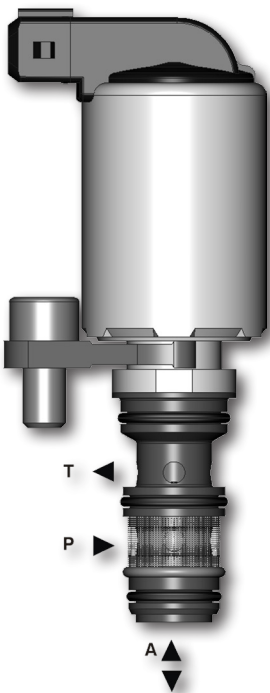


Proportional Pressure Control Valve, Reducing - Relieving, Direct-Acting, Slip-In Style

**PP2P1-W3**

Size D20 •  $Q_{max}$  20 l/min (5 GPM) •  $p_{max}$  50 bar (700 PSI)



**Technical Features**

- › Excellent stability throughout flow range with rapid response to proportional current input change
- › Low hysteresis, accurate pressure control and low pressure drop through CFD optimized flow paths
- › Precise pressure control vs current and excellent repeatability
- › Integrated relief function for protection against pressure peaks
- › Solenoid electrical terminal AMP Junior Timer or Deutsch DT04-2P
- › 12 or 24 V DC coils
- › Compact design with reduced solenoid dimensions for production cost savings
- › High flow capacity and low coil power consumption
- › Optional mesh screen
- › In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

**Functional Description**

A direct-operated, spool-type hydraulic pressure reducing valve in the form of a slip-in cartridge. Reduced pressure output is proportional to DC current input. This valve is intended for use as a pressure limiting device. Note: Consult factory for special OEM versions of this product.

Model Code	no mesh screen	with mesh screen
Symbol		

**Technical Data**

Valve size / Cartridge cavity		D20 / W3		
Max. operating pressure (port P)	bar (PSI)	50 (730)		
Max. regulated pressure (port A)	bar (PSI)	20 (290)	25 (363)	32 (460)
Max. flow rate P-A	l/min (GPM)	20 (5.3)	20 (5.3)	16 (4.2)
Fluid temperature range (NBR)	°C (°F)	-30 ...90 (-22 ...194), +100 (212) short-time		
Fluid temperature range (FPM)	°C (°F)	-20 ...90 (-4 ...194), +100 (212) short-time		
Ambient temperature range	°C (°F)	-30 ...90 (-22 ...194), +100 (212) short-time		
Response time at 100% signal	ms	< 50		
<b>Solenoid data</b>				
Supply voltage	V	12 DC		24 DC
Max. current	A	1		1
Rated resistance at 20 °C (68 °F)	Ω	7.2±6.5 %		11.2±6.5 %
Duty cycle	%	100		
Optimal PWM frequency	Hz	signal100		
Quenching diode		BZW06-28B	BZW06-33B	
Enclosure type acc. to EN 60529**		(acc.to terminal type) IP 67 / IP 69K		
Weight	kg (lbs)	0.4 (0.88)		
	Data Sheet	Type		
General information		GI_0060 Products and operating conditions		
Valve bodies	In-line mounted	SB_0018 SB-W3-*		
Cavity details		SMT_0019 SB-W3-*		
Spare parts		SP_8010		

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

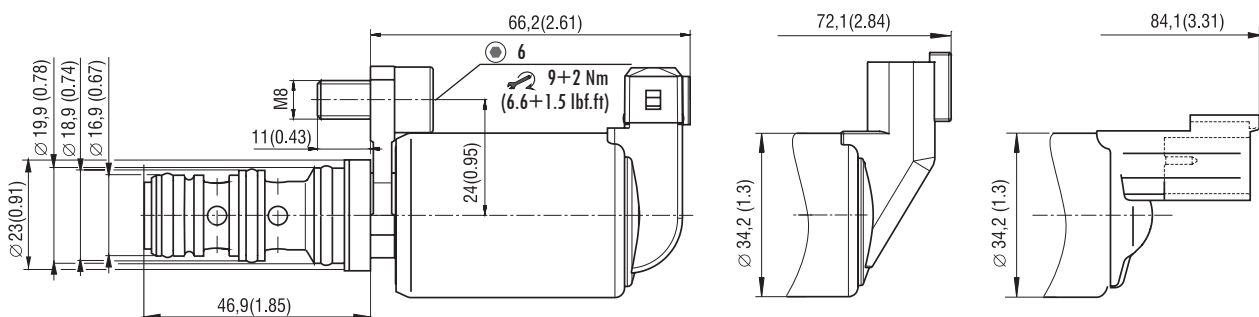
**Dimensions** in millimeters (inches)

**Connector type**

E3, E4 - IP67  
AMP Junior Timer

E12, E13 - IP67 / IP69K  
Deutsch DT04-2P

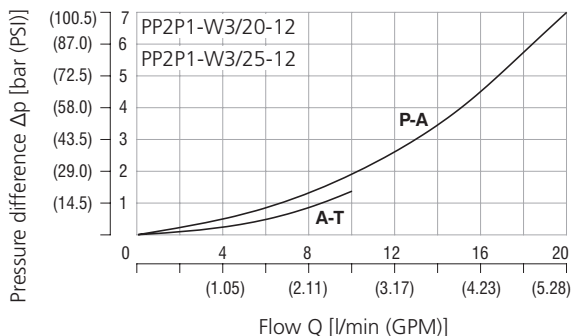
E12A, E13A - IP67 / IP69K  
Deutsch DT04-2P



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

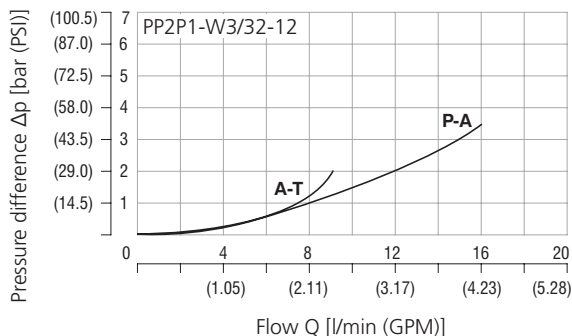
**Pressure drop related to flow rate**

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



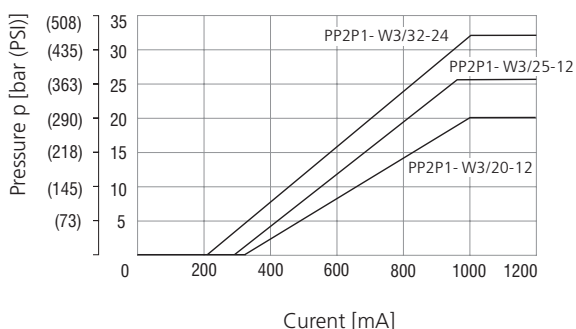
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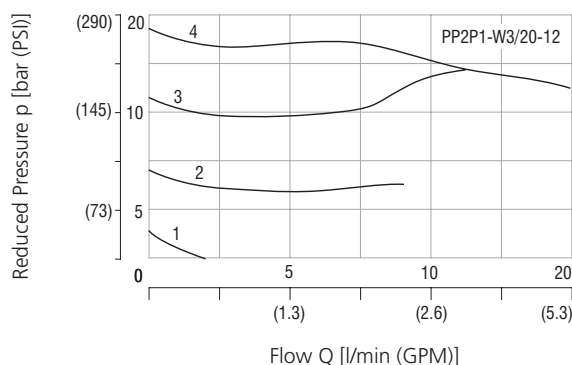
**Reduced pressure related to control signal**

Port A, range 0 - 20 bar (290 PSI)  
 Port A, range 0 - 32 bar (464 PSI)  
 Port P, Inlet pressure 50 bar (730 PSI)  
 Q = 0 lpm (GPM)



**Reducing pressure related to flow rate**

Reducing Function P - A



Control signal	
1	40 %
2	60 %
3	80 %
4	100 %

**Ordering Code**

PP2P1 - W3/ [ ] - [ ] [ ] [ ] - [ ] [ ]

Proportional pressure control valve,  
 reducing - relieving, direct-acting,  
 slip-in style

Valve cavity  
 D20 mm (0.79 in)

Max. regulated pressure  
 20 bar (290 PSI) **20**  
 25 bar (363 PSI) **25**  
 32 bar (464 PSI) **32**

Supply voltage / max. current  
 12 V DC / 1 A **12**  
 24 V DC / 1 A **24**

Mesh screen  
 No designation without mesh screen  
 SP-125 port P, 125 microns

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  
 E3 AMP Junior Timer - radial direction (2 pins; male)  
 E4 E3 with quenching diode  
 E12 Deutsch DT04-2P - radial direction (2 pins; male)  
 E13 E12 with quenching diode  
 E12A Deutsch DT04-2P - axial direction (2 pins; male)  
 E13A E12A with quenching diode

Besides the shown, commonly used valve versions other special models are available.  
 Contact our technical support for their identification, feasibility and operating limits.