

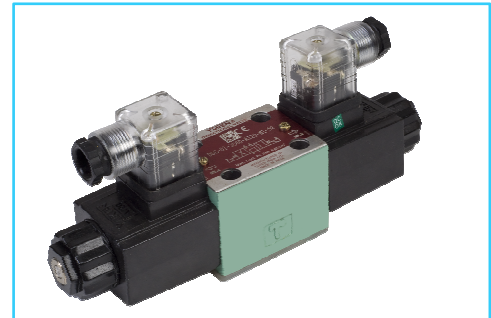
■ **1/8 Solenoid Operated Directional Valves, DSG-01 Series**

- **WIDE RANGE OF MODELS--Choose the optimum valve to meet needs from a 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 YUKEN for more details.

■ **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 | | | | | 1.6 |
| | DSG-01-2B※-※-50 | | | | | 1.6 |
| 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 3 & 4 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 | *1 AC | A100 | 50 | 100 | 80 - 110 | 2.38 | 0.46 | --- | | | |
| | | | 60 | 100 | 90 - 120 | 2.12 | 0.32 | | | | |
| | | | | 110 | | 2.33 | 0.39 | | | | |
| | | A120 | 50 | 120 | 96 - 132 | 1.98 | 0.38 | | | | |
| | | | 60 | | 108 - 144 | 1.77 | 0.27 | | | | |
| | | A200 | 50 | 200 | 160 - 220 | 1.19 | 0.23 | | | | |
| | | | 60 | | 180 - 240 | 1.06 | 0.16 | | | | |
| | | | | | 220 | 1.17 | 0.19 | | | | |
| | | A240 | 50 | 240 | 192 - 264 | 0.99 | 0.19 | | | | |
| | | | 60 | | 216 - 288 | 0.89 | 0.13 | | | | |
| | | Shockless Type | DC | D12 | ----- | 12 | 10.8 - 13.2 | | ----- | 2.2 | 26 |
| | | | | | | 24 | 21.6 - 26.4 | | | 1.1 | |
| 48 | 43.2 - 52.8 | | | | | 0.54 | | | | | |
| 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 | | | |
| | | | | R110 | | 110 | 99 - 121 | 0.26 | | | |
| | | | | R200 | | 200 | 180 - 220 | 0.14 | | | |
| | | | | R220 | | 220 | 198 - 242 | 0.13 | | | |

*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 Number | 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 C : Push Button and Lock Nut (Option) | None: Terminal Box Type N : With Plug-in Connector (DIN) N1 : With Plug-in Connector with Indicator Light (Option) | 50 | -- | |
| | | | | | 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 | | | | L | |
| | S: Shock-Less Type | | | 2 : Two Positions | B : Spring Offset | 2, 3 8 | A ¹ B ¹ | R : (AC→DC) R 100, R110 R 200, R220 | | | | -- | L |
| | | | | | 3 : Three Positions | C : Spring Centered | 2 4, 40 | DC : D 12, D 24, D 48, D 100, D 110, D 200, D 220 | | | | -- | L |
| | | | | 2 : Two Positions | N: No-Spring | 2 | -- | R : ² AC→DC R 100, R110 R 200, R220 | | | | L | |

* 1 Another spool types for special 2-position valves are available in addition to spool type 2,3,7 and 8.

* 2 Coil type "R" is not available for plug-in connector with indicator light type "N1".

* 3 Design numbers subject to change. But installation dimensions remain as shown for deign number 50 through 59.

Note: Models with Rubber dust Cap at manual push pin are also available. Consult Yuken for details.

List of Standard Models and Maximum Flow

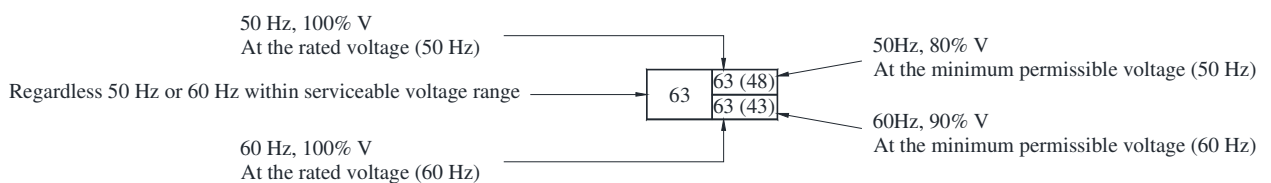
Model with AC Solenoids : DSG-01-***-A*

| No. of Valve Positions Spool-Spring Arrangements | Model Numbers | Graphic Symbols | Max. Flow L/min | | | | | | | | | | | | | | |
|-----------------------------------------------------|---------------|-----------------|---------------------------|----------------------------|----------------------------|----------------------------|----------------------------|---------------------------|----------------------------|----------------------------|----------------------------|----------------------------|---------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | | | | | | | | | | | | | | | | | |
| | | | 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 | 63 (30) | 63 (23) | 63 (15) | 50 (10) | 40 (10) | 63 (30) | 63 (23) | 63 (15) | 50 (10) | 40 (10) |
| | 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) | 63 (23) | 63 (15) | 50 (10) | 40 (10) | 63 (30) | 63 (23) | 63 (15) | 50 (10) | 40 (10) |
| | 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) 63 (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 (58) 63 (45) | 63 (50) 63 (45) | 63 (50) 63 (45) | 63 (50) 63 (45) | 63 (50) 63 (45) |
| | 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) |
| | DSG-01-2B2 | | 63 | 63 | 63 | 63 | 63 | 20 | 20 | 20 | 20 | 20 | 63 | 63 (50) 63 (55) | 63 (45) 63 (55) | 63 (45) 63 (55) | 63 (45) 63 (55) |
| | DSG-01-2B3 | | 63 | 63 63 (60) | 63 63 (60) | 63 63 (60) | 63 63 (60) | 50 | 50 | 50 | 50 | 50 | 63 | 63 (55) 63 (50) | 63 (55) 63 (50) | 63 (55) 63 (50) | 63 (55) 63 (50) |
| | 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.

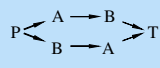

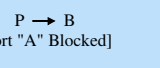
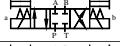
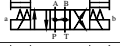
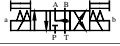
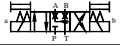


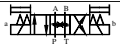
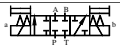
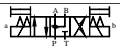
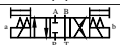
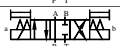
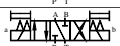
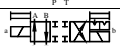


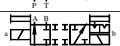

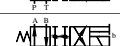
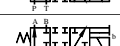
(Example)



2 For the maximum flow between P and T of those valves marked *, refer to page 5.

List of Standard Models and Maximum Flow

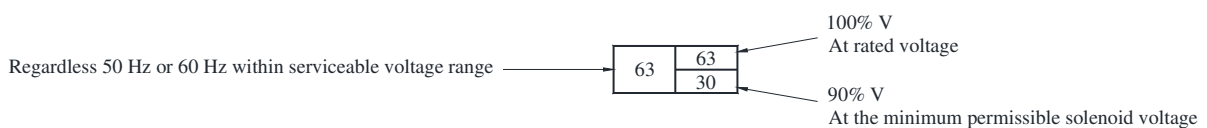
- Model with DC or R Type Solenoids : DSG-01-※※※-D※/R※

| No. of Valve Positions Spool-Spring Arrangements | Model Numbers | Graphic Symbols | Max. Flow L/min | | | | | | | | | | | | | | | |
|-----------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|----|
| | | |  | | | | |  | | | | |  | | | | | |
| | | | 50 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 | 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 | 30 | 20 | 15 | 13 | |
| | 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 |
| | Spring Offset | 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 |
| | | | | | | | | | | | | | | | 30 | 20 | 13 | 10 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

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.

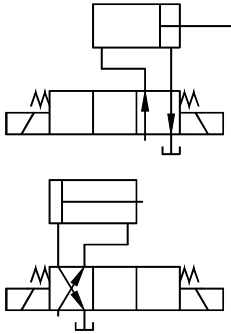
(Example)



2 For the maximum flow between P and T of those valves marked *, refer to page 5.

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 Kg/cm ² | 100 Kg/cm ² | 160 Kg/cm ² | 250 Kg/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※

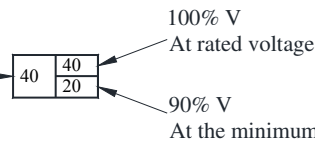
| No. Of Valve Positions | Spool Spring Arrangement | Model Numbers | Graphic Symbols | Max. Flow L/min. | | | | | | | | |
|------------------------|--------------------------|---------------|-----------------|------------------------|-----|-----|-----------------------------|-----|-----|-----------------------------|-----|-----|
| | | | | P → A → B → T B → A | | | P → A [Port "B" Blocked] | | | P → B [Port "A" Blocked] | | |
| | | | | 100 | 160 | 250 | 100 | 160 | 250 | 100 | 160 | 250 |
| Three Positions | Spring Centered | S-DSG-01-3C2 | | 63 | 63 | 40 | 40 | 32 | 25 | 40 | 32 | 25 |
| | | S-DSG-01-3C4 | | 60 | 50 | 40 | 40 | 32 | 16 | 40 | 32 | 16 |
| Two Positions | Spring Offset | S-DSG-01-2B2 | | 50 | 45 | 45 | 30 | 30 | 30 | 60 | 40 | 40 |
| | | | | 45 | 40 | 40 | | | | | | |

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.

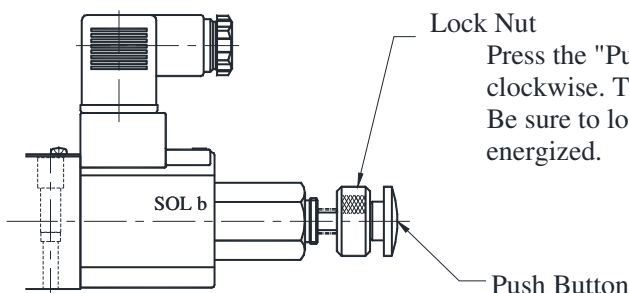
(Example)

Regardless voltage within serviceable range



Options

Model With Push Button & Lock Nut : (S-) DSG-01-※※※-※C-(^N/_{N1})-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.

Typical Changeover Time

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

[Test Conditions]

Pressure : 160 Kgf/cm²

Flow Rate: 31.5 L/min

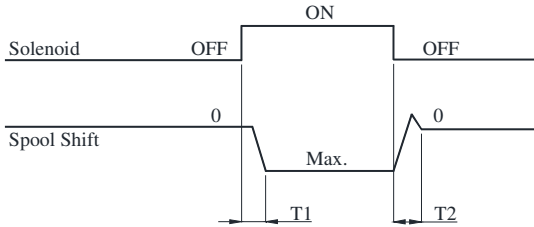
Viscosity: 35cSt

Voltage : 100% V

(After coil temperature rise and saturates)

Standard Type

(Without Shockless Function)

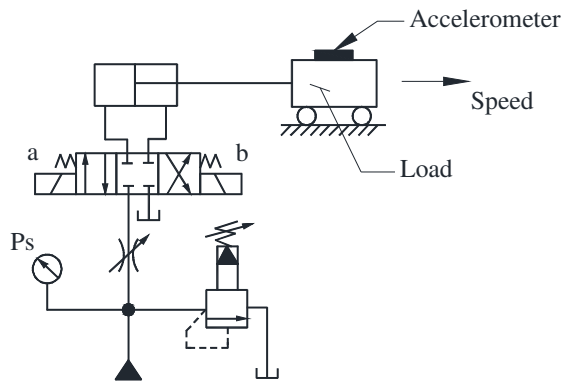


[Result of Measurement]

| 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 |

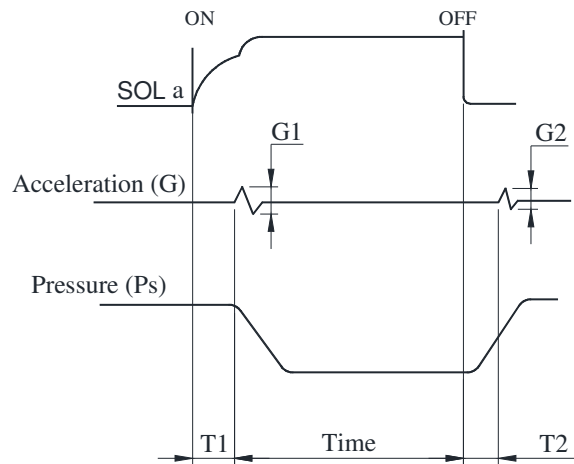
Shockless Type

[Test Circuit an Conditions]



Setting Pressure (Ps): 70 Kgf/cm²

Speed :8m/min



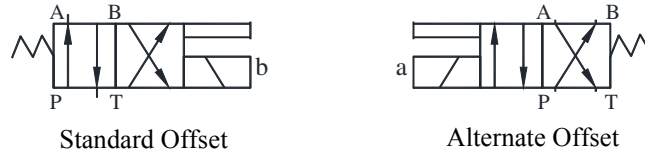
[Result of Measurement]

| Type | Model Numbers | Time ms | | Acceleration (G) m/s ² | |
|----------------|-----------------|---------|----|-----------------------------------|-----|
| | | T1 | T2 | G1 | G2 |
| Shockless 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.

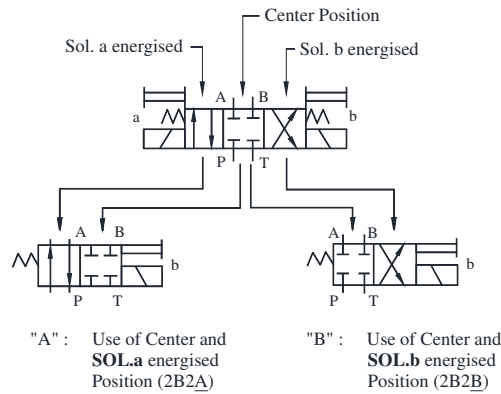


Valves with Center position and One Offset Position (Special Two Position Valve)

In addition to the standard two position valves shown on the table on page 3 and 4 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”

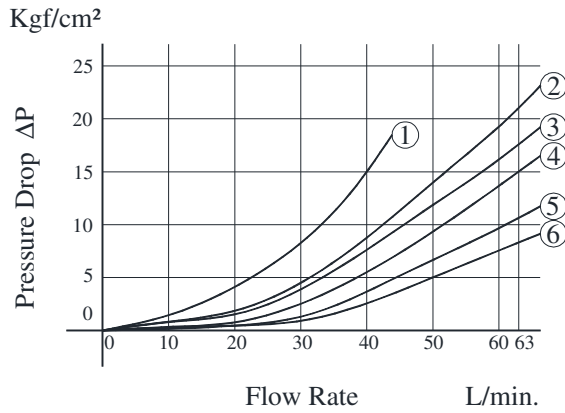


| Model Number | Graphic Symbol | | Model Number | Graphic Symbol | | Model Number | Graphic Symbol |
|--------------|----------------------|-----------------------|--------------|----------------------|-----------------------|--------------|----------------|
| | Standard Offset Type | Alternate Offset Type | | Standard Offset Type | Alternate Offset Type | | |
| 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

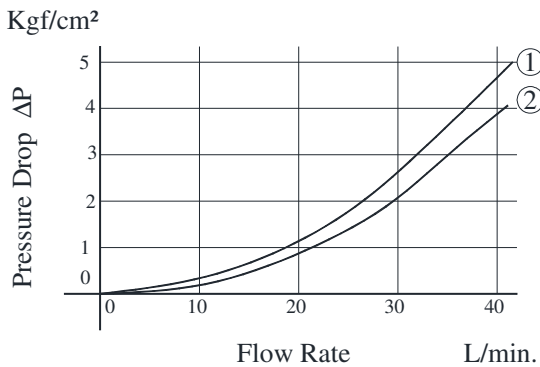
Pressure drop based on viscosity cSt and specific gravity of 0.850.

● **Standard Type : DSG-01**



| Model Numbers | Pressure Drop Curve Number | | | | |
|---------------|----------------------------|-----|-----|-----|-----|
| | P→A | B→T | P→B | A→T | P→T |
| 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 | ① | ① | ① | ① | ④ |
| DSG-01-3C7 | ⑤ | ⑤ | ⑤ | ⑤ | — |
| DSG-01-3C8 | ⑤ | — | ⑤ | — | — |
| DSG-01-3C9 | ⑥ | ⑤ | ⑥ | ⑤ | — |
| 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-01-2N2 | ① | ① | ① | ① |
| 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 (ΔP') can be obtained from the formula below.

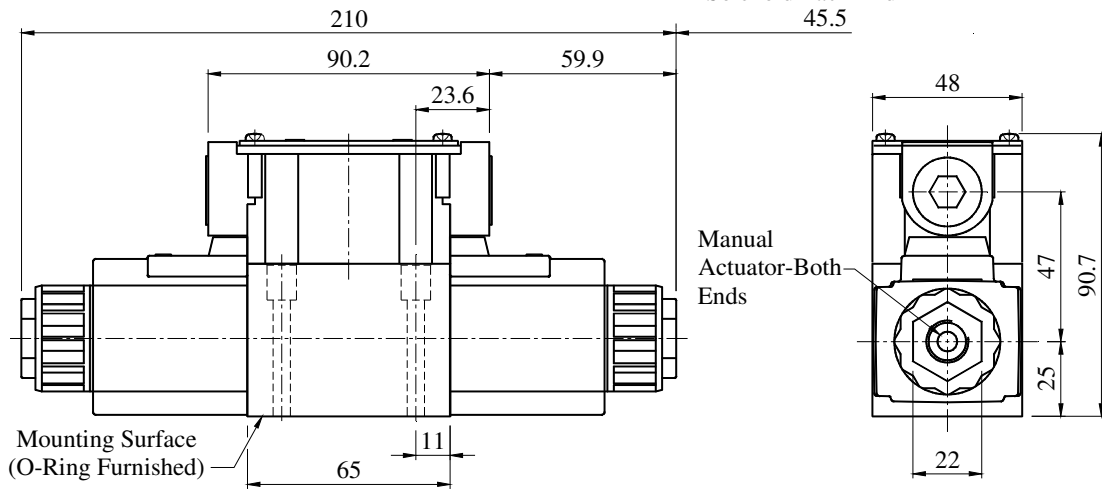
$$\Delta P' = \Delta P (G' / 0.850)$$

TERMINAL BOX TYPE

DIMENSIONS IN MILLIMETRES

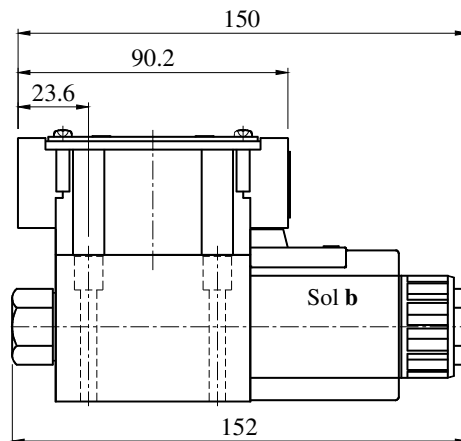
Models With AC Solenoid

- Double Solenoid: Spring Centred & No-Spring Detented
- **DSG-01-3C[※]-A[※]-50**
2D2



• **Single Solenoid: Spring Offset**

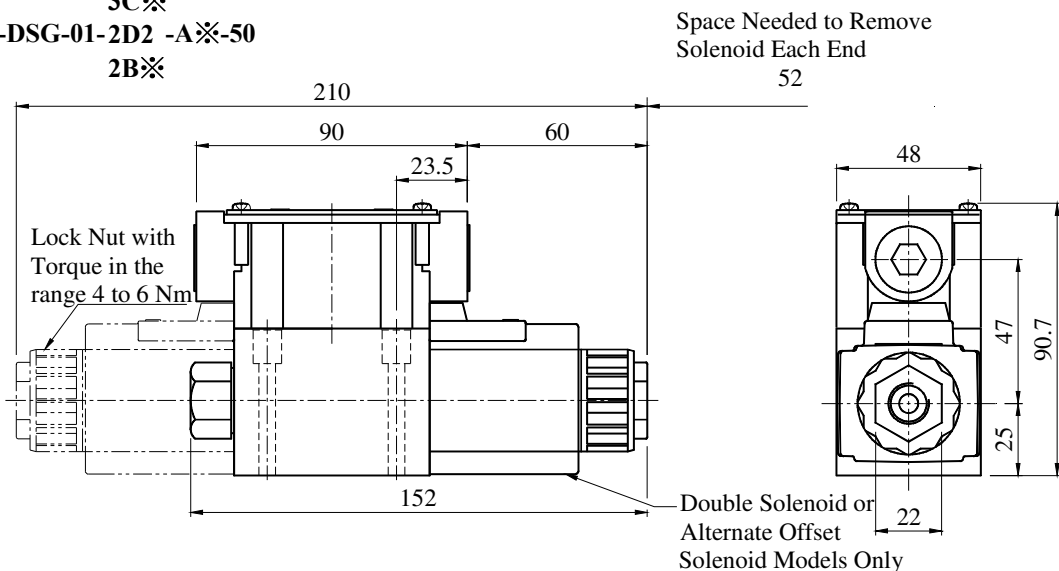
- **DSG-01-2B[※]-A[※]-50**



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

Models With DC & R Solenoid

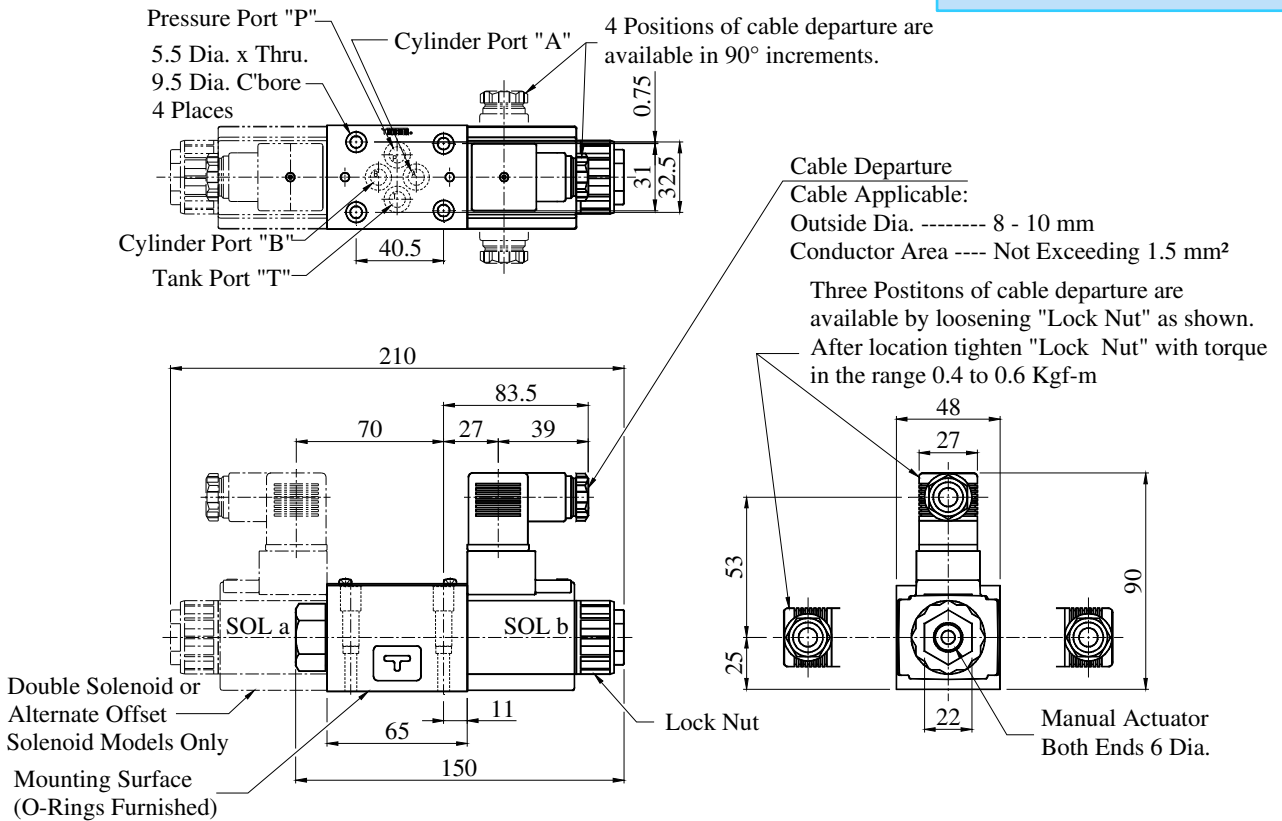
- Spring Centred, No-Spring Detented & Spring Offset
- **3C[※]**
- **(S)-DSG-01-2D2 -A[※]-50**
2B[※]



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

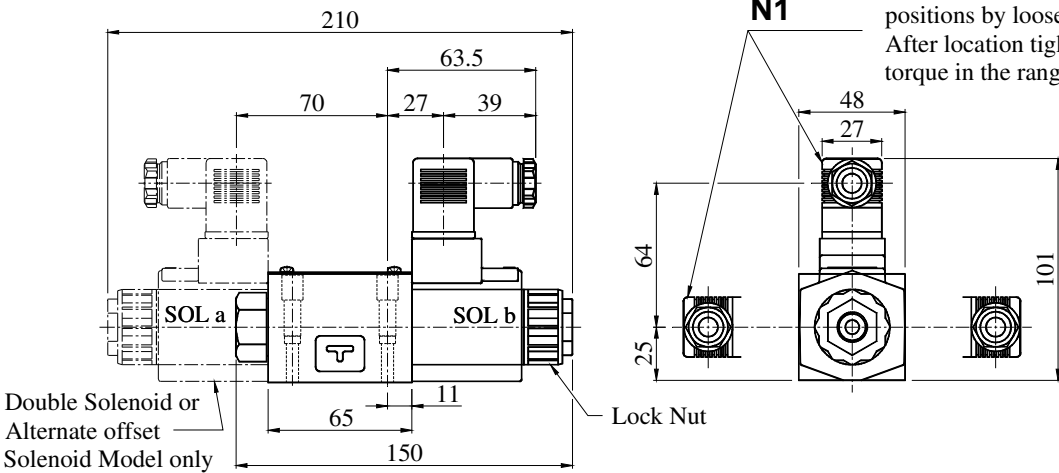
Models With AC Solenoid : DSG-01-*-A*-N-50**

DIMENSIONS IN MILLIMETRES



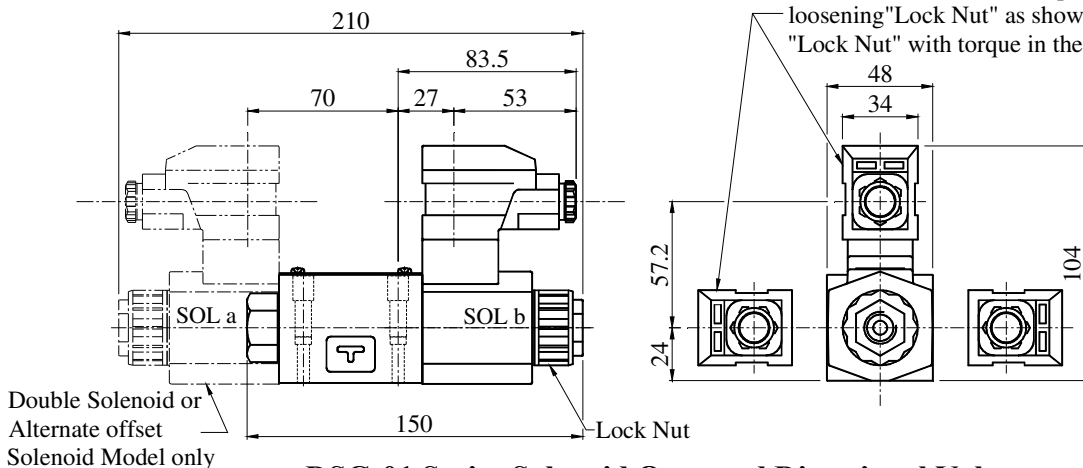
Models With DC Solenoid : DSG-01-*-D*-N-50**

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

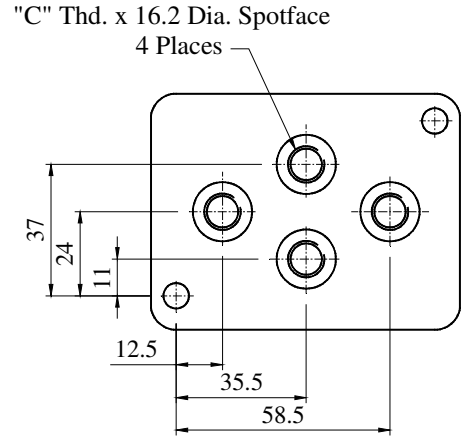
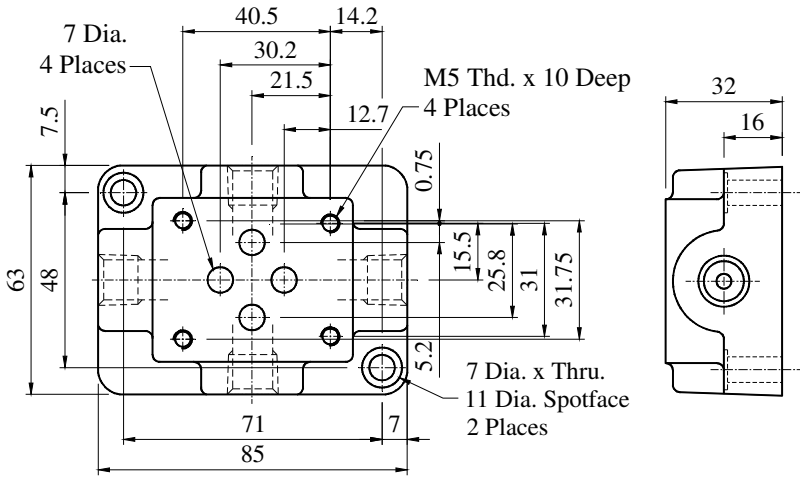


DSG-01 Series Solenoid Operated Directional Valves

Sub Plates

• **DSGM-01※-3080**

DIMENSIONS IN MILLIMETRES



| 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 | 4 |
| | SO-NB-P18 | 2 | 2 | 1 |
| | SO-NA-P4 | 4 | 4 | 2 |
| DSG-01-※※※-※※- N -50 | SO-NB-P9 | 4 | 4 | 4 |
| | SO-NB-P18 | 2 | 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-※※※-※※- N -50 | KS-DSG-01-N-50 |

■ Solenoid Assy., Coil, Connector Assy. Number

| Valve Model Numbers | Solenoid Assy. Numbers | Coil Numbers | Connector Assy. Part Numbers | Remarks |
|-------------------------|------------------------|----------------|------------------------------|-------------------|
| DSG-01-※※※-A100-50※ | SA1-100-50 | C-SA1-100-50 | - | 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 | | |
| 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 | | |
| DSG-01-※※※-R200-50※ | SR1-200-50 | C-SR1-200-50 | | |
| S-DSG-01-※※※-D12-50※ | SD1-12-S-50 | C-SD1-12-50 | | |
| 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 | | |
| S-DSG-01-※※※-R200-50※ | SR1-200-S-50 | C-SR1-200-50 | | |
| DSG-01-※※※-A100-N1-50※ | SA1-100-N-50 | C-SA1-100-N-50 | | |
| DSG-01-※※※-A120-N1-50※ | SA1-120-N-50 | C-SA1-120-N-50 | | |
| DSG-01-※※※-A200-N1-50※ | SA1-200-N-50 | C-SA1-200-N-50 | | |
| DSG-01-※※※-A240-N1-50※ | SA1-240-N-50 | C-SA1-240-N-50 | | |
| DSG-01-※※※-D12-N1-50※ | SD1-12-N-50 | C-SD1-12-N-50 | GDML-211-2-11 | |
| DSG-01-※※※-D24-N1-50※ | SD1-24-N-50 | C-SD1-24-N-50 | GDML-211-3-11 | |
| DSG-01-※※※-D48-N1-50※ | SD1-48-N-50 | C-SD1-48-N-50 | GDML-211-1-11 | |
| S-DSG-01-※※※-D12-N1-50※ | SD1-12-S-N-50 | C-SD1-12-N-50 | GDML-211-2-11 | |
| S-DSG-01-※※※-D24-N1-50※ | SD1-24-S-N-50 | C-SD1-24-N-50 | GDML-211-3-11 | |
| S-DSG-01-※※※-D48-N1-50※ | SD1-48-S-N-50 | C-SD1-48-N-50 | GDML-211-1-11 | |

Note: The connector assembly is not included in the solenoid assembly.