

1/8 Solenoid Operated Directional Valves, DSG-01 Series

- WIDE RANGE OF MODELS--Choose the optimum valve to meet your needs from the large selection available.**

The DSG-01 50 series solenoid operated directional valve comes with two basic models:

- Standard type** ----- Useable at high pressure, high flow [315Kgf/cm²,63L/min.]
- Shockless type** ----- which greatly reduces noise, which is a result of spool changeover and vibration in pipes.

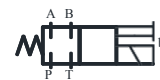
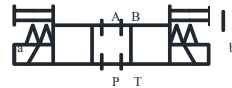
The optimum valve for any system can be utilized since many spool types and various solenoids are all available, along with other optional functions.

- IP65-equivalent dust and water resistant**

On request can be customized up to IP68/69.
Consult CNIP for more details.



Graphical Symbols



- 4 Way, 3 Position

- 4 Way, 2 Position

Specification

Valve Type	Model Numbers	Max. Flow* L/min.	Max. Operating Pressure Kgf/cm ²	Max. T-Line Back Pressure Kgf/cm ²	Max. Changeover Frequency Cycles/min.	Mass Kg
Standard Type	DSG-01-3C※-※-50	63	315 {Spool Type 60 Only 250}	160	300 {R Type Sol. Only 120}	2.2
	DSG-01-2D2※-※-50					
	DSG-01-2B※-※-50					
Shockless Type	S-DSG-01-3C※-※-50	40	160	160	120	2.2
	S-DSG-01-2B2※-※-50					1.6

* Maximum flow indicates a ceiling flow. As the ceiling flow depends on the type of spool and operating condition, refer to the list of standard models & maximum flow on page 332 & 333 for details.

Sub-Plates

Sub-plate Model Numbers	Thread Size	Approx. Mass Kg.
DSGM-01-3080	1/8 BSP.F	0.8
DSGM-01X-3080	1/4 BSP.F	0.8

* 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.

Mounting Bolts

Four socket head cap screws as in the table below are included.

Soc. Hd. Cap Screw	Qty.	Mounting Bolt Kit Number
M5 x 45 Lg.	4	BKDSG-01-50

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	1.6	0.46	---				
			60	100	90 - 120	2.12	0.32					
				110		2.33	0.39					
			A120	50	120	96 - 132	1.3		0.38			
				60		108 - 144	1.77		0.27			
			A200	50	200	160 - 220	0.80		0.23			
		60		200	180 - 240	1.06	0.16					
			220	1.17		0.19						
		A240	50	240	192 - 264	0.67	0.19					
			60		216 - 288	0.89	0.13					
		Shockless Type	DC	D12	-----	12	10.8 - 13.2		-----	2.2	26	
				D24		24	21.6 - 26.4			1.1		
D48	48			43.2 - 52.8		0.55						
D100	100			90 - 110		0.27						
D110	110			99 - 121		0.24						
D200	200			180 - 220		0.13						
D220	220			198 - 242		0.12						
AC□DC Rectified	50/60			R100		100	90 - 110	-----		0.30		26
				R110		110	99 - 121			0.28		
				R200		200	180 - 220			0.15		
		R220	220	198 - 242	0.14							

*1 AC solenoid is not available in shockless type.

R 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.

Model Number Designation

F	S-	DSG	-01	-2	B	2	A	-A 100	-C	-N	50	-L	
Special Seals **	Type	Series Number	Valve Size	Number of Valve Positions	Spool - Spring Arrangement	Spool Type	Special Two Position Valve [Omit if not required]	Coil Type	Manual Override	Electrical Conduit Connection	Design *3	Models with Alternate offset Solenoid [Omit if not required]	
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	None: Standard Type	DSG: Solenoid Operated Directional Valve	01	3: Three Positions	C: Spring Centered	2, 3 4,40 5,60 7, 8 9,10 11,12	--	AC: A 100 A 120 A 200 A 240	None: Manual Override Pin	None: *2 Terminal Box Type	50	--	
				2: Two Positions	D: No-Spring Detented	2, 3 7, 8	A*1	DC: D 12, D 24, D 48, D 100, D 110, D 200, D 220				N0: Plug-in Type, but Without Connector	L
					B: Spring Offset	2, 3 8	A*1 B*1	R: (AC□DC) R 100, R110 R 200, R220					
				3: Three Positions	C: Spring Centered	2,4, 40	--	DC: D 12, D 24, D 48, D 100, D 110, D 200, D 220				N1: With Plug-in Connector with Indicator Light	L
2: Two Positions	B: Spring Offset	2	--	R: (AC□DC) R 100, R110 R 200, R220									

*1 For 2-position valves, spool types in addition to 2,3,7 and 8 are available. Refer page no. 336.

*2 Consult CNIP for availability.

*3 Design numbers subject to change. But installation dimensions remain as shown for design number 50 through 59. Note: Models with rubber dust cap at manual push pin are also available. Consult Yuken for details.

** Before ordering the Special Seals, consult CNIP INDIA LTD.

List of Standard Models and Maximum Flow

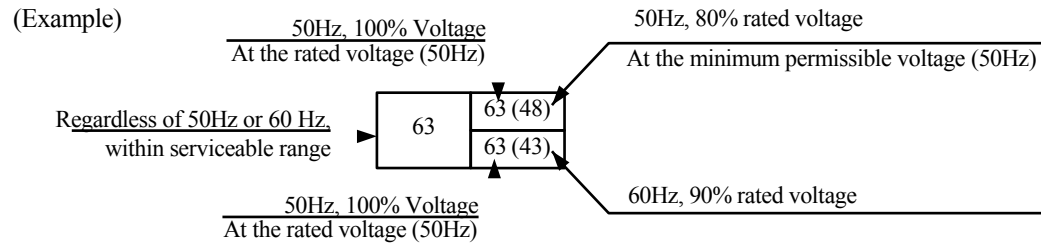
Model with AC Solenoids : DSG-01-***-A**

No. of Valve Positions	Spool-Spring Arrangements	Model Numbers	Graphic Symbols	Max. Flow L/min														
									 [Port "B" Blocked]					 [Port "A" Blocked]				
				50 Kg/cm ²	100 Kg/cm ²	160 Kg/cm ²	250 Kg/cm ²	315 Kg/cm ²	50 Kg/cm ²	100 Kg/cm ²	160 Kg/cm ²	250 Kg/cm ²	315 Kg/cm ²	50 Kg/cm ²	100 Kg/cm ²	160 Kg/cm ²	250 Kg/cm ²	315 Kg/cm ²
Three Positions	Spring Centered	DSG-01-3C2		63	63	63	63	63	63 (30) 45 (25)	63 (23) 33 (18)	63 (15) 20 (10)	50 (10) 13 (5)	40 (10) 13 (5)	63 (30) 45 (25)	63 (23) 33 (18)	63 (15) 20 (10)	50 (10) 13 (5)	40 (10) 13 (5)
		DSG-01-3C3		63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
		DSG-01-3C4		63	63	63	63	63 (48) 63 (43)	63 (25) 58 (20)	63 (23) 48 (18)	63 (20) 35 (15)	63 (13) 20 (8)	55 (10) 13 (5)	63 (25) 58 (20)	63 (23) 48 (18)	63 (20) 35 (15)	63 (13) 20 (8)	55 (10) 13 (5)
		DSG-01-3C40		63	63	63	63	63	63 (30) 45 (25)	63 (23) 33 (18)	63 (15) 20 (10)	50 (10) 13 (5)	40 (10) 13 (5)	63 (30) 45 (25)	63 (23) 33 (18)	63 (15) 20 (10)	50 (10) 13 (5)	40 (10) 13 (5)
		DSG-01-3C5*		45	43	40	40	--	45	43	40	40	--	45	43	40	40	--
		DSG-01-3C60*		45	43	40	40	--	45	43	40	40	--	45	43	40	40	--
		DSG-01-3C7		63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
		DSG-01-3C8		--	--	--	--	--	63 (25) 63 (20)	63 (25) 38 (20)	63 (25) 28 (20)	63 (15) 20 (10)	63 (10) 15 (5)	63 (25) 38 (20)	63 (25) 38 (20)	63 (25) 28 (20)	63 (13) 20 (10)	63 (10) 15 (5)
		DSG-01-3C9		63	63	63	63	63	28	20	15	10	10	28	20	15	10	10
		DSG-01-3C10		63	63	63	63	63	63 (38) 63 (33)	63 (30) 45 (25)	63 (25) 30 (20)	63 (15) 20 (10)	63 (13) 15 (8)	63 (38) 63 (33)	63 (30) 45 (25)	63 (25) 30 (20)	63 (15) 20 (10)	63 (13) 15 (8)
		DSG-01-3C11		63	63	63	63	63	30	23	20	13	10	63	63 (50)	63 (50)	63 (50)	63 (50)
		DSG-01-3C12		63	63	63	63	63	63 (30) 63 (25)	63 (28) 35 (23)	63 (23) 25 (18)	63 (18) 18 (13)	63 (15) 15 (10)	63 (30) 63 (25)	63 (28) 35 (23)	63 (23) 25 (18)	63 (18) 18 (13)	63 (15) 15 (10)
Two Positions	No Spring Detented	DSG-01-2D2		63	63	63	63	63	45	45	45	45 (35) 40 (30)	45 (25) 30 (20)	45	45	45	45 (35) 40 (30)	45 (25) 30 (20)
		DSG-01-2D3		63	63	63	63	63	45	45	45	45 (35) 40 (30)	45 (25) 30 (20)	45	45	45	45 (35) 40 (30)	45 (25) 30 (20)
		DSG-01-2D7		63	63	63	63	63	45	45	45	45 (35) 40 (30)	45 (25) 30 (20)	45	45	45	45 (35) 40 (30)	45 (25) 30 (20)
		DSG-01-2D8		--	--	--	--	--	40 (30) 35 (30)	40 (30) 35 (30)	40 (30) 35 (30)	35 (30) 30 (25)	35 (25) 25 (20)	40 (30) 35 (30)	40 (30) 35 (30)	40 (30) 35 (30)	35 (30) 30 (25)	35 (25) 25 (20)
	Spring Offset	DSG-01-2B2		63	63	63	63	63	20	20	20	20	20	63	63 (50)	63 (45)	63 (45)	60 (40)
		DSG-01-2B3		63	63 (60)	63 (60)	63 (60)	63 (60)	50	50	50	50	50	63 (55)	63 (55)	63 (55)	63 (55)	63 (55)
DSG-01-2B8		--	--	--	--	--	25	13	10	10	10	63 (28) 63 (23)	63 (25) 35 (20)	63 (20) 23 (15)	63 (13) 15 (8)	50 (10) 10 (5)		

Note :

- Maximum Flow rates and applied current.
 - The single column describes maximum flow rates regardless of whether AC solenoid 50 Hz or 60 Hz as long as it is within serviceable voltage range.
 - Maximum flow rates at 50 Hz solenoid with serviceable voltage range, refer to the figures in the upper column and 60 Hz solenoid as long as it is within serviceable voltage range. Refer to the figures in the latter column.

Where two figures are shown in the same column , the figure outside () is at rated voltage and inside () is at the minimum permissible solenoid voltage.



- For the maximum flow between P and T of those valves marked * , refer to page 334.

List of Standard Models and Maximum Flow

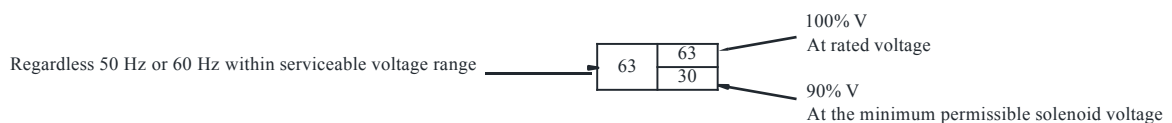
- Model with DC or R Type Solenoids : **DSG-01-***-D*/R***

No. of Valve Positions Spool-Spring Arrangements	Model Numbers	Graphic Symbols	Max. Flow L/min														
			50 Kgf/cm ²	100 Kgf/cm ²	160 Kgf/cm ²	250 Kgf/cm ²	315 Kgf/cm ²	50 Kgf/cm ²	100 Kgf/cm ²	160 Kgf/cm ²	250 Kgf/cm ²	315 Kgf/cm ²	50 Kgf/cm ²	100 Kgf/cm ²	160 Kgf/cm ²	250 Kgf/cm ²	315 Kgf/cm ²
Three Positions Spring Centered	DSG-01-3C2		63	63	63	63	63	45	30	20	15	13	45	30	20	15	13
	DSG-01-3C3		63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
	DSG-01-3C4		63	63	63	63	35	63	45	35	30	28	63	45	35	30	28
	DSG-01-3C40		63	63	63	63	63	45	45	45	45	45	45	45	45	45	45
	DSG-01-3C5*		45	43	40	40	--	45	43	40	40	--	45	43	40	40	--
	DSG-01-3C60*		45	43	40	40	--	45	43	40	40	--	45	43	40	40	--
	DSG-01-3C7		63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
	DSG-01-3C8		--	--	--	--	--	63	50	30	20	15	63	50	30	20	15
	DSG-01-3C9		63	63	63	63	63	25	20	15	10	10	25	20	15	10	10
	DSG-01-3C10		63	63	63	63	45	63	55	40	28	20	63	55	40	28	20
	DSG-01-3C11		63	63	63	63	63	30	23	20	13	10	63	58	55	55	55
	DSG-01-3C12		63	63	63	63	38	63	60	40	25	20	63	60	40	25	20
Two Positions No Spring Detented	DSG-01-2D2		63	63	63	63	63	45	45	45	40	30	45	45	45	40	30
	DSG-01-2D3		63	63	63	63	63	45	45	45	40	30	45	45	45	40	30
	DSG-01-2D7		63	63	63	63	63	45	45	45	40	30	45	45	45	40	30
	DSG-01-2D8		--	--	--	--	--	35	35	35	30	25	35	35	35	30	25
	DSG-01-2B2		63	63	63	63	63	20	18	18	18	18	63	58	40	30	30
	DSG-01-2B3		38	38	38	38	38	48	48	45	45	40	63	63	63	63	63
	DSG-01-2B8		--	--	--	--	--	25	13	10	8	8	63	48	28	15	15
	Two Positions Spring Offset	DSG-01-2B2		63	63	63	63	63	20	18	18	18	18	63	58	40	30
DSG-01-2B3			38	38	38	38	38	48	48	45	45	40	63	63	63	63	63

Note:

- Maximum Flow Rates and applied current.
 - The single column describes maximum flow rates regardless of voltage as long as it is within the serviceable voltage range.
 - Where two figures are shown in the same column, the upper is at rated voltage and the latter is at the minimum permissible solenoid voltage.

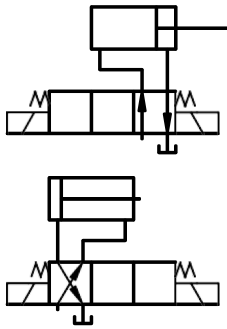
(Example)



- For the maximum flow between P and T of those valves marked *, refer to page 334.

Maximum Flow of Centre By-Pass

In spool type 5 and 60, P→T (Center By-Pass) flow rates are limited as shown in the column below. Described maximum flow rates are regardless voltage within serviceable voltage range.



Model Numbers	Graphic Symbols	Max. Flow L/min.			
		50 Kgf/cm ²	100 Kgf/cm ²	160 Kgf/cm ²	250 Kgf/cm ²
DSG-01-3C5-A※/D※/R※		45	43	40	30
DSG-01-3C60-A※/D※/R※		45	43	40	30

List of Spool Function of Shock-Less Type

- Model with DC or R Type Solenoids : S-DSG-01-※※※-D※/R※

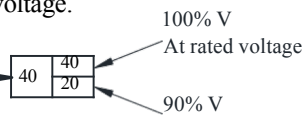
No. Of Valve Positions	Spool Spring Arrangement	Model Numbers	Graphic Symbols	Max. Flow L/min.											
							P → A [Port "B" Blocked]			P → B [Port "A" Blocked]					
				50 Kgf/cm ²	100 Kgf/cm ²	160 Kgf/cm ²	50 Kgf/cm ²	100 Kgf/cm ²	160 Kgf/cm ²	50 Kgf/cm ²	100 Kgf/cm ²	160 Kgf/cm ²			
Three Positions	Spring Centered	S-DSG-01-3C2		40	40	40	40	40	30	20	40	40	30	20	15
		S-DSG-01-3C4		40	40	40	40	40	30	20	40	40	30	20	15
		S-DSG-01-3C40		40	40	40	40	40	30	20	40	40	25	20	15
Two Positions	Spring Offset	S-DSG-01-2B2		40	40	40	40	30	30	40	40	25	20	15	

Note:

- Maximum Flow Rates and applied current.
 - The single column describes maximum flow rates regardless voltage within serviceable voltage range.
 - Where two figures are shown in the same column, the upper is at rated voltage and the latter is at the minimum permissible solenoid voltage.

(Example)

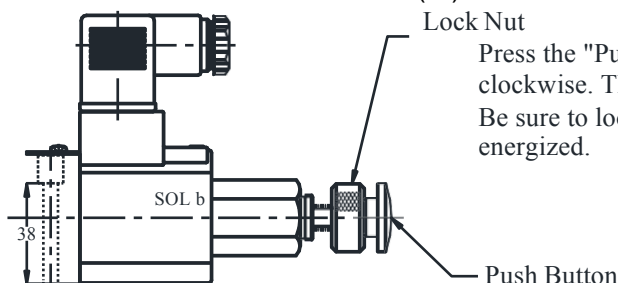
Regardless voltage within serviceable range



At the minimum permissible solenoid voltage

Options

Model With Push Button & Lock Nut : (S-) DSG-01-※※※-※C-($\frac{N}{N}$)-50



Press the "Push Button" then turn "Lock Nut" clockwise. The position of the "Push Button" is held. Be sure to loosen "Lock Nut" fully before solenoid is energized.

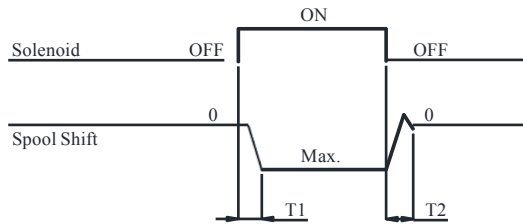
DSG-01 Series Solenoid Operated Directional Valves

Typical Changeover Time

Changeover time varies according to oil
Viscosity, spool type and hydraulic circuit

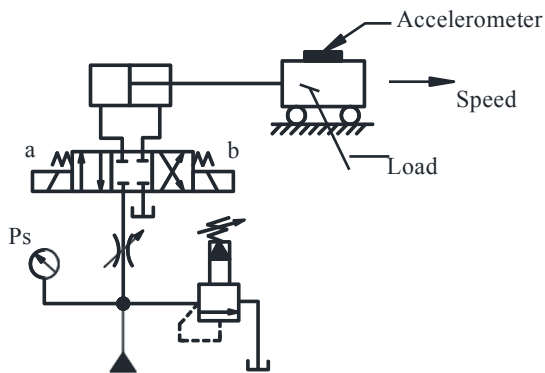
Standard Type

(Without Shockless Function)



Shockless Type

[Test Circuit an Conditions]



Setting Pressure (Ps): 70 Kgf/cm²
Speed :8m/min

[Test Conditions]

Pressure : 160 Kgf/cm²

Flow Rate: 31.5 L/min

Viscosity: 35cSt

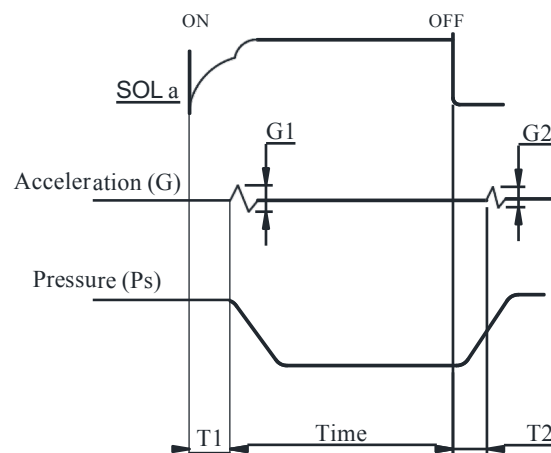
Voltage : 100% V

(After coil temperature rise and saturates)

[Result of Measurement]

Type	Model Numbers	Changeover Time ms	
		T1	T2
Standard Type	DSG-01-3C2-A※	15	23
	DSG-01-3C2-D※	48	19
	DSG-01-3C2-R※	50	100

[Result of Measurement]

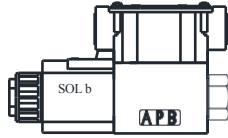


Type	Model Numbers	Time ms		Acceleration (G) m/s ²	
		T1	T2	G1	G2
Shock less Type	S-DSG-01-3C2-D※	70	30	1.2	0.7
Standard Type	DSG-01-3C2-D※	35	25	1.8	1.5

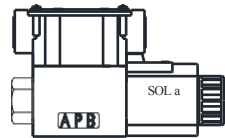
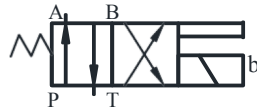
Spring Offset Valves with Alternate Solenoid

Through our standard spring offset models use solenoid “b”, alternate models using solenoid “a” are also available. The graphic symbols are expressed below.

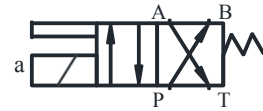
For Models 2 B※ A and 2B※ B, refer to table below.



Standard Offset



Alternate Offset('L')

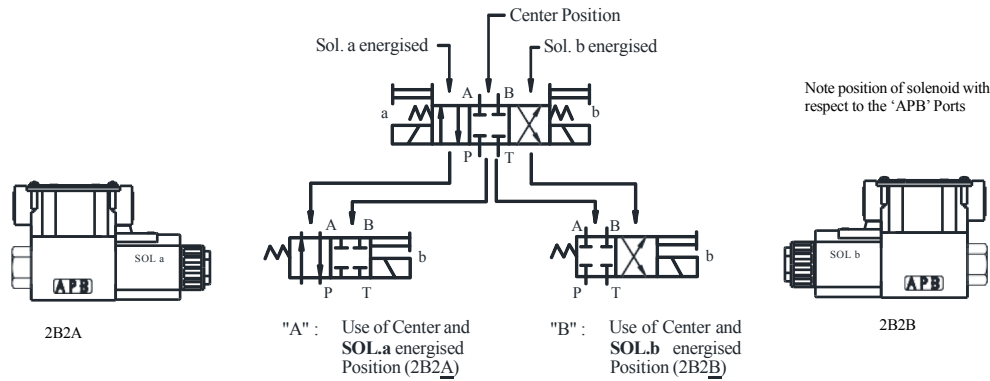


Valves with Center position and One Offset Position (Special Two Position Valve)

In addition to the standard two position valves shown on the table on page 332 and 333 two kinds of valves are available with center position and either one of two offset positions.

Standard and alternate offset types use solenoid “b” and solenoid “a” respectively.

(Example) In case of spool Type “2”

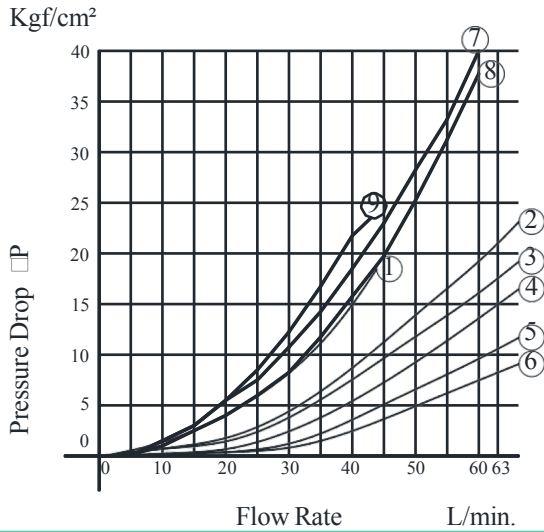


Model Number	Graphic Symbol		Model Number	Graphic Symbol		Model Number	Graphic Symbol
	Standard Offset Type	Alternate Offset Type		Standard Offset Type	Alternate Offset Type		Standard Offset Type
DSG-01-2B※ A			DSG-01-2B※ B			DSG-01-2D※ A	
DSG-01-2B2A			DSG-01-2B2B			DSG-01-2D2A	
DSG-01-2B3A			DSG-01-2B3B			DSG-01-2D3A	
DSG-01-2B4A			DSG-01-2B4B			DSG-01-2D4A	
DSG-01-2B40A			DSG-01-2B40B			DSG-01-2D40A	
DSG-01-2B5A			DSG-01-2B5B			DSG-01-2D5A	
DSG-01-2B60A			DSG-01-2B60B			DSG-01-2D7A	
DSG-01-2B7A			DSG-01-2B7B			DSG-01-2D9A	
DSG-01-2B8A			DSG-01-2B8B			DSG-01-2D10A	
DSG-01-2B9A			DSG-01-2B9B			DSG-01-2D11A	
DSG-01-2B10A			DSG-01-2B10B			DSG-01-2D12A	
DSG-01-2B11A			DSG-01-2B11B				
DSG-01-2B12A			DSG-01-2B12B				

Pressure Drop

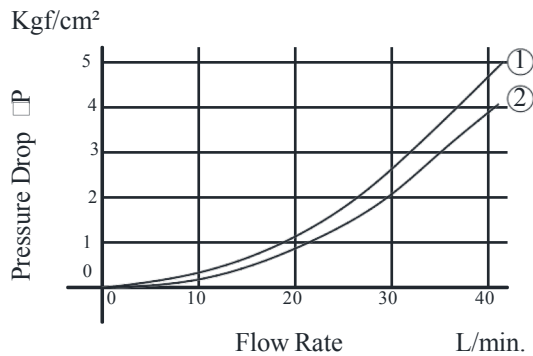
Pressure drop based on viscosity cSt and specific gravity of 0.850.

- Standard Type : DSG-01**



DSG-01-3C2	5	5	5	5	—
DSG-01-3C3	6	6	6	6	④
DSG-01-3C4	5	6	5	6	—
DSG-01-3C40	5	5	5	5	—
DSG-01-3C5	1	1	1	1	④
DSG-01-3C60	7	9	7	9	⑧
DSG-01-3C7	5	5	5	5	—
DSG-01-3C8	5	—	5	—	—
DSG-01-3C9	6	5	5	6	—
DSG-01-3C10	5	6	5	5	—
DSG-01-3C11	6	5	5	5	—
DSG-01-3C12	5	5	5	6	—
DSG-01-2D2	5	2	5	2	—
DSG-01-2D3	5	3	5	3	—
DSG-01-2D7	5	3	5	3	—
DSG-01-2D8	5	—	5	—	—
DSG-01-2B2	2	2	5	5	—
DSG-01-2B3	3	3	5	6	—
DSG-01-2B8	5	—	5	—	—
DSG-01-2N2	5	2	5	2	—
DSG-01-2N3	5	3	5	3	—
DSG-01-2N7	5	3	5	3	—
DSG-01-2N8	5	—	5	—	—

- Shock-Less Type : S-DSG-01**



Model Numbers	Pressure Drop Curve Number			
	P↔A	B↔T	P↔B	A↔T
S-DSG-01-3C2	①	①	①	①
S-DSG-01-3C4	①	②	①	②
S-DSG-01-3C40	①	②	①	②
S-DSG-01-2B2	①	①	①	①

For any other viscosity, multiply the factors in the table below.

Viscosity	cSt (mm ² /s)	15	20	30	40	50	60	70	80	90	100
Factor		0.81	0.87	0.96	1.03	1.09	1.14	1.19	1.23	1.27	1.30

For any other specific gravity (G), the pressure drop (P) can be obtained from the formula below.

$$P = P(0.850)$$

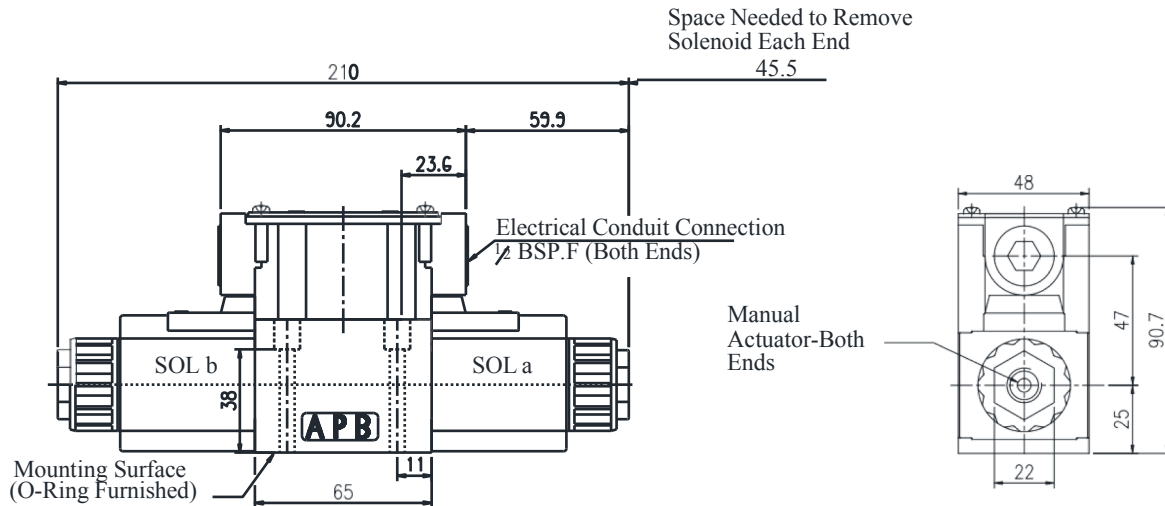
TERMINAL BOX TYPE

DIMENSIONS IN MILLIMETRES

Models With AC Solenoid

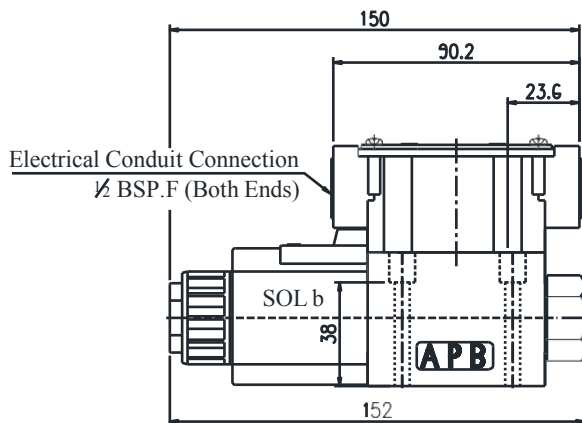
- Double Solenoid: Spring Centred & No-Spring Detented

□ DSG-01-3C[※]-A[※]-50
2D2



- Single Solenoid: Spring Offset

• DSG-01-2B[※]-A[※]-50



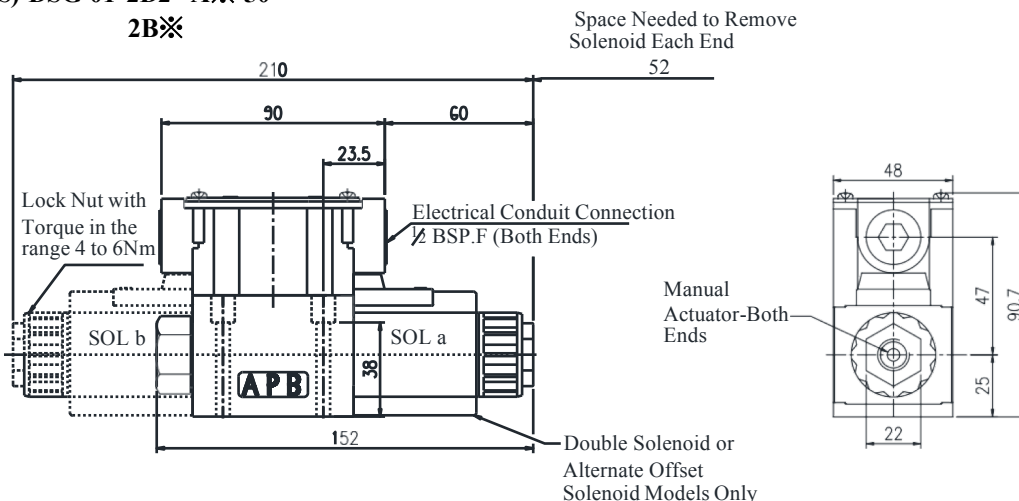
For other dimensions, refer to models with Double Solenoid.
Alternate models using solenoid "a" are also available.

Models With DC & R Solenoid

- Spring Centred, No-Spring Detented & Spring Offset

3C[※]

• (S)-DSG-01-2D2 -A[※]-50
2B[※]



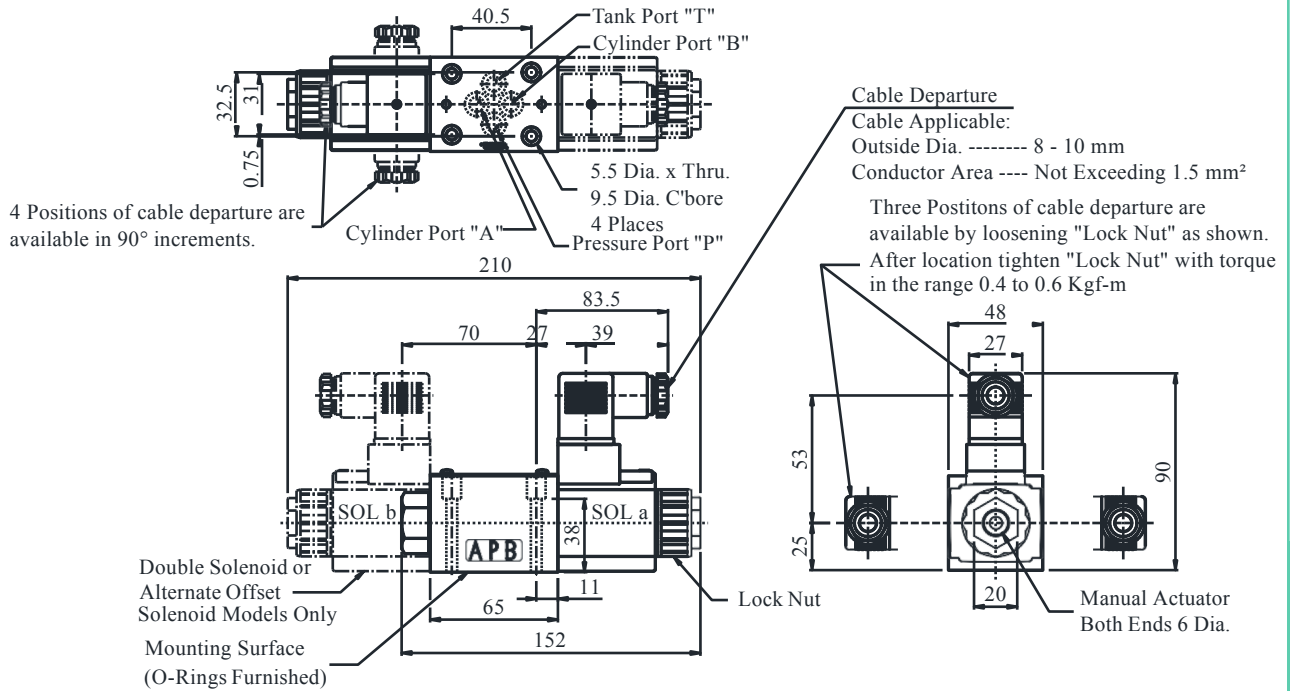
DSG-01 Series Solenoid Operated Directional Valves

DIRECTIONAL CONTROLS

PLUG-IN CONNECTOR TYPE (N) PLUG-IN CONNECTOR WITH INDICATOR LIGHT (N1)

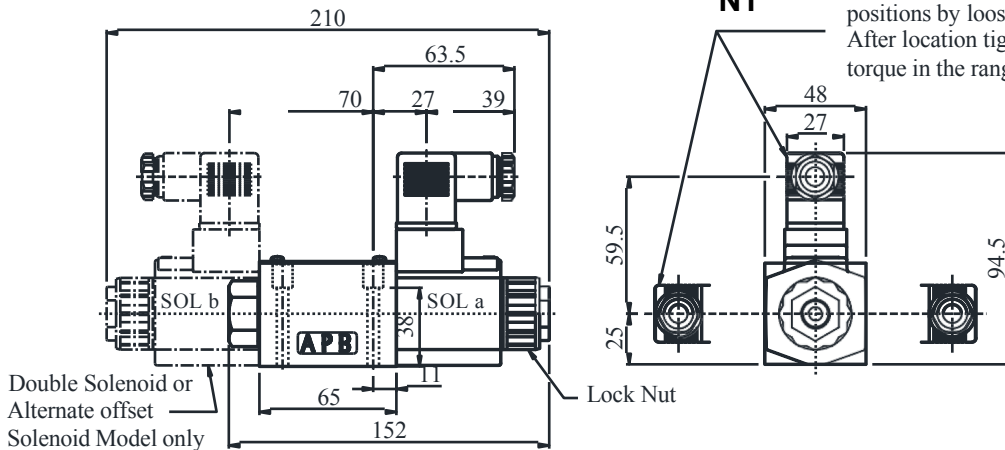
Models With AC Solenoid : DSG-01-***-A*-N-50 N1

DIMENSIONS IN
MILLIMETRES



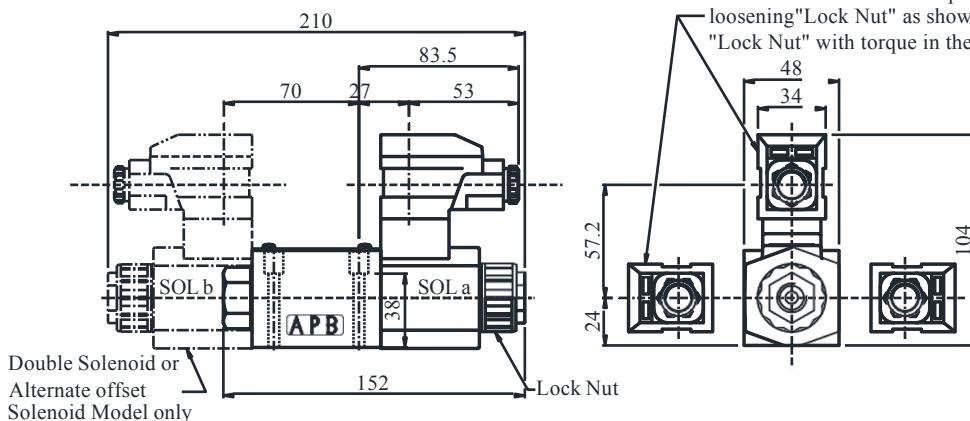
Models With DC Solenoid : DSG-01-***-D*-N-50 N1

The connector can be moved to various positions by loosening the "Lock nut". After location tighten "Lock Nut" with torque in the range 0.4 to 0.6 Kgf-m



Models With R Solenoid : DSG-01-***-R*-N-50

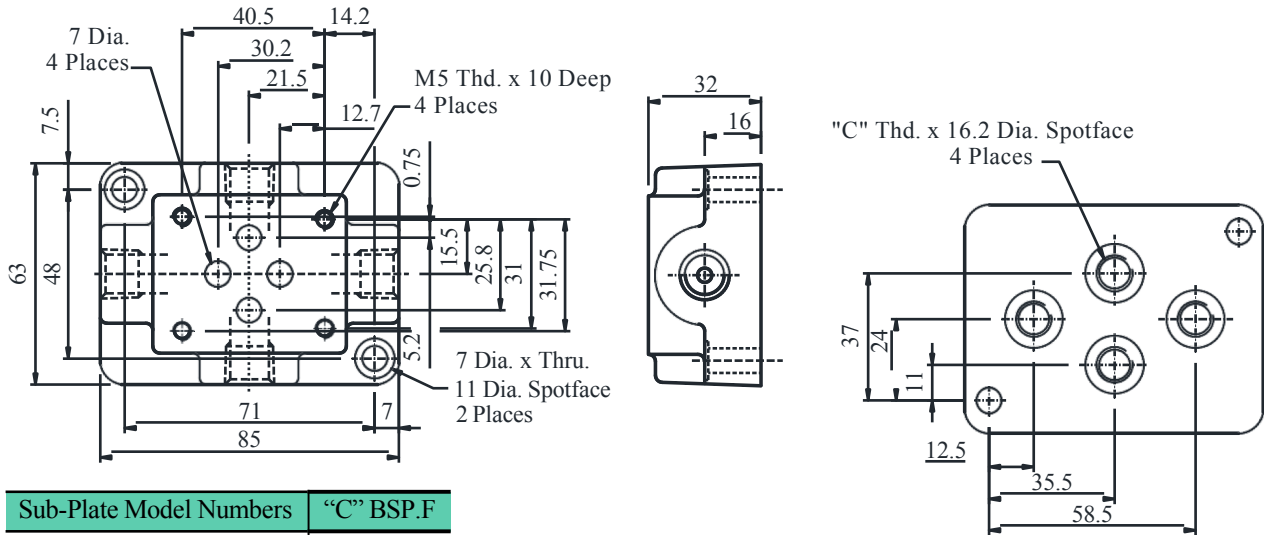
Three Positions of cable departure are available by loosening "Lock Nut" as shown. After location, tighten "Lock Nut" with torque in the range 0.4 to 0.6 Kgf-m



Sub Plates

DIMENSIONS IN MILLIMETRES

- DSGM-01※-3080



Sub-Plate Model Numbers	"C" BSP.F
DSGM-01-3080	1/8
DSGM-01X-3080	1/4
DSGM-01Y-3080	3/8

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

Spare Parts List

- List of Seals

Model Numbers	O-Ring Details For Seal Kit	Qty.		
		3C※	2D※	2B※
DSG-01-※※※-※※-50	SO-NB-P9	4	4	
	SO-NB-P18	2	2	
	SO-NA-P4	4	2	
DSG-01-※※※-※※-1-N-50	SO-NB-P9	4	4	
	SO-NB-P18	2	1	

Note:

When ordering the seals, please specify the seal kit number as shown above.

- List of Seal kits

Valve Model Numbers	Seal Kit Numbers
DSG-01-※※※-※※-50	KS-DSG-01-50
DSG-01-※※※-※※-1-N-50	KS-DSG-01-N-50

Solenoid Assy., Coil, Connector Assy. Number

Valve Model Numbers	Solenoid Assy. Numbers	Coil Numbers	Terminal Box / Connector Assy. Part Numbers	Remarks	
DSG-01-※※※-A100-50※	SA1-100-50	C-SA1-100-50	AC-TB1-60- ^{*1} 1 2	Terminal Box Type	
DSG-01-※※※-A120-50※	SA1-120-50	C-SA1-120-50			
DSG-01-※※※-A200-50※	SA1-200-50	C-SA1-200-50			
DSG-01-※※※-A240-50※	SA1-240-50	C-SA1-240-50			
DSG-01-※※※-D12-50※	SD1-12-50	C-SD1-12-50	DC-TB1-60- ^{*1} 1 2		
DSG-01-※※※-D24-50※	SD1-24-50	C-SD1-24-50			
DSG-01-※※※-D48-50※	SD1-48-50	C-SD1-48-50			
DSG-01-※※※-R100-50※	SR1-100-50	C-SR1-100-50	R-TB1-60- ^{*1} 1 2		
DSG-01-※※※-R200-50※	SR1-200-50	C-SR1-200-50			
S-DSG-01-※※※-D12-50※	SD1-12-S-50	C-SD1-12-50	DC-TB1-60- ^{*1} 1 2		
S-DSG-01-※※※-D24-50※	SD1-24-S-50	C-SD1-24-50			
S-DSG-01-※※※-D48-50※	SD1-48-S-50	C-SD1-48-50			
S-DSG-01-※※※-R100-50※	SR1-100-S-50	C-SR1-100-50	R-TB1-60- ^{*1} 1 2		
S-DSG-01-※※※-R200-50※	SR1-200-S-50	C-SR1-200-50			
DSG-01-※※※-A100-N1-50※	SA1-100-N1-50	C-SA1-100-N1-50	A100-HD-211/SL		Plug-in Connector with Indicator Light.
DSG-01-※※※-A120-N1-50※	SA1-120-N1-50	C-SA1-120-N1-50	A120-HD-211/SL		
DSG-01-※※※-A200-N1-50※	SA1-200-N1-50	C-SA1-200-N1-50	A200-HD-211/SL		
DSG-01-※※※-A240-N1-50※	SA1-240-N1-50	C-SA1-240-N1-50	A240-HD-211/SL		
DSG-01-※※※-D12-N1-50※	SD1-12-N1-50	C-SD1-12-N1-50	D12-HD-211/SL		
DSG-01-※※※-D24-N1-50※	SD1-24-N1-50	C-SD1-24-N1-50	D24-HD-211/SL		
DSG-01-※※※-D48-N1-50※	SD1-48-N1-50	C-SD1-48-N1-50	D48-HD-211/SL		
S-DSG-01-※※※-D12-N1-50※	SD1-12-S-N1-50	C-SD1-12-N1-50	D12-HD-211/SL		
S-DSG-01-※※※-D24-N1-50※	SD1-24-S-N1-50	C-SD1-24-N1-50	D24-HD-211/SL		
S-DSG-01-※※※-D48-N1-50※	SD1-48-S-N1-50	C-SD1-48-N1-50	D48-HD-211/SL		

Note:

The connector or terminal box assembly is not included in the solenoid assembly.

*1 For '2B' models, use ※-TB1-60-1.

For '3C', '2D' & '2N' models, use ※-TB1-60-2.

Ironcore Assy. Number

N-	DSG	-IC	-01	-AC	-50
Type	Series Number	Iron Core	Valve Size	Coil Type	Design Number
N : Standard Type	DSG : Sol. Operated DC Valve	IC : Iron-Core Assembly	01	AC	50
S : Shock-Less Type				DC (R)	

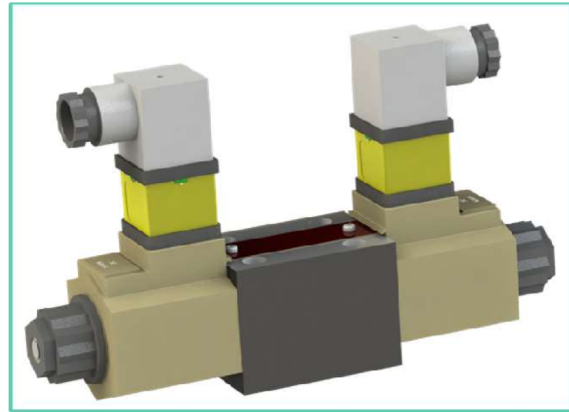
* 'DC' Iron cores are common for 'R' type models.

E

DSG-01 Series Solenoid Operated Directional Valves

1/8 Solenoid Operated Directional Valves, PS-DSG-01 Series

The PS-DSG-01 is an add-on to our reliable and proven DSG-01**50Series solenoid operated directional valves. These valves are particularly Designed to lower power consumption and reduce operation costs. The Power consumption of these valves can be as less as 8W (one third of a Conventional Valve).



Specification

Valve Type	Model Numbers	Max. Flow* L/min.	Max. Operating Pressure Kgf/cm ²	Max. T-Line Back Pressure Kgf/cm ²	Max. Changeover Frequency Cycles/min.	Mass Kg
Power Saver	PS-DSG-01-3C*-*-50	40	250	160	60	2.2
	PS-DSG-01-2B*-*-50					1.6
	PS-DSG-01-2D*-*-50					

* Maximum flow indicates a ceiling flow. As the ceiling flow depends on the type of spool and operating condition, refer to the list of standard models & maximum flow on page 332 & 333 for details.(Refer EIC-E-1001-0)

Model Number Designation

F	PS-	DSG	-01	-2	B	2	A	-D 24	-C	-N1	50	-L
Special Seals **	Type	Series Number	Valve Size	Number of Valve Positions	Spool - Spring Arrangement	Spool Type	Special Two Position Valve [Omit if not required]	Coil Type	Manual Override	Electrical Conduit Connection	Design*2 Number	Models with Alternate offset Solenoid [Omit if not required]
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	PS: Power Saver	DSG: Solenoid Operated Directional Valve	01	3: Three Positions	C: Spring Centered	2, 3 4,40 5,60 7, 8 9,10 11,12	--	DC: D 12, D 24,	None: Manual Override Pin	N1: With Plug-in Connector with Indicator Light	50	--
			2: Two Positions	B: Spring Offset	2, 3, 8	A*1	C: Push Button and Lock Nut (Option)					
				D: No-Spring Detented	2, 3, 7, 8	A*1 B*1			L			

*1 For 2-position valves, spool types in addition to 2,3,7 and 8 are available. Refer page no. 336.(Refer EIC-E-1001-0)

*2 Design numbers subject to change. But installation dimensions remain as shown.

Note:

Models with rubber dust cap at manual push pin are also available. Consult Yuken for details.

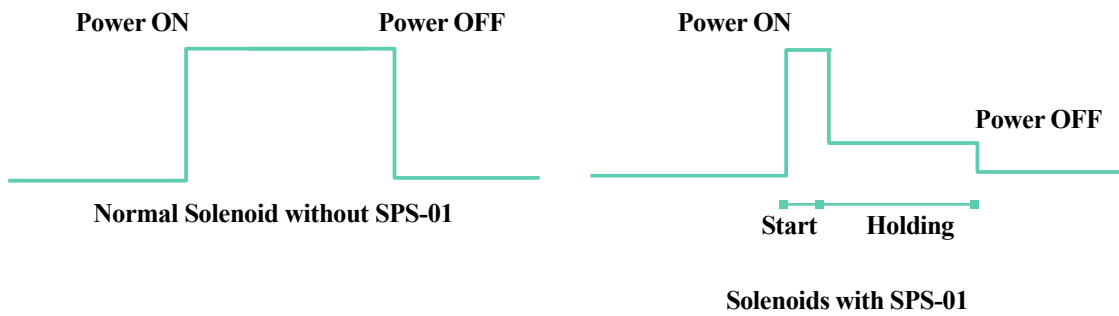
** Before ordering the Special Seals, consult CNIP INDIA LTD.

Solenoid Ratings

Valve Type	Electric source	Coil Type	Voltage (V)		Current & Power at Rated Voltage		
			Source Rating	Serviceable Range	Startup Current (A) *1	Holding (A)	Power (W)
Power Saver Type	DC	D12	12	10.8 - 13.2	2.2	0.68	8
		D24	24	21.6 - 26.4	1.1	0.34	

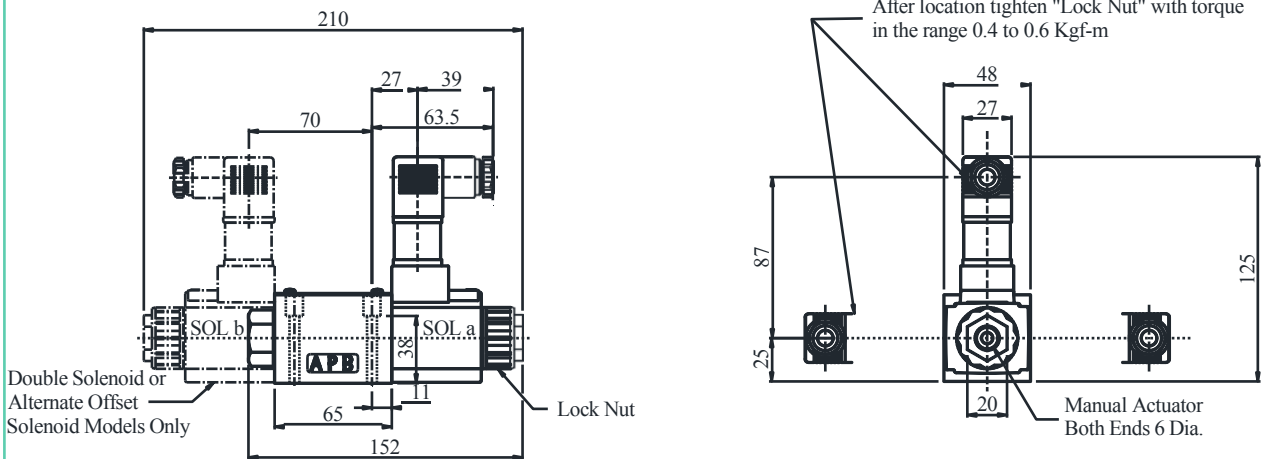
*1 Inrush current in the above table show rms values at maximum stroke.

Power Consumption Change



Models With DC Solenoid : PS-DSG-01-***-D*-N1-50

DIMENSIONS IN MILLIMETRES



For any other details like, seal kits, etc please refer EIC-E-1001.

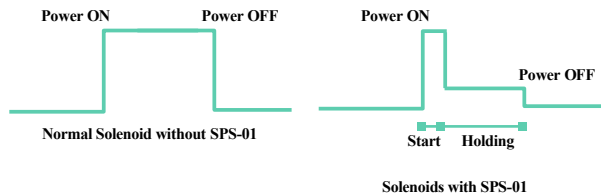
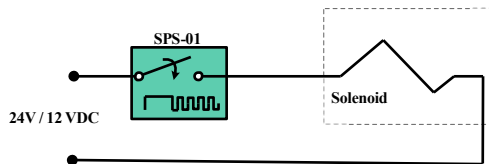
Power Saver Module for Solenoids

These power saver module reduce the power consumption of solenoid valves by reducing the ‘holding’ current (when solenoid is switched kept on continuously) significantly. **SPS-01** is designed to drive Yuken’s **DSG-01** valves or with most other CETOP3 size valves with a DC 12V or DC 24V input.

Features

- Optimize power consumption of solenoids
- 50% Reduction in coil heating
- Plug and Play
- Add on to DIN 43560 Form A connector
- Interchangeable input polarity (Reverse polarity protected)
- LED ‘Power-On’ indicator

Symbolic Representation & Waveforms



Specifications & Ratings

Description	Model Number	
	SPS-01	
Rated Voltage (V)	DC 12	DC 24
Rated Current (A)	2	1
Serviceable Range	±10% of rating	
Output Voltage	12V PWM	24V PWM
Startup Current (A)	96% of Rated current	
Holding Current (A)	30% of Rated current	
Startup Power (W)	26 Watt	
Holding Power (W)	8 Watt	

Installation Dimensions

