DIN 74054-40B Optionally DIN 74053-50B D value = 125 kN



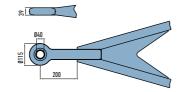
Towing eye type NATO VG-74059



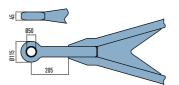
Towing eye VBG 15-173 D value = 190 kN



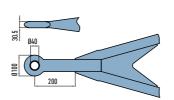
Towing eye in accordance with DIN 74053-50A D value = 130 kN Optionally towing eye type 56 similar to DIN 74053-50A D value = 260 kN



Towing eye: version for Switzerland D value = 168 kN

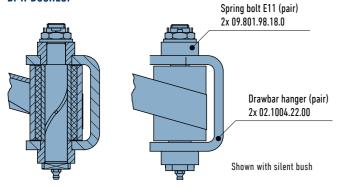


Towing eye VBG 16-0895 D value = 190 kN



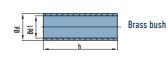
Towing eye similar to DIN 74054-40A With profile shaft Optionally towing eye DIN 74054-40A D value = 125 kN

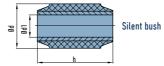
#### **BPW BUSHES:**



The dimensions for the bearing eye bushes can be found in the technical data sheets.

#### Plastic bush





#### BPW drawbars

#### **Spare parts**

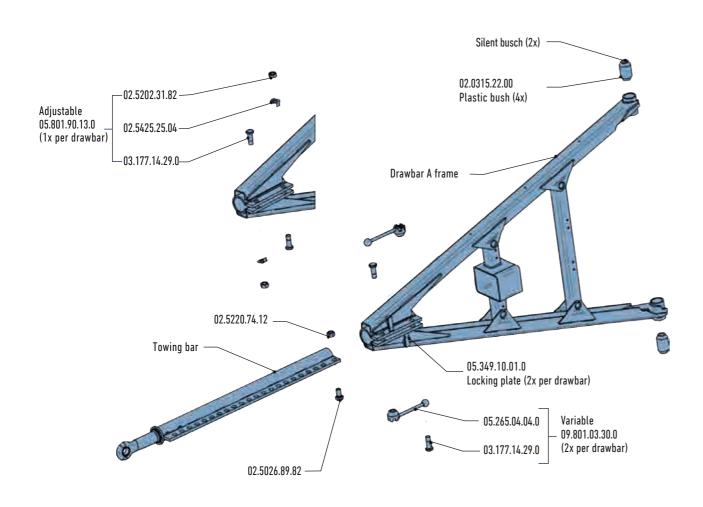
APPLICATION	DE	SIGN	ATIO	N													BPW NO.
	TBZ 27	TBZ 32	TBZ 48	SL 12	SL 27	ZGS 27	Z6S 32	PZM 26	PZMS 26	PZG 18	PZG 48	PZGL 32	PZL 27	PZL 32	PZL 48	PZLG 32	
FOR BEARING EYE	NU	MBER	PER	DRAW	BAR												
Plastic bush 80/28	4x	4χ	-	4χ	4χ	4χ	-	4x	4χ	4χ	-	4χ	4x	-	-	4x	02.0315.20.00
Plastic bush 80/30	4x	4x	-	4χ	4χ	4χ	4χ	4x	4χ	4χ	4χ	4x	4x	-	-	4x	02.0315.21.00
Plastic bush 100/30	4x	4x	4x	4χ	4χ	4χ	4χ	4x	4χ	4χ	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	2x	02.0316.06.00
Brass bush 100/30	2x	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
Towing bar Ø 80 with towing eye 40																	
Towing bar 12 x 50 length 1175	Ad	justm	ent op	ening	17								1x				09.028.45.02.0
Towing bar 16 x 50 length 1375	Ad	justm	ent op	ening	21								1x				09.028.45.03.0
Towing bar Ø 80 with towing eye 50																	
Towing bar 12 x 50 length 1175	Ad	justm	ent op	ening	17								1x				09.028.45.28.0
Towing bar 16 x 50 length 1375	Ad	justm	ent op	ening	21								1x				09.028.45.17.0
Towing bar Ø 80 with towing eye CH																	
Towing bar 12 x 50 length 1175		justm		·									1x				09.028.45.52.0
Towing bar 16 x 50 length 1375	Ad	Adjustment opening 21 1x										09.028.45.85.0					
Towing bar Ø 80 with towing eye VBG-15																	
Towing bar 12 x 50 length 1135		justm											1x				09.028.45.95.0
Towing bar 16 x 50 length 1335	Ad	justm	ent op	ening	21								1x				09.028.45.90.0
Towing bar Ø 100 with towing eye 40																	
Towing bar 12 x 50 length 1175		justm										1x		1x			09.028.51.02.0
Towing bar 16 x 50 length 1375	Ad	justm	ent op	ening	21							1x		1x			09.028.51.08.0
Towing bar offset 12 x 50 length 1,500 (from drawbar length 1,300)	Ad	justm	ent op	ening	17											1x	09.028.52.79.0
Towing bar Ø 100 with towing eye 50																	
Towing bar 12 x 50 length 1175	Ad	justm	ent op	ening	17							1x		1x			09.028.51.09.0
Towing bar 16 x 50 length 1375	Ad	justm	ent op	ening	21							1x		1x			09.028.51.10.0
Towing bar offset 12 x 50 length 1,500 (from drawbar length 1,300)	Ad	justm	ent op	ening	17											1x	09.028.52.73.0
Towing bar Ø 100 with towing eye VBG-15																	
Towing bar 12 x 50 length 1135	Ad	justm	ent op	ening	17							1x		1x			09.028.51.38.0
LOCKING MECHANISM	NU	MBER	PER	DRAW	BAR												
Bolt with locking nut version 'V' plus locking plates												2x 2x	2x 2x	2x 2x		2	09.801.03.30.0 05.349.10.01.0
Bolt with nut version 'E' including locking washer												1x	1x	1x		1	05.801.90.13.0
Bolt with locking nut version															2x		09.801.95.23.0
'V' plus locking plates															2x		05.349.10.01.0
Bolt with nut version 'E' including locking washer															1x		09.801.95.24.0

For PZS spare parts, see page 49. For LPS spare parts, see page 59.

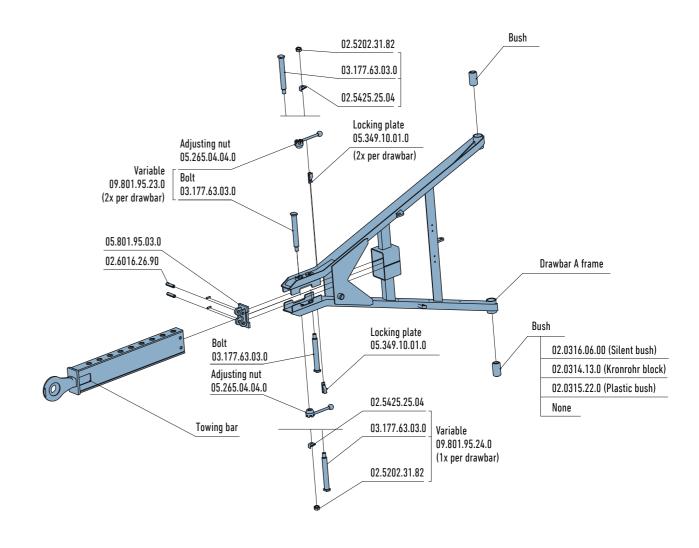
#### Drawbars

# RELIABLE

#### Spare Parts for PZL 27, PZL 32, PZGL 32

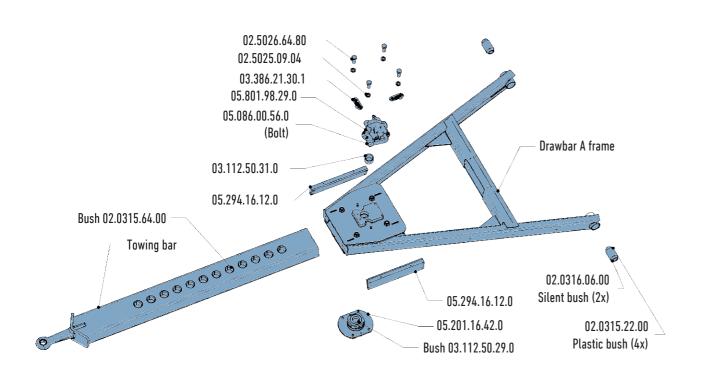


#### **Spare Parts** for PZL 48



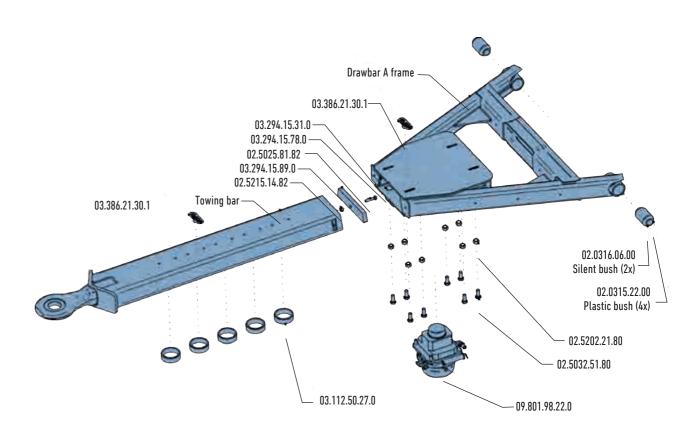
Page 62 Prawbars I Spare parts Page 63

#### **Spare Parts** for PML 32



SPARE PARTS FOR PML 32	QUANTITY	BPW NO.
Bush 60/49 x 39.5	1	03.112.50.31.0
Bush 80/49 x 40	1	03.112.50.29.0
Bush 60/50 x 47	1x per hole	02.0315.64.00
Coupling bolt 48.6 x 158	1	05.086.00.56.0
Automatic coupling	1	05.801.98.29.0
Guide rail Lg = 424	2	05.294.16.12.0
Adjustment bolt for guide rail (M20 x 50)	4	02.5026.64.80
Adjustment nut for guide rail (M20)	4	02.5205.09.04
Towing bar, complete, PML 32 towing eye DIN74054-40A 8 x 100	1	09.028.52.50.0
Plug PML 32	1x per hole	09.801.98.30.0
Silent bush 100/30	2	02.0316.06.00
Plastic bush 100/30	4	02.0315.22.00

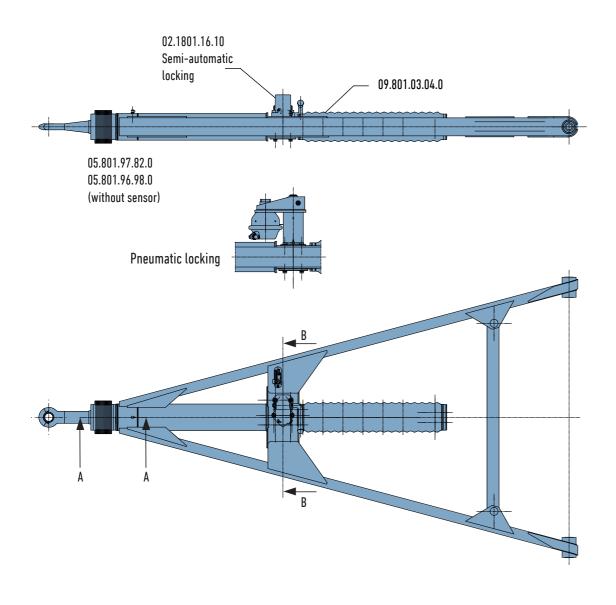
#### **Spare Parts** for PML 48

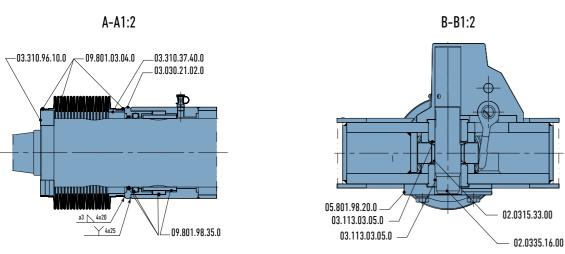


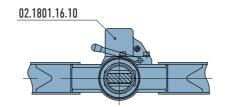
SPARE PARTS FOR PML 48	QUANTITY	BPW NO.		
Bush 90/80 x 28	1x per hole	03.112.50.27.0		
Pneumatic locking (with sensor)	1	09.801.98.22.0		
End stop 258 x 50 x 20	1	03.294.15.89.0 02.5025.81.82		
Hexagon screw for end stop	1			
Hexagon nut for end stop	1	02.5215.14.82		
Bottom guide plate 100 x 34 x 10	4	03.294.15.78.0		
Side guide plate 426 x 70 x 10	2	03.294.15.31.0		
Adjustment bolt for guide plate (M16 x 1,5 x 35)	8	02.5032.51.80		
Adjustment bolt for guide plate (M16 x 1,5)	8	02.5202.21.80		
Silent bush 100/30	2	02.0316.06.00		
Plastic bush 100/30	4	02.0315.22.00		

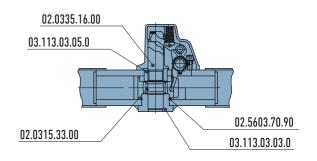
Page 64 Page 65

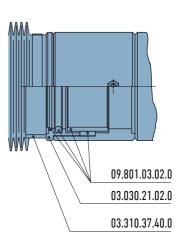
#### **Spare Parts** for LPS 26











SPARE PARTS FOR LPS 26	QUANTITY	BPW NO.	
Bush 62/38, 6 x 32 (from year of manufacture 09.2012)	2	03.113.03.05.0	
Bush 62/38, 6 x 32 (until year of manufacture 08.2012)	1	03.113.03.05.0	
Bush 34, 15 x 88 x 45 (until year of manufacture 08.2012)	1	03.113.03.03.0	
Locking ring 70 x 2.5 x DIN 471 (until year of manufacture 08.2012)	1	02.5603.70.90	
Bush 48.3/39 x 30	1x per hole	02.0315.33.00	
Coupling bolt 38.5/34 x 129	1	02.0335.16.00	
Automatic coupling	1	02.1801.16.10	
Pneumatic locking (without sensor)	1	05.801.96.98.0	
Pneumatic locking (with sensor)	1	05.801.97.82.0	
Guide bearing set	1	09.801.03.02.0	
Guide bearing	1	03.030.21.02.0	
Weld-on ring for bellows	1	03.310.37.40.0	
Ring 120/80 x 20	1	03.310.96.10.0	
MT-TGRP bellows front and rear	2	09.801.03.17.0	
Towing bar, complete, 100, towing eye DIN 74054 40A 4x 100	1	09.028.51.11.0	
Towing bar, complete, 100, towing eye version CH 40 4x 100	1	09.028.51.14.0	
Towing bar, complete, 100, towing eye DIN 74054 40A 6x 100	1	09.028.51.68.0	
Towing bar, complete, 100, towing eye DIN 74054 40A adjustment 80-150-170	1	09.028.51.48.0	
Plug	1x per hole	09.801.03.53.0	
MT-TGRP plate with bolts (from year of manufacture 09.2012)	1	05.801.98.20.0	

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#### BPW height adjustment devices

#### Klemmfix 72

(General type approval (German ABE))

The galvanized Klemmfix 72 is a height-adjustment device for drawbar installations that can swivel vertically.

With the optimum setting, the towing eye can be adjusted freely from the horizontal position by at least 300 mm (measured at the towing eye) upwards and downwards. The drawbar installation can be set to the required height by a single person without the need for tools or other assistance. Without a height support device, the Klemmfix 72 can only be used for limited height adjustment. For a drawbar weight of more than 75 kg, a height support device (e.g. return spring with

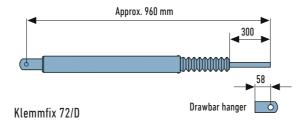
clamp lock or spring washers) must also be fitted, which will take some of the weight of the drawbar (see diagram). See the assembly and operation instructions for further information.

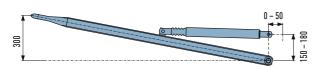
#### BPW NO.

Klemmfix 72/Z (tension) 51.98.01.0013 Klemmfix 72/D (compression) 51.98.01.0014

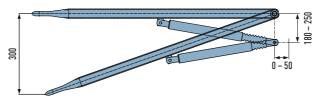


Klemmfix 72/Z

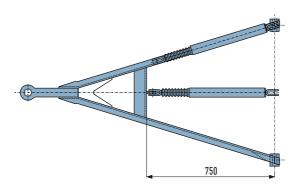




**Installation of Klemmfix 72/Z, effective under tension** Please read the installation and operating instructions.



**Installation of Klemmfix 72/D, effective under compression** Please read the installation and operating instructions.



Connection of Klemmfix on longitudinal or cross strut

#### BPW height support device

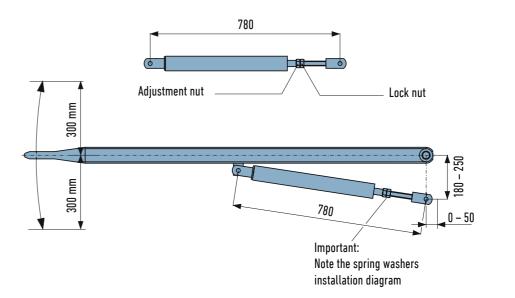
#### **Compression spring pack**

The galvanized compression spring pack are used only as a height support device for Klemmfix 72. The spring washers and Klemmfix 72 work together to enable optimum height adjustment. The spring washers must not be used alone to adjust the height of drawbars.



BPW NO.:

Compression spring pack 51.98.03.0001



#### BPW height support device

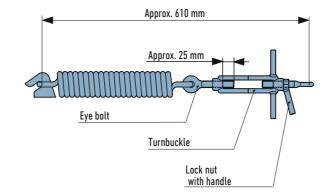
#### **Return spring with turnbuckle**

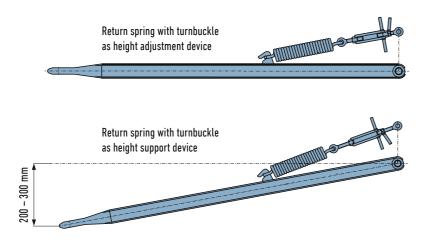
The return spring with turnbuckle can be used directly as a height adjustment device. The height is adjusted by turning the turnbuckle. The return spring used means that it is usually sufficient to use one return spring even for heavy drawbars (see diagram). In combination with Klemmfix 72, the return spring with turnbuckle is also used as a height support device.

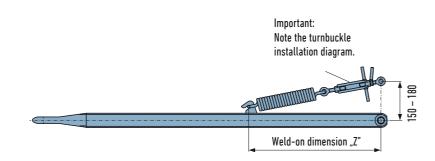
#### BPW NO.:

Return spring

(cataphoretic dip-coating - KTL<sub>zn</sub>) with turnbuckle 09.801.03.18.0 Return spring (galvanized) with turnbuckle 09.801.03.83.0







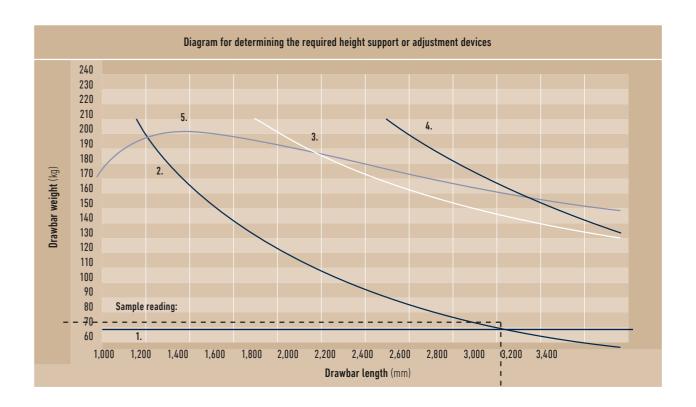
Installation of the return spring with turnbuckle on the drawbar

#### BPW height adjustment and support devices

#### Choosing the products you need

To select which products are required for height adjustment for the drawbar that is being used, you need the following information:

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



The following combinations can be selected using the diagram:

COMBINATION	HEIGHT ADJUSTMENT DEVICE	HEIGHT SUPPORT DEVICE
1.	Klemmfix 72 <sup>1)</sup>	-
2.	A return spring	-
3.	Klemmfix 72	A return spring
4.	A return spring	A return spring
5.	Klemmfix 72	Spring washers

<sup>1)</sup> Can only be used alone for drawbars up to 75 kg

#### Sample reading:

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

The diagram above shows the combination options 3, 4 and 5 (see table).

## BPW turntables With double-row ball race

BPW turntables - proven over more than 60 years of use!



#### The number one system

BPW turntables are distinguished from conventional single-row systems by their high-quality double row, which guarantees optimum distribution of the axial and radial forces that are produced.

This system has been proven over years of successful operation and the advantages in its design shine through in daily use in truck trailers, semi-trailers, heavy-duty transporters and special vehicles.

BPW turntables are used in particular in applications where the vehicle design places extremely high demands on the construction and materials.

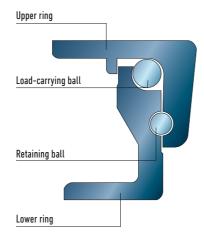
#### Optimum transmission of forces

BPW turntables have a row of load-carrying balls and a row of retaining balls between the upper and lower ring.

- ▶ The axial loads acting on the turntable are transferred vertically by the large load-carrying balls.
- ▶ The horizontal tension and compression forces are transferred by the smaller retaining balls.
- ▶ The moment loads from the braking and centrifugal force are absorbed by the load-carrying and retaining balls acting together.
- ▶ The retaining ball row links the upper and lower rings.

#### **Absolute reliability**

▶ The design principle ensures the greatest possible reliability as the axial and radial forces that are exerted are transferred separately to the two rows of balls.



Outstanding quality is achieved with a special selection of materials and specific manufacturing processes. The rim profiles are coldformed from high-strength steel, butt-welded and calibrated. This means that the turntables can also be used under extreme conditions.

#### Long life means cost efficiency

Thanks to their long life expectancy, BPW turntables guarantee minimal down time.

- ▶ The ball track is secured under load by the load-carrying balls.
- ▶ The interior has a labyrinth seal for long-term protection against dust
- ▶ All of the advantages together guarantee reliability, smooth running and an outstanding life expectancy.

#### Construction and installation instructions

- ▶ The permissible axial load (see table on page 70) is the static axial load that acts on the turntable. It applies only in the compression direction for vehicles with a speed of up to 105 km/h. For vehicles with a speed of up to 30 km/h, the axial load is permitted to be 25% higher. The permissible axial load is included in the details imprinted on the type plate.
- ▶ The supporting structure for the lower and upper ring must be even, level and torsionally rigid, as there will otherwise be deformation during use, which will put operational safety at risk. Unevenness on the supporting surfaces must not exceed 1 mm. Greater irregularities must be evened out. The supporting surface is divided into at least four surface sections of the same size, spread evenly around the circumference and must support at least 50% of the turntable flanges.
- ▶ After having been bolted in place, the turntable flanges must be additionally secured against movement at the top and bottom with at least four weld-on plates (shear blocks) so that the shear forces that occur are not absorbed solely by the connecting bolts.
- We recommend the use of drilled turntables. If drilling work is performed at a later time, drilling chips and coolant must not enter the ball tracks.

- ▶ Prior to commissioning, turntables must be filled with BPW ECO-Li 91 special longlife grease (lithium complex grease) via the grease nipple. When new, they are only lightly greased and so only have 'emergency lubrication'.
- ▶ BPW turntables are not suitable for applications involving multiple rotations of over 360°.
- ▶ BPW turntables are not designed for eccentric loads.
- ▶ Special applications must be agreed with us.

#### Maintenance

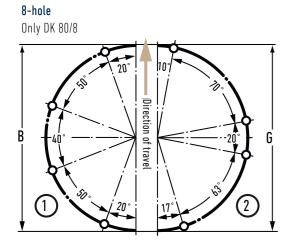
- ▶ Grease the turntable bearing via the grease nipple with BPW ECO-Li 91 special longlife grease (lithium complex grease) every 25,000 kilometres, or at least once every three months (every two to three weeks in extreme operating conditions). Do not mix the grease with other types of grease (calcium or sodium soap grease).
- $\blacktriangleright$  Check all bolt connections regularly and retighten if necessary.
- ▶ No welding work may be performed on BPW turntables; i.e. no parts may be welded on. During welding work on the vehicle, the earth cable must be attached so that no power can flow through the turntable, as the balls and running surfaces may otherwise be damaged.

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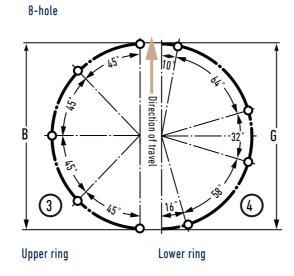
#### **BPW** turntables

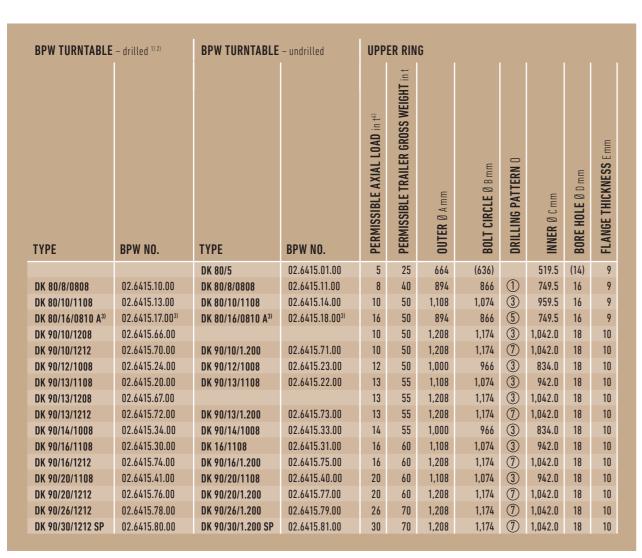
Upper ring

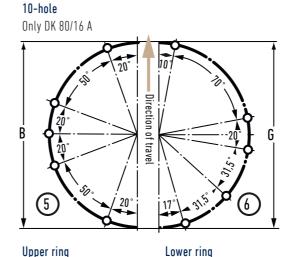
#### **Standard product range**

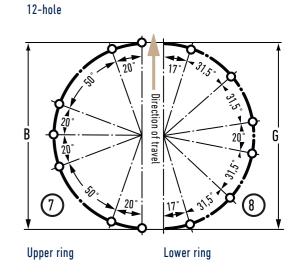


Lower ring

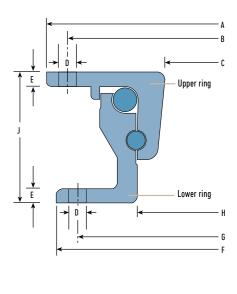








LOWER RING				<b>BOLTS</b> per ring					
OUTER Ø F mm	BOLT CIRCLE Ø 6mm	DRILLING PATTERN 0	INNER Ø Hmm	BORE HOLE Ø D mm	FLANGE THICKNESS Emm	QUANTITY	THREAD Ø min.	OVERALL HEIGHT J min.	WEIGHT kg
650	(622)	2	554	(14)	9	8	(M 12)	80	38
880	852	4	784	16	9	8	M 14	80	49
1,095	1,060	6	994	16	9	8	M 14	80	64
880	852	6 4 8	784	16	9	10	M 14	80	49
1,195	1,160	8	1,079	18	10	8	M 16	90	92
1,195	1,160	4	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	8	M 16	90	92
1,195	1,160	4 8 4 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	8	979	18	10	8	M 16	90	82
1,195	1,160	4	1,079	18	10	12	M 16	90	95
1,095	1,060	8	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		1,079	18	10	12	M 16	90	96



Page 74 Turntables | Product range

<sup>1)</sup> Special versions on request. 2) For drill patterns, see figures. 3) Use only for semi-trailer coupling.

<sup>&</sup>lt;sup>4)</sup> Permissible axial load = static axial load over the steered axle, which acts on the turntable. Subject to change without notice.















Postfach 1280 · 51656 Wiehl, Germany · Telephone +49 (0) 2262 78-0

info@bpw.de · www.bpw.de

