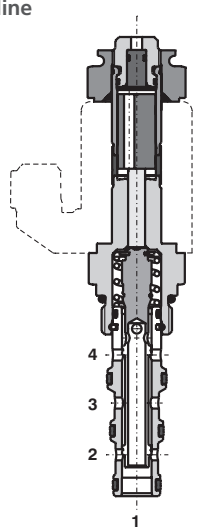
4/2 Directional Valve, Solenoid Operated, Spool Type, Direct Acting

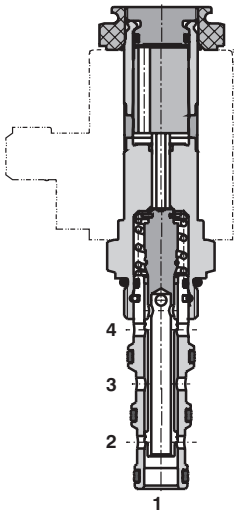
SD2E-A4

3/4-16 UNF • Q_{max} 30 l/min (8 GPM) • p_{max} 350 bar (5100 PSI)

Lightline



High performance

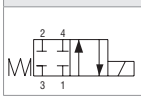
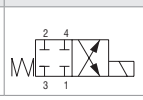
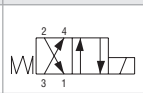
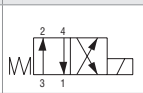
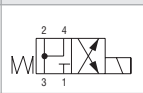
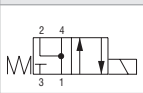
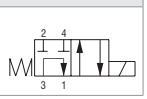


Technical Features

- Hardened precision parts
- High flow capacity
- High transmitted hydraulic power
- Wide range of manual overrides available
- All ports may be fully pressurized
- Variety of optional spools available
- Coil interchangeability among SD*-A* product line
- Standard version zinc-coated with surface protection acc. to ISO 9227 (240 h salt spray)

Functional Description

4-way, 2-position high pressure bi-directional spool valve in the form of a screw-in cartridge. The valve is used mainly to direct flow to actuators.

2Z11	2Z51	2X21	2R21	2P51	2Y11	2C51
						

Technical Data

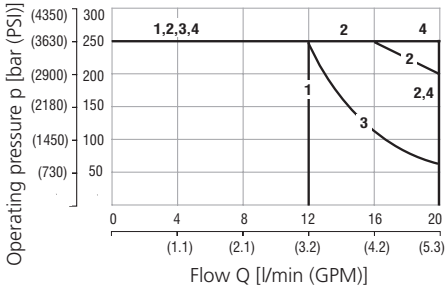
Valve size / Cartridge cavity		3/4-16 UNF-2A / A4	
		Lightline	High performance
Max. flow	l/min (GPM)	20 (5.3)	30 (7.9)
Max. operating pressure	bar (PSI)	250 (3630)	350 (5080)
Fluid temperature range (NBR)	°C (°F)	-30...60 (-22...140)	-30...80 (-22...176)
Fluid temperature range (FPM)	°C (°F)	-20...60 (-4...140)	-20...80 (-4...176)
Ambient temperature range	°C (°F)	-30...50 (-22...122)	-30...80 (-22...176)
Supply voltage tolerance	%	DC ± 10	AC, DC: ± 15
Max. switching frequency	1/h	15 000	
Weight without coil	kg (lbs)	0.15 (0.33)	0.23 (0.51)

		Datasheet	Type	
General information			Products and operating conditions	
Coil types		C_8007	C14B*	C19B*
Valve bodies	In-line mounted	SB_0018	SB-A4*	
	Sandwich mounted	SB-04(06)_0028	SB-*A4*	
Cavity details / Form tools		SMT_0019	SMT-A4*	
Spare parts		SP_8010		

Characteristics measured at ν = 32 mm²/s (156 SUS)

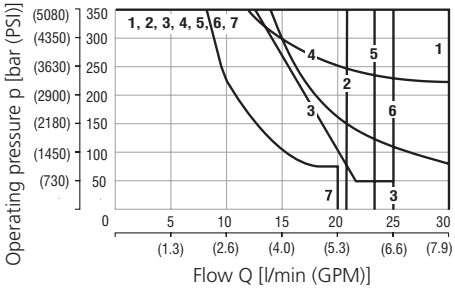
Operating limits - Lightline

Oil 60 °C (140 °F) / Ambient temperature
50 °C (122 °F) / Voltage U_n -10% (21.6 V DC)

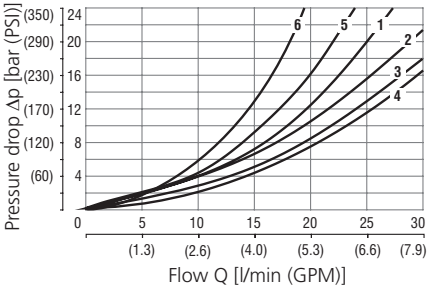


Operating limits - High performance

Oil 80 °C (176 °F) / Ambient temperature
50 °C (122 °F) / Voltage U_n -10% (21.6 V DC)



Pressure drop related to flow rate
- Lightline, High performance



	Model	Connection
1	2Z11	3→2, 4→1
2	2Z51	3→4, 2→1
3	2R21	3→2, 4→1
4	2R21	3→4, 2→1
4	2P51	3→4, 2→1
4	2X21	3→4, 2→1
		3→2, 4→1

	Model	Connection
1	2Z51	3→4, 2→1
2	2Z11	3→2, 4→1
3	2R21	3→2, 4→1
4	2X21	3→4, 2→1
5	2X21	3→2, 4→1
1	2R21	3→4, 2→1
6	2Y11	3→2, 4→1
7	2C51	3→1

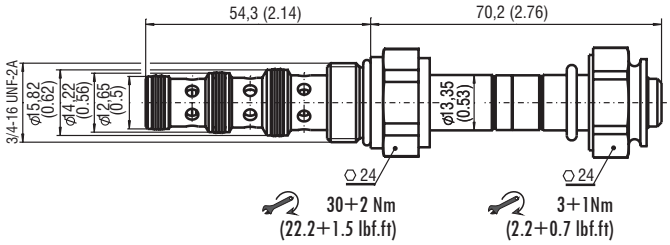
	Model	Connection	Model	Connection
1	2Z11	4→1	2R21	2→1
2	2Z11	3→2	2Z51	2→1
2	2X21	3→4, 4→1	2R21	3→2
3	2Z51	3→4	2R21	3→4
3	2Y11	3→2, 4→1		
4	2X21	3→2, 2→1	2C51	3→2, 4→1
5	2R21	4→1		
6	2C51	3→1		

For operating limits under conditions and flow directions other than shown contact our technical support.

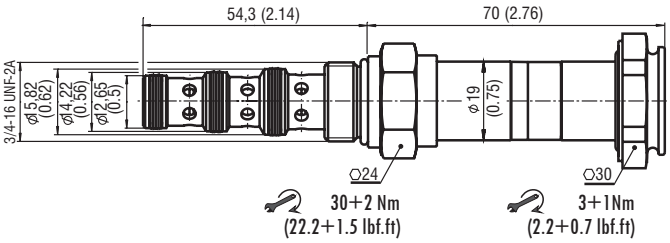
Subject to change · SD2E-A4_4042_2en_02/2019

Dimensions in millimeters (inches)

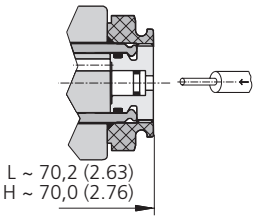
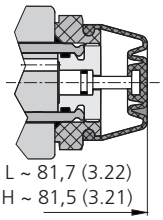
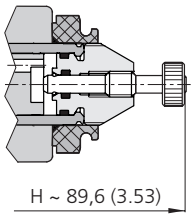
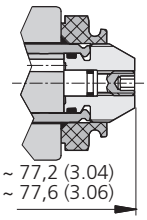
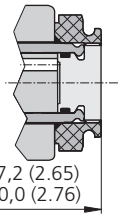
Lightline



High performance



Manual Override in millimeters (inches)

No Designation - standard	Designation M2 - rubber boot protected	Designation M4 - hand screw (only for High performance)	Designation M5 - socket head screw, size 2.5	Designation M9 - without manual override
 L ~ 70,2 (2.63) H ~ 70,0 (2.76)	 L ~ 81,7 (3.22) H ~ 81,5 (3.21)	 H ~ 89,6 (3.53)	 L ~ 77,2 (3.04) H ~ 77,6 (3.06)	 L ~ 67,2 (2.65) H ~ 70,0 (2.76)

In case of solenoid malfunction or power failure, the spool of the valve can be shifted by manual override as long as the pressure in port T does not exceed 25 bar (363 PSI). For alternative manual overrides contact our technical support.

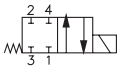
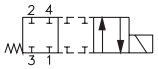
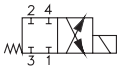
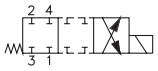
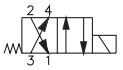
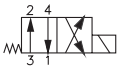
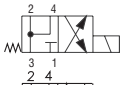
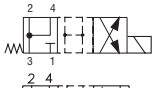
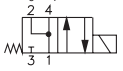
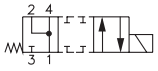
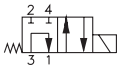
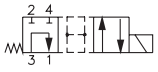
Ordering Code

SD2E-A4 / ☐ ☐ ☐ ☐ - ☐

4/2 directional valve, solenoid operated, spool type, direct acting, 3/4-16 UNF

Lightline	**L**
High performance	**H**

Functional symbol

		**2Z11**
		**2Z51**
		**2X21**
		**2R21**
		only for L **2P51**
		only for H **2Y11**
		only for H **2C51**

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)

Manual override

No designation	standard
M2	rubber boot protected
M4	hand screw (only for High performance)
M5	socket head screw
M9	without manual override