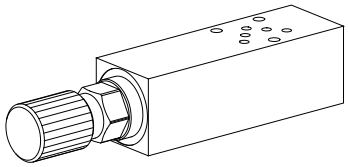
**Pressure reducing valve**
**Flange- and sandwich construction**
- **Pilot operated**
- **$Q_{max}$ = 8 l/min**
- **$p_{max}$ = 400 bar**
- **$p_{N\ red\ max}$ = 350 bar**

# NG3-Mini®



## DESCRIPTION

Flange or sandwich type pilot operated 3-way pressure reducing valve NG3-Mini in accordance with Wandfluh standard. Screw-in cartridge M18x1,5 in according with Wandfluh-Norm. 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 con-nection 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 sepa-rately. The flange body and the sandwich plates are in anodised aluminium.

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

## CONTENT



## TYPE CODE

M V ☐ ☐ A03 - ☐ - ☐ # ☐

| | | |
|---|---|---|
| Pressure reducing valve | | |
| Pilot operated | | |
| Setting versions: | Screw | S |
| | Knob | D |
| | Locking | K |
| Flange construction | | F |
| Sandwich construction | | S |
| Interface NG3-Mini | | |
| Sandwich construction | P | P |
| Pressure control in: | A | A |
| | B | B |
| Flange construction | | |
| Pressure control in: | P → A | P/A |
| Standard nominal pressure range: | $p_{N\ red}$ = 63 bar | 63 |
| | $p_{N\ red}$ = 160 bar | 160 |
| | $p_{N\ red}$ = 350 bar | 350 |
| Design-Index (Subject to change) | | |

## GENERAL SPECIFICATIONS

| | |
|---|---|
| Description | Pilot operated pressure control valve |
| Nominal size | NG3-Mini according to Wandfluh standard |
| Construction | Flange- or sandwich |
| Mounting | 3 mounting holes for cyl. screws M4 or double ended screws M4 |
| Connection | Threaded connection plates<br>Multi-flange subplates<br>Longitudinal stacking system |
| Ambient temperature | -20…+50°C |
| Mounting position | any |
| Fastening torque | $M_D$ = 2,8 Nm (Qual. 8.8) for fastening screws<br>$M_D$ = 30 Nm for screw-in cartridge |
| Weight | Depending on the type 0,26…0,50 kg |

## HYDRAULIC SPECIFICATIONS

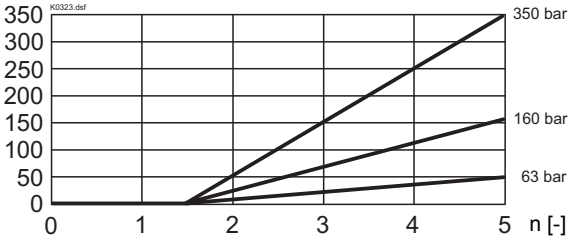
| | |
|---|---|
| Fluid | Mineral oil, other fluid on request |
| Contamination efficiency | ISO 4406:1999, class 18/16/13 (required filtration grade ß 6..10≥75) refer to data sheet 1.0-50/2 |
| Viscosity range | 12 mm²/s…320 mm²/s |
| Fluid temperature | -20...+70°C |
| Peak pressure | $p_{max}$ = 400 bar |
| Nominal pressure ranges | $p_{N\ red}$ = 63 bar, $p_{N\ red}$ = 160 bar<br>$p_{N\ red}$ = 350 bar |
| Opening pressure to non-return valve | $p_o$ = 0,8 bar |
| Volume flow | Q = 0…8 l/min |

For futher hydraulic specifications see data sheet 2.2-510

## CHARACTERISTICS oil viscosity υ = 30 mm²/s

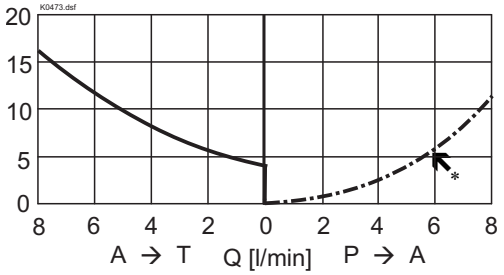
$p_{red}$ = f (n) Pressure adjustment characteristics

$p_{red}$ [bar] Q = 0 l/min (static)



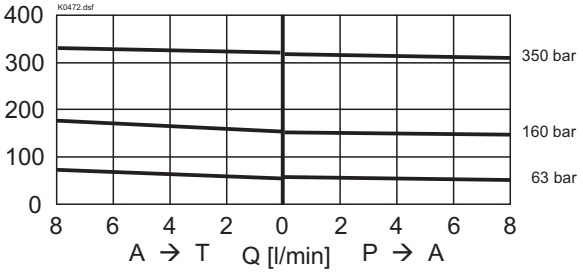

$p_{min}$ = f (Q) Minimal pressure loss/flow characteristics

$p_{red\ min}$ [bar] * Consumption resistance dependent on system



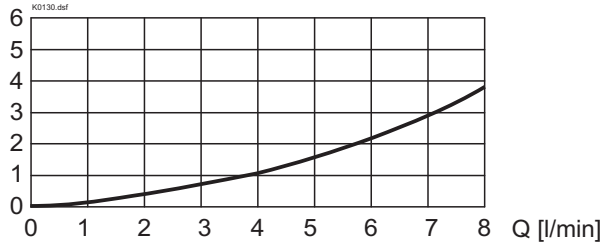

$p_{red}$ = f (Q) Pressure volume flow characteristics

$p_{red}$ [bar]



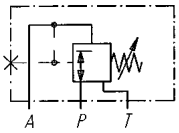

Δp = f (Q) Pressure loss/flow characteristics over RV

Δp [bar]



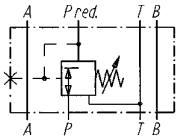

## TYPES/DIMENSIONS

Flange construction
MV.FA03-P/A

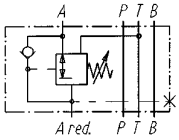



Sandwich construction

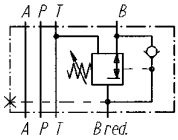
MV.SA03-P



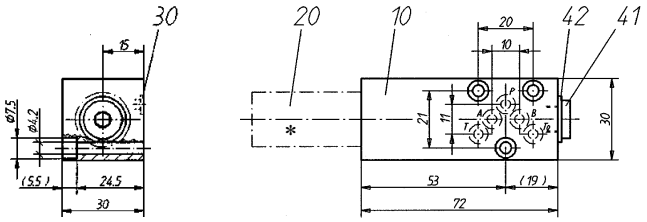

MV.SA03-A



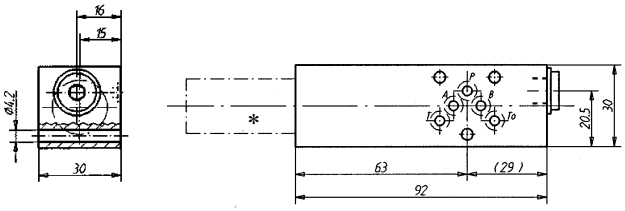

MV.SA03-B



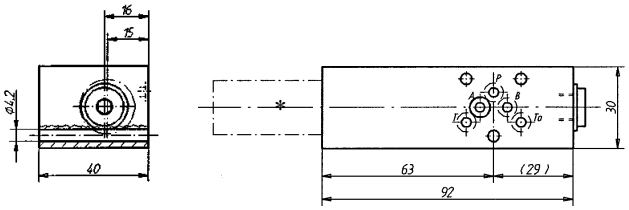

Flange construction MV.FA03-P/A




Sandwich construction MV.SA03-P




Sandwich construction MV.SA03-A




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

* The total lengths depends on the cartridge type, see data sheet 2.2-510

## PARTS LIST

| Position | Article | Description |
|---|---|---|
| 10 | 128.4203<br>128.4600<br>128.4601<br>128.4602 | Flange body<br>Sandwich plate P<br>Sandwich plate A<br>Sandwich plate B |
| 20 | 603.1. . . | Pressure reducting cartridge M18x1,5 with data sheet 2.2-510 |
| 30 | 160.2045 | O-ring ID 4,50x1,5 |
| 41 | 238.1202 | Plug DIN 908 G1/8" |
| 42 | 49.2102 | Seal ring ID 10,7x17x1,5 |

Technical explanation see data sheet 1.0-100E

## ACCESSORIES

Threaded connection plate and multi-flange subplates Reg. 2.9

Bypass non-return valve RNNSA03-A/P