

Hydraulic pump HP-1

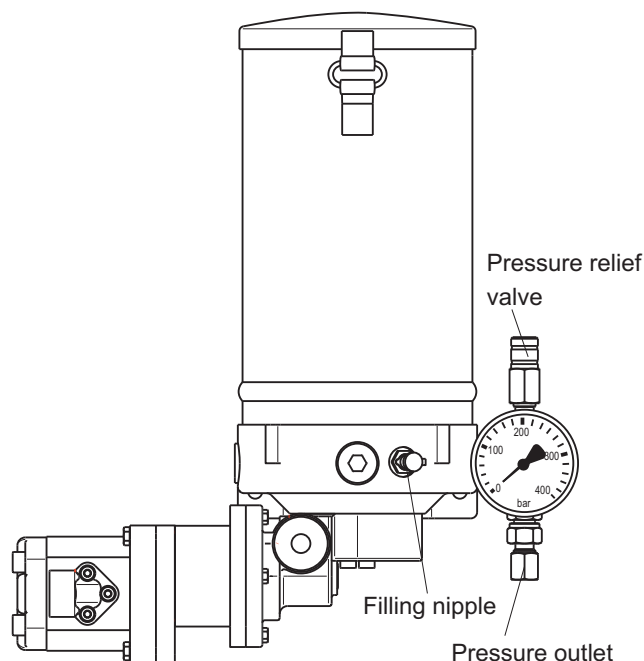
The BEKA-MAX central lubrication pump model type HP-1 is hydraulic actuated and has a maximum of 3 independently operating lubricant outlets. The pump is delivered with one pumping element as a standard, however if necessary one or two pumping elements can be ordered additionally.

At the pumping elements PE-120 V the output can be adjusted and additionally they can be equipped with a manometer for the function monitoring (see page 4).

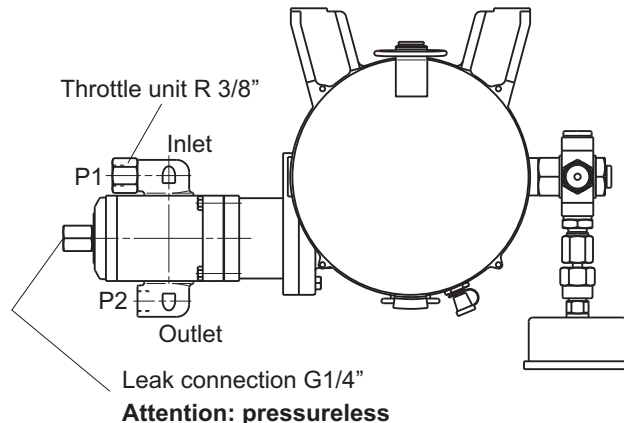
This enables the grease quantity to be adapted to the requirement of the individual lubrication point.

With an operating pressure of max. 280 bar (adjustment of the pressure relief valve), this pump enables the delivery of the copper-chisel paste, which is required for the lubrication of hydraulic hammers.

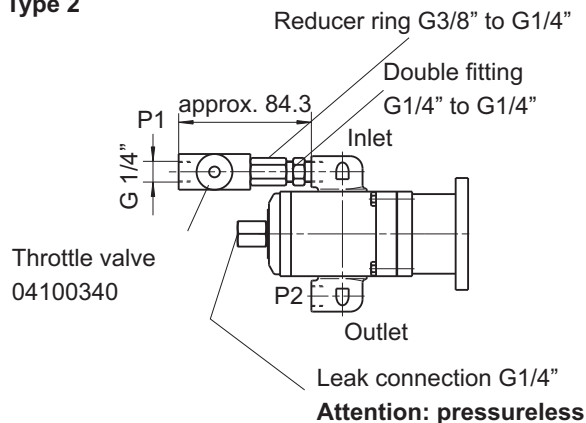
Due to the high solid content in the copper-chisel paste, a new pumping element has to be provided as spare part after 1000 to 1500 hours of operation.



Type 1



Type 2



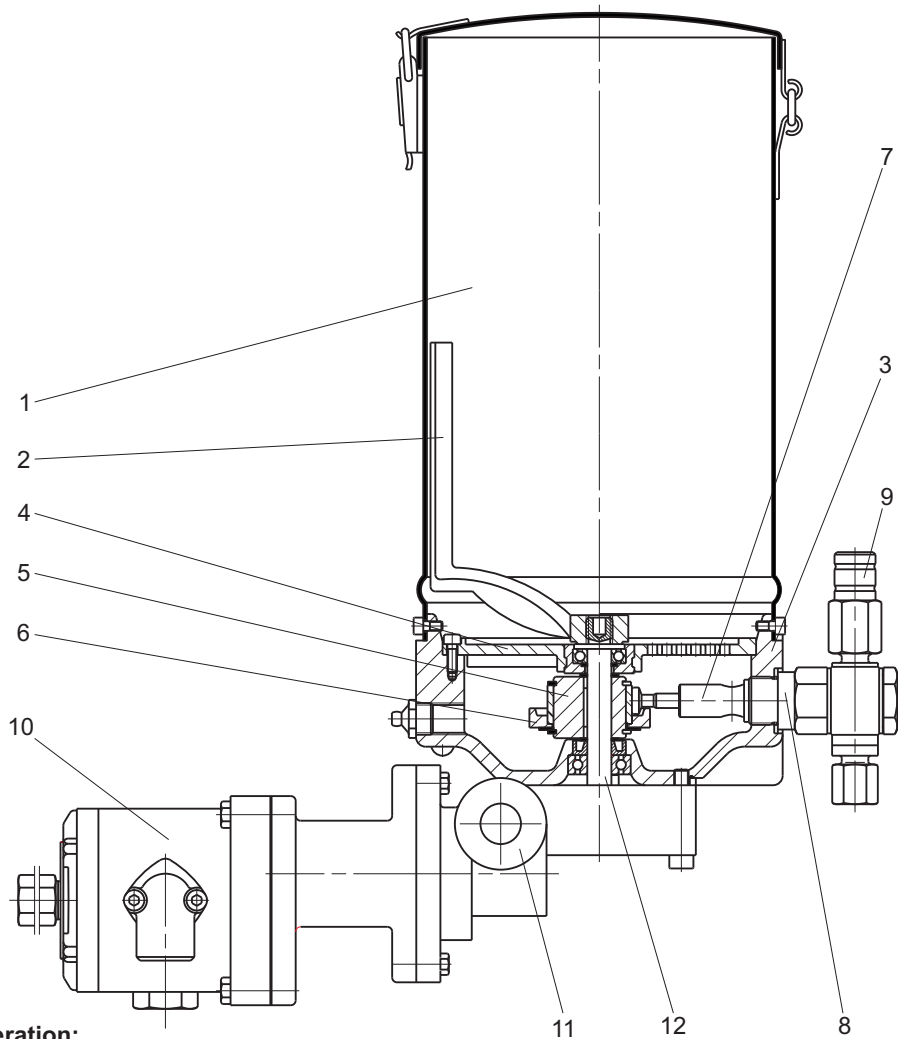
Technical data:

Operating temperature:	-15°C to + 80°C
Lubrication medium:	Grease from consistency-cl. 2
Number of outlets:	max. 3
Output per outlet:	max. 0.12 cm ³ /stroke
Stirrer direction:	in the arrow's direction
Mounting position:	Reservoir in vertical position
Drive type:	Hydraulic motor with worm wheel
Displacement:	min. 6 l/min. max. 17.2 l/min. (corresponds 1400 - 4000 min ⁻¹)
Ratio of the worm gear:	150:1
Oil inlet pressure P1:	min. 30 bar max. 200 bar
Oil outlet pressure P2:	max. 1.5 bar
Reservoir size:	
Steel reservoir:	2 and 4 kg
Protection type:	IP5K4 as per DIN 40050
Order-no.:	refer ordering key
Lubricant:	

For the lubrication of hydraulic hammers special lubricant are used (refer page 3).



Hydraulic pump HP-1 Method of operation



Method of operation:

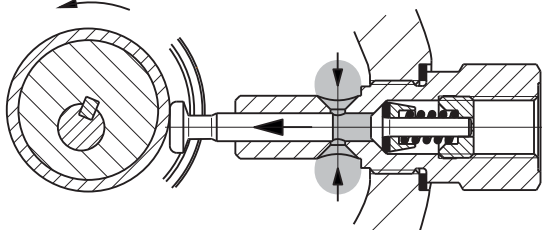
A hydraulic motor (10) continually operates over a worm gear the eccentric cam (5) and pressure ring (6). This eccentricity effects the suction and pressure strokes of the delivery piston (7), whereby the integrated non-return valve (8) prevents the delivery media from being sucked back out of the main line.

The stirrer (2) pushes the lubricant out of the supply container (1) through a screen (4), which reduces any air bubbles, to the suction area in the pump housing (3).

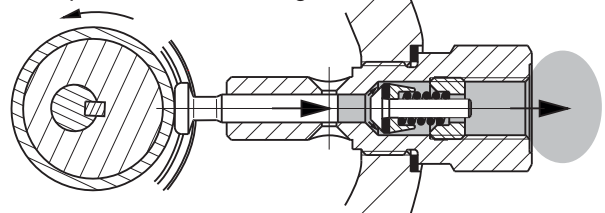
Filling the reservoir (1) is effected via the conical grease nipple or the hinged lid.

The pressure relief valve (9), is pre-set to 280 bar operating pressure, to provide protection for the pump and piping system.

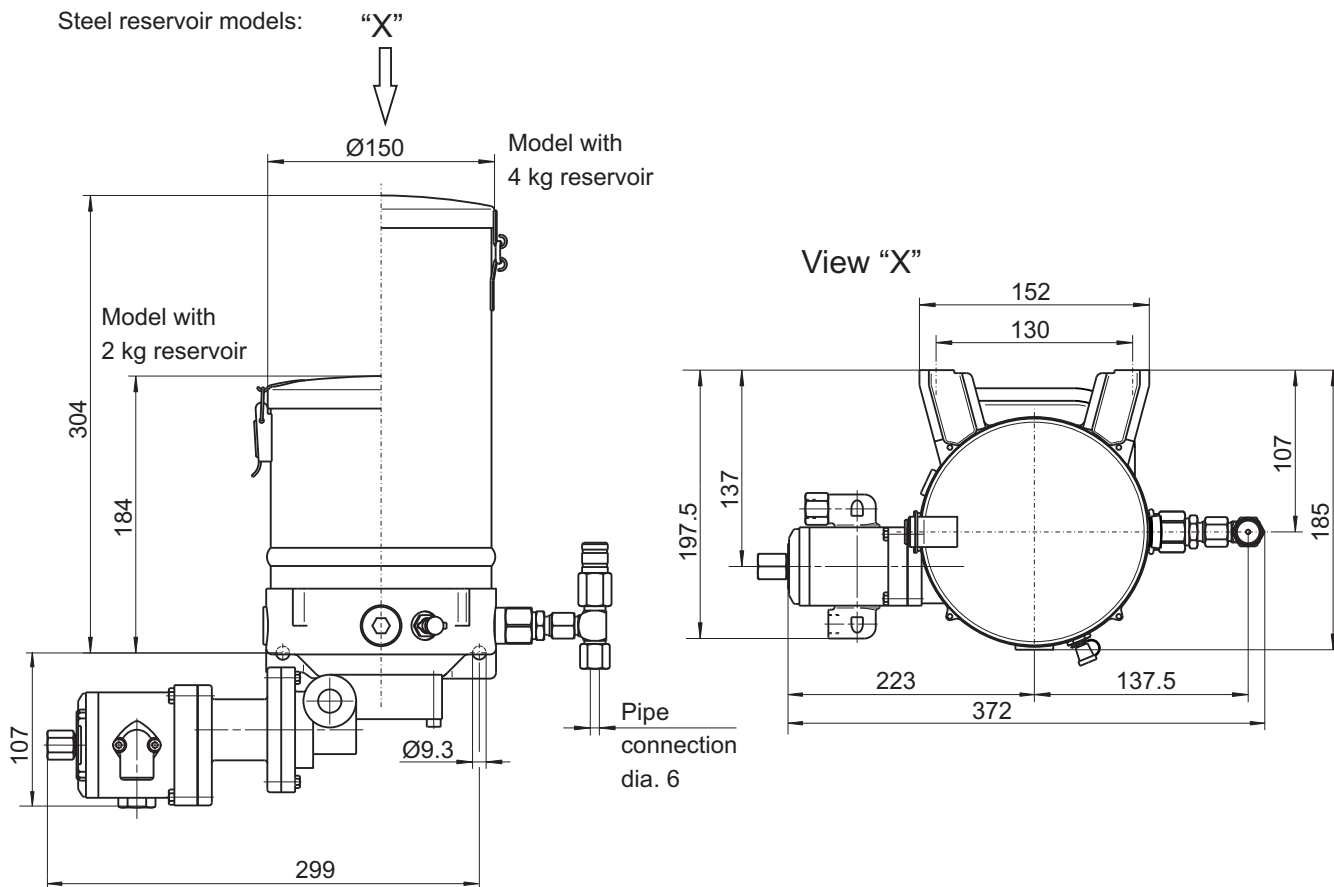
Pump element is drawing in:



Pump element is delivering



Hydraulic pump HP-1 Dimension plans



Lubricants:

For the lubrication of hydraulic hammers special lubricant are used.

The lubricants mentioned here are released for the use in central lubrication systems for hydraulic hammers. Please note the instructions of the manufacturer of the hydraulic hammer.

Description: EUROL chisel paste
 Manufacturer: EUROL Mineralöl Handelsgesmbh

NILS chisel paste
 Nils Italia S. r. l.

: Fuchs Lubritech chisel paste
 Fuchs Lubritech GmbH

BERULUB HTM paste
 Carl Bechem GmbH

Hydraulic pump HP-1

Pump element PE-120 V

Delivery quantity:

- All pump elements are set to full stroke by the manufacturer
- max. delivery rate 0.12 cm³ at full stroke
- Reduction 0.013 cm³ per notch = 1/2 revolution

Adjusting the delivery rate:

- Remove plug screw (2) with Allen key (SW 5)
- Turn adjusting screw (3) with a screwdriver
- Turn clockwise to reduce delivery rate
- Turn counterclockwise to increase delivery rate
- Maximum stroke of adjusting screw is 2.4 mm = 6 notches
- 1 turn of adjusting screw is 0.8 mm = 2 notches
- Tighten plug screw (2) incl. sealing ring

Technical data:

Delivery quantity: 0.04 to 0.12 cm³ / stroke

Regulation of delivery rate:

6 detents each 1/2 revolution

Reduction: 0.013 cm³ per notch

Delivery media: Greases from NLGI-cl. 00/000 to NLGI-cl.2

Piston return: forced

Part-no. pump element PE-120 V:

Pressure outlet dia. 6:

with pressure relief valve, without manometer:

2152.99063.0000

with pressure relief valve, with manometer:

2152.99063.0110

Pressure outlet dia. 8:

with pressure relief valve, without manometer:

2152.99063.0001

with pressure relief valve, with manometer:

2152.99063.0111

pressure relief valve of PE-120 V

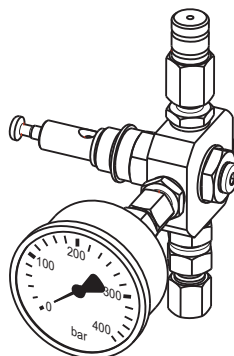
(preadjusted to 280 bar):

2152.99063.0020

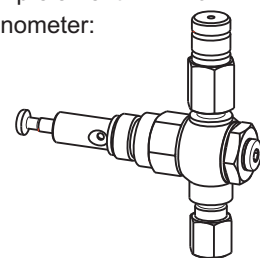
Installation of pump elements in electric pump EP-1:

- Only install / remove when pump is off
- Install pump unit with piston partially extended (4) insert at angle in top of housing bore (see diagram A)
- When piston head rests on pressure ring - move pump element into vertical position (see diagram B)
- Piston head must run in guide ring groove
- Tighten pump element
- For removal, reverse above sequence
- When removing the pump element, ensure that the piston (4) is not left behind in the pump housing

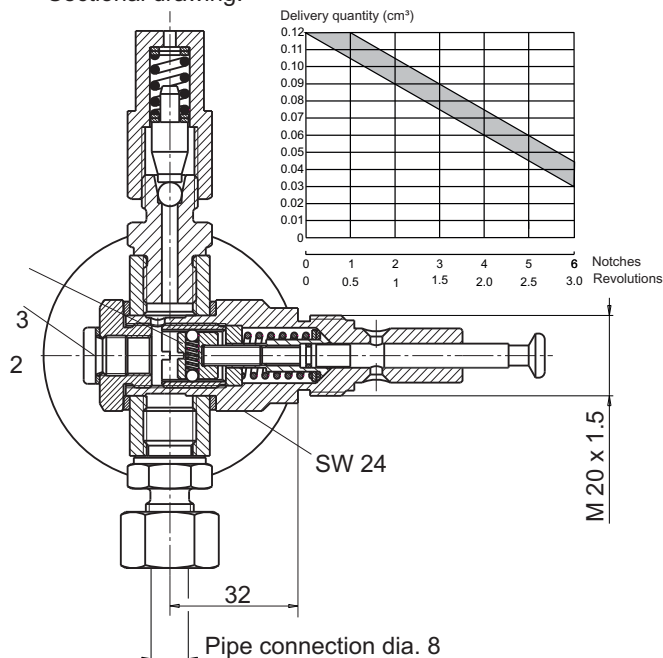
Pump element PE-120 V without manometer:



Pump element PE-120 V with manometer:



Sectional drawing:



Installation instructions:

Diagram A:

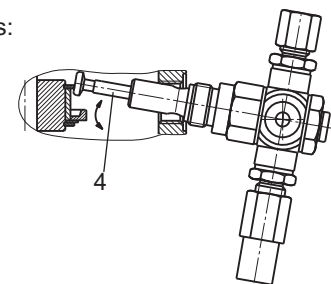
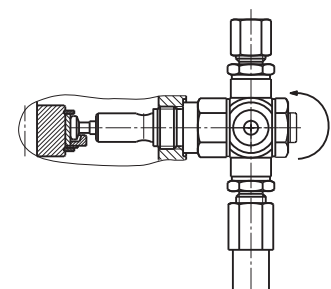


Diagram B:

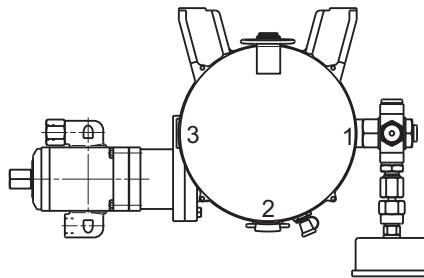


Hydraulic pump HP-1 Ordering key for pump

Construction type _____ 2163 . XX . XX . X . 00

Pump elements	Code
PE-120 V in outlet position 1	41
PE-120 V in outlet position 2	D0
PE-120 V in outlet position 3	A4

Order sample pump elements:



1 PE-120 V installed in outlet position 1

Size of reservoir (kg)	2	4
Steel reservoir		
Code	21	41

Type			
Throttle unit	0.8 mm	1.0 mm	1.2 mm
Code	1	2	3
Throttle valve	4		

Special types 02

