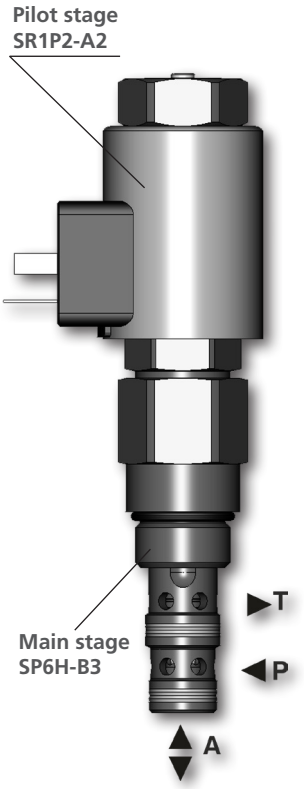
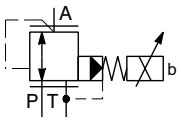
SP4P2-B3

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

- Reducing pressure increases proportional to increasing electric command signal
- Three-way valve protects the applicator against pressure overloading
- Low hysteresis, accurate pressure control and low pressure drop
- Wide pressure range up to 350 bar
- High flow capacity up to 60 l/min
- Optional electrical terminal of solenoid: EN 175301-803-A, AMP Junior Timer or Deutsch DT04-2P
- Coil supply voltage 12 or 24 V DC
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227. Enhanced surface protection for mobile sector available for the steel parts (ISO 9227, 520 h salt spray)

Functional Description

Screw-in cartridge proportional pressure reducing valve, pilot operated. The complete valve consists of a pilot stage - valve SR1P2-A2 and a main stage with connection thread 7/8-14 UNF. The valve maintains the constant pressure in the applicator pipeline (A-port) proportional to the input command signal. When the applicator is overloaded, the circuit is connected to the tank (T-channel) and protected against pressure overloading (relieving function of the valve).
Air bleeding is necessary for the correct function of the valve. 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 possible, to achieve the best result, mount the valve vertically above the bleed screw.

Technical Data

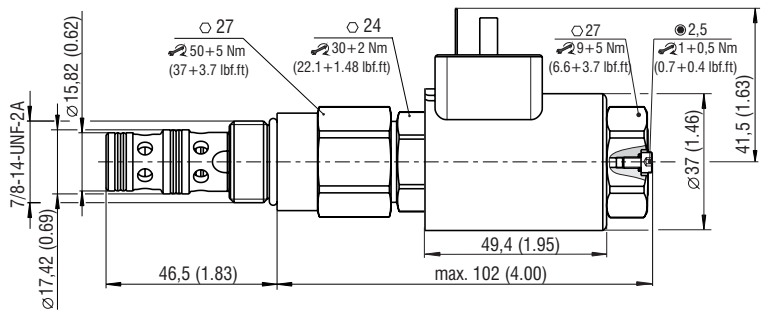
Valve size / Cartridge cavity		7/8-14 UNF-2A / B3 (C-10-3)	
Max. operating pressure (port P)	bar (PSI)	350 (5100)	
Max. operating pressure (port T)	bar (PSI)	100 (1450)	
Max. flow rate P-A	l/min (GPM)	60 (15.9)	
Max. control flow	l/min (GPM)	0.2 (0.05)	
Fluid temperature range (NBR)	°C (°F)	-30 ... 80 (-22 ... 176)	
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
Limit current	A	1	0.6
Rated resistance at 20 °C (68 °F)	Ω	6.5	20.6
Duty cycle	%	100	
Optimal PWM frequency	Hz	160	
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)	
	Datasheet	Type	
General information	HA 0060	Products and operating conditions	
Coil types	HA 8007	C19B*	
Valve bodies In-line mounted	HA 0018	SB-B3*	
Cavity details / Form tools	HA 0019	SMT-B3*	
Spare parts	HA 8010		
Compatible control unit		EL7-E*	

** The specified IP rating applies only in the case of correctly connected connectors (male + female) with the corresponding IP rating.

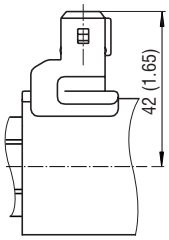
Dimensions in millimeters (inches)

Connector type

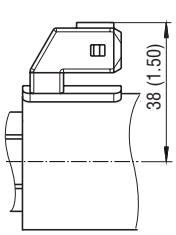
E1,E2 - IP65
EN 175301-803-A



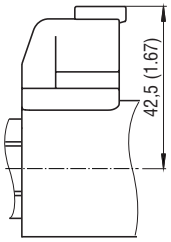
E3, E4 - IP67
AMP Junior
Timer - radial



E3A, E4A - IP67
AMP Junior
Timer - axial



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



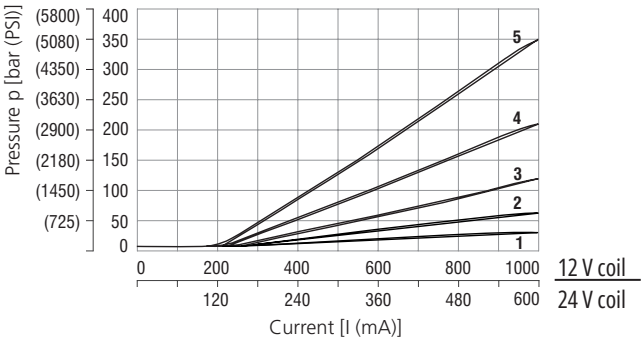
Elektronic control unit EL7

An electronic control unit (ECU) EL7 is used for the valve control. The ECU converts the input command signal into an output current control PWM signal for solenoid coils. The ECU EL7 is available as external for connection to the DIN rail (EL7-E, see datasheet HA 9152) or integrated on the valve in the form of connector plug (EL7-I, see datasheet HA 9151).

Characteristics measured at ν = 32 mm²/s (156 SUS)

Reduced pressure related to control signal

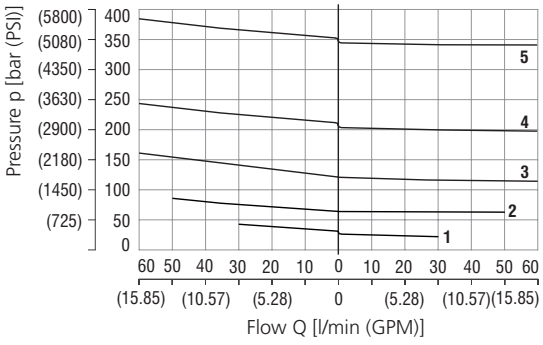
Q = 0 l/min (0 GPM), pressure in port T= 0 bar, PWM 160 Hz



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

Reducing - relieving pressure related to flow rate

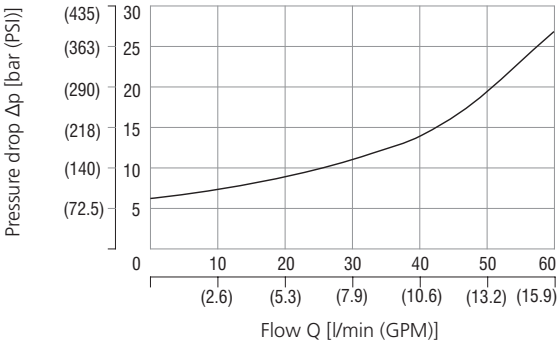
relieving function A-T / reducing function P-A



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 Reducing – Relieving Valve, Pilot Operated

Valve cavity
7/8-14 UNF (C-10-3)

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 / limit 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)

Seals

No designation	NBR
V	FPM (Viton)

Connector

E1	EN 175301-803-A
E2	E1 with quenching diode
E3	AMP Junior Timer - radial direction (2 pins; male)
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 datasheet HA 8007.