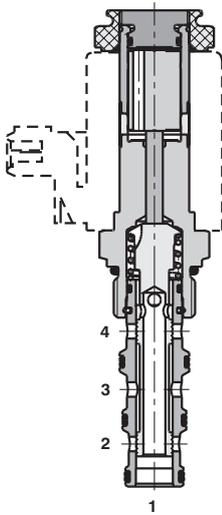


4/2 Directional Valve, Solenoid Operated, Spool Type, Direct Acting

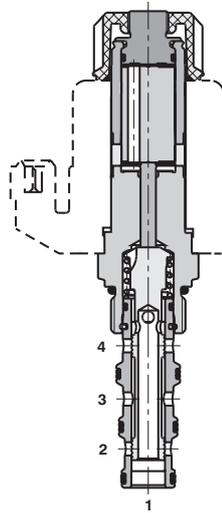
SD2E-B4

7/8-14 UNF • Q_{max} 50 l/min (13 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*-B* 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 directional spool valve in form of a screw-in cartridge. The valve is used mainly to direct flow to actuators.

Model Code	2Z11	2Z51	2X11	2X21
Symbol				

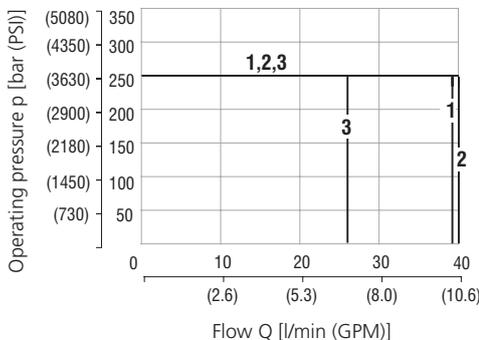
Technical Data

Valve size / Cartridge cavity		7/8-14 UNF-2A / B4 (C-10-4)	
		Lightline	High performance
Max. flow	l/min (GPM)	40 (10.6)	50 (13)
Max. operating pressure	bar (PSI)	250 (3600)	350 (5100)
Max. internal leakage in the direction 4→1 ($v=32$ mm ² /s)	cm ³ /min	≤ 45 at 250 bar	
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)
Fluid viscosity range	mm ² s ⁻¹	10 ... 500	
Weight without coil	kg (lbs)	0.25 (0.55)	0.32 (0.71)
		Datasheet Type	
General information		HA 0060 Products and operating conditions	
Coil types		HA 8007 C19B*	C22B*
Valve bodies		In-line mounted HA 0018	SB-B4*
		Sandwich mounted HA 0028	SB-*B4*
Cavity details / Form tools		HA 0019 SMT-B4*	
Spare parts		HA 8010	

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

Operating limits - Lightline

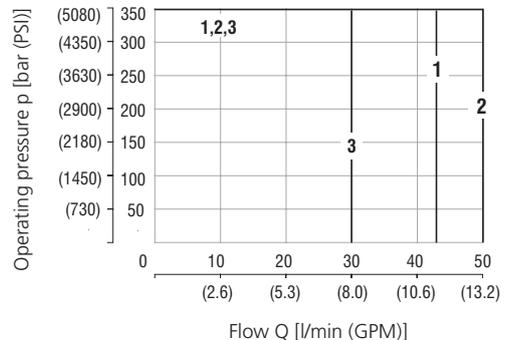
Oil 60 °C (140 °F) / Ambient temperature
50 °C (122 °F) / Voltage U_N -10% (21.6 V DC)



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

Operating limits - High performance

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

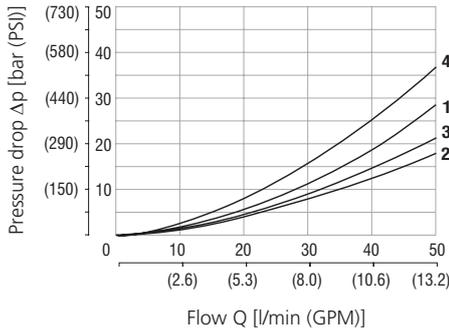


	Model	Connection
1	2Z11	3→2, 4→1
2	2Z51	3→4, 2→1
1	2X11	3→4, 2→1
1	2X11	3→2, 4→1
2	2X21	3→4, 2→1
3	2X21	3→2, 4→1

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

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

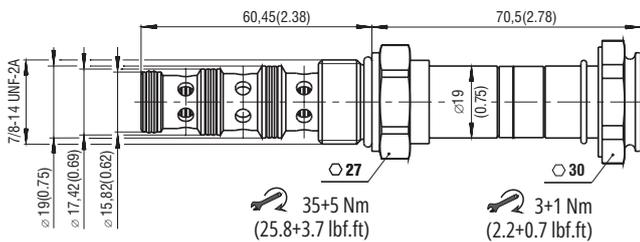
Pressure drop related to flow rate
- Lightline, High performance



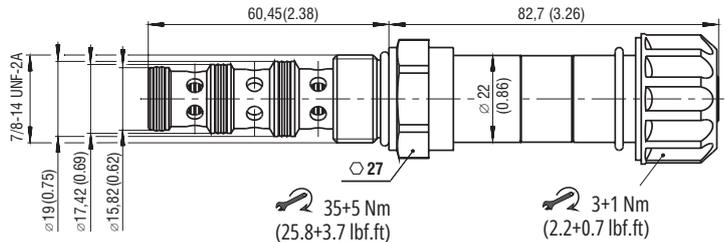
	Model	Connection	Model	Connection	
1	2Z11	3→2	4	2X11 only for H	3→2
1	2Z11	4→1	1	2X11 only for H, $Q_{\max} 50 \text{ l/min}$	3→4
3	2Z51 only for L	3→4	4	2X11 only for H, $Q_{\max} 35 \text{ l/min}$	4→1
3	2Z51 only for L	2→1	3	2X21	3→2
2	2Z51 only for H	3→4	4	2X21	4→1
3	2Z51 only for H	2→1	3	2X21 $Q_{\max} 50 \text{ l/min}$	3→4
4	2X11 only for H	2→1	2	2X21 $Q_{\max} 40 \text{ l/min}$	2→1

Dimensions in millimeters (inches)

Lightline



High performance



Manual Override in millimeters (inches)

No designation - standard	Designation M2 - rubber boot protected	Designation M5 - socket head screw, size 2.5	Designation M9 - without manual override
 L ~ 70,5 (2.78) H ~ 82,7 (3.26)	 L ~ 82,0 (3.23) H ~ 100,0 (3.94)	 L ~ 78,1 (3.07) H ~ 84,8 (3.34)	 L ~ 70,5 (2.78) H ~ 82,7 (3.26)

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

Ordering Code

SD2E-B4 / [] [] [] [] - []

4/2 directional valve, solenoid operated, spool type, direct acting

Valve cavity
7/8-14 UNF (C-10-4)

Model
Lightline
High performance

Functional symbol

	2Z11
	2Z51
	2X11
	2X21

Surface treatment
A zinc-coated (ZnCr-3), ISO 9227 (240 h)
B zinc-coated (ZnNi), ISO 9227 (520 h)

Seals
No designation V NBR
FPM (Viton)

Manual override
No designation standard
M2 rubber boot protected
M5 socket head screw
M9 without manual override