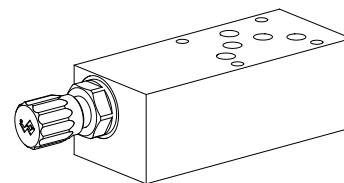


Pressure reducing valve
Flange- and sandwich construction

- Pilot operated
- $Q_{max} = 80 \text{ l/min}$
- $p_{max} = 400 \text{ bar}$
- $p_{N \text{ red max}} = 350 \text{ bar}$

NG10
 ISO 4401-05

DESCRIPTION

Flange or sandwich type pilot operated 3-way pressure reducing valve. Screw-in cartridge M22x1,5 in according with ISO 7789. The valve reduces the inlet pressure to a preset output pressure. The integrated pressure relief function prevents the reduced pressure from being exceeded as a result of external forces. Two types of setting and three pressure stages are available. A pressure gauge connection is provided in the reduced connection. A bypass non-return valve plate for the flange valve – for free flow from A to P – can be ordered separately. The flange valve body is painted, the sandwich plates are phosphatised.

FUNCTION

The spool, located in the pilot operated main section of the valve, is held in the reset position by a spring. The connection to the consumer is fully open. With the pilot stage which is designed as relief valve, reduced pressure is adjustable. It opens when the set value is reached. As a result, a pilot volume flows through the nozzle in the spool. The resultant pressure difference displaces the spool towards the spring. The volume flow is throttled in the valve inlet and the reduced pressure is controlled. If forces acting on the actuator allow the reduced pressure to exceed the set value, the spool is displaced until the valve inlet closes and the reduced pressure port is being connected to tank. The pressure increase is then limited.

APPLICATION

Pressure reducing valves are used for keeping the pressure constant in a consumer, irrespective of pressure fluctuations on the supply side. If several consumers are used, the reduced pressure can be set individually with the aid of one pressure control valve for each consumer. Generally speaking, pressure control valves are used for reducing a hydraulic pressure to a lower level. The integrated pressure relief function obviates the need for any additional pressure relief valve in the reduced pipe. Directly operated pressure reducing valves also keep the reduced pressure stable, even under very difficult operating conditions.

TYPE CODE

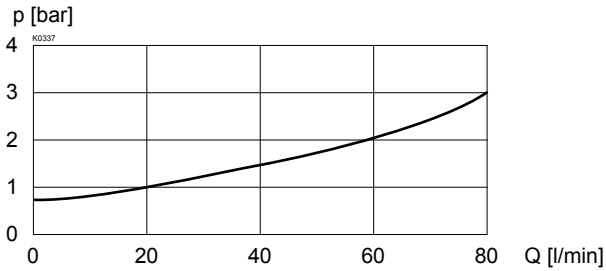
		M	V	<input type="checkbox"/>	<input type="checkbox"/>	A10	-	<input type="checkbox"/>	-	<input type="checkbox"/>	#	<input type="checkbox"/>
Pressure reducing valve												
Pilot operated												
Type of adjustment	Key <input type="checkbox"/> Control knob <input type="checkbox"/>											
Flange design	<input type="checkbox"/> F											
Sandwich design	<input type="checkbox"/> S											
International standard interface ISO, NG10												
Type list / function	<i>Flange design</i> P → A <input type="checkbox"/> P/A	<i>Sandwich design</i> in P <input type="checkbox"/> P in A <input type="checkbox"/> A in B <input type="checkbox"/> B										
Pressure range $p_{N \text{ red}}$	63 bar <input type="checkbox"/> 160 bar <input type="checkbox"/> 350 bar <input type="checkbox"/>											
Design-Index (Subject to change)												

GENERAL SPECIFICATIONS

Description	Pilot operated pressure control valve
Nominal size	NG10 according to ISO 4401-05
Construction	Flange or Sandwich
Mounting	4 mounting holes for zyl. screws M6 or double ended screws M6
Connection	Threaded connection plates Multi-flange subplates Longitudinal stacking system
Ambient temperature	-20...+50 °C
Mounting position	any
Fastening torque	$M_D = 9,5 \text{ Nm}$ (qual. 8.8) for fastening screws $M_D = 50 \text{ Nm}$ for screw-in cartridge
Weight	Depending on the type 2,89...3,09 kg

HYDRAULIC SPECIFICATIONS

Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 18/16/13 (Required filtration grade $\beta_{6...10} \geq 75$) refer to data sheet 1.0-50/2
Viscosity range	12 mm ² /s...320 mm ² /s
Fluid temperature	-20...+70 °C
Peak pressure	$p_{max} = 400 \text{ bar}$
Red. nominal pressure	$p_{N \text{ red}} = 63 \text{ bar}$, $p_{N \text{ red}} = 160 \text{ bar}$ $p_{N \text{ red}} = 350 \text{ bar}$
Opening pressure to non-return valve	$p_D = 0,8 \text{ bar}$
Volume flow	$Q = 0...80 \text{ l/min}$
For further hydraulic specifications see data sheet 2.2-530.	

CHARACTERISTICS oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$
 $\Delta p = f(Q)$ Pressure loss/flow characteristics over non-return valve

SCREW-IN CARTRIDGES INSTALLED

The following screw-in cartridges are used in either the flange body or the sandwich body:

Type	Designation	Data sheet no.
MV.PM22	Pressure reducing valve • pilot operated	2.2-530

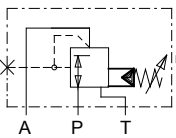
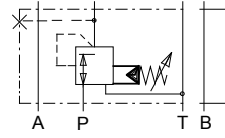

REMARK!

Detailed performance data and additional hydraulic specifications may be drawn from the data sheets of the corresponding installed cartridge.

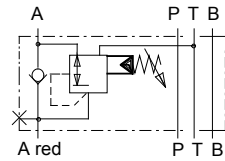

CAUTION!

 The performance data especially the „**pressure-flow-characteristic**„ on the data sheets of the screw-in cartridges refer to the screw-in cartridges only. The additional pressure drop of the flange body respectively sandwich body must be taken into consideration.

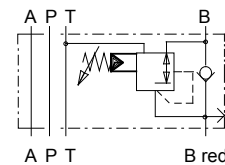
TYPES / DIMENSIONS

 Flange
 MV.FA10-P/A

 Sandwich
 MV.SA10-P


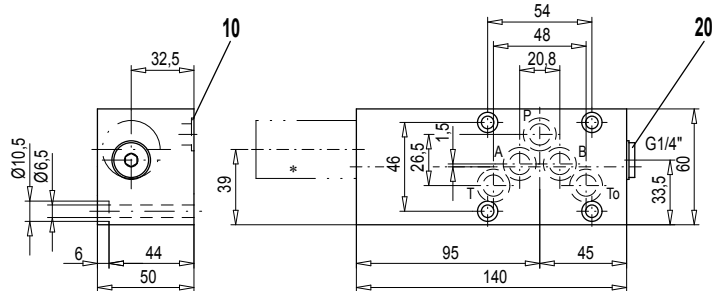
MV.SA10-A



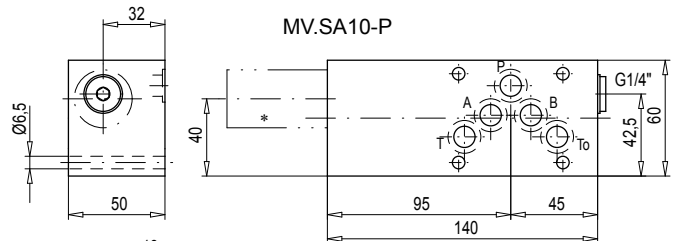
MV.SA10-B



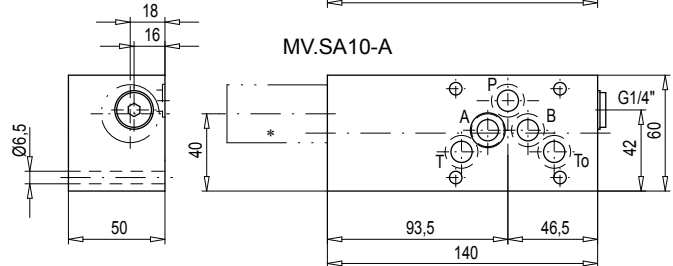
MV.FA10-P/A



MV.SA10-P



MV.SA10-A


PARTS LIST

Position	Article	Description
10	160.2140	O-ring ID 14,00x1,78
20	238.2406	Plug VSTI G1/4"-ED

For sandwich red.pressure in B cartridge is located on B-side.

* The total lengths depends on the cartridge type, see data sheet 2.2-530.

ACCESSORIES

 Threaded connection plate and multi-flange subplates Reg. 2.9
 Bypass non-return valve BDRVP4

Technical explanation see data sheet 1.0-100