PRESSURE REDUCING VALVES

without leak-oil connection, pmax. 500 bar

General information:

Pressure reducing valves are ideal for the application in static leak-oil free clamping systems, which are decoupled by a pressure pump unit.

The function of the pressure reducing valve is to maintain the outlet pressure **A** on the consumer also with variable, always higher supply pressure **P** constant.

Function:

Once the supply pressure equals the adjusted outlet pressure, a check valve completely blocks the oil flow. Therefore, the pressure can not increase any more. Until the adjusted outlet pressure is acquired, the hydraulic oil can easily flow from **P→A** through the valve.

A pressure spring opens the oil flow against the supply pressure, as soon as the outlet pressure, e.g. due to the consumer, decreases. This makes the hydraulic oil flow until the initial pressure is acquired again.

Important information:

Since this pressure reducing valve does not have a leak-oil port, an supply pressure rise might not be compensated.

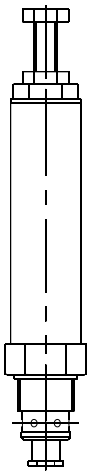
Reasons for such an unwanted pressure rise can be for example: warming, external influences, effects by foreign matter (chips) in the valve seat etc.

Overload balance is not possible due to this pressure reducing valve version.

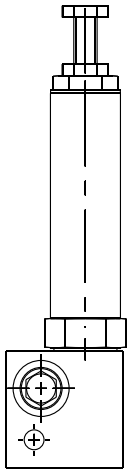
HYDROKOMP recommends installing a pressure reducing valve between the valve and the consumer.

The opening pressure adjusted for the pressure reducing valve may not exceed the max. permissible operating pressure of the consumer. If possible, it should be approx. 10% above the outlet pressure.

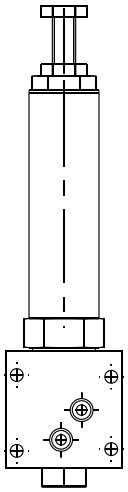
The outlet pressure can be adjusted by a pressure gauge which also allows the visual control of the outlet pressure.



Screw-in valve

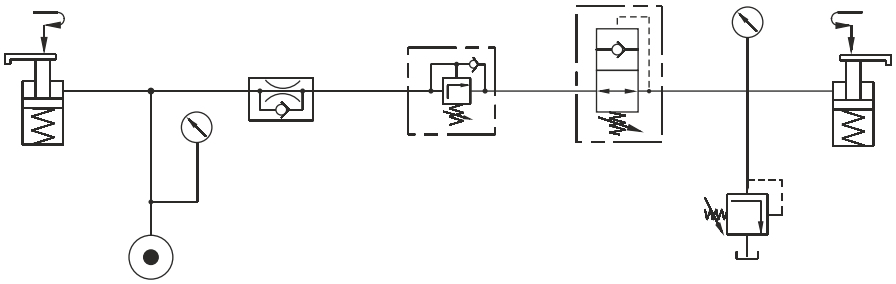


Pipe connection



Manifold connection

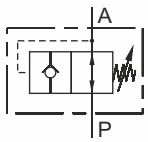
Application example:



If throttle check valves and sequence valves are to be combined in sequence with the pressure reducing valve, the order described in the example must be considered.

Webcode: 070030

Other designs are available on request



Advantages:

- **Optimal use of clamping force with cylinders and cylinder groups**
- **Automatic adjustment for outlet pressure**
- **Ideal for static clamp systems**
- **No leak-oil tubes**
- **Housing with pressure gauge port**
- **Varied settings possible**

Installation screw-in valve:

For illustration see page 2

1. Turn back the counter- and sealing nut right to the end position.
2. Now screw in the valve housing and fasten it with 70 Nm. (metal sealing to 118° counter bore)
3. Fasten the counter- and sealing nut with 60 Nm. The sealing is made with support of the enclosed edge seal on the 30-mm countersink diameter.
4. For dismantling please proceed in the opposite order.

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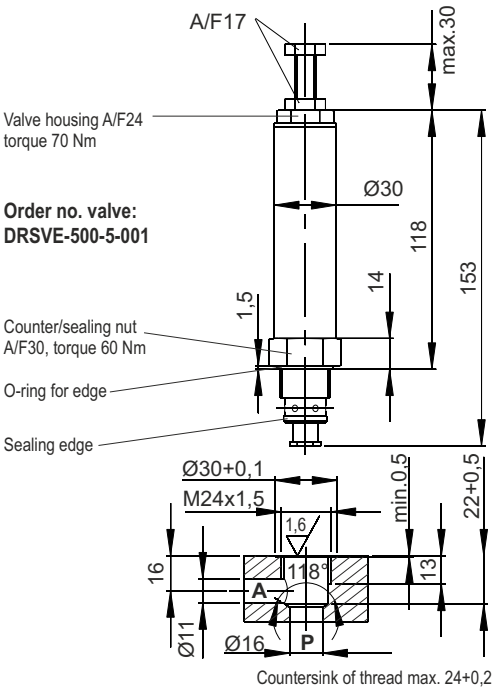
Technical data:

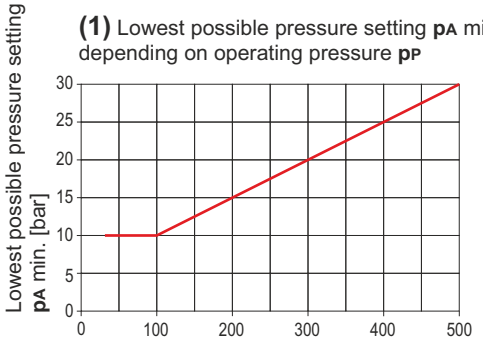
Design	**2-way poppet valve**		
Installation position	arbitrary		
Port, inlet **P**	G1/4		
Port, consumer **A**	G1/4		
Port, pressure gauge **M**	G1/4		
Operating/Supply pressure $p_{max.}$	500 bar		
Adjustment range outlet pressure	according to diagram **(1)** up to 380 bar		
Possible outlet pressure drop	according to diagram **(2)**		
Volume flow $Q_{max.}$	10 l/min		
Pressure drop	according to diagram **(3)**		
Hydraulic oil	HLP 22, DIN 51524, ISO VG 10...68 DIN 51519		
Viscosity range	Recommendations 10...50 mm²/s		
Ambient temperature	-40...+80°C		
Connection	**Screw-in**	**Pipe**	**Manifold or Pipe**
Weight approx.	0,7 kg	1,3 kg	1,5 kg
Order no.	**DRSVE-500-5-001**	**DRSVE-500-5-002**	**DRSVE-500-5-004**

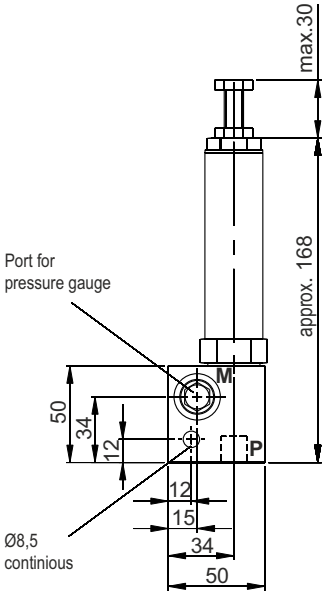


Order no. valve:
DRSVE-500-5-001

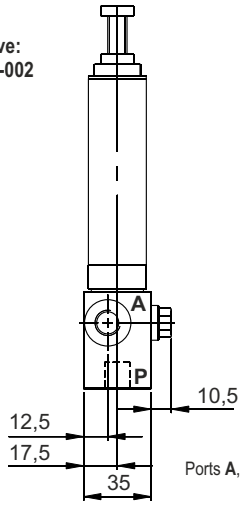
Countersink of thread max. 24+0,2

(1) Lowest possible pressure setting p_A min. depending on operating pressure p_P



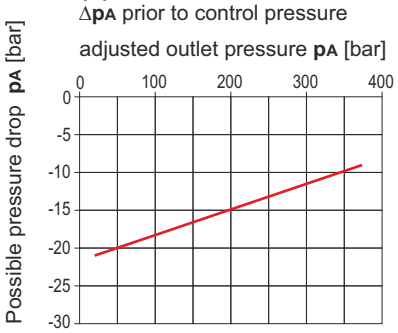


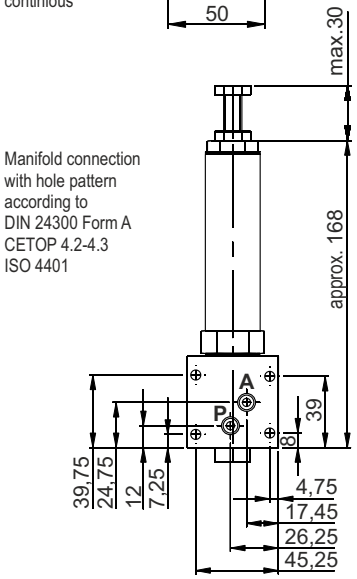
Order no. valve:
DRSVE-500-5-002



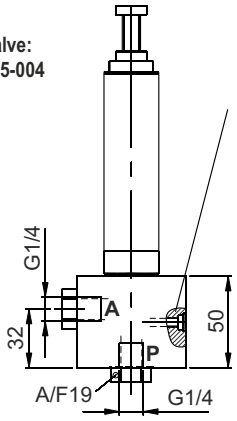
Ports **A**, **P** and **M** = G1/4

(2) Possible drop in outlet pressure Δp_A prior to control pressure adjusted outlet pressure p_A [bar]

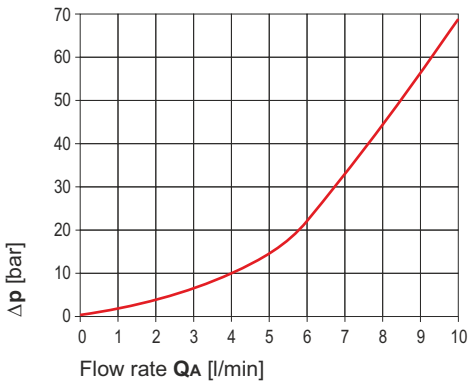


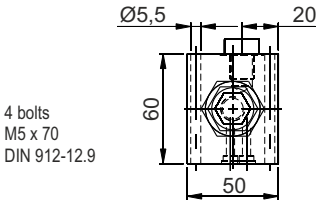


Order no. valve:
DRSVE-500-5-004



(3) Δp-Q nominal line (**P**→**A** und **A**→**P**) if $p_P < p_A$ opened valve, at oil viscosity 50 cSt





A pressure gauge can be connected to port **A** (see data sheet 600-3).