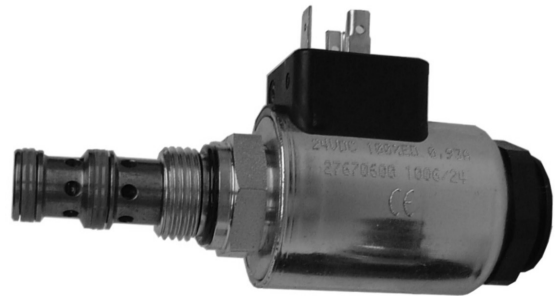
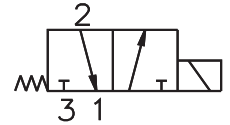


- 3/2 way cartridge valves solenoid operated with spool direction
- Manual override
- No spool sticking by too a high tightening torque
- High transmitted power



## Functional Description

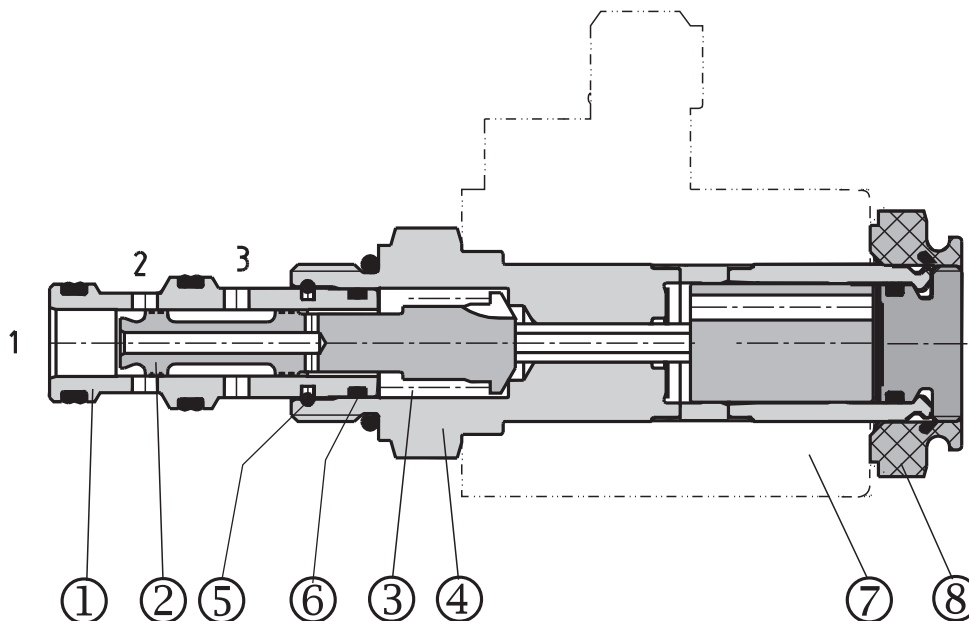
The directly operated 3/2 way solenoid actuated spool valve controls in the first line the start and stop function of the oil flow. The valve consists of the valve body (1), control spool (2), return spring (3), cartridge with actuating system (4) and of the solenoid coil (7) that is mounted on the actuating system. The valve bushing is screwed into the cartridge part (4).

The valve bushing is fixed in the cartridge by a wire ring (5) and sealed with the seal ring (6). Separation of the valve bushing and the cartridge prevent transmitting the stresses, which could be caused by too high tightening torques. 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 high power solenoid coils in AC variants, the rectifiers are integrated directly in the connector. By loosening the fixing nut (8), 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.



# Ordering Code

**SD2E-A3** /

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

No designation  
V

**Seals**  
NBR  
FPM (Viton)

High performance

**H**

No designation  
**M2**  
**M5**  
**M9**

**Manual override**  
standard  
covered with rubber boot  
socket head screw  
without manual override

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.

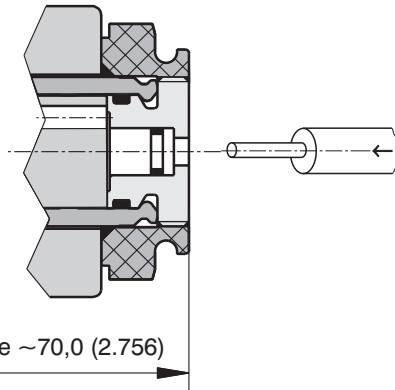
# Functional Symbols

Designation	Symbol	Interposition	Designation	Symbol	Interposition
2D21			2D26		
2D25					

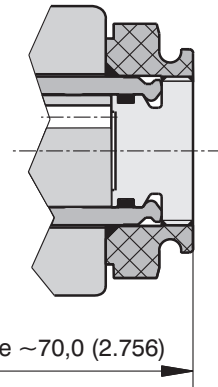
# Manual Override

Dimensions in millimeters (inches)

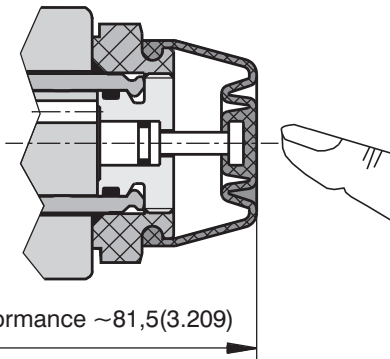
No designation - standard



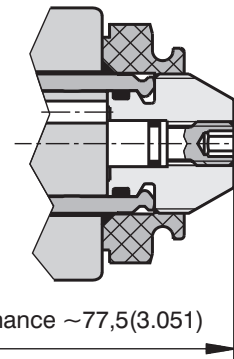
Designation **M9** - without manual override



Designation **M2** - covered with rubber boot



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



# Technical Data

Valve size	A3	
Cartridge cavity	3/4-16 UNF-2A (according to ISO 17209)	
Maximum flow	L/min (GPM)	30 (7.9)
Max. operating pressure	bar (PSI)	350 (5076)
Pressure drop	bar (PSI)	see $\Delta p$ -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 ... 80 (-4 ... 176)
Viscosity range	mm <sup>2</sup> /s (SUS)	10 ... 500 (49 ... 2450)
Maximum degree of fluid contamination	Class 21/18/15 according to ISO 4406	
Coil groups <sup>1)</sup>	C19B	
Permissible rated voltage variation	%	AC, DC $\pm 15$
Max. switching frequency	1/h	15 000
Duty cycle	%	100
Enclosure type to EN 60529 <sup>1)</sup>	IP 67 (IP 65)	
Service life	cycles	10 <sup>7</sup>
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)	0,20 (0.44)
Mounting position	unrestricted	
Valve body ( data sheed HA 0018)	SB-A3	

<sup>1)</sup> see data sheet coils HA 8007

## p-Q Characteristic

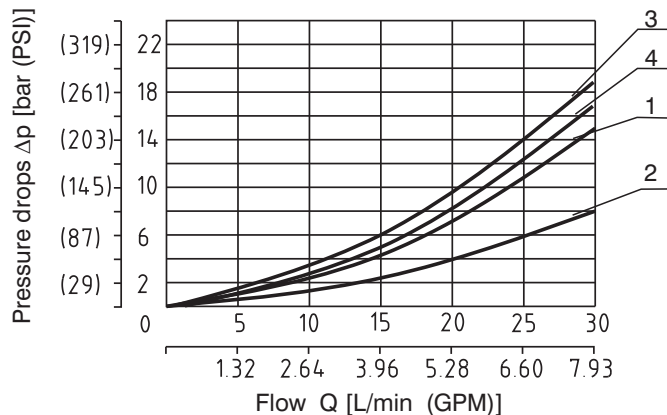
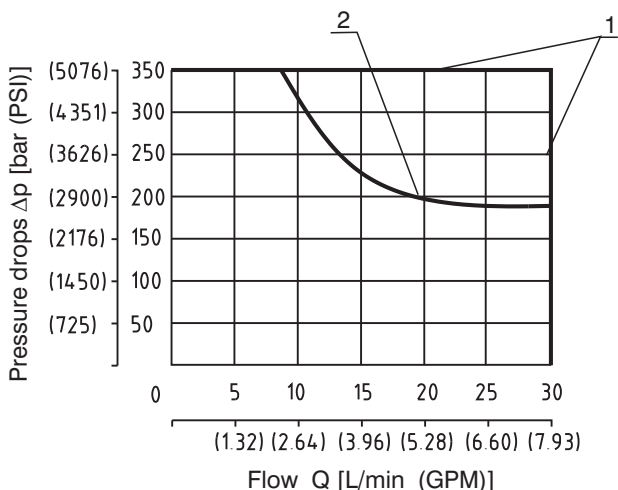
## $\Delta p$ -Q Characteristics

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)

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

Pressure drops related to flow rate.



	Connection
1	2D21
1	2D25
2	2D26

	Connection	Direction
1	2D21	3→2
1	2D25	3→2
2	2D21	2→1
3	2D26	3→2
4	2D25	2→1
4	2D26	2→1

