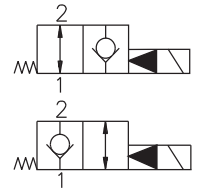


- Screw-in cartridge and in-line design
- Poppet valve - leak-free closing
- High switching reliability after long idling time
- Short switching times



Functional Description

The pilot operated 2/2 way solenoid actuated poppet valves control in the first line the start and stop function of the oil flow. The valve consists of the valve bushing (1), main control spool (2), return spring (3), cartridge with actuating system (4) and of the solenoid coil (5) that is mounted on the actuating system. The valve bushing is screwed into the cartridge part.

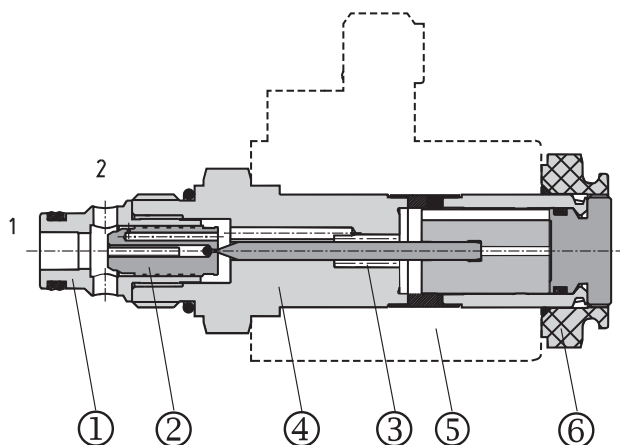
In the variant normally closed / normally open, the valve is securely held in the respective basic position by a spring. By energizing the solenoid coil the spring force is overcome and the pilot valve is pressed onto the seat or lifted. Opening and closing of the main control spool is hydraulically supported through the orifice boring created in the main control spool.

The DC solenoid coils can be delivered for 12 V and 24 V supply voltages. For AC applications 120 V/ 60 Hz or 230 V/ 50 Hz. With the AC high power solenoid coils, the rectifiers are integrated directly in the connector. By loosening the fixing nut (6), the solenoid coil can be replaced or turned in the range of 360°.

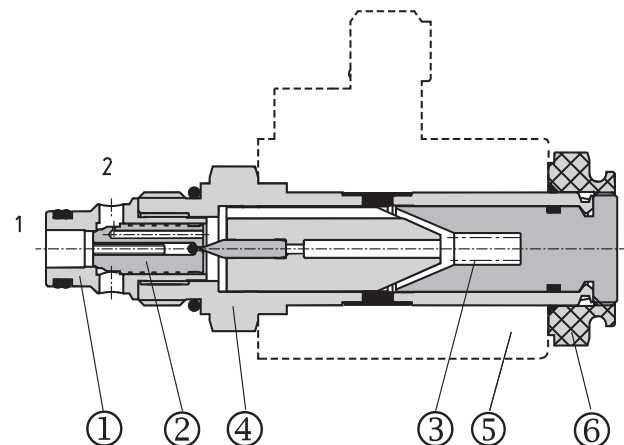
Notice.

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

Absence of current opened 2O2



Absence of current closed 2L2



Ordering Code

SD3E-A2 /

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

**No designation
V**

Seals
NBR
FPM (Viton)

High Performance **H**

No designation standard for 2O2
M2 covered with rubber bootn only for 2O2
M5 socket head screw
M9 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 HA0018.

Functional Symbols

Designation	Symbol	Designation	Symbol
202		2L2	

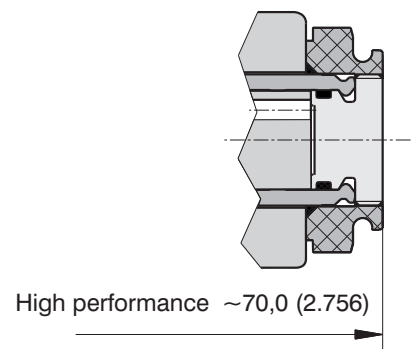
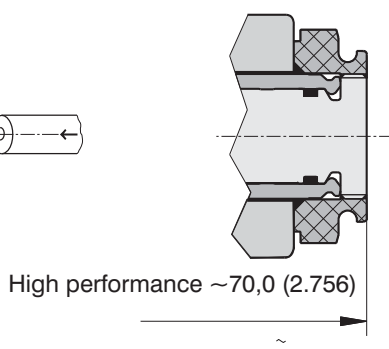
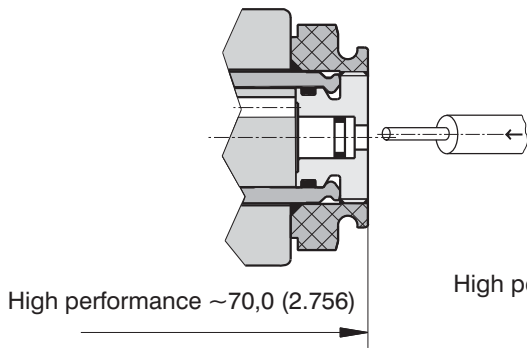
Manual Override

Dimensions in millimeters (inches)

No designation - Standard for 202

Designation **M9** - for 2L2
without manual override

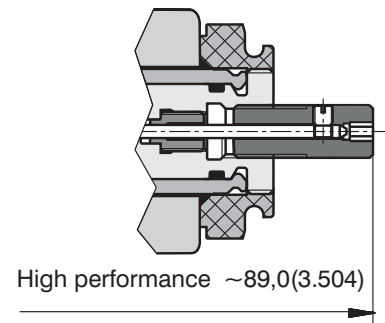
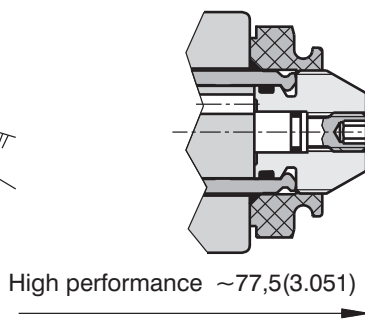
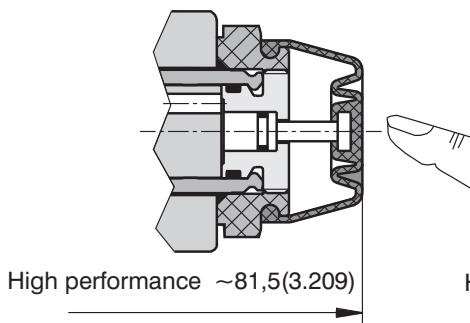
Designation **M9** - for 202
without manual override



Designation **M2** - for 202
covered with rubber bootn

Designation **M5** - for 202
by screwing in of the socket head
screw 2,5(0.098)

Designation **M5** - for 2L2
by screwing in of the socket
head screw 2,5(0.098)



Technical Data

Valve size	A2	
Cartridge cavity	3/4-16 UNF -2A (according to ISO 17209)	
Maximum flow	L/min (GPM)	30 (7.9)
Max. operating pressure	bar (PSI)	420 (6091)
Pressure drop	bar (PSI)	see Δp -Q characteristics
Hydraulic fluid	Hydraulic oils of power classes (HL, HLP) to DIN 51524	
Coil groups ¹⁾	C19B	
Fluid temperature range	°C (°F)	-20 ... 80 (-4 ... 176)
Ambient temperature, max.	°C (°F)	-20 ... 80 (-4 ... 176)
Viscosity range	mm ² /s (SUS)	10 ... 500 (49 ... 2450)
Maximum degree of fluid contamination	Class 21/18/15 according to ISO 4406.	
Permissible rated voltage variation	%	AC, DC ± 15
Max. switching frequency	1/h	15 000
Duty cycle	%	100
Service life	cycles	10 ⁷
Enclosure type to EN 60529 ¹⁾	IP 67 (IP 65)	
Weight	kg (lbs)	0,20 (0.44)
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)
Mounting position	unrestricted	
Valve body (data sheed HA 0018)	SB-A2	

¹⁾ see data sheet coils HA 8007

p-Q Characteristics

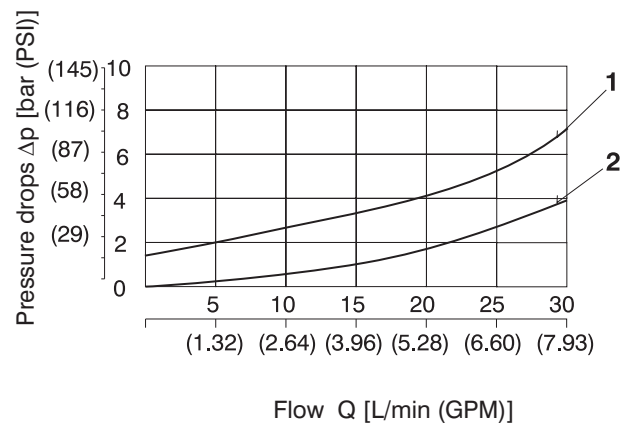
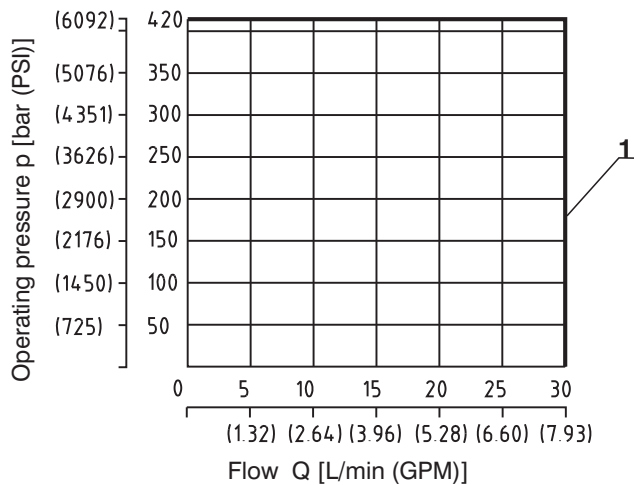
Δp -Q Characteristic

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

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

Oil 80 °C (176 °F) / Ambient temperature 50 °C (122 °F)
Voltage Un -10% [V] 24 VDC

Pressure drops related to flow rate



	Connection
1	2L2
1	2O2

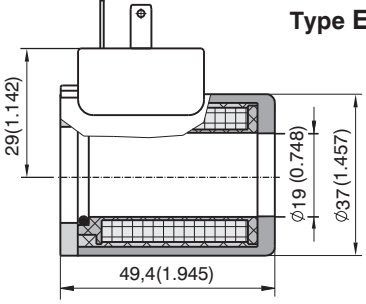
	Connection	Dirrection	Solenoid
1	H2L2	1 → 2	switched off
2	H2L2	1 → 2	switched on
2	H2L2	2 → 1	switched on
2	H2O2	1 → 2	switched off
2	H2O2	2 → 1	switched off

Type of the Solenoid Coils

Dimensions in millimeters (inches)

Example of most frequent coil types.

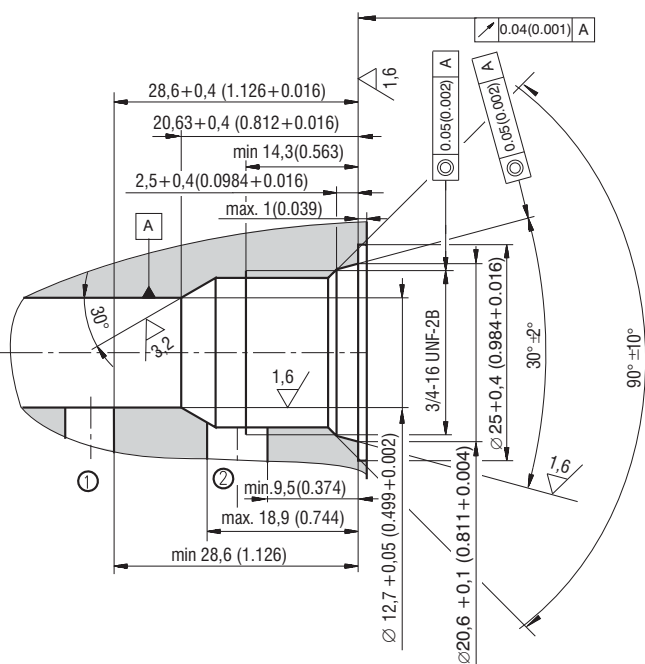
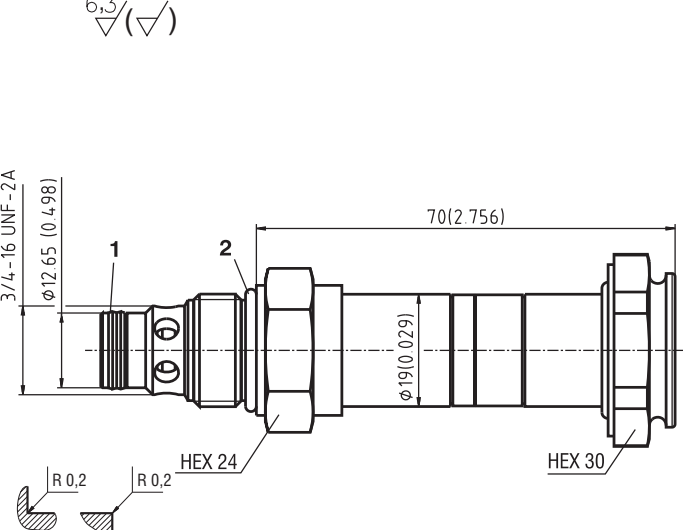
For complete range of valve coils with technical informatik about voltage, enclosure type, terminal box please afer to coil data sheet HA 8007.

Coil example	Solenoid	Connector	Type code
 <p>Type E1</p>	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!

Valve Dimensions

Dimensions in millimeters (inches)

Cavity	Standard manual override
	 <p>Seal kit - see Spare Parts 1. Dualseal - PU 2. O-ring</p>

Spare Parts

Dimensions in millimeters

Seal kit			
Dualseal - PU	O-Ring - NBR	O-Ring - Viton	Ordering number (kit)
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			
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.

ARGO-HYTOS s.r.o. CZ - 543 15 Vrchlábí
 Tel.: +420-499-403111, Fax: +420-499-403421
 E-mail: sales.cz@argo-hytos.com
 www.argo-hytos.com