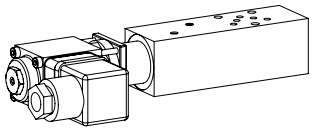
Proportional pressure reducing valve

Flange- or Sandwich construction

- pilot operated
- Q_{max} = 8 l/min
- p_{max} = 350 bar
- $p_{N\ red\ max}$ = 315 bar

NG3-Mini

Wandfluh standard



DESCRIPTION

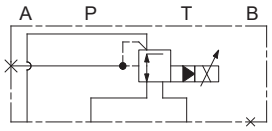
Proportional pressure reducing valve in flange or sandwich construction. By means of changing the electrical current on the proportional solenoid, the pressure in the controlled port changes proportionally to the solenoid current. Pressure increase in the controlled port to above the adjusted value, e.g. through an active consumer, is avoided by discharging excess oil to the tank. For the control, Wandfluh proportional amplifiers are available (see register 1.13).

APPLICATION

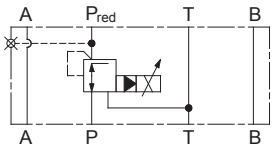
These valves are used in hydraulic systems, where the pressure in a consumer has to be maintained constant independent of pressure fluctuations on the supply side. The electrical remote control in conjunction with process controls allows economical solutions with repeatable processes. Miniature values are used where both, reduced dimensions and weight are important.

SYMBOL

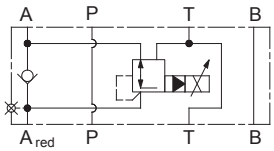
Flange execution
MVPFA03-P/A



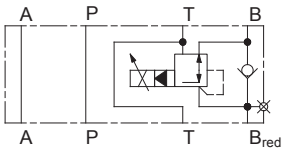
Sandwich execution
MVPSA03-P



Sandwich execution
MVPSA03-A



Sandwich execution
MVPSA03-B



GENERAL SPECIFICATIONS

Designation	Proportional pressure reducing valve
Construction	Pilot operated
Mounting	Flange- or Sandwich construction
Nominal size	NG3-Mini according to Wandfluh standard
Actuation	Proportional solenoid
Ambient temperature	-25…+70 °C (NBR) -20…+70 °C (FKM)
Weight	Without screw-in cartridge 0,14 kg (Flange construction) 0,19 kg (Sandwich construction P) 0,26 kg (Sandwich construction A, B)
MTTFd	150 years

ACTUATION

Actuation	Proportional solenoid, wet pin push type, pressure tight
Execution	PI29V (Data sheet 1.1-90)
Connection	Connector socket EN 175301 – 803

Note! Other specifications, see data sheet of the screw-in cartridges

TYPE CODE

M V P [ ] A03 - [ ] - [ ] - [ ] - [ ] # [ ]

Pressure reducing valve				
Pilot operated				
Proportional				
Flange construction		F		
Sandwich construction		S		
Mounting interface according to Wandfluh standard, NG3-Mini				
Type list / Function	flange construction from P → A	P	sandwich construction in P	P
			in A	A
			in B	B
Nominal pressure range p_N	20 bar	20		
	100 bar	100		
	200 bar	200		
	315 bar	315		
Nominal voltage U_N	12 VDC	G12		
	24 VDC	G24		
Sealing material	NBR			
	FKM (Viton)	D1		
Design index (subject to change)				

2.3-800

HYDRAULIC SPECIFICATIONS

Working pressure	p_{max} = 350 bar
Nominal pressure range	P_N = 20 bar, 100 bar, 200 bar, 315 bar
Volume flow range	Q = 0…8 l/min
Fluid	Mineral oil, other fluid on request
Viscosity range	12 mm²/s…320 mm²/s
Temperature range fluid	-25…+70 °C (NBR) -20…+70 °C (FKM)
Contamination efficiency	Class 18 / 16 / 13
Filtration	Required filtration grade ß 6…10 ≥ 75, see data sheet 1.0-50

PERFORMANCE SPECIFICATIONS

Note!

Detailed performance specifications as well as further hydraulic specifications can be found on the data sheet of the pressure reducing cartridge installed.

Attention!

The performance data especially the „pressure-flowcharacteristic„ on the data sheets of the screw-in catridges refere to the screw-in cartridges only. The additional pressure drop of the flange body respectivly sandwich body must be taken into consideration.

VALVES INSTALLED

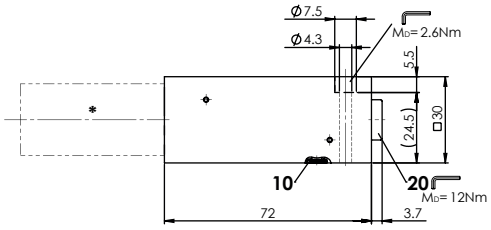
The following screw-in cartridges are used in either the flange body or the sandwich body.

Article	Description	Data sheet no.	
MVPPM18	Proportional pressure reducing cartridge pilot operated	2.3-610	8*

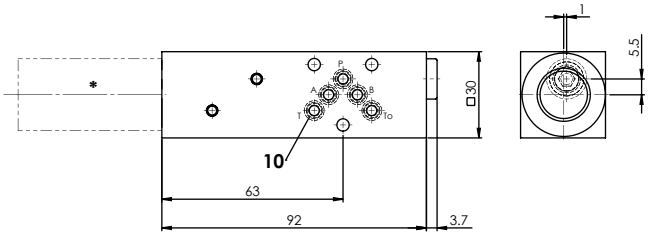
Attention! *Can be different from the value on the data sheet of the screw-in cartridge.

DIMENSIONS

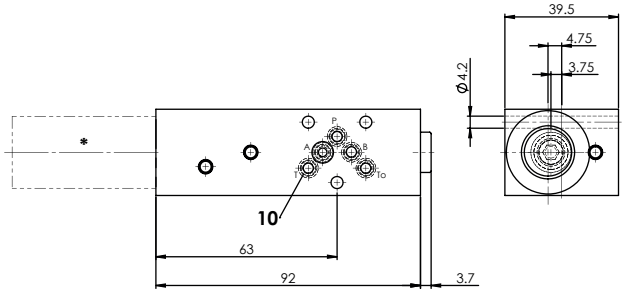
Flange execution
MVPFA03-P/A



Sandwich execution
MVPSA03-P

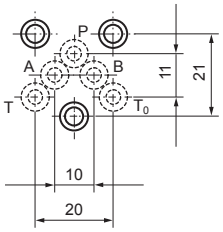


Sandwich execution
MVPSA03-A
MVPSA03-B (cartridge on B-side)



Note! * The exterior dimensions or the cartridges can be obtained from the corresponding data sheets.

HYDRAULIC CONNECTION



PARTS LIST

Position	Article	Description
10	160.2045	O-ring ID 4,50 x 1,50 (NBR)
	160.6045	O-ring ID 4,50 x 1,50 (FKM)
20	238.1405	Screw plug VSTI G1/8"-ED

ACCESSORIES

Proportional amplifier	Register 1.13
Threaded subplates	Data sheet 2.9-05
Multi-station subplates	Data sheet 2.9-45
Module type manifold blocks	Data sheet 2.9-85
Technical explanations	Data sheet 1.0-100
Filtration	Data sheet 1.0-50
Relative duty factor	Data sheet 1.1-430

STANDARDS

Mounting interface	Wandfluh standard
Protection class	EN 60 529
Contamination efficiency	ISO 4406

SURFACE TREATMENT

- The flange body is painted with a two component paint
- The sandwich bodies are zinc-nickel coated

SEALING MATERIAL

NBR or FKM (Viton) as standard, choice in the type code

INSTALLATION NOTES

Mounting type	Flange or sandwich mounting 3 fixing holes for socket head screws or studs M4
Mounting position	Any, preferably horizontal
Tightening torque	Fixing screws M_D = 2,6 Nm (quality 8.8, zinc coated)

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