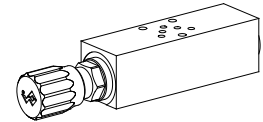


Restrictor valve with reverse free flow check
Sandwich construction

- $Q_{max} = 10 \text{ l/min}$
- $Q_{Nmax} = 8 \text{ l/min}$
- $p_{max} = 315 \text{ bar}$

NG3-Mini®

DESCRIPTION

Sandwich type one-way restrictor. Fitted with one way restrictor cartridge with incorporated free flow check. Screw-in cartridge M18x1,5 in accordance with ISO 7789 (see data sheet no. 2.4-610). The sandwich plate is in clear anodised aluminium, for weight saving and corrosion protection.

FUNCTION

Free flow in one direction via the spring-loaded check valve integrated in the screw-in cartridge. The opening pressure of the check valve $p_o = 1 \text{ bar}$. In the other direction, with the check valve shut, the volume flow can be infinitely adjusted via the restrictor section as a function of the pressure.

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-3 oneway restrictors are used where hydraulic systems have to be both light and compact.

TYPE CODE

				DR	<input type="checkbox"/>	S	A03	-	<input type="checkbox"/>	-	<input type="checkbox"/>	#	<input type="checkbox"/>
Throttle check valve													
Type of adjustment	Screw	<input type="checkbox"/>	Knob	<input type="checkbox"/>									
Sandwich construction													
Mounting interface acc. to Wandfluh standard, NG3-Mini													
Type list / function													
Meter-out	in A	<input type="checkbox"/>	in B	<input type="checkbox"/>									
	in A and B	<input type="checkbox"/>	in B	<input type="checkbox"/>									
Meter-in	in A	<input type="checkbox"/>	in B	<input type="checkbox"/>									
	in A and B	<input type="checkbox"/>	in B	<input type="checkbox"/>									
Nominal volume flow rates Q_N	3,2 l/min	<input type="checkbox"/>	8 l/min	<input type="checkbox"/>									
Design-Index (Subject to change)													

GENERAL SPECIFICATIONS

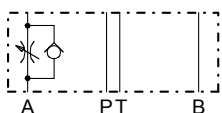
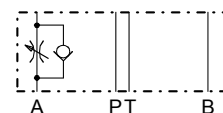
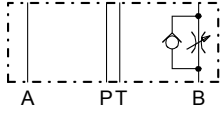
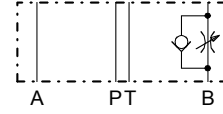


Denomination	Restrictor valve with reverse free flow check
Nominal size	NG3-Mini acc. to Wandfluh standard
Construction	Sandwich
Mounting	3 mounting holes for socket head cap screws M4 or stud screws M4
Connections	Threaded connection plates, Multi-flange subplates, Longitudinal stacking system
Ambient temperature	-20...+50 °C
Mounting position	any
Fastening torque	$M_D = 2,8 \text{ Nm}$ (Qual. 8.8) for fastening screws $M_D = 30 \text{ Nm}$ for screw-in cartridge
Weight	Depending on the type 0,32...0,42 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	$p_o = 1 \text{ bar}$
Nominal volume flow rates	$Q_N = 8 \text{ l/min}$, $Q_N = 3,2 \text{ l/min}$ Q_N at 10 bar valve pressure loss
Max. volume flow	$Q_{max} = 10 \text{ l/min}$
Leakage volume flow	Almost leak free with closed restrictor

For further hydraulic specifications refer to data sheet 2.4-610.

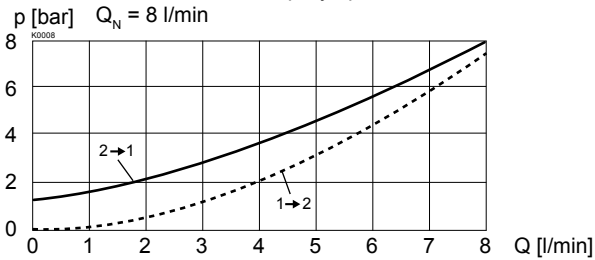
TYPE LIST / FUNCTION

Meter-out:	Meter-in:	
		DR.SA03-A
		DR.SA03-B
		DR.SA03-AB

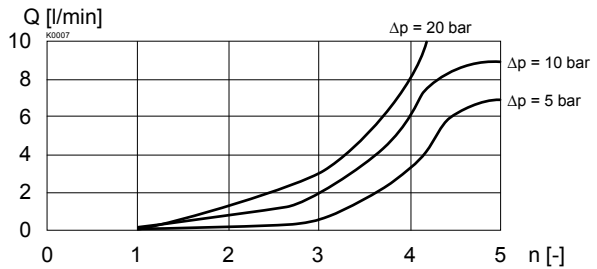
Valves for restricting the meter-in flow are achieved by turning the one-way restrictors (horizontal axis):
 A get BV
 B get AV
 AB get ABV
 Valves for restricting the meter-in flow are supplied with a sealing plate and an intermediate plate.

CHARACTERISTICS Oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$

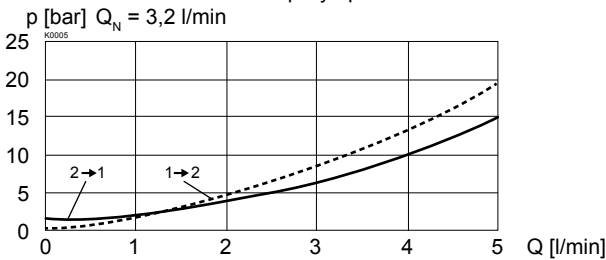
$\Delta p = f(Q)$ Pressure loss / volume flow diagram
 — 2 → 1 over check valve by closed restrictor
 - - - 1 → 2 restrictor complity open



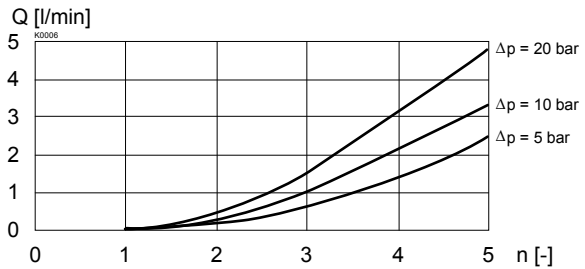
$Q = f(n)$ Volume flow - adjustment characteristics
 $Q_N = 8 \text{ l/min}$



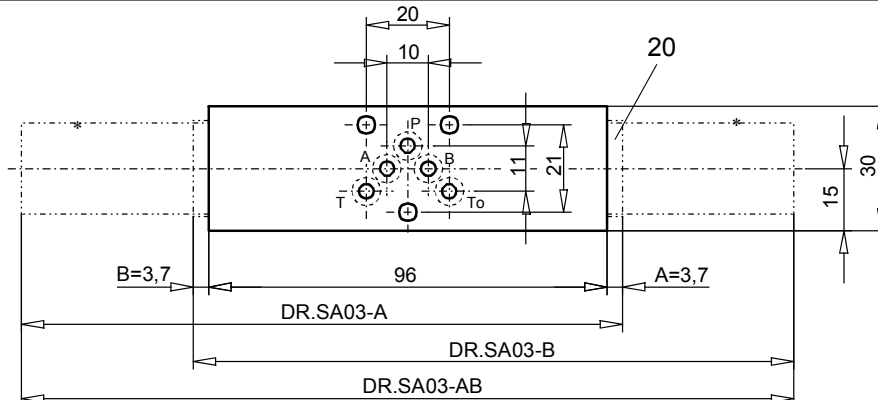
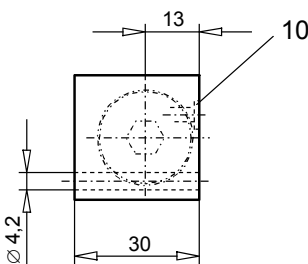
$\Delta p = f(Q)$ Pressure loss / volume flow diagram
 — 2 → 1 over check valve by closed restrictor
 - - - 1 → 2 restrictor complity open



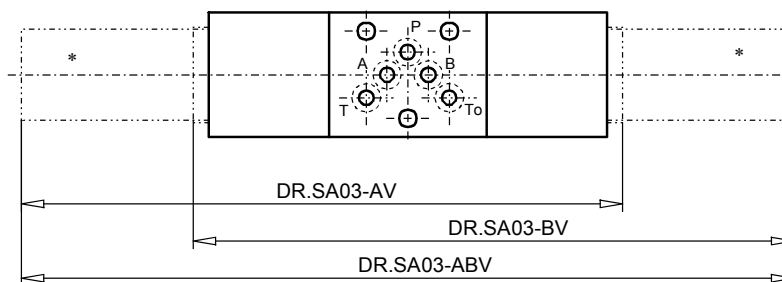
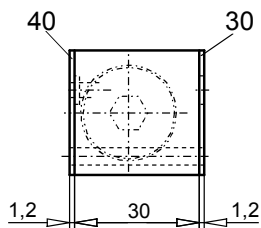
$Q = f(n)$ Volume flow - adjustment characteristics
 $Q_N = 3,2 \text{ l/min}$


DIMENSIONS

Meter-out:



Meter-in:



* The total lengths depends on the cartridge type,
 see data sheet no. 2.4-610.

PARTS LISTS

Position	Article	Description
10	160.2045	O-ring ID 4,5x1,5
20	238.4401	Plug VSTI M18x1,5-OR
30	173.0650	Sealing plate PDSA03
40	173.0700	Intermediate plate PZSA03

SCREW-IN CARTRIDGES INSTALLED

The following screw-in cartridges are used in the sandwich body:

Type	Designation	Data sheet no.
DR.PM18	Restrictor valve with reverse free flow check	2.4-610

Technical explanation see data sheet 1.0-100