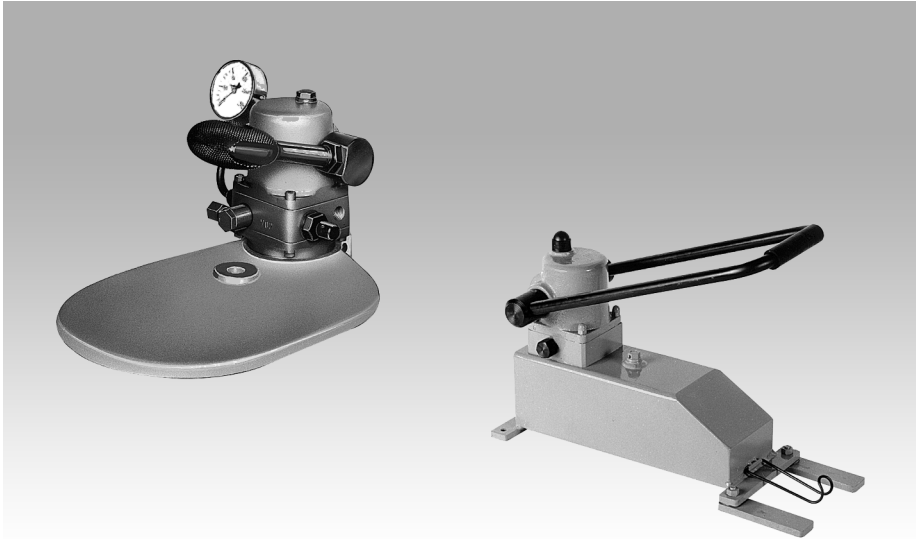




# Operating Instructions Hydraulic Pumps



**Hydraulic pumps, manually operated:**

**These operating instructions are available for the following hydraulic pumps:**

- |          |          |          |
|----------|----------|----------|
| 8804-006 | 8804-016 | 8804-026 |
| 8805-006 | 8805-016 | 8805-026 |
| 8806-006 | 8806-016 | 8806-026 |
| 8807-006 | 8807-016 | 8807-026 |
| 8808-006 | 8808-016 | 8808-026 |
| 8816-006 | 8816-016 | 8816-026 |

**and the two-stage hydraulic pumps:**

- 8817-000
- 8817-002
- 8817-003

### Target group of this document

Fitters and setters of machine tools. They have to be familiar with the handling of hydraulic power workholding components.

### Provided use

Hydraulic pumps have been designed for lifting of loads, adjustment and locking of tables and economic clamping of workpieces.

### Instructions for safe operation

- ♦ Swarf or contamination in the hydraulic oil lead to increased wear or damage at the valves and the pump, respectively.
- ♦ Emerging hydraulic oil has to be absorbed by oil fixing agent and disposed environmentally.
- ♦ Use only hydraulic oil HLP32 as per DIN 51524. (Hydraulic pumps are delivered with oil charge.)



### Troubles of functioning

*Protect the device against penetration of swarf as well as cutting lubricants and coolants!*

- ♦ Pay attention to safe foothold of the pump. For hydraulic pumps 8804-xxx to 8816-xxx flanges and bases are available (see data sheet)

### Function

- ♦ For both devices pumping, releasing and lowering are effected with the same lever.
- ♦ For both pumps hand and foot operation are suitable.
- ♦ To check the pressure a pressure gauge has to be connected.
- ♦ By means of the pressure relief valve the maximum pressure is limited.
- ♦ For the two-stage pump changing from low pressure to high pressure is automatic.

### Hydraulic connection

- ♦ Design hydraulic lines as per operating pressure! See also Roemheld data sheets F 9.300 (tubes) and F 9.360 (hoses).
- ♦ Use tubes only with fixed pumps.

- ♦ Connect hydraulic lines to qualifying standards, pay attention to scrupulous cleanness!
- ♦ Use only fittings "screwed plug B" as per DIN 3852 (ISO 1179).
- ♦ Do not use sealing tape, copper rings or coned fittings.
- ♦ Clean tubes and hoses, e.g. with cleaning agents.
- ♦ Check sealing of the lines!

### Bleeding

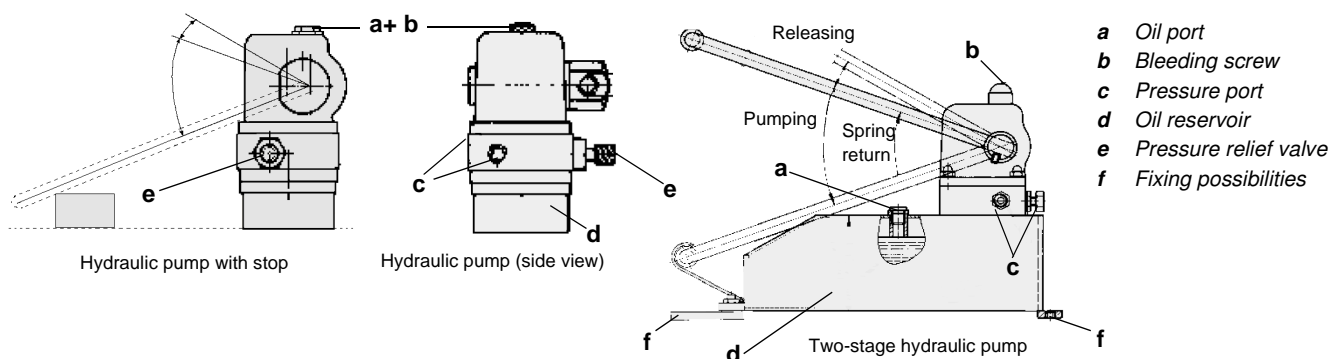
- ♦ Adjust pressure relief valve to the lowest possible value by screwing counterclockwise.
- ♦ Loosen air-bleed screws or fitting at the highest or remotest point. Pump until bubble free oil comes out.
- ♦ Tighten air-bleed screws or fitting nuts
- ♦ Refill required oil quantity with retracted cylinders.



### Troubles of functioning

*Use only the indicated hydraulic oil!*

*Pay attention to scrupulous cleanness when filling the oil!*



All figures are schematic figures.

### Instructions for operation

- Pressure build up is made by repeated pressing down of the pump lever.
- The spring return gets the pump lever to move to its zero position.
- Release will be effected by pressing up the pump lever.
- Hand and foot operation is optionally possible.

When fixing with a flange or a base, a stop should be provided by the customer for foot operation (as shown in the above figure) to avoid damage of the pump mechanism.

The pressure relief valve has been adjusted in the factory to the maximum operating pressure.

The adjusting ranges are shown in the chart characteristics. The adjusted pressure can be reduced by turning counterclockwise the knurled nut (e) and increased by turning clockwise.

The pumps 8805-026 and 8805-016 are equipped with a safety lever, which shall avoid an inadvertent operation and release of the pump.

### Inspection and maintenance

The pump is delivered with oil charge. An oil change is normally not required.

Check if the hydraulic ports are tight (visual control).

The hydraulic pump itself is maintenance free.

### General characteristics

Type	8804-006	8805-006	8806-006	8807-006	8808-006	8816-006	8817-000		8817-002		8817-003	
Max. operating pressure in [bar]	200	100	100	200	200	500	60 ND	500 HD	60 ND	500 HD	60 ND	500 HD
Displacement per stroke in [cm <sup>3</sup> ]	4	8	8	4	4	2	12	2,4	12	2,4	12	2,4
Adjusting range, pressure relief valve in [bar]	10 bar - max. operating pressure						50-500					
Oil volume in [cm <sup>3</sup> ]	300	300	970	970	400	300	2000		900		250	
Oil volume, useable in [cm <sup>3</sup> ]	150	150	750	750	250	150	1800		800		200	
Max. actuating force in [N]	500 for standard levers					600	360		360		360	

### Trouble shooting

Trouble	Cause / Remedy
Operating pressure will not be obtained	pressure relief valve adjusted too low - adjust to a higher value  external leakage - Eliminate leak, e. g. by tightening fittings or replacing tubes or hoses
Pump does not deliver	oil level is too low - refill oil

### Data sheets

Types	Corresponding data sheets
8804, 8816	D8.800
8817	D8.817

Subject to changes without notice.