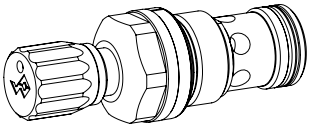
2-way flow control cartridge

- Q_{max} = 80 l/min
- $Q_{N\,max}$ = 70 l/min
- p_{max} = 350 bar

M33 x 2
ISO 7789



DESCRIPTION

2-way flow control valve in screw-in cartridge construction for cavity according to ISO 7789. The valve serves to maintain the speed of a consumer constant independent of the load. The adjustable throttle spool determines the volume flow. When the pressure changes, the pressure compensating piston shifts and changes the flow cross-section so that the pressure difference at the throttle spool is kept constant.

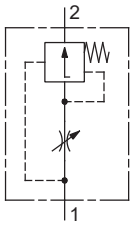
APPLICATION

In all hydraulic systems in which the volume flow must be kept constant in one flow direction when the load fluctuates. The screw-in cartridge is perfectly suitable for installation in control blocks and is installed 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 = blockable key adjustment D = blockable knob adjustment Optionally: K = lockable adjustment G = star handle adjustment → see Data sheet 2.0-50
Actuation angle	α_b = 1440 ° (4 rotations)
Actuation stroke	S_b = 4 mm

TYPE CODE

QZ ☐ PM33 - ☐ - ☐ # ☐

2-way flow control valve		
Type of adjustment	Key	S
	Control knob	D
	Cover	A (see data sheet 2.0-50)
Screw-in cartridge M33 x 2		
Nominal volume flow range Q_N	32 l/min	32
	70 l/min	70
Sealing material	NBR	
	FKM (Viton)	D1
	NBR 872	y-Z604
Design index (subject to change)		

2.5-550

GENERAL SPECIFICATIONS

Designation	2-way flow control cartridge
Mounting	Screw-in cartridge construction
Nominal size	M33 x 2 according to ISO 7789
Ambient temperature	-25…+90 °C
Weight	0,39 kg key adjustment 0,40 kg control knob adjustment 0,45 kg cover
MTTFd	150 years

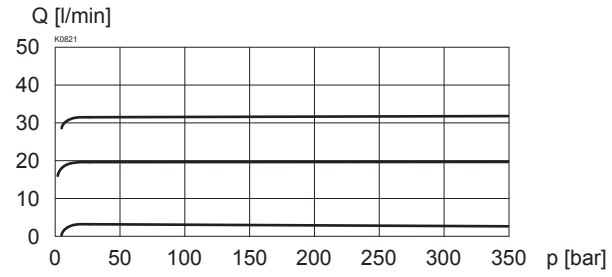
HYDRAULIC SPECIFICATIONS

Working pressure	p_{max} = 350 bar
Regelgenauigkeit	≤ 1 %
Maximum volume flow	Q_{max} = 80 l/min
Minimum volume flow	Q_{min} = 0,2 l/min
Volume flow direction	1 → 2 adjustable flow
Nominal volume flow	Q_N = 32; 70 l/min
Fluid	Mineral oil, other fluid on request
Viscosity range	12 mm²/s…320 mm²/s
Temperature range fluid	-25…+90 °C (NBR) -20…+90 °C (FKM)
Contamination efficiency	Class 18 / 16 / 13
Filtration	Required filtration grade ß 6…10 ≥ 75, see data sheet 1.0-50

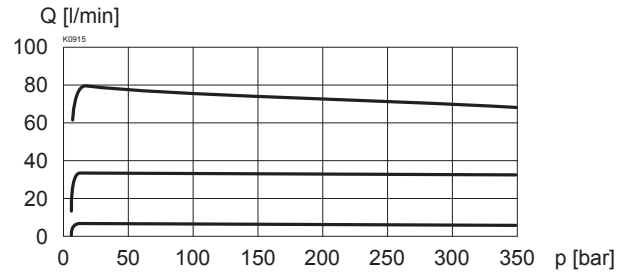
PERFORMANCE SPECIFICATIONS

Oil viscosity υ = 30 mm²/s

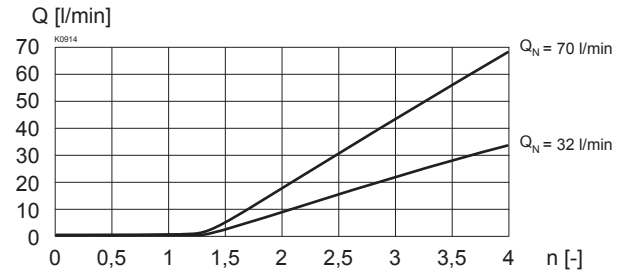
Q = f (p) **Volume flow pressure characteristic**
Q_N = 32 l/min



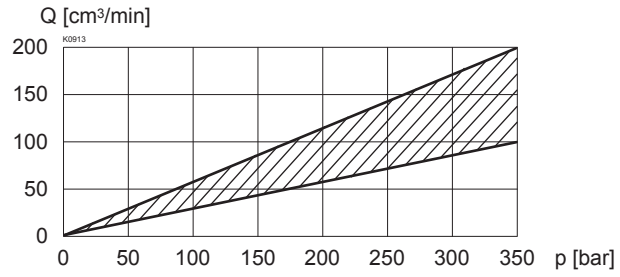
Q = f (p) **Volume flow pressure characteristic**
Q_N = 70 l/min



Q = f (n) **Volume flow adjustment characteristics**
@ p = 350bar



Q_L = f (p) **Leakage volume flow characteristic**



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

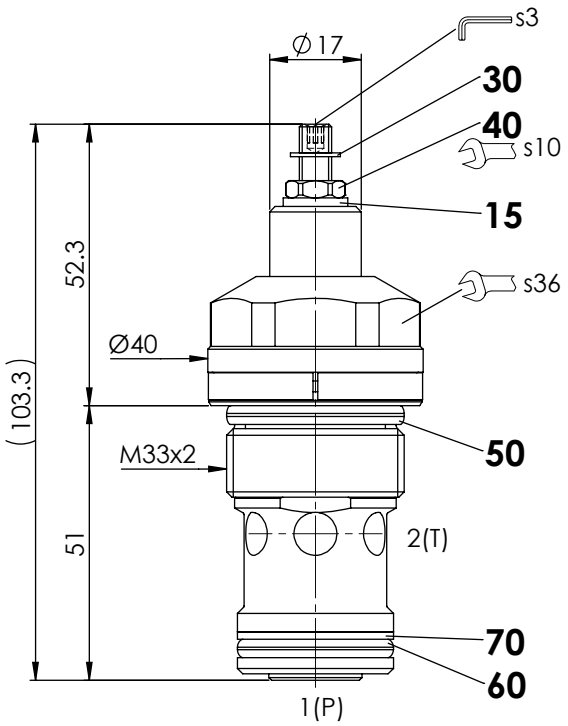
Mounting type	Screw-in cartridge M33 x 2
Mounting position	Any, preferably horizontal
Tightening torque	M_D = 80 Nm screw-in cartridge

STANDARDS

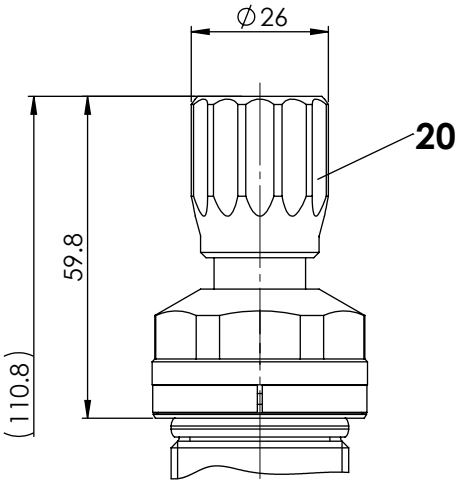
Cartridge cavity	ISO 7789
Contamination efficiency	ISO 4406

DIMENSIONS

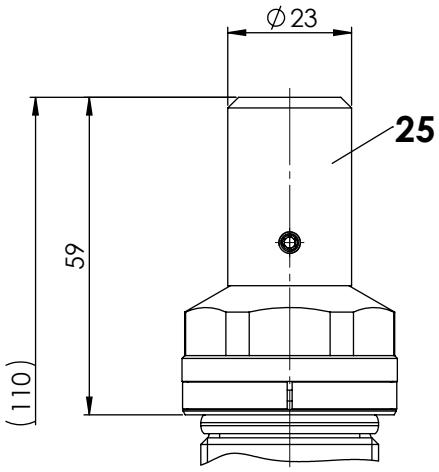
Key adjustment „S"



Control knob adjustment „D"

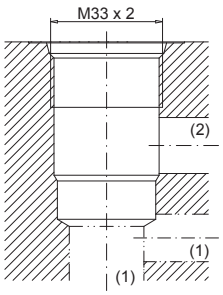


Cover „A"



HYDRAULIC CONNECTION

Cavity drawing according to ISO 7789–33–01–0–98



Note! For detailed cavity drawing and cavity tools see data sheet 2.13-1005

ACCESSORIES

Types of adjustment for screw-in cartridges	Data sheet 2.0-50
Flange body / sandwich plate NG10	Data sheet 2.5-760
Threaded body	Data sheet 2.9-205
Technical explanations	Data sheet 1.0-100
Filtration	Data sheet 1.0-50

PARTS LIST

Position	Article	Description
15	234.1060	Washer DIN 125A M6
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	160.2298 160.6296	O-ring ID 29,82 x 2,62 (NBR) O-ring ID 29,82 x 2,62 (FMK)
60	160.2238 160.6238	O-ring ID 23,81 x 2,62 (NBR) O-ring ID 23,81 x 2,62 (FMK)
70	049.3297	Backup ring rd 24,5 x 29 x 1,4

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