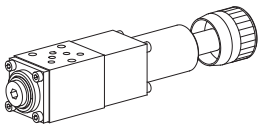
Pressure reducing valve
Flange- and sandwich construction
- Q_{max} = 8 l/min
- p_{max} = 315 bar
- $p_{N\ red\ max}$ = 200 bar

NG3-Mini®



DESCRIPTION
Flange or sandwich type directly operated 3-way pressure reducing valve NG3-Mini in accordance with Wandfluh standard. 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 four pressure stages are available. A pressure gauge connection is provided in the reduced connection. The flange valve body is painted, the other parts are zinc-nickel coated.

FUNCTION
The spool is held in the home position by the spring. The connection to the consumer is fully open. The reduced pressure can be adjusted at the adjustment spindle, irrespective of the inlet pressure. If the reduced pressure increases, it displaces the valve towards the spring. The volume flow at the valve inlet is then throttled, controlling the reduced pressure. If forces acting on the consumer allow the reduced pressure to be increased above the set value, the spool is displaced until the valve inlet closes and the tank port opens. The pressure increase is then limited to a low value, controlled by the spring.

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-3 valves are used where both, reduced dimensions and weight are important.

TYPE CODE

M D ☐ ☐ A03 - ☐ - ☐ # ☐

Pressure reducing valve		
Direct operated		
Type of adjustment	Key	S
	Control knob	D
Flange construction		F
Sandwich construction		S
Mounting interface acc. to Wandfluh standard, NG3-Mini		
Type list / function	*Flange design* P → A	P/A
	Sandwich design in P	P
Pressure range $p_{N\ red}$	32 bar	32
	80 bar	80
	200 bar	200
Design-Index (Subject to change)		

GENERAL SPECIFICATIONS

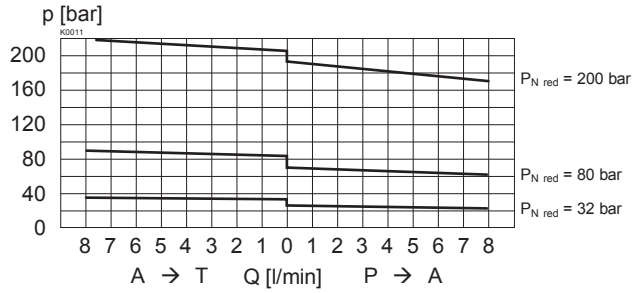
Description	Direct operated pressure reducing valve
Nominal size	NG3-Mini according to Wandfluh standard
Constructions	Flange- or sandwich
Mounting	3 mounting holes for zyl. screws M4 or double ended screws M4
Connections	Threaded connection plates Multi-flange plates Longidutinal stacking system
Ambient temperature	-20…+50 °C
Mounting position	any
Fastening torque	M_D = 2,8 Nm (quality 8.8)
Weight	m = 0,54 kg (Flange, Sandwich P)

HYDRAULIC SPECIFICATIONS

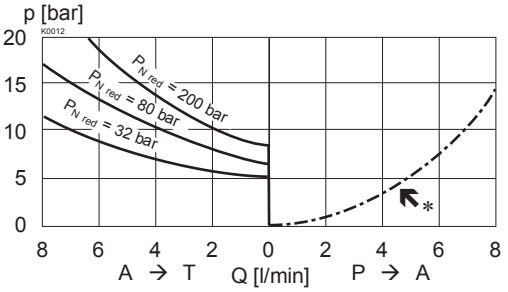
Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 1816/13 (Required filtration grade ß 6…10≥75) refer to data sheet 1.0-50/2
Viscosity range	12 mm²/s…320 mm²/s
Fluid temperature	-20…+70 °C
Peak pressure	p_{max} = 315 bar
Tank load in connection T	$p_{T\ max}$ = 50 bar
Nominal pressure	$p_{N\ red}$ = 32 bar, 80 bar and 200 bar
Volume flow	Q = 0…8 l/min

CHARACTERISTICS oil viscosity υ = 30 mm²/s

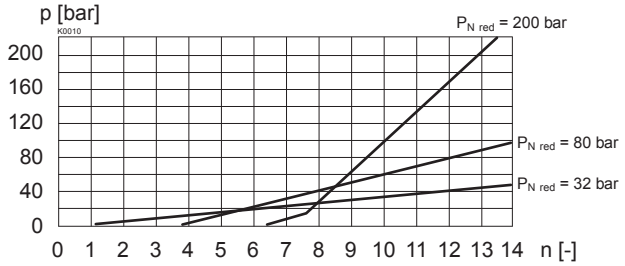
p_{red} = f (Q) Pressure volume flow characteristics
(Maximal adjustable pressure)



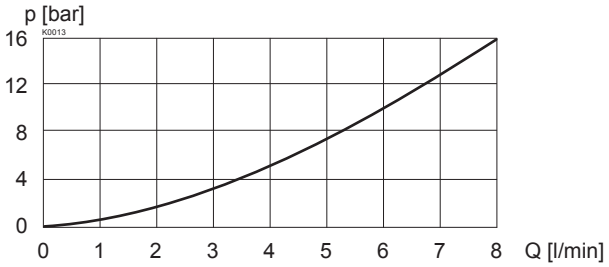
p_{red} = f (Q) Pressure volume flow characteristics
(Minimal adjustable pressure)
∗ Consumption resistance dependent on system



p_{red} = f (n) Pressure adjustment characteristics
[at Q = 0 l/min (static)]

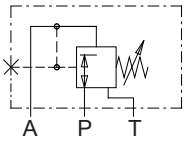


Δp = f (Q) Pressure loss/flow characteristics
over non-return valve

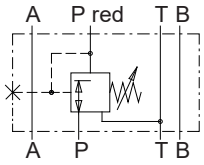


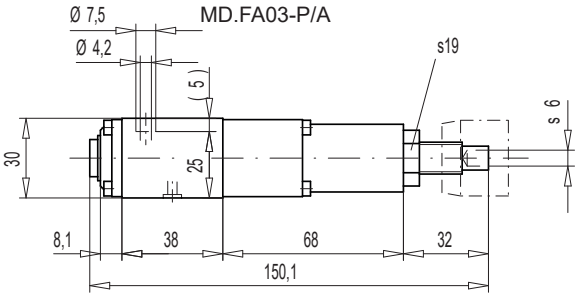
TYPES / DIMENSIONS

Flange construction
MD.FA03-P/A

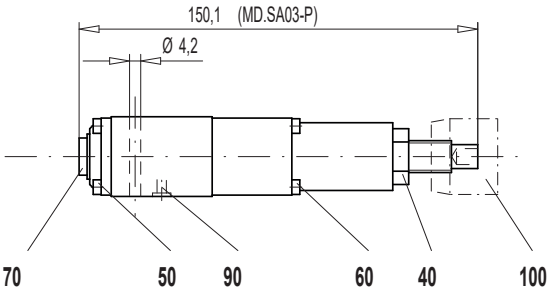


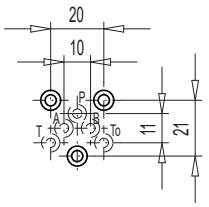
Sandwich construction
MD.SA03-P





MD.SA03-P





Spindle not secured against unscrewing

PARTS LIST

Position	Article	Description
40	153.1605	Hexagonal nut 0,5D M12 x 1
50	246.0109	Cylinder screw M3 x 8 DIN912
55	246.0131	Cylinder screw M3 x 30 DIN912
60	246.0136	Cylinder screw M3 x 35 DIN912
70	238.1405	Plug screw VSTI G1/8"-ED
90	160.2045	O-ring ID 4,5 x 1,5
100	114.1226	Turning knob

ACCESSORIES

Threaded connection plates and multi flange plates Register 2.9

Technical explanation see data sheet 1.0-100