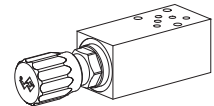


2-way flow control valve
Fixed orifice, adjustable pressure compensator
Sandwich construction

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

NG3-Mini[®]

DESCRIPTION

Sandwich type 2-way flow control valve. Fitted with 2-way flow control cartridge M18x1,5 in accordance with ISO 7789. Type of adjustment available: „S“ = screw adjustment, „D“ = knob adjustment, (see data sheet no. 2.5-510). For the sandwich plates in A, B and AB, a bypass non-return valve for reversed free flow is installed.

FUNCTION

The 2-way flow control valve is designed to keep the speed of a consumer constant irrespective of the load. The fixed measuring orifice which is integrated into the pressure compensating piston determines the volume flow. If there is a pressure change, the pressure compensating spool is displaced and changes the outlet diameter in order to keep the pressure difference across the measuring orifice constant. By varying the spring bias acting on the compensator spool, the flow rate can be changed. Minimum adjustable flow within 40...70% of Q_N . Flow regulation is effective above Δp 10 bar approx.

APPLICATION

Sandwich type flow control valves are used where the supply volume flow has to be kept constant even when the load fluctuates. 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 types of handling operations. The Mini-3 flow control valves are used where hydraulic systems have to be both light and compact.

TYPE CODE

Flow control valve, 2-way	QA	<input type="checkbox"/>	S	A03	-	<input type="checkbox"/>	-	<input type="checkbox"/>	#	<input type="checkbox"/>
Type of adjustment Screw		<input type="checkbox"/>	<input type="checkbox"/>							
Turning knob		<input type="checkbox"/>	<input type="checkbox"/>							
Sandwich construction										
Mounting interface acc. to Wandfluh standard, NG3-Mini										
Type list/Function										
Meter-out flow control	in P	<input type="checkbox"/>	P	in T	<input type="checkbox"/>					
	in A	<input type="checkbox"/>	A	in B	<input type="checkbox"/>					
Meter-in flow control	in A and B	<input type="checkbox"/>	AB							
	in A	<input type="checkbox"/>	AV	in B	<input type="checkbox"/>					
	in A and B	<input type="checkbox"/>	ABV							
Nominal volume flow rate Q_N	0,4...0,6 l/min	<input type="checkbox"/>	0,63							
	0,8...1,25 l/min	<input type="checkbox"/>	1,25							
	1,3...2,1 l/min	<input type="checkbox"/>	2							
	2,5...5 l/min	<input type="checkbox"/>	5							
	5 ...8 l/min	<input type="checkbox"/>	8							
Design index (subject to change)										

GENERAL SPECIFICATIONS

Description	2-way flow control valve
Nominal size	NG3-Mini acc. to Wandfluh standard
Construction	Sandwich
Mounting	3 mounting holes for socket head screws M4 or double ended 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 (quality 8.8) for fastening screws $M_D = 30$ Nm for screw-in cartridge
Weight	depending on the type 0,32...0,42 kg

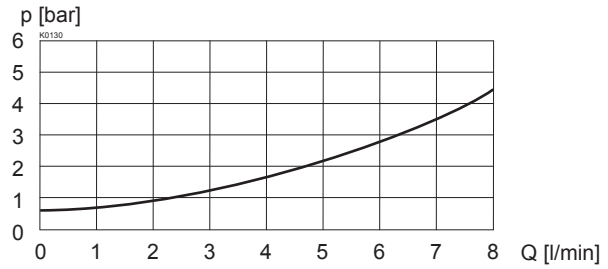
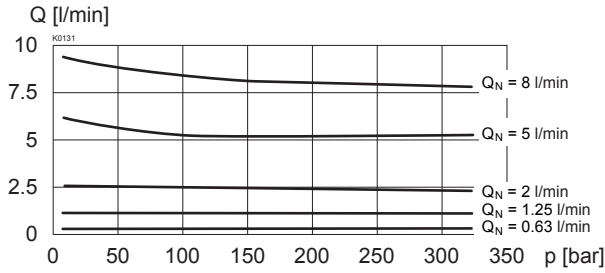
HYDRAULIC SPECIFICATIONS

Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 18/16/13 (Required filtration grade $\beta_{6...10} \geq 75$) 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	$p_{max} = 315$ bar
Opening pressure to non-return valve	$p_o = 0,2$ bar
Minimum pressure for controlled flow	$\Delta p = 10$ bar
Nominal volume flow	$Q_N = 0,63$ l/min, $Q_N = 1,25$ l/min, $Q_N = 2$ l/min, $Q_N = 5$ l/min, $Q_N = 8$ l/min
Min. volume flow	$Q_{min} = 0,4$ l/min
Max. volume flow	$Q_{max} = 10$ l/min
Hysteresis	depending on nominal volume flow 3...8 %

For further hydraulic specifications refer to data sheet 2.5-510.

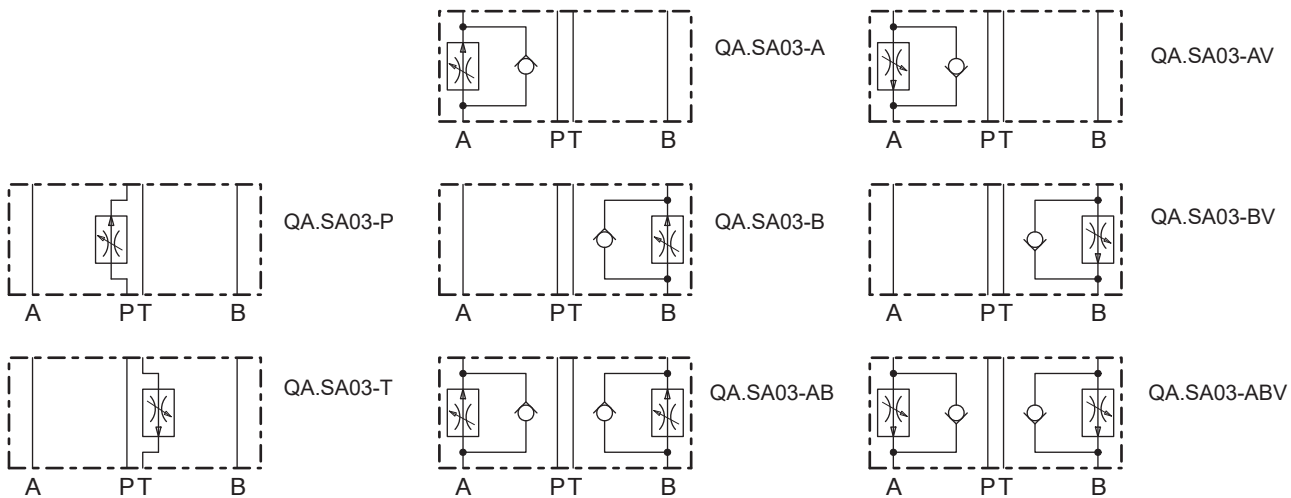
CHARACTERISTICS Oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$
 $Q = f(p)$ Pressure drop/flow characteristics

 $\Delta p = f(Q)$

 Pressure loss/flow characteristics
 over non-return valve

SYMBOLS / DIMENSIONS

Meter-out flow control

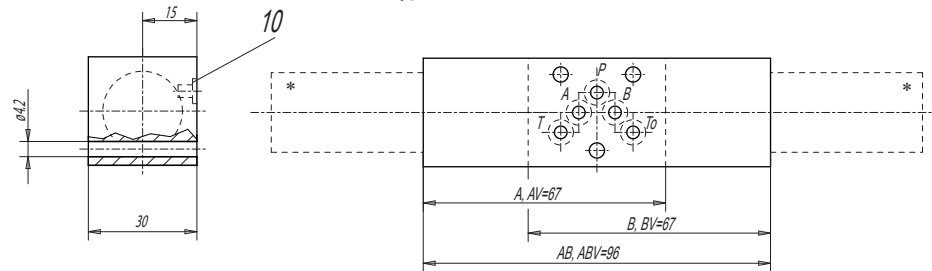
Meter-in flow control



By turning around valves with meter-out function, meter-in function can be achieved

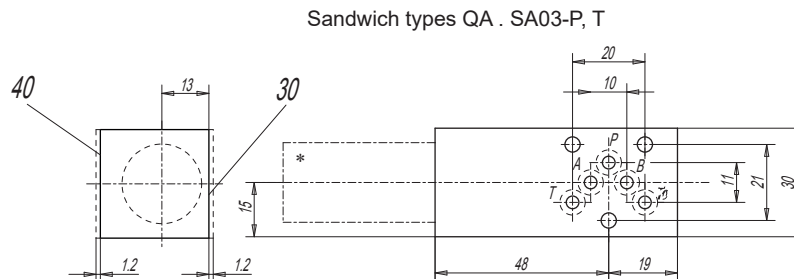
 A turns into BV
 B turns into AV
 AB turns into ABV

Valves for meter-in functions are supplied with a sealing plate and an intermediate plate



* The total lengths depends on the cartridge type, see data sheet 2.5-510

Technical explanation see data sheet 1.0-100


SCREW-IN CARTRIDGES INSTALLED

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

Type	Designation	Data sheet no.
QA.PM18	2-way flow control valve	2.5-510

PARTS LIST

Position	Article	Description
10	160.2045	O-ring ID 4,5x1,5 (NBR)
30	173.0700	Intermediate plate PZSA03
40	173.0650	Sealing plate PDSA03