

**PALFINGER EQUIPMENT**



# Product Catalog



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**PALFINGER EQUIPMENT**



## Gear type rotators with shaft up to 2000 kg load capacity (incl. fittings)



Type	Load capacity (kg)	Shaft ø B (mm)	Upper connection C x A* (mm)	Torque (Nm)	Moment of deflection max (Nm)	Self weight (kg)
<b>PZR200G4</b> with oil ducts	2000	49.5	60 x 25	300	1050	12
<b>PZR200G2</b> without oil ducts	2000	49.5	60 x 25	300	1050	10
<b>PZR200GH</b> with integrated hook	2000	Haken	60 x 25	300	1050	10

\*) Length C x ø shaft A

**Operating pressure:** 26 MPa (260 bar)  
**Pump capacity:** 25 to 50 l/min  
**Hydraulic couplings:** G 3/8"



## Gear type rotators with shaft up to 4500 kg load capacity (incl. fittings)



Type	Load capacity (kg)	Shaft ø B (mm)	Upper connection C x A* (mm)	Torque (Nm)	Moment of deflection max (Nm)	Self weight (kg)
<b>PZR450G-59</b>	4500	59	84 x 30	850	3000	26
<b>PZR450G-62</b>	4500	62	84 x 30	850	3000	26
<b>PZR450G-63</b>	4500	63	84 x 30	850	3000	26
<b>PZR450G-68</b>	4500	68	84 x 30	850	3000	26
<b>N00308**</b>	4500	68	84 x 30	850	3000	27
<b>PZR450G-69</b>	4500	69	84 x 30	850	3000	26
<b>N00238</b> with hose guard	4500	59	84 x 30	850	3000	29
<b>N00271</b> with hose guard	4500	68	84 x 30	850	3000	29

\*) Length C x ø shaft A, \*\*) steel motor-head

**Operating pressure:** 32 MPa (320 bar)  
**Pump capacity:** 25 to 60 l/min  
**Hydraulic couplings:** M 18 x 1,5



## Gear type rotators with flange up to 4500 kg load capacity (incl. fittings)



Type	Load capacity (kg)	Hole pattern of flange B (mm)	Upper connection C x A* (mm)	Torque (Nm)	Moment of deflection max (Nm)	Self weight (kg)
<b>PZR450GF</b>	4500	□ 140	84 x 30	850	3000	26
<b>N00237</b> with hose guard	4500	□ 140	84 x 30	850	3000	26

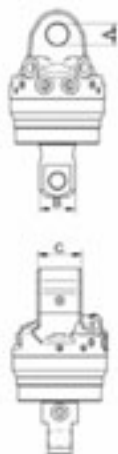
\*) Length C x ø shaft A

**Operating pressure:** 32 MPa (320 bar)  
**Pump capacity:** 25 to 60 l/min  
**Hydraulic couplings:** M 18 x 1,5





### Gear type rotators with shaft up to 6000 kg load capacity (incl. fittings)



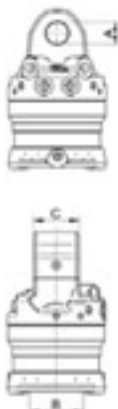
	Load capacity	Shaft ø B	Upper connection C x A*	Torque	Moment of deflection max	Self weight
Type	(kg)	(mm)	(mm)	(Nm)	(Nm)	(kg)
<b>PZR601G</b>	6000	68	84 x 40	1000	4500	32

\*) Length C x ø shaft A

Operating pressure: 32 MPa (320 bar)  
 Pump capacity: 25 to 80 l/min  
 Hydraulic couplings-in: G 1/2"  
 Hydraulic couplings-out: M 18 x 1,5



### Gear type rotators with flange up to 6000 kg load capacity (incl. fittings)



	Load capacity	Hole pattern of flange B	Upper connection C x A*	Torque	Moment of deflection max	Self weight
Type	(kg)	(mm)	(mm)	(Nm)	(Nm)	(kg)
<b>PZR601GF</b>	6000	□ 140	84 x 40	1000	8500	34
<b>PZR601GFK</b>	6000	□ 140	81 x 35	1000	8500	37

\*) Length C x ø shaft A

Operating pressure: 32 MPa (320 bar)  
 Pump capacity: 25 to 80 l/min  
 Hydraulic couplings-in: G 1/2"  
 Hydraulic couplings-out: M 18 x 1,5



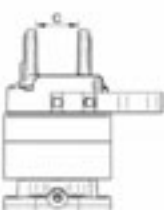
### Gear type rotators with up to 10000 kg load capacity (incl. hose guard and fittings)



	Load capacity	Hole pattern of flange B	Upper connection C x A*	Torque	Moment of deflection max.	Self weight
Type	(kg)	(mm)	(mm)	(Nm)	(Nm)	(kg)
<b>PZR1000GF</b>	10000	Ø 173	81 x 35	2000	12000	65
<b>PZR1000GF-45</b>	10000	Ø 173	100 x 45	2000	12000	68

\*) Length C x ø shaft A

Operating pressure: 32 MPa (320 bar)  
 Pump capacity: 25 to 100 l/min  
 Hydraulic couplings (rotator and bucket): G 1/2"



## Upper suspensions between rotator and crane

An upper suspension is a cardan link between rotator and crane. It is available for all current makes and models of cranes. Please specify dimensions when ordering.



Type	For rotator	For crane	Load capacity (approx. kg)	Self weight (approx. kg)
<b>UL167</b>	PZR200G2	Compact crane	up to 2 t	5
<b>UL168</b>	PZR200G2	Compact crane	up to 2 t	5
<b>UL045</b> - Height 263 mm	PZR450 (G,GF)	PK4501 and bigger	up to 4,5 t	10
<b>UL045K</b> - Height 173 mm	PZR450 (G,GF)	PK4501 and bigger	up to 4,5 t	10
<b>UL045L</b> - Height 400 mm	PZR450 (G,GF)	PK4501 and bigger	up to 4,5 t	10
<b>UL134</b>	PZR450 (G,GF)	up to PK 3400 and PK4200	up to 4,5 t	10
<b>UL136</b>	PZR450 (G,GF)	Wallboard cranes	up to 4,5 t	10
<b>UL144</b>	PZR450 (G,GF)	EPSILON cranes	up to 4,5 t	10
<b>UL135</b>	PZR601 (G,GF)	PK4501 and bigger	up to 6 t	15
<b>UL137</b>	PZR601 (G,GF)	Wallboard cranes	up to 6 t	15
<b>UL138</b>	PZR601 (G,GF)	EPSILON cranes	up to 6 t	15
<b>UL139</b>	PZR450GF	bottle-bank discharge units	-	-
<b>UL153</b>	PZR1000GF	PALFINGER cranes	up to 10 t	25
<b>UL153-42</b>	PZR1000GF	PALFINGER cranes	up to 10 t	25
<b>UL154</b>	PZR1000GF	EPSILON cranes	up to 10 t	25
<b>UL155</b>	PZR601 (G,GF)-PZR1000GF	EPSILON cranes	up to 10 t	25
<b>UL173</b>	PZR1000GF-45	PALFINGER cranes	up to 10 t	25
<b>N00087</b>	PZR450 (G,GF)	PALFINGER cranes	up to 4,5 t	10
<b>N00267</b> with double pendulum brake	PZR450 (G,GF)	EPSILON cranes	up to 4,5 t	20
<b>N00272</b> with double pendulum brake	PZR450 (G,GF)	PALFINGER cranes	up to 4,5 t	20
<b>N00318</b> with pendulum brake	PZR601 (G,GF)	PALFINGER cranes	up to 6 t	20

## Hose protections



The hose protection is a metal bow to be attached onto the rotator. It is designed to protect the hoses of the rotator from damage i.e. from protruding branches.

Type	For rotator
<b>N00101</b>	PZR450 (G,GF)
<b>N00369</b>	PZR601 (G,GF)
<b>N00457</b>	PZR200 (G4,G2,GH)

## Reduction links between rotator and attachment



A reduction link adapts a shaft type rotator to an attachment with a standard hole pattern for a flange rotator.

Type	Description
<b>N00072-XX*</b>	between shaft rotator and attachment
<b>N00072-68-59</b>	reduction link 68 mm for 59 mm
<b>N00417</b>	intermediary between flange and shaft 58 mm

\*) specify Ø shaft when ordering

## Quick change system for shaft rotators



The quick change system enables an easy exchange between different attachments. The mechanical coupling and locking is achieved by the turning motion of the rotator. You simply disconnect quick couplings and disengage the locking device manually. Upper elements of the quick change system are available for all shaft rotators. The system can be used on most attachments which allows the versatility to quickly change the application with a minimum of down-time. Not suitable for heavy duty work.



Type	Description	Hole pattern of flange (mm)	Self weight (kg)
<b>N00074</b>	complete, incl. hydraulic couplings (N00088)	4 x Ø18 / □ 140	12
<b>N00076</b>	upper element (fitted to rotator)		5
<b>N00088</b>	mobile part of hydraulic quick coupling (2 pcs.)		
<b>N00077</b>	lower element (mounted onto attachment)	4 x Ø18 / □ 140	7
<b>N00075</b>	rigid suspension link with non-rotating hook to connect to the lower element e.g. for attaching pallet forks		7
<b>N00414</b>	intermediary between PZP-W and N00074		



## Connecting hoses and hydraulic quick change kit for hoses



Type	Description
<b>BL462</b>	connecting hoses between rotator 900 mm and crane (4 pcs.)
<b>BL462-R</b>	connecting hoses between rotator 900 mm and crane (2 pcs.)
<b>BL463</b>	connecting hoses between rotator and attachment 850 mm (2 pcs.)
<b>BL513</b>	connecting hoses between crane and rotator version D and E 1200 mm (4 pcs.)
<b>BL462-MF</b>	connecting hoses between rotator 900 mm and crane (4 pcs.), multi-fiber
<b>BL513-MF</b>	connecting hoses between crane and rotator version D and E 1200 mm (4 pcs.), multi-fiber
<b>BL981-L</b>	mobile parts of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
<b>BL981-F</b>	fixed parts of hydraulic quick coupling for hose (Ø 10 mm, 2 pieces)
<b>N00090</b>	hydraulic quick change kit incl. mobile and fixed parts, 2 pieces each, mounted with adapters to rotator

## Accessories for attaching pallet forks etc.



Type	Description
<b>N00070</b>	rigid suspension link with pin for all shaft-type rotators
<b>N00071-XX*</b>	non-rotating hook for all shaft-type rotators
<b>N00071-SB</b>	safety latch for N00071-XX
<b>N00070-62</b>	rigid suspension link with pin for shaft rotator, shaft 62 mm

\*) specify Ø shaft when ordering

<b>N00328-68</b>	rigid hook 6 t for PZR601G shaft rotator, shaft 68 mm
<b>N00372</b>	non-rotating swinging hook for PZR1000GF flange rotator

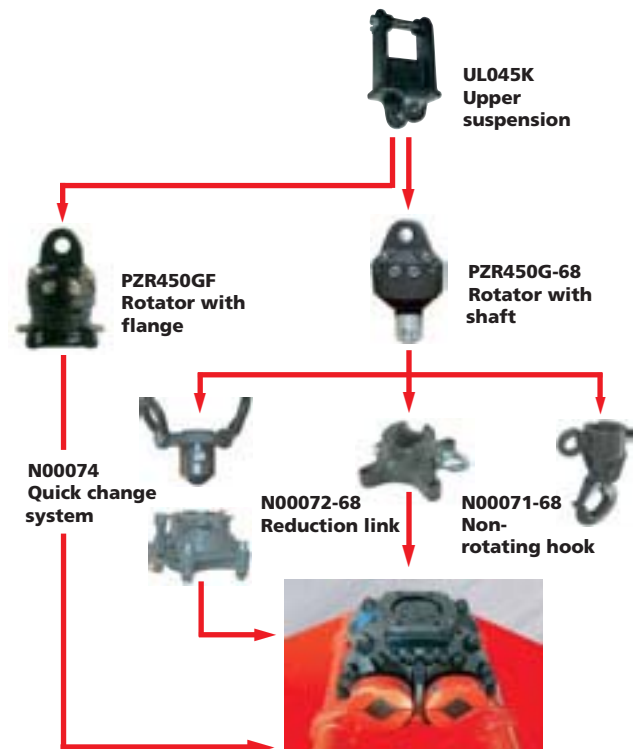
# HPXdrive Standard – Drive Units

The HPXdrive Standard as an allround unit is perfect for the daily routine jobs. The advantages of the HPXdrive-technology – the constant high closing force and the compact design – guarantee a long life and rentability.

The standard rotator of the HPXdrive Standard is the rotator with flange PZR450GF. In case a quick change to a non-rotating hook is necessary, the HPXdrive can be delivered with the shaft rotator - in combination with the quick change system N00074 or reduction link N00072-XX.

## Technical information HPXdrive Standard

Torque (at 26 MPa):	12000 Nm
Operating pressure:	26 to 32 MPa (approx. 260 to 320 bar)
Pump capacity:	25 to 75 l/min



### PZHP04-GF HPXdrive Standard with flange rotator

**Package consists of:** upper suspension UL045K, rotator PZR450GF, long hoses BL462, drive unit HPXdrive Standard with pressure relief valve and non-return valve

**Self weight:** 160 kg

**Height:** 480 mm



### PZHP04-502 HPXdrive Standard/N00072 with shaft rotator and reduction link

**Package consists of:** upper suspension UL045K, rotator PZR450G-68, reduction link N00072-68, long hoses BL462, drive unit HPXdrive Standard with pressure relief valve and non-return valve

**Self weight:** 165 kg

**Height:** 535 mm



### PZHP04-505 HPXdrive Standard/N00074 with shaft rotator and quick change system

**Package consists of:** upper suspension UL045K, rotator PZR450G-68, quick change system N00074, long hoses BL462, drive unit HPXdrive Standard with pressure relief valve and non-return valve

**Self weight:** 170 kg

**Height:** 575 mm

**Please note:** The drive unit HPXdrive Standard can only be used in combination with PALFINGER rotator and PALFINGER shells.



# HPXdrive Standard – Exchangeable Shells

The bucket shells of the HPXdrive Standard are bolted to the shafts, and therefore it is very easy to replace them with another set of shells. Different types of shells for different applications can be refitted onto the driving unit, e.g. clamshell bucket, rock grapple, timber grapple, hay and forestry grapple and multi purpose clamshell. Other types of shells are available on request.

The interchangeable shells are delivered with an exchange aid that guarantees that the HPXdrive Standard can be positioned with ease.



**Package consists of:** exchangeable shells, bolt-on teeth (for PZHP04), exchange aid kit



Type	Volume (litre)	Width (mm)	Max. Opening (mm)	Number of teeth/tines	Self weight (kg)
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## Shells for clamshell bucket - PZHP04

<b>PZWS04-200</b>	200	400	1395	4	125
<b>PZWS04-250</b>	250	500	1395	4	140
<b>PZWS04-325</b>	325	600	1395	6	150
<b>PZWS04-350</b>	350	650	1395	6	155
<b>PZWS04-450</b>	450	800	1395	6	170

## Shells for clamshell bucket with open shells - PZHP04U

<b>PZWS4U-250</b>	250	570	1595	-	215
<b>PZWS4U-300</b>	300	670	1595	-	235
<b>PZWS4U-400</b>	400	820	1595	-	255
<b>PZWS4U-500</b>	500	1020	1595	-	285

## Shells for rock grapple - PZHP13

<b>PZWS13-016</b>	0,16 m <sup>2</sup>	400	1230	-	75
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## Shells for timber grapple - PZHP32

<b>PZWS32-016</b>	0,16 m <sup>2</sup>	400	1225	-	75
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## Shells for hay and forestry grapple - PZHP41

<b>PZWS41-02</b>	0,20 m <sup>2</sup>	670	1200	7	95
<b>PZWS41-04</b>	0,40 m <sup>2</sup>	940	1695	7	160

**Please note:** The drive unit HPXdrive Standard can only be used in combination with PALFINGER rotator and PALFINGER shells

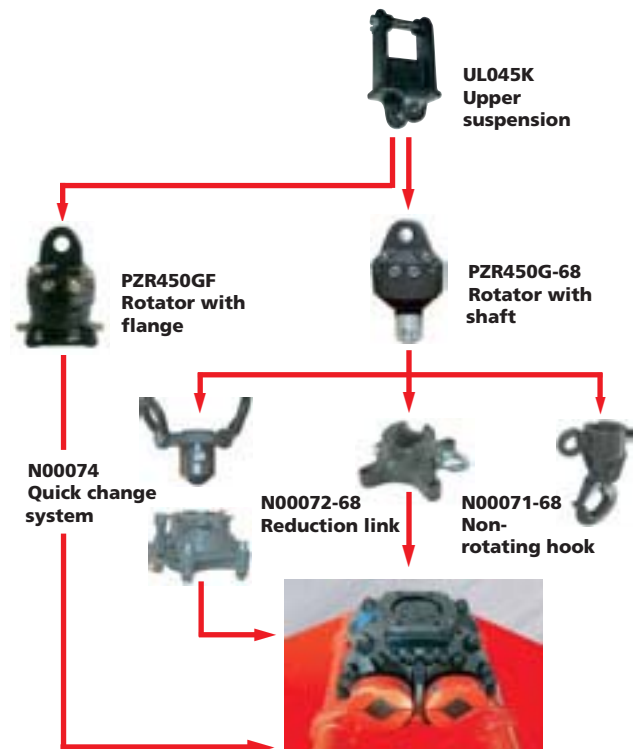
# HPXdrive Heavy Duty – Drive Units

The HPXdrive Heavy Duty is a powerful version for difficult tasks. The advantages of the HPXdrive-technology – the constant high closing force and the compact design – guarantee a long life and rentability.

The standard rotator of the HPXdrive Heavy Duty is the rotator with flange PZR450GF. In case a quick change to a non-rotating hook is necessary, the HPXdrive can be delivered with the shaft rotator – in combination with the quick change system N00074 or reduction link N00072-XX.

## Technical Information HPXdrive Heavy Duty

Torque (at 32 MPa):	21000 Nm
Operating pressure:	26 to 32 MPa (approx. 260 to 320 bar)
Pump capacity:	40 to 90 l/min



### PZHP05-GF HPXdrive Heavy Duty with flange rotator

**Package consists of:** upper suspension UL045K, rotator PZR450GF, long hoses BL462, drive unit HPXdrive Heavy Duty with pressure relief valve and non-return valve

**Self weight:** 195 kg

**Height:** 510 mm



### PZHP05-502 HPXdrive Heavy Duty/N00072 with shaft rotator and reduction link

**Package consists of:** upper suspension UL045K, rotator PZR450G-68, reduction link N00072-68, long hoses BL462, drive unit HPXdrive Heavy Duty with pressure relief valve and non-return valve

**Self weight:** 200 kg

**Height:** 565 mm



### PZHP05-505 HPXdrive Heavy Duty/N00074 with shaft rotator and quick change system

**Package consists of:** upper suspension UL045K, rotator PZR450G-68, quick change system N00074, long hoses BL462, drive unit HPXdrive Heavy Duty with pressure relief valve and non-return valve

**Self weight:** 205 kg

**Height:** 605 mm

**Please note:** The drive unit HPXdrive Standard can only be used in combination with PALFINGER rotator and PALFINGER shells.

# HPXdrive Heavy Duty – Exchangeable Shells

The bucket shells of the HPXdrive Heavy Duty are bolted to the shafts, and therefore it is very easy to replace them with another set of shells. Different types of shells for different applications can be refitted onto the driving unit, e.g. clamshell bucket, rock grapple, timber grapple, hay and forestry grapple and multi purpose clamshell. Other types of shells are available on request.

The interchangeable shells are delivered with an exchange aid that guarantees that the HPXdrive Heavy Duty can be positioned with ease.



**Package consists of:** exchangeable shells, bolt-on teeth (for PZHP05), exchange aid kit



Type	Volume (litre)	Width (mm)	Max. Opening (mm)	Number of teeth/tines	Self weight (kg)
<b>Shells for heavy duty clamshell bucket – PZHP05</b>					
<b>PZWS05-200</b>	200	400	1420	4	135
<b>PZWS05-250</b>	250	500	1420	4	165
<b>PZWS05-350</b>	350	650	1420	6	190
<b>PZWS05-450</b>	450	800	1420	6	215
<b>PZWS05-550</b>	550	1000	1420	8	250
<b>Shells for heavy duty clamshell bucket with open shells – PZHP5U</b>					
<b>PZWS5U-250</b>	250	570	1545	5*	220
<b>PZWS5U-300</b>	300	670	1545	5*	240
<b>PZWS5U-400</b>	400	820	1545	7*	260
<b>PZWS5U-450</b>	450	920	1545	7*	275
<b>PZWS5U-500</b>	500	1020	1545	9*	295
*) optional available with bolt-on teeth					
<b>Shells for heavy duty rock grapple – PZHP13-HD</b>					
<b>PZWS13-035S</b>	0,35 m <sup>2</sup>	400	1705	-	135
<b>Shells for heavy duty timber grapple – PZHP32-HD</b>					
<b>PZWS32-016S</b>	0,16 m <sup>2</sup>	400	1290	-	90
<b>Shells for heavy duty hay and forestry grapple – PZHP41-HD</b>					
<b>PZWS41-04S</b>	0,40 m <sup>2</sup>	940	1720	7	195

**Please note:** The drive unit HPXdrive Standard can only be used in combination with PALFINGER rotator and PALFINGER shells.

# Clamshell Buckets with Horizontal Hydraulic Cylinder

**The bucket is the ideal solution for light weight loader cranes in daily routine work – robust, effective, budget priced.**

- **Maximum loading height** is achieved through the compact design with the horizontal hydraulic cylinder.
- **Long life** is ensured through the use of 500 HB steel in the manufacture of the cutting edges and a generously dimensioned bearing system.
- **Synchronized opening and closing** through sturdy compensation bar.
- **Bolt-on digging teeth** are delivered with each clamshell bucket.
- **Excellent digging characteristics** are the result of high closing forces (20 kN at 26 MPa operating pressure).



## Package clamshell buckets PZG-GPK

	Volume	Width B	Max. Opening	Number of teeth	Self weight	Closing force	Load capacity
Type	(litre)	(mm)	(mm)		(kg)	(kN)	(kg)
<b>PZG150GPK</b>	150	325	1390	3	210	20	3000
<b>PZG250GPK</b>	250	500	1390	5	255	20	3000
<b>PZG350GPK</b>	350	650	1390	5	275	20	3000
<b>PZG450GPK</b>	450	800	1390	9	280	20	3000
<b>PZG550GPK</b>	550	1000	1390	9	310	20	3000

**Package consists of:** clamshell bucket, bolt-on teeth, rotator PZR450GF, connecting hoses BL462 and BL463, upper suspension UL045, non-return valve

## Clamshell buckets PZG-G

	Volume	Width B	Max. Opening	Number of teeth	Self weight	Closing force	Load capacity
Type	(litre)	(mm)	(mm)		(kg)	(kN)	(kg)
<b>PZG150G</b>	150	325	1390	3	185	20	3000
<b>N00065</b>	200	400	1390	3	195	20	3000
<b>PZG250G</b>	250	500	1390	5	220	20	3000
<b>N00094</b>	325	600	1390	5	235	20	3000
<b>PZG350G</b>	350	650	1390	5	240	20	3000
<b>PZG450G</b>	450	800	1390	9	275	20	3000
<b>PZG550G</b>	550	1000	1390	9	290	20	3000

**Package consists of:** clamshell bucket, bolt-on teeth, non-return valve

## Accessories

Type	Description
<b>PZR450GF</b>	recommended flange rotator - load capacity 4500 kg
<b>PZR450G-XX*</b>	shaft rotator - load capacity 4500 kg
<b>N00074</b>	quick change system for shaft rotator
<b>N00072-XX*</b>	reduction link between rotator and grapple
<b>N00143</b>	scraper - indicate type of grapple
<b>N00130</b>	welded hooks
<b>N00129</b>	wear plates to protect horizontal cutting edges (2 pieces)
<b>N00173</b>	adapters for mounting of compression rails
<b>N00048</b>	compression rails – length 720 mm (2 pieces)
<b>N00049</b>	compression rails – length 1000 mm (2 pieces)

\*) specify Ø shaft when ordering

## Requirements of truck crane

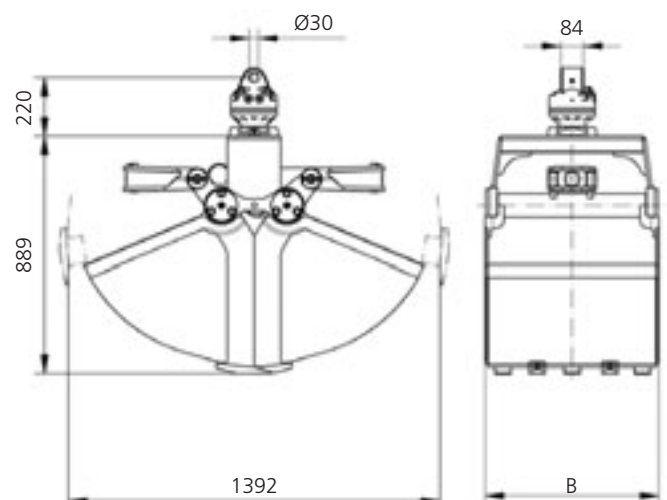
### Operating pressure:

26 to 32 MPa (260 to 320 bar)

### Pump capacity:

25 to 75 l/min

## Technical drawings



# Heavy Duty Clamshell Buckets with Horizontal Hydraulic Cylinder

The rugged clamshell bucket is recognized as successful synthesis of form, function and performance.

- **Maximum loading height** is achieved through the compact design with the horizontal hydraulic cylinder.
- **Long life is ensured** through the use of 500 HB steel in the manufacture of the cutting edges and a generously dimensioned bearing system.
- **Synchronized opening and closing** through sturdy compensation bar.
- **Bolt-on digging teeth** are delivered with each clamshell bucket.
- **Excellent digging characteristics** are the result of high closing forces (30 kN at 26 MPa operating pressure).



## Package clamshell buckets PZG-G-1

Type	Volume (litre)	Width B (mm)	Max. Opening (mm)	Number of teeth	Self weight (kg)	Closing force (kN)	Load capacity (kg)
<b>PZG200G-1P</b>	200	400	1430	3	285	30	3000
<b>PZG250G-1P</b>	250	500	1430	5	320	30	3000
<b>PZG350G-1P</b>	350	650	1430	5	345	30	3000

**Package consists of:** clamshell bucket, bolt-on teeth, rotator PZR450GF, connecting hoses BL462 and BL463, upper suspension UL045, non-return valve

## Clamshell buckets PZG-G-1

<b>PZG200G-1</b>	200	400	1430	3	265	30	3000
<b>PZG250G-1</b>	250	500	1430	5	285	30	3000
<b>PZG350G-1</b>	350	650	1430	5	310	30	3000
<b>N00030</b>	450	800	1430	9	340	30	3000
<b>N00031</b>	550	1000	1430	9	375	30	3000
<b>N00032</b>	650	1200	1430	9	410	30	3000

**Package consists of:** clamshell bucket, bolt-on teeth, non-return valve

## Accessories

Type	Description
<b>PZR450GF</b>	recommended flange rotator - load capacity 4500 kg
<b>PZR450G-XX *</b>	shaft rotator - load capacity 4500 kg
<b>N00074</b>	quick change system for shaft rotator
<b>N00072-XX *</b>	reduction link between rotator and grapple
<b>N00143</b>	scraper - indicate type of grapple
<b>N00130</b>	welded hooks
<b>N00129</b>	wear plates to protect horizontal cutting edges (2 pieces)
<b>N00173</b>	adapters for mounting of compression rails
<b>N00048</b>	compression rails – length 720 mm (2 pieces)
<b>N00049</b>	compression rails – length 1000 mm (2 pieces)

\*) specify Ø shaft when ordering

## Requirements of truck crane

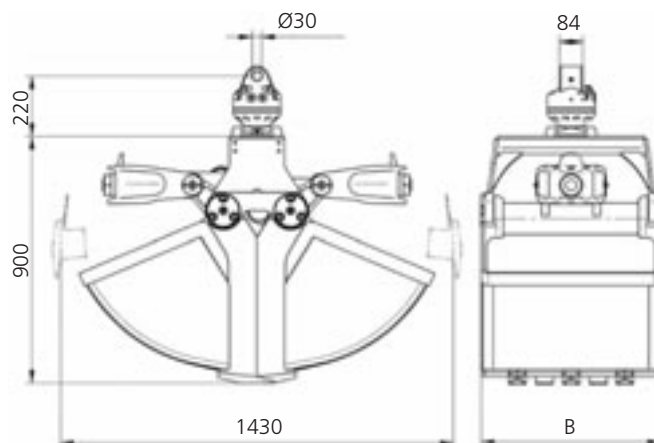
### Operating pressure:

26 to 32 MPa (260 to 320 bar)

### Pump capacity:

25 to 75 l/min

## Technical drawing





# Reinforced Heavy Duty Clamshell Buckets with Horizontal Hydraulic Cylinder

The rugged clamshell bucket is the reinforced version of the PZG-G-1. The cutting edges, shells and shell frame are reinforced.

- **Maximum loading height** is achieved through the compact design with the horizontal hydraulic cylinder.
- **Long life is ensured** through the use of 500 HB steel in the manufacture of the cutting edges and a generously dimensioned bearing system.
- **Synchronized opening and closing** through sturdy compensation bar.
- **Bolt-on digging teeth** are delivered with each clamshell bucket.
- **Excellent digging characteristics** are the result of high closing forces (30 kN at 26 MPa operating pressure).



## Clamshell buckets – reinforced version of PZG-G-1 incl. teeth

Type	Volume (litre)	Width B (mm)	Max. Opening (mm)	Number of teeth	Self weight (kg)	Closing force (kN)	Load capacity (kg)
<b>N00033</b>	200	400	1430	3	315	30	3000
<b>N00034</b>	250	500	1430	5	335	30	3000
<b>N00035</b>	350	650	1430	5	365	30	3000

## Accessories

Type	Description
<b>PZR450GF</b>	recommended flange rotator – depending on application – load capacity 4500 kg
<b>PZR 601GF</b>	recommended flange rotator – depending on application – load capacity 6000 kg
<b>PZR450G-XX*</b>	shaft rotator – up to 4500 kg load capacity
<b>N00074</b>	quick change system for shaft-type rotators
<b>N00072-XX*</b>	reduction link between rotator and grapple
<b>N00143</b>	scraper - indicate type of grapple
<b>N00130</b>	welded hooks
<b>N00129</b>	wear plates to protect horizontal cutting edges (2 pieces)
<b>N00173</b>	adapters for mounting of compression rails (non-return valve necessary)
<b>N00048</b>	compression rails – length 720 mm (2 pieces)
<b>N00049</b>	compression rails – length 1000 mm (2 pieces)
<b>BL463</b>	short connecting hoses

\*) specify Ø shaft when ordering

## Requirements of truck crane

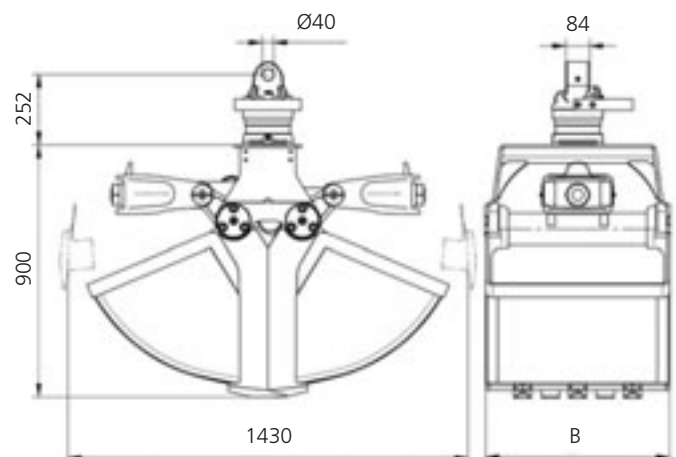
### Operating pressure:

26 to 32 MPa (260 to 320 bar)

### Pump capacity:

25 to 75 l/min

## Technical drawing



# Clamshell Buckets with Vertical Hydraulic Cylinder

The clamshell bucket is a proven grapple for daily routine work – ideal for excavating foundations, trenches and other similar applications in civil engineering. The closely positioned shell pivots ensure good digging behaviour and high closing pressure.

- **Good digging behaviour** through the closely positioned shell pivots.
- **Longevity** is ensured through the use of 500 HB steel in the manufacture of cutting edges and the generously dimensioned bearing system. The enclosed hydraulic cylinder (in a hub unit) and short hydraulic connection hoses lower the risk of damage and down-time.
- **Maximum loading height** is achieved through the compact design.
- **Special model with scraper** and special bucket shape for excavating foundations and graves.
- **Special model** with round buckets for digging well shafts etc.
- **Bolt-on digging teeth** are delivered with each clamshell bucket.
- **Excellent digging characteristics** are the result of high closing forces (20 kN at an operating pressure of 26 MPa).



## Clamshell buckets incl. teeth

Type	Volume (litre)	Width B (mm)	Max. Opening (mm)	Number of teeth	Self weight (kg)	Closing force (kN)	Load capacity (kg)
<b>N00148</b>	150	325	1390	3	260	20	3000
<b>N00170</b>	200	400	1390	3	275	20	3000
<b>N00120</b>	250	500	1390	5	295	20	3000
<b>N00118</b>	325	600	1390	5	315	20	3000
<b>N00117</b>	350	650	1390	5	320	20	3000
<b>N00128</b>	450	800	1390	9	355	20	3000

## Special grapples incl. scraper or round shells

<b>N00398</b>	100	600	800	5	280	30	3000
<b>N00200</b>	125	760	800	7	315	30	3000
<b>N00122</b>	150	600	1000	5	275	30	3000
<b>N00292</b>	190	760	1000	7	305	30	3000
<b>N00393</b>	200	600	1000	5	295	30	3000
<b>N00434</b>	30	-	Ø 460	4	210	30	3000
<b>N00475</b>	50	-	Ø 600	5	225	30	3000
<b>N00207</b>	150	-	Ø 900	5	240	30	3000

## Accessories

Type	Description
<b>PZR450GF</b>	recommended flange rotator – load capacity 4500 kg
<b>PZR450G-XX*</b>	shaft rotator – up to 4500 kg load capacity
<b>N00074</b>	quick change system for shaft-type rotators
<b>N00072-XX*</b>	reduction link between rotator and grapple
<b>N00143</b>	scraper - indicate type of grapple
<b>N00130</b>	welded hooks
<b>N00129</b>	wear plates to protect horizontal cutting edges (2 pieces)
<b>N00173</b>	adapters for mounting of compression rails
<b>N00048</b>	compression rails – length 720 mm (2 pieces)
<b>N00049</b>	compression rails – length 1000 mm (2 pieces)

\*) specify Ø shaft when ordering

## Requirements of truck crane

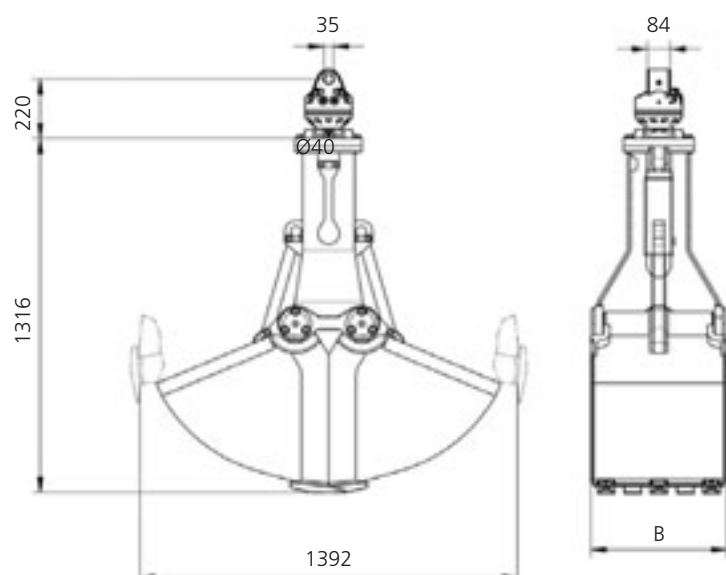
### Operating pressure:

max. 26 MPa (260 bar)

### Pump capacity:

25 to 75 l/min

## Technical drawing



# Heavy Duty Clamshell Buckets with Vertical Hydraulic Cylinders

The powerful clamshell bucket with two vertical hydraulic cylinders is ideal for heavy digging work in grown soil.

- **Good digging behaviour** through the closely positioned shell pivots.
- **Long life** is ensured through the use of 500 HB steel in the manufacture of cutting edges and the generously dimensioned bearing system. Piston rod protection for the vertical hydraulic cylinders are standard.
- **Synchronised bucket movements** due to sturdy compensation rods.
- **Maximum loading height** is achieved through the compact design.
- **Bolt-on digging teeth** are delivered with each clamshell bucket.
- **Excellent digging characteristics** are the result of high closing forces (32 kN at an operating pressure of 26 MPa).



## Clamshell buckets incl. teeth

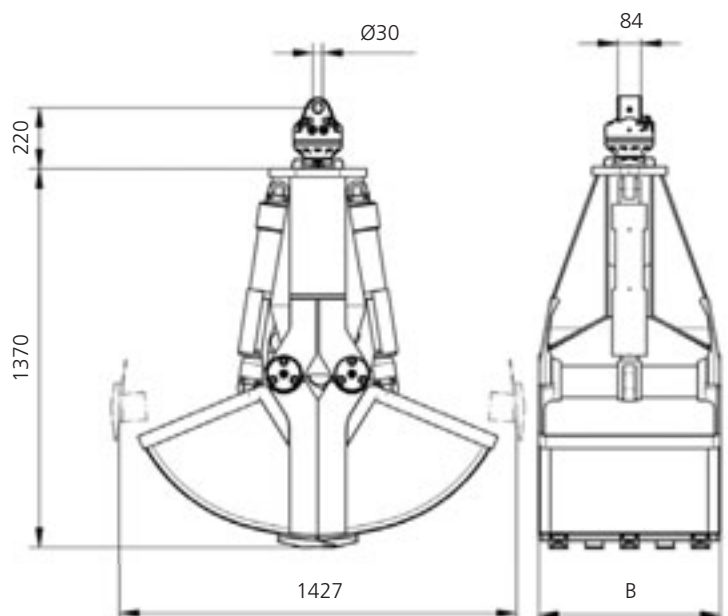
Type	Volume (litre)	Width B (mm)	Max. Opening (mm)	Number of teeth	Self weight (kg)	Closing force (kN)	Load capacity (kg)
<b>N00104</b>	150	325	1430	3	295	32	3000
<b>N00111</b>	200	400	1430	3	305	32	3000
<b>N00036</b>	250	500	1430	5	340	32	3000
<b>N00037</b>	350	650	1430	5	370	32	3000
<b>N00038</b>	450	800	1430	9	410	32	3000
<b>N00251</b>	550	1000	1430	9	445	32	3000

## Accessories

Type	Description
<b>PZR450GF</b>	recommended flange rotator – load capacity 4500 kg
<b>PZR450G-XX*</b>	shaft rotator – up to 4500 kg load capacity
<b>N00074</b>	quick change system for shaft-type rotators
<b>N00072-XX*</b>	reduction link between rotator and grapple
<b>N00143</b>	scraper - indicate type of grapple
<b>N00130</b>	welded hooks
<b>N00129</b>	wear plates to protect horizontal cutting edges (2 pieces)

\*) specify Ø shaft when ordering

## Technical drawing



## Requirements of truck crane

### Operating pressure:

max. 26 MPa (260 bar)

### Pump capacity:

30 to 75 l/min

# High Volume Clamshell Buckets with Horizontal Hydraulic Cylinder and Narrow Bucket Carrier

The high volume clamshell bucket has a significant narrow frame and can therefore fulfill small digging tasks besides the handling.

- **Suitable for digging** due to the narrow frame.
- **Compact design** due to the narrow frame enables manual filling of the bucket without obstacles.
- **Practically no „left overs“** of the material to be picked up as the working edges are vertical when the buckets are open and allow a deep plunge into a pile of material.
- **High stability** through reinforced buckets, torsion-free frame, generously dimensioned bearing system and the use of 500 HB steel in the manufacture of cutting edges.
- **Combination of compensator mechanism and cylinder guard** has many advantages: parallel action, longer life for piston rod and seals, significant weight savings.
- **Efficient handling** with high closing forces (20 kN at an operating pressure of 26 MPa).



## Package high volume clamshell buckets PZG-S-1P

	Volume	Width B	Max. Opening	Number of teeth	Self weight	Closing force	Load capacity
Type	(litre)	(mm)	(mm)		(kg)	(kN)	(kg)
<b>PZG300S-1P</b>	300	640	1680	5	380	20	3000
<b>PZG400S-1P</b>	400	800	1670	9	380	20	3000
<b>PZG500S-1P</b>	500	1000	1670	9	405	20	3000

**Package consists of:** high volume clamshell bucket (w/o teeth), rotator PZR450GF, connecting hoses BL462 and BL463, upper suspension UL045, welded hooks N00130, non-return valve, pressure relief valve

## High volume clamshell buckets PZG-S-1

	Volume	Width B	Max. Opening	Number of teeth	Self weight	Closing force	Load capacity
Type	(litre)	(mm)	(mm)		(kg)	(kN)	(kg)
<b>PZG300S-1</b>	300	640	1670	5	315	20	3000
<b>PZG400S-1</b>	400	800	1670	9	345	20	3000
<b>PZG500S-1</b>	500	1000	1670	9	370	20	3000

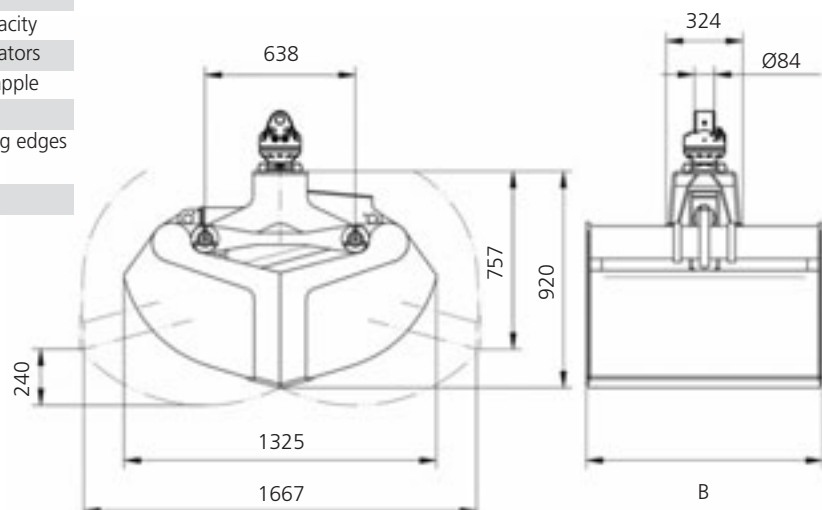
**Package consists of:** high volume clamshell bucket, non-return valve, welded hooks N00130

## Accessories

Type	Description
<b>PZR450GF</b>	recommended flange rotator – load capacity 4500 kg
<b>PZR450G-XX*</b>	shaft rotator – up to 4500 kg load capacity
<b>N00074</b>	quick change system for shaft-type rotators
<b>N00072-XX*</b>	reduction link between rotator and grapple
<b>N00130</b>	welded hooks
<b>N00129</b>	wear plates to protect horizontal cutting edges (2 pieces)
<b>N00423</b>	side plates

\*) specify Ø shaft when ordering

## Technical drawing



## Requirements of truck crane

### Operating pressure:

20 to 32 MPa (200 to 320 bar)

### Pump capacity:

35 to 75 l/min

# High Volume Clamshell Buckest with Horizontal Hydraulic Cylinders

The robust clamshell bucket is for handling loose material as sand, gravel, soil – perfectly matched to heavy duty work on vehicle mounted cranes.

- **Excellent filling characteristics** of the rugged grapple due to the special shape of the buckets and the wide separation between their axes that enables wide opening.
- **Practically no "left overs"** of the material to be picked up as the working edges are vertical when the buckets are open and allow a deep plunge into a pile of material.
- **High stability** through reinforced buckets, torsion-free frame, generously dimensioned bearing system and the use of 500 HB steel in the manufacture of cutting edges.
- **Combination of compensator mechanism and cylinder guard** has many advantages: parallel action, longer life for piston rod and seals, significant weight savings.
- **Efficient handling** with high closing forces (28 kN at an operating pressure of 26 MPa).



## Package high volume clamshell buckets PZG-SPK

Type	Volume (litre)	Width B (mm)	Max. Opening (mm)	Number of teeth (optional)	Self weight (kg)	Closing force (kN)	Load capacity (kg)
<b>PZG300SPK</b>	300	500	1830	5	410	28	3000
<b>PZG400SPK</b>	400	800	1830	9	465	28	3000
<b>PZG500SPK</b>	500	1000	1830	9	510	28	3000
<b>PZG650SPK</b>	650	1200	1830	9	555	28	3000
<b>PZG1000SPK</b>	1000	1200	2190	9	635	28	3000

**Package consists of:** high volume clamshell bucket (without teeth), rotator PZR450GF, connecting hoses BL462 and BL463, upper suspension UL045, non-return valve

## High volume clamshell buckets PZG-S

Type	Volume (litre)	Width B (mm)	Max. Opening (mm)	Number of teeth (optional)	Self weight (kg)	Closing force (kN)	Load capacity (kg)
<b>PZG300S</b>	300	500	1830	5	370	28	3000
<b>PZG400S</b>	400	800	1830	9	430	28	3000
<b>PZG500S</b>	500	1000	1830	9	475	28	3000
<b>PZG650S</b>	650	1200	1830	9	515	28	3000
<b>PZG1000S</b>	1000	1200	2190	9	595	28	3000

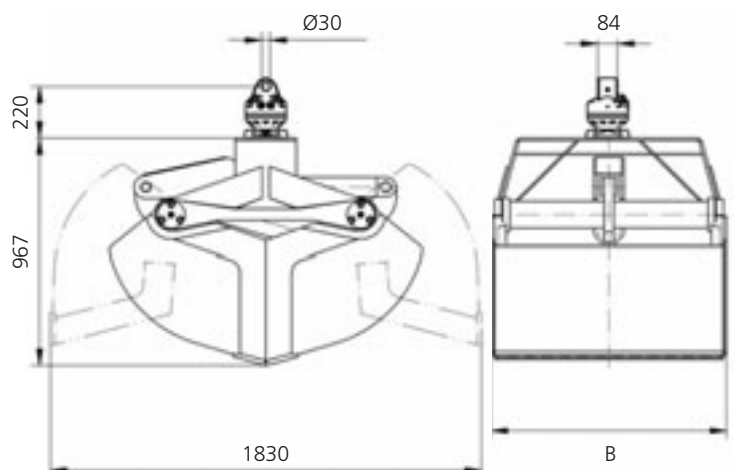
**Package consists of:** high volume clamshell bucket, non-return valve

## Accessories

Type	Description
<b>PZR450GF</b>	recommended flange rotator – load capacity 4500 kg
<b>PZR450G-XX*</b>	shaft rotator – up to 4500 kg load capacity
<b>N00074</b>	quick change system for shaft-type rotators
<b>N00072-XX*</b>	reduction link between rotator and grapple
<b>N00130</b>	welded hooks
<b>N00129</b>	wear plates to protect horizontal cutting edges (2 pieces)
<b>PZ102-7000</b>	bolt-on teeth for heavy excavating tasks (1 tooth, 2 screws, screw nuts)

\*) specify Ø shaft when ordering

## Technical drawing



## Requirements of truck crane

### Operating pressure:

26 to 32 MPa (260 to 320 bar)

### Pump capacity:

35 to 75 l/min



# Heavy Duty Universal Buckets with Horizontal Hydraulic Cylinder

The universal bucket is a robust clamshell bucket and versatile tool for handling all kinds of refuse material. The open sides of the grapple enables the grab of bulk material.

- **Compact design** with a horizontal hydraulic cylinder achieves a maximum loading height.
- **Long life** due to the use of 500 HB steel in the manufacture of the cutting edges and a generously dimensioned bearing system.
- **Synchronized opening and closing** through sturdy compensation bar.
- **Safety** is assured in case of an unexpected pressure drop due to the integrated non-return valve.
- **Wear plates** (reversible) and **welded hooks** are delivered on each grapple.
- **Powerfull operation** due to high closing force (28 kN at an operating pressure of 26 MPa).



## Package universal buckets

Type	Volume (litre)	Width B (mm)	Max. Opening (mm)	Number of teeth (optional)	Self weight (kg)	Closing force (kN)	Load capacity (kg)
<b>PZ605U-25P</b>	250	570	1545	5	375	28	3000
<b>PZ605U-30P</b>	300	670	1545	5	390	28	3000
<b>PZ605U-45P</b>	450	920	1545	7	425	28	3000

**Package consists of:** clamshell bucket, rotator PZR450GF, upper suspension UL045, wear plates N00129, welded hooks N00130 (2 pieces), connecting hoses BL462 and BL463, non-return valve

## Universal buckets

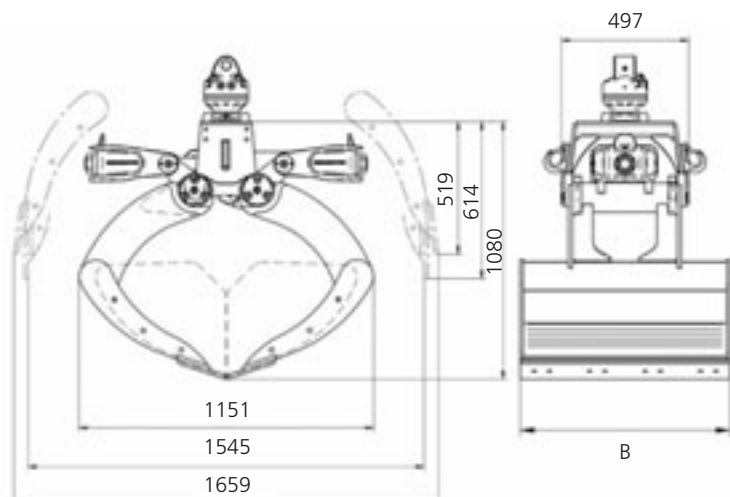
<b>N00394</b>	250	570	1545	5	340	28	3000
<b>N00401</b>	300	670	1545	5	355	28	3000
<b>N00376</b>	400	820	1545	7	380	28	3000
<b>N00392</b>	450	920	1545	7	390	28	3000
<b>N00378</b>	500	1020	1545	9	410	28	3000
<b>N00397</b>	600	1220	1545	9	440	28	3000

## Accessories

Type	Description
<b>PZR450GF</b>	recommended flange rotator – load capacity 4500 kg
<b>PZR450G-XX*</b>	shaft rotator – up to 4500 kg load capacity
<b>N00074</b>	quick change system for shaft-type rotators
<b>N00072-XX*</b>	reduction link between rotator and grapple
<b>N00173</b>	adapters for mounting of compression rails
<b>N00048</b>	compression rails – length 720 mm (2 pieces)
<b>N00049</b>	compression rails – length 1000 mm (2 pieces)
<b>N00385</b>	bolt-on side plates for easy digging tasks (4 pieces)

\*) specify Ø shaft when ordering

## Technical drawing



## Requirements of truck crane

### Operating pressure:

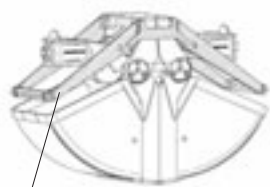
26 to 32 MPa (260 to 320 bar)

### Pump capacity:

25 to 75 l/min

## Accessories for Clamshell Buckets

### Scraper



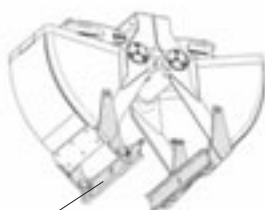
N00143

The scraper for clamshell buckets with narrow widths clears the inside of the shells of sticky materials such as clay, during each opening. The design varies depending on the grapple.

#### Type

**N00143** Please indicate bucket type when ordering

### Adapter for compression rails



N00173

The adapter enables mounting of compression rails or support for concrete rings, for handling paving slabs, curbstones, concrete rings etc. The adapter can only be used with a non-return valve. It is not suitable for the use with a scraper.

**N00173** adapter for compression rails

**N00048** compression rails – length 720 mm (2 pieces)

**N00049** compression rails – length 1000 mm (2 pieces)

### Central lifting device, welded hooks or welded eyes

N00130



N00471; N00489

The central lifting device is for the HPXdrive, welded eyes or welded hooks suit lifting chains or slings. The max. capacity per eye or hook is 1000 kg.

**N00471** central lifting device for PZHP04

**N00489** central lifting device for PZHP05

**N00130** welded hooks (2 pcs.)



central lifting device only for HPXdrive

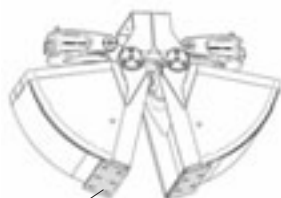


welded hook



(not for HPXdrive)  
welded eye

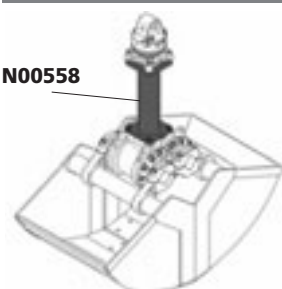
### Wear plates (2 pieces)



N00129

**N00129** wear plates, please indicate bucket type when ordering

### Extension for excavating with the HPXdrive standard or the HPXdrive heavy duty



N00558

**N00558** extension for excavating HPXdrive e.g. trenches (for canal and civil engineering) – 450 mm (30 kg)

# Orange Peel Grapples Light with 120-240 Litres Capacity

**The robust orange peel grapple light for the handling of bulky scrap, and other applications - depending on task available with different tine shapes and volumes (120l, 180l, 240l).**

- **Different tine shapes** of the PZG-P light series with 4, 5 or 6 tines to accomodate handling a variety of materials: **PZG-PV:** fully closing tines for handling swarf, loose waste, soil, gravel etc. **PZG-PH:** half closing tines (closing at lower part of segments) for handling swarf, scrap, rubbish, waste paper etc. **PZG-PS:** pointed tines for bulky scrap, car bodies, bundled waste paper etc.
- **A lifting-eye** on the centre section acts as an additional stop.
- **Long life** due to a solid design: the hydraulic cylinder pistons are protected by the gripping arms and the hydraulic hoses, connections and oil distributor are positioned in the robust centre section. Special wear resistant materials of 400HB Brinell used in the production of the gripping arms and oversized bearings ensure a long service life for these sturdy grapples.
- **Powerful operation** with high closing force (11 kN to 13 kN at an operating pressure of 26 MPa).



## Orange peel grapples PZG-P light

Type	Number of tines	Volume (litre)	Max. Opening A (mm)	Width D (closed) (mm)	Height B (closed, incl. rotator) (mm)	Self weight- (w/o rotator) (kg)	Load capacity (kg)	Closing force (kN)
<b>PZG120PV4</b>	4	120	1360	1065	800	330	2000	13
<b>PZG180PV4</b>	4	180	1450	1070	850	345	2000	12
<b>PZG240PV4</b>	4	240	1720	1125	985	380	2000	11
<b>PZG120PV5</b>	5	120	1360	1065	800	350	2000	13
<b>PZG180PV5</b>	5	180	1450	1070	850	365	2000	12
<b>PZG240PV5</b>	5	240	1720	1125	985	415	2000	11
<b>PZG120PH4</b>	4	120	1360	1065	800	260	2000	13
<b>PZG180PH4</b>	4	180	1450	1070	850	270	2000	12
<b>PZG240PH4</b>	4	240	1720	1125	985	300	2000	11
<b>PZG120PH5</b>	5	120	1360	1065	800	300	2000	13
<b>PZG180PH5</b>	5	180	1450	1070	850	305	2000	12
<b>PZG240PH5</b>	5	240	1720	1125	985	340	2000	11
<b>PZG120PS4</b>	4	120	1360	1065	800	230	2000	13
<b>PZG180PS4</b>	4	180	1450	1070	850	235	2000	12
<b>PZG240PS4</b>	4	240	1720	1125	985	250	2000	11
<b>PZG120PS5</b>	5	120	1360	1065	800	275	2000	13
<b>PZG180PS5</b>	5	180	1450	1070	850	285	2000	12
<b>PZG240PS5</b>	5	240	1720	1125	985	300	2000	11

**Package consists of:** orange peel grapple, non-return valve, connecting hoses BL463

## Accessories

Type	Description
<b>PZR450GF</b>	recommended flange rotator – load capacity 4500 kg
<b>PZR601GF</b>	flange rotator - up to 6000 kg load capacity depending on application

## Requirements of truck crane

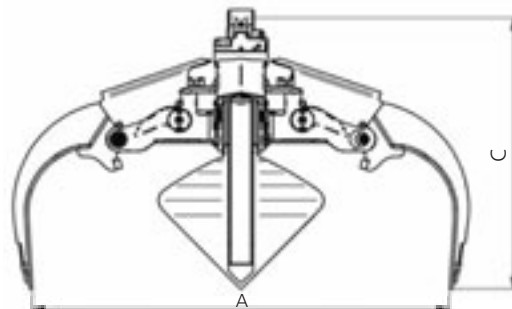
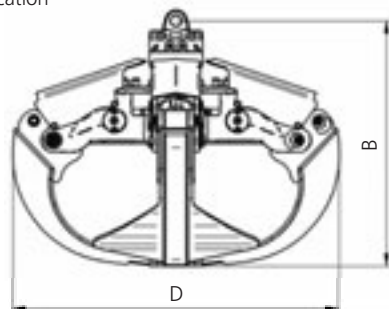
### Operating pressure:

max. 26 MPa (260 bar)

### Pump capacity:

30 to 75 l/min

## Technical drawing



# Orange Peel Grapples Heavy with 250-500 Litres Capacity

**The robust orange peel grapple heavy for the handling of bulky scrap, and other applications - depending on task available with different tine shapes and volumes (250l, 350l, 500l).**

- **Different tine shapes** of the PZG-P heavy series with 4, 5 or 6 tines to accommodate handling a variety of materials: **PZG-PV:** fully closing tines for handling swarf, loose waste, soil, gravel etc. **PZG-PH:** half closing tines (closing at lower parts of segments) for handling swarf, scrap, rubbish, waste paper etc. **PZG-PS:** pointed tines for bulky scrap, car bodies, bundled waste paper etc.
- **A lifting-eye** on the centre section acts as an additional stop.
- **Long life** due to a solid design: the hydraulic cylinder pistons are protected by the gripping arms and the hydraulic hoses, connections and oil distributor are positioned in the robust centre section. Special wear resistant materials of 400HB Brinell used in the production of the gripping arms and oversized bearings ensure a long service life for these sturdy grapples.
- **Powerful operation** with high closing force (13 kN to 18 kN at an operating pressure of 26 MPa).



## Orange peel grapples PZG-P heavy

Type	Number of tines	Volume (litre)	Max. Opening A (mm)	Width D (closed) (mm)	Height B (closed) (incl. rotator) (mm)	Self weight (w/o rotator) (kg)	Load capacity (kg)	Closing force (kN)
<b>PZG250PV4</b>	4	250	1550	1285	1015	445	2500	18
<b>PZG350PV4</b>	4	350	1720	1260	1100	470	3000	16
<b>PZG500PV4</b>	4	500	2155	1320	1350	555	3000	13
<b>PZG250PV5</b>	5	250	1550	1285	1015	520	2500	18
<b>PZG350PV5</b>	5	350	1720	1260	1100	545	3000	16
<b>PZG500PV5</b>	5	500	2155	1320	1350	635	3000	13
<b>PZG250PV6</b>	6	250	1550	1285	1015	605	2500	18
<b>PZG350PV6</b>	6	350	1720	1260	1100	630	3000	16
<b>PZG500PV6</b>	6	500	2155	1320	1350	715	3000	13
<b>PZG250PH4</b>	4	250	1550	1285	1015	425	2500	18
<b>PZG350PH4</b>	4	350	1720	1260	1100	440	3000	16
<b>PZG500PH4</b>	4	500	2155	1320	1350	505	3000	13
<b>PZG250PH5</b>	5	250	1550	1285	1015	505	2500	18
<b>PZG350PH5</b>	5	350	1720	1260	1100	520	3000	16
<b>PZG500PH5</b>	5	500	2155	1320	1350	595	3000	13
<b>PZG250PH6</b>	6	250	1550	1285	1015	590	2500	18
<b>PZG350PH6</b>	6	350	1720	1260	1100	610	3000	16
<b>PZG500PH6</b>	6	500	2155	1320	1350	690	3000	13
<b>PZG250PS4</b>	4	250	1550	1285	1015	390	2500	18
<b>PZG350PS4</b>	4	350	1720	1260	1100	395	3000	16
<b>PZG500PS4</b>	4	500	2155	1320	1350	435	3000	13
<b>PZG250PS5</b>	5	250	1550	1285	1015	470	2500	18
<b>PZG350PS5</b>	5	350	1720	1260	1100	480	3000	16
<b>PZG500PS5</b>	5	500	2155	1320	1350	525	3000	13
<b>PZG250PS6</b>	6	250	1550	1285	1015	560	2500	18
<b>PZG350PS6</b>	6	350	1720	1260	1100	570	3000	16
<b>PZG500PS6</b>	6	500	2155	1320	1350	625	3000	13

**Package consists of:** orange peel grapple, non-return valve, connecting hoses BL463

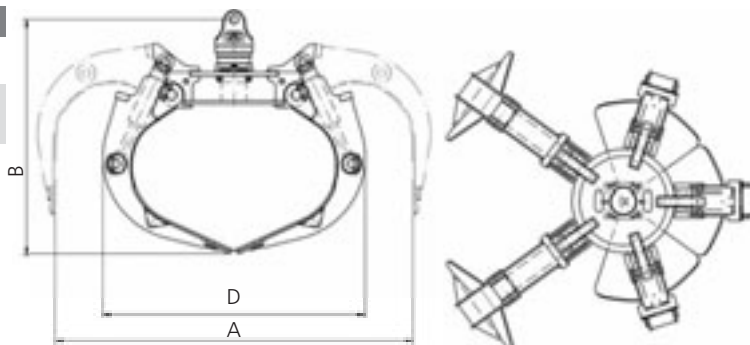
## Accessories

Type	Description
<b>PZR450GF</b>	recommended flange rotator – depending on application – load capacity 4500 kg
<b>PZR601GF</b>	flange rotator - up to 6000 kg load capacity depending on application

## Requirements of truck crane

**Operating pressure:** max. 26 MPa (260 bar)

**Pump capacity:** 30 to 80 l/min



# Brick Stack Grapples with Parallel Squeeze

The technically unique brick stack grapple is a versatile tool for palletized and non-palletized materials.

- **Rigid or adjustable plunge depth** of parallel opening and closing clamping arms-hydraulically operated.
- **Versatile tool** with opening range of 400 mm to 1400 mm i.e. for handling of single concrete products like curbstones, or handling of brick packs..
- **Easy operation** due to durable and replaceable rubber inserts in the compression rails
- **Adjustable plunge depth** of **PZSV-1** - can match the size of the stack-easy adaption with a mechanical latch.
- **Precise synchronisation of the arms** as a result of two in series double acting hydraulic cylinders.
- **Safety** through internal pressure relief valve (independent from crane pressure) and non-return valve (safe clamping force at pressure drop).
- **Long life** due to generously dimensioned bearings, integrated grease reservoir, automatic wear compensation of main bearing, spherical central bearing for the cylinders.



## Package brick stack grapple PZS-1

	Plunge depth A	Load capacity at min./max. plunge depth	Gripping min./max.	Height (incl. rotator)	Self weight
Type	(mm)	(kg)	(mm)	(mm)	(kg)
<b>PZS110V-1PK</b>	1100 – 1650	1900 – 1350	400 – 1400	1315 – 1865	355

**Package consists of:** brick stack grapple, rotator PZR450GF, connecting hoses BL463 and BL462, upper suspension UL045, compression rails PZS100A-1 (length 1000 mm), pressure relief valve, non-return valve

## Brick stack grapples PZS-1 and PZSV-1

<b>PZS085-1</b>	850	2200	400 – 1400	1065	240
<b>PZS100-1</b>	1000	2000	400 – 1400	1215	250
<b>PZS130-1</b>	1300	1600	400 – 1400	1515	260
<b>PZS110V-1</b>	1100 – 1650	1900 / 1350	400 – 1400	1315 – 1865	295

- Please note:**
- the load capacity listed in the table depends on the load (the surface conditions, the size of individual stones, stack size and kind of bundling). The capacity listed does not apply to stacks of low-profile and unbundled items
  - the price does not include the compression rails
  - wider opening ranges 400 – 1800 mm are available on demand

## Accessories

Type	Description
<b>PZR450GF</b>	recommended flange rotator – load capacity 4500 kg

## Requirements of truck crane

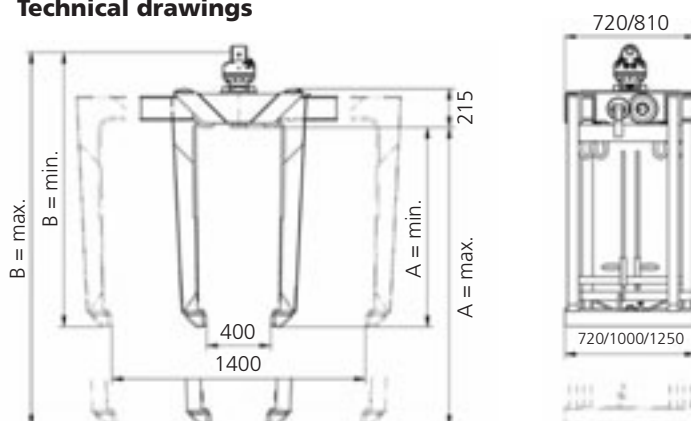
### Operating pressure:

20 to 26 MPa (200 to 260 bar), a built-in pressure relief valve also allows the use of higher operating pressure

### Pump capacity:

25 to 75 l/min

## Technical drawings





# Brick Stack Grapples with Scissor Grab

**The robust brick stack grapple handles loads up to 2000 kg.**

- **Fixed plunge depth** with pivot clamping arms – hydraulically operated.
- **Versatile tool** with opening range of 40 mm to 1500 mm i.e. for handling of single concrete products like curbstones, or handling of brick packs.
- **Synchronised function of clamping arms** due to sturdy gear-toothed quadrants.
- **Safety** through internal pressure relief valve (independent from crane pressure) and nonreturn valve (safe clamping force at pressure drop).
- **Reduced overall height** in comparison to the plunge depth due to lower rotator position.
- **Compression rails** with durable and replaceable rubber inserts.



## Package brick stack grapples

Type	Plunge depth A (mm)	Load capacity (kg)	Gripping min./max. G (mm)	Height B (mm)	Self weight (kg)
<b>N00345</b>	1000	2000	200 – 1420	1565	315
<b>N00346</b>	1100	2000	160 – 1450	1665	320
<b>N00347</b>	1200	1800	98 – 1475	1765	325
<b>N00348</b>	1300	1600	40 – 1500	1865	330
<b>N00354</b> with 12 hooks	1000	2000	220 – 1420	1565	333

(welded above and below, at the exterior at the lower edge)

**Package consists of:** brick stack grapple, rotator PZR450GF, connecting hoses BL462, BL463, upper suspension UL045K, compression rails N00436 (length 1000 mm), pressure relief valve, non-return valve

- Please note:**
- the load capacity listed in the table depends on the load (the surface conditions, the size of individual stones, stack size and type of bundling). The capacity listed does not apply to stacks of low-profile and unbundled items
  - full plunge depth A is only suitable up to opening range of 1100 mm (see technical drawings)

## Accessories

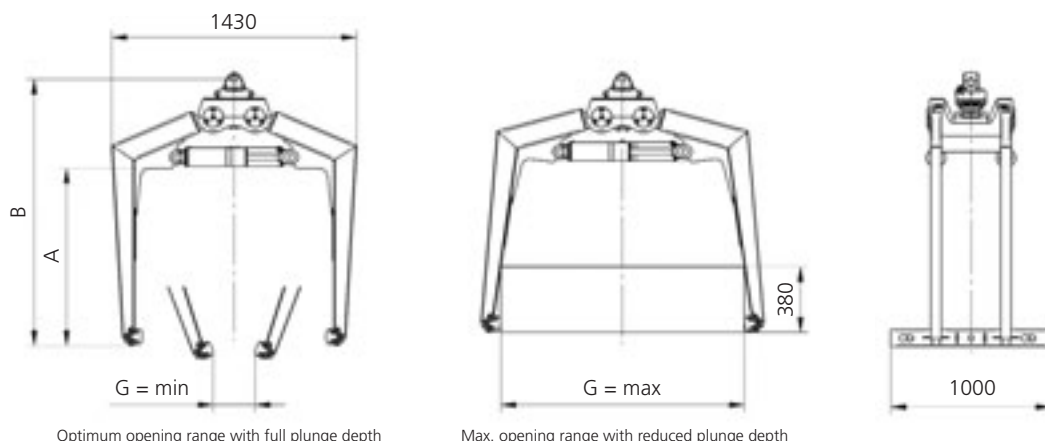
Type	Description	Self weight (kg)
<b>N00078</b>	upper suspension with pendulum brake	15
<b>N00425</b>	compression rails – 720 mm (2 pieces)	29
<b>N00436</b>	compression rails – 1000 mm (2 pieces)	40
<b>N00184</b>	compression rails – 1250 mm (2 pieces)	52
<b>N00442</b>	welded hooks (4 pcs.)	

non-standard compression rails: all grapples are available with compression rail lengths not listed  
non-standard plunge depth: all grapples are available with plunge depths not listed  
alternatively with gear type rotator with shaft

## Requirements of truck crane

**Requirements of truck crane** 20 to 32 MPa (200 to 320 bar)  
**Pump capacity:** 25 to 75 l/min

## Technical drawings








Optimum opening range with full plunge depth


Max. opening range with reduced plunge depth

## Accessories for Brick Stack Grapples

### Compression rails

	Description		Length	Self weight
	Type		(mm)	(kg)
	<b>PZS072A-1</b>	compression rails with smooth rubber inserts (2 pieces)	720	17
	<b>PZS100A-1</b>	compression rails with smooth rubber inserts (2 pieces)	1000	24
	<b>N00180</b>	compression rails with smooth rubber inserts (2 pieces)	1100	26
	<b>PZS125A-1</b>	compression rails with smooth rubber inserts (2 pieces)	1250	28
	<b>N00177</b>	compression rails with two rubber inserts, upper insert contoured, lower insert smooth (2 pcs.)	720	24
	<b>N00162</b>	compression rails with two rubber inserts, upper insert contoured, lower insert smooth (2 pcs.)	1000	33
	<b>N00262</b>	compression rails with two rubber inserts, upper insert contoured, lower insert smooth (2 pcs.)	1100	36
	<b>N00136</b>	compression rails with two rubber inserts, upper insert contoured, lower insert smooth (2 pcs.)	1250	40
	<b>N00236</b>	compression rails with two rubber inserts, upper insert contoured, lower insert smooth (2 pcs.)	1750	50
	<b>N00054</b>	spring loaded rails with parallel-action teeth (2 pieces)	1000	62
	<b>N00055</b>	spring loaded rails with parallel-action teeth (2 pieces)	1250	76
	<b>N00048</b>	compression rails for adapter N00113 (2 pieces)	720	17
	<b>N00049</b>	compression rails for adapter N00113 (2 pieces)	1000	23
	<b>N00050</b>	compression rails for adapter N00113 (2 pieces)	1250	28

### Quick change system and other accessories

	<b>N00074</b>	quick change system	12
	<b>N00078</b>	suspension with pendulum brake – up to 4500 kg load capacity	15
	<b>N00076</b>	upper element (fitted to rotator)	4
	<b>N00077</b>	lower element (mounted onto attachment)	8
	<b>N00075</b>	rigid suspension link with non-rotating hook	5

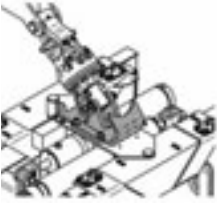
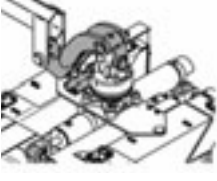

#### Other opening ranges:

grapples are available with opening ranges not listed

#### Other plunge depths:

grapples are available with plunge depth not listed

### Other options

	<b>N00086</b>	tilting device to reduce overall height	for shaft rotators	12
	<b>N00086-F</b>	of the equipment in transport	for flange rotators	18
	<b>N00247</b>	height reduction link to reduce the overall height of the equipment in transport – for flange rotators		15
	<b>N00305</b>	spring loaded guide rails for stabilizing the top layer of the stack		
	<b>N00245</b>	adapter to reduce opening width by 200 mm		16
	<b>N00109</b>	adapter for concrete pipes with diameters from 800 to 1350 mm		60

# Pallet Forks Hydraulically Shifting and Tines with Continuous Spindle Adjustment

The efficient pallet fork with a hydraulically compensating centre of gravity can easily be adapted to different loads with adjustable plunge depth and adjustable tine spread.

- **Efficient handling** of many different kinds of loads in an economic, one-man operation is possible due to the hydraulic shifting. It saves you time and money.
- **Precise positioning** of the loads is no problem in combination with the rotator – continuous rotation, precise start and braking ability.
- **Versatile height** from 1000 mm to 1600 mm adjustable in three steps with a lock pin.
- **Versatile width** of tines from approx. 475 mm to 815 mm adjustable with a smooth running, stainless spindle.
- **Easy to use** due to the dimensions of the pallet fork. As no part of the pallet fork is wider than a standard pallet as well as the tines, a second row can be loaded and loads close to walls can be handled without problems.



## Pallet forks

Type	Load capacity (kg)	Throat height A (mm)	Tine length (mm)	Tine spread Z (mm)	Tine dimensions * (mm)	Centre of gravity (mm)	Self weight (w/o rotator) (kg)
<b>N00056</b>	1500	1000 – 1600	980	475 – 815	80 x 35	500	120
<b>N00057</b>	2000	1000 – 1600	980	495 – 835	100 x 35	500	135
<b>N00058</b>	2500	1000 – 1600	980	490 – 830	100 x 50	500	160
<b>N00206</b>	1500	1000 – 1600	1150	495 – 835	100 x 35	600	155
<b>N00156</b>	2000	1000 – 1600	1150	500 – 840	100 x 50	600	170
<b>N00260</b>	2500	1000 – 1600	1150	510 – 850	120 x 50	600	235

\*) width x height

**Package consists of:** pallet fork, protection chain PZP-SK

**Please note:** • a protection trellis or net is mandatory for loose material (EN 13155)

## Accessories

Type	Description
<b>PZR450GF</b>	recommended flange rotator – Load capacity 4500 kg
<b>PZR450G-XX*</b>	shaft rotator – Load capacity 4500 kg
<b>N00074</b>	quick change system for shaft-type rotators
<b>N00072-XX*</b>	reduction link between rotator and grapple
<b>N00071-XX*</b>	non-rotating hook for shaft rotator

\*) specify Ø shaft when ordering

## Requirements of truck crane

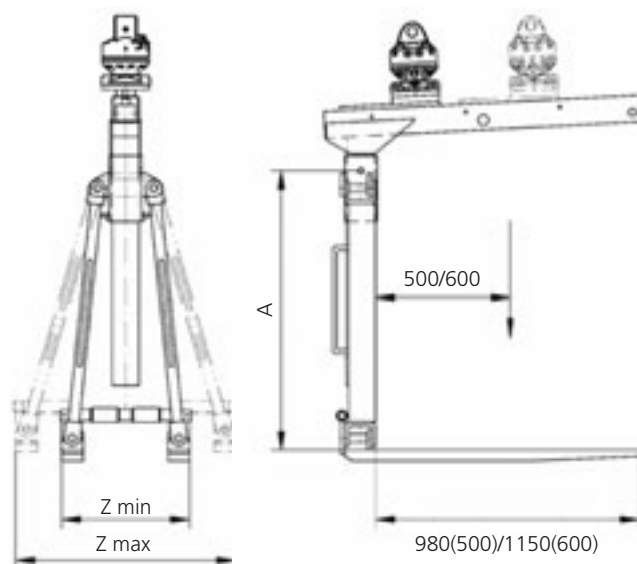
### Requirements of truck crane

max. 26 MPa (260 bar)

### Pump capacity:

20 to 40 l/min

## Technical drawings



# Pallet Forks Self Balancing and Tines with Continuous Spindle Adjustment

The efficient pallet fork with spring loaded centre of gravity compensation can easily be adapted to different loads with adjustable plunge depth and adjustable tine spread.

- **Efficient handling** of many different kinds of loads in an economic, one-man operation is possible due to the automatic shifting of the fork to a preset position. Compression springs return slide to initial position.
- **Versatile height** from 1000 mm to 1600 mm adjustable in three steps with a lock pin.
- **Versatile width** of tines from approx. 475 mm to 815 mm adjustable with a smooth running, stainless spindle.
- **Easy to use** due to the dimensions of the pallet fork. As no part of the pallet fork is wider than a standard pallet as well as the tines, a second row can be loaded and loads close to walls can be handled without problems.



## Pallet forks PZP-V

Type	Load capacity (kg)	Throat height A (mm)	Tine length (mm)	Tine spread Z (mm)	Tine dimensions * (mm)	Centre of gravity (mm)	Self weight (w/o rotator) (kg)
<b>PZP150V</b>	1500	1000 – 1600	980	475 – 815	80 x 35	500	120
<b>PZP200V</b>	2000	1000 – 1600	980	495 – 835	100 x 35	500	135
<b>N00008</b>	2500	1000 – 1600	980	490 – 830	100 x 50	500	160
<b>N00116</b>	3000	1000 – 1600	980	510 – 850	120 x 50	500	200
<b>N00246</b>	1500	1000 – 1600	1150	495 – 835	100 x 35	600	155
<b>N00147</b>	2000	1000 – 1600	1150	500 – 840	100 x 50	600	170
<b>N00214</b>	2500	1000 – 1600	1150	510 – 850	120 x 50	600	235

\*) width x height

**Package consists of:** pallet fork, protection chain PZP-SK, 2 chain elements for suspension

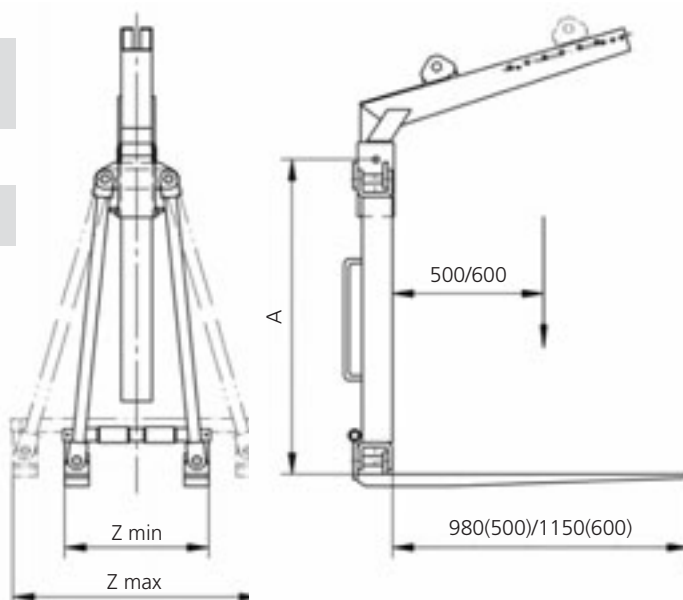
- Please note:**
- protection trellis or net is mandatory for loose material (EN 13155)
  - automatic compensation of centre of gravity functions with a min. pack weight of approx. 250 to 500 kg.

## Accessories

Type	Description
<b>PZR450G-XX*</b>	shaft rotator up to 4500 kg load capacity for precise positioning of the load
<b>N00070</b>	rigid suspension link with pin for shaft rotator PZR450G-XX*
<b>N00071-XX*</b>	non-rotating hook for shaft rotator PZR450G-XX*

\*) specify Ø shaft when ordering

## Technical drawings



# Pallet Forks Self Shifting and Tines with Lock Pin Adjustment

The robust pallet fork with spring loaded centre of gravity compensation can easily be adapted to different loads with adjustable plunge depth and adjustable tine spread.

- **Efficient handling** of many different kinds of loads in an economic, one-man operation is possible due to the automatic shifting to a preset position. Compression springs return slide to initial position.
- **Throat height adjustable in steps** from 1000 mm to 1600 mm with a lock pin.
- **Tine spread adjustable in steps** from 320 mm to 930 mm with a lock pin.



## Pallet forks PZP-VS

Type	Load capacity (kg)	Throat height A (mm)	Tine length (mm)	Tine spread Z (mm)	Tine dimensions *	Centre of gravity (mm)	Self weight (w/o rotator) (kg)
<b>PZP100VS</b>	1000	1000 – 1600	980	325 – 920	80 x 35	500	145
<b>N00014</b>	1250	1400 – 2000	980	310 – 930	70 x 40	500	145
<b>PZP150VS</b>	1500	1000 – 1600	980	325 – 920	80 x 35	500	145
<b>PZP200VS</b>	2000	1000 – 1600	980	345 – 940	100 x 35	500	150
<b>N00017</b>	2500	1000 – 1600	980	355 – 945	90 x 40	500	170
<b>N00316</b>	3000	1000 – 1600	980	385 – 975	120 x 50	500	205
<b>N00158</b>	1250	1050 – 1650	1150	310 – 930	70 x 40	600	170
<b>N00190</b>	1500	1000 – 1600	1150	345 – 940	100 x 35	600	170
<b>N00199</b>	2000	1000 – 1600	1150	355 – 945	90 x 40	600	180
<b>N00275</b>	2500	1000 – 1600	1150	385 – 975	120 x 50	600	185
<b>N00433</b>	3000	1000 – 1600	1150	385 – 975	130 x 50	600	220

\*) width x height

**Package consists of:** pallet fork, protection chain PZP-SK, 2 chain elements for suspension

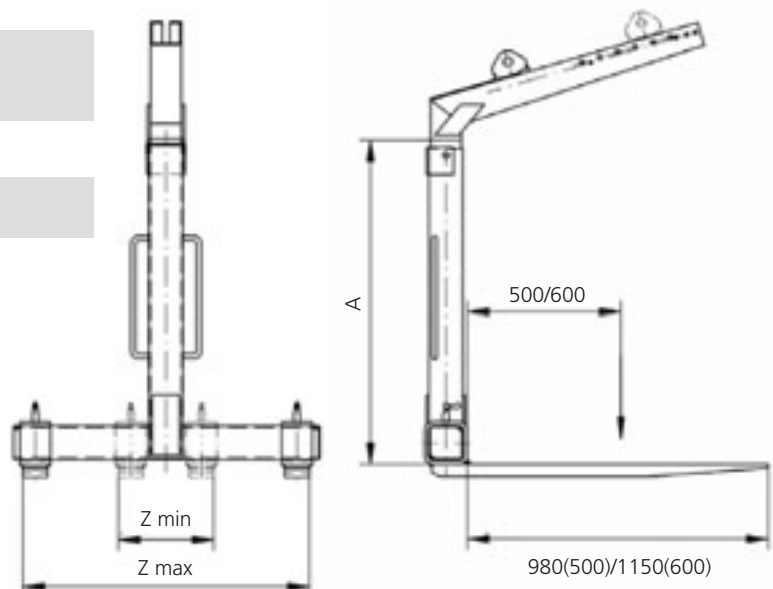
- Please note:**
- protection trellis or net is mandatory for loose material (EN 13155).
  - automatic compensation of centre of gravity functions with a min. pack weight of approx. 250 to 500 kg.

## Accessories

Type	Description
<b>PZR450G-XX*</b>	shaft rotator up to 4500 kg load capacity for precise positioning of the load
<b>N00070</b>	rigid suspension link with pin for shaft rotator PZR450G-XX*
<b>N00071-XX*</b>	non-rotating hook for shaft rotator PZR450G-XX*

\*) specify Ø shaft when ordering

## Technical drawings





# Pallet Forks with Manual Shifting and Tines with Lock Pin Adjustment

The robust pallet fork with a manual centre of gravity compensation is an economic alternative.

- **Manual change of position of shifting collar** by the operator makes handling of different loads, e.g. protection trellies or brick stacks, possible.
- **Connection plate** for flange or shaft rotator, or for a crane hook are included in the package.
- **Throat height adjustable in steps** from 1000 mm to 1600 mm with a lock pin.
- **Tine spread adjustable in steps** from 320 mm to 930 mm with a lock pin.



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## Pallet forks PZP

Type	Load capacity (kg)	Throat height A (mm)	Tine length (mm)	Tine spread Z (mm)	Tine dimensions * (mm)	Centre of gravity (mm)	Self weight (w/o rotator) (kg)
<b>PZP100</b>	1000	1050 – 1650	980	310 – 930	70 x 35	500	80
<b>PZP125</b>	1250	1000 – 1600	980	325 – 920	80 x 35	500	100
<b>PZP150</b>	1500	1000 – 1600	980	325 – 920	80 x 35	500	120
<b>PZP200</b>	2000	1000 – 1600	980	345 – 940	100 x 35	500	130

\*) width x height

**Package consists of:** pallet fork, protection chain PZP-SK

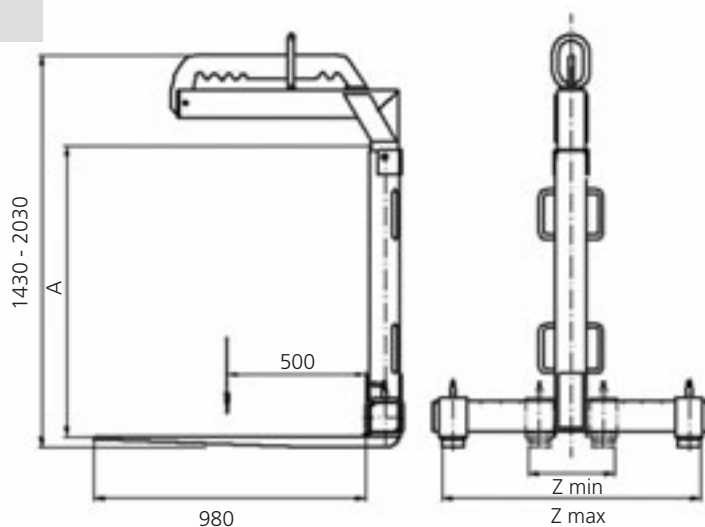
**Please note:** • a protection trellis or net is mandatory for loose material (EN 13155)

## Accessories

Type	Description
<b>PZR450G -XX*</b>	shaft rotator up to 4500 kg load capacity for precise positioning of the load
<b>N00070</b>	non-rotating hook for shaft rotator PZR450G-XX*

\*) specify Ø shaft when ordering

## Technical drawings



# Pallet Forks with Manual Shifting and Tines with Lock Pin Adjustment

The robust pallet fork with manual centre of gravity compensation is an economic alternative.

- **Manual change of position of shifting collar** by the operator makes handling of different loads, e.g. protection trellies or brick stacks, possible.
- **Connection plate** for flange or shaft rotator, or for a crane hook are included in the package.
- **Throat height adjustable in steps** from 1000 mm to 1600 mm with a lock pin.
- **Tine spread adjustable in steps** from 320 mm to 930 mm with a lock pin.



## Pallet forks

Type	Load capacity (kg)	Throat height A (mm)	Tine length (mm)	Tine spread Z (mm)	Tine dimensions * (mm)	Centre of gravity (mm)	Self weight (w/o rotator) (kg)
<b>N00010</b>	1250	1000 – 1600	980	325 – 920	80 x 35	500	100
<b>N00011</b>	1500	1000 – 1600	980	325 – 920	80 x 35	500	120
<b>N00012</b>	2000	1000 – 1600	980	345 – 940	100 x 35	500	130
<b>N00441</b>	2500	1000 – 1600	980	355 – 945	90 x 40	500	170
<b>N00013</b>	3000	1000 – 1600	980	385 – 975	120 x 50	500	200
<b>N00157</b>	1500	1000 – 1600	1150	345 – 940	100 x 35	600	150
<b>N00227</b>	2000	1000 – 1600	1150	355 – 945	90 x 40	600	180
<b>N00387</b>	2500	1000 – 1600	1150	385 – 975	120 x 50	600	235
<b>N00146</b>	3000	1000 – 1600	1150	385 – 975	130 x 50	600	265

\* width x height

**Package consists of:** pallet fork, protection chain PZP-SK

**Please note:** • a protection trellis or net is mandatory for loose material (EN 13155)

## Accessories

Type	Description
<b>PZR450GF</b>	flange rotator - load capacity 4500 kg for precise positioning of the load
<b>PZR450G-XX*</b>	shaft rotator - load capacity 4500 kg for precise positioning of the load
<b>N00074</b>	quick change system for shaft-type rotators
<b>N00072-XX*</b>	reduction link between rotator and grapple
<b>N00070</b>	rigid suspension link with pin for shaft rotator PZR450G-XX*
<b>N00071-XX*</b>	non-rotating hook for shaft rotator PZR450G-XX*

\*) specify Ø shaft when ordering

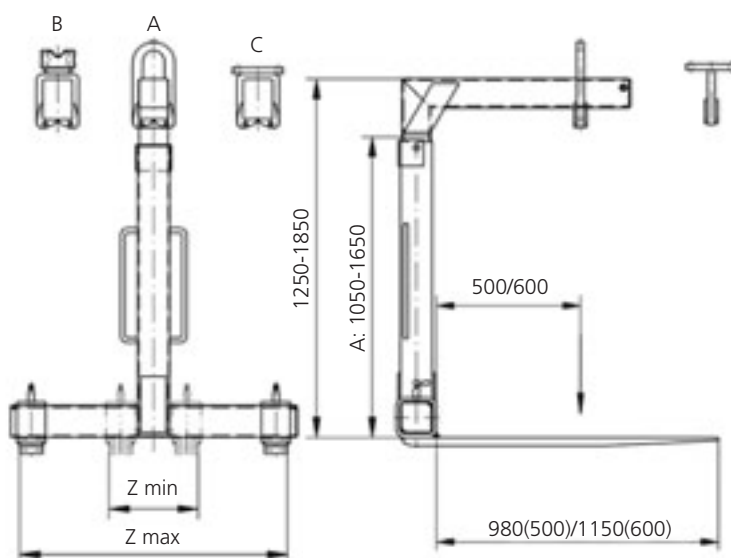
**Connecting Plate for:**

**A** Crane Hook

**B** Shaft Rotator

**C** Flange Rotator

## Technical drawings



# Universal Forks

The universal fork for loader cranes handles wallboards and other lying building materials up to a size of 1250 height and 460 mm depth.

- **Different tine spreads** besides the standard tine spread of 640-1600 mm are available up to 1000, 1830 or 2130 mm, depending on the sheets that have to be handled.
- **Safe transport** of sheets of wallboard in the hinged lower section. The boards can be lifted and folded into a vertical position and clamped between the tines and frame, preventing them from sliding during handling.
- **Protection of the sheets** during unloading through semi-tapered forged tines, equipped with rollers and pads. A standard centre slide gives an additional support point for your loads.
- **Security** is assured even in case of a drop in pressure due to the integrated counterbalance valve that prevents the fork from opening unintentionally. The hydraulic cylinder is equipped with a pressure relief valve to prevent overload.
- **Accurate positioning** of the load is ensured by the tilt cylinder and the rotator.
- **The special version of the universal fork N00221** with a second suspension point on the main beam enables the unloading of lying boards through narrow openings in the wall.



## Package universal fork

Type	Load capacity (kg)	Tine spread A (mm)	max. Height of load (mm)	max. Depth of load (mm)	Self weight (kg)
<b>N00273</b>	2000	640 – 1600	1250	650	410

**Package consists of:** Universal fork, rotator PZR450G-68, connecting hoses BL462, BL463, upper suspension UL045, N00074, N00075, pressure relief valve, counterbalance valve

## Universal forks

<b>PZP080W</b>	800	600 – 1000	1250	460	280
<b>PZP100W</b>	1000	640 – 1600	1250	460	340
<b>PZP150W</b>	1500	640 – 1600	1250	460	380
<b>PZP200W</b>	2000	640 – 1600	1250	460	390
<b>PZP250W</b>	2500	640 – 1600	1250	460	400
<b>N00221</b>	1500	640 – 1600	1250	460	390

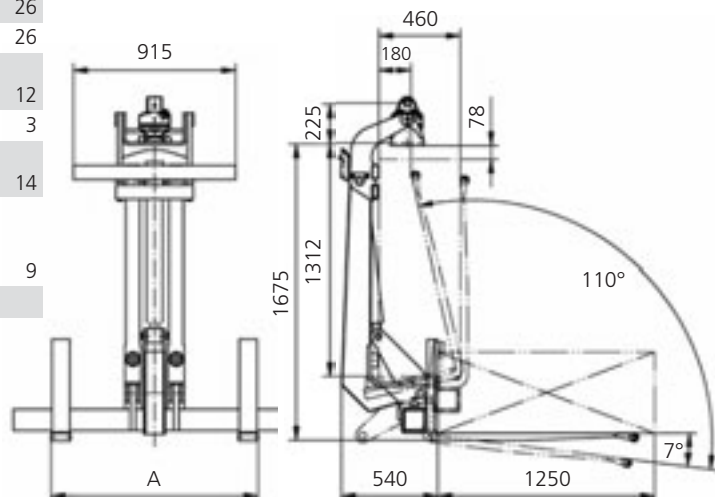
- Please note:**
- the max. dimensions of the load are 1250 x 460 mm (height x depth). The max. width of the load is depending on the tine spread
  - the universal fork PZP080W is delivered with an integrated rack and an upper suspension for a shaft rotator
  - N00221: delivered with a second suspension point on the main beam

## Accessories

Type	Description	Self weight (kg)
<b>PZR450GF</b>	recommended flange rotator – load capacity 4500 kg	26
<b>PZR450G-XX*</b>	shaft rotator - load capacity 4500 kg	26
<b>N00074</b>	quick change system for shaft-type rotators	12
<b>N00072-XX*</b>	reduction link between rotator and grapple	3
<b>PZP001</b>	adjustable clamping device to secure single sheets of smaller packs	14
<b>PZP002</b>	rack for safe and easy handling of folded universal fork (for load capacity over 1000 kg)	9
<b>N00414</b>	intermediary between PZP-W and N00074	

\*) specify Ø shaft when ordering

## Technical drawings



## Requirements of truck crane

**Requirements of truck crane** 20 to 32 MPa (200 – 320 bar)

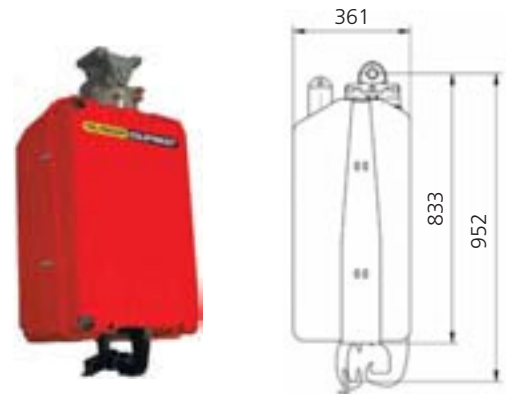
**Pump capacity:** 40 to 75 l/min

# Bottle-Bank Discharge Units for Container with Ring System

The container discharge attachments with ring system are characterised by short cycle times and an attractive acquisition price. Containers can be emptied even faster and more cost effectively with a one-man operation.

## Bottle-bank discharge unit for container with ring system and a low overall height / KM920-1

- **Low overall height** due to compact design
- **Rugged engineering** with rope operation
- **Hooks on automatically** when container is lifted
- **Precise positioning** with rotator
- **Protection against damage of container** by automatic lift stop

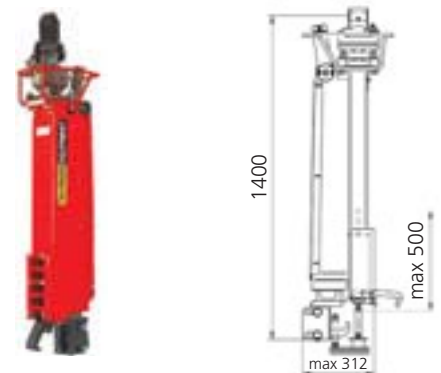


Type	max. Lift of the hook (mm)	Load capacity (kg)	Height (incl. rotator) (mm)	Self weight (kg)	max. Operating pressure (MPa(bar))	max. Pump capacity (l/min)
<b>N00194</b>	500	2200	955	170	21 (210)	60

**Package consists of:** bottle-bank discharge unit, rotator PZR450GF, short connecting hoses BL463, upper suspension with pendulum brake N00078, non-return valve, pressure relief valve

## Bottle-bank discharge unit for container with ring system / KM920-11

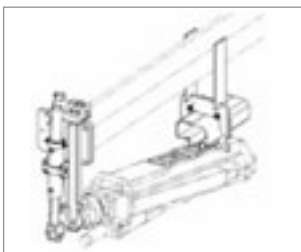
- **Robust mechanics** with few moving parts and guided lifting hook
- **Precise positioning** with rotator, due to the use of a rotator with vertical oil ducts no externally installed hydraulic hoses are necessary
- **Pressure relief valve ensures independence** of crane operating pressure
- **Protection against damage of container** by automatic lift stop



Type	max. Lift of the hook (mm)	Load capacity (kg)	Height (incl. rotator) (mm)	Self weight (kg)	max. Operating pressure (MPa(bar))	max. Pump capacity (l/min)
<b>N00196</b>	500	2500	1400	175	32 (320)	60

**Package consists of:** bottle-bank discharge unit, rotator PZR450GF, short connecting hoses BL463, upper suspension with pendulum brake N00078, pressure relief valve, non-return valve

## Accessories



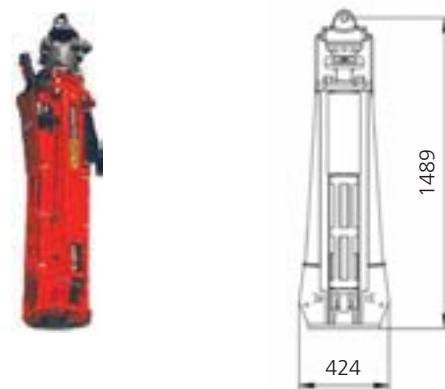
Type	Description	Tilting Angle (degree)	Self weight (kg)
<b>N00135</b>	Docking device for bottle-bank discharge units: it allows the discharge unit to be hydraulically docked and locked onto the crane extension. When unlocked, acts as a hydraulic pendulum brake. A solenoid valve for switch-over between the hydraulic circuits is included. Please indicate crane model when ordering. Operating pressure 28 MPa (280 bar)	90	70
<b>N00420</b>	support for N00196		

# Bottle-Bank Discharge Units for Container with Mushroom System

The container discharge attachments with the fast, patented mushroom system are characterised by short cycle times and an attractive acquisition price. Containers can be emptied even faster and more cost effectively with a one-man operation.

## Bottle-bank discharge unit for container with mushroom system / KM920-12

- **Robust mechanics** with self centring hydraulic interlocking
- **Precise positioning** with rotator, direct hose routing
- **Independence of crane** operating pressure due to the pressure relief valve
- **Protection against damage of container** by automatic lift stop and an additional height control system

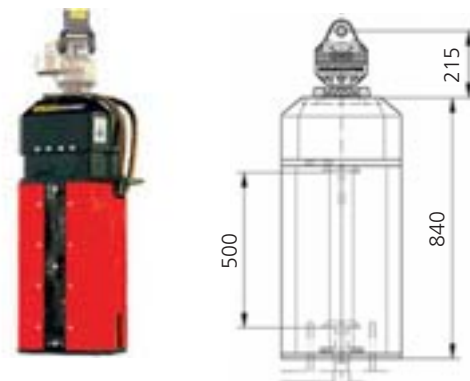


Type	max. Lift of the hook (mm)	Volume (kg)	Height (incl. rotator) (mm)	Self weight (kg)	max. Operating pressure (MPa(bar))	max. Pump capacity (l/min)
<b>N00203</b>	500	2500	1490	175	32 (320)	60

**Package consists of:** bottle-bank discharge unit, rotator PZR450GF, short connecting hoses BL463, upper suspension with pendulum brake N00078, pressure relief valve and non-return valve

## Bottle-bank discharge unit for container with mushroom and ring system / KM921

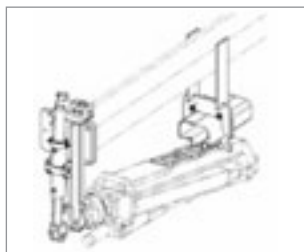
- **Combination model:** without any adjustments both types of containers can be handled – with mushroom system or ring system
- **Low overall height** due to compact design
- **Robust mechanics** with self locking spindle
- **Precise positioning** with rotator
- **Pressure relief valve ensures independence** of crane operating pressure
- **Protection against damage of container** by automatic lift stop and an additional height control system



Type	max. Lift of the hook (mm)	Volume (kg)	Height (incl. rotator) (mm)	Self weight (kg)	max. Operating pressure (MPa(bar))	max. Pump capacity (l/min)
<b>N00042</b>	500	2500	1055	170	32 (320)	60

**Package consists of:** bottle-bank discharge unit, rotator PZR450GF, short connecting hoses BL463, upper suspension with pendulum brake N00078, pressure relief valve and non-return valve

## Accessories



Type	Description	Tilting angle (degree)	Self weight (kg)
<b>N00135</b>	Docking device for bottle-bank discharge units: it allows the discharge unit to be hydraulically docked and locked onto the crane extension. When unlocked, acts as a hydraulic pendulum brake. A solenoid valve for switch-over between the hydraulic circuits is included. Please indicate crane model when ordering. Operating pressure 28 MPa (280 bar)	90	70
<b>N00413</b>	ring-hook for N00203		



# Pole Grapples

**A hydraulically operated attachment used for positioning tubes or poles. It is flanged on the boom extension of the crane.**

- **Mobility** through three hydraulic functions gripping, turning and tilting (three hydraulic circuits are necessary). Unlimited angle of rotation.
- **Heavy loads** of 500 kg up to 3000 kg can be handled by the manipulators.
- **Precise operation** assured through continuous rotation, equipped with mechanically operating, hydraulic pilot controlled brake to prevent unintentional rotation.



## Pole grapples / KM930

	Load capacity	Gripping Ø (min./max.)	Width B	Number of tines	Self weight	Closing force
Type	(kg)	(mm)	(mm)		(kg)	(kN)
<b>KM930-500</b>	500	100 / 300	785	1	235	11
<b>KM930-1000</b>	1000	100 / 300	1275	2	310	23
<b>KM930-2000</b>	2000	250 / 600	1365	4	865	25
<b>KM930-3000</b>	3000	250 / 600	1630	6	1085	39

**Package consists of:** pole grapple, rotator, hydraulic pilot controlled brake, non-return valve

**Please note:** • tubes or poles always have to be grabbed in the centre of gravity

## Accessories

Type	Description
<b>N00215</b>	solenoid valve for additional oil circuit to change over to 3 circuits (for gripping, turning, tilting) when only 2 circuits are available (incl. hose guard) – 12 V / 24 V, working pressure max. 25 MPa, oil flow 60 l/min.

## Requirements of truck crane

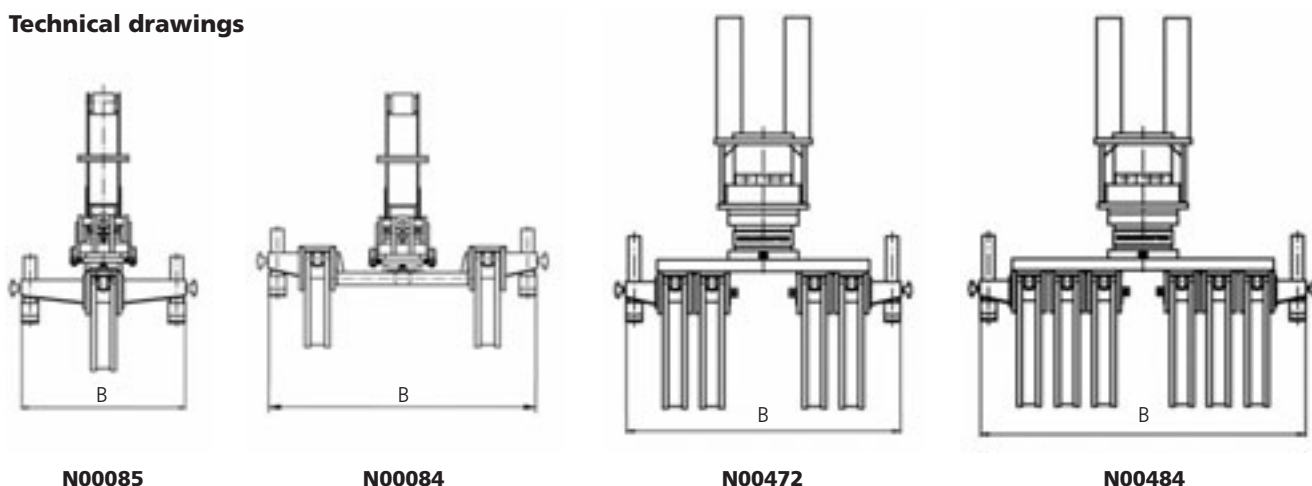
### Requirements of truck crane

20 MPa (200 bar)

### Pump capacity:

20 to 40 l/min

## Technical drawings



# Barrier Lifters

The Barrier lifter is a mechanical grapple for fast and convenient handling of concrete barriers and blocks.

- **Efficiency:** The fully integrated, mechanically operated "latch & release" system allows the unit to function independently, without assistance from a ground man. The elimination of slings and chains means more cycles can be achieved per hour.
- **Safety:** Carbide gripping pads ensure safe operation, even on wet or coated surfaces.
- **Versatility:** Multi-position arms are a standard feature. This means one unit can achieve different gripping ranges by simply changing a pin position.
- For both **barrier lifters** the gripping range can be adjusted due to the use of a bolt.

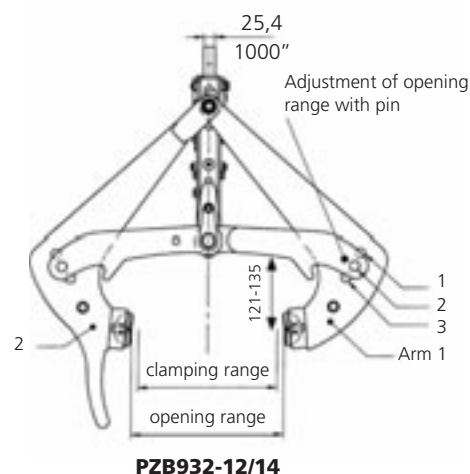
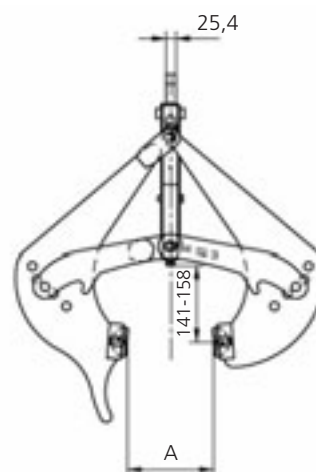
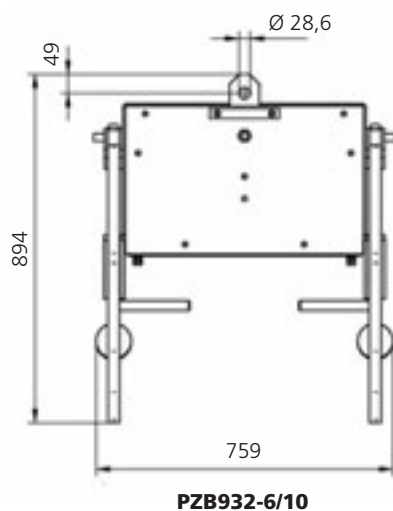


Kinshofer

## Barrier lifters PZB932

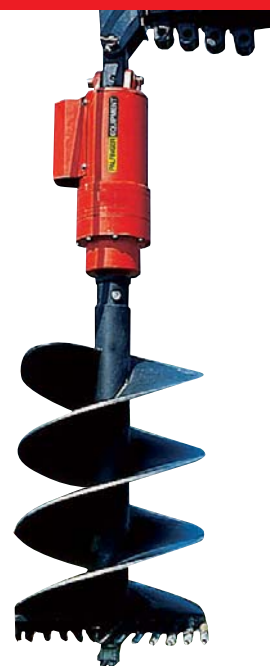
Type	Gripping A (min./max.) (mm)	Self weight (kg)	Load capacity max. (kg)
<b>PZB932-6/10</b>	100 – 310	150	6580
<b>PZB932-12/14</b>	285 – 400	115	6580

## Technical drawings



The PALFINGER augers provide the highest drilling performances and durability, thus the PALFINGER crane becomes a multipurpose tool. The respectively optimised teeth and centering tips are suitable for earth and gravel layers as well as for soft rock.

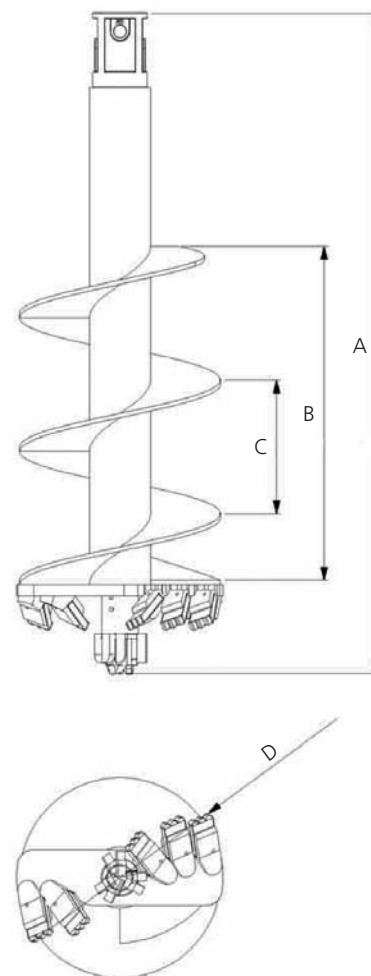
Many manufacturers fasten the teeth friction-locked, so the teeth can easily get lost while drilling. This means costly replacement of the teeth and downtimes. The „**shock-lock**“ system that is used for earth and Tungsten augers guarantees that the teeth do not get lost during drilling thanks to a locking bolt. This bolt can easily be removed when changing the teeth. The cushioning rubber ensures that the Tungsten tooth will not break, even under the harshest conditions. The teeth of the rock augers are fixed with a taper lock. The use of rock augers is recommended, when drilling in stony soil or soft rock.



**Augers (incl. centering tip)**

Type	Total height Dim. A (mm)	Spiral height Dim. B (mm)	Space between spirals Dim. C (mm)	Diameter Dim. D (mm)	Self weight (kg)
<b>EBG 150E</b>	1200	750	120	150	29
<b>EBG 150T</b>					
<b>EBG 150R</b>					
<b>EBG 200E</b>	1200	750	150	200	33
<b>EBG 200T</b>					
<b>EBG 200R</b>					
<b>EBG 225E</b>	1200	750	150	225	36
<b>EBG 225T</b>					
<b>EBG 225R</b>					
<b>EBG 250E</b>	1200	750	150	250	42
<b>EBG 250T</b>					
<b>EBG 250R</b>					
<b>EBG 300E</b>	1200	700	200	300	47
<b>EBG 300T</b>					
<b>EBG 300R</b>					
<b>EBG 350E</b>	1200	675	225	350	52
<b>EBG 350T</b>					
<b>EBG 350R</b>					
<b>EBG 400E</b>	1200	625	250	400	54
<b>EBG 400T</b>					
<b>EBG 400R</b>					
<b>EBG 450E</b>	1200	625	250	450	64
<b>EBG 450T</b>					
<b>EBG 450R</b>					
<b>EBG 500E</b>	1200	625	250	500	75
<b>EBG 500T</b>					
<b>EBG 500R</b>					
<b>EBG 600E</b>	1200	600	300	600	82
<b>EBG 600T</b>					
<b>EBG 600R</b>					
<b>EBG 750E</b>	1200	550	350	750	107
<b>EBG 800E</b>	1200	525	350	800	109
<b>EBG 800T</b>					
<b>EBG 800R</b>					

**E** Earth Auger **T** Tungsten Auger **R** Rock Auger



# Drive Units for Augers

## Key features

- **High-strength forged** hood ears
- **No loss of clips** with the unique hood pin
- **High quality** of the planetary gearbox
- **Fitted with the biggest bearings** in the business
- **NDS** - Non-Dislodgement Shaft - no rip away of the shaft
- **Integral service bungs** for quick and easy oil changes



Augers

## Drive units for augers

Type	Range of drilling (mm)	Operating pressure (bar)	Speed of turn (U/min)	Shaft of drive unit (mm <sup>2</sup> )	Torque of drive unit at 260 bar (Nm)	Oil flow (L/min)	Self weight (kg)
<b>BEG 30:</b> apt for cranes up to 9mt	150 - 600	260	68	57	3,007	20 - 50	108
<b>BEG 50</b> apt for cranes up to 15mt	150 - 750	260	41	57	5,012	20 - 50	112
<b>BEG 80</b> apt for cranes up to 18mt	150 - 900	260	27	57	7,517	20 - 50	116

## Auger extensions

Type	Length (mm)	Pole length (mm)	Shaft exit (mm)	Weight (kg)
<b>BEG12-500</b>	500	114	57 - square	18
<b>BEG12-1000</b>	1000	114	57 - square	25
<b>BEG12-3000</b>	3000	114	57 - square	57



## Pull in parts

### Type For arm dimensions

<b>UL025</b>	296 x 133 mm
<b>UL026</b>	259 x 115 mm
<b>UL027</b>	221 x 97 mm
<b>UL028</b>	185 x 80 mm

## Pull in parts

Type	For arm inner height	Weight (kg)
<b>UL146</b>	123 mm	31,8
<b>UL147</b>	155 mm	34,2
<b>UL148</b>	188 mm	36,9
<b>UL149</b>	224 mm	41,6
<b>UL150</b>	260 mm	45,9



# Workman Baskets

**Our workman baskets have been developed as additional tool for hydraulic loader cranes.**

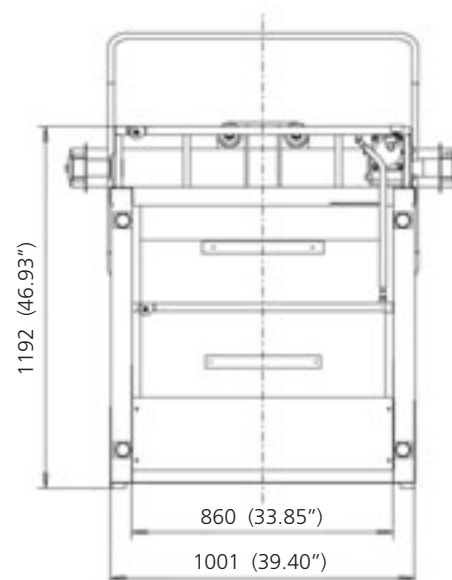
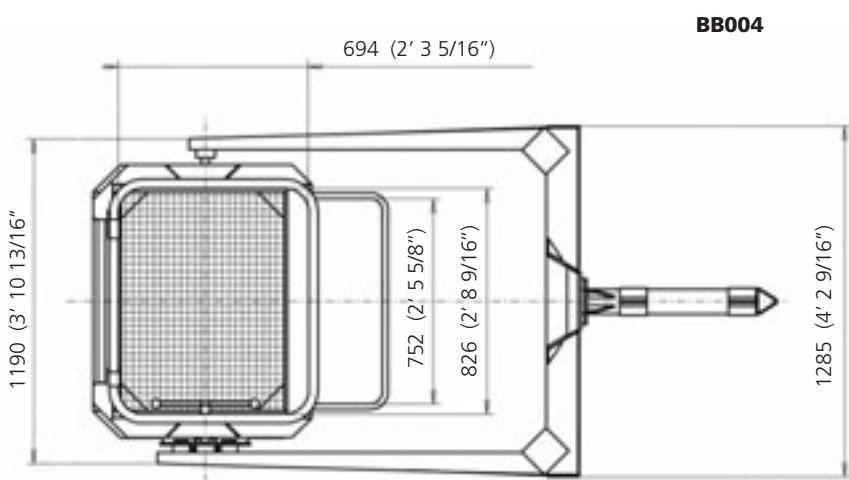
Areal platforms are subject to different safety regulations and instructions depending on the country, which have to be considered for the equipment of a crane with workman basket.



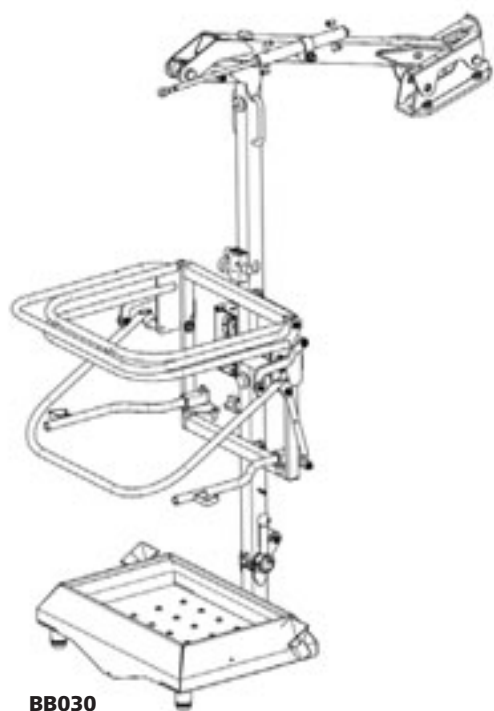
**BB014A**

## Workman baskets

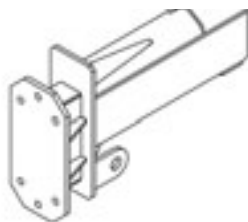
	Description	Load capacity	Weight	Entry width	Electr.hydr. device
Type		(kg)	(kg)	(mm)	(V)
<b>BB004B</b>	with weight levelling performed according to machine guideline, incl. emergency stop switch, coded plug, disc brake, connected at the basket, not according to EN280	280 (2 persons and tools)	155	520	24
<b>BB004</b>	with weight levelling, no CE-version, delivered with manufacturer's declaration, without electrical parts at the basket	280 (2 persons and tools)	155	520	–
<b>BB014A</b>	automatic performed according to machine guideline, positively controlled, incl. aggregate, emergency stop switch, coded plug, connected at the basket, according to EN280	300 (2 persons and tools)	272	830	24
<b>BB030</b>	1 man safety cage, fold-away, according to EN280, incl. emergency stop switch, coded plug, connected at the basket	150 (1 person and tools)	92	800	24







## Pull in parts for workman baskets BB004 and BB004B



Type Dimensions - for internal tube height

<b>BB013-10V1</b>	123 x 62 mm
<b>BB013-15V1</b>	155 x 79 mm
<b>BB013-16V1</b>	188 x 96 mm
<b>BB013-17AV1</b>	224 x 116 mm
<b>BB013-18V1</b>	260 x 136 mm

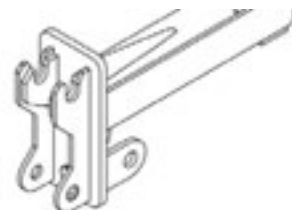
<b>BB004-3</b>	221 x 97 mm
<b>BB007-3</b>	150 x 63 mm
<b>BB009-3</b>	185 x 80 mm
<b>BB011-3</b>	259 x 115 mm
<b>C016</b>	117 x 48 mm

## Quick exchange flange



<b>BZ456</b>	for BB004, BB004B and adequate for all BB014A-pull in parts
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## Pull in parts for workman basket BB014A



Type Dimensions - for internal tube height

<b>BB013-5V1</b>	123 x 62 mm
<b>BB013-6V1</b>	155 x 79 mm
<b>BB013-7V1</b>	188 x 96 mm
<b>BB013-8V1</b>	224 x 116 mm
<b>BB013-9V1</b>	260 x 136 mm
<b>BB013-20V1</b>	296 x 156 mm
<b>BB013-24V1</b>	335 x 176 mm

<b>BB013-3</b>	150 – 221 x 63-97 mm
<b>BB013-4</b>	259 – 295 x 115 mm

## Overview: Pull In Parts for BB004, BB004B, BB014A and Augers

### Arm dimensions crane range 2000

Internal tube height (mm)	455	413	374	335	296	260	224	188	155	123	93	73
Internal tube width (mm)	241	218	197	176	156	136	116	96	79	62	47	32

### Crane types

<b>PJ040*</b>												A *
<b>PK4501* PK6001* PK6500*</b>							STD *	A *	B *			C
<b>PK7001* PK8500*</b>												
<b>PK5001EH PK6501 PK7001K</b>												
<b>PK7001EH PK8501K PK11001K</b>												
<b>PJ060*</b>									A *	B *		
<b>PK7501 PK8501 PK9501 PK10000</b>						STD	A	B	C	D		
<b>PK10501 PK12000</b>												
<b>PKK12500 PKG12001 PKK15500</b>												
<b>PJ080 PK8501 PK8502 PK9001EH</b>												
<b>PK9002EH PK11001 PK11002</b>												
<b>PK12001EH PK12002EH</b>												
<b>PK11502 PK12502 PK15002</b>				STD	A	B	C	D	E			
<b>PK15500 PK16502 PK17502</b>												
<b>PK20002 PK18500 PK23500</b>												
<b>PKK23000 PK18001L PK20001L</b>												
<b>PK21001L PK24001L PK25001EL PJ125</b>												
<b>PJ170</b>							C	E				
<b>PK21502 PK23002 PK24502</b>		STD	A	B	C	D	E	F	G			
<b>PK26502 PK27002 PK29002</b>												
<b>PK32002 PK36002 PK38502</b>	STD	A	B	C	D	E	F	G				
<b>PK42502 PK40002 PK44002</b>												
<b>BB004, B004B workman basket</b>	-	-	-	BB013-24V1 + BZ456 **	BB013-20V1 + BZ456 **	BB013-18V1	BB013-17V1	BB013-16V1	BB013-15V1	BB013-10V1	-	-
<b>BB014A workman basket</b>	-	-	-	BB013-24V1	BB013-20V1	BB013-9V1	BB013-8V1	BB013-7V1	BB013-6V1	BB013-5V1	-	-
<b>Augers</b>	-	-	-	-	-	UL150	UL149	UL148	UL147	UL146	-	-

\* ... not suitable for augers

\*\*) BZ456 = quick exchange flange for BB004/BB004B!

### Overview according arm dimensions

Height internal (mm)	Width internal (mm)	BB004B	BB014A	Augers
335	176	BB013-24V1 + BZ456 **	BB013-24V1	-
296	156	BB013-20V1 + BZ456 **	BB013-20V1	-
260	136	BB013-18V1	BB013-9V1	UL150
224	116	BB013-17V1	BB013-8V1	UL149
188	96	BB013-16V1	BB013-7V1	UL148
155	79	BB013-15V1	BB013-6V1	UL147
123	62	BB013-10V1	BB013-5V1	UL146
93	47	-	-	-
73	37	-	-	-

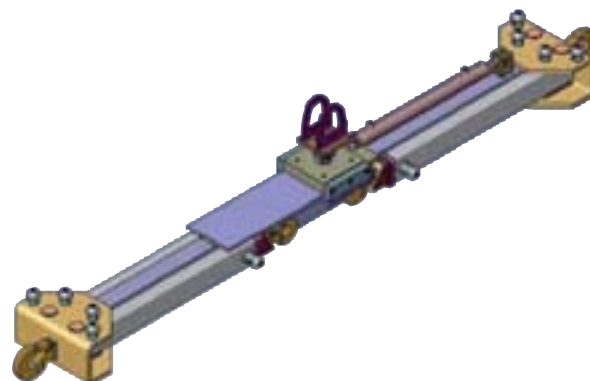
\*\*) BZ456 = quick exchange flange for BB004 / BB004B!

# Car Lifting Devices

## 3,5 t Lifting system PZLG35 / PZLG35H

with rotary servo connection or hook connection hydraulic, adjustable from 400 mm up to 700 mm

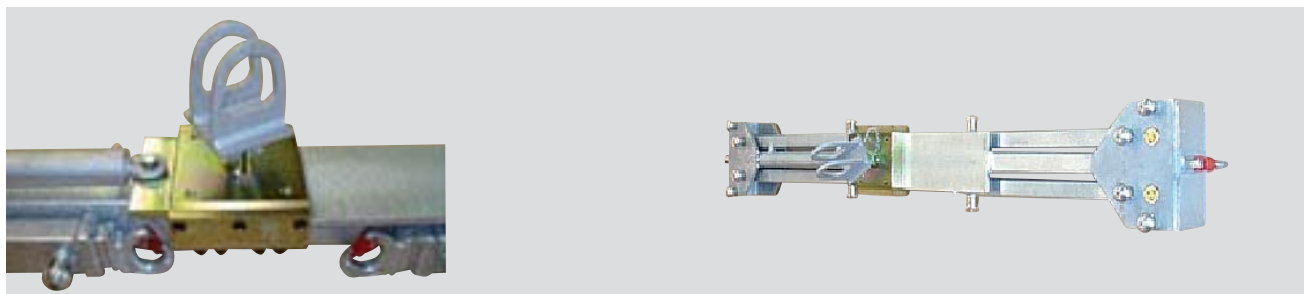
- **Torsion resistant** version
- **Adjustment of center of gravity** 400 mm to 700 mm
- **Weight:** 175 kg
- **Easy handling** due to header with pull button
- **Material:** steel
- **Surface:** galvanized version
- **Mounting** of PZR450GF flange rotator (not included in delivery!) possible



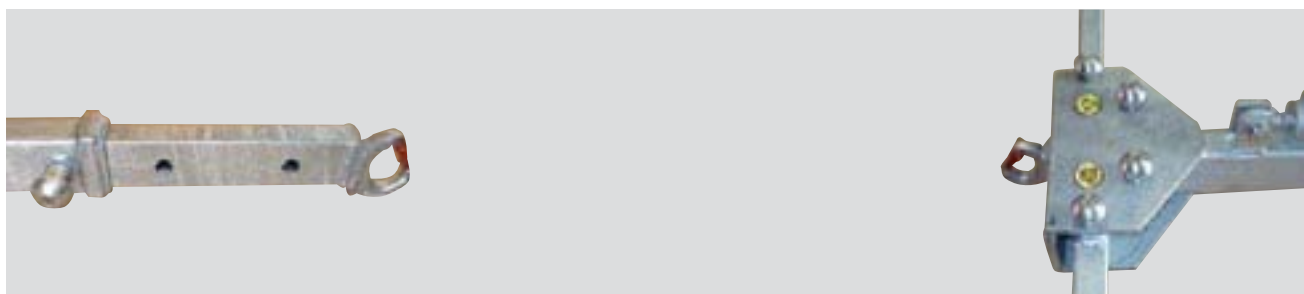
## Rotary servo connection / PZLG35



## Hook connection / PZLG35H

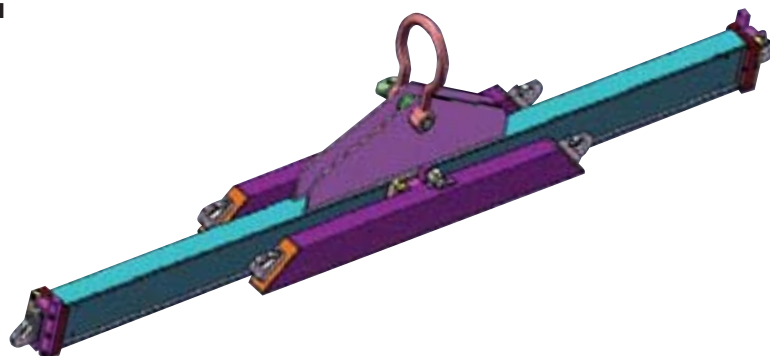


## Other adjustment possibilities on request



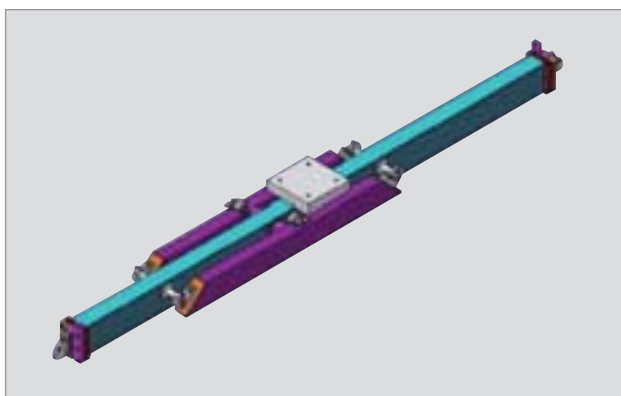
### 2 t Lifting system with ring connection / PZLG20H mechanical

- **Torsion resistant** version
- **Width:** 2,2 m
- **Weight:** 75 kg
- **Surface:** galvanized version
- **Easy handling**
- **Usable only with hook**

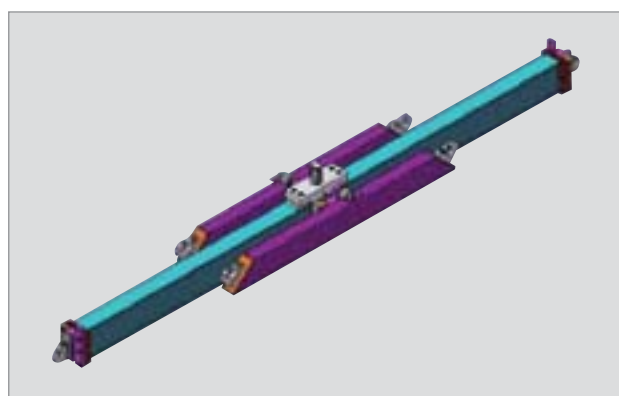


#### Other options:

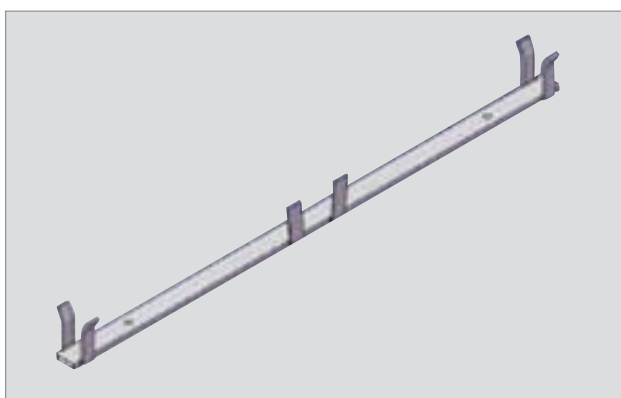
##### With welded plate / PZLG20S



##### With bolted plate / PZLG20P



### Carrier for 2 t lifting systems / PZLG20B



### Wheel clamps PZTC01

Scope of delivery: set with 4 pieces

- **Secure lifting** of vehicles
- **Load capacity** 900 kg per wheel clamp
- **For wheel width** 295 mm
- **For wheel size** 12 to 19 Zoll
- **Many adjustment possibilities**
- **Torsion resistant**
- **Weight:** 16 kg
- **Material:** steel
- **Surface:** yellow galvanized

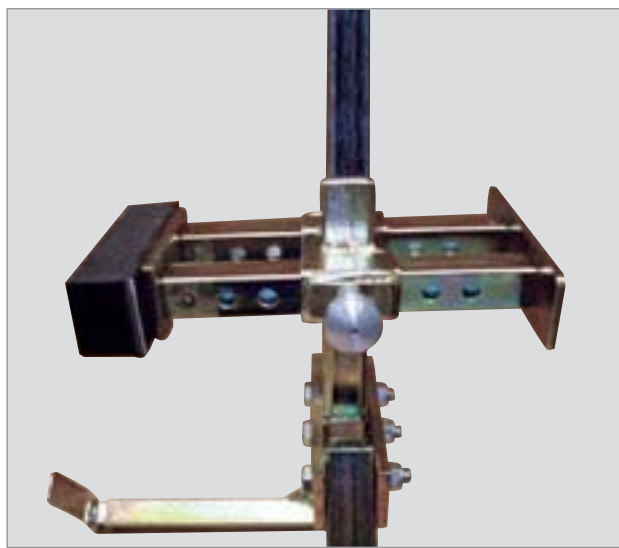


### New improved version!

#### Wheel clamps PZTC01-1

Scope of delivery: set with 4 pieces

- **Load capacity** 900 kg per wheel clamp
- **For wheel size** 12 to 19 inches
- **For wheel width** up to 355 mm
- **Better, easier** adjustment possibilities



### Wheel clamp straps PZLS01

Scope of delivery: set with 4 pieces

- **Length adjustable:** 1,3 / 1,5 / 1,7 m
- **Width:** 50 mm
- **Load capacity:** 892 kg per piece



### Towing belt N00189

- **Length adjustable:** 4,2 - 5,1 m
- **Width:** 300 mm
- **Load capacity:** 2,5 t per piece





**Roller window / PZ0001**

- **Window opening** 210 x 20 mm
- **Hole pattern:** 365 mm
- **Usage:** rope guidance (stem at winch)

**Recovery kit / PZ0002**

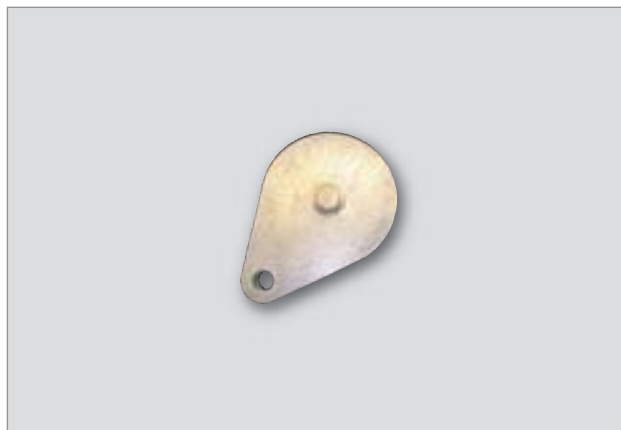
- **Usage:** rear side mounting on plateaus for better recovery possibility

**Accessories****Deflection pulley (hinged) with eye whirl / PZ0004**

- **Roll diameter:** 50 to 100 mm
- **Rope diameter:** 10 to 12 mm
- **Load capacity:** 2000 to 4000 kg
- **Not apt for winch ropes** made of synthetic fibre
- **Usage:** better recovery possibilities

**Deflection pulley / PZ0003**

- **Roll diameter:** 100 mm
- **Rope diameter:** 12 mm
- **Usage:** additional switching point for recovery of cars



## Weight Measuring Systems for Hook Operation

The load measuring tool consists of a CROSBY-standard shackle with integrated measuring cell and a transmitter with antenna and battery. This extremely robust version is especially apt for tasks in difficult environments, where a cable connection to the data transmission is not possible and a highly accurate measuring is necessary.

Within the cage for the transmission mounted laterally to the measuring axis there is also an easily exchangeable battery. On the opposite side there is an additionally installed counterbalance, always providing an optimal shackle position even when the charge is small. The transmission of the load data happens directly to the delivered hand receiver.

You can optionally order this weighing system with an aluminium case, so that it is seated perfectly safe and compact inside the truck.



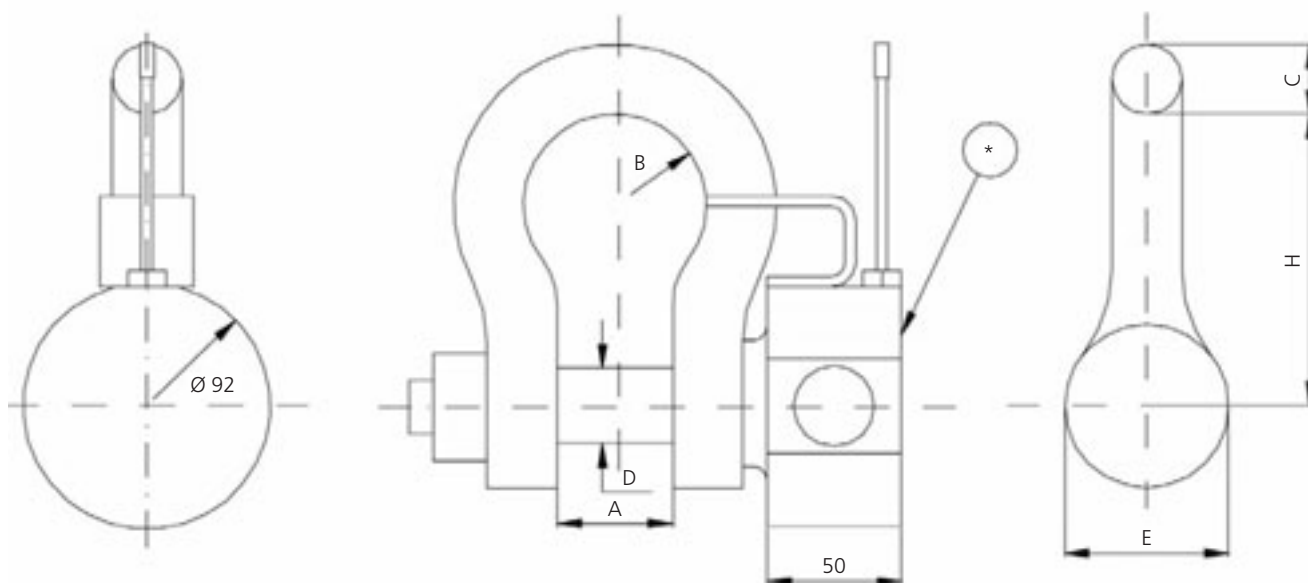
Type: **EZ2631-03** (3,5 t), **EZ2631-06** (6 t)  
**EZ2631** (8,5 t), **EZ2631-13** (13,5 t)

Accuracy:: +/- 1%  
transmission from emitter cell  
to separate hand receiver



Type: **EZ2631-BOX**

## Technical drawings



### Dimensions (mm)

Load (t)	A	B	C	D	E	H	Weight (kg)
3 / 6,3	37	58	22	25	55	97	2,8
8,5	43	68	26	28	61	109	3,8
13,5	57	92	35	38	84	153	8,2
17	60	98	38	41	92	166	10,5

Note: measures of emitter identical for all versions

**Models:** available in sizes 3 t / 6,3 t / 8,5 t / 13,5 t / 17 t.

**Features:**

- **On-button** with integrated LED
- **LED flashes** while data transmission
- **Battery situation shown** in display of receiver

### Technical data

Load capacity max.:	3 – 17 t
Material:	premium steel
Transmission area:	over 50 m
Accuracy:	+/-1%
Operating temperature:	-10 to +50° C
Stock temperature:	-20 to +70° C
Battery service life:	200 working hours
Security factor:	5 : 1
Protection class:	IP 65
Emitter frequency:	868,3 MHz
Number transmissions:	2 / seconds
Voltage feed-in:	1 battery / 1,5 V type "C"

### Description of the receiving unit

The load data is transmitted to the hand receiver and displayed. This receiver consists of a waterproof case with a big, well legible LCD display. The complete handling can be made by 3 buttons. An easily changeable battery provides the necessary operational voltage. The LCD display can be switched off in order to save energy. Especially mentionable is the **tare possibility** of the load display.



battery condition

net weight

#### Button functions:

ON/OFF: Switch on/off receiver  
TARE: Tare load display  
MODE: Switch on/off of LCD display

#### Features:

- **Tare and weight calibration**
- **Stable weight** measure (display)
- **Choice of parameters**
- **Choice of serial exit**
- **Battery condition** of emitter and receiver shown in display
- **All functions programmable** via keypad and can be saved

#### Technical data

Receiver frequency:	868,3 MHz
Data display:	7 segment display, 5 signs, sign height 12 mm
Keypad:	2 push- and 1 on-button
Display resolution:	step size 1-2-5 / 10-20-50 kg
Working temperature:	-10 to +50°C
Stock temperature:	-20 to +70°C
Protection class:	IP 65
Number transmissions:	2 / second
Voltage feed-in:	3 batteries 1,5 V type "AA"
Dimensions:	110 x 68 x 31 mm

# STP6 Thermo Printer

**STP6 is an easily usable 24 column thermo printer, available for all industrial solutions, where a prompt paper print is necessary: load weight information, control, fault tracing.**

The **STP6** printer is equipped with a thermo printer head, quick version, and usable with 57,5 mm wide standard thermo paper rolls. Is is very lightweight, compact and can be used in many ways due to the easy mounting possibilities.

Due to the custom programming possibility, special wishes of the customers can be fulfilled. The printer has a standard connection, RS 232 connection. An external energy supply (direct current) is necessary.



## Connections:

The **STP6** printer is equipped with a single RJ11 tack connection, incl. RS232 connection. There is also a cable with resistant connection available.

## Printer:

PIN	SIGNAL	
1	+VB	Energy supply
2	GND	Signal ground
3	RX	Serial connection ( entrance signal)
4	TX	Serial connection (exit signal)
6	GND	

## CV1 STP6/10 Cable connection:

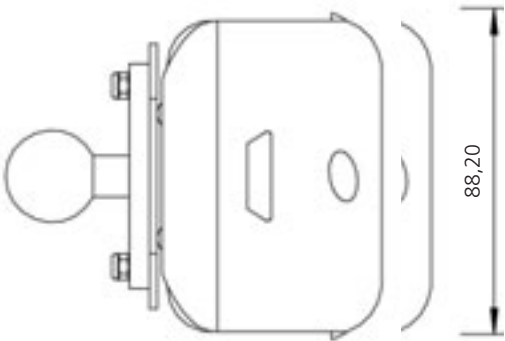
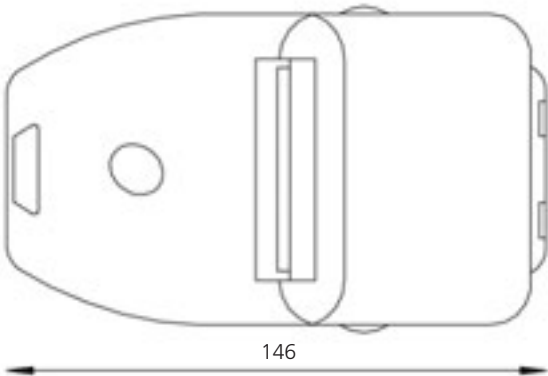
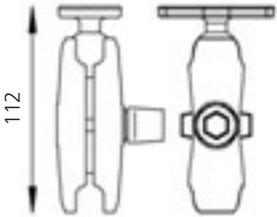
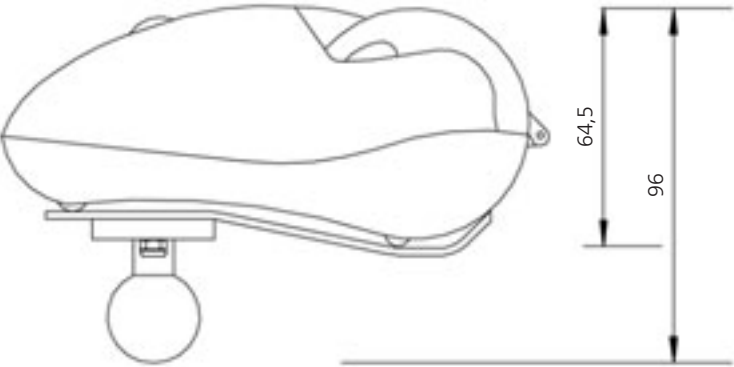
PIN	SIGNAL
A	Energy supply
B	RX entrance signal
C	TX exit signal
D	Ground connection

## Technical data

Printer method:	thermo print
Resolution:	203 dpi
Printing speed:	> 50 mm/sec typical
Number of columns:	24
Font:	ASCII Standard, International
Print format:	normal, double
Paper width:	58 mm
Paper roll measures:	57.5 mm $\pm$ 1 mm
Connection:	RS 232
Transmission speed:	600 to 38.400 bps
Receiver memory:	128 Byte
Flash memory:	32k
Graphic memory:	1 logo of 348 x 85 dot
Energy supply:	9 / 30 Vdc
Electricity need:	during printing 600 mA (idle 20 mA)
Dimensions:	146 x 88 x 96 (with supporting plate)
Weight:	605 gr. ca. (printer and support)
Operating temperature:	from -20°C to +70°C
Stock temperature:	from -40°C to +80°C
Degree of humidity:	from 10% to 90%
Protection:	IP40

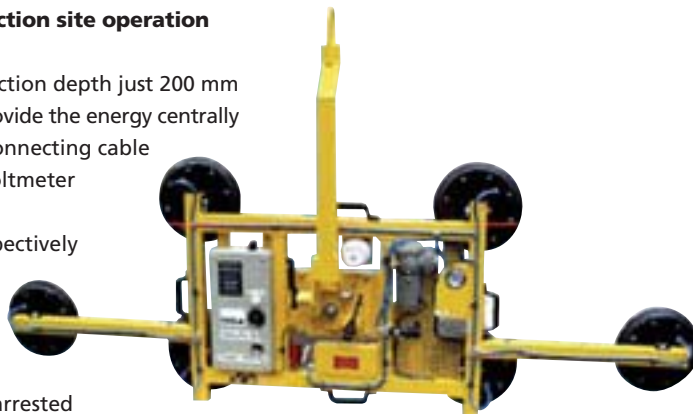


Technical drawings



## Vacuum lifting tool according to EN/DIN 13155 for construction site operation

- **Completed** as welded aluminium construction. Total construction depth just 200 mm
- **Two integrated**, maintenance-free 12 volt dry-cell batteries provide the energy centrally
- **Separate charger** with automatic charge rate control and connecting cable
- **Permanent display** of state of charge of the batteries via voltmeter
- **Vacuum pump** with vacuum control
- **Two vacuum circles** with twofold security per lift pump respectively
- **Two vacuum meters** and two control lights for operational vacuum
- **The eight lifting pads** are arranged in double rows on the suction frame
- **The suction frame** is manually, endlessly turnable (thereby arrested every 45°) and 0 - 90° tiltable.
- **Pivot bearing alignment** near the load centre
- **Connector** for suction extension (plug on suction)



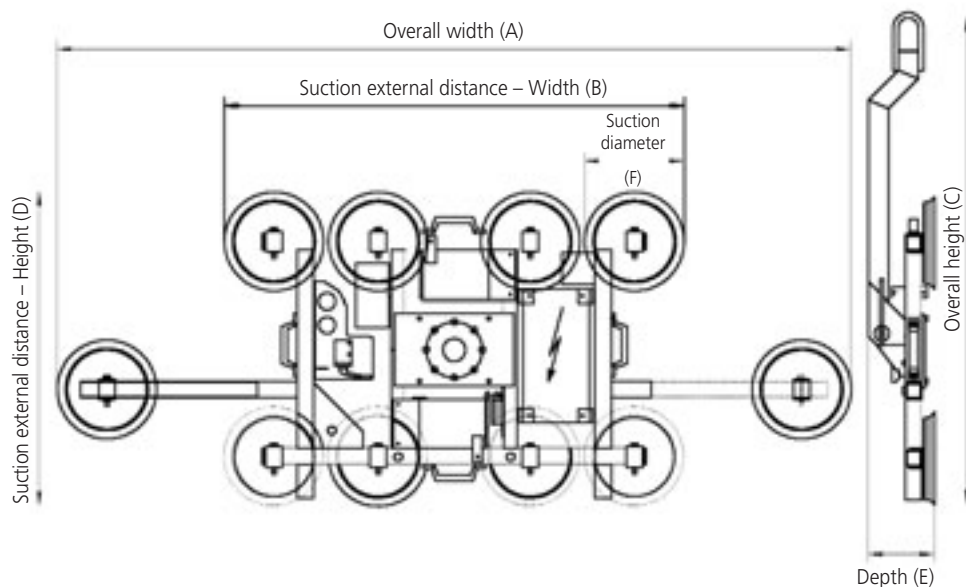
### HEGLA - Acculift

Type	Suction diameter (Liter)	Suction external distance* (mm)	Number of suctions (pcs.)	Charging voltage/ frequency/ pre-fuse (V)	Voltage vacuum pump (V)	Load capacity (kg)	Self weight (kg)
<b>N00495</b>	290	1390 x 950	8	220	12	500	ca. 82
<b>N00495-700</b>	290	1390 x 950	10	220	12	700	ca. 100

\*) Width x Height

**Finishing:** RAL 1023, yellow.  
Other versions available on request.

### Technical drawings



### Dimensions (mm)

A	B	C	D	E	F
2400	1390	1475	950	200	290

### Special equipment:

- **N00494** Cut off valves at each suction cup; 8 pcs.; (reduction of load capacity)
- **N00496** 2 plugs on suctions with extensions, connection via quick couplings
- **N00497** Transport cart for suspension of tool
- Charging to 700 kg load capacity possible (basic tool steel version for carrying suspensions of the plug on suctions, self weight ca. 100 kg)

# Bosch Rexroth: Axial Piston Fixed Pumps

- **The fixed pump with axial conical piston driving gear** in bent axis design with special features and dimensions for the use in commercial vehicles
- **The volume flow** is proportional to the drive and the displacement volume
- **Large angle machine** with 40° tilt angle, i.e. high performance density, small dimensions, optimal degrees of efficiency, economic conception
- **Easy change of rotational direction**
- **Self-aspirating**, for open circuit
- **No leakage pipe** necessary
- **Flange and shaft** for direct mounting on additional drive of trucks
- **Optimized noise**



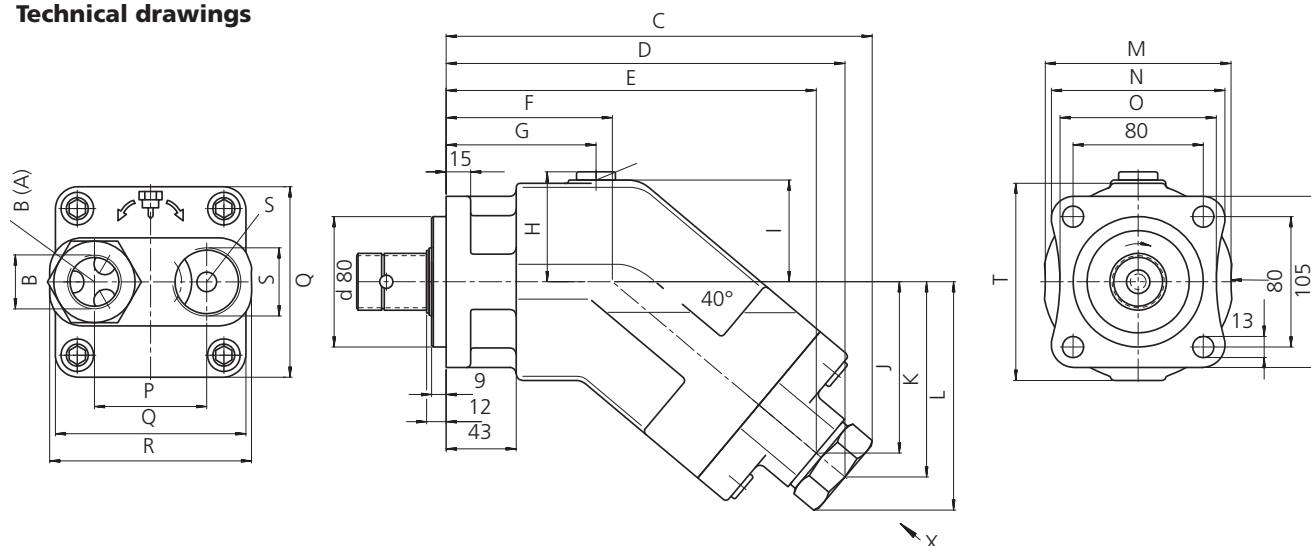
## Axial piston fixed pumps

Type	Displacement volume (V <sub>g</sub> )	Speed (n <sub>max</sub> ) max. at 1,0 bar*	Volume-flow (q <sub>vmax</sub> ) max. at n <sub>max</sub> **	Power (P <sub>max</sub> ) max. at (q <sub>vmax</sub> )	Torque (T)		Torsion rigidity	Inertia moment around drive shaft (J)	Weight (m)
					Δp 300	Δp 350			
	(cm <sup>3</sup> )	(min <sup>-1</sup> )	(L/min)	(kW)	(Nm)	(Nm)	(Nm/rad)	(kgm <sup>2</sup> )	(kg)
<b>EP 340</b>	22,9	2920	65	32,5	109	128	304	0,0012	5,8
<b>EP 341</b>	32	2900	90	45	153	178	304	0,0012	5,8
<b>EP 342</b>	45,6	2560	113	56,5	218	254	435	0,003	8,0
<b>EP 344</b>	63	2300	141	70,5	301	351	520	0,0042	9,0
<b>EP 345</b>	80,4	2130	166	83	384	448	711	0,0072	11,6
<b>EP 346</b>	106,7	1860	193	96,5	509	594	806	0,0116	14,5

\*) Valid for absolut pressure at suction opening "S" and mineral bonds (at 8,0 bar suction pressure reduced technical data)

\*\*) 3% delivery volume leakage included

## Technical drawings



## Dimensions (mm)

Type	B(A)	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
<b>EP 340</b>	G1/2	185	173	159	68,5	61	53	58	76	88	103	108	-	98	51,8	88	91	G3/4	-
<b>EP 341</b>	G1/2	185	173	159	68,5	61	53	58	76	88	103	108	-	98	51,8	88	91	G3/4	-
<b>EP 342</b>	G3/4	223	210	194	88	78	58	63	89	102	119	108	103	98	58,8	108	-	G1	108
<b>EP 344</b>	G3/4	232	219	203	88	78	58	63	96	110	126	108	103	98	64	108	-	G1	108
<b>EP 345</b>	G1	261	245	227	102	92	67,5	62,5	105	120	140	114	107	96	69	117	124	G1 1/4	121
<b>EP 346</b>	G1	272	256	238	102	92	73,5	68,5	114	129	149	120	107	96	77	129	-	G1 1/4	133

## Connections

A or B	working connection
S	suction connection for operational liquids

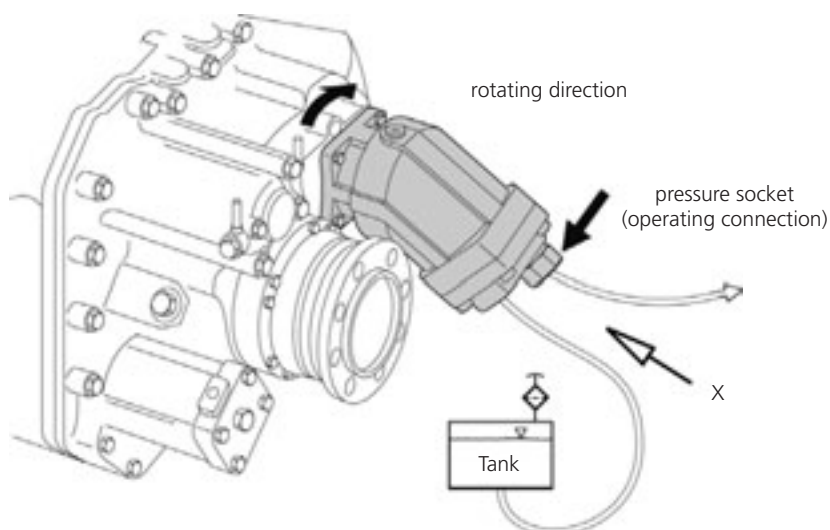
### Technical data:

#### Rotating direction and change of rotating direction

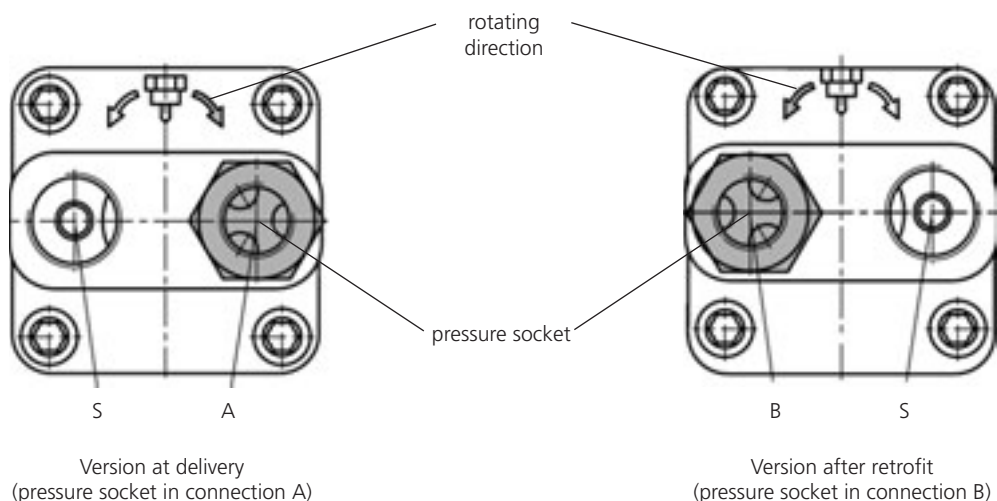
The rotating direction of the drive of the fixed pump is determined by a pressure socket screwed into the operational connection and can be changed easily.

By changing the pressure socket, the operational and suction connection is switched and the pump can be rotated towards another direction. The pump is delivered with pressure sockets in connection A.

### Version at delivery:

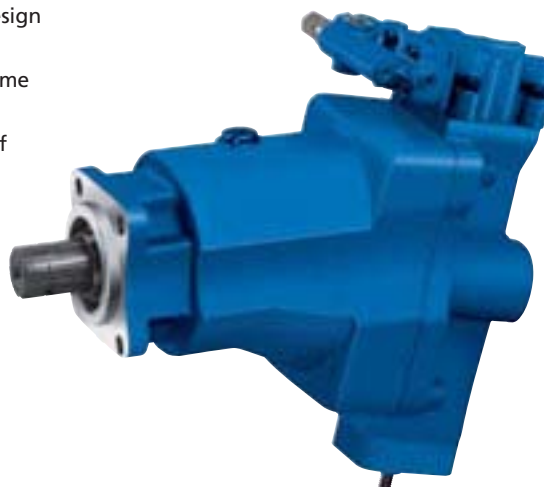


### Sight on connecting plate:



# Bosch Rexroth: Axial Piston Load Sensing Pumps

- **Variabel pump with axial conical piston driving gear** in bent axis design with special features and dimensions for the use in commercial vehicles
- **The volume flow** is proportional to the drive and the displacement volume and stageless adjustable from maximum value to 0.
- **Favourable performance weight**, small dimensions, optimal degrees of efficiency, economic conception
- **Easy change of rotational direction**
- **Self-aspirating**, for open circuit
- **Flange and shaft** for direct mounting on additional drive of trucks



## Axial piston load sensing pumps

Type	Displacement volume (V <sub>g</sub> ) (cm <sup>3</sup> )	Speed (n <sub>max</sub> ) max. at (V <sub>gmax</sub> ) (min <sup>-1</sup> )	Volume-flow (q <sub>vmax</sub> ) max. at n <sub>max</sub> and V <sub>gmax</sub> (L/min)	Power (P <sub>max</sub> ) max. at (q <sub>vmax</sub> ) and Δp = 300 bar (kW)	Torque (T) at V <sub>gmax</sub> and Δp = 300 bar (Nm)	Weight moment (TG) (Nm)	Inertia moment around drive shaft (J) (kgm <sup>2</sup> )	Volume (V) (L)	Weight (m) (kg)
<b>EP 653(R)</b> <b>EP 654 (L)</b>	54,8	2500	137	68	261	21	0,0034	0,6	16
<b>EP 651(R)</b> <b>EP 651HD*</b> <b>EP 652(L)</b> <b>EP 652HD*</b>	80	2240	179	90	382	28,5	0,0064	0,8	20
<b>EP 649(R)</b> <b>EP 649HD*</b> <b>EP 650(L)</b> <b>EP 650HD*</b>	107	2150	230	115	510	41	0,0102	1,2	24

Max. operating pressure 300 bar

\*) Special high pressure version for PK85002, PK100002, HD cranes max. operating pressure 400 bar  
Load sensing pumps incl. suction connection and adapter EA1863





## Pump accessories

Type	Suction connection	Suction-hose	Pressure fitting	Sealing	Pressure hose
<b>Fixed pumps</b>					
<b>EP 340</b>	EA1287	EH4720	EA1597	ED1131	EH4560
<b>EP 341</b>	G 3/4" – 38 mm = 1 1/2" EA1287-45 G 3/4" – 38 mm = 1 1/2" – 45° EA1287-90 G 3/4" – 38 mm = 1 1/2" – 90°	NW 38 x 1700	R1/2" – R3/4"	D=21,3	NW 16 x 550
<b>EP 342</b>	EA1288	EH4720	EA1354	ED1132	EH4560
<b>EP 344</b>	G 1" – 38 mm = 1 1/2" EA1288-45 G 1" – 38 mm = 1 1/2" – 45° EA1288-90 G 1" – 38 mm = 1 1/2" – 90° EA2111 G 1" – 50 mm = 2"	NW 38 x 1700	R3/4" – R3/4"		NW 16 x 550
<b>EP 345</b>	EA1290	EH4721	EA 085	ED1133	EH1469
<b>EP 346</b>	G 1 1/4" – 50 mm = 2" EA1290-45 G 1 1/4" – 50 mm = 2" – 45° EA1290-90 G 1 1/4" – 50 mm = 2" – 90°	NW 50 x 1700	GE 25S R1"		NW 20 x 850
<b>Load sensing pumps</b>					
<b>EP 649</b>	EA1290	EH4721	EA 085	ED1133	EH1469 EP
<b>649HD</b>	G 1 1/4" – 50 mm = 2"	NW 50 x 1700	GE 25S R1"		NW 20 x 850
<b>EP 650</b>					
<b>EP 650HD</b>					
<b>EP 651</b>	EA1290	EH4721	EA1355	ED1133	EH4560
<b>EP 651HD</b>	G 1 1/4" – 50 mm = 2"	NW 50 x 1700	R1" – R3/4"		NW 16 x 550
<b>EP 652</b>					
<b>EP 652HD</b>					
<b>EP 653</b>	EA1288	EH4720	EA1354	ED1132	EH4560
<b>EP 654</b>	G 1" – 38 mm = 1 1/2"	NW 38 x 1700	R3/4" – R3/4"		NW 16 x 550
<b>&gt; 80l</b>	EA1710	EH4722	EA 085	ED1133	EH1469
	G 1 1/4" – 60 mm	NW 60 x 1700	GE 25S R1"		NW 20 x 850
<b>EP 678</b>	The intermediate plate (Smart-plate) is mounted between pump housing and control (DFR1). When using the Smart-plate, the control can be turned 180°. Use: EP 649, EP 650, EP 651, EP 652, EP 653, EP 654				
<b>EA1863</b>	UNF-Adapter				

# Hydro Leduc: Axial Piston Fixed Pumps

The X-range pumps are designed for the most severe working conditions. The exceedingly compact design combined with technologies shows that this pump range is ideal for narrow places and high revolution speeds, especially appropriate with conventional secondary drives.

- **Use of high-class**, mechanically resistant materials
- **Compact design** at max. displacement volume
- **High pump drive** at high pressure demands
- **7 piston technologies**
- **Optimized synchronising** between disc and drum
- **Change of rotating** direction by simply changing a fitting
- **Reinforced sealings**
- **Reduced noise levels**
- **Higher working pressure**
- **Easy handling**
- **Long service life**



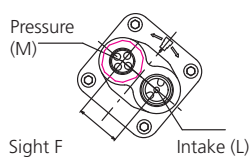
## Axial piston fixed pumps

Type	Displacement volume (cm <sup>3</sup> )	Pressure max. duration (bar)	Pressure max. peak <5 s (bar)	Drive max. (Turns/min)	max. Performance intake at 350 bar (Nm)	Weight (kg)
<b>EP 870</b>	32	350	400	2600	190	10,2
<b>EP 871</b>	50,3	350	400	2200	292	11,8
<b>EP 872</b>	63	350	400	2100	362	11,8
<b>EP 873</b>	80,4	350	400	2000	460	15,7
<b>EP 874</b>	108,3	350	400	1750	619	16

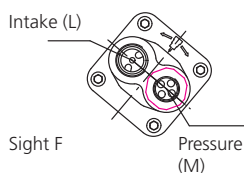
Other pumps with displacement volumes of 18,25 respectively 40 cm<sup>3</sup> available on request!

## Technical drawings

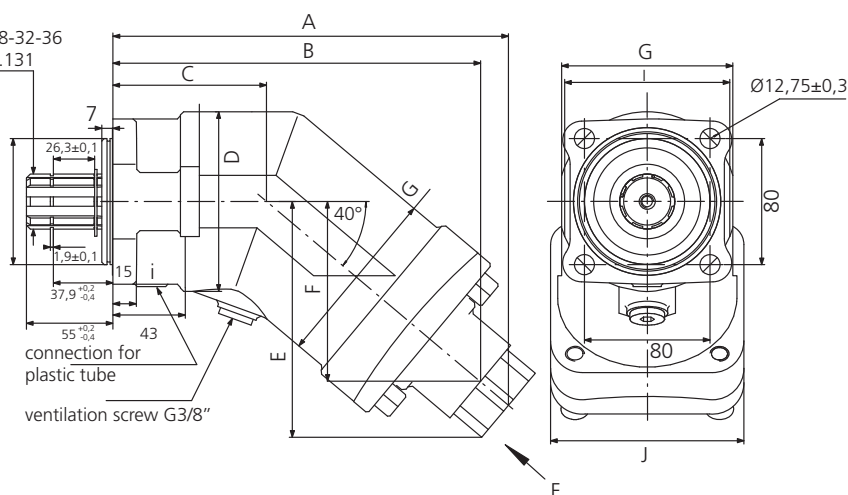
### Rotating direction (SH)



### Rotating direction (SIH)



Spline shaft profile 8-32-36  
DIN 5462 - NF E 22.131



## Dimensions (mm)

Type	A	B	C	ØD	E	F	ØG	H	I	J	K	L	M
<b>EP 870</b>	203,5	189,7	86	103	112,1	87,2	103	98	98	108	39,75	G3/4"	G1/2"
<b>EP 871</b>	219,6	203,5	86	103	129,3	98,8	103	98	98	108	49,7	G1"	G3/4"
<b>EP 872</b>	219,6	203,5	86	103	129,3	98,8	103	98	98	108	49,7	G1"	G3/4"
<b>EP 873</b>	251,7	233,7	97,7	114	149,7	114,3	114	109	105	123	56,3	G1" 1/4	G1"
<b>EP 874</b>	251,7	233,7	97,7	114	149,7	114,3	114	109	105	123	56,3	G1" 1/4	G1"

## Hydro Leduc: PA and PAC Pumps Single and Twin Flow Models

**These pumps are extremely resistant against stained oil and thus optimal for hard working conditions.**

Concerning the hydraulic sealings, this range has been also equipped with the newest technologies available.

- **Easy handling**
- **Ideal for difficult demands**
  - Pressure peaks
  - Slightly degraded fluids
  - Most difficult working conditions
- **Double shaft sealing**
- **Economic solution** for twin flow requirements
- **Arbitrary rotating direction**



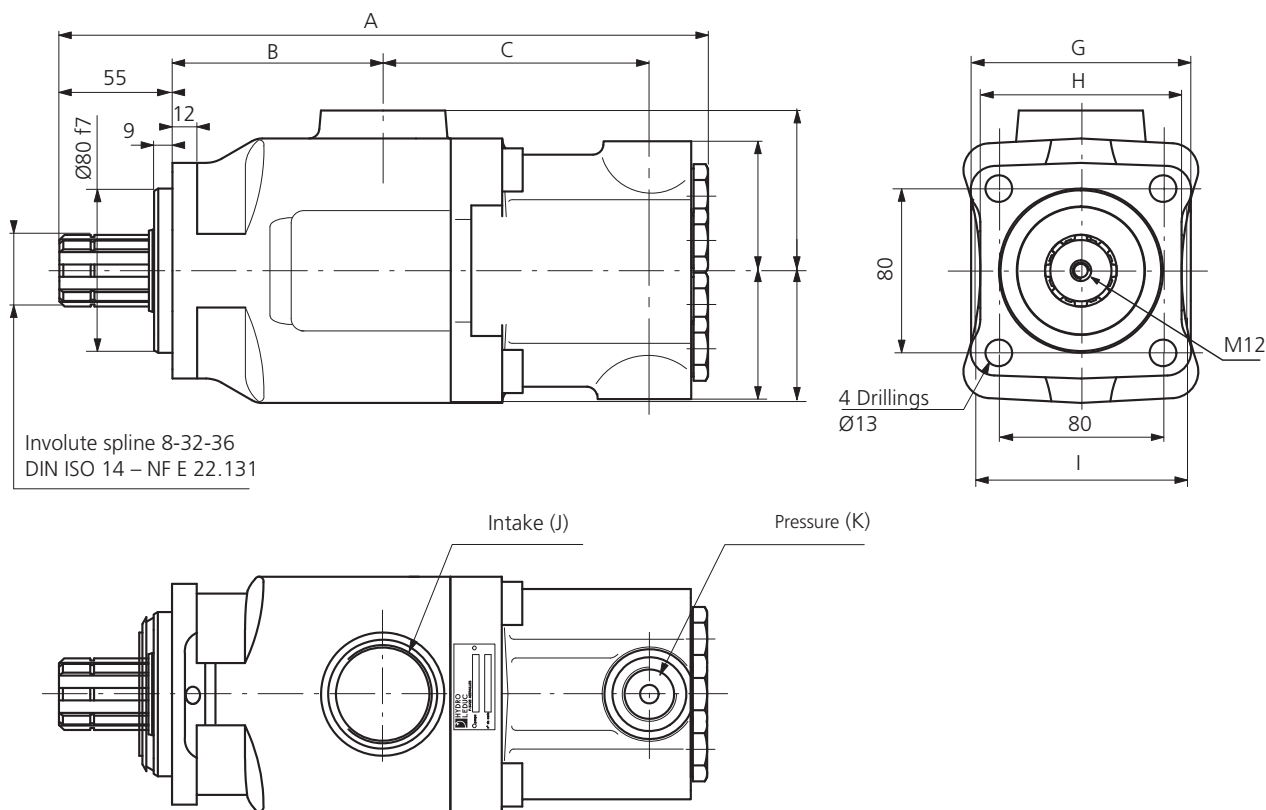
**PA and PAC pumps single and twin flow models**

Type	Displacement volume (cm <sup>3</sup> )	Pressure max. duration (bar)	peak <5 s (bar)	Drive max. (Turns/min)	Weight (kg)
<b>Single flow pumps</b>					
EP 547(PA)	12	350	500	2500	12,5
EP 548(PA)	18	350	500	2000	12,5
EP 549(PA)	28	350	500	2200	15
EP 550(PA)	34	350	500	2000	15
EP 551(PA)	43	350	500	1750	15
EP 552(PA)	50	350	500	1650	15
EP 555(PA)	114	350	500	1350	23,5
EP 553(PAC)	65	350	500	1500	16
EP 554(PAC)	78	350	500	1350	17
<b>Twin flow pumps</b>					
EP 582(PA)	2 x 39	350	500	1700	23,5
EP 583(PA)	2 x 52	350	500	1500	23,5
EP 556(PA)	2 x 57	350	500	1310	23,5

Other single flow pumps (PA) with displacement volumes of 66, 82 respectively 104 cm<sup>3</sup> and double flow pumps (PA) with displacement volumes of 2 x 75 cm<sup>3</sup> respectively 75/40 cm<sup>3</sup> are available on request!!



## Technical drawings



### Dimensions (mm)

Type	A	B	C	$\varnothing D$	E	F	G	H	I	J	K
<b>EP 547</b>	281	94,9	103,3	62	73,2	54	98	-	-	G1 " 1/2	G3/4 "
<b>EP 548</b>	281	94,9	103,3	62	73,2	54	98	-	-	G1 " 1/2	G3/4 "
<b>EP 549</b>	315	102	126	47	78	65	107	98	-	G1 " 1/2	G3/4 "
<b>EP 550</b>	315	102	126	47	78	65	107	98	-	G1 " 1/2	G3/4 "
<b>EP 551</b>	315	102	126	47	78	65	107	98	-	G1 " 1/2	G3/4 "
<b>EP 552</b>	315	102	126	47	78	65	107	98	-	G1 " 1/2	G3/4 "
<b>EP 555</b>	345	123	138	69	90	68,5	124	112	120	G2 "	G3/4 "
<b>EP 553</b>	299	102,5	112,8	63	78	65	107	98	105	G1 " 1/2	G3/4 "
<b>EP 554</b>	302,5	102,5	116,3	63	78	65	107	98	105	G1 " 1/2	G3/4 "
<b>EP 582</b>	345	123	138	69	90	69	124	112	120	G2 "	G3/4 "
<b>EP 583</b>	345	123	138	69	90	69	124	112	120	G2 "	G3/4 "
<b>EP 556</b>	345	123	138	69	90	69	124	112	120	G2 "	G3/4 "

# Hydro Leduc: Axial Piston Load Sensing Pumps

The pump possesses an integrated displacement flow and pressure control system "load sensing". This control system is controlled by a proportional valve that circulates the necessary displacement flow for the circuits according to the needed drive load-independently directly from the pump.

The function load sensing regulates the displacement flow of the pump according to the need of the connected users. At the same time it controls the maximal operating pressure of the pump.

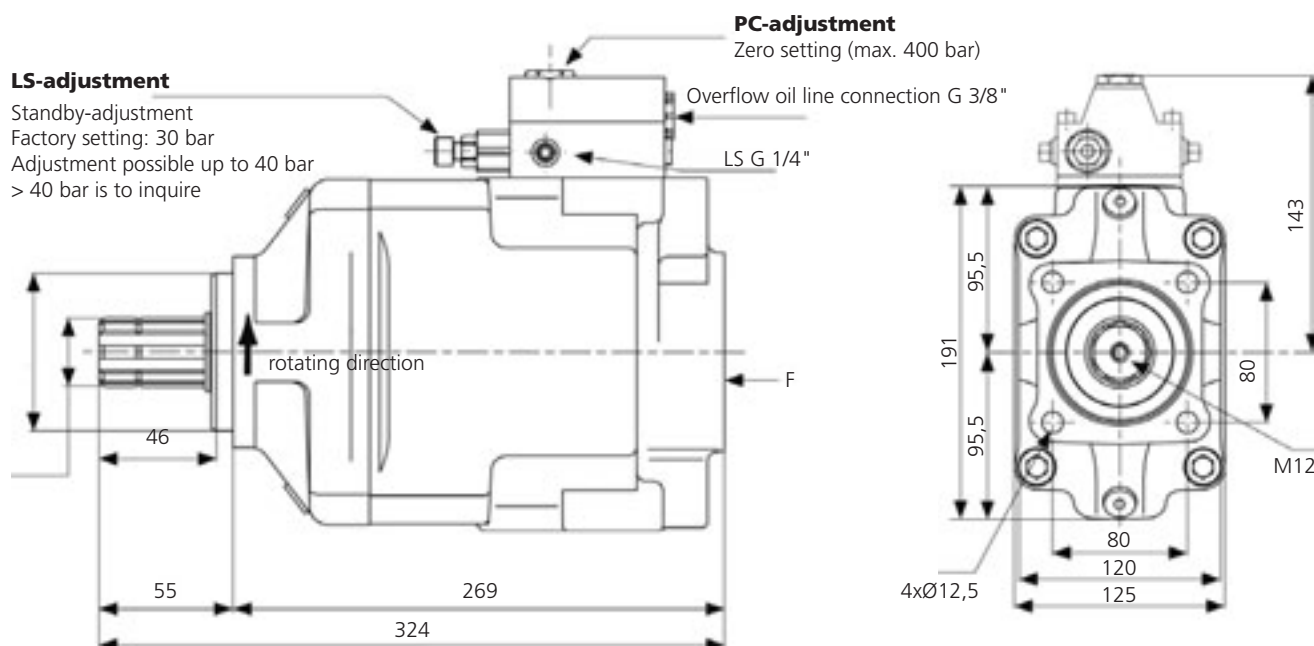
- **Precise control** of the action to be accomplished
- **Multi-functional:** simultaneous and load-independent action
- **Reduced heating** of the fluid
- **Low energy consumption**



## Axial piston load sensing pumps

Type	Displacement volume (cm <sup>3</sup> )	Pressure max. duration (bar)	Pressure max. peak <5 s (bar)	Drive max. (U/min)	max. Performance intake at 350 bar (Nm)	Weight (kg)
EP 768R	60	400	420	2600	295	27
EP 768L						
EP 769R	75	400	420	2000	410	27
EP 769L						
EP 770R	92	380	400	1900	483	27
EP 770L						
EP 945R	120	360	380	2100	680	27
EP 945L						
EP1926R	130	360	380	2100	730	28
EP1926L						

## Technical drawings



## Pump accessories

Type	Suction connection	Suction hose	Pressure fitting	Sealing	Pressure hose
<b>Fixed pumps</b>					
<b>EP 547</b>	EA1731 G 1 1/2" – 40 mm	EH4937 NW 40 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 548</b>	EA1731 G 1 1/2" – 40 mm	EH4937 NW 40 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 549</b>	EA1731 G 1 1/2" – 40 mm	EH4937 NW 40 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 550</b>	EA1731 G 1 1/2" – 40 mm	EH4937 NW 40 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 551</b>	EA1867 G 1 1/2" – 50 mm	EH4721 NW 50 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 552</b>	EA1867 G 1 1/2" – 50 mm	EH4721 NW 50 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 553</b>	EA1867 G 1 1/2" – 50 mm	EH4721 NW 50 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 554</b>	EA1867 G 1 1/2" – 50 mm	EH4721 NW 50 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 555</b>	EA2148 G 2" – 50 mm	EH4721 NW 50 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 556</b>	EA2148 G 2" – 50 mm	EH4721 NW 50 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 582</b>	EA2148 G 2" – 50 mm	EH4721 NW 50 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 583</b>	EA2148 G 2" – 50 mm	EH4721 NW 50 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550

### By-pass valve for X-pumps

For certain X-pump applications with a continuous, not disconnectable secondary drive number existing (e.g. motor-camshaft drive), there is a special by-pass valve, which is mounted directly at the end of the pump body. This allows a continuous pumping rotation speed with the following advantages:

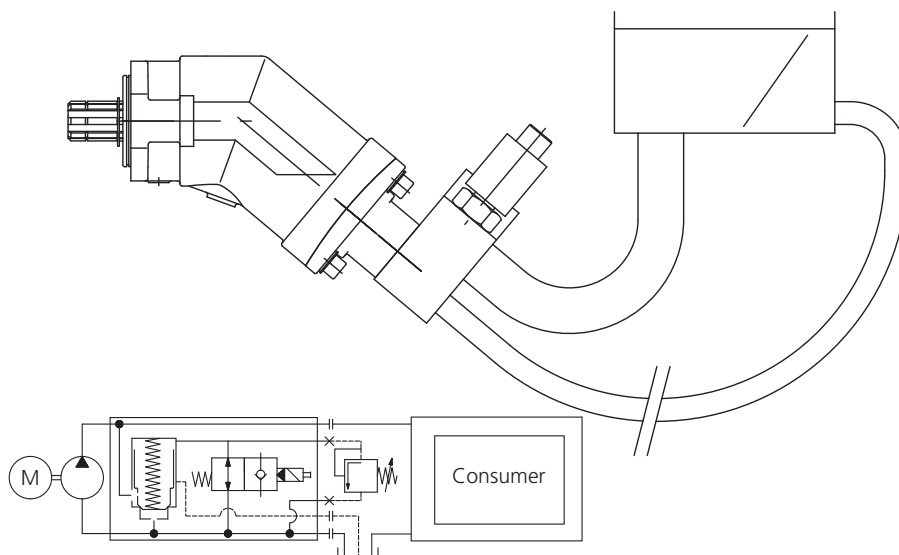
- **No heat development** within the hydraulic circuit
- **No negative detraction of** the pumps' service life
- **No further necessary modifications** at the hydraulic system of the vehicle

The by-pass valve is a shiftable solenoid valve (24 volt). Without flow, the by-pass valve is open and connects the pressure side with the suction side. Charged with electric flow, the by-pass valve is closed and operating pressure is built up.

**EV5839** for EP 871; EP 872

**EV5840** for EP 873; EP 874

### Technical drawings





## Sunfab: Axial Piston Fixed Pumps

### Single and Twin Flow Models

The Sunfab SC is a series of piston pumps with a constant delivery flow for challenging, mobile hydraulics. The pump is mounted either directly on the secondary drive or via an intermediary shaft in a frame fastening. In case the hydraulic of an attachment is used while the vehicle is driving, a by-pass valve adds to the SC pump. The high reliability of the Sunfab SC is based on the choice of materials, the curing procedure, the surface structure and the quality secured production process.

The high demands of the market are accomplished by:

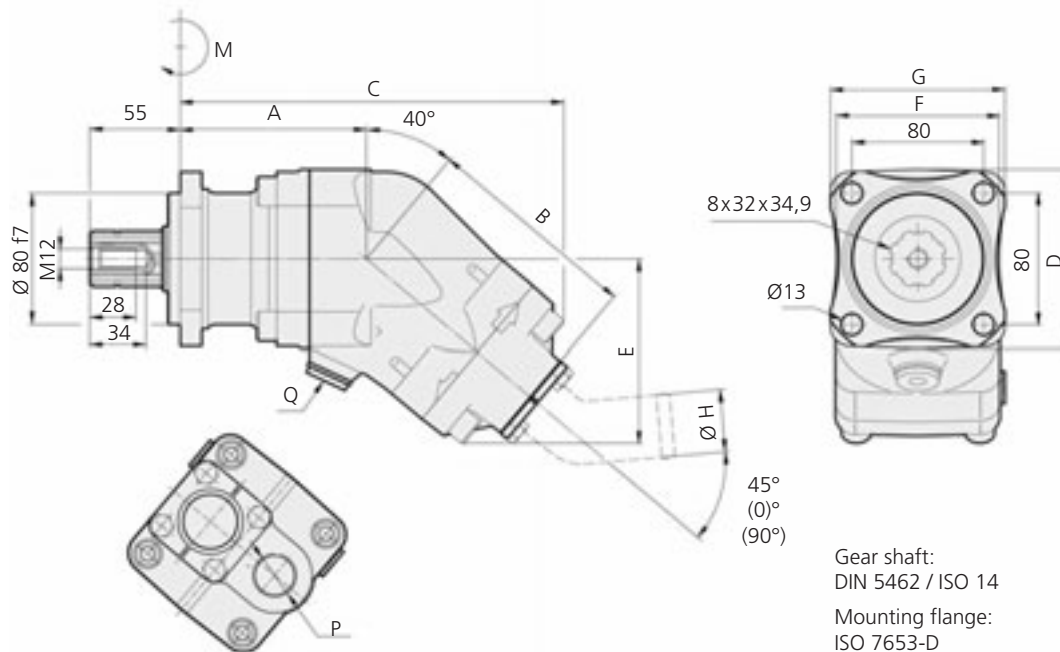
- **High delivery volumes** at high operating pressures
- **Extremely good efficiency** at low mounting measures.
- **High maximum speed** while maintaining low noise levels
- **Smooth operation** over the entire speed range
- **Long life** due to an optimised choice and dimensioning of bearings, sealings, etc.
- **O-rings** on all contact surfaces as well as double shaft seals eliminate oil leakage from the pump and power take off
- **The stop shoulder on the angle housing** allows the pumps direction of rotation to be changed without the risk of altering the gear meshing



#### Axial piston fixed pump

Type	Delivery volume	Pressure max.	Drive max.		Momentum	Weight
	at 1000 turns/min		continuous	short time		
	(cm³)	(bar)	(Turns/min)		(Nm)	(kg)
Single flow pumps						
EP 703	16,2	400	2300	3000	6,9	8,3
EP 374	25	400	2300	3000	7,4	8,5
EP 373	34	400	2300	3000	7,4	8,5
EP 367	47	400	1900	2500	13	11,7
EP1150	56	400	1900	2500	13	11,7
EP 368	63,5	400	1900	2500	13	11,7
EP 369	83,5	400	1500	2000	21	17
EP 370	108	400	1500	2000	21	17

## Technical drawings



### Dimensions (mm)

Type	A	B	C	D	E	F	G	H		P	Q
EP 703	97	112	202	99	97	89	97	38	50	¾	½
EP 374	97	112	202	99	97	89	97	38	50	¾	½
EP 373	97	112	202	99	97	89	97	38	50	¾	½
EP 367	113	130	228	109	109	99	106	38	50	¾	½
EP1150	113	130	228	109	109	99	106	38	50	¾	½
EP 368	113	130	228	109	109	99	106	38	50	¾	½
EP 369	123	147	259	126	126	115	123	50	64	1	½
EP 370	123	147	259	126	126	115	123	50	64	1	½

## Twin flow models

**Sunfab SL** is a series of direct double pumps with an extremely low noise level for challenging, mobile hydraulics. Pumps with differentiated delivery flow broaden the application area as they can provide three different delivery flows: a small, a big and an added delivery flow. Sunfab SL allows for a direct mounting at the secondary drive in narrow spaces due to the slim pump housing. The Sunfab SL series is also available with a Savtec-valve. Sunfab SL 200 is equipped with a Savtec-lock-valve.

- The Savtec-valve can also be used as emergency cutout.

**Sunfab SC 75/75** is a double pump with two constant delivery flows. This pump is the biggest within the SC piston pump range for challenging, mobile hydraulics. Due to seven pistons per delivery circuit respectively, a completely vibration-free and constant delivery flow is guaranteed within the circuits. SC 75/75 works with high delivery volumes at high operating pressures and has a very high degree of efficiency at low mounting measures.

- **High reliability** based on choice of materials, curing procedures, surface structure and quality secured production processes.
- **The economic complete** solution compared to conventional mounting with two pumps within one transfer box.
- **The large displacement** gives the possibility of low motor speeds and low noise levels.
- **Smooth operation** for the entire drive range.
- **Long life** due to high demands on material selection such as bearings, sealings, etc.
- **O-rings** at all contact surfaces as well as double shaft seals eliminate oil leakage from the pump and power take off.

## Axial piston fixed pumps

Type	Delivery volume at 1000 turns/min (cm <sup>3</sup> )	Pressure max. (bar)	Drive max. (U/min)	Momentum (Nm)	Weight (kg)
<b>Twin flow pumps</b>					
<b>EP 528 (SL)</b>	46 + 46	330	1800	26,5	22
<b>EP 506 (SL)</b>	53 + 53	330	1600	26,5	22
<b>EP 742 (SL200)</b>	235 + 35	330	2200 (3000 discharged)	32,5 / 29,5*	24,5 / 23,5
<b>EP1151 (R) (SC)</b>	56 + 26 = 82	400	1850	21	18
<b>EP1152 (L) (SC)</b>	56 + 26 = 82	400	1850	21	18
<b>EP 601 (L)</b>	75 + 75 = 150	350	1200	32,6	22,1
<b>EP 607 (R) (SC)</b>	75 + 75 = 150	350	1200	32,6	22,1

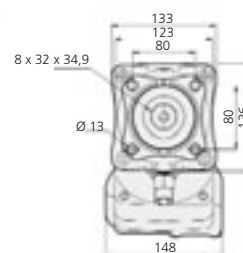
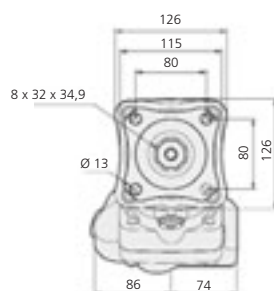
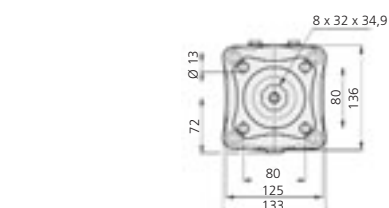
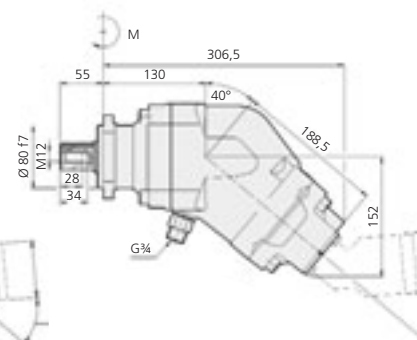
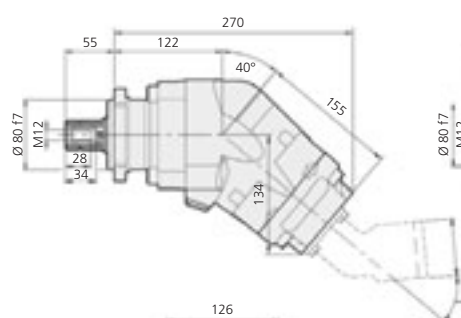
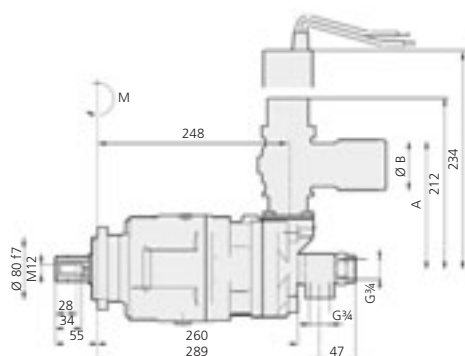
\*) electric / pneumatic

## Technical drawings

**EP 506 (w/o Savtec valve)**  
**EP 528**  
**EP 742**

**EP1151**  
**EP1152**

**EP 601**  
**EP 607**



## Dimensions (mm)

Type	A	B
<b>EP 506</b>	166	64 (w/o Savtec-valve)
<b>EP 742</b>	133	50

## Sunfab: Axial Piston Load Sensing Pumps

The Sunfab SVH series is a variable axial piston pump for load sensing systems, designed for direct installation on the truck's power take off. The Sunfab SVH is ideal for the challenging operation of forestry cranes, general cargo cranes, suction vehicles, refuse collection vehicles. etc. The Sunfab SVH is dependent on the rotating direction and thus has to be ordered in either version right or left.

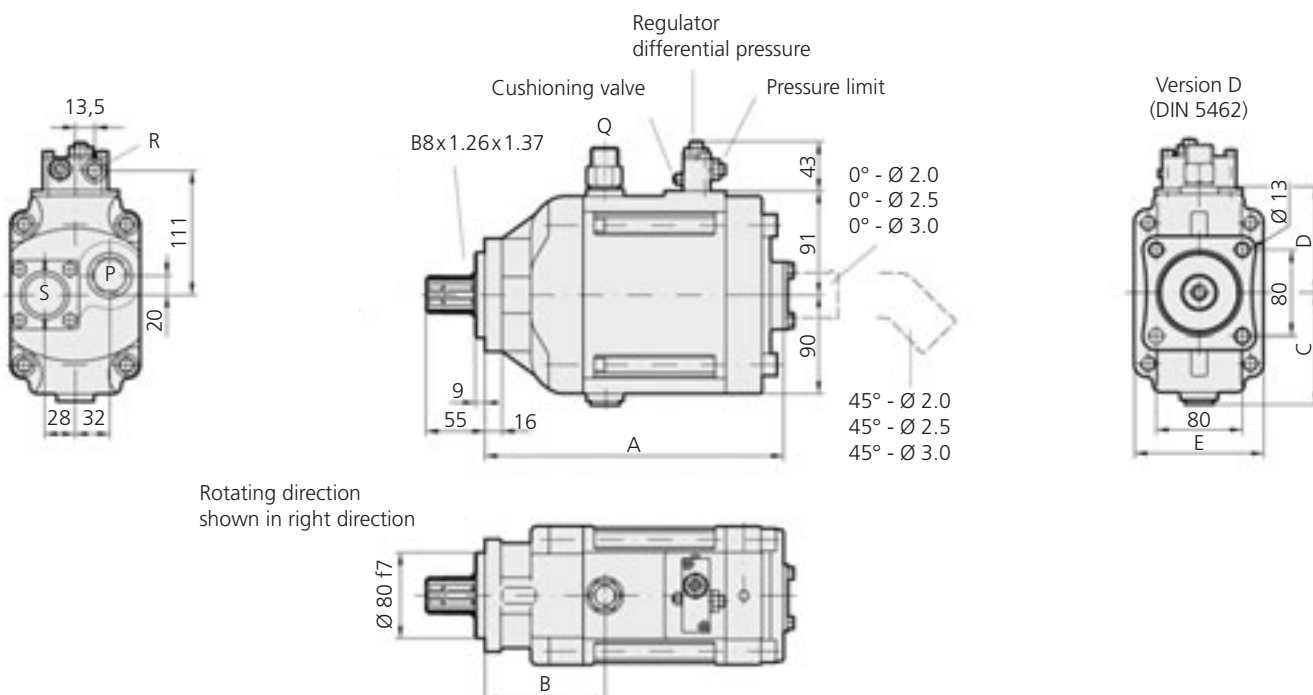
- **Short reaction times** when resetting the flow
- **Compact installation dimensions**
- **High operation pressures**
- **Externally drained** for best cooling possible
- **Robust design** and long service life
- **Low noise level**
- **Low performance weight**



### Axial piston load sensing pumps

Type	Delivery volume at 1000 turns/min (cm <sup>3</sup> )	Drive max. (Turns/min)	Pressure max. (bar)		Torque max. (Nm)	Weight (kg)
			continuous	short time		
EP 850R	92	2400	350	400	530	26
EP 850L	92	2400	350	400	530	26
EP 851R	112	2200	350	400	600	28
EP 851L	112	2200	350	400	600	28

### Technical drawings



### Dimensions (mm)

Type	A	B	C	D	E	S	P	Q	R
EP 850R/L	277	110	105	100	120	50-75	1	3/4	1/4
EP 851R/L	279	115	107	102	125	50-75	1	3/4	1/4

Pump accessories					
Type	Suction connection	Suction hose	Pressure fitting	Sealing	Pressure hose
<b>EP 703</b>	EA1851 G 1 1/2" – 38 mm	EH4720 NW 38 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 374</b>	EA1851 G 1 1/2" – 38 mm	EH4720 NW 38 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 373</b>	EA1851 G 1 1/2" – 38 mm	EH4720 NW 38 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 367</b>	EA1851 G 1 1/2" – 38 mm	EH4720 NW 38 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 368</b>	EA1851 G 1 1/2" – 38 mm	EH4720 NW 38 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 369</b>	EA1852 G 2" – 50 mm	EH4721 NW 50 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 370</b>	EA1852 G 2" – 50 mm	EH4721 NW 50 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 506</b>	EA1852 G 2" – 50 mm	EH4721 NW 50 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 601</b>	EA2361 2 1/2" – 64 mm 45°	EH4721 NW 50 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550
<b>EP 607</b>	EA2361 2 1/2" – 64 mm 45°	EH4721 NW 50 x 1700	EA1354 R3/4" – R3/4"	ED1132	EH4560 NW 16 x 550

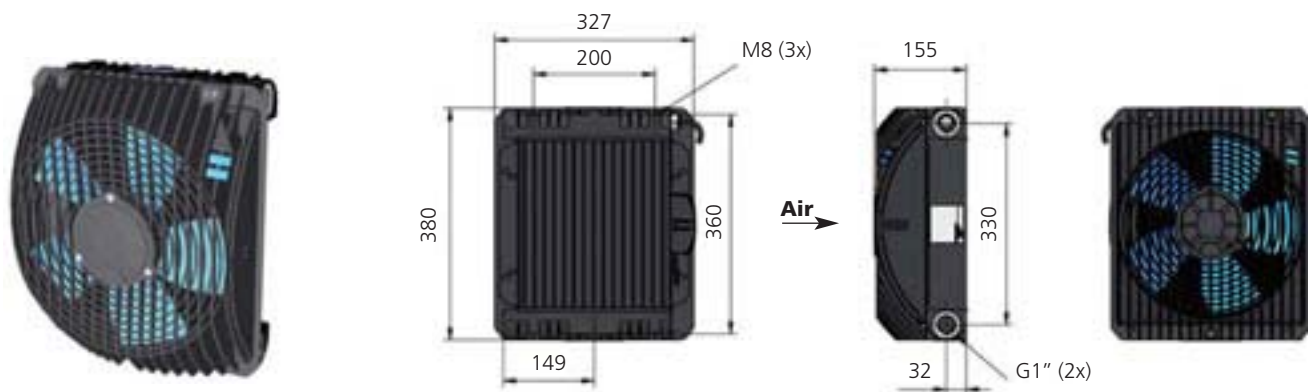
The **SL 200 with Savtec-valve** allows to control the pump the way that it only delivers oil, when it is needed. The SL 200 is available with Savtec-valve for electric 24 volt or pneumatic remote control. The signal is provided by a switch in the control panel or automatically, e.g. from the hand break, by a pressure sensor or an electrical circuit. The SL 200 does not produce any delivery flow or pressure when the Savtec-valve is closed, and thus the secondary drive is not loaded. Therefore the energy costs are positively affected. The SL 200 includes additional greasing channels for the bearings so that the pump in action can also be lubricated while the Savtec-valve is closed.

# Oil Coolers

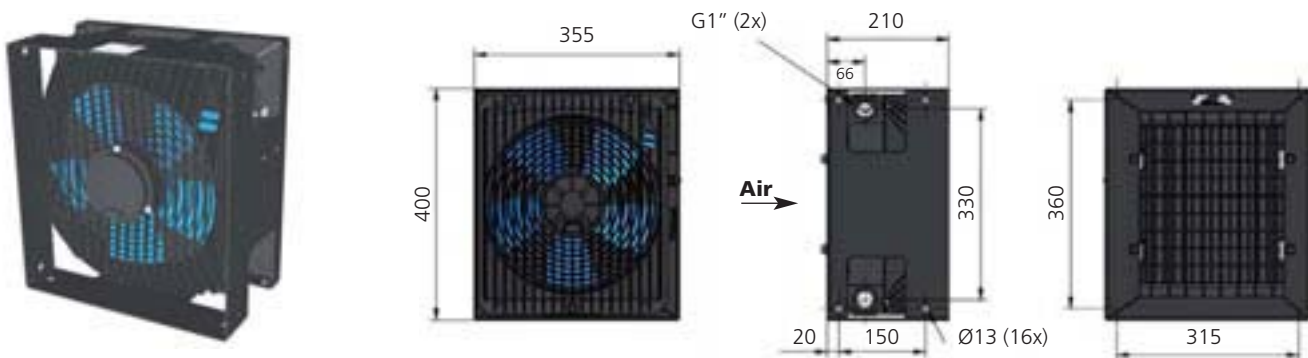
World wide market presence with forward-looking technologies ensure a competitive cost mix and a standard product as well as performance spectrum. The modular cooler construction is based on the perception of a system integrator and reaches an optimal solution for every task.

- **Continuous drive** settlement - temperature range 45-55°C
- **Protection ventilation:** IP68
- **Temperature switch**
- **Clamping box** with integrated relay
- **Cooler protecting case** made of 3 mm steel plate, double powder-coated
- **Wiring** of all components
- **Cooler suspension** with rubber-metal-elements
- **Construction:** aluminum oil air cooler in modular circuit board design

Oil coolers							
	Operating pressure max.	Flux range	Specific cooling performance	Voltage	Current acceptance	Sound level	Weight
Type	(bar)	(l/min)	(kW/°C)	(V)	(A)	dB (A)	(kg)
EP 629-12V	26	20 - 150	0,13 – 0,17	12	8,4	71	10,5
EP 629-24V	26	20 - 150	0,13 – 0,17	24	4,2	71	10,5
without protection case							



Oil coolers							
BKA21	26	20 - 150	0,15 – 0,19	12	19,4	78	22,5
BKA24	26	20 - 150	0,15 – 0,19	24	9,7	78	22,5
with protection case							

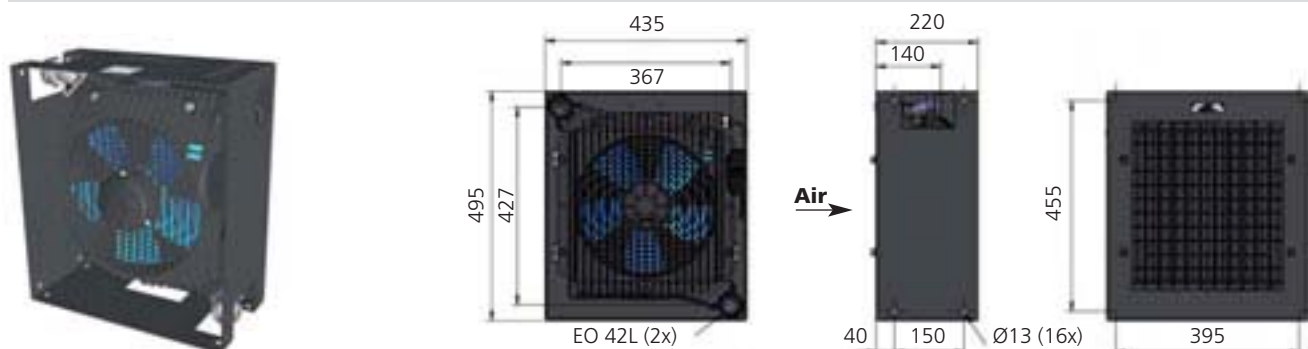




## Oil coolers

Type	Operating pressure max. (bar)	Flux range (l/min)	Specific cooling performance (kW/°C)	Voltage (V)	Current acceptance (A)	Sound level dB (A)	Weight (kg)
<b>BAK29</b>	26	20 – 200	0,19 – 0,26	12	19,4	79	24,5
<b>BAK30</b>	26	20 – 200	0,19 – 0,26	24	9,7	79	24,5

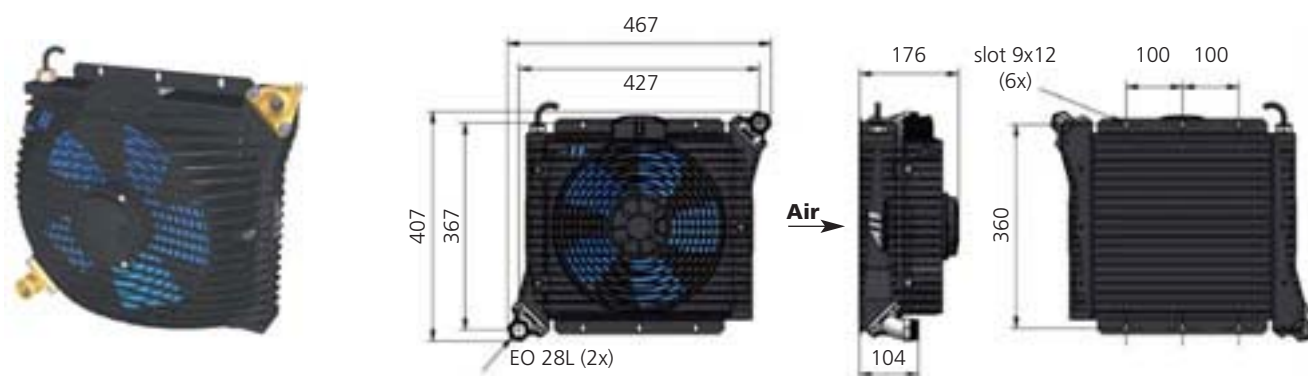
ASA universal connection system, incl. protection case



## Oil coolers

<b>BAK53</b>	26	20 – 200	0,19 – 0,26	12	19,4	79	12,5
<b>BAK54</b>	26	20 – 200	0,19 – 0,26	24	9,7	79	12,5

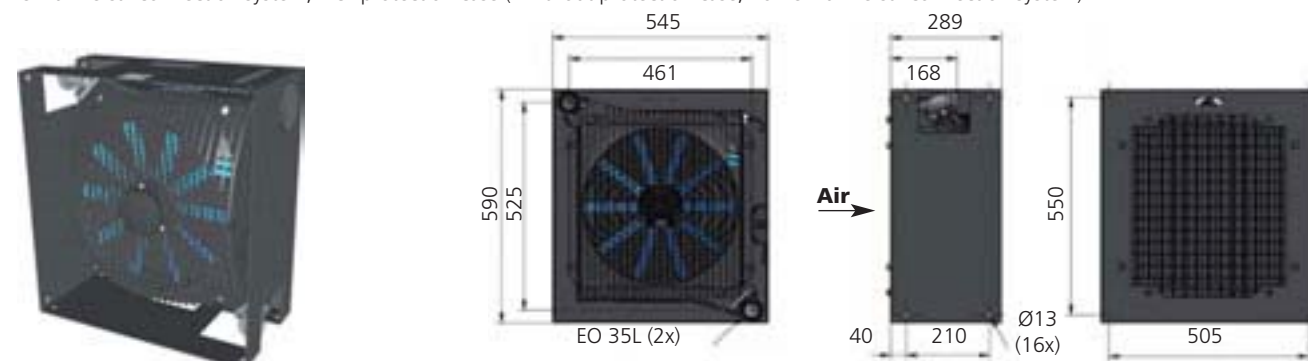
without protection case, ASA universal connection system



## Oil coolers

<b>BAK40</b>	26	50 – 250	0,34 – 0,41	12	19,3	79	36
<b>BAK41</b>	26	50 – 250	0,34 – 0,41	24	9,7	79	36
<b>BAK34*</b>	26	50 – 250	0,34 – 0,41	24	9,7	79	23

ASA universal connection system, incl. protection case (\*without protection case, no ASA universal connection system)



**BAK27-24VS:** Mounting kit of oil cooler on crane. Incl. EP 629-24V and fixing material for mounting on tilting cylinder

**BAK31-24VS:** Mounting kit of oil cooler on truck. Incl. EP 629-24V and fixing material for mounting on vehicle frame

# Oil Tanks

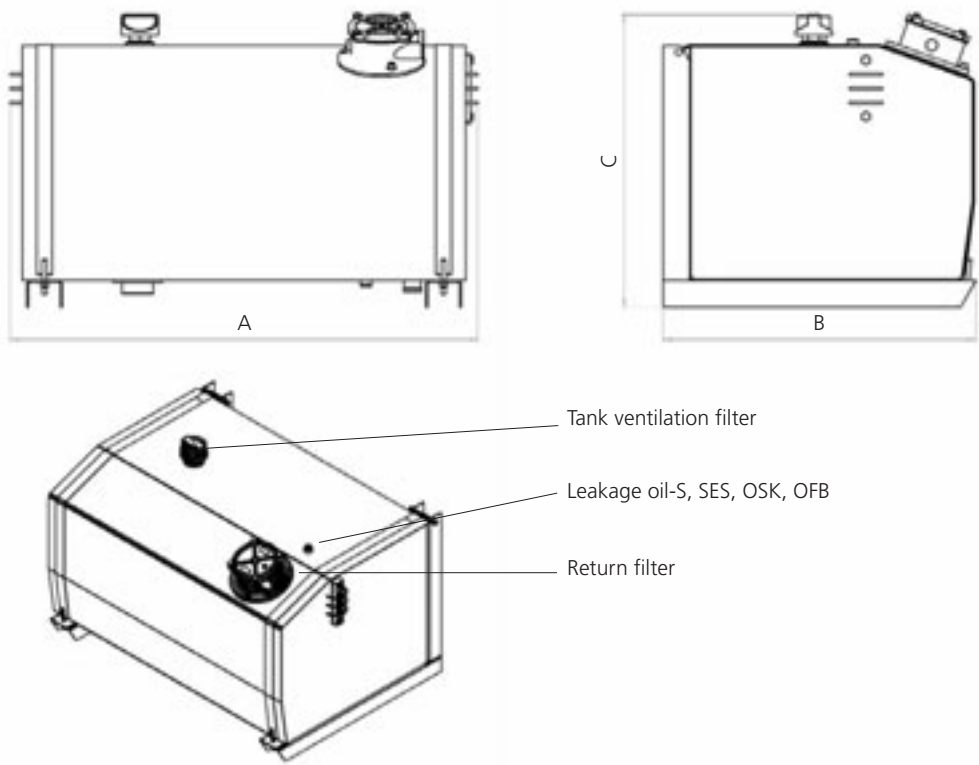
The PALFINGER additional oil tanks are available with a volume from 75 to 400 litres.

The dimensions are chosen in a way that an easy mounting on the vehicle is guaranteed. All oil tanks are equipped with an oil gauge glass and a return filter to minimize the danger of contamination within the hydraulic system.



Oil tanks					
Type	Tank volume (l)	Weight (kg)	Length A (mm)	Width B (mm)	Height C (mm)
KTk001-BA	75	38,7	567	440	555
KTk021-BA	100	45	727	440	555
KTk002-BA	140	81,2	554	702	660
KTk003-BA	200	87,3	749	702	660
KTk004-BA	300	98	1054	702	660
KTk005-BA	400	98	1477	702	660

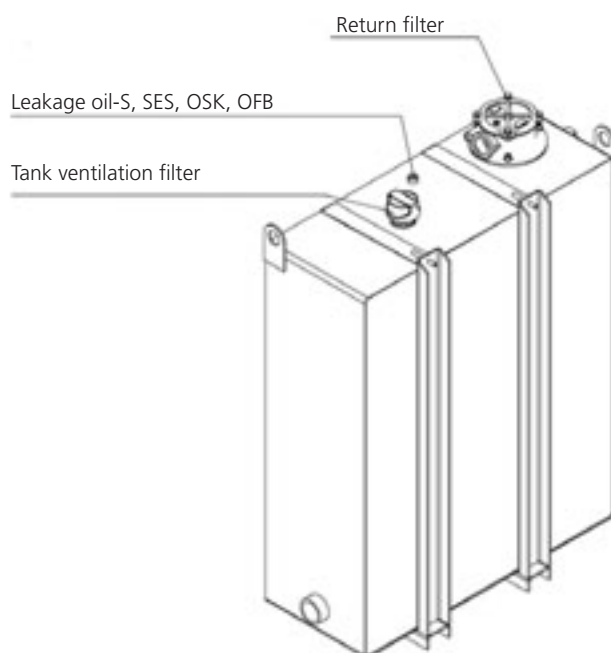
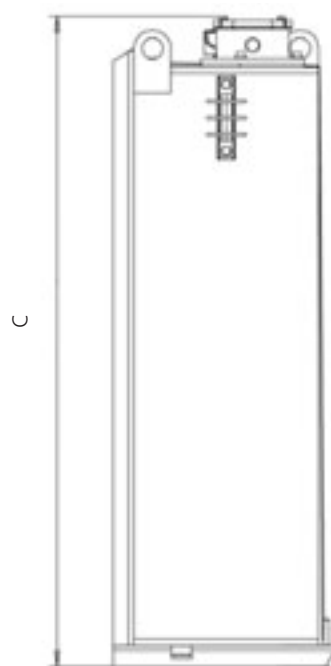
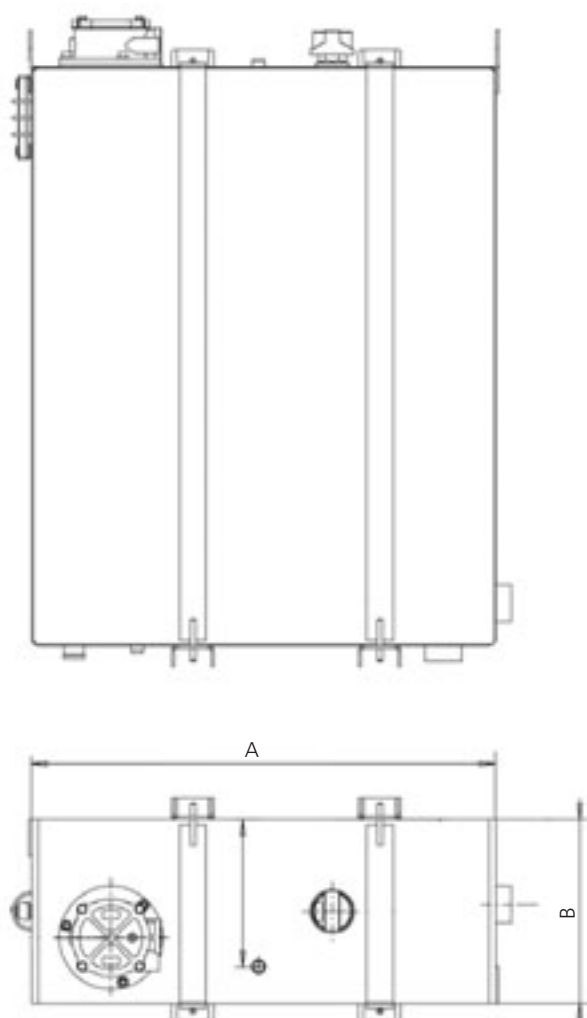
## Technical drawings



## Oil tank

Type	Tank volume (l)	Weight (kg)	Length A (mm)	Width B (mm)	Height C (mm)
<b>KTK007-BA</b>	300	110	952	385	1318

## Technical drawings



## Accessories oil tanks

Type	Description
<b>EA2102</b>	Suction fitting G2" - 60 mm for retrofit of a shut-off cock NW 50 to 60 mm

### KTK001-BA:

<b>EA1390</b>	shut-off cock NW 38
<b>EA1818</b>	angle piece 1 1/4"

### KTK002-BA to KTK005-BA:

<b>EV4512</b>	shut-off cock 2"
<b>EA1817</b>	angle piece 2"

### KTK007-BA:

<b>EV4512</b>	shut-off cock 2"
<b>EA1901</b>	adaptor 2"

# Aluminum Oil Tanks

All aluminum tanks are equipped with a return filter, an oil gauge glass as well as a funnel and ventilation filter.

The advantages of an aluminum tank in contrast to a steel tank are:

- **Corrosion resistant** without surface coating
- **Low tank weight** compared to steel tank solution
- **1:1 exchangeability** with the steel tanks guaranteed



(Picture SAG)

## Oil tanks

Type	Tank volume (l)	Weight * (kg)	Length A (mm)	Width B (mm)	Height C (mm)
KTK001-CB	ca. 75	ca. 13	ca. 607	ca. 400	ca. 430
KTK002-CB	ca. 140	ca. 20	ca. 564	ca. 670	ca. 575
KTK003-CB	ca. 200	ca. 23	ca. 769	ca. 670	ca. 575
KTK004-CB	ca. 300	ca. 31	ca. 1109	ca. 670	ca. 575
KTK005-CB	ca. 425	ca. 38	ca. 1524	ca. 670	ca. 575

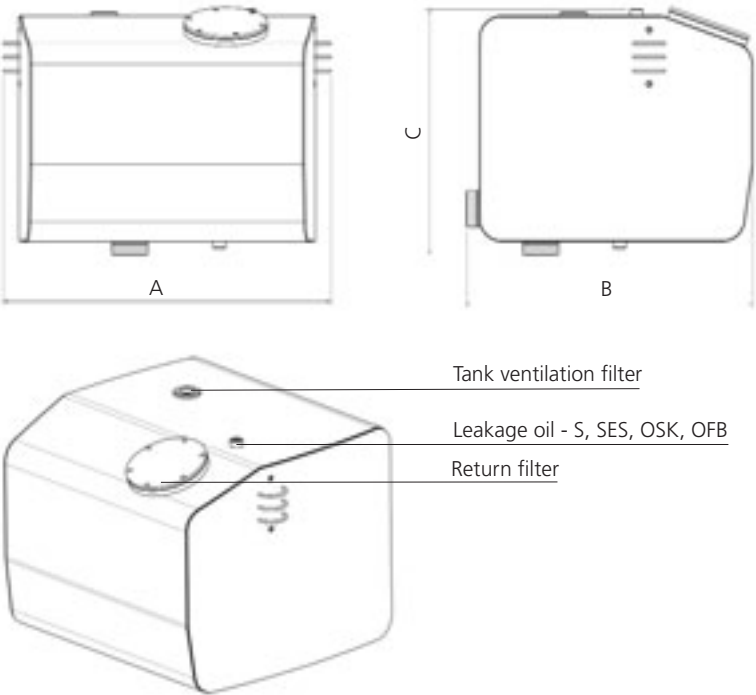
\*) Mounting of the tensioning belt only with a pad rubber

Oil box weight without holding, return filter, oil gauge glass, funnel and ventilation filter.  
The bracket is not included in the delivery and has to be ordered additionally.

## Accessories

Type	Description
KTK001-DA	bracket steel design for KTK001-CB
KTK002-DA	bracket steel design for KTK002-CB – KTK005-CB

## Technical drawings



## Top Seat Cover

**Who does not know: bad weather, wind or great heat make it impossible to keep on working with your crane. Thanks to the PALFINGER top seat cover BZ 207 there is no problem anymore. With one hand movement you fold up the weather protection and keep on working.**

**Advantages of the PALFINGER top seat cover BZ 207:**

- **Efficient**  
No costly downtimes caused by the weather.
- **Comfortable**  
Just fold up if necessary. Even the feet stay dry. Your employees are protected from wind and weather.
- **Ideal**  
Subsequent mounting possible on almost every crane (also from other manufacturers) with top seat.



Top seat  
cover



# Automatically Uncoupling Systems „FIX - DE - FIX“

**This product is a unique, automatically uncoupling systems. The activation is done by remote control. Thanks to this tool there is no manpower needed for unloading.**

## Advantages of the uncoupling system “Fix-de-Fix”:

### Security:

- **Increased working security** due to the automatically uncoupling of loads at exposed places.
- As the **unloading area** is mostly exposed, nobody needs to be in danger by using this tool, e.g. gluelam mounting, concrete formwork.

### Cost efficient:

- **The crane working time** can be reduced by around 10% due to the possibility to immediately loosen the sling gear after discharging or assuring the load.
- **Less manpower** up to one person.
- **The amortisation period** at average use is 3-6 months.  
(Working time of mounting cranes are 1500 hours per year and the cost reduction is around 10 - 20 Euro per machinery working hour.)



„Incl. transport case“

## Uncoupling systems

Type	Description	Capacity 1 (kg)	Capacity 2 * (kg)	Note
<b>PZFIX DE2</b>	FIX DE FIX 2 t	2.000	4.000	link chain 8 mm
<b>PZFIX DE3</b>	FIX DE FIX 3,15 t	3.150	6.300	**
<b>PZFIX DEA</b>	FIX DE FIX compensator	-		**

\*) With PZFIX DEA compensator

\*\*) Mind eye size and edge loading



## Load increase – compensator

With the use of the compensator, the allowed load capacity can be doubled (edge loading/eye size).

## Users according to branches

- Concrete building (formworks)
- Hall building (steel and wood)
- Roof and cladding building
- Pole mounting (electricity, telephone)
- Industrialised building
- General transport
- Stock turnover companies





# Rear Demountable Consoles

**PALFINGER provides a range of manually releasable rear demountable consoles that can be mounted to all kinds of vehicles.**

PALFINGER rear demountable consoles make it possible to separate the loader crane in no time from the vehicle. By separating the loader crane from the vehicle, the loading capacity can be increased by the entire weight of the crane.

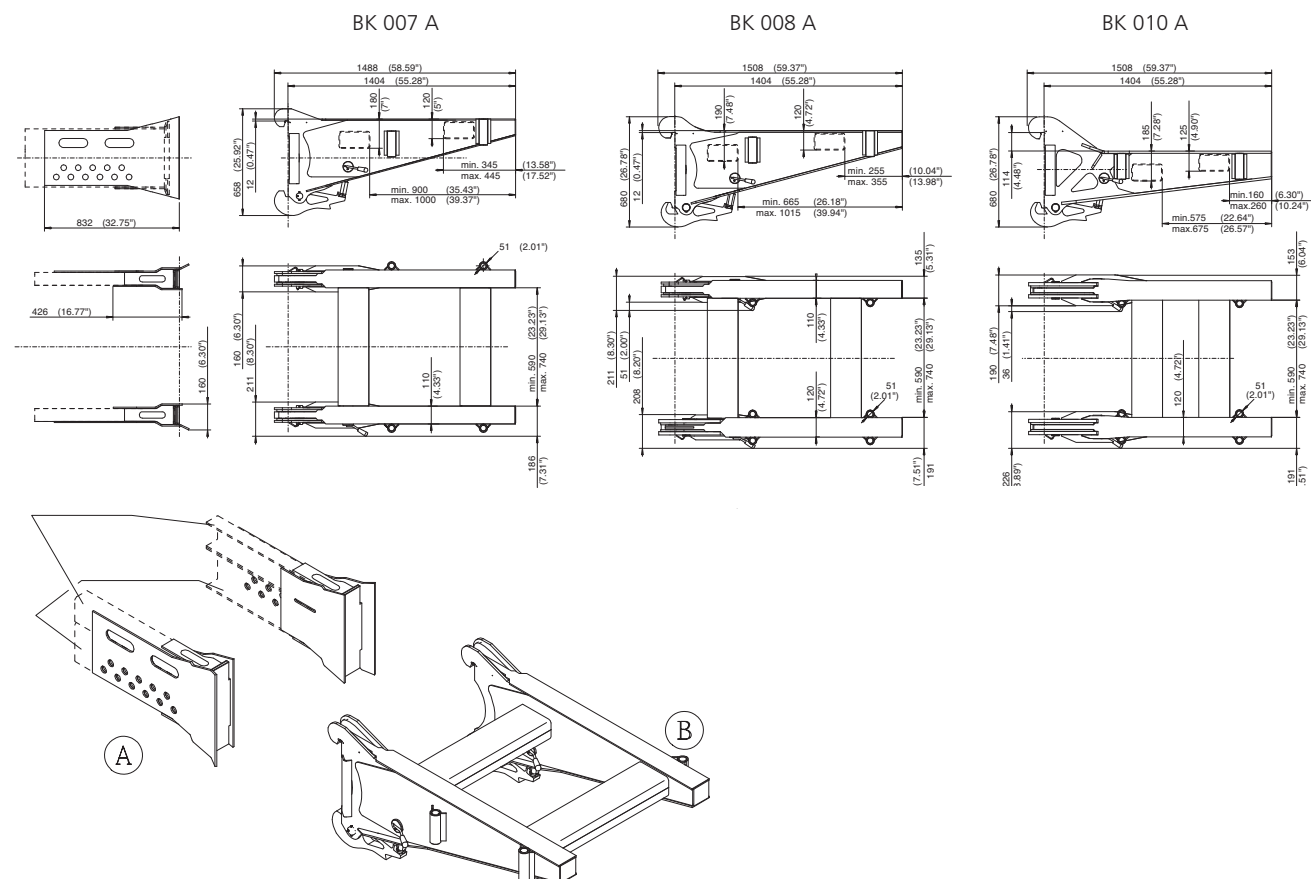


## Rear demountable consoles

Kit Type	Console	Number (pcs.)	Max. crane lift moment	Weight (kg)
<b>BK007A</b>	BK007-01A	2	119 kNm 12,1 mt	(A) 120 (B) 200
<b>BK008A*</b>	BK007-01A	1	218,7 kNm	(A) 120
	BK009-01A	1	22,3 mt	(B) 240
<b>BK009A</b>	BK009-01A	2	218,7 kNm 22,3 mt	(A) 120 (B) 240
<b>BK010A</b>	BK010-01A	2	218,7 kNm 22,3 mt	(A) 120 (B) 320

\*) For crane constructional systems with the centre of gravity outside the center

## Technical drawings



## Subframes and Side Plates

The mounting of the crane onto a carrier vehicle is an important cost factor. Thus PALFINGER provides frame modules that allow a more economic mounting of the crane.

Hand in hand with that there is an improved mounting quality due to the use of these prefab modules. All the frames are delivered with transport primer. The material is fine grain construction steel S690.

### Advantages of this system:

- **Weight optimised**
- **Fast** mounting
- **Lower** mounting costs
- **Lower** mounting height
- **Torsion-free** construction



### Subframe - modules

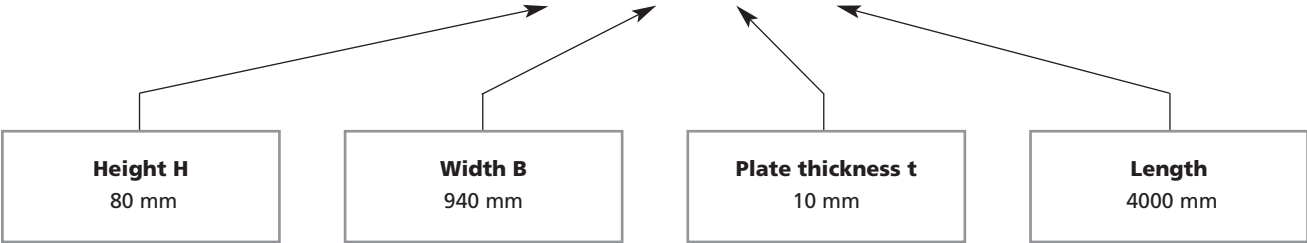
Type	Height (mm)	Length (mm)	Weight (kg)
<b>PZH0809410+4000</b>	80	4000	684
<b>PZH0809410+6000</b>	80	5990	1026
<b>PZH0809412+4000</b>	80	4000	808
<b>PZH0808510+4000</b>	80	4000	624
<b>PZH0808510+6000</b>	80	5990	936
<b>PZH0808512+4000</b>	80	4000	740
<b>PZH1209410+4000</b>	120	4000	808
<b>PZH1209410+6000</b>	120	5990	1212
<b>PZH1209412+4000</b>	120	4000	956
<b>PZH1208510+4000</b>	120	4000	716
<b>PZH1208510+6000</b>	120	5990	1074
<b>PZH1208512+4000</b>	120	4000	852
<b>PZH1609410+4000</b>	160	4000	868
<b>PZH1609410+6000</b>	160	5990	1302
<b>PZH1609412+4000</b>	160	4000	1024
<b>PZH1608510+4000</b>	160	4000	808
<b>PZH1608510+6000</b>	160	5990	1215
<b>PZH1608512+4000</b>	160	4000	952
<b>PZH1608512+6000</b>	160	5990	1428

Type	Height (mm)	Length (mm)	Weight (kg)
<b>PZH2009410+4000</b>	200	4000	924
<b>PZH2009410+6000</b>	200	5990	1386
<b>PZH2008510+4000</b>	200	4000	864
<b>PZH2008510+6000</b>	200	5990	1296
<b>PZH2509410+4000</b>	200	4000	996
<b>PZH2509410+6000</b>	200	5990	1494
<b>PZH2508510+4000</b>	200	4000	936
<b>PZH2508510+6000</b>	200	5990	1404

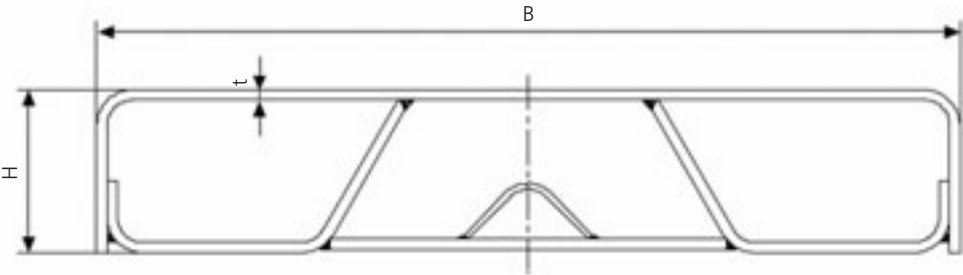
Special lengths available on request!

Description of parts number

PZH 080 94 10 4000



Technical drawings



Accessories



**Side plate L-form**  
Allows for push-rigid connection to the truck frame.

Type	Length	Weight
<b>HA8063</b>	4000	56



**Buckle bushing**  
For buckles M36 and M42  
Adequate to be welded onto the sub frame.

Type	Length	Weight
<b>HXE2527</b>	214	7,8

## Additional Stabilizers

**The stability of your vehicle is extremely important to guarantee the safe work of crane and tool.**

The PALFINGER Equipment Center provides a range of additional stabilizers that can be mounted on all vehicles. The technically mature construction allows an easy mounting on the vehicle. Depending on the task there are manually or hydraulically extendable versions available, partly also as telescope version. The outrigger boxes are KTL coated, the booms are coated black.



### Additional stabilizers

Type	Hydraulic/ manual/rigid	Support width (mm)	max. Support force (kN)	Additional information	Weight (kg)	Possible additional functions
<b>BS1296A+STD</b>	Hydraulic	3300	85	Additional stabilizer for 2300 mm vehicle width	145	ABSTW EN280
<b>BS877A+STD</b>	Hydraulic	5000	100		310	ABSTW EN280 ISC
<b>BS446A+STD</b>	Hydraulic	5600	170		748	ABSTW EN280 ISC
<b>BS423A+STD</b>	Hydraulic	5900	125		634	ABSTW EN280 ISC
<b>BS085A</b>	Hydraulic	6100	180	Incl. height adjustable stabilizer ram, reinforced version	950	
<b>BS086</b>	Hydraulic	6100	170	Incl. tiltable stabilizer ram	880	
<b>BS1003A+STD</b>	Hydraulic	7105	180	for big cranes	1110	ABSTW EN280 ISC
<b>BS1242A-1+STD</b>	Hydraulic	8500	210	for big cranes	1680	ABSTW EN280 ISC
<b>BS1286</b>	Hydraulic	8600	200	Automatically high tiltable, for big cranes incl. stabilizer ram STZY	1230	
<b>BS1298</b>	Hydraulic	8600	200	Rigid version, for big cranes incl. stabilizer ram STZS	1230	
<b>BS876A</b>	Manual	3500	85	Additional stabilizer for 2300 mm vehicle width	145	EN12999 A2 - lock control
<b>BS928A</b>	Manual	5200	100		275	EN12999 A2 - lock control
<b>BS875</b>	Rigid	2100	85	Additional stabilizer for 2300 mm vehicle width	64	

**Note:** ABSTW can be combined with EN280 and ISC.

**Accessories:** HXE2355 bracket for mounting of BS876A and BS1296

# Options for Additional Stabilizers

**Since January 12, 2009 the PALFINGER Equipment Center is offering additional stabilizers with additional options. Different systems monitor the correct position of booms and stabilizers in different situations.**

## **ABSTW – stabilizer ram and outrigger completely retracted:**

ABSTW is a system to control the retracted position of the entire crane stabilizer. It controls the position of the stabilizer ram and the position of the outrigger.

For the additional stabilizers the completely retracted position of the stabilizer ram and the outrigger is monitored by a mounted limiting switch. The completely retracted position is normally shown by a signal lamp in the driving cab.

## **EN280 – stabilizer ram and outrigger extended completely (for workman basket operation):**

The control according to EN280 ensures that a crane with mounted workman basket can only be operated, when stabilizer ram and outrigger are extended completely.

For the additional stabilizers the completely extended position of the stabilizer ram and the outrigger is monitored by a mounted limiting switch. The clearing itself is done by an overload protection of the crane.

## **ISC - Integrated Stability control**

The ISC-system monitors the stability of the crane vehicle.

The additional stabilizers are controlled, if the outrigger is fully, semi or not extended, as well as if the stabilizer ram is extended.

Against this the ISC-system regulates the lifting force of the crane.

## Stabilizer Rams

Offered are rigid, tiltable and height adjustable stabilizer rams.

- **For the stabilizer rams** of heavy load cranes there is also an automatically tiltable version available.
- **Releasable non-return valves** guarantee a safe supporting behaviour



### Stabilizer rams

Type	Description	Apt for stabilizer ram	Lift (mm)	Weight (kg)
<b>BS493A</b>	1 pair stabilizer ram, piped, incl. releasable non-return valves	BS875 / BS876A / BS877	416	62
<b>BS080A</b>	1 pair replaced stabilizer ram for semi-trailers, piped, incl. releasable non-return valves	BS875 / BS876A / BS877	455	70
<b>BS194A</b>	1 pair replaced stabilizer ram for semi-trailers, piped, incl. releasable non-return valves	BS446	455	96
<b>BS222A</b>	1 pair replaced stabilizer ram for semi-trailers, piped, incl. releasable non-return valves	BS423	455	68
<b>BS1260</b>	1 pair replaced stabilizer ram for semi-trailers, piped, incl. releasable non-return valves	BS875 / BS876A / BS877	520	90
<b>BS441A</b>	1 pair tiltable stabilizer ram for, semi-trailers, piped, incl. releasable non-return valves	BS875 / BS876A / BS877	516	109
<b>BS1285</b>	1 pair stabilizer ram, piped, incl. releasable non-return valves	BS1003 / BS1242-1	524	180
<b>BS1284</b>	1 pair stabilizer ram, piped, incl. releasable non-return valves	BS1003 / BS1242-1	610	160
<b>BS219A</b>	1 pair stabilizer ram, piped, incl. releasable non-return valves	BS446	627	102
<b>BS1287</b>	1 pair stabilizer ram, piped, incl. releasable non-return valves	BS423	628	88
<b>BS438A</b>	1 pair stabilizer ram, piped, incl. releasable non-return valves	BS875 / BS876A / BS877	632	90
<b>BS1321</b>	1 pair stabilizer ram, piped, incl. releasable non-return valves	BS1003 / BS1242-1	379	196
<b>BS1322</b>	1 piece front stabilizer, incl. Support control switch, max. 100 kN			50
<b>BS1323</b>	1 piece front stabilizer, incl. Support control switch, max. 100 kN			80



## Accessories for Stabilizers

### Stabilizer pads



The stabilizer pads can be pushed on the stabilizer elements. Hence they allow a comfortable handling when the stabilizer position of the vehicle has to be corrected.

Type	Description	Diameter / Height (mm)	Max. supporting force (t)	Weight (kg)
<b>EZ2261-400</b>	Stabilizer pad basis made of PA6-plastic	400 / 80	12	5
<b>EZ2261-500</b>	Stabilizer pad basis made of PA6-plastic	500 / 80	16	7

### Stabilizer plates



Optimal bed for all stabilizers of small and big cranes as well as additional stabilizers. Very resistant product made of Polyethylen. Also ideal for hard operations on frail, uneven soils. Easy and fast handling due to carrying straps as well as fastening possibilities on the truck.

<b>EZ2189-300</b>	Stabilizer plate made of recycling plasticmaterial	300 x 300 x 40	9	5
<b>EZ2189-400</b>	Stabilizer plate made of recycling plasticmaterial	400 x 400 x 50	17	7
<b>EZ2189-500</b>	Stabilizer plate made of recycling Kunststoffmaterial	500 x 500 x 60	27	9
<b>EZ2189-600</b>	Stabilizer plate made of recycling plasticmaterial	600 x 600 x 60	37	11

### Boxes for stabilizer plates



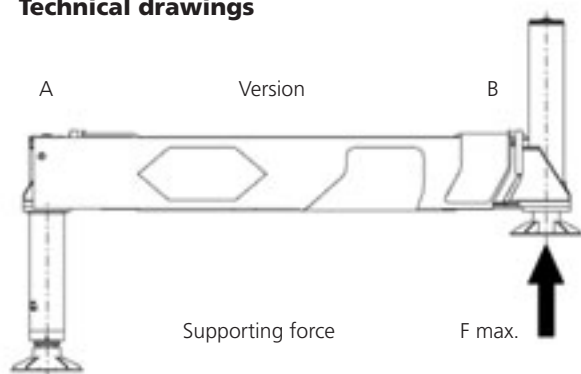
For storing the stabilizer plates and easy fastening on the truck.

Type	Description	Apt for	Weight (kg)
<b>EZ2190-300</b>	Mounting box for EZ2189-300, lockable version, galvanised	2 pcs. plates	9
<b>EZ2190-400</b>	Mounting box for EZ2189-400, lockable version, galvanised	2 pcs. plates	10
<b>EZ2190-500</b>	Mounting box for EZ2189-500, lockable version, galvanised	2 pcs. plates	12
<b>EZ2190-600</b>	Mounting box for EZ2189-600, lockable version, galvanised	2 pcs. plates	14
<b>EZ2236-300</b>	Mounting box for EZ2189-300, lockable version, galvanised	1 pcs. plate	8
<b>EZ2236-400</b>	Mounting box for EZ2189-400, lockable version, galvanised	1 pcs. plate	9
<b>EZ2236-500</b>	Mounting box for EZ2189-500, lockable version, galvanised	1 pcs. plate	11
<b>EZ2236-600</b>	Mounting box for EZ2189-600, lockable version, galvanised	1 pcs. plate	13

## Technical data

Type	Supporting force (kN / lbs)	Boom	Supporting cylinder	Weight (kg / lbs)	Weight complett (kg / lbs)	STZS	STZY	STT	A	B
<b>BS 875</b>	85 / 19100	-	BS 080A	70 / 154	134 / 295	x	-	-	-	x
<b>BS 875</b>	85 / 19100	-	BS 438A	90 / 198	154 / 340	x	-	x	x	-
<b>BS 875</b>	85 / 19100	-	BS 441A	109 / 240	173 / 381	-	x	x	x	-
<b>BS 875</b>	85 / 19100	-	BS 493A	62 / 137	126 / 278	x	-	x	x	-
<b>BS 876A</b>	85 / 19100	manual	BS 080A	70 / 154	215 / 474	x	-	-	-	x
<b>BS 876A</b>	85 / 19100	manual	BS 438A	90 / 198	235 / 518	x	-	x	x	-
<b>BS 876A</b>	85 / 19100	manual	BS 441A	109 / 240	254 / 560	-	x	x	x	-
<b>BS 876A</b>	85 / 19100	manual	BS 493A	62 / 137	207 / 456	x	-	x	x	-
<b>BS 877A+STD</b>	100 / 22470	hydraulic	BS 080A	70 / 154	380 / 838	x	-	-	-	x
<b>BS 877A+STD</b>	100 / 22470	hydraulic	BS 438A	90 / 198	472 / 1041	x	-	x	x	-
<b>BS 877A+STD</b>	100 / 22470	hydraulic	BS 441A	109 / 240	419 / 924	-	x	x	x	-
<b>BS 877A+STD</b>	100 / 22470	hydraulic	BS 493A	62 / 137	372 / 820	x	-	x	x	-
<b>BS 928A</b>	100 / 22470	manual	BS 080A	70 / 154	345 / 761	x	-	-	-	x
<b>BS 928A</b>	100 / 22470	manual	BS 438A	90 / 198	365 / 805	x	-	x	x	-
<b>BS 928A</b>	100 / 22470	manual	BS 441A	109 / 240	384 / 847	-	x	x	x	-
<b>BS 928A</b>	100 / 22470	manual	BS 493A	62 / 137	337 / 743	x	-	x	x	-
<b>BS 446A+STD</b>	170 / 38200	hydraulic	BS 194A	96 / 212	844 / 1861	x	-	x	-	x
<b>BS 446A+STD</b>	170 / 38200	hydraulic	BS 219A	102 / 225	850 / 1874	x	-	x	x	-
<b>BS 423A+STD</b>	125 / 28090	hydraulic	BS 222A	68 / 150	702 / 1548	x	-	-	-	x
<b>BS 423A+STD</b>	125 / 28090	hydraulic	BS 1287	88 / 194	722 / 1592	x	-	x	x	-
<b>BS 085A</b>	170 / 38200	hydraulic	-	-	950 / 2094	x	-	-	x	-
<b>BS 085A</b>	170 / 38200	hydraulic	-	-	950 / 2094	x	-	-	x	-
<b>BS 086</b>	170 / 38200	hydraulic	-	-	880 / 1940	-	x	x	x	-
<b>BS 086</b>	170 / 38200	hydraulic	-	-	880 / 1940	-	x	x	x	-
<b>BS 1003A+STD</b>	180 / 40450	hydraulic	BS 1284	160 / 353	1270 / 2800	x	-	-	x	-
<b>BS 1003A+STD</b>	180 / 40450	hydraulic	BS 1285	180 / 397	1290 / 2844	x	-	-	-	x
<b>BS 1242A-1+STD</b>	210 / 47190	hydraulic	BS 1284	160 / 353	1840 / 4056	x	-	-	x	-
<b>BS 1242A-1+STD</b>	210 / 47190	hydraulic	BS 1285	180 / 397	1860 / 4101	x	-	-	-	x

## Technical drawings

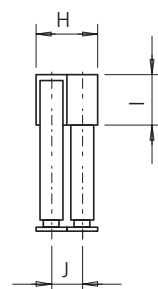
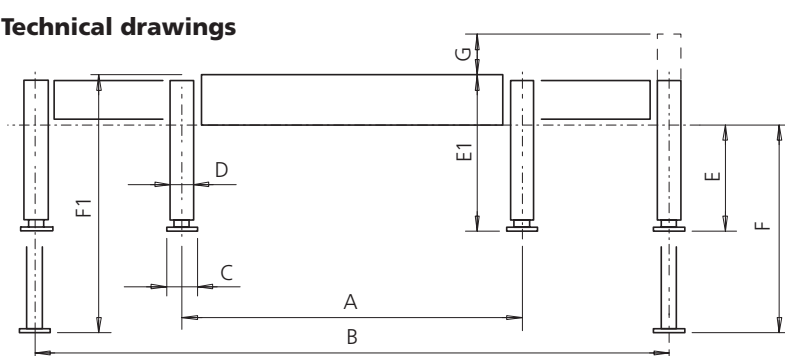


**STT** = Supporting disc extension  
**STZS** = Supporting cylinder rigid  
**STZY** = Supporting cylinder tiltable

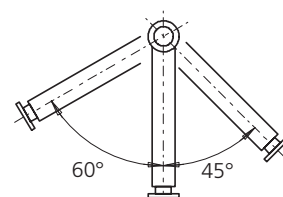
## Technical data

Type	Supporting cylinder	A	B	C	D	E/E1	F/F1	G	H	I	J
<b>BS875</b>	BS 080A	2106 mm 6' 11"	-	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E1</b> 479 mm 1' 6 7/8"	<b>F1</b> 1195 mm 3' 11 1/16"	221 mm 8 5/16"	115 mm 4 1/2"	140 mm 5 1/2"	-
	BS 438A	2105 mm 6' 10 7/8"	-	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E</b> 819 mm 2' 8 1/4"	<b>F</b> 1447 mm 4' 8 15/16"	-	115 mm 4 1/2"	140 mm 5 1/2"	-
	BS 441A	2142 mm 7' 5/16"	-	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E</b> 936 mm 3' 7/8"	<b>F</b> 1447 mm 4' 8 15/16"	-	115 mm 4 1/2"	140 mm 5 1/2"	-
	BS 493A	2096 mm 6' 10 1/2"	-	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E</b> 639 mm 2' 1 3/16"	<b>F</b> 1055 mm 3' 5 9/16"	-	115 mm 4 1/2"	140 mm 5 1/2"	-
<b>BS876A</b>	BS 080A	2106 mm 6' 11"	3286 mm 10' 9 3/8"	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E1</b> 478 mm 1' 6 13/16"	<b>F1</b> 933 mm 3' 3/4"	221 mm 8 11/16"	137 mm 5 3/8"	178mm 7"	-
	BS 438A	2104 mm 6' 10 7/8"	3284 mm 10' 9 5/16"	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E</b> 780 mm 2' 6 11/16"	<b>F</b> 1412 mm 4' 7 9/16"	-	137 mm 5 3/8"	178mm 7"	-
	BS 441A	2142 mm 7' 5/16"	3320 mm 10' 10 3/4"	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E</b> 898 mm 2' 11 3/8"	<b>F</b> 1409 mm 4' 7 1/2"	-	137 mm 5 3/8"	178mm 7"	-
	BS 493A	2104 mm 6' 10 7/8"	3284 mm 10' 9 5/16"	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E</b> 600 mm 1' 11 5/8"	<b>F</b> 1020 mm 3' 4 3/16"	-	137 mm 5 3/8"	178mm 7"	-
<b>BS877A+STD</b>	BS 080A	2305 mm 7' 6 3/4"	4985 mm 16' 4 1/4"	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E1</b> 485 mm 1' 7 1/8"	<b>F1</b> 940 mm 3' 1"	211 mm 8 11/16"	319 mm 1' 9/16"	213 mm 8 3/8"	151 mm 5 15/16"
	BS 438A	2305 mm 7' 6 3/4"	4985 mm 16' 4 1/4"	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E</b> 752 mm 2' 5 5/8"	<b>F</b> 1380 mm 4' 6 5/16"	-	319 mm 1' 9/16"	213 mm 8 3/8"	151 mm 5 15/16"
	BS 441A	2340 mm 7' 8 1/8"	5020 mm 16' 5 5/8"	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E</b> 859 mm 2' 9 13/16"	<b>F</b> 1370 mm 4' 5 15/16"	-	319 mm 1' 9/16"	213 mm 8 3/8"	151 mm 5 15/16"
	BS 493A	2300 mm 7' 6 9/16"	4980 mm 16' 4 1/16"	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E</b> 571 mm 1' 10 1/2"	<b>F</b> 987 mm 3' 2 7/8"	-	319 mm 1' 9/16"	213 mm 8 3/8"	151 mm 5 15/16"
<b>BS446A+STD</b>	BS 194A	2300 mm 7' 6 9/16"	5610 mm 18' 4 7/8"	Ø 189 mm Ø 7 7/16"	Ø 124 mm Ø 4 7/8"	<b>E1</b> 421 mm 1' 4 9/16"	<b>F1</b> 876 mm 2' 10 1/2"	391 mm 1' 3 3/8"	462 mm 1' 6 3/16"	315 mm 1' 3/8"	227 mm 8 15/16"
	BS 219A	2300 mm 7' 6 9/16"	5610 mm 18' 4 7/8"	Ø 189 mm Ø 7 7/16"	Ø 124 mm Ø 4 7/8"	<b>E</b> 733 mm 2' 4 7/8"	<b>F</b> 1360 mm 4' 5 9/16"	-	462 mm 1' 6 3/16"	315 mm 1' 3/8"	227 mm 8 15/16"
<b>BS423A+STD</b>	BS 222A	2300 mm 7' 6 9/16"	5900 mm 19' 4 5/16"	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E1</b> 511 mm 1' 8 1/8"	<b>F1</b> 966 mm 3' 2 1/16"	188 mm 7 3/8"	397 mm 1' 3 5/8"	432 mm 1' 5"	192 mm 7 9/16"
	BS 1287	2300 mm 7' 6 9/16"	5900 mm 19' 4 5/16"	Ø 189 mm Ø 7 7/16"	Ø 108 mm Ø 4 1/4"	<b>E</b> 623 mm 2' 1/2"	<b>F</b> 1251mm 4' 1 1/4"	-	397 mm 1' 3 5/8"	432 mm 1' 5"	192 mm 7 9/16"
<b>BS085A</b>	-	2500 mm 8' 2 7/16"	6100 mm 20' 3/16"	Ø 250x350 10"x1' 20"	Ø 108 mm Ø 4 1/4"	<b>E</b> 810 mm 2' 7 7/8"	<b>F</b> 1910 mm 6' 3 3/16"	-	400 mm 1' 3 3/4"	425 mm 1' 4 3/4"	113 mm 4 7/16"
<b>BS086</b>	-	2500 mm 8' 2 7/16"	6100 mm 20' 3/16"	Ø 189 mm Ø 7 7/16"	Ø 124 mm Ø 4 7/8"	<b>E</b> 900 mm 2' 11 7/16"	<b>F</b> 1450 mm 4' 9 1/16"	-	400 mm 1' 3 3/4"	425mm 1' 4 3/4"	183 mm 7 3/16"
<b>BS1003A+STD</b>	BS1284	2106 mm 6' 11"	7105 mm 23' 3 3/4"	Ø 300 mm Ø 11 3/4"	Ø 146 mm Ø 5 3/4"	<b>E</b> 677 mm 2' 2 5/8"	<b>F</b> 1287 mm 4' 2 11/16"	-	619 mm 2' 3/8"	337 mm 1' 1 1/4"	292 mm 11 1/2"
	BS1285	2106 mm 6' 11"	7105 mm 23' 3 3/4"	Ø 300 mm Ø 11 3/4"	Ø 146 mm Ø 5 3/4"	<b>E1</b> 412 mm 1' 4 1/4"	<b>F1</b> 936 mm 3' 7/8"	500 mm 1' 7 11/16"	619 mm 2' 3/8"	337 mm 1' 1 1/4"	292 mm 11 1/2"
	BS1321	2106 mm 6' 11"	7105 mm 23' 3 3/4"	Ø 300 mm Ø 11 3/4"	Ø 146 mm Ø 5 3/4"	<b>E1</b> 373 mm 1' 2 11/16"	<b>F1</b> 752 mm 2' 5 5/8"	396 mm 1' 3 9/16"	619 mm 2' 3/8"	337 mm 1' 1 1/4"	292 mm 11 1/2"
<b>BS1242A-1+STD</b>	BS1284	2180 mm 7' 1 13/16"	8500 mm 27' 10 5/8"	Ø 300 mm Ø 11 3/4"	Ø 146 mm Ø 5 3/4"	<b>E</b> 669 mm 2' 2 5/16"	<b>F</b> 1279 mm 4' 2 3/8"	-	703 mm 2' 3 11/16"	440 mm 1' 5 5/16"	340 mm 1' 1 3/8"
	BS1285	2180 mm 7' 1 13/16"	8500 mm 27' 10 5/8"	Ø 300 mm Ø 11 3/4"	Ø 146 mm Ø 5 3/4"	<b>E1</b> 452 mm 1' 5 13/16"	<b>F1</b> 976 mm 3' 2 7/16"	459 mm 1' 6 1/16"	703 mm 2' 3 11/16"	440 mm 1' 5 5/16"	340 mm 1' 1 3/8"
	BS1321	2180 mm 7' 1 13/16"	8500 mm 27' 10 5/8"	Ø 300 mm Ø 11 3/4"	Ø 146 mm Ø 5 3/4"	<b>E1</b> 414 mm 1' 4 5/16"	<b>F1</b> 793 mm 2' 7 1/4"	355mm 1' 2"	703 mm 2' 3 11/16"	440 mm 1' 5 5/16"	340 mm 1' 1 3/8"

## Technical drawings



## Supporting cylinder tiltable



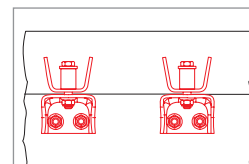
## Supporting cylinder rigid

## Connection elements for fixing the container loader.

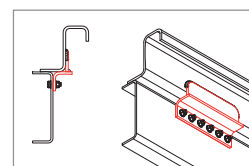
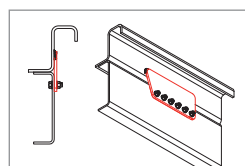
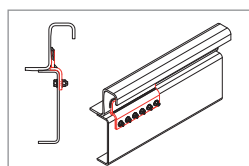
The form of the connection elements complies with the width of the carrier frame and the container loader.

To mount the container loader there are usually three different types of connection elements necessary:

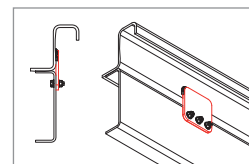
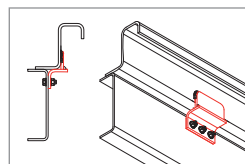
### • Elements for the front area – type A



### • Elements in the area of the crossbeam (and for the rear) – type B

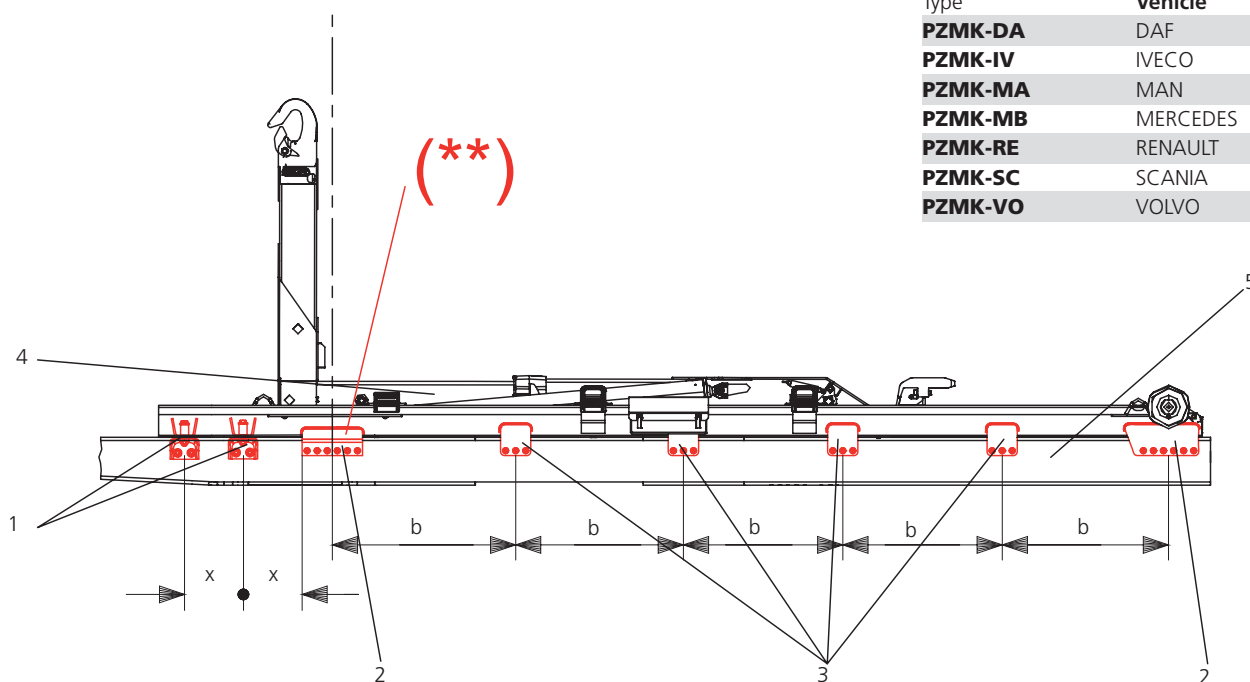


### • Elements for center area – type C



## Technical data

Type	Vehicle
<b>PZMK-DA</b>	DAF
<b>PZMK-IV</b>	IVECO
<b>PZMK-MA</b>	MAN
<b>PZMK-MB</b>	MERCEDES
<b>PZMK-RE</b>	RENAULT
<b>PZMK-SC</b>	SCANIA
<b>PZMK-VO</b>	VOLVO



**x** = max. 400 mm

**b** = max. 800 – 1000 mm

**1** connection element **type A**

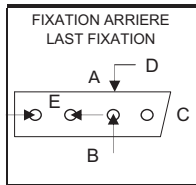
**2** connection element **type B**

**3** connection element **type C**

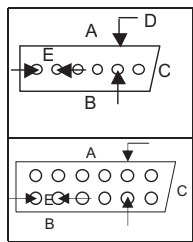
**4** container loader

**5** bogie frame

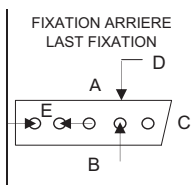
**(\*\*)** First push resistant connection has to be mounted in the area of the crossbeam.  
Allowed tolerance  $\pm 400$  mm



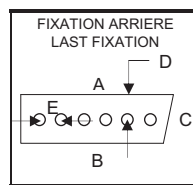
1 MB



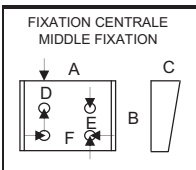
1 IV



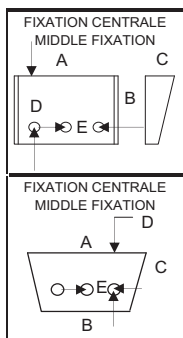
1 MA



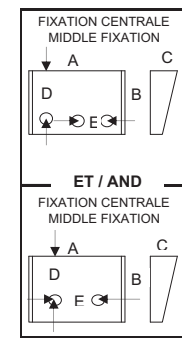
1 MB, RE, VO



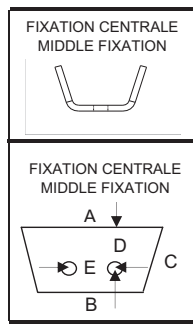
2 DA, IV, SC



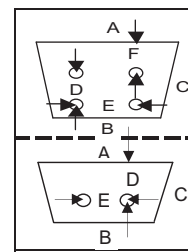
2 MA



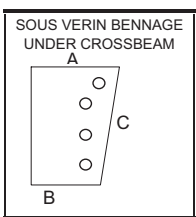
2 MB



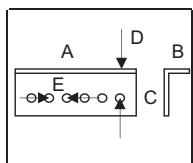
2 RE



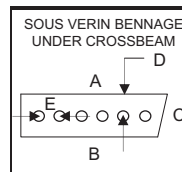
2 VO



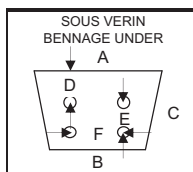
3 DA



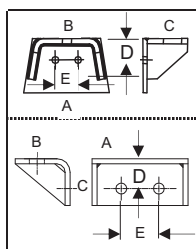
3 IV



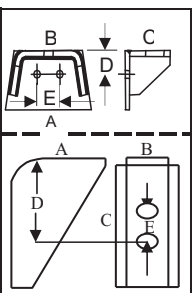
3 MA, MB, RE, VO



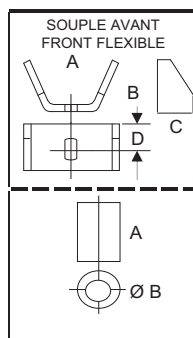
3 SC



4 IV



4 VO



5

INSERTAT  
FEHLT NOCH!



