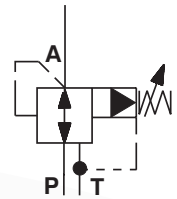


- Screw-in cartridge design
- 5 pressure ranges
- Pressure setting by
  - Hexagon set screw lock
  - Adjustable handknob

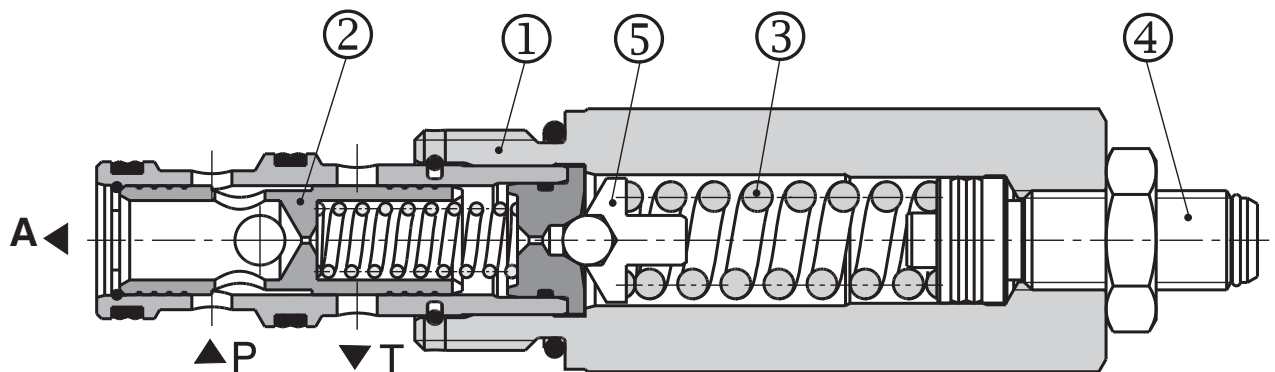


## Functional Description

The pressure valves SP4A-B3 are pilot operated screw-in cartridge pressure reducing valves designed as 3 way valves, i.e. with pressure protection of the secondary circuit. The reducing valve consists of a body (1) with thread 7/8-14 UNF, control spool (2), spring (3) and the adjustment element (4). The flow from the primary circuit flows to the first metering edge, where its pressure is reduced. The reduced pressure corresponds with the adjustment of the control spring of the ball pilot valve (5). The reduced pressure is continuously controlled and compared with the pressure preset. If any control error appears, the respective control action takes place and the reduced pressure returns to its preset value. If

pressure behind the valve increases due to the effect of external load acting on the user, the control spool shifts further against the spring, the reducing metering edge closes and the second metering edge opens. The fluid passes through the „third way“ to port T. The control flow of the pilot valve (from the spring room) is also routed to port T.

The valve body and the adjustment screw are zinc coated.



# Ordering Code

SP4A-B3 /

**Directly Operated Pressure Relief Valve**  
7/8-14 UNF

Standard **S**

**Pressure range**  
 up to 63 bar (914 PSI) **6,3**  
 up to 100 bar (1450 PSI) **10**  
 up to 160 bar (2320 PSI) **16**  
 up to 250 bar (3626 PSI) **25**  
 up to 350 bar (5076 PSI) **35**

without designation  
**V**

**Seals**  
NBR  
FPM (Viton)

**S**  
**R**

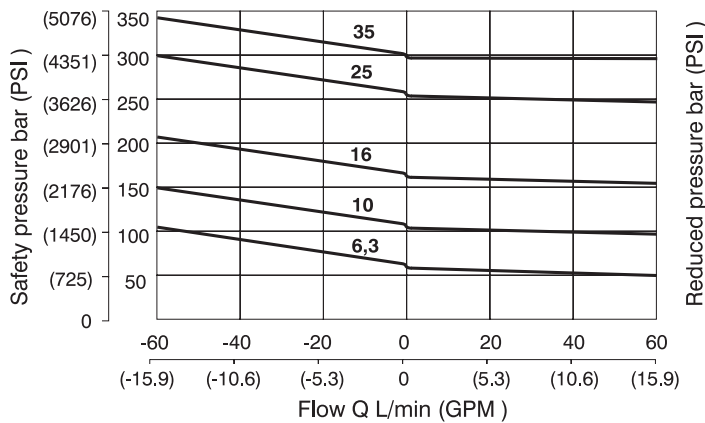
**Adjustment option**  
Hexagon set screw locknut 5 mm  
Adjustable handknob

## Technical Data

Valve size		B3
Cartridge thread		7/8-14 UNF-2A
Max. flow rate	L/min (GPM)	60 (15.85)
Max. input pressure (port P)	bar (PSI)	350 (5076)
Max. output pressure (port T)	bar (PSI)	100 (1450)
Working pressure related to flow	bar (PSI)	see p-Q characteristics
Hydraulic fluid		Hydraulic oils of power classes (HL, HLP) to DIN 51524
Fluid temperature range for standard (NBR)	°C (°F)	-30 ... +100 (-22 ... 212)
Fluid temperature range for Viton (FPM)	°C (°F)	-20 ... +120 (-4 ... 248)
Viscosity range	mm <sup>2</sup> /s (SUS)	10 ... 500 (49 ... 2450)
Max. degree of fluid contamination		Class 21/18/15 according to ISO 4406
Weight	kg (lbs)	0.24 (0.53)
Maximum valve tightening torque	Nm ( lbf.ft)	35+5 (25.8+3.7)
Mounting position		unrestricted
Valve body ( data sheet HA 0018)		SB-B3

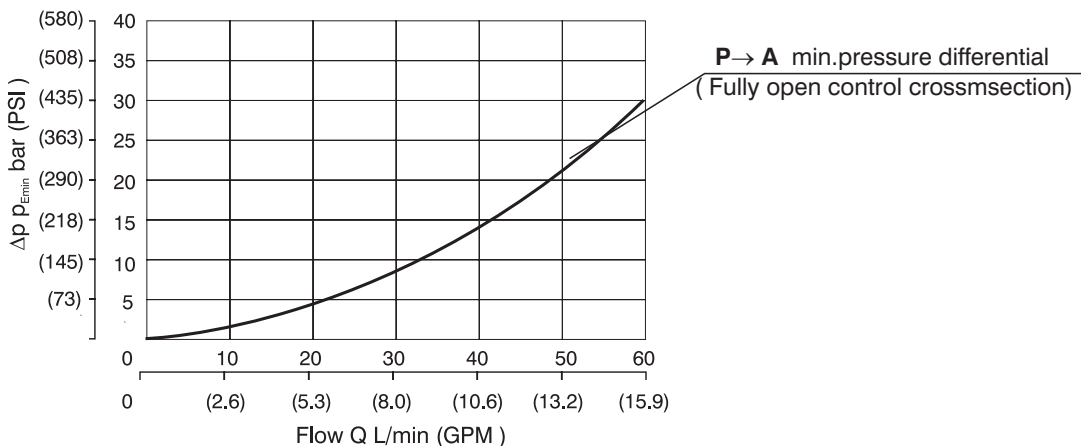
## p-Q Characteristics

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



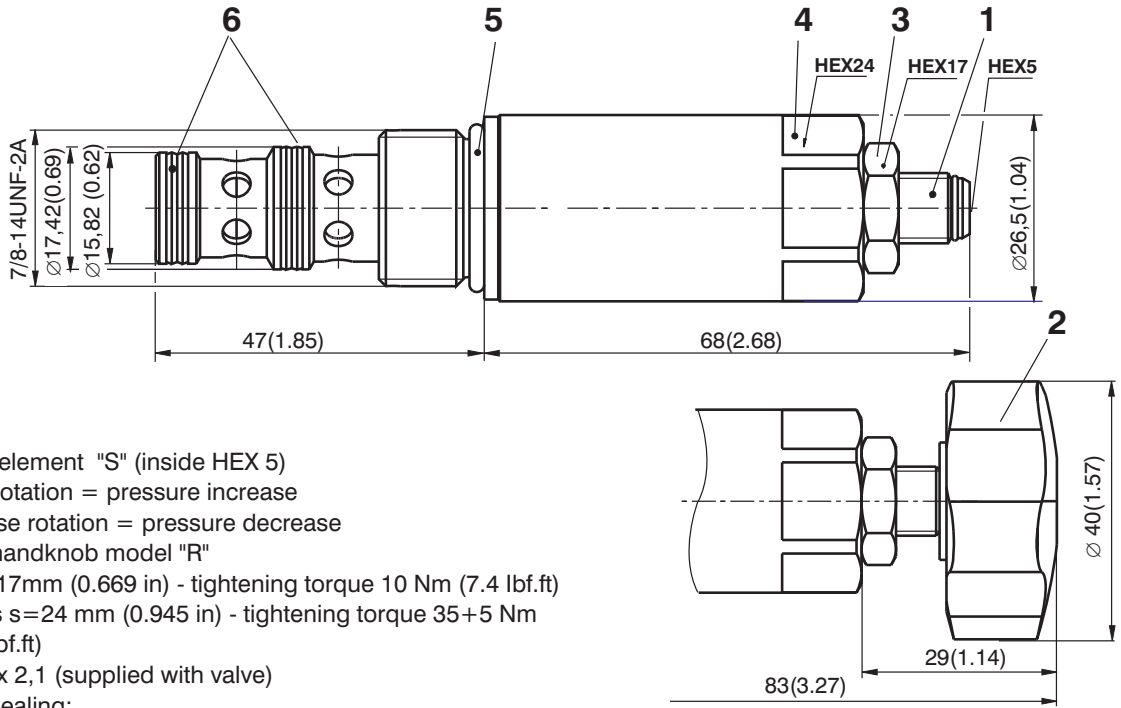
## Δp-Q Characteristic

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



# Valve Dimensions

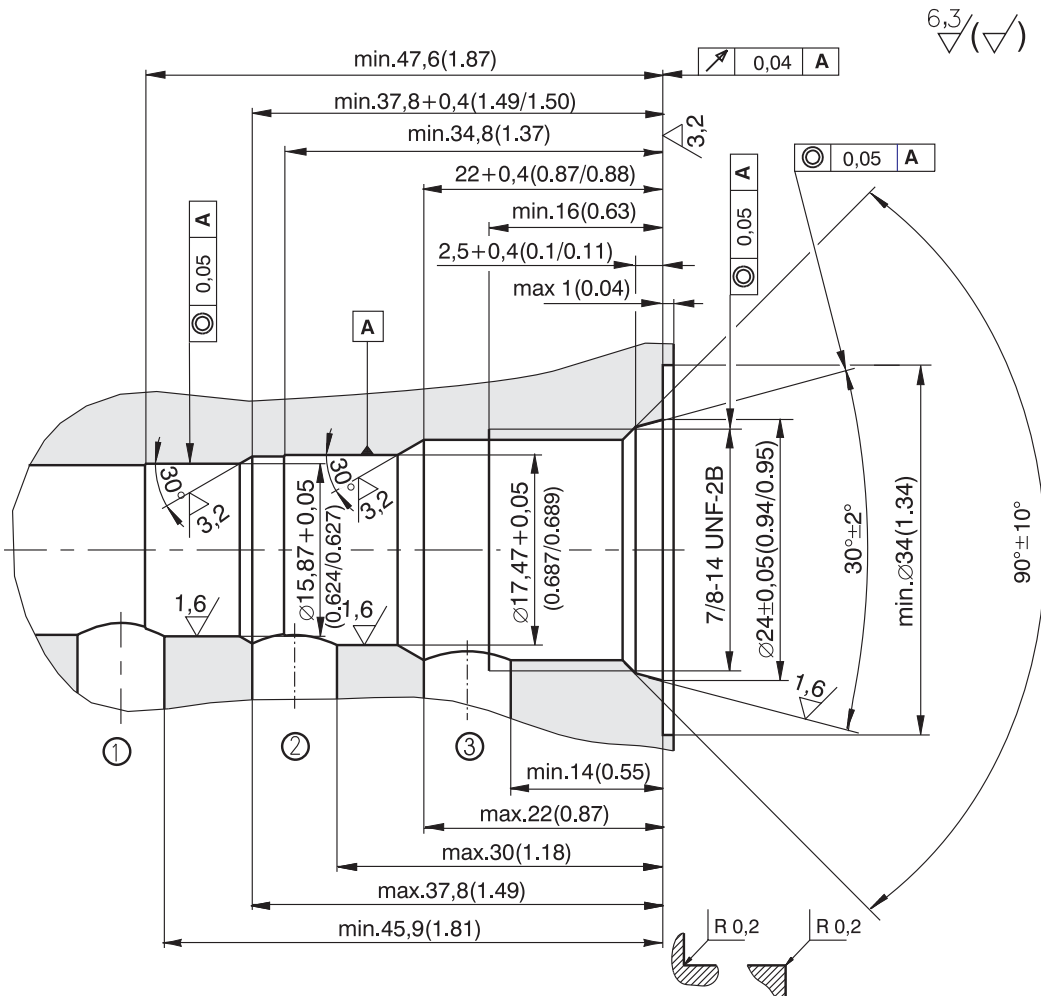
Dimensions in millimeters (inches)



- 1 Adjustment element "S" (inside HEX 5)  
 Clockwise rotation = pressure increase  
 Anticlockwise rotation = pressure decrease
- 2 Adjustable handknob model "R"
- 3 Locknut s=17mm (0.669 in) - tightening torque 10 Nm (7.4 lbf.ft)
- 4 Wrench flats s=24 mm (0.945 in) - tightening torque 35+5 Nm (25.8+3.7 lbf.ft)
- 5 O-ring 19,4 x 2,1 (supplied with valve)
- 6 Combined sealing:  
 DRYZ000002Z20 13,47 x 15,87 x 3,1  
 DUYZ000001Z20 17,47 x 15,07 x 3,1 (supplied with valve)

# Cavity

Dimensions in millimeters (inches)



## Spare Parts

### Seal kit

Dualseal - PU	O-ring - Viton	Ordering number
DRYZ000002Z20 13,47 x 15,87 x 3,1 (1pc.)	19,4 x 2,1 (1pc.)	18775700
DUYZ000001Z20 17,47 x 15,07 x 3,1 (1pc.)	-	

### Caution!

- The packing foil is recyclable.
- The technical information regarding the product presented in this catalogue is for descriptive purposes only. It should not be construed in any case as a guaranteed representation of the product properties in the sense of the law.

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