

2/2 direct. contr. fitted seat valves for water and oil hydraulics

DN 16 up to DN 200
Operating pressures up to 320 bar

- Pilot-controlled seat valves
- Pilot-control by means of own medium
- Smooth switching, no pressure shocks
- Leakage-free sealing on valve seat
- Force-controlled working piston
- Hydraulic remote control possible
- Wear parts are easy to access and fast to replace
- Manual emergency operation
- Actuation magnet protected against dirt and humidity
- Protection against accidental operation
- Hydraulic or pneumatic operation possible

Application

The 2/2 direction control fitted seat valves are particularly suitable for HFA liquids and clear water up to operating pressures of 320 bar maximum.

The valves can be equipped with positive or negative pilot-control valves. In a de-energized condition, this results in the main valve setting "valve closed" or "valve open".

The valve switching periods can be influenced by fitted filter diaphragms or intermediate plate valves with fitted fine throttles between pilot-control and main valve.

In the case of valves with larger nominal widths, valve switching periods can be significantly reduced by a double pilot-control system, e.g. pilot-control valve DN 6 with intermediate plate valve DN 9, DN 12 or DN 16.

Technical Data

Type

Fitted seat valve

Pilot-control pressure

=system pressure, min. 25 bar

Control medium

Own medium

Liquid temperature

5°C to 45°C

Control medium return

Separate without pressure into tank

Pilot-control system

see special brochures

Max. operating pressure

320 bar

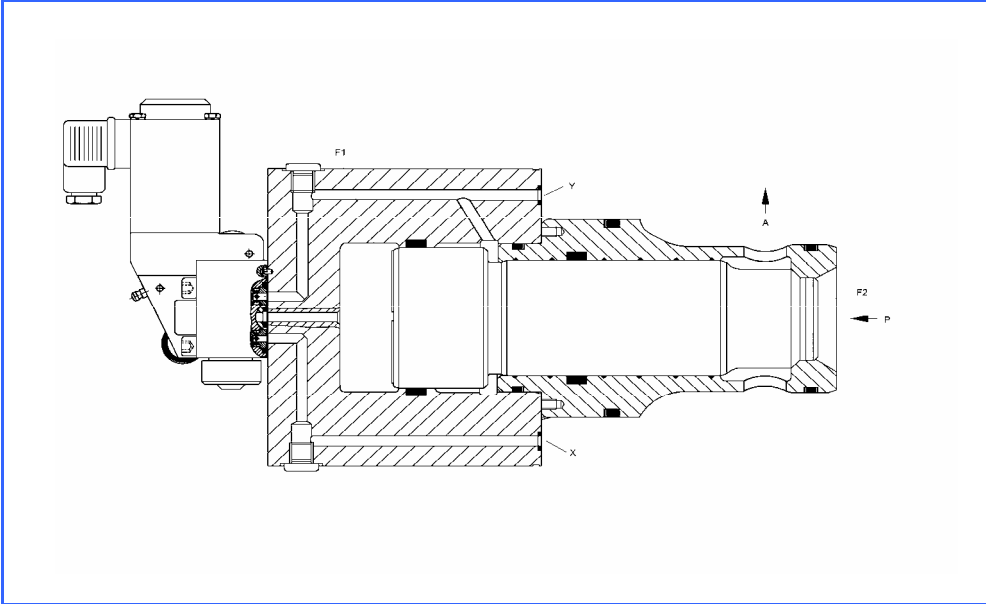
Filtering

Main valve: coarse filtering

Pressure liquid

HFA acc. to CETOP or VDMA standard sheet 24320 with 95% water and 5% non-lubricated water (clear water) mineral oil acc. to DIN 51524 and 51525 phosphoric ester

Function



Opening of the valve

The closing area F1 will be depressurized. The piston (2) moves out of the bush (1), by the constant pressure onto the opening area F2. The valve is open and the ports "A" and "B" are connected.

Closing of the valve

The medium presses onto the areas F1 and F2. Because the closing area (F1) is bigger than the opening area F2, the piston rod (2) is moved onto the bush (1). The ports "A" and "B" are disconnected.

Pilotvalve positive

In the event of power failure the valve opens.
When the control pressure collapses, the valve opens.

Pilotvalve negative

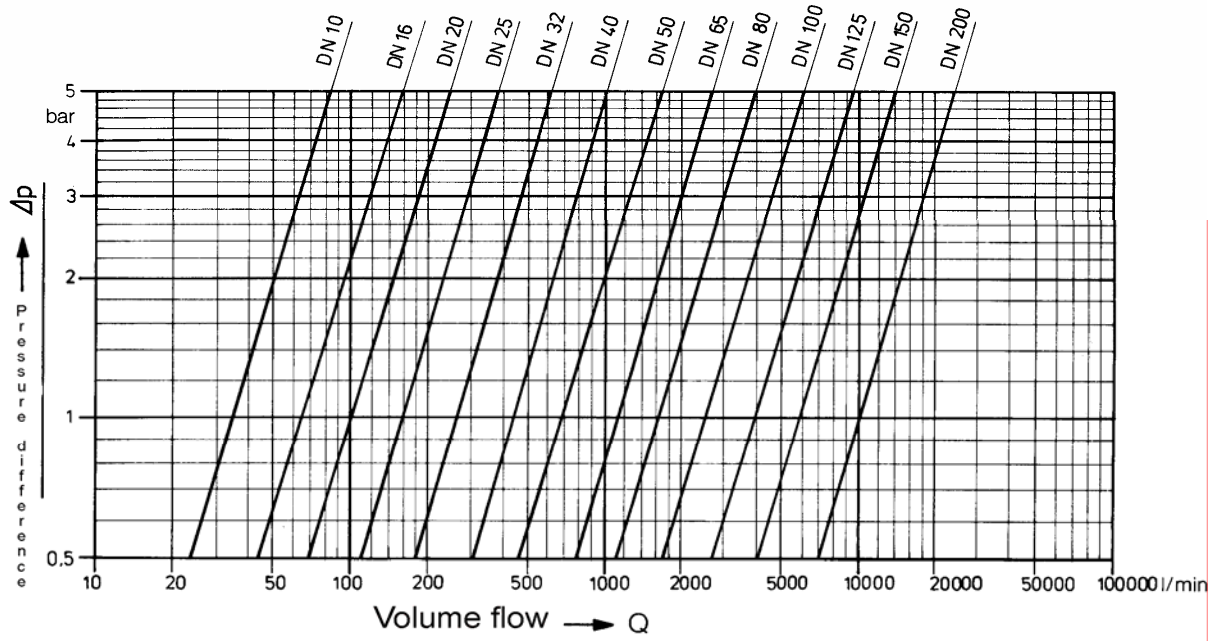
In the event of power failure the valve closes.
When the control pressure collapses, the valve closes.

Fitting dimensions

In DIN 24342

Pressure difference and volume flow

for water (20° C) in 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.

All wear parts are easy to access and fast to replace.

For a flow direction from P to A, due to the special purpose design of the valve seats and the throttle cones on the pistons, the metallic sealing surfaces are largely insensitive against dirt. This also prevents the feared switching surges.

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 special steels.

The pilot-control valves are made completely of stainless materials. The emergency manual controls fitted as standard can be arrested and are protected against accidental activation.



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