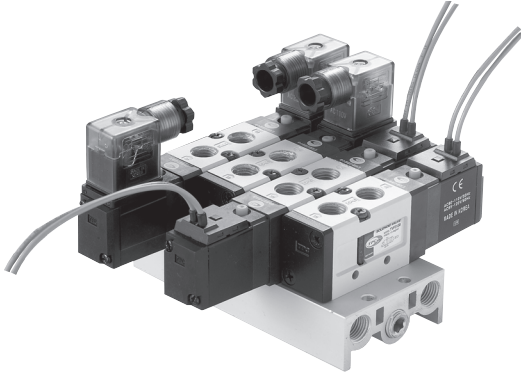


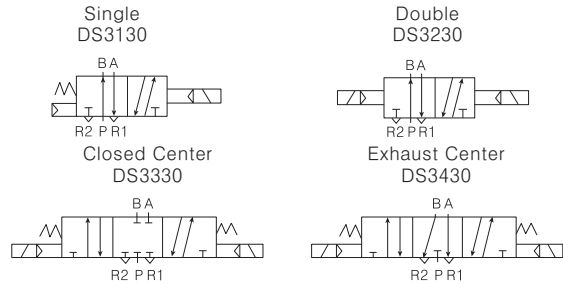
# Series DS3000

## 5-Port Pilot Solenoid Valve Body Ported Type / Base Ported Type



- MODEL NAME CHANGED FROM TVF TO DS
- UPGRADED PERFORMANCE AND QUALITY
- ROHS REACTING
- LAMP TURN-ON FOR IDENTIFICATION OF OPERATION STATUS
- NON-POLARITY BASE
- DESIGN UPGRADE WITH WHITE & BLACK SHADE
- COIL 180° ROTATING ASSEMBLY

### Symbol



### How to Order

(U) DS 3 1 3 0 - 1 G C - 02 - - XWL \* \*

- |   |   |   |  |
|---|---|---|--|
| <p><b>1 DS3000</b><br/>Blank : Metric (PT)<br/>U : NPT</p> <p><b>2 Type of Actuation</b><br/>1 : Single<br/>2 : Double<br/>3 : Closed Center<br/>4 : Exhaust Center</p> <p><b>3 Body Type</b><br/>0 : Base ported type<br/>3 : Body ported type</p> | <p><b>4 Body Option</b><br/>0 : Standard type<br/>3 : Common exhaust for main and pilot valve</p> <p><b>5 Voltage</b><br/>1 : AC 110V 50 / 60Hz<br/>2 : AC 220V 50 / 60Hz<br/>3 : AC 120V 50 / 60Hz<br/>4 : AC 240V 50 / 60Hz<br/>5 : DC 24V<br/>6 : DC 12V<br/>7 : DC 6V<br/>(DZ type unavailable)</p> | <p>8 : AC 24V 50 / 60Hz<br/>9 : DC 100V<br/>(DZ type unavailable)</p> <p><b>6 Electrical Entry</b><br/>G : Grommet (Lead wire length 300mm)<br/>DZ : DIN connector (Connector attached, Lamp/surge voltage protecting circuit attached)<br/>D : DIN connector (DC6, 100V unavailable)<br/>N : Without DIN Connector</p> <p><b>7 Manual Override</b><br/>Blank : Non-locking push type<br/>C : Knob locking type</p> | <p><b>8 Port Size (sup cyl')</b><br/>01 : 1/8"<br/>02 : 1/4"</p> <p><b>9 Special Option (sup cyl')</b><br/>Blank : Standard type<br/>XC16 : Copper-free</p> <p><b>10 Length of Lead Wire</b><br/>Blank : 300mm(Standard type)<br/>XWL 01 : 100mm<br/>:<br/>XWL 20 : 2000mm<br/>Note1) Contact if PE Port is needed</p> |
|---|---|---|--|

### Pilot Valve Ass'y Order Type

SC2 - 1 G - 50 - - XWL \* \*

- |   |   |   |
|---|---|---|
| <p><b>1 Voltage</b><br/>1 : AC 110V, 50 / 60Hz<br/>2 : AC 220V, 50 / 60Hz<br/>3 : AC 120V, 50 / 60Hz<br/>4 : AC 240V, 50 / 60Hz<br/>5 : DC 24V<br/>6 : DC 12V<br/>7 : DC 6V<br/>8 : AC 24V, 50 / 60Hz<br/>9 : DC 100V</p> | <p><b>2 Electrical Entry</b><br/>G : Grommet (Lead wire length 300mm)<br/>DZ : DIN connector (Connector attached, Lamp/surge voltage protecting circuit attached)<br/>D : Din connector<br/>N : Without DIN connector</p> <p><b>3 Manual Override</b><br/>Blank : Non-locking push type<br/>C : Knob locking type</p> | <p><b>4 Special Option</b><br/>Blank : Standard type<br/>XC16 : Copper-free</p> <p><b>5 Length of Lead Wire</b><br/>Blank : 300mm(Standard type)<br/>XWL01 : 100mm<br/>XWL02 : 200mm<br/>XWL04 : 400mm<br/>:<br/>XWL20 : 2000mm</p> |
|---|---|---|

# Series DS3000

## DIN Terminal Box Order Form

**TVF3130-61-2005** - Additional symbol 1

### 1 Additional Symbol

Additional Symbol	Rated Voltage
①	AC110V
②	AC220V
③	AC120V
④	AC240V
⑤	DC24V
⑥	DC12V
⑦	DC6V
⑧	AC24V
⑨	DC100V

### Notices for Products

Please fully understand the notices prior to utilization, and refer to safety notice and common notice.

## Specifications

Item		Specification
Applied Pressure Range	2 Position Single, 3 Position	0.15 ~ 0.9 MPa (21~128PSI)
	2 Position Double	0.1 ~ 0.9MPa (14~128PSI)
Ambient and Fluid Temperature		Max. 50°C(122°F)
Response Time	2 Position Single, Double	Less than 30ms (0.5MPa)
	3 Position	Less than 40ms (0.5MPa)
Max. Operating Frequency	2 Position Single, Double	5 c/s
	3 Position	3 c/s
Lamp (LED)		Standard
Lubrication		Unnecessary
Manual Override		Non-Lock Push Type, Knob Lock Type
Mounting Position		Free
Impact-resistant / Vibration-resistant		30G/5G(8.3~2000Hz)
Pilot Valve Exhaust Method		Individual Exhaust Type, Main Valve, Pilot Valve Integrated Exhaust
Electrical Entry		Grommet, DIN connector
Protecting Structure		Vibration-Resistant IP 65
Coil rated Voltage	AC 50/60 Hz	110V, 220V, 120V, 240V, 24V
	DC	24V, 12V, 6V, 100V
Apparent Electric Power(AC)	Maneuver	5.6VA(50Hz), 5.0VA(60Hz)
	Excitationn Control	3.4VA(50Hz), 2.3VA(60Hz)
Power Consumption (DC)		2W(Lamp Attached)
Allowable		-15% ~ +10%

## Options

Item Name	Item Number	Application
Silencer	SN110-01	Rc(PT)1/8

## Types

Piping	Type	Position/Solenoid	Port Size (SUP, CYL.)	Effective Orifice mm <sup>2</sup> (Cv Factor)		Weight kgf(lbs)
				1/8"	1/4"	
Body Ported	DS3130-00- <sup>01</sup> / <sub>02</sub>	2 Position Single	Rc(PT)1/8	14.4(0.8)	18(1.0)	0.21(0.46)
	DS3230-00- <sup>01</sup> / <sub>02</sub>	2 Position Double		14.4(0.8)	18(1.0)	0.29(0.64)
	DS3330-00- <sup>01</sup> / <sub>02</sub>	3 Position Closed Center	Rc(PT)1/4	11.7(0.65)	14.4(0.8)	0.44(0.97)
	DS3430-00- <sup>01</sup> / <sub>02</sub>	3 Position Exhaust Center		14.4(0.8)	18(1.0)	0.44(0.97)

(1) Exhaust port (R1, R2) is 1/8".

(2) Exhaust effective sectional area is relatively different to supply sectional area. Moreover, it shows possible speed difference owing to exhaust features of DS3230 and 3430.

## Manifold Type

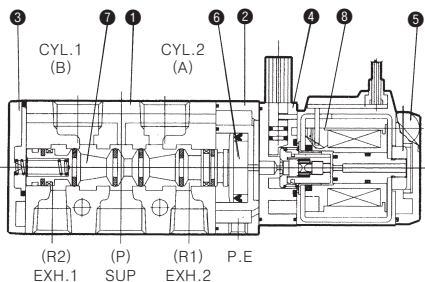
Type	Manifold Type		
	Type	EXH Method	A,B(CYL)Port Piping
DS3030-00- <sup>01</sup> / <sub>02</sub>	B Mount 30 Type	Common	Valve

- DW
- DR100
- DR200
- RS1000, 2000
- RS4000
- SI UNIT
- DV1000, DV3000, DV4000
- DS300
- DS3000**
- DS5000
- DS2000
- DS6000
- DX1,DX2
- DX1(2)R
- DH
- DP300, DP3000, DP5000
- DM
- DT220

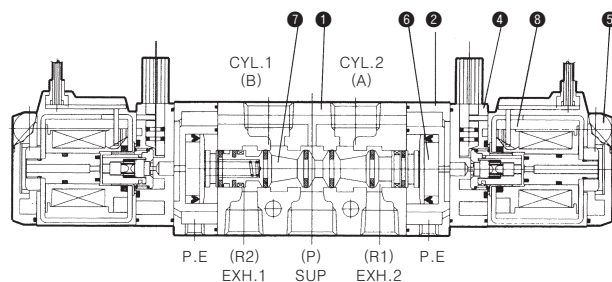
# Series DS3000

## Construction

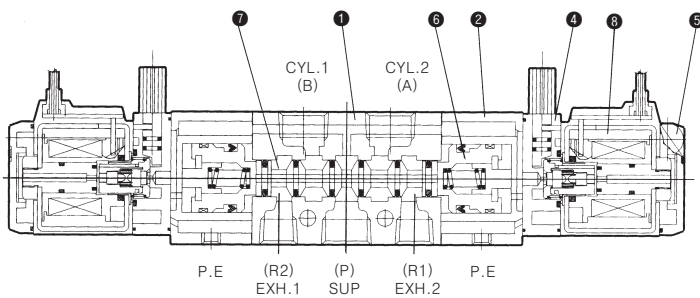
### Single Solenoid



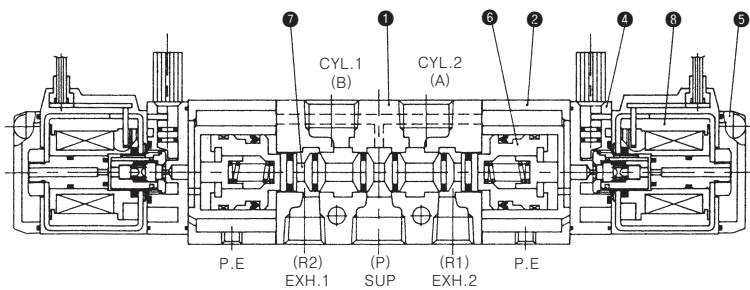
### Double Solenoid



### 3 Position Closed Center



### 3 Position Exhaust Center



### Main parts

No.	Description	Material	Notes
1	Body	Aluminum die casting	Metallic paint
2	Adapter Plate	Resin**	Black*
3	End Cover	Aluminum Die Casting	Black
4	Pilot Body	Polyacetal	
5	Pilot Cover	Polyacetal	
6	Piston	***Polyacetal	
7	Spool	Aluminum · NBR	

※ 3 Position : Aluminum ※※ 3 position : Aluminum Die Casting  
 ※※※ 3 Position : Metallic Paint

### Spare Parts

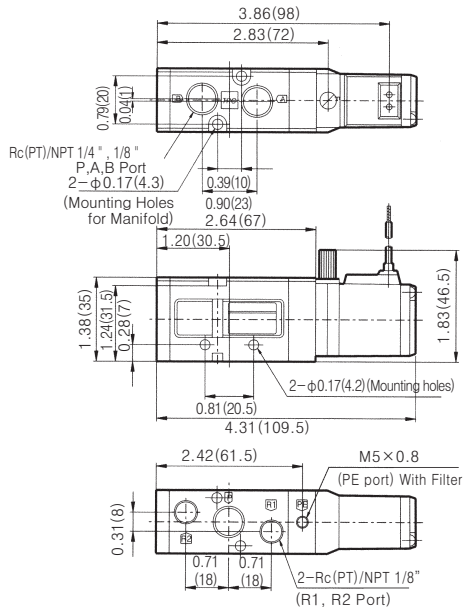
No.	Description	Material	Notes
8	Pilot Valve Assembly	-	-

# Series DS3000

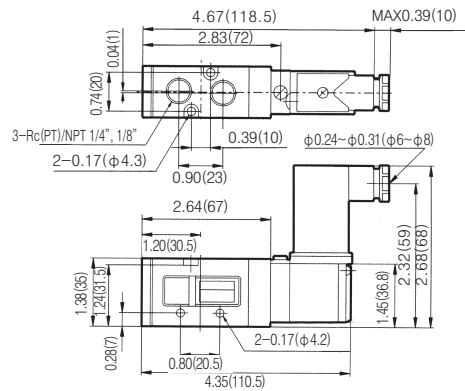
## Body Ported/2 Position Single Solenoid

inch(mm)

Grommet/DS3130-OG



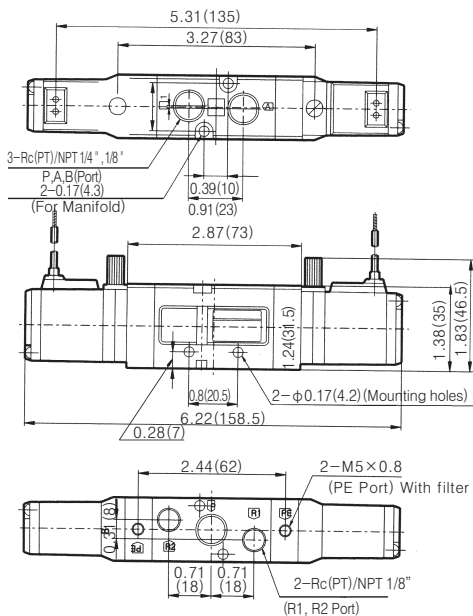
DIN Connector/DS3130-OD



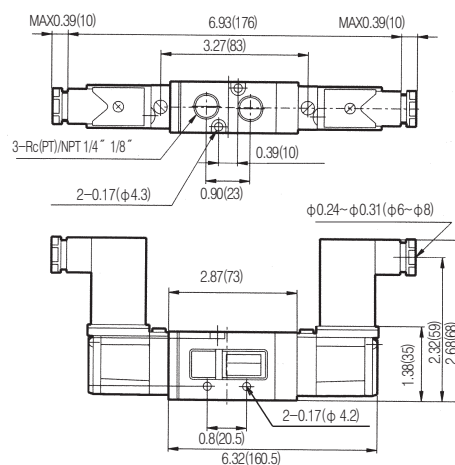
## Body Port/2 Position Double Solenoid • 3 Position Closed Center • Exhaust Center

inch(mm)

Grommet/DS3230-OG



DIN Connector/DS3230-OD



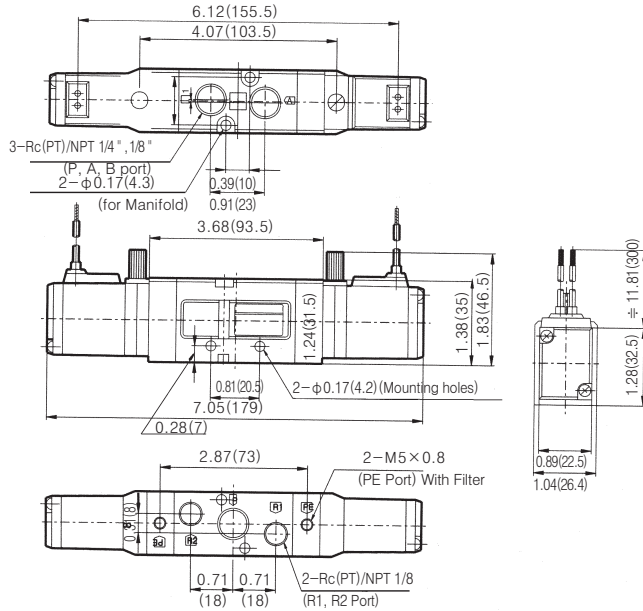
DW
DR100
DR200
RS1000, 2000
RS4000
SI UNIT
DV1000
DV3000
DV4000
DS300
<b>DS3000</b>
DS5000
DS2000
DS6000
DX1,DX2
DX1(2)R
DH
DP300
DP3000
DP5000
DM
DT220

# Series DS3000

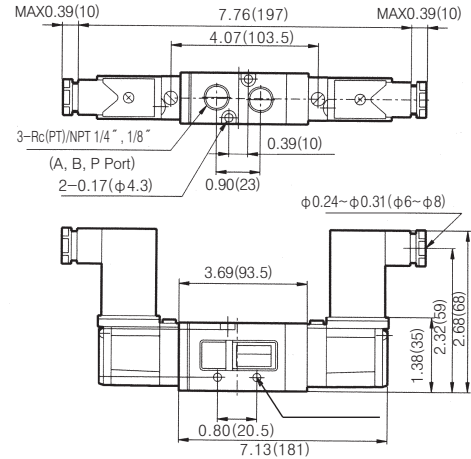
## Body Ported/3 Position Double Solenoid

inch(mm)

Grommet/DS3330-OG, DS3430-OG



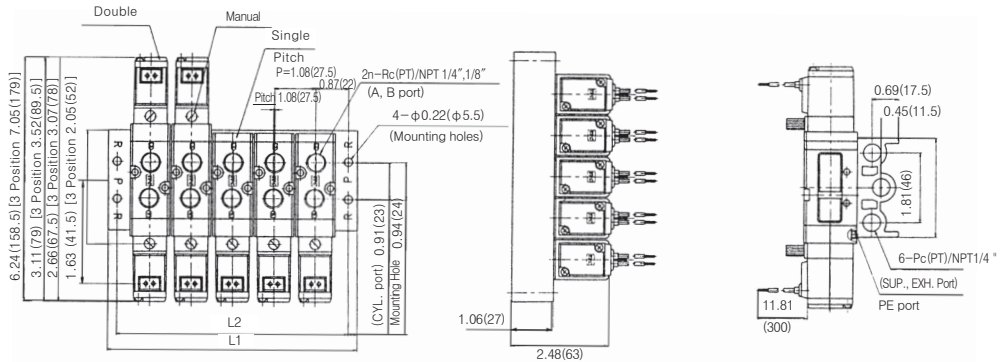
DIN Connector/DS3330-OD  
DS3430-OD



## B Mount Type/Dimensions DSM3-30

inch(mm)

Common Exhaust/DSM3-30-001



L:Size

N = Stations

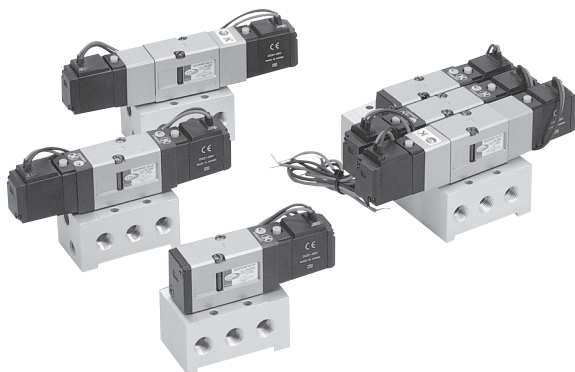
Stations	inch																			
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
L1	3.29	4.37	5.45	6.34	7.62	8.70	9.78	10.87	11.95	13.03	14.11	15.20	16.28	17.36	18.44	19.53	20.61	21.69	22.78	
L2	2.81	3.90	4.98	6.06	7.15	8.23	9.31	10.39	11.48	12.56	13.64	14.72	15.81	16.89	17.97	19.06	20.14	21.22	22.30	

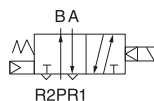
Stations	mm																			
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
L1	83.5	111	138.5	166	193.5	221	248.5	276	303.5	331	358.5	386	413.5	441	468.5	496	523.5	551	578.5	
L2	71.5	99	126.5	154	181.5	209	236.5	264	291.5	319	346.5	374	401.5	429	456.5	484	511.5	539	566.5	

# Series DS3000

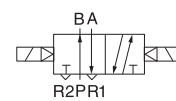
## 5-Port Pilot Type Solenoid Valve/Sub Base Piping Type



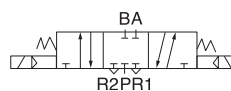
Single  
DS3100



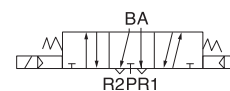
Double  
DS3200



Closed Center  
DS3300



Exhaust Center  
DS3400



- COMPACT/LIGHT WEIGHT
- LARGE VALVE CAPACITY/  
CV 0.9, 16mm<sup>2</sup>
- LOW POWER CONSUMPTION/  
2W(DC)(LAMP ATTACHED)
- VARIOUS ATTACHMENT TYPE

### Notices for Products

Please fully understand the notices prior to utilization, and refer to safety notice and common notice.

### Specifications

Fluid		Air		
Operating pressure range MPa(PSI)	2 Position	Single	0.15~0.9(21~128PSI)	
		Double	0.1~0.9(14~128PSI)	
3 Position		0.15~0.9(21~128PSI)		
Ambient and Fluid Temperature		Max. 50°C(122°F)		
Allowable Voltage(%)		-15~+10% of Rated Voltage		
Max. Operating Frequency (Time/Second)	2 Position	5c/s		
	3 Position	3c/s		
Min. Operating Frequency		1 Time/30 Days (Based on KS B6356)		
Lamp (LED)		Standard		
Lubrication		No Need (Turbine Oil Class 1 ISO VG32 if Refueling)		
Impact-Resistant/Vibration-Resistant (G)		30/5(8.3~200Hz)		
Protecting Structure		Vibration-Resistant		
Mounting Position		Free		
Manual Override		Non-Lock Push Type, Lock type "L" Type		
Electrical Entry		Grommet, DIN Type Terminal		
Apparent Electric Power (VA)	AC	Maneuver	50Hz	5.6
			60Hz	5.0
		Excitation Control	50Hz	3.4
			60Hz	2.3
Power Consumption (W)	DC	No Lamp	1.8	
		Lamp Attached	2.0	
Response time (ms)	2 Position	Less than 30 (Based on 0.5MPa Air Pressure on KSB6356)		
	3 Position	Less than 40 (Based on 0.5MPa Air Pressure on KSB6356)		
Effective Orifice mm <sup>2</sup> (Cv Factor) (Effective Sectional Area of Valve)	2 Position		16(0.9)	
	3 Position	Closed Center	12.5(0.7)	
		Exhausted Center	16(0.9)	

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

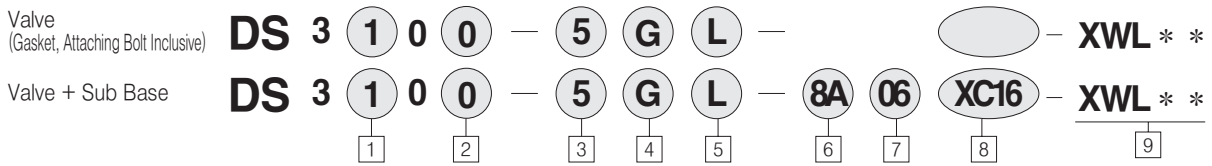
DP300  
DP3000  
DP5000

DM

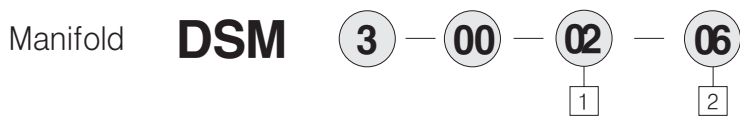
DT220

# Series DS3000

## How to Order



<p><b>1</b> Type of Actuation</p> <ul style="list-style-type: none"> <li>1 → Single</li> <li>2 → Double</li> <li>3 → Closed Center</li> <li>4 → Exhaust Center</li> </ul> <p><b>2</b> Body Option</p> <ul style="list-style-type: none"> <li>0 → Standard Type</li> </ul> <p><b>3</b> Voltage</p> <ul style="list-style-type: none"> <li>1 → AC110V(50/60Hz)</li> <li>2 → AC220V(50/60Hz)</li> <li>3 → AC120V(50/60Hz)</li> <li>4 → AC240V(50/60Hz)</li> <li>5 → DC24V</li> <li>6 → DC12V</li> <li>7 → DC6V</li> <li>8 → AC24V(50/60Hz)</li> <li>9 → DC100V</li> </ul> <p><b>4</b> Electrical Entry</p> <ul style="list-style-type: none"> <li>G → Grommet (Lead Wire Length 300mm)</li> <li>DZ → DIN Connector with Indicator Light and Surge Suppress (Lamp/Surge Voltage Protecting Circuit Attached)</li> <li>N → DIN Connector</li> </ul>	<p><b>5</b> Manual Override</p> <ul style="list-style-type: none"> <li>Blank → Non-Lock Push Type</li> <li>L → Locking "L" Type</li> </ul> <p><b>6</b> Port Size</p> <ul style="list-style-type: none"> <li>Blank → Valve Body Only (Without Sub Plate)</li> <li>8A → 1/4" (Without Sub Plate Attached)</li> </ul> <p><b>7</b> One Touch Fitting Attachment</p> <ul style="list-style-type: none"> <li>Blank → Without One Touch Fitting</li> <li>06 → Ø6 One Touch Fitting</li> <li>08 → Ø8 One Touch Fitting</li> </ul> <p><b>8</b> Special Option</p> <ul style="list-style-type: none"> <li>Blank → Standard</li> <li>XC16 → Copper-free</li> </ul> <p><b>9</b> Length of Lead Wire</p> <ul style="list-style-type: none"> <li>Blank : 300mm(Standard)</li> <li>XWL01: 100mm</li> <li>XWL02: 200mm</li> <li>XWL04: 400mm</li> <li>⋮</li> <li>XWL20: 2000mm</li> </ul> <p>* Please contact for specification beyond standard length</p>
--	--



<p><b>1</b> Stations</p> <ul style="list-style-type: none"> <li>1 → 1 Stations</li> <li>2 → 2 Stations</li> <li>3 → 3 Stations</li> <li>4 → 4 Stations</li> <li>5 → 5 Stations</li> <li>6 → 6 Stations</li> <li>7 → 7 Stations</li> <li>8 → 8 Stations</li> <li>9 → 9 Stations</li> <li>10 → 10 Stations</li> </ul> <p>(Please contact for over 11-stations)</p>	<p><b>2</b> One Touch Fitting Attached</p> <ul style="list-style-type: none"> <li>Blank → Without One Touch Fitting</li> <li>06 → Ø6 One Touch Fitting Attached</li> <li>08 → Ø8 One Touch Fitting Attached</li> </ul>
--	--

Blanking Plate **DSB 3 — 00 (Including Gasket & Bolt)**

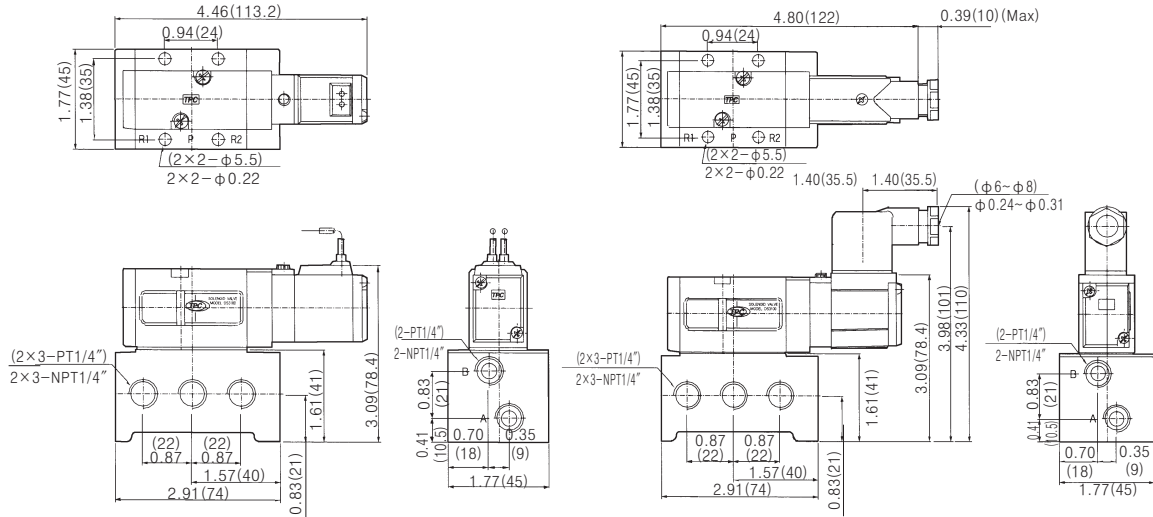
# Series DS3000

## Dimensions/2 Position Single Solenoid

inch(mm)

Grommet/DS3100-OG

DIN Connector/DS3100-ODZ



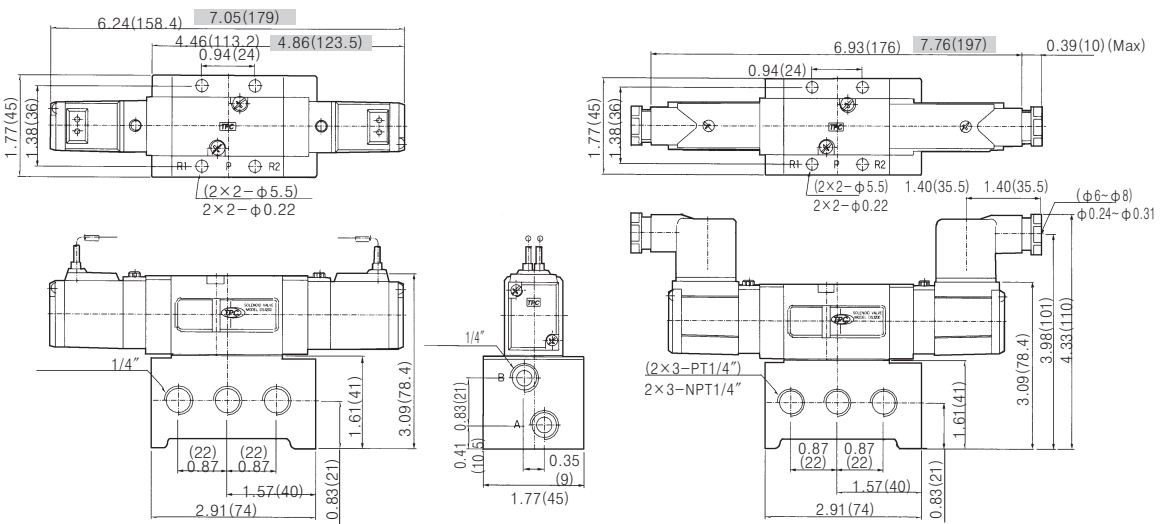
DW
DR100
DR200
RS1000, 2000
RS4000
SI UNIT
DV1000 DV3000 DV4000
DS300
<b>DS3000</b>
DS5000
DS2000
DS6000
DX1,DX2
DX1(2)R
DH
DP300 DP3000 DP5000
DM
DT220

## Dimensions/2 Position Double Solenoid · 3 Position Closed Center · Exhaust Center

inch(mm)

Grommet/DS3200, 3300, 3400-OG

DIN Connector/DS3200, 3300, 3400-ODZ



※    : 3Position



# Series DS3000

**Dimensions / Manifold Block** inch(mm)

Stations	1	2	3	4	5	6	7	8	9	10
L1	1.77 (45)	2.91 (74)	4.06 (103)	5.20 (132)	6.34 (161)	7.48 (190)	8.62 (219)	9.76 (248)	10.9 (277)	12.0 (306)
	1.38 (35)	2.25 (64)	3.67 (93)	4.80 (122)	5.94 (151)	7.09 (180)	9.01 (229)	9.37 (238)	10.51 (267)	1.17 (296)

inch(mm)

**Dimensions/Manifold ASS'Y** inch(mm)

Stations	1	2	3	4	5	6	7	8	9	10
L1	1.77 (45)	2.91 (74)	4.06 (103)	5.20 (132)	6.34 (161)	7.48 (190)	8.62 (219)	9.76 (248)	10.9 (277)	12.0 (306)
	1.38 (35)	2.25 (64)	3.67 (93)	4.80 (122)	5.94 (151)	7.09 (180)	9.01 (229)	9.37 (238)	10.51 (267)	1.17 (296)

inch(mm)