

# Pressure relief valve

## Setting range

## Volume flow

**DN20 PN500**  
**30 – 450 bar**  
**500 l/min**

### 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

### Control function

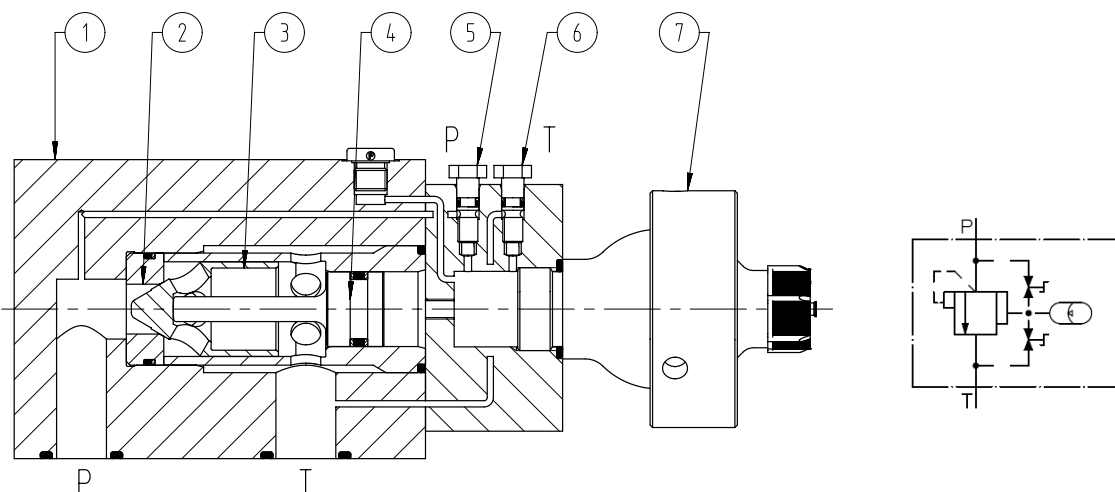
Pressure relief valve for the primary pressure setting at the hydraulic pumps and the pressure protection of the hydraulic drives, hydraulic components.

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 preset 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 preset pressure "Pe" follows the required accumulator pressure "P<sub>ap</sub>".

### Pressure relief valve DN20 - structural plate form



## Pressure relief valve DN20 | PN500

### 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
- Seals	NBR, PTFE, PUR

#### hydraulic

hydraulic pressure connector <b>P, M</b>	≤ 400 bar or ≤ 500 bar, see Order information
hydraulic pressure connector <b>T</b> setting)	≤ 50bar (observe counterpressure within the pressure setting)
Setting range of hydraulic response pressure <b>P<sub>e</sub></b>	30 – 450 bar
Control ratio <b>S<sub>k</sub></b>	1:1.90 – 2.20 (area piston valve/valve piston)
Pressure range accumulator <b>P<sub>ap</sub></b>	14 – 260 bar
max. volume flow	500 l/min
Direction of flow	P→T
Pressure fluid	<b>Water, HFA</b>
- Medium - Quality	see Hauhinco media requirement, water, HFA
- Medium - Temperature range	5 – 40°C
- min filter fineness	Filter fineness 100µm
Pressure fluid	<b>Mineral oil HLP according to DIN51624-2</b>
- Medium - Quality	Cleanliness class -/19/16 according to ISO 4406
- Medium - Temperature range	5 – 50°C

Optional features Pressure display "P<sub>ap</sub>", see Order data

Ask the manufacturer, if use of other pressure fluids is possible.

#### Order data

Designation	Art. No.	Weight	Attach- ment	Connec- tion dia- gram	max. pres- sure [bar]	Setting range [bar]
Pressure relief valve U504	6159362	22	Flange	6566421	400	30-400
Pressure relief valve DN20	6261981	16	Struc- tural plate form	6555012	500	30-450
Pressure relief valve DN20 with pressure display	6392660	16	Struc- tural plate form	6555012	500	30-400
Pressure relief valve DN20 with pressure display	6267092	16	Struc- tural plate form	6555012	500	30-250

#### Included in the scope of supply

Mounting screws of the valves

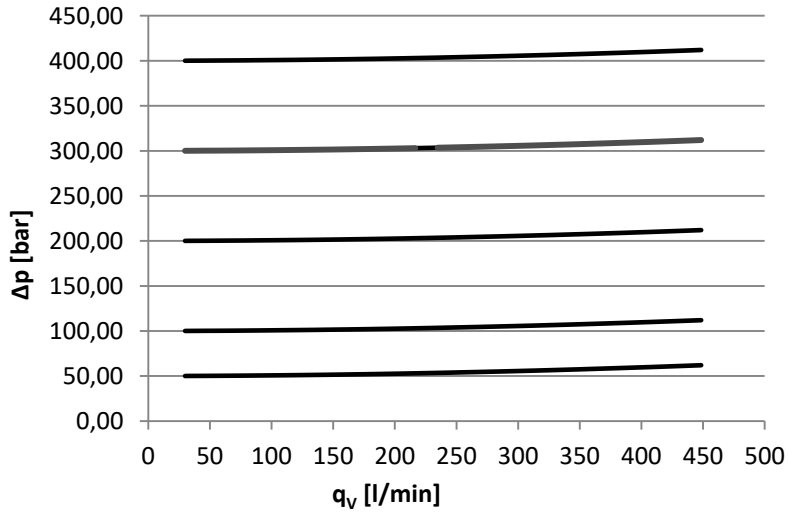
Pressure setting according to customer specification

Factory test certificate on request

## Pressure relief valve DN20 | PN500

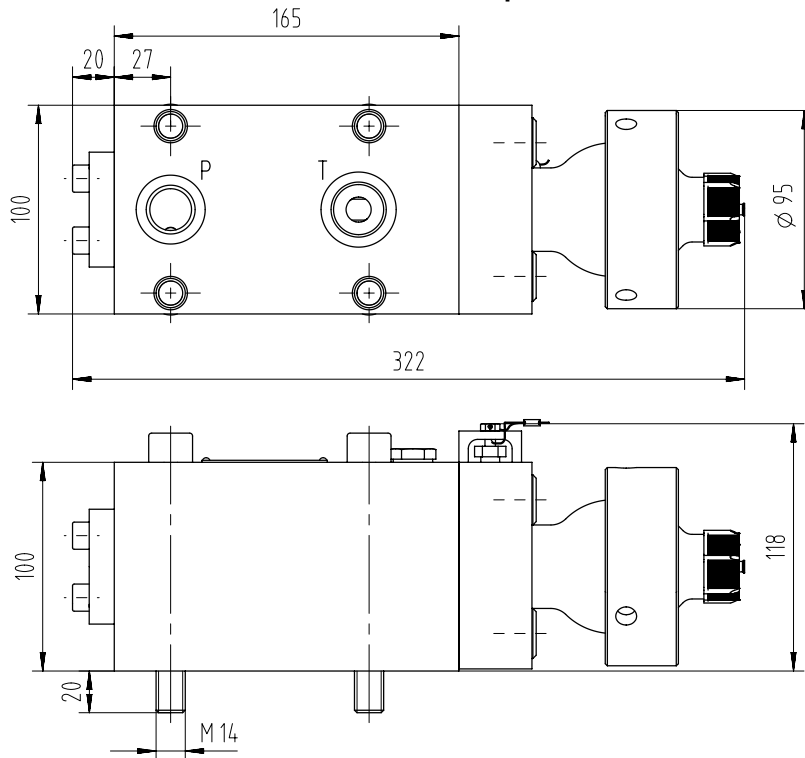
### Valve characteristics

#### $\Delta p - q_v$ characteristic curves DN 20



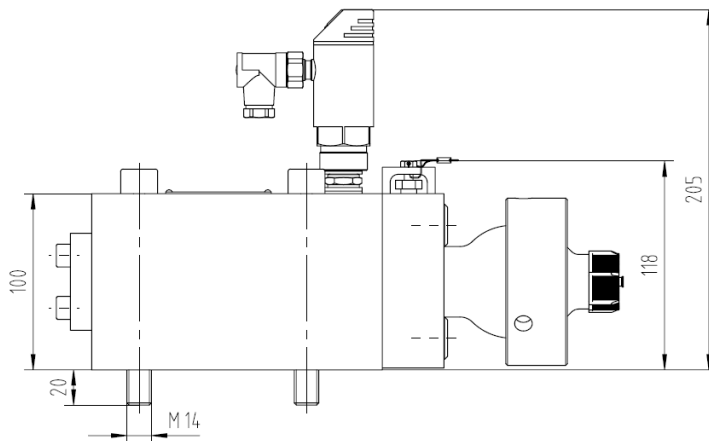
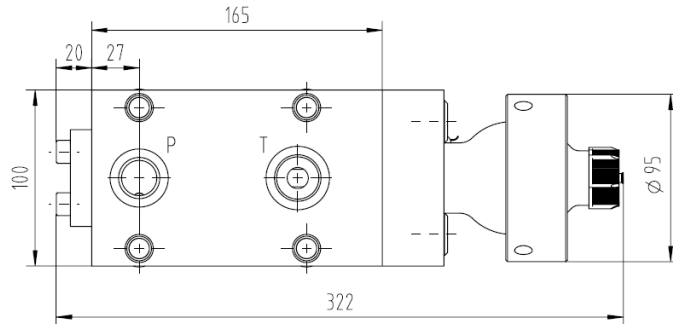
### Dimensional drawing

#### Pressure relief valve DN20 – structural plate form Art. No. 6261981

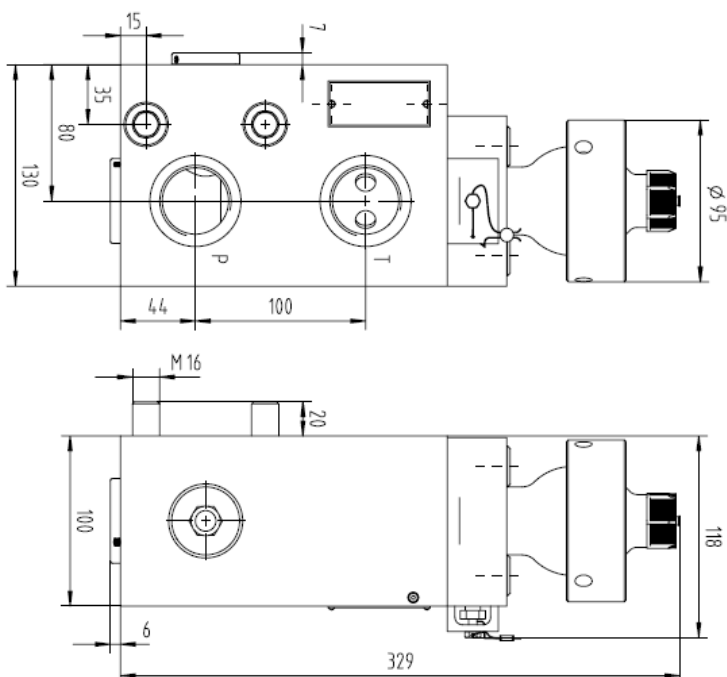


## Pressure relief valve DN20 | PN500

Pressure relief valve DN20 – structural plate form Art. No. 6392660



Pressure relief valve DN20 – flange design Art. No. 6159362



P-connector = DIN3852 – X – G1

T-connector = DIN3852 – X – G1