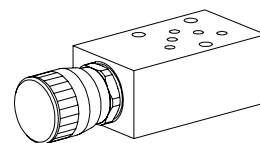


Restrictor valve with reverse free flow check
Sandwich construction

- $Q_{max} = 20 \text{ l/min}$
- $Q_N = 12 \text{ l/min}$
- $p_{max} = 315 \text{ bar}$

NG4-Mini[®]

DESCRIPTION

Restrictor valve sandwich design NG4-Mini with connecting diagram pursuant acc. to Wandfluh standard. The non-return throttle valve is available in two different variants, namely the standard and the precision throttle (FD). The rotary control is made from aluminium, all other parts, have been phosphated.

FUNCTION

Using the precision thread adjusting spindle, the restriction of the volume flow can be continuously adjusted. With the spindle fully screwed home, the volume flow is zero, and a metallic edge makes a leak-tight closure. In the opposite direction, the spring-loaded tapered piston opens and volume flow with a load pressure drop is enabled. The throttle effect is produced by an annular gap which can be varied in size, or by means of a triangular edge. Because of the nature of the design, there is only a small amount of leakage.

APPLICATION

Sandwich type, one-way restrictors are used where volume flows have to be controlled in one flow direction according to the load. Depending on the application, a distinction is made between restricting the forward flow or the return flow. These sandwich valves are particularly suitable for machine tools and also all kinds of handling operations. Mini-4 one-way restrictors are used where hydraulic systems have to be both light and compact.

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TYPE CODE

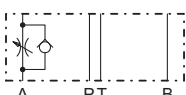
| | | | | | | | | |
|---|-----------------------------|-----|-----------------------------|---|---|--------------------------|---|--------------------------|
| | B | URD | <input type="checkbox"/> | 4 | - | <input type="checkbox"/> | # | <input type="checkbox"/> |
| Mounting interface | | | | | | | | |
| Description for restrictor valve | | | | | | | | |
| Meter out in: | | | | | | | | |
| A | <input type="checkbox"/> A | B | <input type="checkbox"/> B | | | | | |
| A and B | no remark | | | | | | | |
| Meter-in in: | | | | | | | | |
| A | <input type="checkbox"/> VA | B | <input type="checkbox"/> VB | | | | | |
| A and B | <input type="checkbox"/> V | | | | | | | |
| Nominal size 4-Mini | | | | | | | | |
| Additional marking for precision throttle | <input type="checkbox"/> FD | | | | | | | |
| Design-Index (Subject to change) | | | | | | | | |

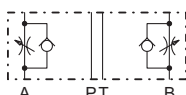
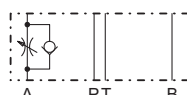
GENERAL SPECIFICATIONS

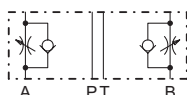
| | |
|---------------------|---|
| Denomination | Restrictor valve with reverse free flow check |
| Nominal size | NG4-Mini acc. to Wandfluh standard |
| Construction | Sandwich |
| Mounting | 3 mounting holes for socket head cap screws M5 or stud screws M5 |
| Connections | Threaded connection plates, Multi-flange subplates, Longitudinal stacking system |
| Ambient temperature | -20...+50° C |
| Mounting position | any |
| Fastening torque | $M_D = 5,5 \text{ Nm}$ (Qual. 8.8) for fastening screws |
| Weight | Depending on the type 0,8...0,9 kg |

HYDRAULIC SPECIFICATIONS

| | |
|---|--|
| Fluid | Mineraoil, other fluid on request |
| Contamination efficiency | ISO 4406:1999, class 20/18/14...21/19/15 (Required filtration grade $\beta_{10...25} \geq 75$) 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 | $p_{max} = 315 \text{ bar}$ |
| Pressure required to open the check valve | $p_o = 2,2 \text{ bar}$ |
| Nominal volume flow rates | $Q_N = 12 \text{ l/min}$ Q_N at 10 bar valve pressure loss |
| Max. volume flow | $Q_{max} = 20 \text{ l/min}$ |
| Leakage volume flow | Almost leak free with closed restrictor |

TYPE LIST / FUNCTION
Meter-out:

BURDA4

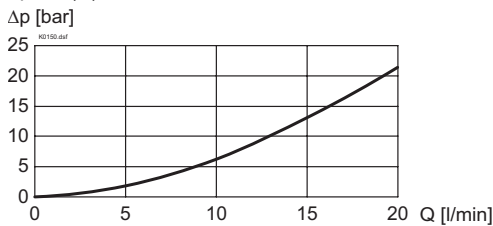
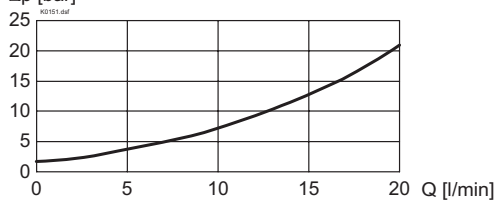
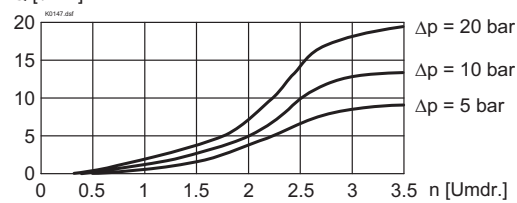
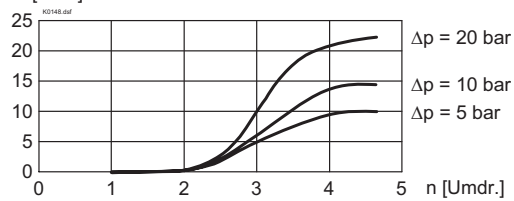
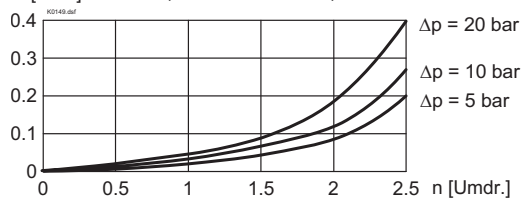
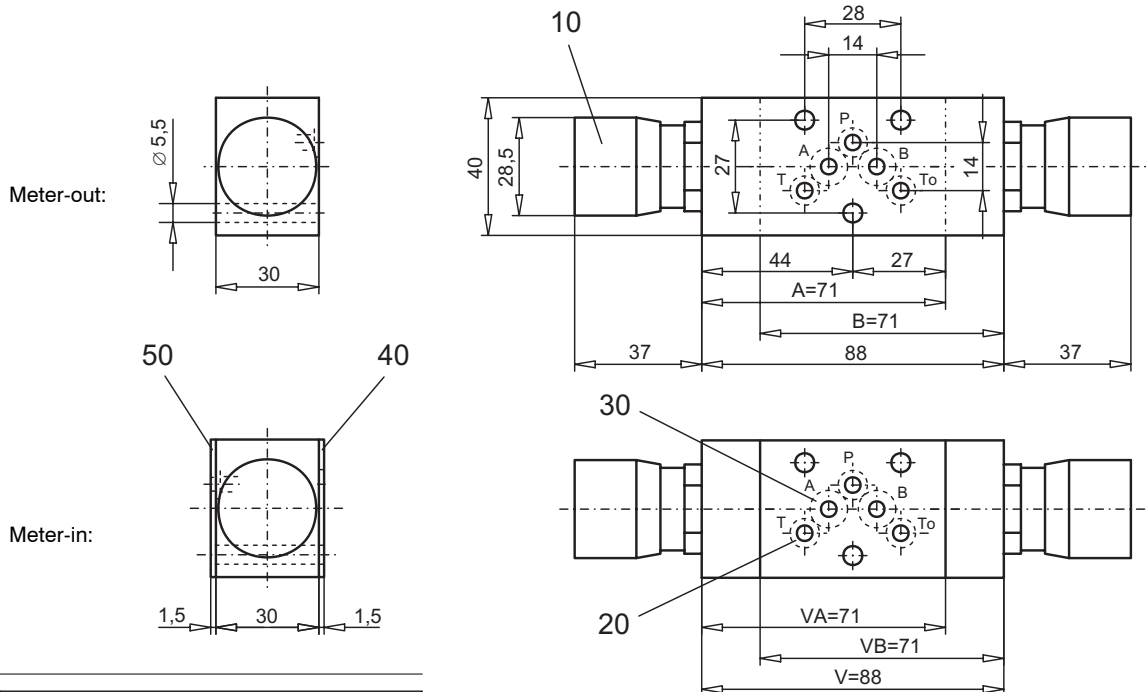
BURDB4

BURD4
Meter-in:

BURDVA4

BURDVB4

BURDV4

Valves for restricting the meter-in flow are achieved by turning the one-way restrictors (horizontal axis):

- BURDA4 get BURDVB4
- BURDB4 get BURDVA4
- BURD4 get BURDV4

Valves for restricting the meter-in flow are supplied with a sealing plate and an intermediate plate.

CHARACTERISTICS Oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$
 $\Delta p = f(Q)$ Pressure loss/flow characteristics

 $\Delta p = f(Q)$ Pressure loss/flow characteristics over non-return valve

 $Q = f(n)$ Volume flow adjustment characteristics (Standard)

 $Q = f(n)$ Volume flow adjustment characteristics (Precision throttle)

 $Q = f(n)$ Volume flow adjustment characteristics (Precision throttle)

DIMENSIONS

PARTS LISTS

| Position | Article | Description |
|----------|----------|---|
| 10 | 114.1204 | Turning knob |
| 20 | 160.2052 | O-ring ID 5,28x1,78 |
| 30 | 160.2067 | O-ring ID 6,75x1,78 in line with check valve |
| 40 | 173.1650 | Sealing plate BDB4 |
| 50 | 173.1700 | Intermediate plate BZB4 |

Technical explanation see data sheet 1.0-100E