

# Solenoid Operated Directional Valves

## Solenoid Controlled Pilot Operated Directional Valves

### "G" Series Shockless Type Directional Valves

### Pilot/Manually/Mechanically Operated Directional Valves

Valve Type	Graphic Symbols	Max. Operating Pressure MPa	Max. Flow L/min												Page		
			1	2	5	10	20	50	100	200	500	1000	2000	5000			
Solenoid Operated Directional Valves		25	DSG-005												E-10		
		25	DSG-007												E-16		
		16	L-DSG-01												E-22		
		25	S-DSG-01														
		35	DSG-01														
				16	L-DSG-03												E-37
				25	S-DSG-03												
31.5	DSG-03																
Low Wattage (5W) Type Solenoid Operated Directional Valves		16	E-DSG-01												E-53		
Electronic Relay Incorporated Solenoid Operated Directional Valves		25	T-S-DSG-01												E-62		
		35	T-DSG-01												E-62		
		25	T-S-DSG-03														
		31.5	T-DSG-03														
Explosion Proof (Flameproof) Type Solenoid Operated Directional Valves		31.5	DSG-01-***-***X*												E-66		
			DSG-03-***-***X*														
Explosion Proof (Increased Safety) Type Solenoid Operated Directional Valves		31.5	DSG-01-***-***Y*												E-68		
			DSG-03-***-***Y*														
Solenoid Controlled Pilot Operated Directional Valves		21	DSHG-01												E-69		
		25	DSHG-03														
		31.5	DSHG-04/S-DSHG-04														
			DSHG-06/S-DSHG-06														
G Series Shockless Type Solenoid Operated Directional Valves		25	G-DSG-01												E-94		
			G-DSG-03														
G Series Shockless Type Solenoid Controlled Pilot Operated Directional Valves		25	G-DSHG-04												E-94		
			G-DSHG-06														
Pilot Operated Directional Valves		31.5	DHG-04 06 10												E-97		
Manually Operated Directional Valves		21	Thread Connection (DMT)			03	06	10							E-98		
		31.5	Sub-plate Connection (DMG)			01	03	04	06	10							
Mechanically Operated Directional Valves		7	Rotary (DR <sub>G</sub> <sup>T</sup> ) 02												E-99		
		25	Cam Operated (DC <sub>G</sub> <sup>T</sup> ) 01 03														

## Spool Types

Spool types are classified to the condition of flow at the neutral position.

Spool Types	Graphic Symbols	Schematic Drawing (Center Position)	Functions and Applications
<b>"2"</b> Closed Center All Ports			Holds pump pressure and cylinder position at neutral. Care should be paid if used as a 2-position type because shock occurs when each port is blocked in transit.
<b>"3"</b> Open Center All Ports			Pump can be unloaded and actuator is floating at neutral. If a 2-position type is used, shock is reduced as each ports is released to tank in transit.
<b>"4"</b> Open Center A, B&T			Pump pressure is held and actuator is floating at neutral. 2-position type is used when system pressure is required to be held in transit. Shock during transit is less compared to spool type "2".
<b>"40"</b> Open Center A, B&T Restricted Flow			In a variation of spool type "4", a restrictor is provided in A-T and B-T ports. Making it faster at stopping the actuator.
<b>"5"</b> Open Center P, A&T			It can be used when a pump is unloading at neutral and actuator is halted at one way flow.
<b>"6"</b> Open Center P&T (Closed Crossover)			Pump is unloading and actuator position held at neutral. Suitable for series operation.
<b>"60"</b> Open Center P&T (Open Crossover)			It is a variation of spool type "6". Shock is reduced as each port is released to tank on transit.
<b>"7"</b> Open Center All Ports Restricted Flow			Mainly used as a 2-position type. Shock is reduced on transit.
<b>"8"</b> 2-Way			Pump pressure and cylinder position is held at neutral in the same way as spool type "2". It is used as 2 way type.
<b>"9"</b> Open Center P, A&B			Regenerative circuit is provided at neutral.
<b>"10"</b> Open Center B&T			Prevent actuator from one direction drift by leakage of P port at neutral.
<b>"11"</b> Open Center P&A			Halt actuator movement positively at B, T ports blocked P, A ports connected at neutral.
<b>"12"</b> Open Center A&T			Prevent actuator from one direction drift by leakage of P port at neutral.