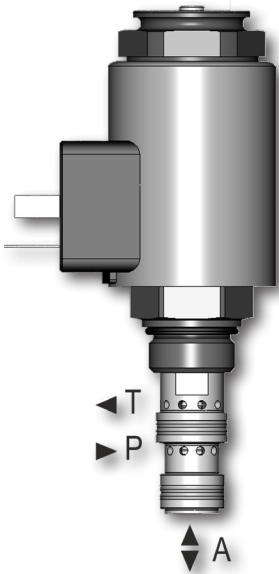


Proportional Pressure Control Valve, Reducing - Relieving, Direct-Acting

SP2P1-A3

3/4-16 UNF • Q_{max} 10 l/min (2.6 GPM) • p_{max} 350 bar (5100 PSI)



Technical Features

- › Precise pressure control vs. current and excellent repeatability
- › Reduced pressure from high pressure level possible
- › Excellent stability throughout flow and pressure range
- › Integrated relief function for protection against pressure peaks
- › 12 or 24 V DC coils
- › Solenoid electrical terminal: EN 175301-803-A, AMP Junior Timer or Deutsch D04-2P
- › In the standard version, the valve is zinc-coated for 520 h protection in NSS acc. to ISO 9227

Functional Description

Screw-in cartridge proportional pressure reducing valve, direct acting. 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-port) and protected against pressure overloading (relieving function of the valve).

Technical Data

Valve size / Cartridge cavity		3/4-16 UNF-2A / A3 (C-8-3)			
Max. operating pressure p_p (port P)	bar (PSI)	350 (5080)			
Recommended operating pressure p_r (port P)	bar (PSI)	1,1 x p_A			
Max. reduced pressure P_A (port A)	bar (PSI)	32 (464)	55 (798)	120 (1740)	155 (2248)
Recommended pressure p_T (port T)	bar (PSI)	without pressure			
Max. flow rate P-A	l/min (GPM)	10 (2.64)			
Max. flow rate A-T	l/min (GPM)	see characteristics			
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)			
Response time at 100 % signal	ms	< 50			
Solenoid data					
Supply voltage	V	12 DC		24 DC	
Limit current	A	1,2		0,6	
Rated resistance at 20 °C (68 °F)	Ω	4,9		20,9	
Duty cycle	%	100			
Recommended PWM frequency	Hz	120 - 160			
Quenching diode		BZW06-19B		BZW06-33B	
Enclosure type acc. to EN 60529**		(acc. to terminal type) IP67 / IP69K			
Weight with solenoid	kg (lbs)	0,42 (0.93)			
	Data Sheet	Typ			
General information	GI_0060	Products and operating conditions			
Coil types	C_8007	C 19B*			
Valve bodies	In-line mounted	SB_0018		SB-A3*	
Cavity details	SMT_0019	SMT-A3*			
Spare parts	SP_8010				
Compatible control unit		EL7			

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

Dimensions in millimeters (inches)

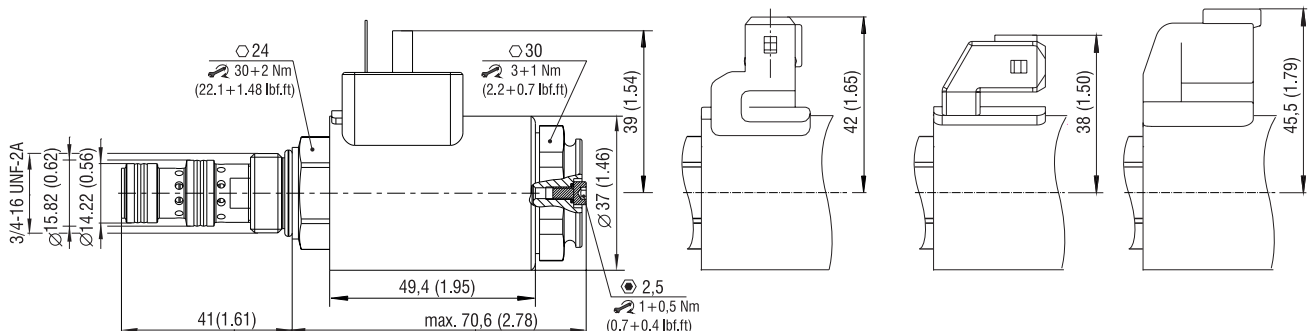
Connector type

E1, E2 - IP65
EN 175301-803-A

E3, E4 - IP 67
AMP Junior Timer
- radial

E3A, E4A - IP67
AMP Junior Timer
- axial

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



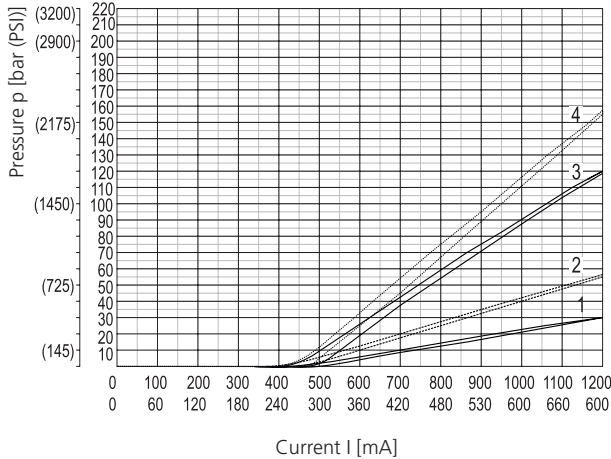
Elektronic control unit EL7

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

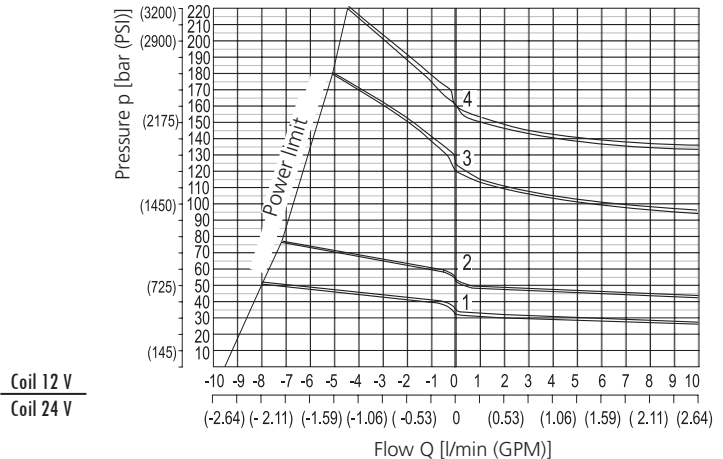
Reduced pressure related to the control current

$Q = 0 \text{ l/min}$ (0 GPM), pressure p_T (port T - without pressure), PWM 150 Hz

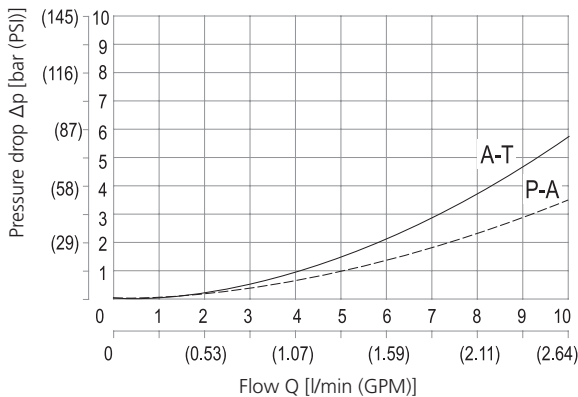


Reducing - relieving pressure related to flow rate

Control current $I = 100\%$, pressure p_T (port T - without pressure), PWM 150 Hz relieving function A-T / reducing function P-A



Pressure drop related to flow rate



Charakteristic number	1	2	3	4
Reduced pressure range identification	3	5	12	15
Reduced pressure range p_A bar (PSI) in port A for flow 0 l/min	0-32 (0-464)	0-55 (0-798)	0-120 (0-1740)	0-155 (0-2248)
Inlet pressure p_P bar (PSI) in port P	35 (507)	61 (884)	132 (1914)	170 (2465)

— A-T Valve coil de-energized (relieving function)
- - P-A Valve coil energized (reducing function)

Ordering Code

SP2P1 - A3 / H [] - [] [] [] - B

Proportional Pressure Control Valve, Reducing - Relieving, Direct-Acting

Valve cavit
3/4-16 UNF (C-8-3)

Model
High performance

Max. reduced pressure
up to 32 bar (464 PSI) **3**
up to 55 bar (798 PSI) **5**
up to 120 bar (1740 PSI) **12**
up to 155 bar (2248 PSI) **15**

Supply voltage / limit current
12 V DC / 1.0 A **12**
24 V DC / 0.6 A **24**

Surface treatment
zinc-coated (ZnNi), ISO 9227 (520 h)

No designation
V

Seals
NBR
FPM (Viton)

Connector
EN 175301-803-A
E1 with quenching diode
E2 with quenching diode
E3 AMP Junior Timer - radial direction (2 pins; male)
E3 with quenching diode
E4 AMP Junior Timer - axial direction (2 pins; male)
E3A with quenching diode
E3A AMP Junior Timer - axial direction (2 pins; male)
E3A with quenching diode
E12A Deutsch DT04-2P - axial direction
E12A with quenching diode
E13A

For other solenoid terminals see datasheet No. 8007.