

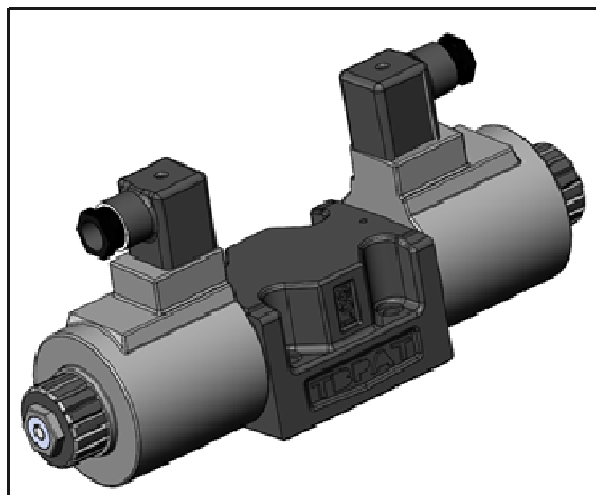
## ■ 3/8 Solenoid Operated Directional Valves, YD-03 Series

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

The YD-03 10 series solenoid operated Directional valves are classified as below.

- **Standard type** ----- Useable at high pressure, high flow [350 Kgf/cm<sup>2</sup> 160 L/min]

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



## ■ Specification

| Valve Type    | Model Numbers  | Max. Flow L/min. | Max. Operating Pressure Kgf/cm <sup>2</sup> | Max. T-Line Back Pressure Kgf/cm <sup>2</sup> | Max. Changeover Frequency Cycles/Min. |     |                    | Mass Kg.         |       |
|---------------|----------------|------------------|---|---|---------------------------------------|-----|--------------------|------------------|-------|
|               |                |                  |   |   | AC                                    | DC  | AC / DC Conversion | Type of solenoid |       |
|               |                |                  |   |   |                                       |     |                    | AC               | DC, R |
| Standard Type | YD-03-3C※-※-10 | 160              | 350<br>{Spool Type 60 Only 250}             | 210   | 240                                   | 180 | 120                | 4.5              | 6.0   |
|               | YD-03-2D※-※-10 |                  |   |   |                                       |     |                    |                  |       |
|               | YD-03-2B※-※-10 |                  |   |   |                                       |     |                    | 3.6              | 4.4   |

\* Maximum flow indicates a ceiling flow. As the ceiling flow depends on the type of spool and operating condition, refer to the list of spool functions on Page Nos. 3/10 and 4/10 for details.

## ■ Sub-Plates

| Sub-Plate Model numbers | Thread Size | Approx. Mass Kg. |
|-------------------------|-------------|------------------|
| DSGM-03-2180            | 3/8 BSP.F   | 3.0              |
| DSGM-03X-2180           | 1/2 BSP.F   | 3.0              |
| DSGM-03Y-2180           | 3/4 BSP.F   | 4.7              |

\* 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.

## ■ Mounting Bolts

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

| Soc. Hd. Cap Screw | Qty. | Bolt kit Model No. |
|--------------------|------|--------------------|
| M6 x 35 Lg.        | 4    | BKDSG-03-20        |

## Model Number Designation

| F-  | YD  | - 03       | - 2                          | B                            | 2   | A   | - A 100  | - N1   | - 10             | - L  |
|---|---|------------|------------------------------|------------------------------|---|---|--|--|------------------|--|
| Special Seals **  | Series Number                                     | Valve Size | Number of Valve Positions    | Spool - Spring Arrangement   | Spool Type  | Special two Position Valve [Omit if not required] | Coil Type  | Electrical Conduit Connection  | *3 Design Number | Models with Alternate offset Solenoid [Omit if not required] |
| <b>F:</b><br>Special Seals for Phosphate Ester Type Fluids (Omit if not required) | <b>YD:</b><br>Solenoid Operated Directional Valve | <b>03</b>  | <b>3:</b><br>Three Positions | <b>C:</b><br>Spring Centered | <b>2, 3</b><br><b>4,40</b><br><b>5,60</b><br><b>7, 8</b><br><b>9,10</b><br><b>11,12</b> | --  | <b>AC:</b><br><b>A 100</b><br><b>A 120</b><br><b>A 200</b><br><b>A 240</b><br><br><b>DC:</b><br><b>D 12, D 24,</b><br><br><b>R:</b><br>(AC→DC)<br><b>R 100, R110</b><br><b>R 200, R220</b> | <b>None:</b> *2<br>Terminal Box Type<br><br><b>N0:</b><br>Plug-in type, but Without Connector<br><br><b>N1:</b><br>With Plug-in Connector with Indicator Light | <b>10</b>        | --   |
|   |   |            |                              | <b>2:</b><br>Two Positions   | <b>D:</b><br>No-Spring Detented   | <b>2, 3</b><br><b>8</b>                           |  |  |                  | <b>A</b> *1  |
|   |   |            | <b>B:</b><br>Spring Offset   |                              | <b>2, 3</b><br><b>8</b>   | <b>A</b> *1<br><b>B</b> *1                        |  |  |                  |  |

\*1 For 2-position valves, spool types in addition to 2,3 and 8 are available.

\*2 Consult YUKEN for availability.

\*3 Design numbers subject to change. But installation dimensions remain as shown for design number 10 through 19.

\*\* Before ordering the Special seals, consult YUKEN INDIA LTD.

## Solenoid Ratings

| Valve Type    | Electric source | Coil Type | Frequency (Hz) | Voltage (V)   |                   | Current & Power at Rated Voltage |             |           |
|---------------|-----------------|-----------|----------------|---------------|-------------------|----------------------------------|-------------|-----------|
|               |                 |           |                | Source Rating | Serviceable Range | Inrush (A) *1                    | Holding (A) | Power (W) |
| Standard Type | AC              | A100      | 50             | 100           | 80 - 110          | 5.37                             | 0.90        | -         |
|               |                 |           | 60             | 100           | 90 - 120          | 4.57                             | 0.63        |           |
|               |                 |           |                | 110           |                   | 5.03                             | 0.77        |           |
|               |                 |           | 50             | 120           | 96 - 132          | 4.48                             | 0.75        |           |
|               |                 |           |                |               | 108 - 144         | 3.81                             | 0.52        |           |
|               |                 |           | 60             | 200           | 160 - 220         | 2.69                             | 0.45        |           |
|               |                 | 180 - 240 |                |               | 2.29              | 0.31                             |             |           |
|               |                 |           | 220            | 240           | 192 - 264         | 2.52                             | 0.38        |           |
|               |                 | 216 - 288 |                |               | 2.24              | 0.37                             |             |           |
|               |                 | 50        | 240            | 216 - 288     | 1.91              | 0.26                             |             |           |
|               |                 |           |                |               |                   |                                  |             |           |
|               |                 | DC        | D12            | 12            | 10.8 - 13.2       |                                  | 3.17        |           |
|               | D24             |           | 24             | 21.6 - 26.4   | -                 | 1.58                             |             |           |
|               | AC→DC Rectified | 50/60     | R100           | 100           | 90 - 110          |                                  | 0.45        | 38        |
| R110          |                 |           | 110            | 99 - 121      |                   | 0.41                             |             |           |
| R200          |                 |           | 200            | 180 - 220     |                   | 0.22                             |             |           |
| R220          |                 |           | 220            | 198 - 242     |                   | 0.20                             |             |           |

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

List of Standard Models and Maximum Flow

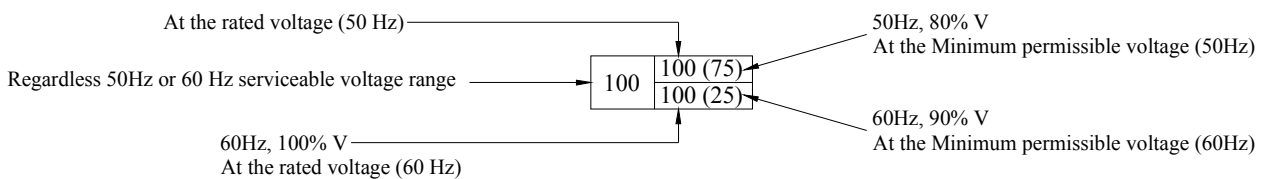
Models with AC Solenoids: YD-03-\*\*\*-A-\*

| No. of Valve Positions<br>Spool-Spring Arrangements | Model Numbers | Graphic Symbols | Max. Flow L/min                         |   |   |   |   |   |   |   |   |   |   |   |     |
|---|---------------|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|-----|
|   |               |                 |   |   |   |   |   |   |   |   |   |   |   |   |     |
|   |               |                 | 100<br>Kg <sub>f</sub> /cm <sup>2</sup> | 160<br>Kg <sub>f</sub> /cm <sup>2</sup> | 250<br>Kg <sub>f</sub> /cm <sup>2</sup> | 350<br>Kg <sub>f</sub> /cm <sup>2</sup> | 100<br>Kg <sub>f</sub> /cm <sup>2</sup> | 160<br>Kg <sub>f</sub> /cm <sup>2</sup> | 250<br>Kg <sub>f</sub> /cm <sup>2</sup> | 350<br>Kg <sub>f</sub> /cm <sup>2</sup> | 100<br>Kg <sub>f</sub> /cm <sup>2</sup> | 160<br>Kg <sub>f</sub> /cm <sup>2</sup> | 250<br>Kg <sub>f</sub> /cm <sup>2</sup> | 350<br>Kg <sub>f</sub> /cm <sup>2</sup> |     |
| Three Positions<br>Spring Centered                  | YD-03-3C2     |                 | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 100                                     | 75                                      | 160                                     | 160                                     | 80                                      | 65                                      |     |
|   | YD-03-3C3*    |                 | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     |     |
|   | YD-03-3C4     |                 | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 104                                     | 84                                      | 160                                     | 160                                     | 104                                     | 84                                      |     |
|   | YD-03-3C40    |                 | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 85                                      | 73                                      | 160                                     | 160                                     | 85                                      | 73                                      |     |
|   | YD-03-3C5*    |                 | 70                                      | 70                                      | 70                                      | 70                                      | 55                                      | 44                                      | 82                                      | 69                                      | 65                                      | 65                                      | 82                                      | 69                                      |     |
|   | YD-03-3C60*   |                 | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 160                                     | 124                                     | 77                                      | 160                                     | 160                                     | 124                                     | 77                                      |     |
|   | YD-03-3C7     |                 | 160                                     | 160                                     | 160                                     | 65                                      | 160                                     | 87                                      | 55                                      | 55                                      | 160                                     | 87                                      | 55                                      | 55                                      |     |
|   | YD-03-3C8     |                 | --                                      | --                                      | --                                      | --                                      | 160                                     | 65                                      | 51                                      | 31                                      | 160                                     | 65                                      | 51                                      | 51                                      |     |
|   | YD-03-3C9     |                 | 160                                     | 160                                     | 160                                     | 160                                     | 120                                     | 99                                      | 77                                      | 77                                      | 160                                     | 160                                     | 99                                      | 77                                      |     |
|   | YD-03-3C10    |                 | 160                                     | 160                                     | 160                                     | 85                                      | 160                                     | 77                                      | 71                                      | 60                                      | 160                                     | 160                                     | 77                                      | 71                                      |     |
|   | YD-03-3C11    |                 | 160                                     | 160                                     | 160                                     | 160                                     | 120                                     | 132                                     | 80                                      | 71                                      | 120                                     | 120                                     | 132                                     | 80                                      |     |
|   | YD-03-3C12    |                 | 160                                     | 160                                     | 160                                     | 85                                      | 160                                     | 89                                      | 66                                      | 60                                      | 160                                     | 89                                      | 66                                      | 60                                      |     |
| Two Positions<br>No Spring Detented                 | YD-03-2D2     |                 | 160                                     | 160                                     | 160                                     | 160                                     | 65                                      | 57                                      | 50                                      | 48                                      | 80                                      | 80                                      | 60                                      | 55                                      |     |
|   | YD-03-2D3     |                 | 160                                     | 160                                     | 160                                     | 160                                     | 65                                      | 57                                      | 50                                      | 48                                      | 80                                      | 80                                      | 60                                      | 55                                      |     |
|   | YD-03-2D8     |                 | --                                      | --                                      | --                                      | --                                      | 80                                      | 80                                      | 60                                      | 55                                      | 80                                      | 80                                      | 65                                      | 55                                      |     |
|   | Spring Offset | YD-03-2B2       |   | 130                                     | 130                                     | 130                                     | 130                                     | 88                                      | 67                                      | 58                                      | 58                                      | 160                                     | 134                                     | 95                                      | 83  |
|   |               | YD-03-2B3       |   | 120                                     | 120                                     | 120                                     | 120                                     | 97                                      | 97                                      | 97                                      | 97                                      | 160                                     | 103                                     | 78                                      | 68  |
|   |               | YD-03-2B8       |   | 160                                     | 160                                     | 160                                     | 160                                     | 73                                      | 53                                      | 44                                      | 43                                      | 160                                     | 160                                     | 160                                     | 160 |
|   |               |                 |   | --                                      | --                                      | --                                      | --                                      |   |   |   |   | 160                                     | 82                                      | 67                                      | 67  |

Note: 1. Maximum flow rates and applied current.

- The single column describes maximum flow rates regardless AC solenoid 50 Hz or 60 Hz 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 within serviceable voltage range refer to the figures in the later 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 5/10.

## List of Standard models and Maximum Flow

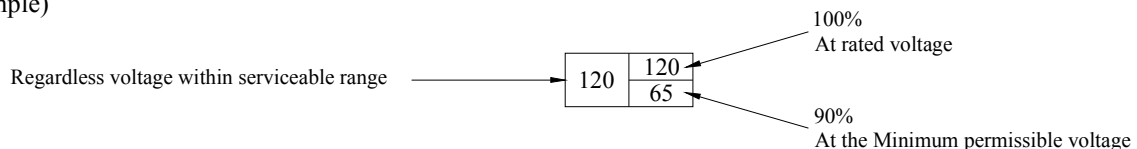
- Models with DC Solenoids : YD-03-\*\*\*-D\*\*
- Models with R Type Solenoids : YD-03-\*\*\*-R\*\*

| No. of Valve Positions | Spool-Spring Arrangements | Model Numbers | Graphic Symbols | Max. Flow L/min           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |
|------------------------|---------------------------|---------------|-----------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|                        |                           |               |                 |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |
|                        |                           |               |                 | 100<br>Kg/cm <sup>2</sup> | 160<br>Kg/cm <sup>2</sup> | 250<br>Kg/cm <sup>2</sup> | 350<br>Kg/cm <sup>2</sup> | 100<br>Kg/cm <sup>2</sup> | 160<br>Kg/cm <sup>2</sup> | 250<br>Kg/cm <sup>2</sup> | 350<br>Kg/cm <sup>2</sup> | 100<br>Kg/cm <sup>2</sup> | 160<br>Kg/cm <sup>2</sup> | 250<br>Kg/cm <sup>2</sup> | 350<br>Kg/cm <sup>2</sup> |
| Three Positions        | Spring Centered           | YD-03-3C2     |                 | 160                       | 160                       | 160                       | 160                       | 160                       | 160                       | 100                       | 75                        | 160                       | 160                       | 100                       | 75                        |
|                        |                           | YD-03-3C3*    |                 | 160                       | 160                       | 160                       | 160                       | 160                       | 160                       | 160                       | 160                       | 160                       | 160                       | 160                       | 160                       |
|                        |                           | YD-03-3C4     |                 | 160                       | 160                       | 160                       | 160                       | 160                       | 160                       | 104                       | 84                        | 160                       | 160                       | 104                       | 84                        |
|                        |                           | YD-03-3C40    |                 | 160                       | 160                       | 160                       | 160                       | 160                       | 160                       | 85                        | 73                        | 160                       | 160                       | 85                        | 73                        |
|                        |                           | YD-03-3C5*    |                 | 70                        | 70                        | 70                        | 70                        | 55                        | 44                        | 41                        | 40                        | 65                        | 65                        | 65                        | 65                        |
|                        |                           | YD-03-3C60*   |                 | 160                       | 160                       | 160                       | --                        | 160                       | 160                       | 160                       | --                        | 160                       | 160                       | 160                       | --                        |
|                        |                           | YD-03-3C7     |                 | 160                       | 160                       | 160                       | 65                        | 160                       | 87                        | 55                        | 55                        | 160                       | 87                        | 55                        | 55                        |
|                        |                           | YD-03-3C8     |                 | --                        | --                        | --                        | --                        | 160                       | 65                        | 51                        | 51                        | 160                       | 65                        | 51                        | 51                        |
|                        |                           | YD-03-3C8     |                 | --                        | --                        | --                        | --                        | 160                       | 99                        | 77                        | 77                        | 160                       | 160                       | 99                        | 77                        |
|                        |                           | YD-03-3C9     |                 | 160                       | 160                       | 160                       | 160                       | 120                       | 120                       | 120                       | 120                       | 120                       | 120                       | 120                       | 120                       |
|                        |                           | YD-03-3C10    |                 | 160                       | 160                       | 160                       | 85                        | 160                       | 132                       | 80                        | 71                        | 160                       | 132                       | 80                        | 71                        |
|                        |                           | YD-03-3C11    |                 | 160                       | 160                       | 160                       | 160                       | 120                       | 89                        | 66                        | 60                        | 120                       | 89                        | 66                        | 60                        |
| YD-03-3C12             |                           | 160           | 160             | 160                       | 85                        | 160                       | 100                       | 85                        | 85                        | 120                       | 120                       | 100                       | 85                        |                           |                           |
| Two Positions          | No Spring Detented        | YD-03-2D2     |                 | 160                       | 160                       | 160                       | 160                       | 65                        | 57                        | 50                        | 48                        | 80                        | 80                        | 60                        | 55                        |
|                        |                           | YD-03-2D3     |                 | 160                       | 160                       | 160                       | 160                       | 65                        | 57                        | 50                        | 48                        | 80                        | 80                        | 60                        | 55                        |
|                        |                           | YD-03-2D8     |                 | --                        | --                        | --                        | --                        | 90                        | 80                        | 60                        | 55                        | 80                        | 80                        | 65                        | 55                        |
|                        | Spring Offset             | YD-03-2B2     |                 | 130                       | 130                       | 130                       | 130                       | 88                        | 67                        | 58                        | 58                        | 160                       | 134                       | 95                        | 83                        |
|                        |                           | YD-03-2B3     |                 | 160                       | 160                       | 160                       | 160                       | 97                        | 97                        | 97                        | 97                        | 160                       | 103                       | 78                        | 68                        |
|                        |                           | YD-03-2B8     |                 | --                        | --                        | --                        | --                        | 73                        | 53                        | 44                        | 53                        | 160                       | 160                       | 160                       | 160                       |
|                        |                           | YD-03-2B8     |                 | --                        | --                        | --                        | --                        | 73                        | 53                        | 44                        | 53                        | 160                       | 160                       | 82                        | 67                        |

Note: 1. Maximum flow rates and applied current.

- The single column describes maximum flow rates regardless voltage within serviceable range.
- Where two figures are shown in the same row, the upper is at rated voltage and the later is at the minimum permissible solenoid voltage.

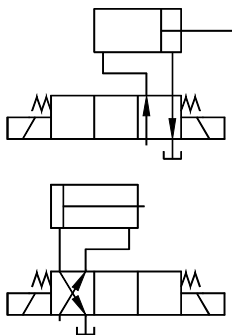
(Example)



2. For the maximum flow between P and T of those valves marked \*, refer to page 5/10.

**Maximum Flow of center By-Pass**

In spool type 3, 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.

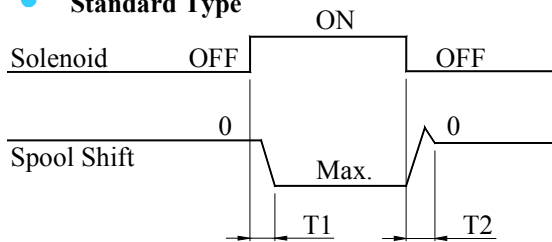


| Model Numbers    | Graphics Symbols | Max. Flow L/Min.       |                        |                        |                        |
|------------------|------------------|------------------------|------------------------|------------------------|------------------------|
|                  |                  | 100 Kg/cm <sup>2</sup> | 160 Kg/cm <sup>2</sup> | 250 Kg/cm <sup>2</sup> | 350 Kg/cm <sup>2</sup> |
| YD-03-3C3-A※     |                  | 120                    | 120                    | 120                    | 160                    |
| YD-03-3C3-D※/R※  |                  | 140                    | 140                    | 140                    | 160                    |
| YD-03-3C5-A※     |                  | 46                     | 41                     | 38                     | 36                     |
| YD-03-3C5-D※/R※  |                  | 55                     | 44                     | 41                     | 40                     |
| YD-03-3C60-A※    |                  | 104                    | 72                     | 72                     | —                      |
| YD-03-3C60-D※/R※ |                  | 88                     | 85                     | 81                     | —                      |

**Typical Changeover Time**

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

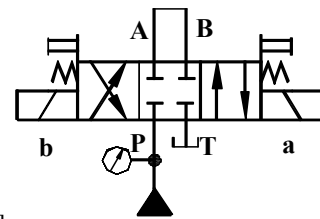
● **Standard Type**



[Result of Measurement]

| Type          | Model Numbers | Changeover Time ms |     |
|---------------|---------------|--------------------|-----|
|               |               | T1                 | T2  |
| Standard Type | YD-03-3C2-A※  | 27                 | 23  |
|               | YD-03-3C2-D※  | 97                 | 30  |
|               | YD-03-3C2-R※  | 97                 | 204 |

● **Circuit Example**

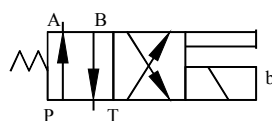


[Test Conditions]  
 Pressure: 175 Kg/cm<sup>2</sup>  
 Flow Rate: 80 L/min.  
 Viscosity: 30cSt  
 Voltage : 100%V  
 (After coil temperature rise and saturates)

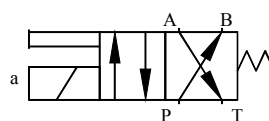
**Spring Offset Valves with Alternate Solenoid**

Though 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

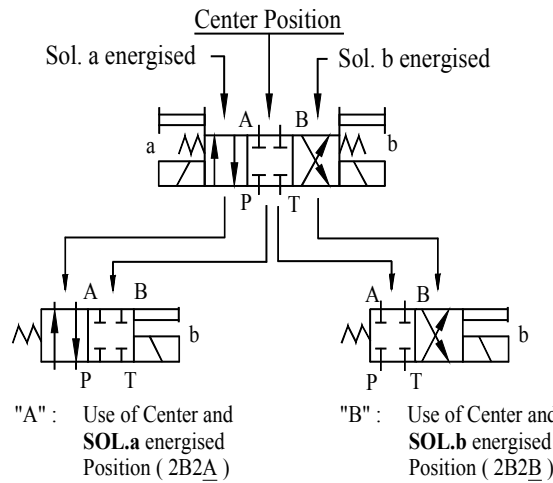


Alternate Offset (“L”)

**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 358 and 359 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”**

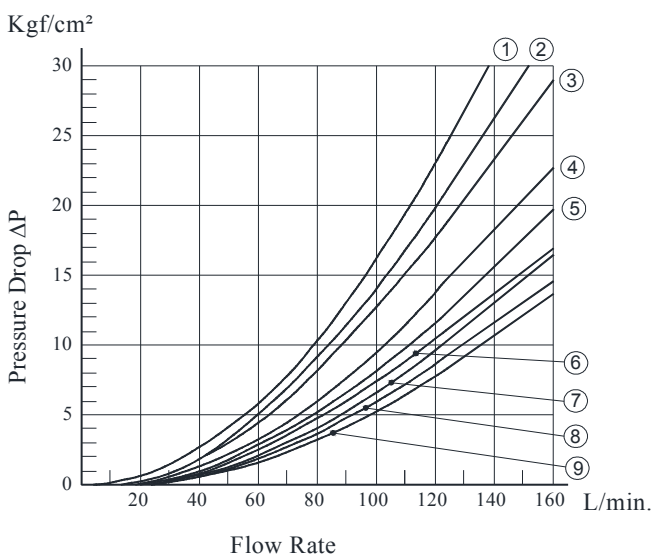


| Model Number | Graphic Symbol       |                       | Model Number | Graphic Symbol       |                       | Model Number | Graphic Symbol       |
|--------------|----------------------|-----------------------|--------------|----------------------|-----------------------|--------------|----------------------|
|              | Standard Offset Type | Alternate Offset Type |              | Standard Offset Type | Alternate Offset Type |              | Standard Offset Type |
| YD-03-2D✳A   |                      |                       | YD-03-2D✳A   |                      |                       | YD-03-2D✳A   |                      |
| YD-03-2B2A   |                      |                       | YD-03-2B2B   |                      |                       | YD-03-2D2A   |                      |
| YD-03-2B3A   |                      |                       | YD-03-2B3B   |                      |                       | YD-03-2D3A   |                      |
| YD-03-2B8A   |                      |                       | YD-03-2B8B   |                      |                       | YD-03-2D8A   |                      |

**Pressure Drop**

Pressure drop based on viscosity of 35 cSt and specific gravity of 0.850

**Standard type : YD-03**



| Model Numbers | Pressure Drop Curve Number |     |     |     |     |
|---------------|----------------------------|-----|-----|-----|-----|
|               | P→A                        | B→T | P→B | A→T | P→T |
| YD-03-3C2     | ⑦                          | ⑦   | ⑦   | ⑦   | —   |
| YD-03-3C3     | ⑨                          | ⑨   | ⑨   | ⑨   | ⑤   |
| YD-03-3C4     | ⑦                          | ⑧   | ⑦   | ⑧   | —   |
| YD-03-3C40    | ⑦                          | ⑦   | ⑦   | ⑦   | —   |
| YD-03-3C5     | ⑨                          | ⑦   | ⑦   | ⑨   | ①   |
| YD-03-3C60    | ⑥                          | ⑤   | ⑥   | ⑤   | ①   |
| YD-03-3C7     | ⑦                          | ⑦   | ⑦   | ⑦   | —   |
| YD-03-3C8     | ⑤                          | —   | ⑤   | —   | —   |
| YD-03-3C9     | ⑨                          | ⑦   | ⑨   | ⑦   | —   |
| YD-03-3C10    | ⑦                          | ⑧   | ⑦   | ⑦   | —   |
| YD-03-3C11    | ⑨                          | ⑦   | ⑦   | ⑦   | —   |
| YD-03-3C12    | ⑦                          | ⑦   | ⑦   | ⑧   | —   |
| YD-03-2D2     | ④                          | ③   | ⑥   | ⑥   | —   |
| YD-03-2D3     | ⑥                          | ④   | ⑦   | ⑦   | —   |
| YD-03-2D8     | ⑥                          | —   | ⑥   | —   | —   |
| YD-03-2B2     | ②                          | ①   | ⑦   | ⑦   | —   |
| YD-03-2B3     | ③                          | ②   | ⑨   | ⑨   | —   |
| YD-03-2B8     | ⑥                          | —   | ⑤   | —   | —   |

For any other viscosity, multiply by the table below.

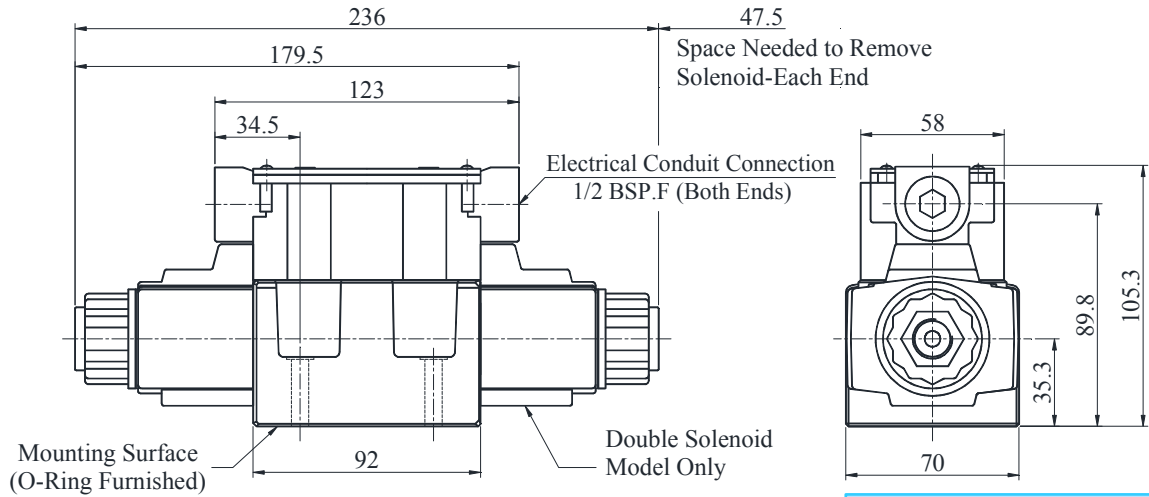
| Viscosity | cSt | 10   | 20   | 30   | 36   | 40   | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130  | 140  | 150  |
|-----------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Factor    |     | 0.73 | 0.86 | 0.96 | 1.00 | 1.03 | 1.09 | 1.14 | 1.18 | 1.22 | 1.26 | 1.29 | 1.32 | 1.35 | 1.38 | 1.40 | 1.43 |

For any other specific gravity (G'), the pressure drop (ΔP') may be obtained from the formula below.  
 $\Delta P' = \Delta P (G' / 0.850)$

Terminal Box Type

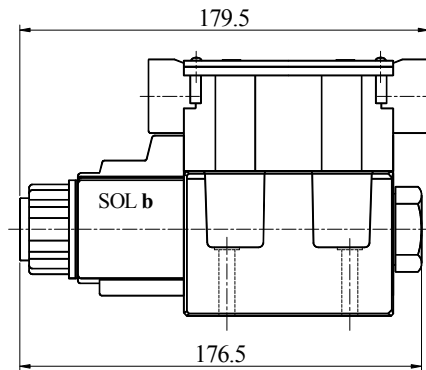
Models with AC Solenoids: YD-03-\*\*\*-A\*-10

- Double Solenoid: Spring Centred & No-Spring Detented



DIMENSIONS IN MILLIMETRES

- Single Solenoid: Spring Offset



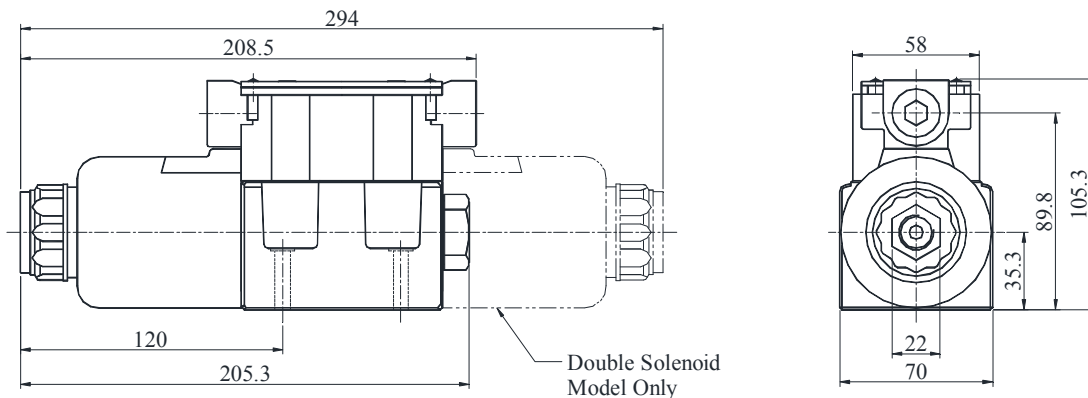
- ISO-4401-AC-05-4-A Mounting Surface

\* Solenoid being mounted in the reverse position - SOL a side - is also available.

Models with DC Solenoids: YD-03-\*\*\*-D\*-10

Models with R Solenoids: YD-03-\*\*\*-R\*-10

- Double Solenoid: Spring Centred & No-Spring Detented

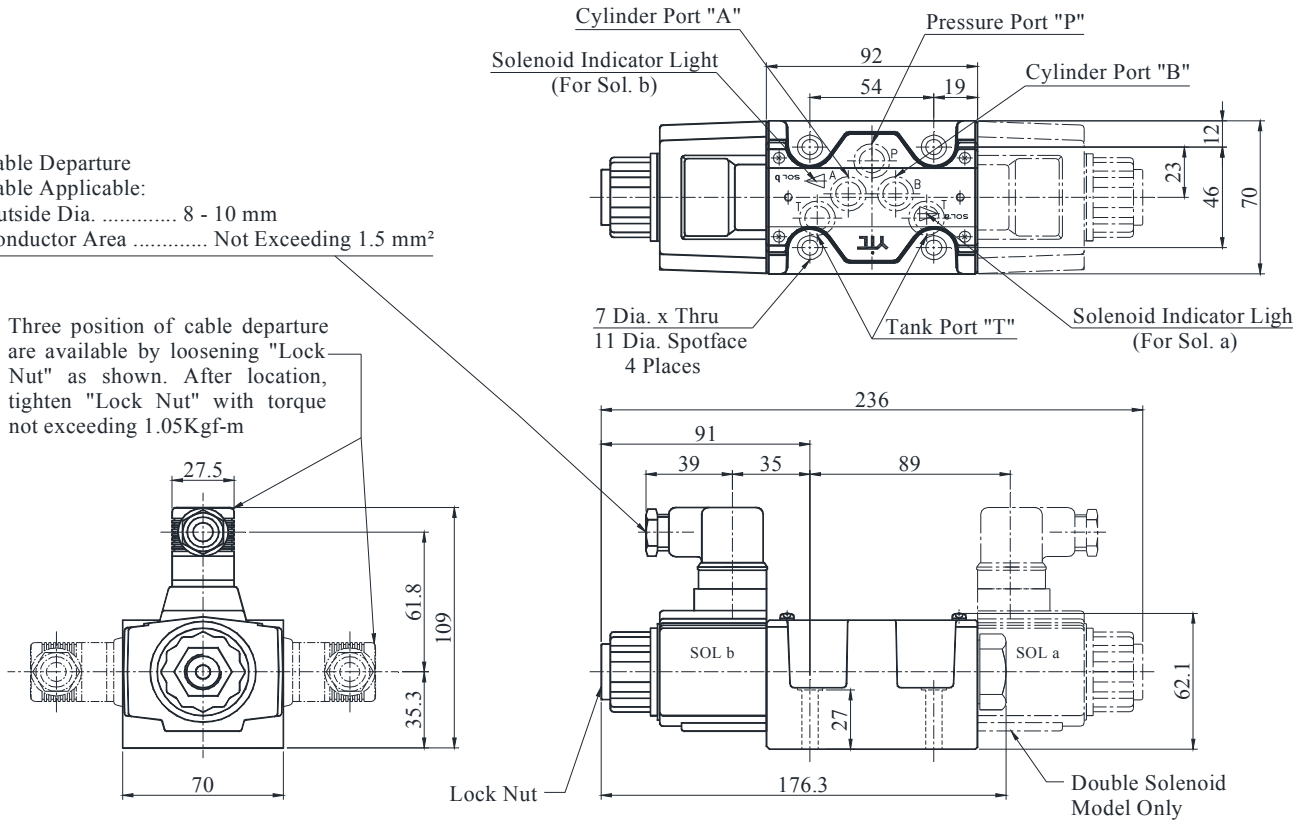


PLUG-IN CONNECTOR TYPE (N)  
PLUG-IN CONNECTOR WITH INDICATOR LIGHT (N1)

Models with AC Solenoids: YD-03-\*\*\*-A\*-N1-10

Cable Departure  
Cable Applicable:  
Outside Dia. .... 8 - 10 mm  
Conductor Area ..... Not Exceeding 1.5 mm<sup>2</sup>

Three position of cable departure are available by loosening "Lock Nut" as shown. After location, tighten "Lock Nut" with torque not exceeding 1.05Kg-f-m



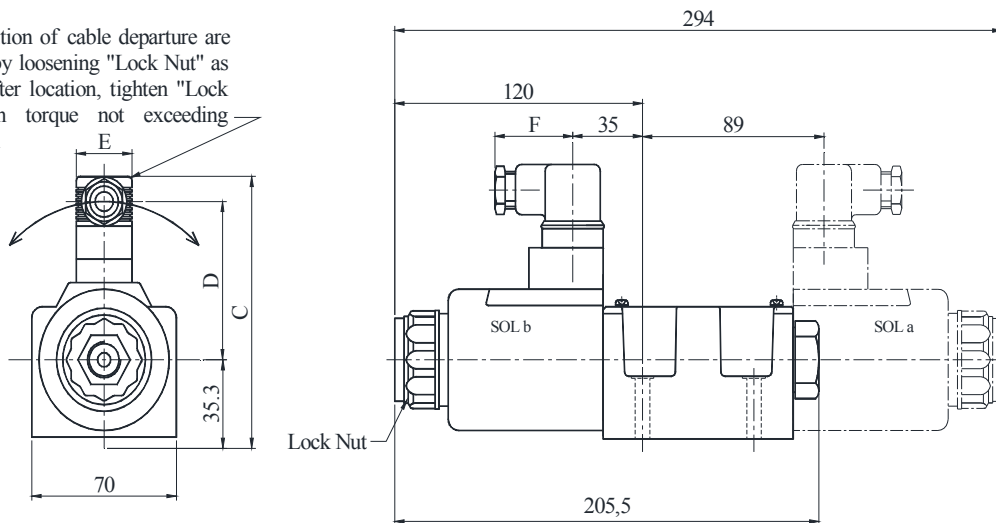
DIMENSIONS IN MILLIMETRES

Models with DC Solenoids: YD-03-\*\*\*-D\*-N1-10

• ISO-4401-AC-05-4-A  
Mounting Surface

Models with R Solenoids: YD-03-\*\*\*-R\*-N1-10

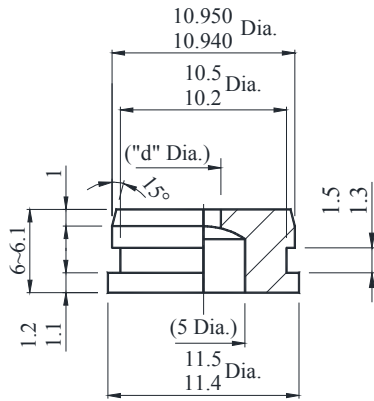
Three position of cable departure are available by loosening "Lock Nut" as shown. After location, tighten "Lock Nut" with torque not exceeding 1.05Kg-f-m



| Model number       | Dimensions mm |      |      |    |
|--------------------|---------------|------|------|----|
|                    | C             | D    | E    | F  |
| YD-03-***-D*-N1-10 | 121.1         | 73.8 | 27.5 | 39 |
| YD-03-***-R*-N1-10 | 124.9         | 62.6 | 34   | 53 |



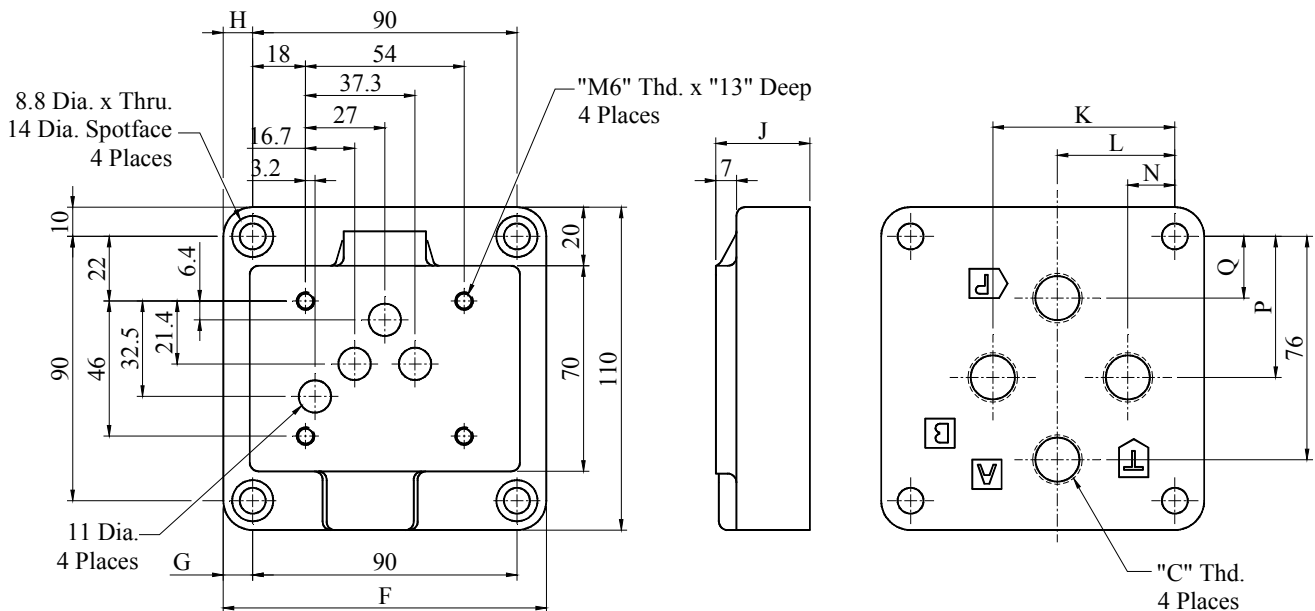
**Finishing Dimension of Flow Restrictor**



\* Orifice dia. “d Dia.” should be determined by customer application.  
 Each port (P,A,B and T) is machined for flow restrictor.  
 The flow restrictor should be machined in accordance with the above figure, if required.

DIMENSIONS IN MILLIMETRES

**Sub-plate: DSGM-03※-2180**



| Sub-Plate model Numbers | Piping Size “C” Thd. | Dimension mm |    |    |    |    |    |    |    |    |
|-------------------------|----------------------|--------------|----|----|----|----|----|----|----|----|
|                         |                      | F            | G  | H  | J  | K  | L  | N  | P  | Q  |
| DSGM-03-2180            | 3/8 BSP.F            | 110          | 9  | 10 | 32 | 62 | 40 | 16 | 48 | 21 |
| DSGM-03X-2180           | 1/2 BSP.F            | 110          | 9  | 10 | 32 | 62 | 40 | 16 | 48 | 21 |
| DSGM-03Y-2180           | 3/4 BSP.F            | 120          | 14 | 15 | 50 | 80 | 45 | 10 | 47 | 16 |

**Spare Parts List**

**List of Seals**

| Model Numbers         | O-Ring Details For Seal Kit | Qty. |     |     |
|-----------------------|-----------------------------|------|-----|-----|
|                       |                             | 3C※  | 2D※ | 2B※ |
| YD-03-※※※-※※-10       | AS 568 A014                 | 5    | 5   |     |
|                       | SO-NB-P21                   | 2    | 2   |     |
|                       | SO-NA-P4                    | 4    | 2   |     |
| YD-03-※※※-※※-10-N1-10 | AS 568 A014                 | 5    | 5   |     |
|                       | SO-NB-P21                   | 2    | 2   |     |

**List of Seal kits**

| Valve Model Numbers   | Seal Kit Numbers |
|-----------------------|------------------|
| YD-03-※※※-※※-10       | KS-DSG-03-50     |
| YD-03-※※※-※※-10-N1-10 | KS-DSG-03-N-50   |

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

## Solenoid Assy., Coil, Connector Assy. Number

| Valve Model Numbers   | Solenoid Assy. Numbers | Coil Numbers    | Terminal Box / Connector Assy. Part Numbers | Remarks           |   |
|-----------------------|------------------------|-----------------|---|-------------------|---|
| YD-03-※※※-A100-10※    | SA3-100-51             | C-SA3-100-51    | AC-TB3-60 <sub>2</sub> <sup>1*1</sup>       | Terminal Box Type |   |
| YD-03-※※※-A120-10※    | SA3-120-51             | C-SA3-120-51    |   |                   |   |
| YD-03-※※※-A200-10※    | SA3-200-51             | C-SA3-200-51    |   |                   |   |
| YD-03-※※※-A240-10※    | SA3-240-51             | C-SA3-240-51    |   |                   |   |
| YD-03-※※※-D12-10※     | -----                  | -----           | DC-TB3-60 <sub>2</sub> <sup>1*1</sup>       |                   |   |
| YD-03-※※※-D24-10※     | -----                  | -----           |   |                   |   |
| YD-03-※※※-R100-10※    | -----                  | -----           | R-TB3-60 <sub>2</sub> <sup>1*1</sup>        |                   |   |
| YD-03-※※※-R200-10※    | -----                  | -----           |   |                   |   |
| YD-03-※※※-A100-N1-10※ | SA3-100-N1-51          | C-SA3-100-N1-51 | A100-HD-211/SL                              |                   | Plug-in Connector with Indicator Light. |
| YD-03-※※※-A120-N1-10※ | SA3-120-N1-51          | C-SA3-120-N1-51 | A120-HD-211/SL                              |                   |   |
| YD-03-※※※-A200-N1-10※ | SA3-200-N1-51          | C-SA3-200-N1-51 | A200-HD-211/SL                              |                   |   |
| YD-03-※※※-A240-N1-10※ | SA3-240-N1-51          | C-SA3-240-N1-51 | A240-HD-211/SL                              |                   |   |
| YD-03-※※※-D12-N1-10※  | -----                  | -----           | D12-HD-211/SL                               |                   |   |
| YD-03-※※※-D24-N1-10※  | -----                  | -----           | D24-HD-211/SL                               |                   |   |

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

\*1 For '2B' models, use ※-TB3-60-1.

For '3C' & '2D' models, use ※-TB3-60-2.

## Iron core Assy. Number

| N-                       | YD                                 | -IC                            | -03        | -AC                        | -10           |
|--------------------------|------------------------------------|--------------------------------|------------|----------------------------|---------------|
| Type                     | Series Number                      | Iron Core                      | Valve Size | Coil Type                  | Design Number |
| <b>N</b> : Standard Type | <b>YD</b> : Sol. Operated DC Valve | <b>IC</b> : Iron-Core Assembly | <b>03</b>  | <b>AC</b><br><b>DC (R)</b> | <b>10</b>     |

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