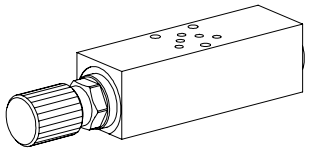
Restrictor valve with reverse free flow check
Sandwich construction

- Q_{max} = 10 l/min
- $Q_{N\,max}$ = 8 l/min
- p_{max} = 315 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. Type of adjustment available: „S" = screw adjustment, „D" = knob adjustment, „K" = locking knob adjustment (see data sheet no. 2.4-610). To save weight and to protect against corrosion, both sandwich body and knob of cartridge are in anodised aluminium. The cartridge body is galvanized plated steel to prevent rusting.

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 $p_{ö}$ = 1 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 one-way restrictors are used where hydraulic systems have to be both light and compact.

CONTENTS

TYPE CODE

DR ☐ S A03 - ☐ - ☐ # ☐

Restrictor valve with reverse free flow check					
Setting versions: Screw	S				
Knob	D				
Lock	K				
Sandwich construction					
Mounting interface NG3-Mini					
Meter-out:	A and B	AB			
	A	A	B	B	
Meter-in:	A and B	ABV			
	A	AV	B	BV	
Nominal volume flow rates: (at 10 bar valve pressure loss)	Q_N = 3,2 l/min	3,2			
	Q_N = 8 l/min	8			
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 Nm (Qual. 8.8) for fastening screws M_D = 30 Nm for screw-in cartridge
Weight	Depending on the type 0,32…0,42 kg

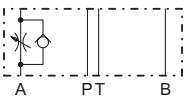
HYDRAULIC SPECIFICATIONS

Fluid	Mineraoil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 20/18/14...21/19/15 (Required filtration grade ß 10…25 ≥ 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
Pressure required to open the check valve	$p_{ö}$ = 1 bar
Nominal volume flow rates	Q_N = 8 l/min, Q_N = 3,2 l/min Q_N at 10 bar valve pressure loss
Max. volume flow	Q_{max} = 10 l/min
Leakage volume flow	Almost leak free with closed restrictor

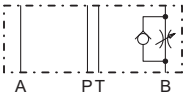
For further hydraulic specifications refer to data sheet 2.4-610.

TYPE LIST / FUNCTION

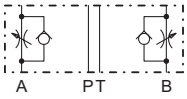
Meter-out:



DR.SA03-A

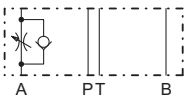


DR.SA03-B

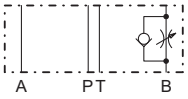


DR.SA03-AB

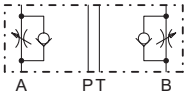
Meter-in:



DR.SA03-AV



DR.SA03-BV

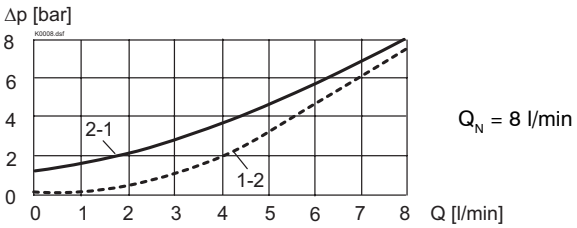


DR.SA03-ABV

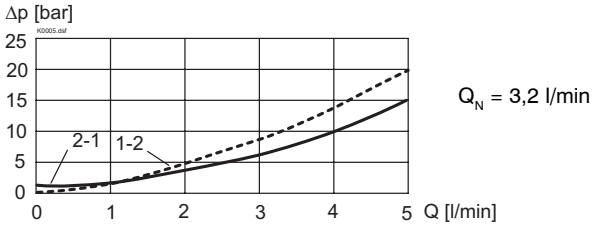
Valves for restricting the meter-in flow are achieved by turning the one-way restrictors (horizontal axis):
A get BV
B get AV
AB get ABV
Valves for restricting the meter-in flow are supplied with a sealing plate and an intermediate plate.

CHARACTERISTICS Oil viscosity υ = 30 mm²/s

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

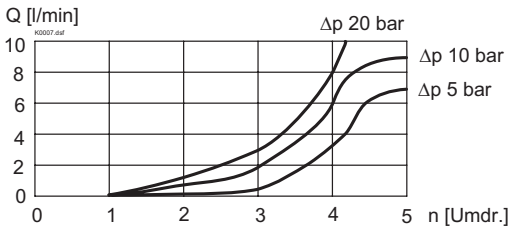


Q_N = 8 l/min

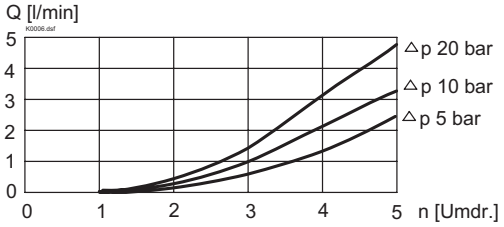


Q_N = 3,2 l/min

Q = f (n) Volume flow - adjustment characteristics

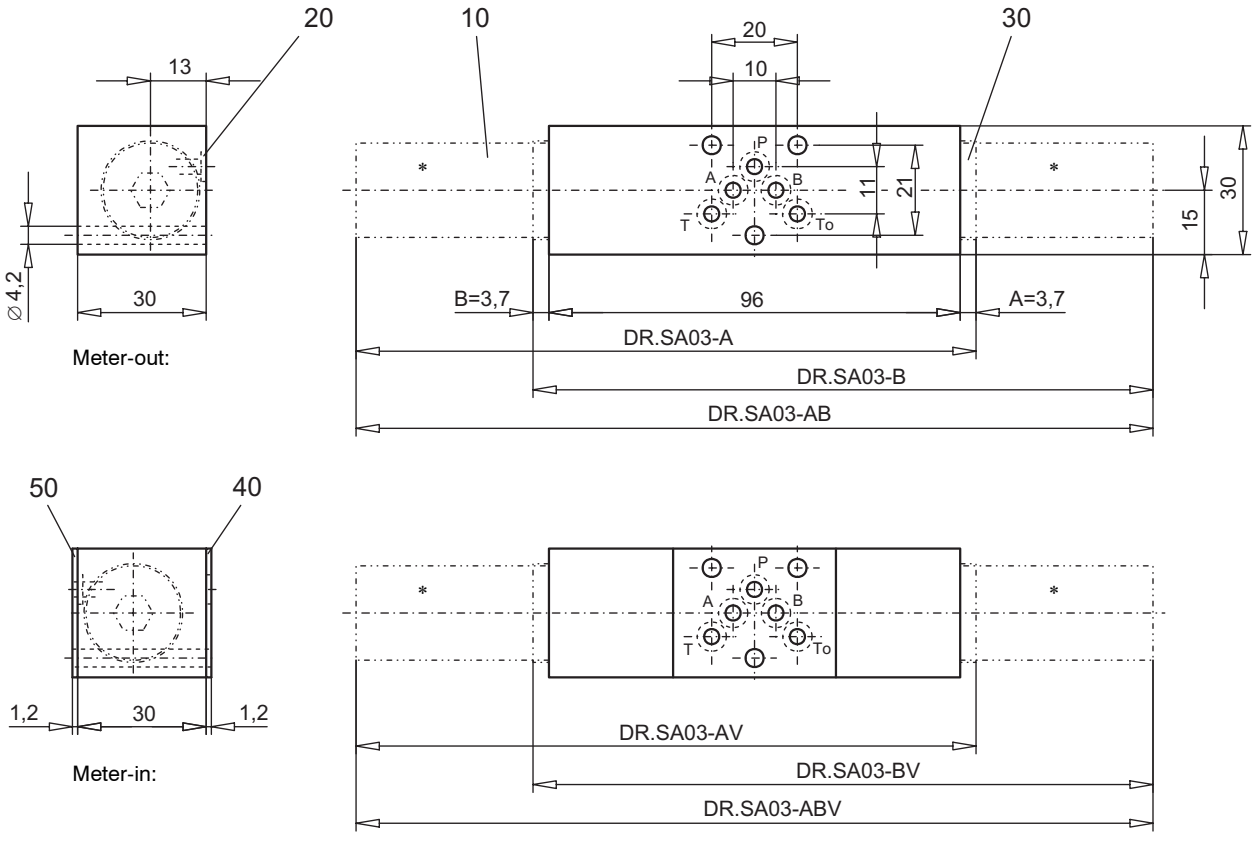


Q_N = 8 l/min



Q_N = 3,2 l/min

DIMENSIONS



PARTS LISTS

Position	Article	Description
10	627.1 …	Restrictor valve cartridge M18x1,5 according to data sheet 2.4-610
20	160.2045	O-ring ID 4,5x1,5
30	238.4401	Plug VSTI M18x1,5-OR
40	173.0650	Sealing plate PDSA03
50	173.0700	Intermediate plate PZSA03

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

Technical explanation see data sheet 1.0-100E