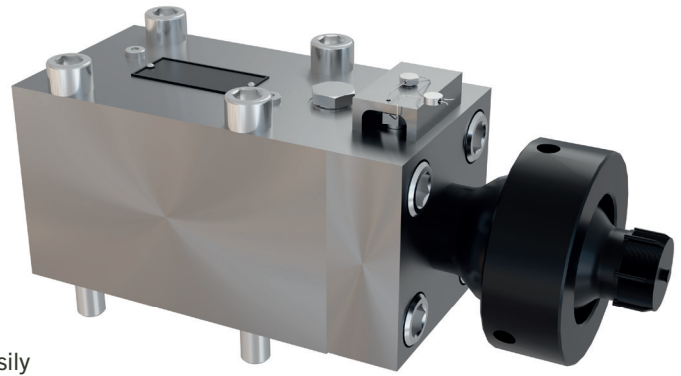


Pressure relief valve

DN20 - DN25, PN450 - PN500

Features

- Directly actuated pressure relief valve
- Seat valve with a leak-free, metallic conical seat seal
- All parts are made of corrosion-resistant materials, and they are easily replaceable.
- Hydraulic accumulator as a preload element, adjustable spring (force)
- Attachment, structural plate form or flange design



Function

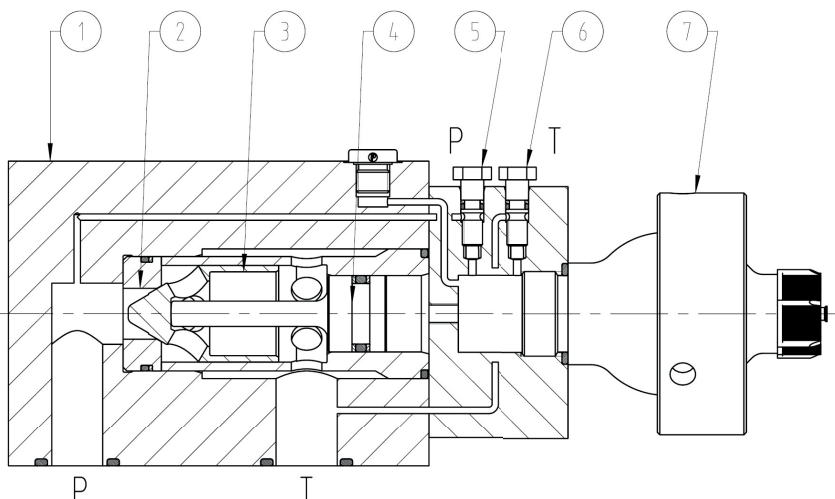
Pressure relief valve for the primary pressure setting at the hydraulic pumps and the pressure protection of the hydraulic drives and hydraulic components.

In the basic valve position, the hydraulic power of the hydraulic accumulator (7) acts on the piston valve (4) and transfers it to the valve piston (3). The valve seat (2) and the valve piston (3) form the valve seal at the conical surface. On the gas side, the hydraulic accumulator (7) has been prefilled with nitrogen and is preloaded hydraulically with the pressure setting on the liquid-side until the requested pre-set pressure „Pe“ is reached. The gas within the accumulator is compressible and acts as a flexible spring.

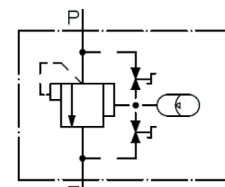
Within the operation of the valve, the system pressure „Ps“ enters the valve body (1) at the P-connector generating a hydraulic (opening) force at the valve seat area of the valve piston (3). The piston valve (4) maintains the valve piston (3) in the shut off basic position as long as the hydraulic opening force is < than the closing force at the piston valve (4). If the system pressure „Ps“ increases to the extent that the force ratio reverses to be opening force > closing force, then the valve piston (3) is pressed out of the basic position, lines P and T are connected thus opening the valve. The valve opening increases proportionally with increasing system pressure until the maximum admissible volume flow for the valve has been reached, see valve characteristic.

The pressure of the valve is set via the adjustment valves (5, 6). Thus, the pressure of the accumulator (7) is set. Depending on the pressure setting of the accumulator a hydraulic power is generated, which is transferred to the valve piston (3). From the control ratio „SK“ (see Technical data) and the pre-set pressure „Pe“ follows the required accumulator pressure „Pap“.

Example: Pressure relief valve DN20 - structural plate form



Symbol



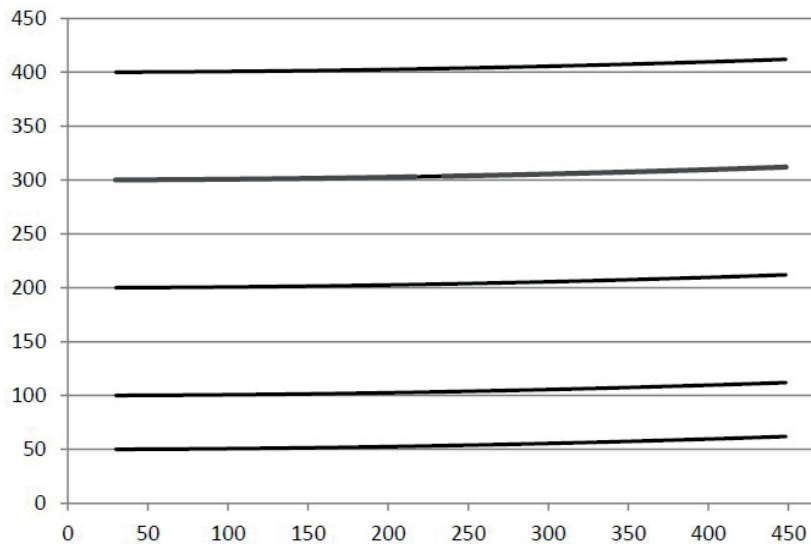
Technical data

measured with HFA medium 97/3%, at 20°C

General	
Weight	see Order information
Installation position	any
Ambient temperature	-10 to 50°C (hydraulic fluids, heed standard requirements)
Material Valve parts	Stainless steel, bronze
Material Seals	NBR, PTFE, PUR
Hydraulic	
hydraulic pressure connector P, M	≤ 400 bar bzw. ≤ 500bar, see Order information
hydraulic pressure connector T	≤ 50bar (observe counterpressure within the pressure setting)
Setting range of hydraulic response pressure P_e	DN20: 30 – 450 bar DN25: 30 – 500 bar
Control ratio S_k	DN20: 1:1,9 – 2,20 (area piston valve/valve piston) DN25: 1:2,0 – 2,22 (area piston valve/valve piston)
Pressure range accumulator P_{Sp}	14 – 260 bar
max. volume flow	DN20: 500 l/min DN25: 700 l/min
direction of flow	P→T
Pressure fluid	Water, HFA
- Medium - Temperature range	5 bis 40°C
- Medium - Quality	see Hauhinco media requirement, water, HFA
- min filter fineness	Filter fineness 100µm
Pressure fluid	Mineral oil HLP according to DIN51624-2
- Medium - Temperature range	5 to 50°C
- Medium - Quality	Cleanliness class -/19/16 according to ISO 4406
Optional features	Pressure display „ P_{Sp} “, see order data
Use of other pressure fluids on request.	

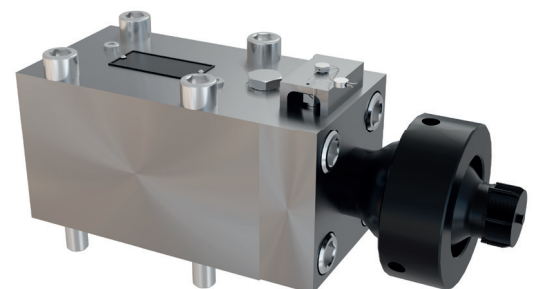
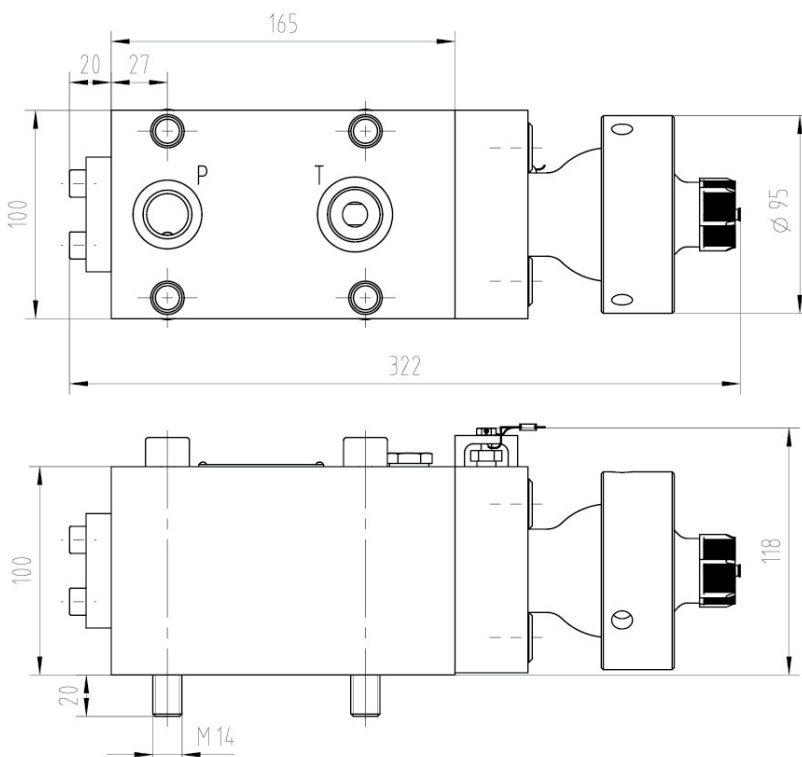
Characteristic curves Pressure relief valve DN20

$\Delta p - qV$ characteristic curves DN 20



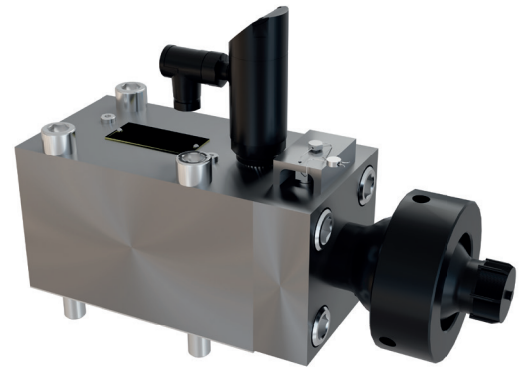
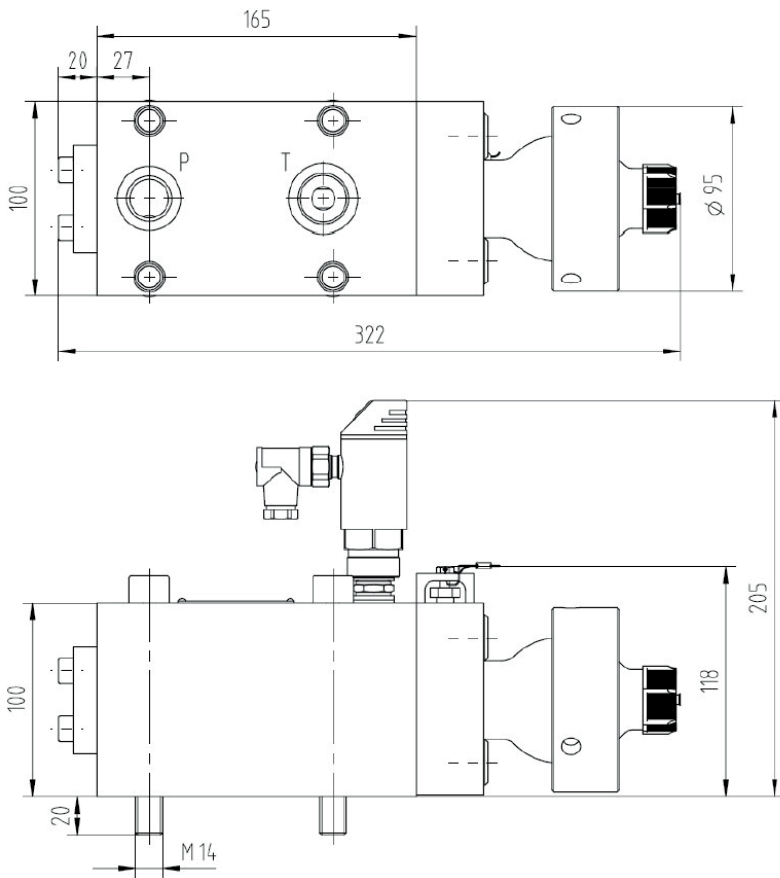
Pressure relief valve, plate-type DN20

Art. Nr. 6261981



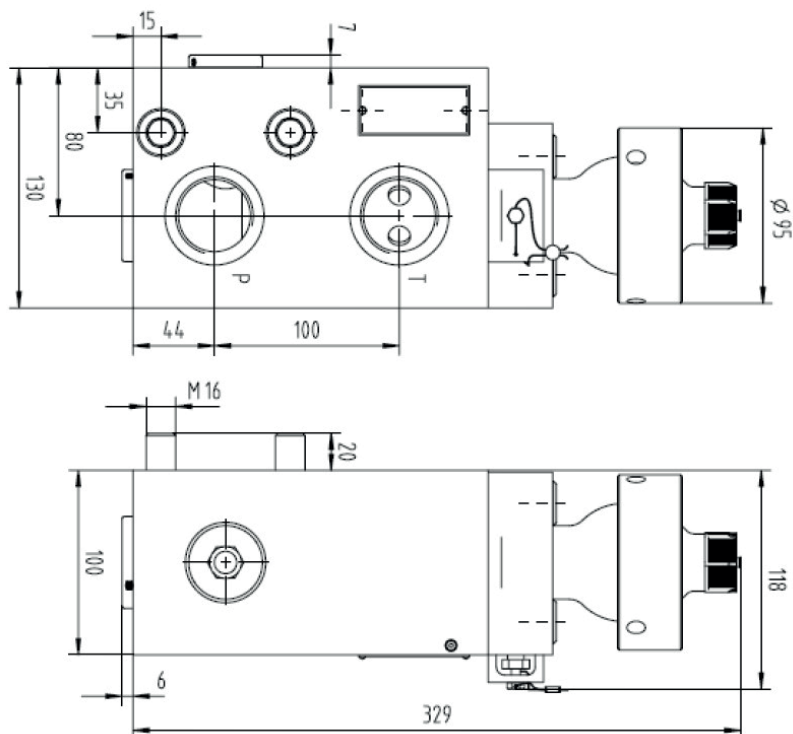
Pressure relief valve, plate-type DN20

Art. Nr. 6392660, 6267092



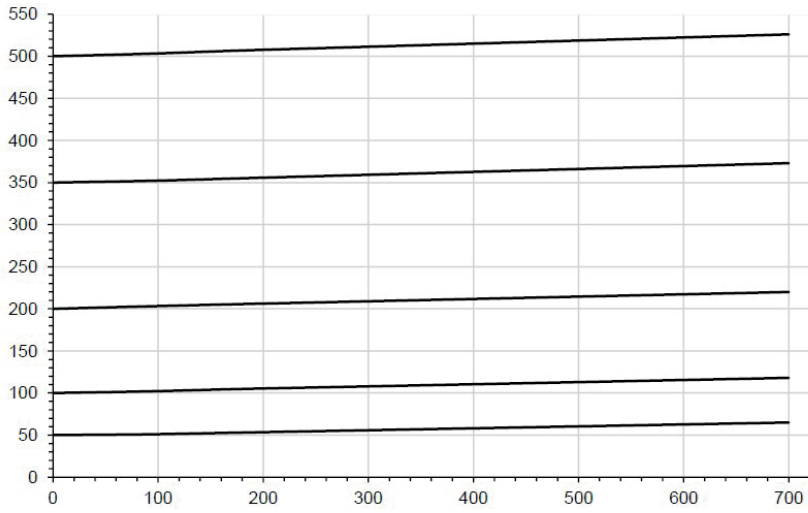
Pressure relief valve, flange-type DN20

Art. Nr. 6159362



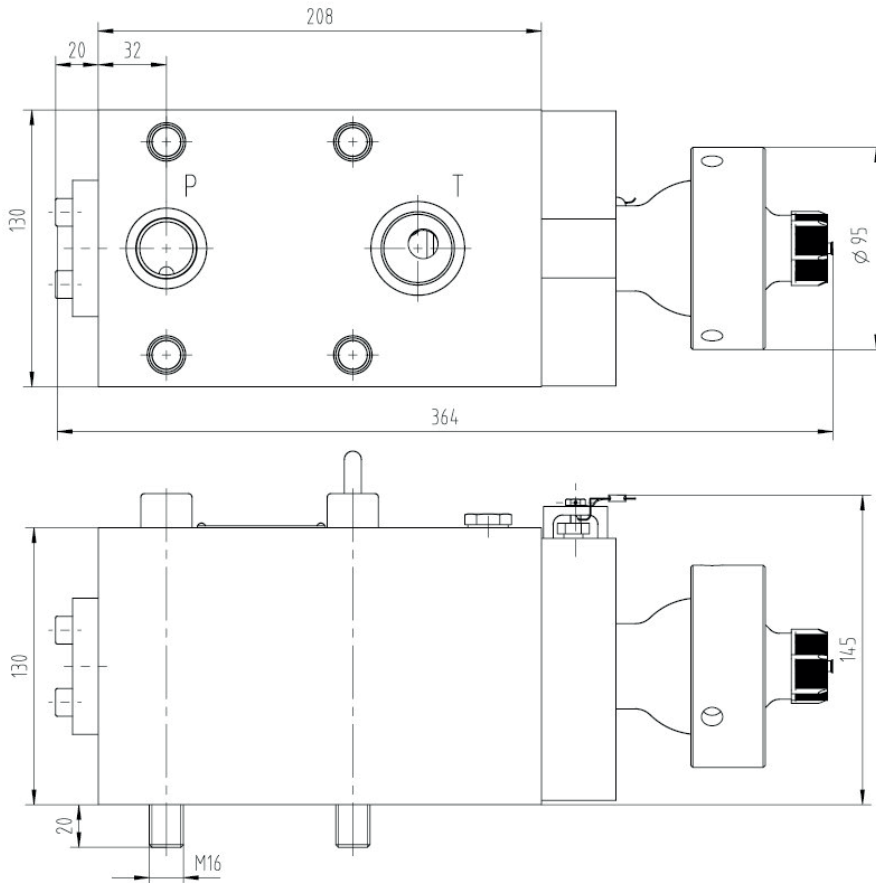
Characteristic curves Pressure relief valve DN25

$\Delta p - qV$ characteristic curves DN 25



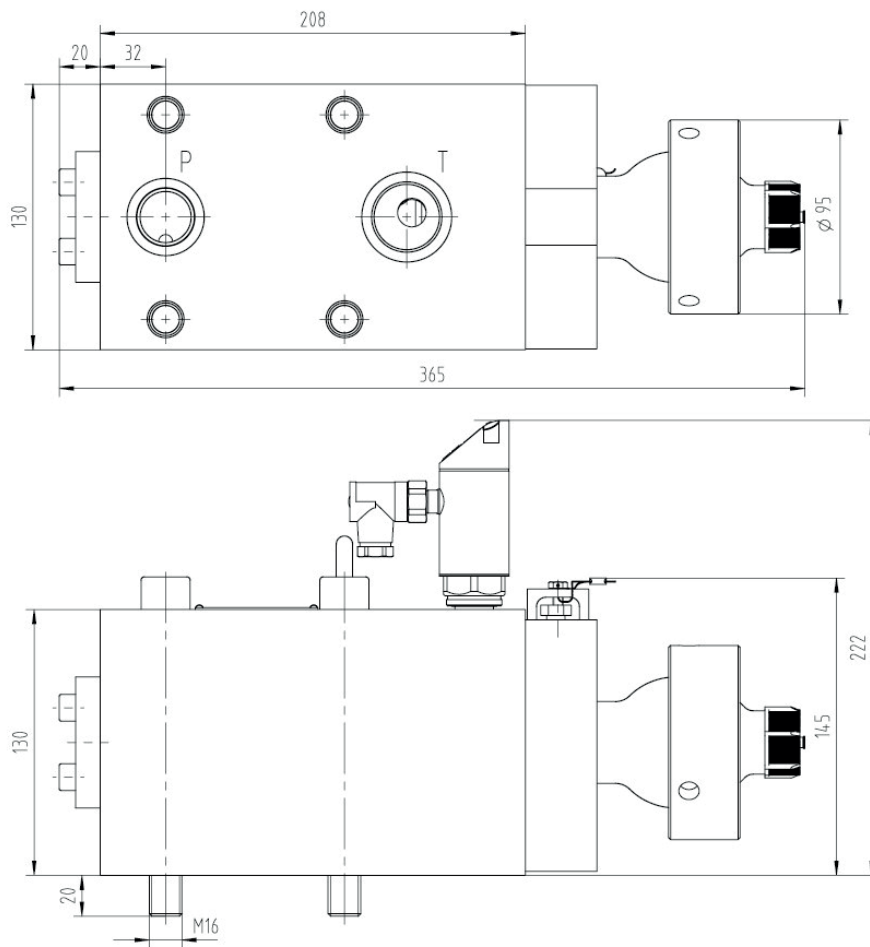
Pressure relief valve, plate-type DN25

Art. Nr. 6167861



Pressure relief valve, plate-type DN25

Art. Nr. 6272673



Order information

Included in the scope of supply

Mounting screws for the valves

Pressure setting according to customer specification

Factory test certificate on request

Designation	Nominal size	Weight [kg]	Type	max. Pressure [bar]	Setting range [bar]	Article number
Pressure relief valve U504	DN20	22	Flange-type	400	30-400	6159362
Pressure relief valve	DN20	16	Plate-type	500	30-450	6261981
Pressure relief valve, with pressure display	DN20	16	Plate-type	500	30-400	6392660
Pressure relief valve, with pressure display	DN20	16	Plate-type	500	30-250	6267092
Pressure relief valve	DN20	30	Plate-type	500	30-500	6167861
Pressure relief valve, with pressure display	DN25	30,5	Plate-type	500	30-400	6272673