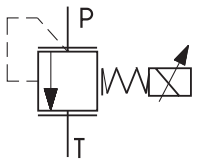
Proportional Directly Operated Pressure Relief Valve

SR1P2-A2

HA 5122
5/2012

3/4-16 UNF • pmax 350 bar (5076 PSI) • Qmax 1,5 L/min (0.396 GPM)



- ❑ **Screw-in cartridge design**
- ❑ **Direct acting, poppet type**
- ❑ **Three pressure ranges**
- ❑ **Pressure output proportional to DC current input**

Functional Description

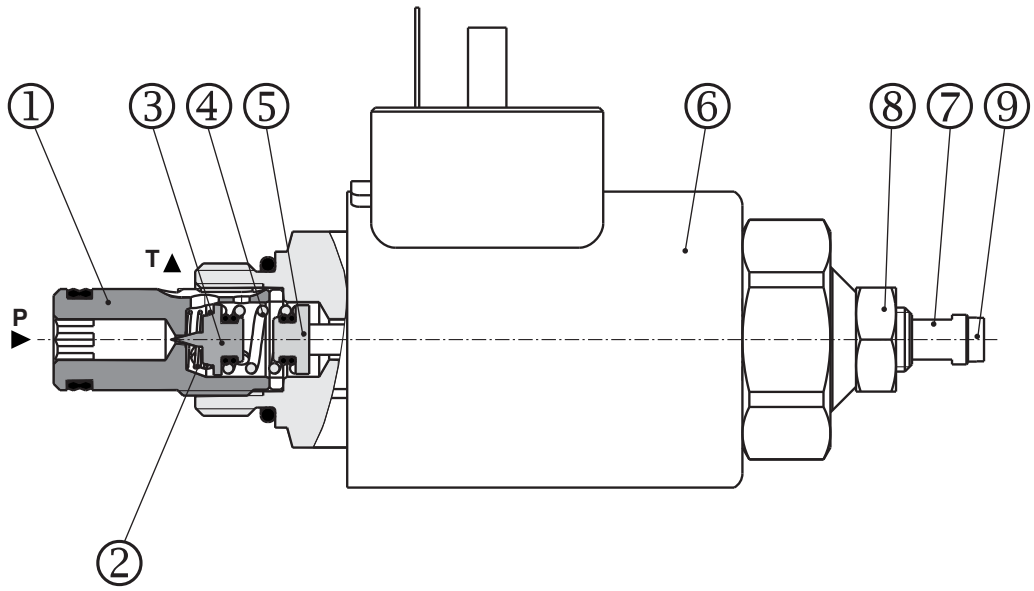
The valve is designed for continuous regulation of pressure in the circuit. The valve consists of the seat (1), poppet (3), return spring (2), main spring (4), spring support ring (5) and control proportional solenoid (6).

In the basic position (with the coil deenergized) the port P is fully open to port T. Proportional increase of DC current at solenoid (6) increase force to valve poppet (3) through preload spring (4).
This blocks flow in direction P – T until sufficient pressure is pre-sent to offset electrically induced solenoid force.

The minimum value of the cracking pressure can be adjusted using the screw (7), position of which is secured with the nut (8). The adjusting screw (7) can also be used as the emergency control. Screw (9) is used to air bleed the solenoid control system. To ensure self-bleeding of the valve it is recommended to install it in a vertical position with the solenoid facing downwards. Bleeding process is necessary for the proper functioning of the valve.

The valve can be used alone or as a built-in, pilot operated pressure relief valve SR4P2-B2 (datasheet No. HC 5117), or as a control valve of a built-in indirectly controlled pilot operated pressure reducing valve SP4P2-B3 (datasheet No. HA 5123).

The valve body and the adjustment screw are zinc coated.



Ordering Code

SR1P2-A2 / □ □ - □ □ □

Proportional Directly Operated Pressure Relief Valve 3/4-16UNF

High performance — **H**

Pressure range

up to 120 bar (1740 PSI)	**12**
up to 210 bar (3046 PSI)	**21**
up to 350 bar (5076 PSI)	**35**

Nominal solenoid supply voltage

12 V DC	**12**
24 V DC	**24**

Seals

V	Viton (FPM)

Type of solenoid coil

E2	Connector EN 175301-803-A with quenching diode
E4	Connector AMP Junior Timer with quenching diode
E13	Connector Deutsch DT04-2P with quenching diode

Other coils on demand see catalog HA8007.

Technical Data

Valve size		A2
Cartridge Cavity		3/4-16 UNF-2A
Maximum operating pressure at ports P	bar (PSI)	350 (5076)
Maximum operating pressure at ports T*	bar (PSI)	100 (1450)
Flow range	L/min (GPM)	1,5 (0.396)
Hydraulic fluid		Hydraulic oils of power classes (HL, HLP) to DIN 51524
Fluid temperature range (FPM)	°C (°F)	-20 ...120 (-4 ... 248)
Ambient temperature, range	°C (°F)	-20 ... 80 (-4 ...176)
Viscosity range	mm^2/s (SUS)	10 ... 500 (49 ... 2450)
Duty cycle	%	100
Enclosure type to EN 60 529		IP 67 (IP 65)
Maximum valve tightening torque	Nm (lbf.ft)	30+2 (22.12+1.47)
Optimum dither control	Hz	200
Maximum degree of fluid contamination		Class 21/18/15 according to ISO 4406
Minimum reachable pressure for Q=1,5 L/min (0.396 GPM)	bar (PSI)	~ 20 (290)
Valve hysteresis	%	< 5
Weight	kg (lb)	0,440 (0.97)
Mounting position		When possible, the valve should be mounted with solenoid faced down.
Valve body (data shee HA 0018)		SB-A2

*Pressure in T influences p = f(I) a p = f(Q) valve performance

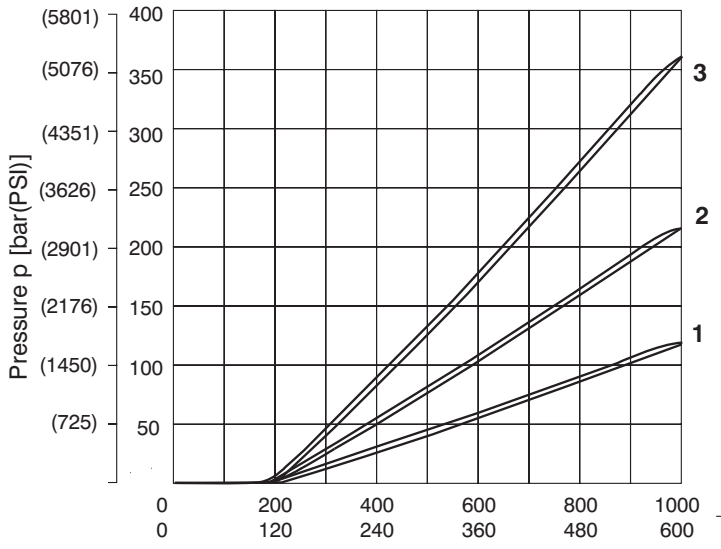
Solenoid Technical Data

Type of coil	V	12 DC	24 DC
Limit current	A	1	0,6
Resistance at 20 °C (68 °F)	Ω	6,5	20,8
Quenching diode (E2, E4, E13)		BZW06-19B	BZW06-33B

p-I Characteristics

Measured at ν = 32 mm^2/s (156 SUS)

p = f (I), Q = 0,2 L/lmin (0.053 GPM)

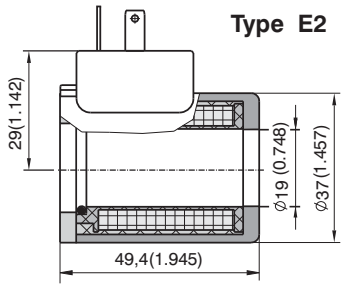


Attention:
The proportional pressure relief valve is not mechanically protected and it does not perform the relief valve function.

3	Pressure range 35
2	Pressure range 21
1	Pressure range 12

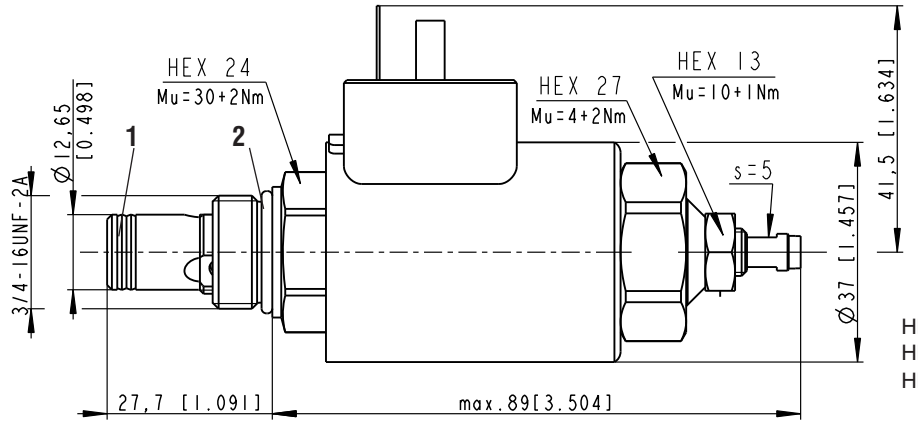
Type of the Solenoid Coil

Note:
Example of most frequent coil types.
For complete range valve coils with technical informatik about voltage, enclosure type, terminal box please afer to coil data sheet HA 8007.

Coil example	Solenoid	Connector	Type code
	12 VDC	Connector EN 175301-803-A with quenching diode	C19B-01200E2-6,5NA
	24 VDC	Connector EN 175301-803-A with quenching diode	C19B-02400E2-20,1NA
	12 VDC	Connector AMP Junior Timer with quenching diode	C19B-01200E4-6,5NA
	24 VDC	Connector AMP Junior Timer with quenching diode	C19B-02400E4-20,1NA
	12 VDC	Connector Deutsch DT04-2P with quenching diode	C19B-01200E13-6,5NA
	24 VDC	Connector Deutsch DT04-2P with quenching diode	C19B-02400E13-20,8NA

Valve Dimensions

Dimensions in millimeters and (inches)

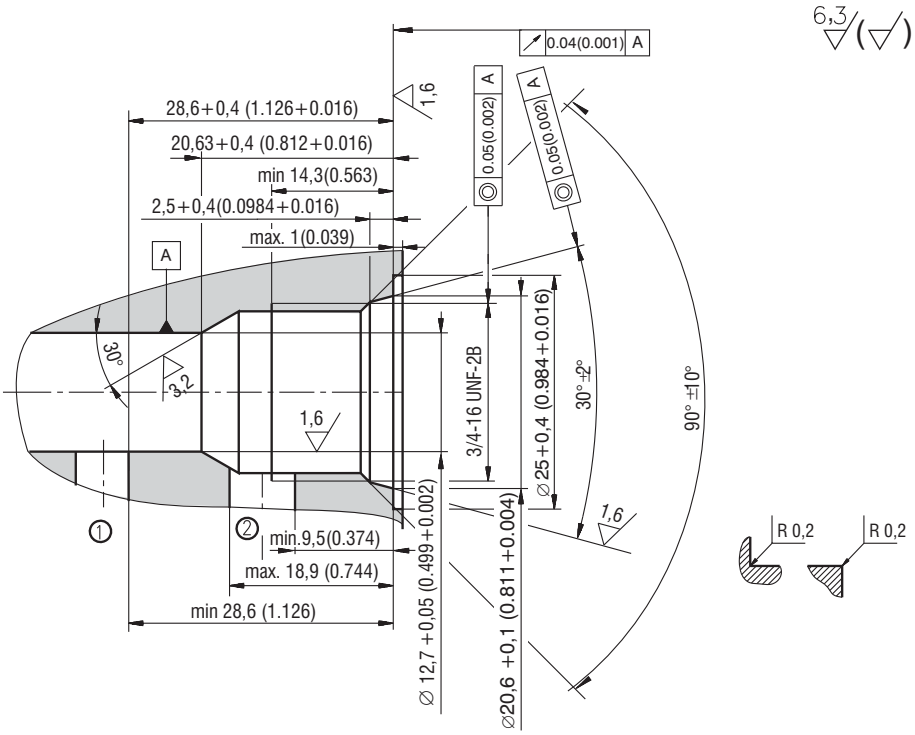


Seal kit
- see Spare Parts
1. Dualseal - PU
2. O-ring - Viton

HEX 24 Mu=[30+2 Nm (22+1.47 lb.ft)]
HEX 27 Mu=[4+2 Nm (2.95+1.47 lb.ft)]
HEX 13 Mu=[10+1 Nm (7.37+0.73 lb.ft)]

Cavity

Dimensions in millimeters and (inches)



Spare Parts

Solenoid coil	Type of the coil		
	E2	E4	E13
Nominal voltage coil	Ordering number		
12 V DC	28145600	28145800	29867600
24 V DC	27824300	27824400	29868600
Seal kit	Dimensions, quantity		Ordering number
	Dualseal - PU	O-ring	
	10,3 x 12,7 x 3,1 (1pc)	17,17 x 1,78 (1pc)	17014300

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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