



CETOP5 Solenoid Operated Directional Valves DSG-03 Series

These are epoch-making solenoid operated directional valves of high pressure, high flow which have been developed incorporating a unique design concept into every part of the valve including the solenoid. With wet type solenoids, these valves ensure the low noise and the long life, moreover, ensure no leakage of oil outside of the valve.

Wide Range of Models

- Choose the optimum valve to meet your needs from a large selection available. The DSG-03 50 design series solenoid operated directional valves are classified into the two basic models.
- Standard type.....Useable at high pressure: 31.5 MPa (4570 PSI) and high flow: 120 L /min. (31.7 U.S.GPM)
- Shockless type....A noise at spool changeover and a vibration in piping can be reduced to a minimum.

Stable Operation

- With a strong magnet and spring force, the valves are tough against contamination and thus ensure a stable operation.

Solenoids

- **Solenoid Connectors (DIN connector)**
The solenoid connectors are conform to the international standard ISO 4400 (Fluid power systems and components-Three-pin electrical plug connectors-Characteristics and requirements).
- **AC Solenoids**
50 to 60 Hz common service solenoids do not require rewiring when the applied frequency is changed.
- **DC Solenoids (Reputable K-series)**
These DC solenoids have surge absorbers for K-series functions. The three advantages of them are as mentioned below:
 1. Since surge voltage can be controlled to a very low figure, electric control devices, such as a computer, can be used without any interference like noise.
 2. There being no spark between contacts, the life of the relay becomes longer.
 3. Time lag for spool return after de-energisation of the solenoid is very short.
- **R Type Solenoids**
These are rectifier and surge absorber incorporated direct current solenoids which can be used by connecting directly to the AC power source. They have, like other DC solenoids, such advantages that the sound in on-off operation is quite low and the coils are hardly burnt out even if the spool is stuck at the half way of its changeover for contaminant particles etc. Moreover, they can be used almost permanently without being affected by a surge voltage from the outside. Thus, they are the solenoids of high reliability and durability.
- **RQ Type Solenoids**
These are solenoids having the same features as R type solenoids above plus such an additional feature that the time lag for the spool return after deenergisation of the solenoid becomes considerably shortened.
- **Insulation Class of Solenoid Class H**

The products approved by CSA (Canadian Standards Association) and the products conforming to the Low Voltage Directive 73/23/EEC (amended by 93/68/EEC) are also available.

Model Numbers	Price £	Price €
DSG-03-3C*-*-70	£270.40	€324.50
DSG-03-2D2*-*-70	£270.40	€324.50
DSG-03-2B*-*-70	£196.80	€236.20

Specifications

Valve Type	Model Numbers	Max. Flow * L/min	Max. Operating Pressure MPa (PSI)	Max. T-Line Back Pressure MPa (PSI)	Max. Changeover Frequency Cycle/min {min ⁻¹ }	Approx. Mass kg	
						Type of Solenoid	
						AC	DC, R, RQ
Standard Type	DSG-03-3C*-*-50	120	31.5 (4570)	16 (2320)	340 (R Type Sol. Only)	3.6	5
	DSG-03-2D2*-*-50	120	Spool Type 60 Only	16 (2320)		3.6	5
	DSG-03-2B*-*-50	120	25 (3630)	16 (2320)	120	2.9	3.6
Shockless Type	S-DSG-03-3C*-*-50	120	16 (2320)	16 (2320)	120	-	5
	S-DSG-03-2B2*-*-50	120	16 (2320)	16 (2320)	120	-	3.6

* The maximum flow means the limited flow without inducing any abnormality to the operation (changeover) of the valve. The maximum flow differs according to the spool type and operating conditions.

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CETOP MOUNTED VALVES

Mounting Bolt

For socket head cap screws in the table below are included.

Descriptions	Soc. Hd. Cap Screw (4 pcs.)	Tightening Torque
Japanese Standard "JIS" European Design Standard	M6 × 35 Lg.	12 - 15 Nm (106 - 133 in. lbs.)
N. American Design Standard	1/4-20 UNC × 1-1/2 Lg.	

Sub-plate

Piping Size	Japanese Standard "JIS "		European Design Standard		N.American Design Standard Approx.		Mass kg
	Sub-plate Model Numbers	Thread Size	Sub-plate Model Numbers	Thread Size	Sub-plate Model Numbers	Thread Size	
1/8	DSGM-03-40	Rc 1/8	DSGM-03-2180	3/8 BSP.F	DSGM-03-2190	3/4 NPT	3.0
1/4	DSGM-03X-40	Rc 1/4	DSGM-03X-2180	1/2 BSP.F	DSGM-03X-2190	1/2 NPT	3.0
3/8	DSGM-03Y-40	Rc 3/8	DSGM-03Y-2180	3/4 BSP.F	DSGM-03Y-2190	3/4 NPT	3.0

Sub-plates are available. Specify the sub-plate model number from the table above.
When sub-plates are not used, the mounting surface should have a good machined finish.

Solenoid Ratings

Valve Type	Electric source	Coil Type	Frequency (Hz)	Voltage (V)		Current & Power at Rated Voltage		
				Source Rating	Serviceable Range	Inrush (A) *2	Holding (A)	Power (W)
Standard Type	AC*1	A100	50	100	80 - 110	5.37	0.90	-
		A100	60	100	90 - 120	4.57	0.63	-
		A100	60	110	90 - 120	5.03	0.77	-
		A120	50	120	96 - 132	4.48	0.75	-
		A120	60	120	108 - 144	3.81	0.52	-
		A200	50	200	160 - 220	2.69	0.45	-
		A200	60	200	180 - 240	2.29	0.31	-
		A200	60	220	180 - 240	2.52	0.38	-
		A240	50	240	192 - 264	2.24	0.37	-
		A240	60	240	216 - 288	1.91	0.26	-
Shockless Type	DC (K Series)	D12	-	12	10.8 - 13.2	-	3.06	38
		D24	-	24	21.6 - 26.4	-	0.57	38
		D100	-	100	90 - 110	-	0.38	38
	AC → DC Rectified (R)	R100	50/60	100	90 - 110	-	0.43	38
		R200	50/60	200	180 - 220	-	0.21	38
		AC → DC Rectified (RQ) (Quick Return)	RQ100	50/60	100	90 - 110	-	0.43
RQ100	50/60		100	90 - 110	-	0.43	38	

- ★1 AC solenoid is not available in shockless type. R or RQ type models with built-in current rectifier is recommended for shockless operation with AC power.
- ★2 Inrush current in the above table show rms values at maximum stroke.
- ★3 There are more coil types other than the above. For details, please make inquiries.

The coil type numbers in the shaded column are handled as optional extras. In case these coils are required to be chosen, please confirm the time of delivery with us before ordering.

