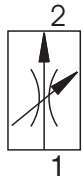


- Hardened and precision working parts
- Flow rate setting with adjustment screw or with hand wheel
- Quiet and stable flow setting over complete pressure range
- Fine low-torque adjustment



Functional Description

Pressure compensated flow control valves are installed in hydraulic systems where only small adjustment due to load induced changes flow are required.

The valve consists basically of throttling orifice (1), pressure compensator (2), bushing (3), adjustment screw (4) and spring (5).

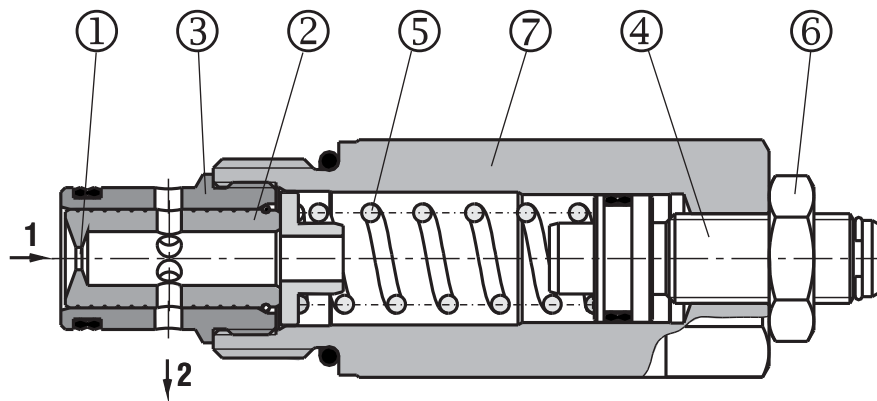
Throttling in direction 1 → 2 is realised on the throttling orifice. The flow rate depends on the orifice diameter and on the pressure difference at the orifice. The pressure difference can be adjusted in a certain range through preloading the spring (5), which results in the respective flow change. The allocation of the orifice diameters and the corresponding flow rates is apparent from the characteristics. The flow rate adjustment can be accomplished by adjustment screw (4). The clockwise rotation increases the flow rate, the anticlockwise rotation decreases the flow rate.

The flow rate stabilization is provided by pressure compensator (2), which is situated behind the throttling orifice and mounted into bushing (3). The pressure compensator continuously compares the pressure difference at the throttling orifice (1) with the value given by the spring preload.

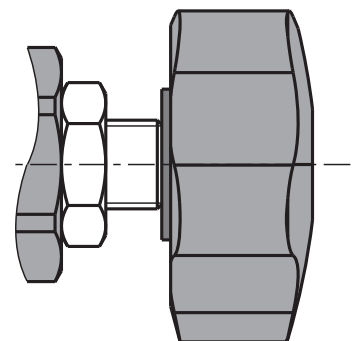
The valve cannot be fully closed for flow 0 L/min. In flow direction 2 → 1, the valve works as an ordinary throttle valve without pressure compensation feature. The pressure losses depend on the orifice diameter – see the respective characteristics.

The valve housing (7), the nut (6) and the adjustment screw (4) are zinc coated.

Model S



Model R



Ordering Code

SF22A-B2 /

2 way Flow Control Valve
pressure compensated
7/8-14 UNF

High performance

H

no designation
V

S
R

Seals
NBR
FPM (Viton)

Adjustment option
Inside hexagon 5 mm
Adjustable handknob

12
20
40

Flow rate
Flow 3,2-12 L/min (0.85-3.17 GPM)
Flow 5,1-20 L/min (1.35-5.28 GPM)
Flow 5,0-41 L/min (1.32-10.83 GPM)

Technical Data

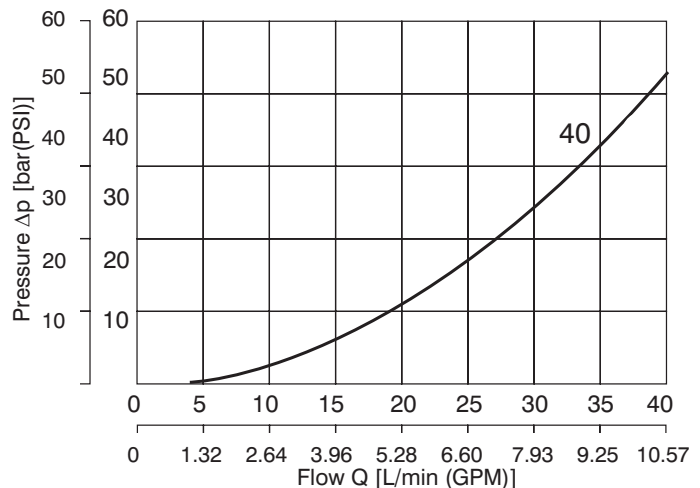
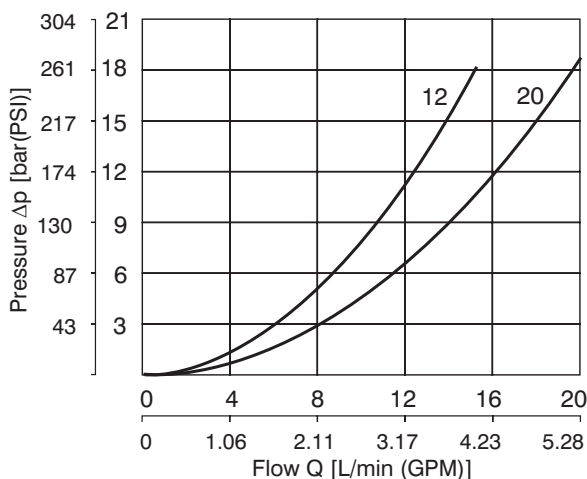
Valve size	B2		
Cartridge thread	7/8-14 UNF-2A		
Nominal Flow rate	12	20	40
Flow range	see Q- Δp characteristic		
Maximum working pressure	bar (PSI) 350 (5076)		
Hydraulic fluid	Hydraulic oils of power classes (HL, HLP) to DIN 51524		
Fluid temperature range (NBR)	°C (°F) -30... + 100 (-22 ... +212)		
Fluid temperature range (Viton)	°C (°F) -20 ... +120 (-4 ... +248)		
Viscosity range	mm ² /s (SUS) 10 ... 500 (49 ... 2450)		
Maximum degree of fluid contamination	Class 21/18/15 to ISO 4406		
Weight	kg (lbs) 0,220 (0.485)		
Mounting position	unrestricted		
Valve body (data sheet HA0018)	SB-B2		

Δp -Q Characteristics

Measured at $v = 32 \text{ mm}^2/\text{s}$ (156 SUS)

Flow directional 2→1 (Throttling without compensator)

Flow rate 12, 20, 40

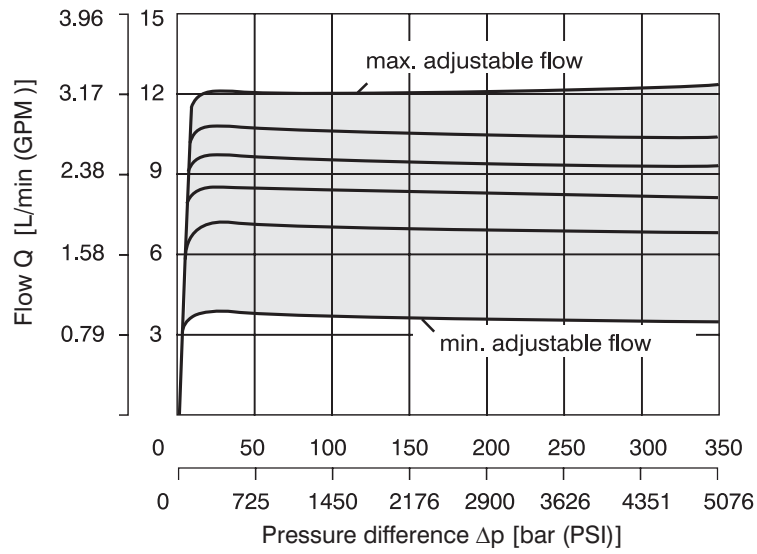


Δp-Q Characteristics

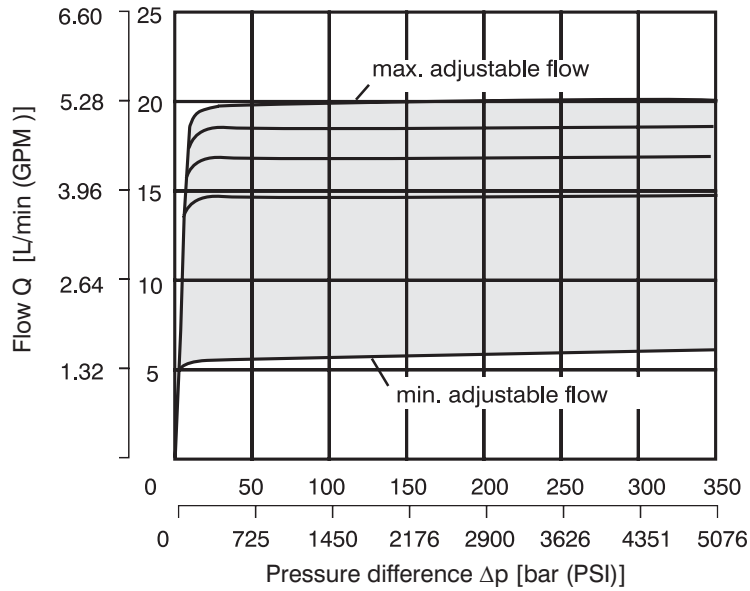
Measured at $v = 32 \text{ mm}^2/\text{s}$ (156 SUS)

Flow directional 1 → 2 (Controlled flow)

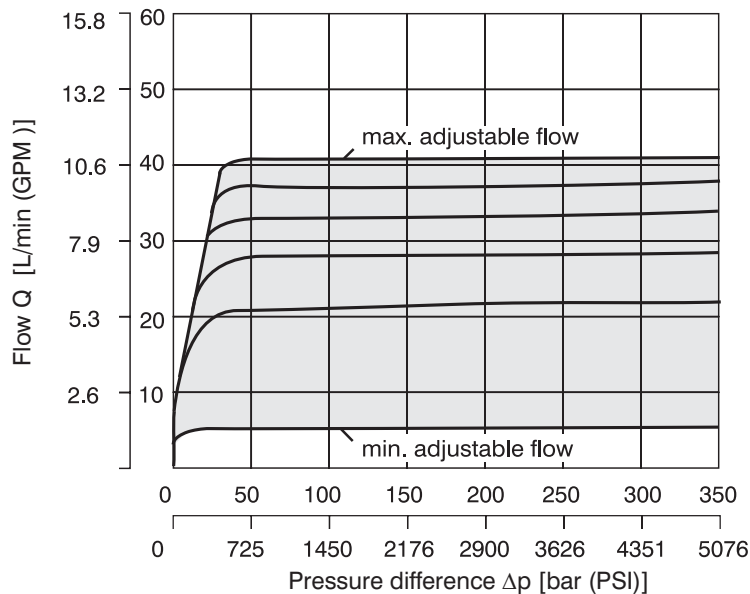
Flow rate 12



Flow rate 20

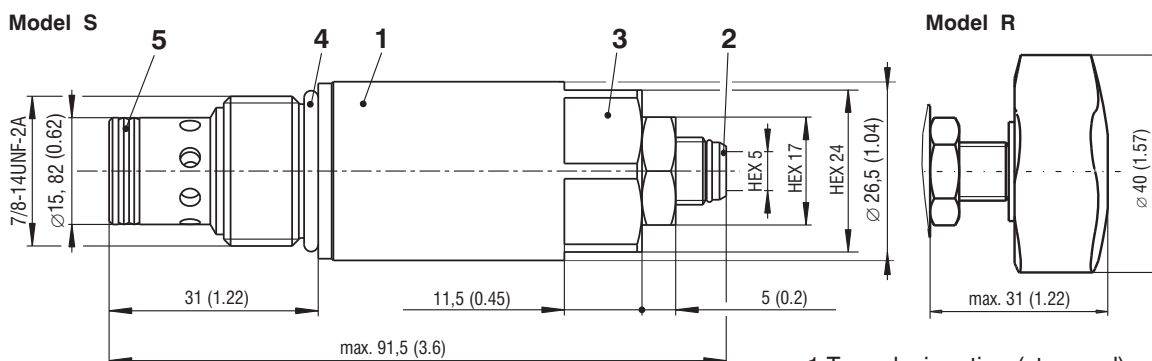


Flow rate 40



Valve Dimensions

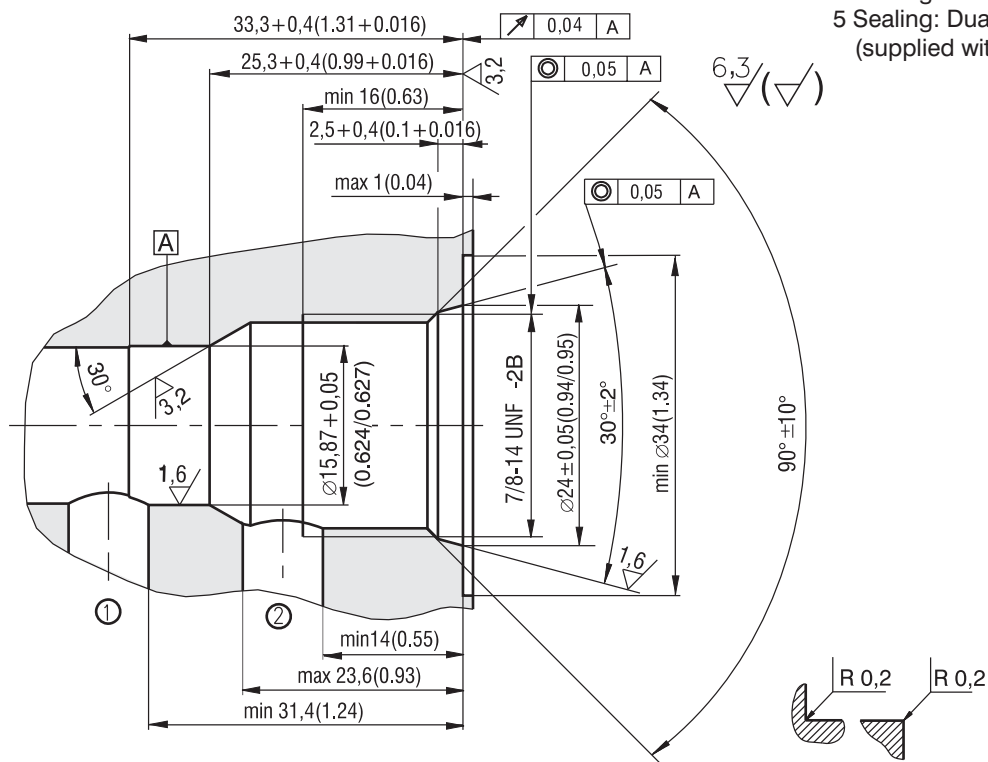
Dimensions in millimeters (inches)



- 1 Type designation (stamped)
- 2 Screw for fine flow adjustment
 - inside hexagon 5 mm
 - anticlockwise rotation = flow decrease
 - clockwise rotation = flow increase
- 3 Spanner size 24 mm
tightening torque 60+5 Nm (44.3+3.7 lbf.ft)
- 4 Sealing: O-ring 19,4x2,1 (supplied with valve)
- 5 Sealing: Dualseal 13,47 x 15,87 x 3,1 (supplied with valve)

Cavity

Dimensions in millimeters (inches)



Spare Parts

Type	Dimensions, quantity		Ordering number
NBR	O-ring	Dualseal - PU	
	19,4 x 2,1 (1pc)	13,47 x 15,87 x 3,1 (1pc)	20159100
FPM (Viton)	19,4 x 2,1 (1pc)	13,47 x 15,87 x 3,1 (1pc)	20159100
	19,4 x 2,1 (1pc)		20144100

Caution!

- The plastic packaging is recyclable. .
- Certified documentation is available per request.

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