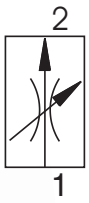
2 Way Cartridge Flow Control Valves SF22A-A2/H

3/4-16 UNF • ... 350 bar (5076 PSI) • ... 16 L/min (4.23 GPM)

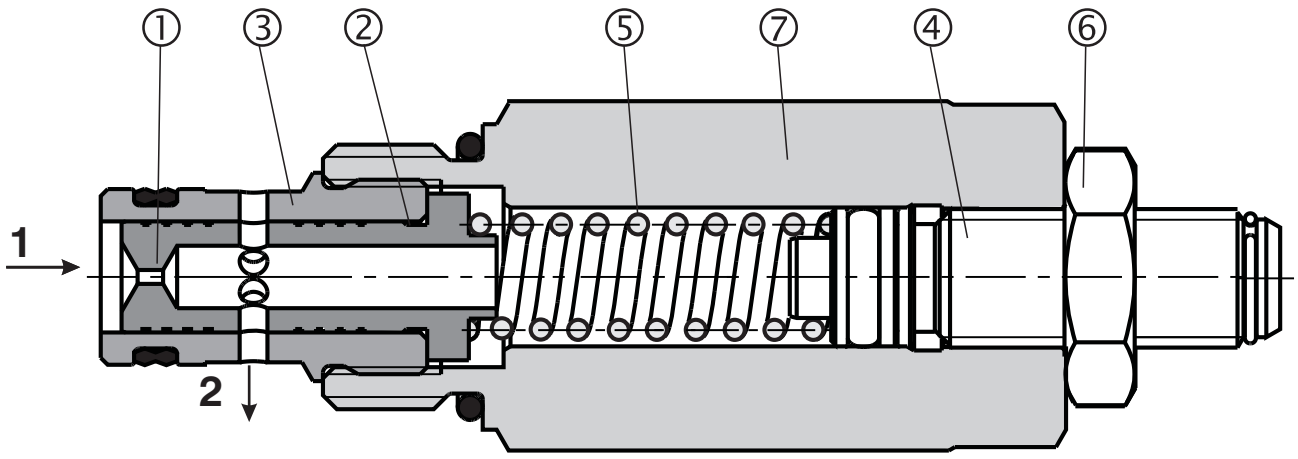


- **Cartridge design**
- **Flow rate setting with adjustment screw**
- **For use in meter-in, meter-out and bleed-off applications**

Functional Description

Pressure compensated flow control valves are employed in hydraulic systems where only small speed or revolution variation due to load changing 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 takes place 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 respective 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 for 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 parameters and the spring preloading and accomplishes the necessary control actions, thus holding the flow rate constant.
The valve cannot be closed. As mentioned above, only small flow rate adjustments can be realized.
In flow direction 2 → 1, the valve works as an ordinary throttle valve. 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.



Ordering Code

SF22A-A2/H □ □

2 Way - Cartridge Flow Control Valve

Seals

no designation	Standard (NBR)
V	Viton (FPM)

Nominal flow rates

2	2 L/min
6	6 L/min
12	12 L/min

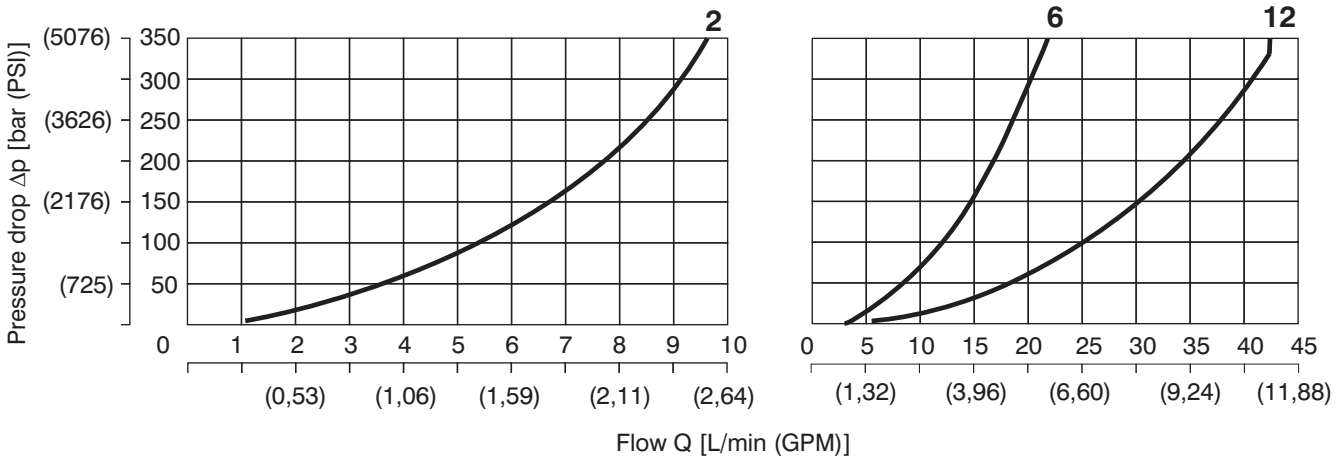
Technical Data

Valve size	mm (US)	3/4-16 UNF-2B		
Nominal flow rates	L/min (GPM)	2 (0.53)	6 (1.59)	12 (3.17)
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 (1999)		
Weight	kg (lbs)	0,186 (0.410)		
Mounting position		any		

Δp-Q Characteristics

Measured at $\nu = 32\ mm^2/s$ (156 SUS)

Flow directional 2 → 1 (Throttling without compensator)

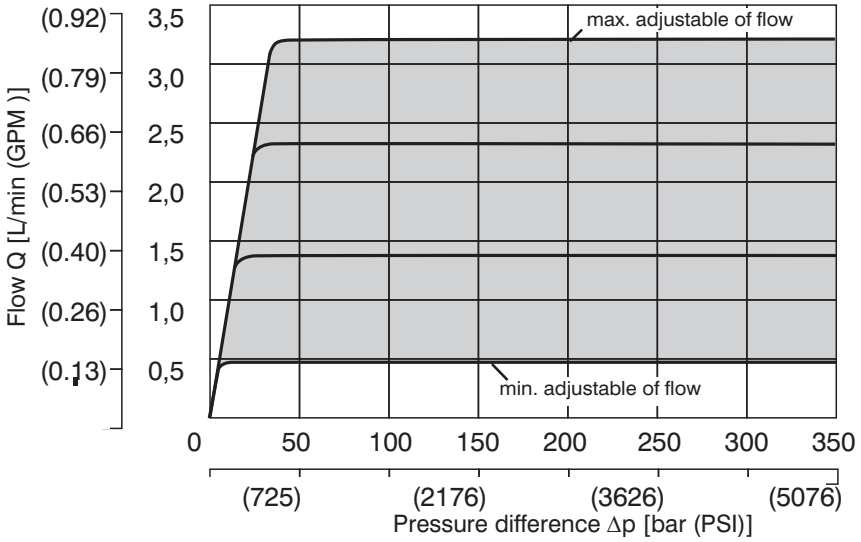


Δp-Q Characteristics

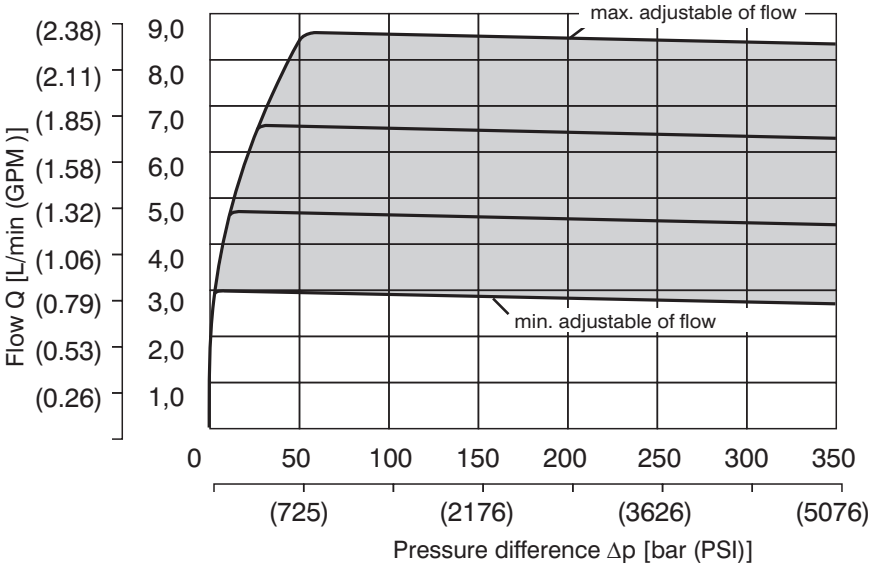
Measured at ν = 32 mm^2/s (156 SUS)

Flow directional 1 → 2 (Controlled flow)

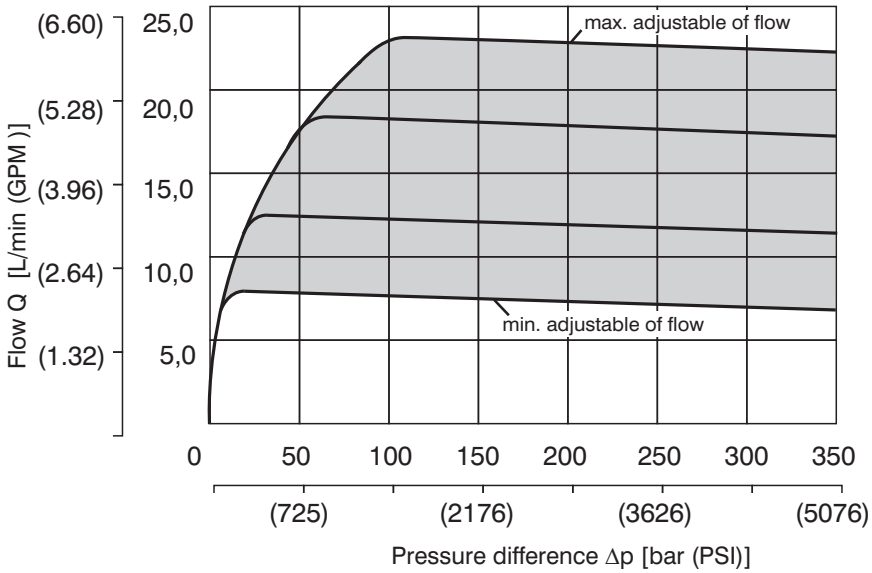
Nominal flow rate 2 L/min (0.53GPM)



Nominal flow rate 6 L/min (1.59 GPM)

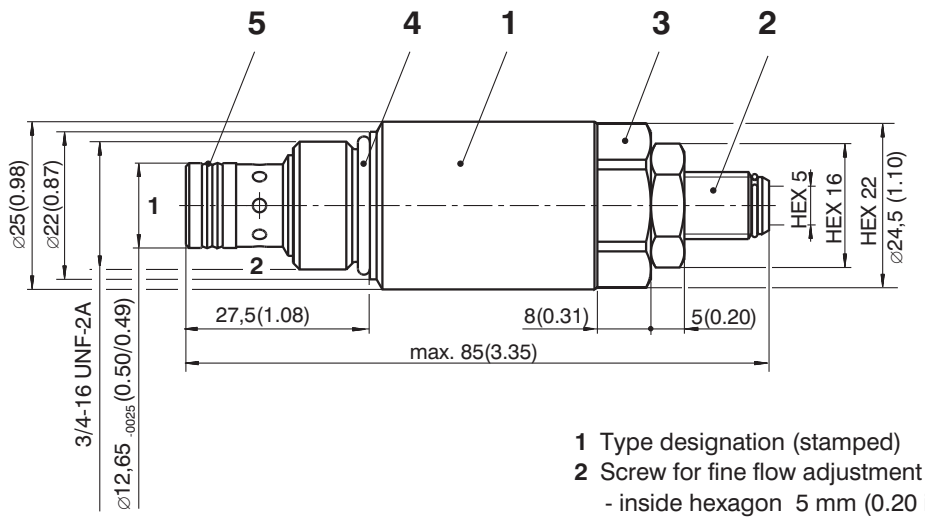


Nominal flow rate 12 L/min (3.17 GPM)



Valve Dimensions

Dimensions in inches and millimeters (in brackets)

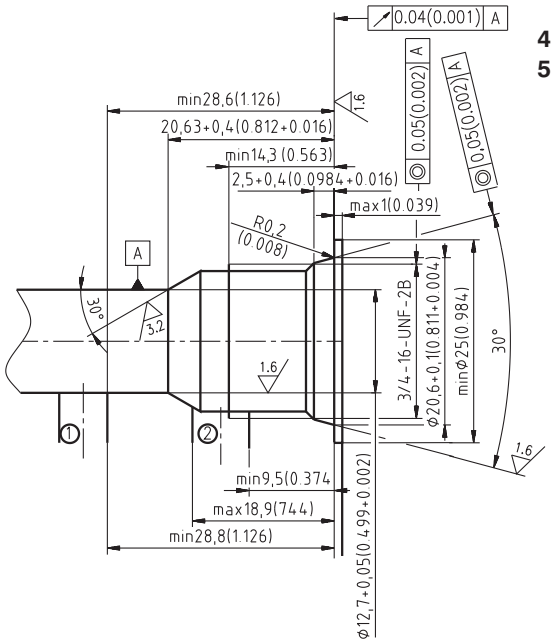


1 Type designation (stamped)
2 Screw for fine flow adjustment
- inside hexagon 5 mm (0.20 inch)
- anticlockwise rotation = flow decrease
- clockwise rotation = flow increase

3 Wrench flats size 22 mm (0.87 inch), tightening torque 30 Nm (22.1 lbs)
4 Sealing: O-ring 17 x 1,8 supplied with valve
5 Sealing: Dualseal 10,3 x 12,7 x 3,1supplied with valve

Cavity

Dimensions in millimeters (inches)



Spare Parts

Dimensions in millimeters

Seal kit

Type	Dimensions, quantity		Order number
	O-ring	Dualseal - PU	
Standard - NBR	17 x 1,8 (1pc.)	10,3 x 12,7 x 3,1 (1 pc.)	520-0297
Viton	17,17 x 1,78 (1pc.)	10,3 x 12,7 x 3,1(1 pc.)	520-0296

Caution!

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

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