

Pressure reducing valve Flange- and sandwich construction

Pilot operated

= 20 l/min • **Q**_{max}

= 400 bar • p_{max}

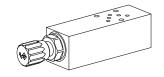
• p_{N red max} = 350 bar

DESCRIPTION

TYPE CODE

Flange or sandwich type pilot operated 3-way pressure reducing valve NG4-Mini in accordance with Wandfluh standard. 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 other parts are phosphatised.

NG4-Mini



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 if 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. Mini-4 valves are used where both, reduced dimensions and weight are important.

			M V A04 #
Pressure reducing valve			
Pilot operated			
Type of adjustment	Kay Sontrol knob		
Flange design Sandwich design	F		
Mounting interface acc. to	Wandfluh standard, NG4	-Mini	
Type list / function	Flange design P → A P/A	Sandwich design in P P in A A in B B	
Pressure range p _{N red}	63 bar 160 bar 350 bar	63 160 350	

GENERAL SPECIFICATIONS

Design-Index (Subject to change)

Description Pilot operated pressure control valve Nominal size NG4-Mini according to Wandfluh standard

Construction Flange- or sandwich Mounting

3 mounting holes for zyl. screws M5 or

double ended screws M5

Connection Threaded connection plates Multi-flange subplates

Longitudinal stacking system

-20...+50°C Ambient temperature

Mounting position any

 $M_{\rm D}^{-}$ = 5,5 Nm (qual. 8.8)for fastening screws Fastening torque

 $M_D = 50 \text{ Nm for screw-in cartridge}$

Weight Depending on the type 1,4...1,53 kg

HYDRAULIC SPECIFICATIONS

Fluid Mineral oil, other fluid on request Contamination efficiency ISO 4406:1999, class 18/16/13 Required filtration grade ß 6...10≥75)

refer to data sheet 1.0-50/2

Viscosity range 12 mm²/s...320 mm²/s

Fluid temperature -20...+70°C $p_{max} = 400 \text{ bar}$ Peak pressure

 $p_{N \text{ red}} = 63 \text{ bar}, p_{N \text{ red}} = 160 \text{ bar}$ Nominal pressure ranges

 $p_{N \text{ red}} = 350 \text{ bar}$

Opening pressure

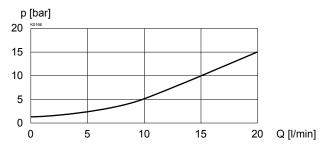
to non-return valve = 2,2 bar $p_{o} = 2.2 \text{ bar}$ Q = 0...20 l/minVolume flow

For futher hydraulic specifications see data sheet 2.2-530



CHARACTERISTICS oil viscosity υ = 30 mm²/s

Δp = 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.
M V. PM22	Pressure reducing valve	
	 pilot operated 	2.2-530



REMARK!

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

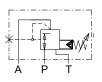


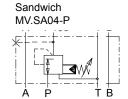
CAUTION!

The performace data especially the "pressure-flow-characteristic," 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.

TYPES / DIMENSIONS

Flange MV.FA04-P/A





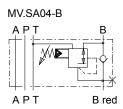
MV.SA04-A

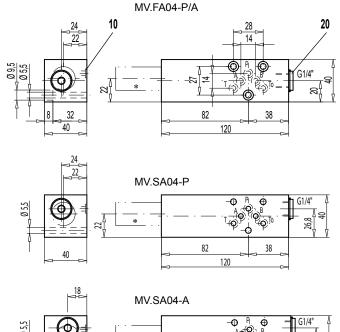
A

PTB

A red

PTB





PARTS LIST

Position	Article	Description
10	160.2052	O-ring ID 5,28x1,78
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