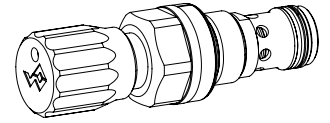


2-way flow control cartridge

- ◆ $Q_{max} = 48 \text{ l/min}$
- ◆ $Q_{Nmax} = 40 \text{ l/min}$
- ◆ $p_{max} = 350 \text{ bar}$

M22 x 1,5
ISO 7789

DESCRIPTION

Pressure compensated 2-way flow control valve in screw-in cartridge construction for cavity according to ISO 7789. From the input (1), the fluid flows over the control and throttling spool to the controlled output (2). The control spool keeps the pressure difference via the throttle point constant so that the same set volume flow always exits at connection 2.-The volume flow is changed via an adjustment spindle.-

APPLICATION

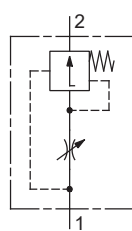
Flow control valves are used for speed control, where the load current has to be maintained constant independent of the input and output pressure. The screw-in cartridge is perfectly suitable for installation in sandwich- (vertical stacked systems) and in flange plates (corresponding data sheets in this register). For machining the cartridge cavity in steel and aluminum blocks, cavity tools are available (hire or purchase). Please refer to the data sheets in register 2.13.

SYMBOL

Simplified



Detailed


ACTUATION

Actuation	Adjustment spindle M10 x 1
Execution	S = lockable key adjustment D = lockable knob adjustment
Actuation angle	$\alpha_b = 900^\circ$ (2,5 rotations)
Actuation stroke	$S_b = 2,5 \text{ mm}$

TYPE CODE

2-way flow control valve		QZ		<input type="checkbox"/>	PM22	-	<input type="checkbox"/>	-	<input type="checkbox"/>	#	<input type="checkbox"/>
Type of adjustment	Key	<input type="checkbox"/>	S								
	Control knob	<input type="checkbox"/>	D								
	Cover	<input type="checkbox"/>	A	(see data sheet 2.0-50)							
Screw-in cartridge M22 x 1,5											
Nominal volume flow range Q_N	2,5 l/min	<input type="checkbox"/>	2,5	25 l/min	<input type="checkbox"/>	25					
	6,3 l/min	<input type="checkbox"/>	6,3	40 l/min	<input type="checkbox"/>	40					
	16 l/min	<input type="checkbox"/>	16								
Sealing material	NBR	<input type="checkbox"/>									
	FKM (Viton)	<input type="checkbox"/>	D1								
	NBR 872	<input type="checkbox"/>	y-Z604								
Design index (subject to change)											
2.5-535											

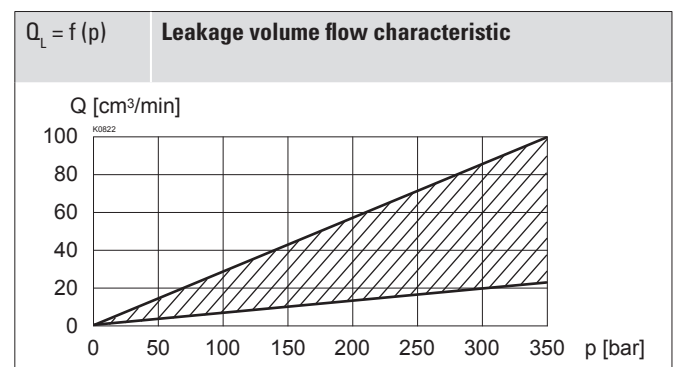
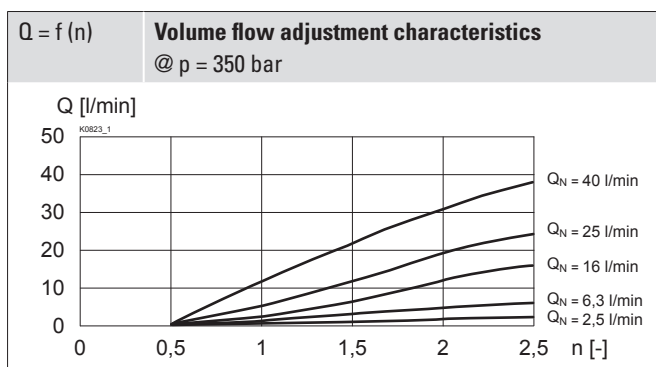
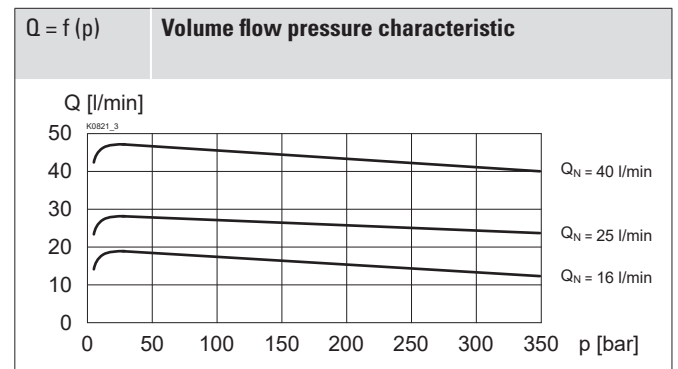
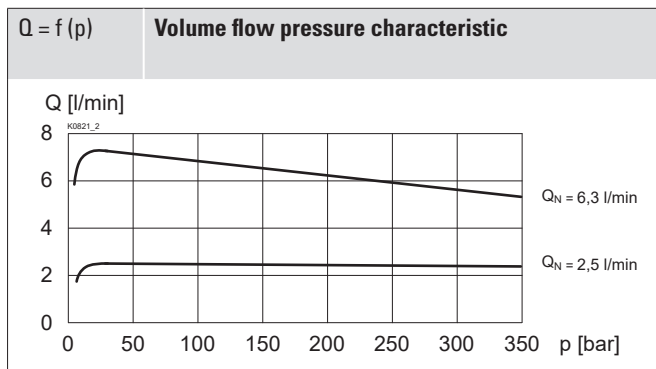
GENERAL SPECIFICATIONS

Designation	2-way flow control cartridge
Mounting	Screw-in cartridge construction
Nominal size	M22 x 1,5 according to ISO 7789
Ambient temperature	-25...+90 °C
Weight	0,18 kg key adjustment 0,19 kg control knob adjustment 0,24 kg cover
MTTFd	150 years

HYDRAULIC SPECIFICATIONS

Working pressure	$p_{max} = 350$ bar
Regelgenauigkeit	≤ 1 %
Maximum volume flow	$Q_{max} = 48$ l/min
Minimum volume flow	$Q_{min} = 0,1$ l/min
Volume flow direction	1 → 2 adjustable flow
Nominal volume flow	$Q_N = 2,5; 6,3; 16; 25; 40$ l/min
Fluid	Mineral oil, other fluid on request
Viscosity range	12 mm ² /s...320 mm ² /s
Temperature range fluid	-25...+90 °C (NBR) -20...+90 °C (FKM)
Contamination efficiency	Class 18 / 16 / 13
Filtration	Required filtration grade $\beta_{6...10} \geq 75$, see data sheet 1.0-50

PERFORMANCE SPECIFICATIONS

 Oil viscosity $\nu = 30$ mm²/s

SEALING MATERIAL

NBR or FKM (Viton) as standard, choice in the type code

SURFACE TREATMENT

- ◆ The cartridge body is zinc-nickel coated
- ◆ The control knob is made of plastic

INSTALLATION NOTES

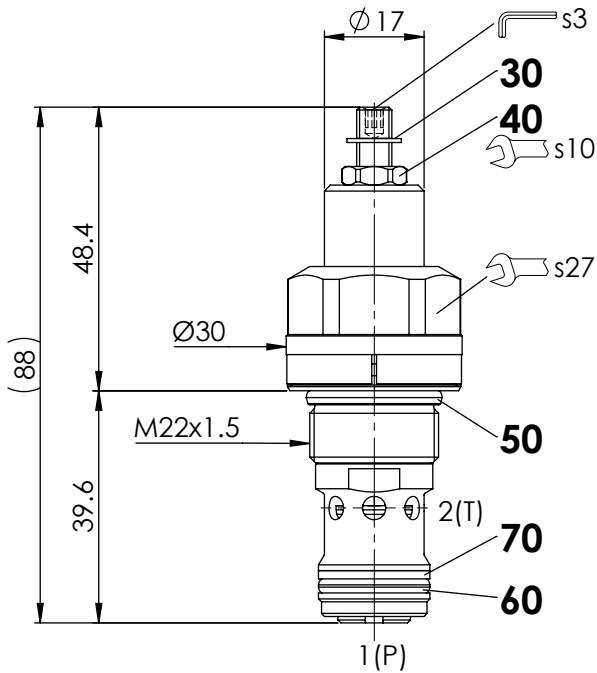
Mounting type	Screw-in cartridge M22 x 1,5
Mounting position	Any, preferably horizontal
Tightening torque	$M_D = 60$ Nm Screw-in cartridge

STANDARDS

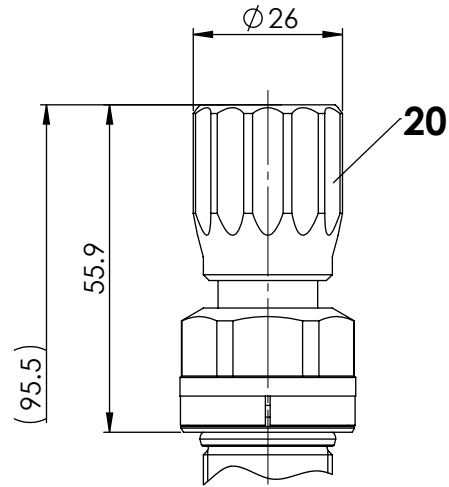
Cartridge cavity	ISO 7789
Contamination efficiency	ISO 4406

DIMENSIONS

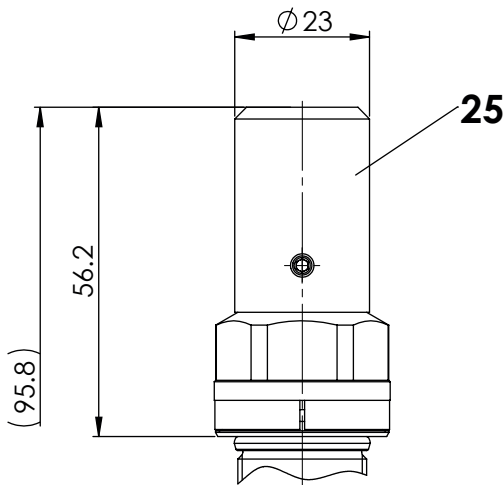
Key adjustment „S”



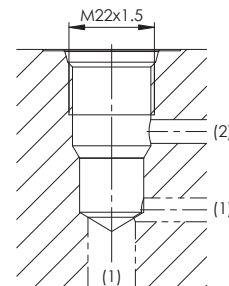
Control knob adjustment „D”



Cover „A”


HYDRAULIC CONNECTION

Cavity drawing according to ISO 7789-22-01-0-98


Note!


For detailed cavity drawing and cavity tools see data sheet 2.13-1008

PARTS LIST

Position	Article	Description
20	114.2299	Control knob
25	032.0611	Cover rd 23 / 3 x 35
30	193.1040	Retainer rd 4 DIN 6799
40	153.1302	Hexagon nut 0,5d M6 x 3,2
50	160.2188	O-ring ID 18,77 x 1,78 (NBR)
	160.6188	O-ring ID 18,77 x 1,78 (FKM)
60	160.2156	O-ring ID 15,60 x 1,78 (NBR)
	160.6156	O-ring ID 15,60 x 1,78 (FKM)
70	049.3196	Backup ring rd 16,1 x 19 x 1,4

ACCESSORIES

Types of adjustment for screw-in cartridges	Data sheet 2.0-50
Flange body / sandwich plate NG4-Mini	Data sheet 2.5-720
Flange body / sandwich plate NG6	Data sheet 2.5-740
Threaded body	Data sheet 2.9-205
Technical explanations	Data sheet 1.0-100
Filtration	Data sheet 1.0-50

Wandfluh AG Postfach CH-3714 Frutigen
 Tel. +41 33 672 72 72 Fax +41 33 672 72 12 sales@wandfluh.com