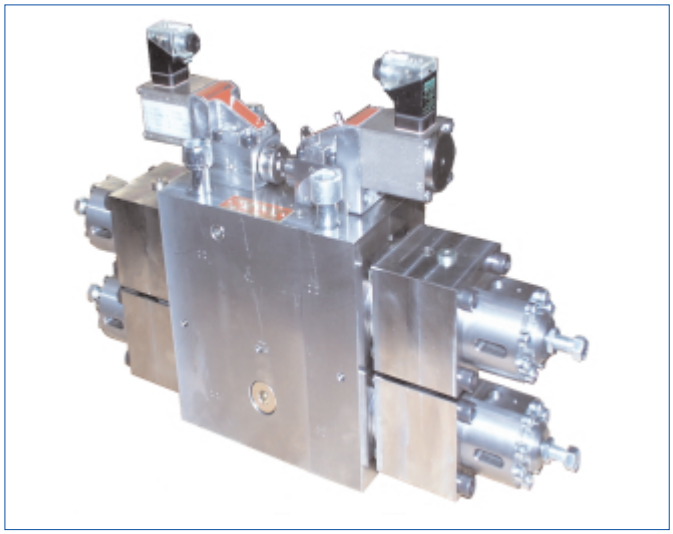
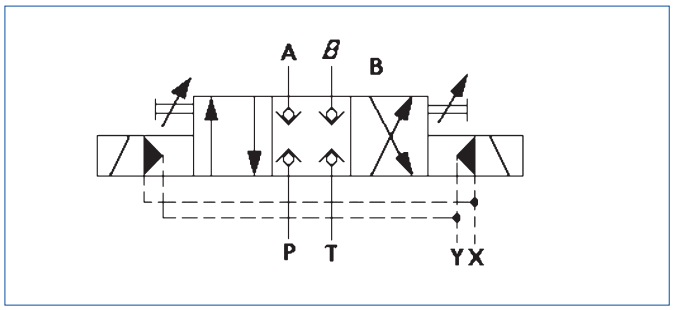


4/3 way pilot control seat valve

- Pilot-controlled seat valve
- Pilot-control by means of own medium
- Emergency manual operation
- Leakage-free sealing on the valve seat
- Force-controlled working piston
- Stroke limitation of pistons possible
- Smooth switching, no pressure shocks
- Wear parts easy to access and fast to replace
- Control electromagnets protected against dirt and humidity

Application:

Extrusion presses:
Relief ring shifting
Manipulator:
Travel path
Hot rolling mills:
Roller change device

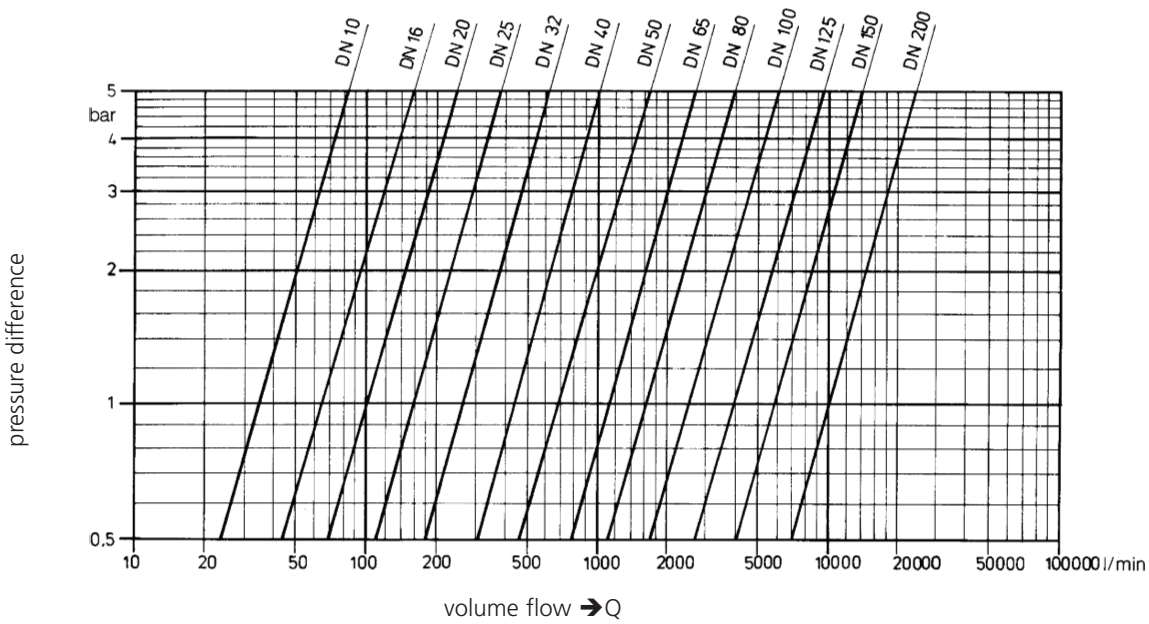


Technical data:

Construction type:
Mounted seat valve
Pilot-control pressure:
System pressure, 25 bar min.
Control medium:
Own medium
Nominal width:
NG 16 - NG 40
Pressure fluids:
HFA 97% water and 3% additives
Non-lubricated water (clear water)
Mineral oil acc. to DIN 51524 and 51525
Pilot-control pressure:
See separate data sheets
Max. op. pressure:
320 bar
Filtering:
Main valve 100 µm, pilot-control 25 µm

Pressure difference and volume flow

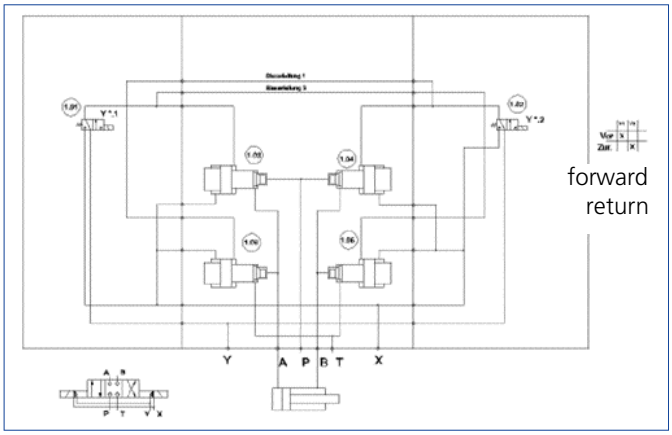
for water (20° C) in 2/2 directional control fitted seat valves



Special features:

Due to the hydraulic force-control by means of the different size control surfaces of the piston rods, the piston rods cannot flutter. Closing springs are not required, thus there can be no uncontrolled piston position in the event of any spring fracture.
The valves are insensitive against vibrations and pressure surges in the hydraulic system.
Due to the extended piston guides, the pistons cannot be tilted by crossflow action.
Depending on the version, the valves are kept closed by the applied system pressure. If the pilot-control medium or the electrical power fails, the valves will close.
Therefore, hazardous uncontrolled load movements cannot occur.
The individual valve pistons are always fed through to the outside; this causes the open or closed valve positions to be visible from the outside.
All valve components coming into contact with one another due to their movement are made of corrosion resistant materials. For aggressive media, the complete valve can be manufactured from appropriately selected stainless steels.
The pilot-control valves are made completely of stainless materials. The emergency manual operations fitted as standard can be arrested and are protected against accidental activation.

Function description for the 3/3 directional control seat valve



Safety note:
In order to avoid malfunctions, the two direction valves must not be switched at the same time.

Function description for the 4/3 direction control seat valve

Extend cylinder:
By operating the direction valve 1.01 (Y1) the fitted seat valves 1.03 and 1.05 are opened.(Connection X - line to the lower larger piston surface 1.03 and 1.05). This causes "P" to be applied to the piston surface of the working cylinder (port A). At the same time the ring surface of the working cylinder (port B) is connected to the tank via valve 1.05. The movement "Extend cylinder" is initiated.
Retract cylinder:
By operating the direction valve 1.02 (Y2) the fitted seat valves 1.04 and 1.06 are opened. (Connection X - line to the lower larger piston surface 1.04 and 1.06). This causes "P" to be applied to the ring surface of the working cylinder (port B). At the same time the piston surface of the working cylinder (port A) is connected to the tank via valve 1.06. The movement "Retract cylinder" is initiated.

Note:
The cylinder movement can be stopped at any point by switching off the direction valves. This causes the cylinder to be clamped hydraulically (all valves closed); no further movement can take place.