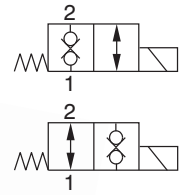


- 2/2 way cartridge poppet valves solenoid operated
- Manual override
- No spool sticking by too high tightening torque
- High transmitted power



Functional Description

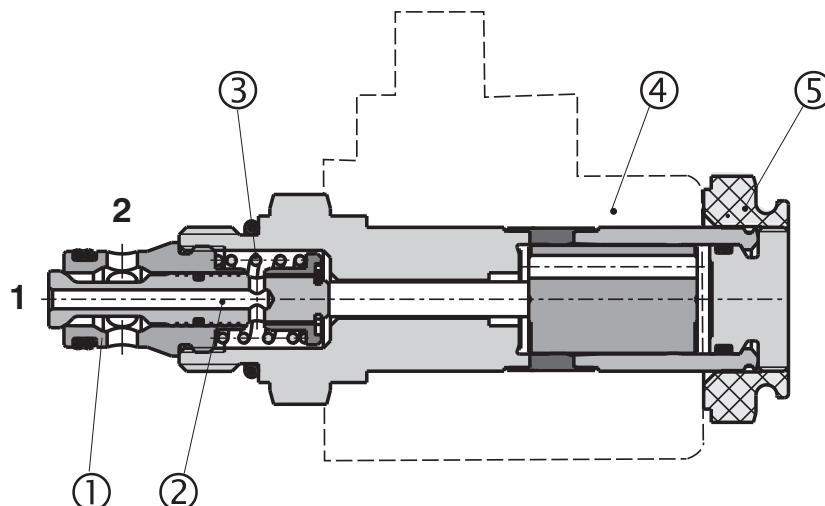
The directly controlled two-way two-position directional control poppet valve is used to open or close the medium flow to the consumer and, simultaneously, from the consumer to discharge. The typical example is control of a single-action cylinder. The control valve consists of the valve saddle (1), poppet (2), return spring (3) and controlling electromagnet (4). The opening and closing of the valve is ensured by electromagnet controlled poppet which sits on the seat and guarantees in its closed leak-free position. When energized, the valve allows free flow in both directions, 1-2 or 2-1.

The DC solenoid coils can be delivered for 12 V and 24 V supply voltages. For AC applications 120 V/ 60 Hz or 230V/ 50 Hz, the rectifier is integrated directly in the socket connector. By loosening the fixing nut (5), the solenoid coil can be replaced or turned in the range of 360°. The valve body is zinc coated.

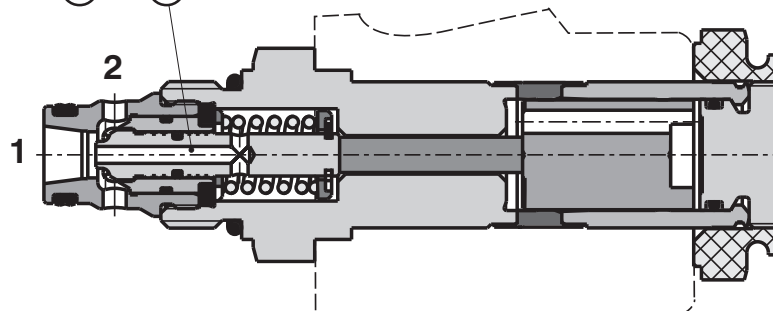
Note:

The valves are supplied without solenoids coils. The solenoid coil, the terminal box and the housing body for line mounting have to be ordered separately.

Designation 2S5



Designation 2S6



Ordering Code

SD1E-A2 /

**2/2 Way Solenoid Operated
Directional Control Poppet Valve
3/4-16UNF**

**no designation
V**

Seals
NBR
FPM (Viton)

High Performance

H

No designation

Manual override

M2
M5
M9

standard
covered with rubber boot
socket head screw
without manual override

Description

Refer to the table with functional symbols

Solenoid coil, terminal box and body for line mounting have to be ordered separately. For selection of solenoid coil and terminal box type use catalogue HA 8007. For selection of valve body for in-line mounting use catalogue HA 0018.

Functional Symbols

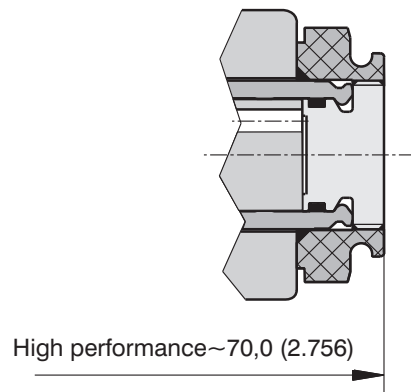
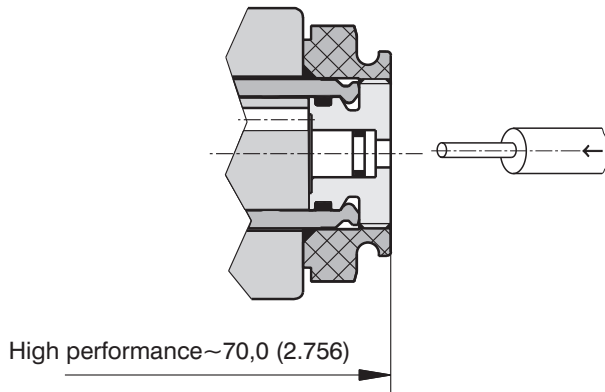
Designation	Symbol	Designation	Symbol
2S5		2S6	

Manual Override

Dimensions in millimeters (inches)

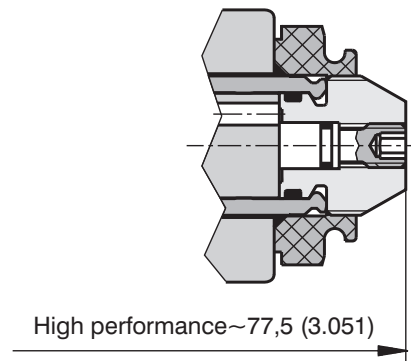
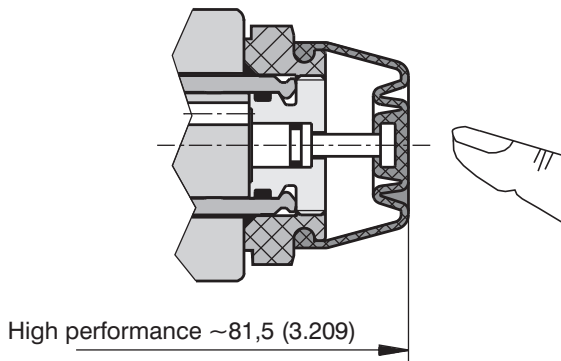
No designation - standard

Designation **M9** - without manual override



Designation **M2** - covered with rubber boot

Designation **M5** - with socket head screw 2.5 (0.098)



Technical Data

Valve size	A2	
Cartridge cavity	3/4-16 UNF-2A (according to 17209)	
Maximum flow	L/min (GPM)	30 (7.9)
Max. operating pressure	bar (PSI)	350 (5076)
Pressure drop	bar (PSI)	see Δp-Q characteristics
Hydraulic fluid	Hydraulic oils of power classes (HL, HLP) to DIN 51524	
Fluid temperature range	°C (°F)	-20 ... 80 (-4 ... 176)
Ambient temperature, max.	°C (°F)	-20 ... 50 (-4 ... 122)
Viscosity range	mm ² /s (SUS)	10 ... 500 (49 ... 2450)
Maximum degree of fluid contamination	Class 21/18/15 according to ISO 4406	
Group coils ¹⁾	C19B	
Permissible rated voltage variation	%	±10% AC,DC
Max. switching frequency	1/h	15 000
Duty cycle	%	100
Enclosure type to EN 60529	IP 67 (IP 65) ¹⁾	
Service life	cycles	10 ⁷
Valve tightening torque	Nm (lbf.ft)	30+2 (22.127+1.475)
Plastic nut tightening torque	Nm (lbf.ft)	3+1 (2.213+0.738)
Weight	kg(lbs)	0,19 (0.42)
Mounting position	unrestricted	
Valve body (data sheed HA 0018)	SB-A2	

¹⁾ see data sheet coils HA 8007

p-Q Characteristics

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

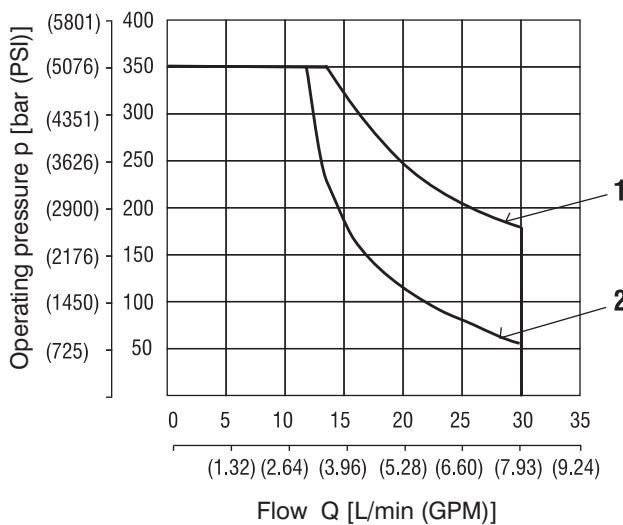
Operating limits for hydraulic power transferred by the directional valve. For respective spool type - see functional symbols.

Designation 2S5

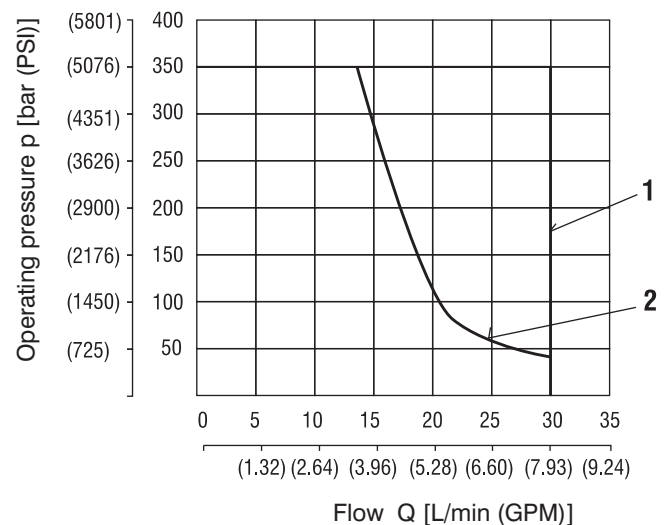
Oil 80 °C(176 °F) / Ambient temperature 50 °C (122 °F)
Voltage Un -10% [V]

Designation 2S6

Oil 80 °C (176 °F) / Ambient temperature 50 °C (122 °F)
Voltage Un -10% [V]



	Direction
1	1→2
2	2→1



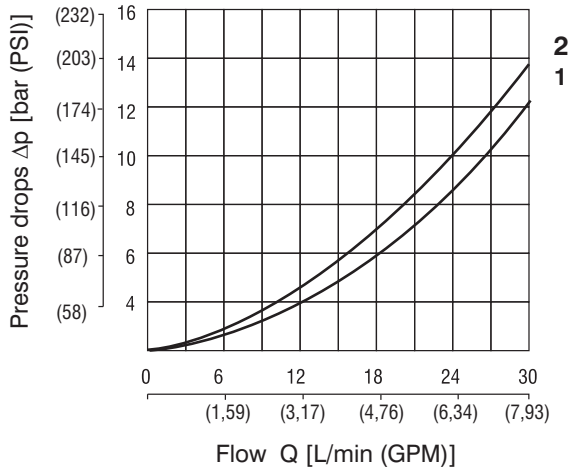
	Direction
1	2→1
2	1→2

Δp-Q Characteristics

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

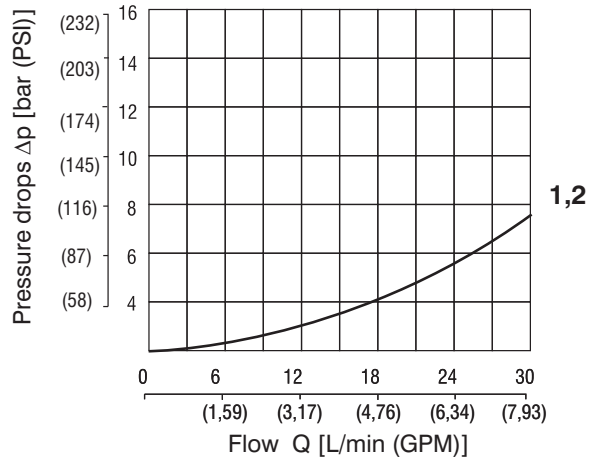
Pressure drops related to flow rate.

Designation 2S5



Direction	
1	1→2
2	2→1

Designation 2S6



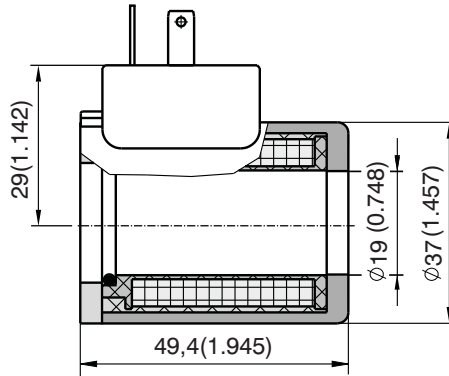
Direction	
1	1→2
2	2→1

Type of the Solenoid Coils

Dimensions in millimeters (inches)

Coil C19B

with connector E1 (E2)



Note:

Example of most frequent coil types.

For complete range of SD1E-A2 valve coils with technical information about voltage, enclosure type, terminal box please refer to coil data sheet HA 8007.

Solenoid	Connector	Type code
12 VDC	EN 175301-803-A	C19B-01200E1-7,1NA
24 VDC	EN 175301-803-A	C19B-02400E1-28,8NA
12 VDC	AMP-Junior-Timer	C19B-01200E3-7,1NA
24 VDC	AMP-Junior-Timer	C19B-02400E3-28,8NA
120 VAC	EN 175301-803-A with integrated rectifier	C19B-12060E5-527NA
230 VAC	EN 175301-803-A with integrated rectifier	C19B-23050E5-2065NA
120 VAC	EN 175301-803-A (with rectifier)	C19B-10600E1-527NA*
230 VAC	EN 175301-803-A (with rectifier)	C19B-20500E1-2065NA*

*Use the terminal box with rectifier!

Spare Parts

Dimensions in millimeters (inches)

Seal kit			
Dualseal - PU	O-ring - NBR	O-ring - Viton	Ordering number
10,3 x 12,7 x 3,1 (1pc.)	17 x 1,8 (1pc.)	-	20776700
10,3 x 12,7 x 3,1 (1pc.)	-	17,17 x 1,78 (1pc.)	17014300
Type of nut			Ordering number (kit)
Standard nut			20777000
Nut M2			20777600

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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