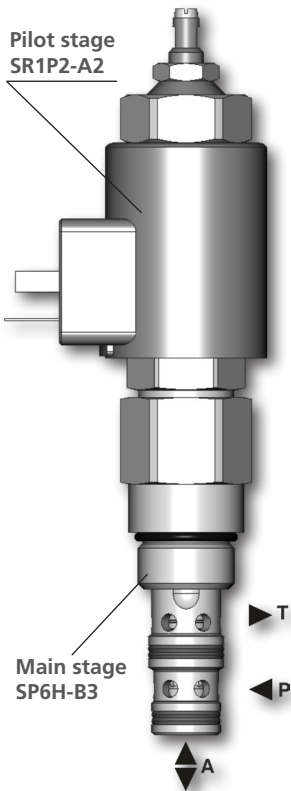


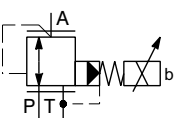
Proportional Pressure Control Valve, Reducing - Relieving, Pilot Operated

SP4P2-B3

7/8-14 UNF • Q_{max} 60 l/min (16 GPM) • p_{max} 350 bar (5100 PSI)



Symbol



The volume flow, which is needed for control of output pressure and maintaining the adjusted value of reducing pressure, flows permanently through the pilot stage of valve.

Technical Features

- › Increasing pressure output proportional with increasing DC current input
- › Low hysteresis, accurate pressure control and low pressure drop
- › Wide pressure range up to 350 bar
- › The valve manual override allows the setting of a relief pressure when power supply is lost
- › High flow capacity
- › Solenoid electrical terminal acc. to EN 175301-803-A, AMP Junior Timer, or Deutsch DT04-2P
- › 12 or 24 V DC coils
- › In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

A pilot-operated proportional pressure reducing valve in the form of a screw-in cartridge. The valve is designed for continuous regulation of pressure in the consumer port. The complete valve consists of a pilot stage valve SR1P2-A2 and a main stage with connection 7/8-14 UNF. Due to its 3-way design the valve is capable to relieve the secondary pressure to the tank port. To set the minimum cracking pressure use the adjusting screw (s=5) which incorporates also an air bleed screw. Back pressure on port T becomes additive to the pressure setting of the valve. Air bleeding is necessary for the correct function of the valve. Installation: When possible, the valve should be mounted below the reservoir oil level. This will maintain oil in the actuator, preventing instability caused by air in the system. If this is not possible, mount the valve for best results vertically downward coil and ensure proper air bleeding.

Technical Data

Valve size / Cartridge cavity		7/8-14 UNF-2A / B3	
Max. operating pressure (port P)	bar (PSI)	350 (5080)	
Max. operating pressure (port T)	bar (PSI)	100 (1450)	
Max. flow rate P-A	l/min (GPM)	60 (15.9)	
Max. control flow	l/min (GPM)	0.2 (0.05)	
Fluid temperature range (NBR)	°C (°F)	-30 ... 120 (-22 ... 248)	
Fluid temperature range (FPM)	°C (°F)	-20 ... 120 (-4 ... 248)	
Ambient temperature range	°C (°F)	-30 ... 80 (-22 ... 176)	
Min. setting pressure	bar (PSI)	6 (87) for 0 l/min (0 GPM)	
Hysteresis	%	< 5	
Solenoid data			
Supply voltage	V	12 DC	24 DC
Max. current	A	1	0.6
Rated resistance at 20 °C (68 °F)	Ω	6.5±5 %	20.6±5 %
Duty cycle	%	100	
Optimal PWM frequency	Hz	250	
Quenching diode		BZW06-19B	BZW06-33B
Enclosure type acc.to EN 60529**		(acc.to terminal type) IP65 / IP67 / IP69K	
Weight with solenoid	kg (lbs)	0.6 (1.32)	
Data Sheet		Type	
General information		GI_0060	
Coil types		C_8007	
Valve bodies		In-line mounted	SB_0018
Cavity details / Form tools		SMT_0019	
Spare parts		SP_8010	

**The indicated IP protection level is only reached with a properly mounted connector.

Dimensions in millimeters (inches)

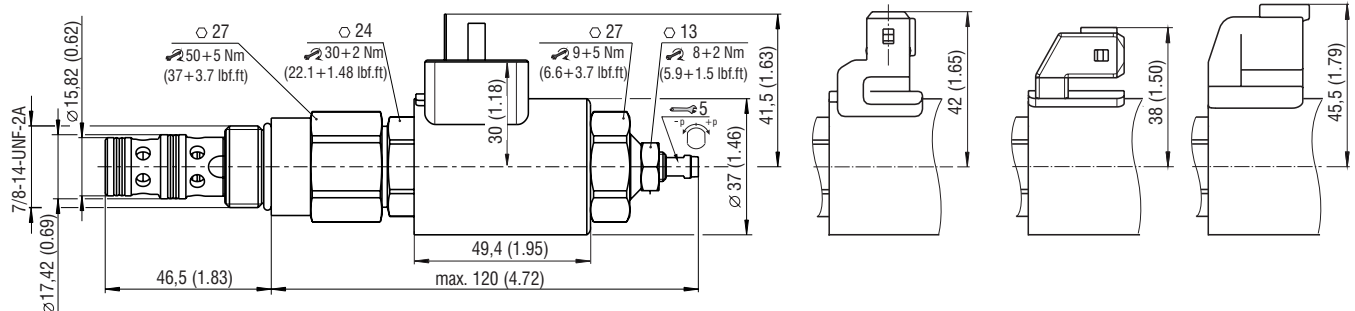
Connector type

E1, E2 - IP65
EN 175301-803-A

E3, E4 - IP67
AMP Junior
Timer - radial

E3A, E4A - IP67
AMP Junior
Timer - axial

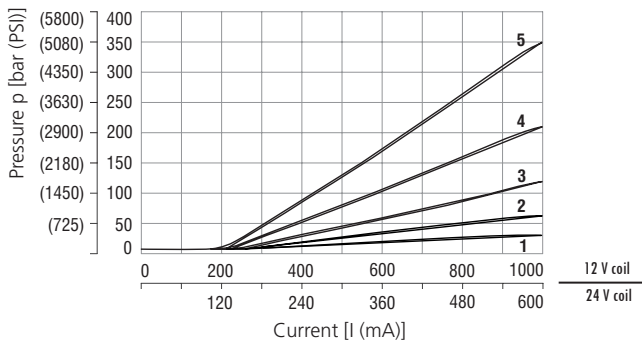
E12A, E13A - IP67 / IP69K
Deutsch DT04-2P



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

Reduced pressure related to control signal

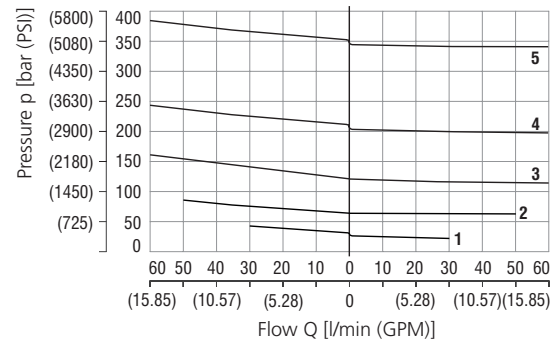
$Q = 0 \text{ l/min}$ (0 GPM), pressure in port T = 0 bar, PWM 160 Hz



Pressure range	3	6	12	21	35
	1	2	3	4	5

Reducing - relieving pressure related to flow rate

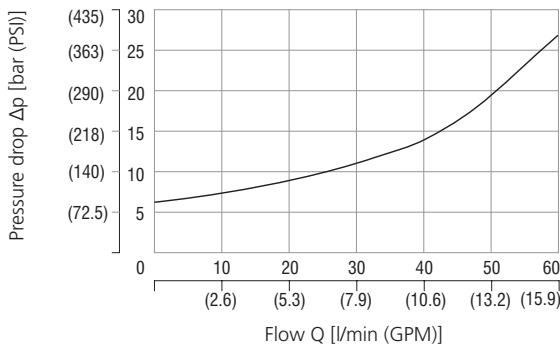
relieving function A-T / reducing function P-A



Pressure range	3	6	12	21	35
	1	2	3	4	5

Pressure drop related to flow rate

0% of control current, A-T direction



Ordering Code

SP4P2 - B3 / H - -

Proportional pressure control valve, reducing - relieving, pilot operated

Valve cavity
7/8-14 UNF

Model
High performance

Max. reduced pressure

up to 30 bar (435 PSI)	3
up to 60 bar (870 PSI)	6
up to 120 bar (1740 PSI)	12
up to 210 bar (3046 PSI)	21
up to 350 bar (5076 PSI)	35

Supply voltage / max. current

12 V DC / 1.0 A	12
24 V DC / 0.6 A	24

Main stage ordering key: SP6H-B3/HV

Surface treatment

A zinc-coated (ZnCr-3), ISO 9227 (240 h)

B zinc-coated (ZnNi), ISO 9227 (520 h)

No designation
V

Seals
NBR
FPM (Viton)

Connector
EN 175301-803-A

E1 E1 with quenching diode

E2 AMP Junior Timer - radial direction (2 pins; male)

E3 E3 with quenching diode

E4 E3 with quenching diode

E3A AMP Junior Timer - axial direction (2 pins; male)

E4A E3A with quenching diode

E12A Deutsch DT04-2P - axial direction

E13A E12A with quenching diode

For other solenoid terminals see data sheet No. 8007