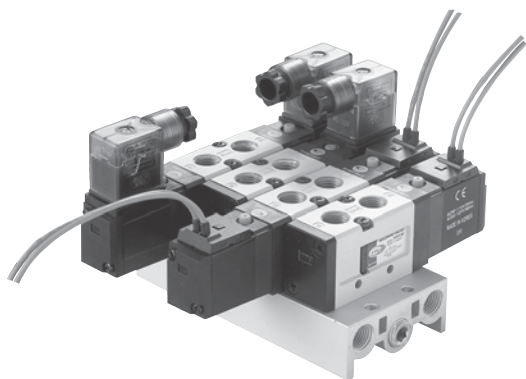


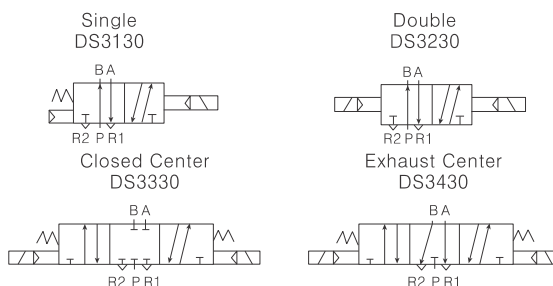
# Series DS3000

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

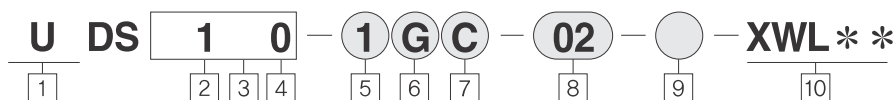


- MODEL NAME CHANGED FROM TVF TO DS
- UPGRADED PERFORMANCE AND QUALITY
- ROHS REACTING
- LAMP TURN-ON FOR IDENTIFICATION OF OPERATION STATUS
- NON-POLARITY BASE
- DESIGN UPGRADE WITH WHITE BLAC SHADE
- COIL 180° ROTATING ASSEMBLY

### Symbol



### How to Order



#### 1 DS3000

Blank : Metric (PT)  
U : NPT

#### 2 Type of Actuation

1 : Single  
2 : Double  
3 : Closed Center  
4 : Exhaust Center

#### 3 Body Type

0 : Base ported type  
3 : Body ported type

#### 4 Body Option

0 : Standard type  
3 : Common exhaust for main and pilot valve

#### 5 Voltage

1 : AC 110V 50 / 60Hz  
2 : AC 220V 50 / 60Hz  
3 : AC 120V 50 / 60Hz  
4 : AC 240V 50 / 60Hz  
5 : DC 24V  
6 : DC 12V  
7 : DC 6V  
(DZ type unavailable)

8 : AC 24V 50 / 60Hz

9 : DC 100V  
(DZ type unavailable)

#### 6 Electrical Entry

G : Grommet (Lead wire length 300mm)  
DZ : DIN connector (Connector attached, Lamp/surge voltage protecting circuit attached)  
D : DIN connector (DC6, 100V unavailable)  
N : Without DIN Connector

#### 7 Manual Override

Blank : Non-locking push type  
C : Knob locking type

#### 8 Port Size (sup cyl')

01 : 1/8"  
02 : 1/4"

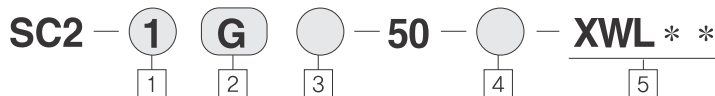
#### 9 Special Option (sup cyl')

Blank : Standard type  
XC16 : Copper-free

#### 10 Length of Lead Wire

Blank : 300mm(Standard type)  
XWL 01 : 100mm  
:  
XWL 20 : 2000mm  
Note1) Contact if PE Port is needed

### Pilot Valve Ass' Order T e



#### 1 Voltage

1 : AC 110V, 50 / 60Hz  
2 : AC 220V, 50 / 60Hz  
3 : AC 120V, 50 / 60Hz  
4 : AC 240V, 50 / 60Hz  
5 : DC 24V  
6 : DC 12V  
7 : DC 6V  
8 : AC 24V, 50 / 60Hz  
9 : DC 100V

#### 2 Electrical Entry

G : Grommet (Lead wire length 300mm)  
DZ : DIN connector (Connector attached, Lamp/surge voltage protecting circuit attached)

D : Din connector  
N : Without DIN connector

#### 3 Manual Override

Blank : Non-locking push type  
C : Knob locking type

#### 4 Special Option

Blank : Standard type  
XC16 : Copper-free

#### 5 Length of Lead Wire

Blank : 300mm(Standard type)  
XWL01 : 100mm  
XWL02 : 200mm  
XWL04 : 400mm  
:  
XWL20 : 2000mm

## DIN Terminal Bo Order Form

T 1 0 1 2005 - **Additional Symbol**

1

### 1 Additional Symbol

Additional Symbol	Rated Voltage
	AC110V
	AC220V
	AC120V
	AC240V
	DC24V
	DC12V
	DC6V
	AC24V
	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)
	Excitacionn 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, C L.)	Effective Orifice mm <sup>2</sup> (Cv Factor)		eight kgf(lbs)
				1/8	1/4	
Body Ported	DS3130- <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- <sup>01</sup> / <sub>02</sub>	2 Position Double		14.4(0.8)	18(1.0)	0.29(0.64)
	DS3330- <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- <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	E H Method	A,B(C L)Port Piping
DS3 30- <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

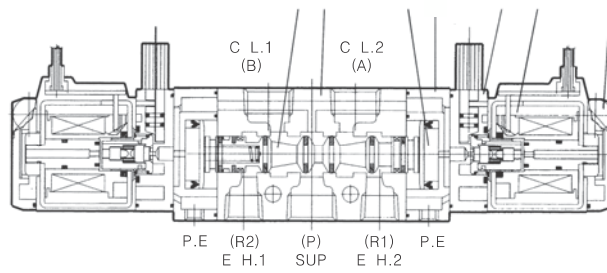
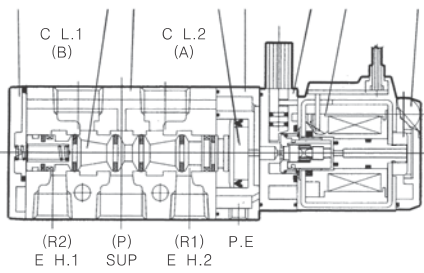
DM

DT220

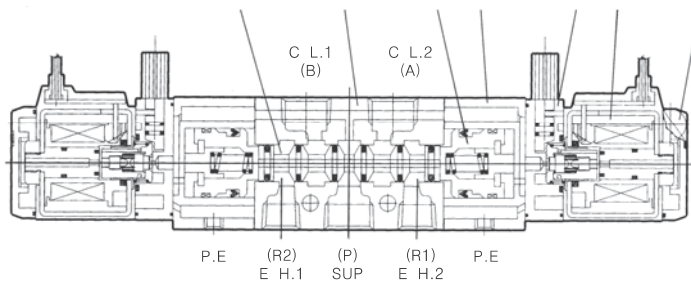
## Construction

### Single Solenoid

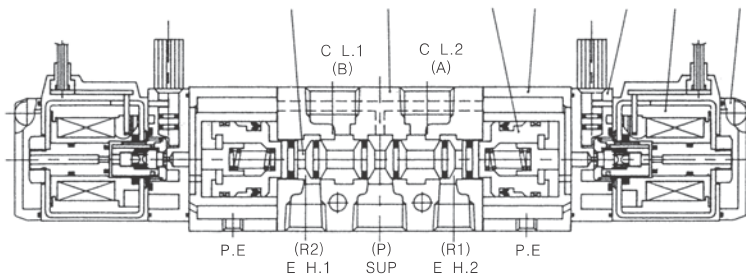
### Double Solenoid



### 3 Position Closed Center



### 3 Position E haust Center



#### Main parts

No.	Description	Material	Notes
	Body	Aluminum die casting	Metallic paint
	Adapter Plate	Resin**	Black
	End Cover	Aluminum Die Casting	Black
	Pilot Body	Polyacetal	
	Pilot Cover	Polyacetal	
	Piston	***Polyacetal	
	Spool	Aluminum NBR	

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

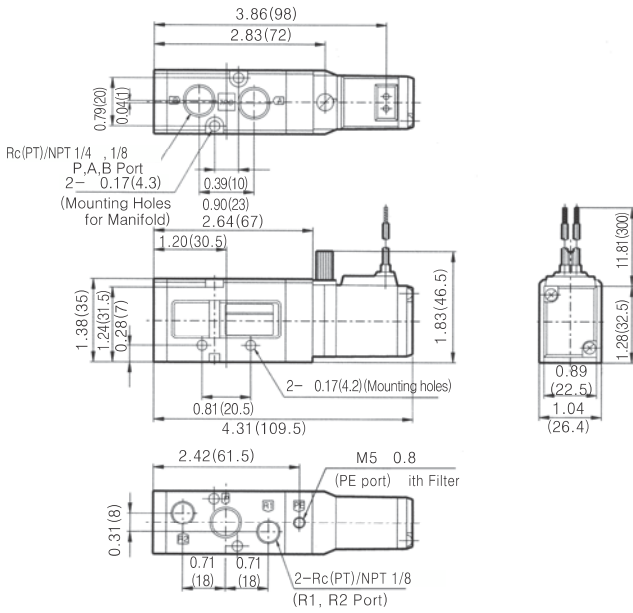
#### Spare Parts

No.	Description	Material	Notes
	Pilot Valve Assembly	-	-

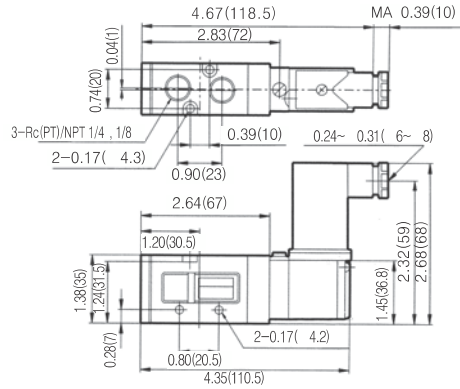
od Ported/2 Position Single Solenoid

inch(mm)

Grommet/DS3130- G



DIN Connector/DS3130- D



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

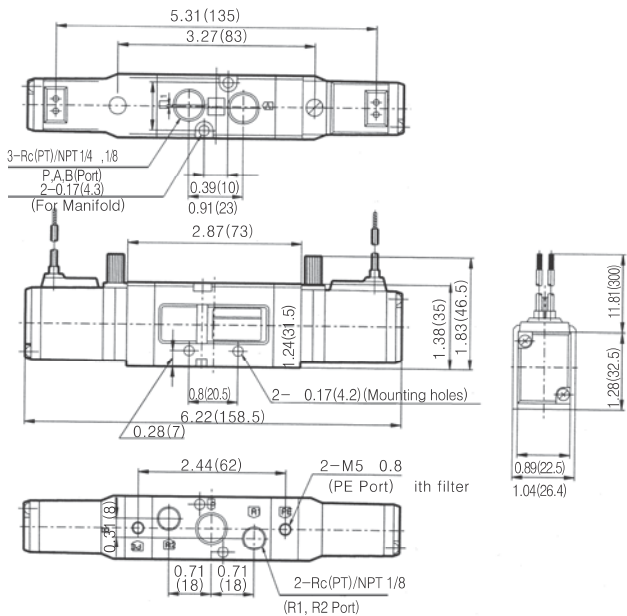
DM

DT220

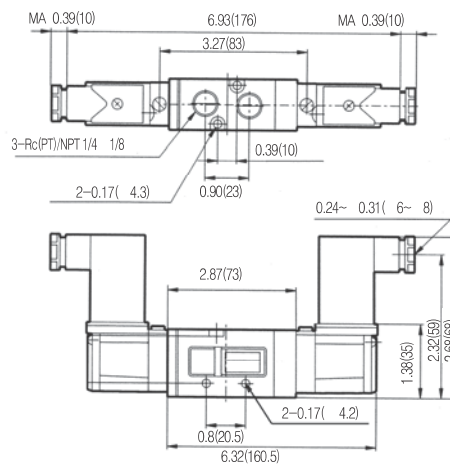
Body Port/2 Position Double Solenoid 3 Position Closed Center Exhaust Center

inch(mm)

Grommet/DS3230- G



DIN Connector/DS3230- D

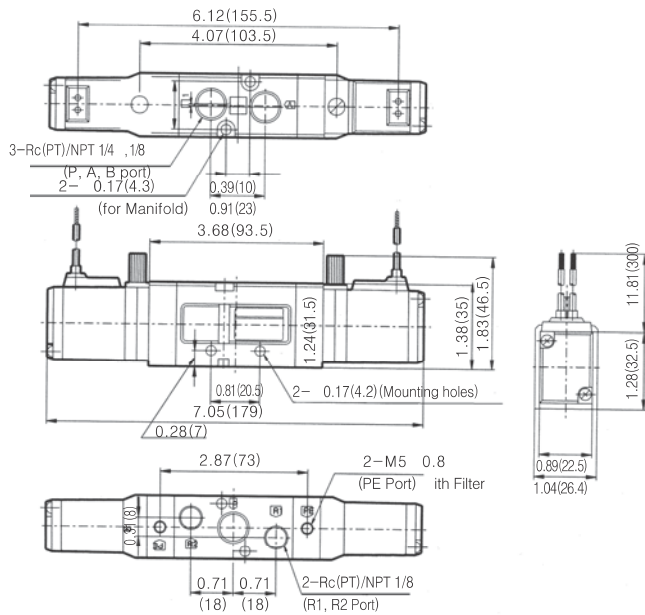


# Series DS3000

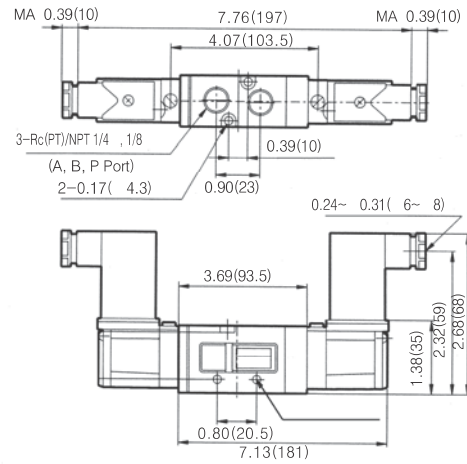
## od Ported/ Position Do le Solenoid

inch(mm)

Grommet/DS3330- G, DS3430- G



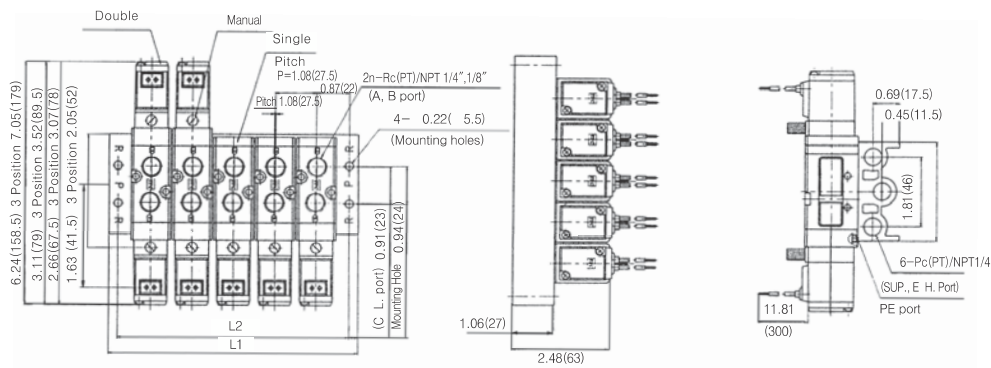
DIN Connector/DS3330- D  
DS3430- D



## B Mount Type/Dimensions DSM3-30

inch(mm)

Common E haust/DSM3-30- 1



L:Si e

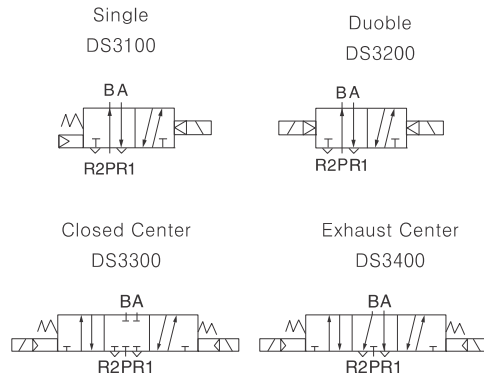
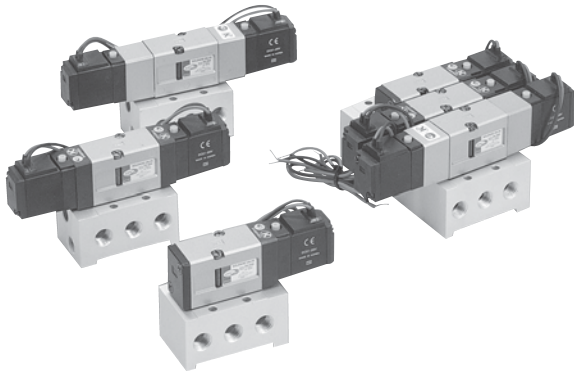
N = Stations

	inch																			
Stations	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	
	mm																			
Stations	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 Pipin Type

- 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



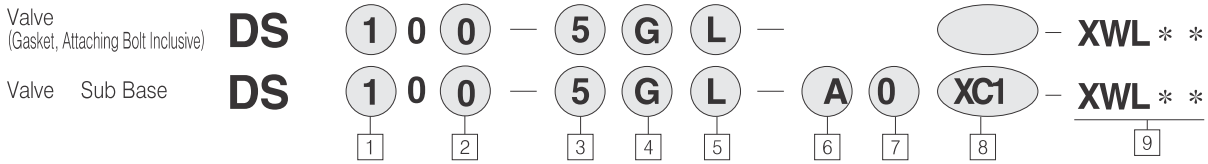
- COMPACT/LIGHT WEIGHT
- LARGE VALVE CAPACITY/  
CV 0.9, 16mm<sup>2</sup>
- LOW POWER CONSUMPTION/  
2W(DC)(LAMP ATTACHED)
- VARIOUS ATTACHMENT TYPE

**Notices for Products**

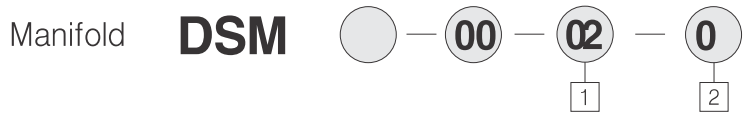
Please fully understand the notices prior to utilization, and refer to safety notice and common notice.

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 (122 )			
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(8.3~200 )			
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	50	5.6
			60	5.0
		Excitation Control	50	3.4
			60	2.3
Power Consumption ( )	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)	

**How to Order**

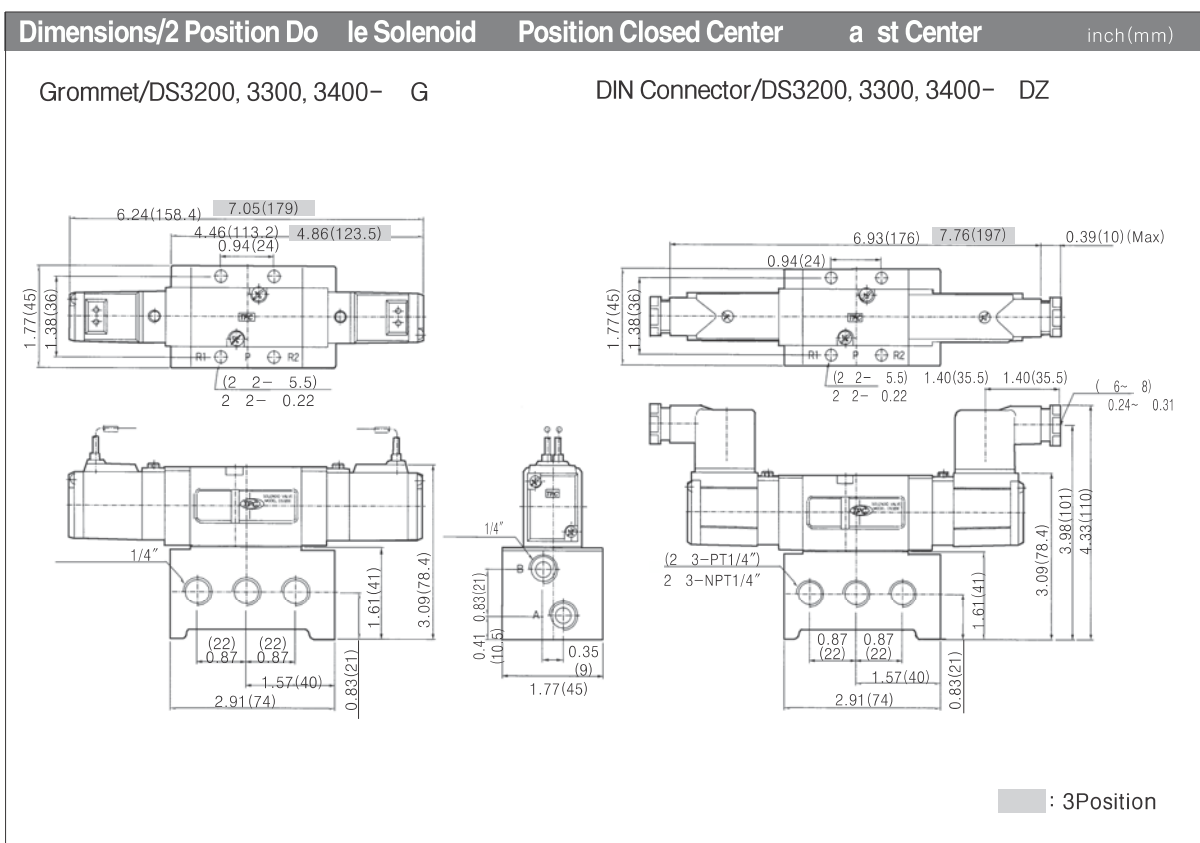
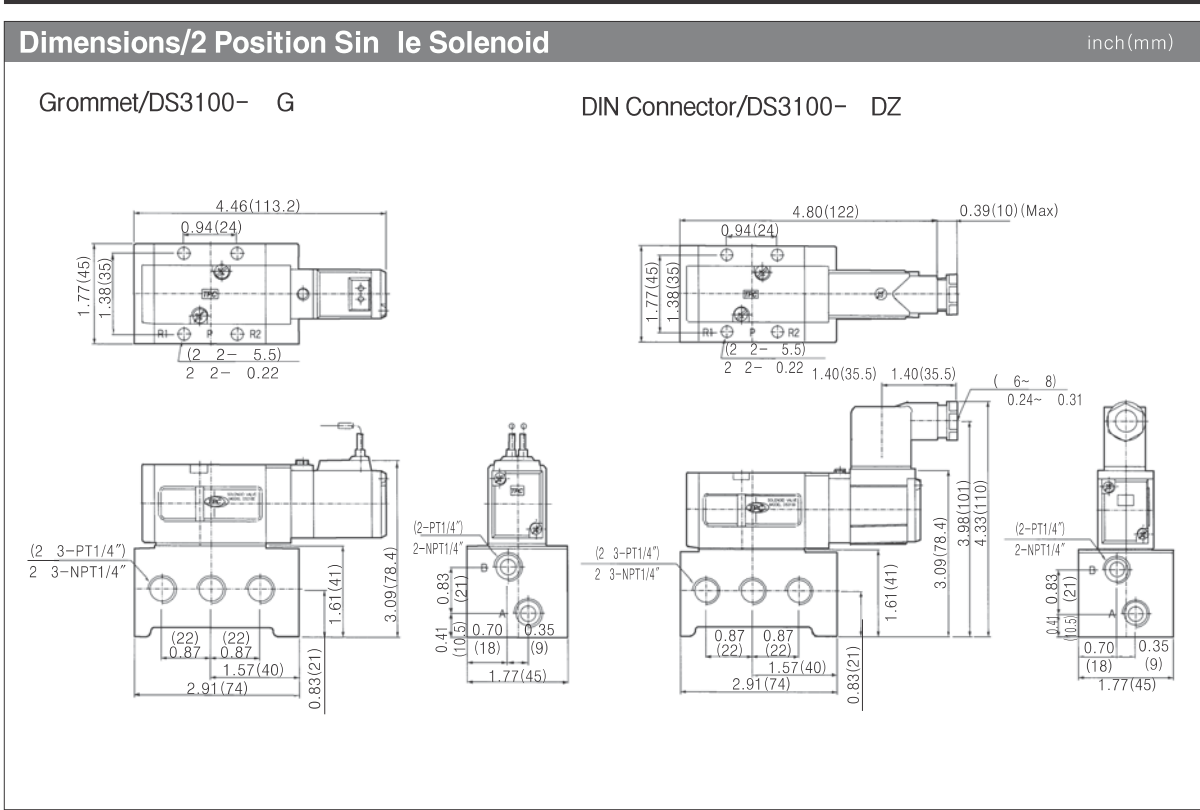


<p>Type of Actuation</p> <p>1 Single</p> <p>2 Double</p> <p>3 Closed Center</p> <p>4 Exhaust Center</p> <p>Body Option</p> <p>0 Standard Type</p> <p>Voltage</p> <p>1 AC110V(50/60 )</p> <p>2 AC220V(50/60 )</p> <p>3 AC120V(50/60 )</p> <p>4 AC240V(50/60 )</p> <p>5 DC24V</p> <p>6 DC12V</p> <p>7 DC6V</p> <p>8 AC24V(50/60 )</p> <p>9 DC100V</p> <p>Electrical Entry</p> <p>G Grommet (Lead wire Length 300mm)</p> <p>D DIN Connector with Indicator Light and Surge Suppress (Lamp/Surge Voltage Protecting Circuit Attached)</p> <p>N DIN Connector</p>	<p>Manual Override</p> <p>Blank Non-Lock Push Type</p> <p>L Locking L Type</p> <p>Port Size</p> <p>Blank Valve Body Only ( without Sub Plate)</p> <p>8A 1/4 ( without Sub Plate Attached)</p> <p>One Touch Fitting Attachment</p> <p>Blank without One Touch Fitting</p> <p>06 6 One Touch Fitting</p> <p>08 8 One Touch Fitting</p> <p>Special Option</p> <p>Blank Standard</p> <p>C16 Copper-free</p> <p>Length of Lead wire</p> <p>Blank : 300mm(Standard)</p> <p>L01: 100mm</p> <p>L02: 200mm</p> <p>L04: 400mm</p> <p>:</p> <p>L20: 2000mm</p> <p>* Please contact for specification beyond standard length</p>
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<p>Stations</p> <p>1 1 Stations      6 6 Stations</p> <p>2 2 Stations      7 7 Stations</p> <p>3 3 Stations      8 8 Stations</p> <p>4 4 Stations      9 9 Stations</p> <p>5 5 Stations      10 10 Stations</p> <p>(Please contact for over 11-stations)</p>	<p>One Touch Fitting Attached</p> <p>Blank without One Touch Fitting</p> <p>06 6 One Touch Fitting Attached</p> <p>08 8 One Touch Fitting Attached</p>
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Blanking Plate **DS**    — 00 n l din Gas et olt



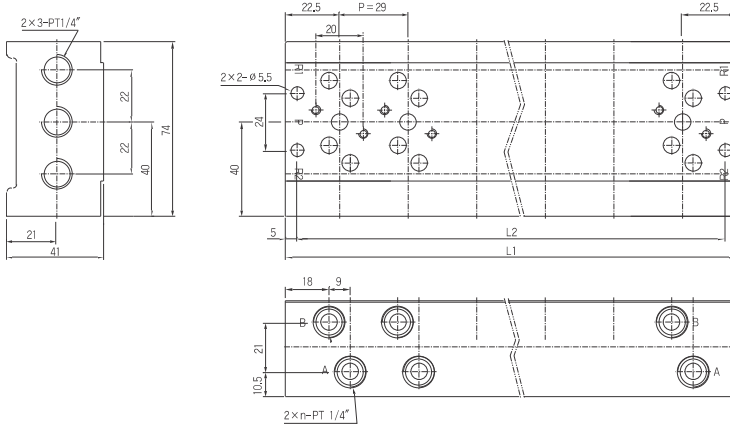
DW
DR100
DR200
RS1000, 2000
RS4000
SI UNIT
DV1000
DV3000
DV4000
DS300
<b>DS3000</b>
DS5000
DS2000
DS6000
DX1,DX2
DX1(2)R
DH
DP300
DP3000
DP5000
DM
DT220



# Series DS3000

## Dimensions / Manifold Block

inch(mm)

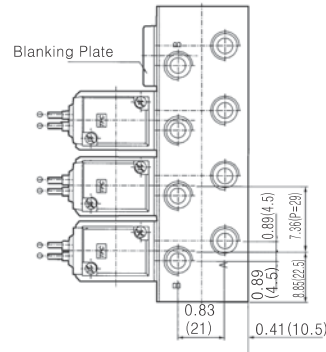
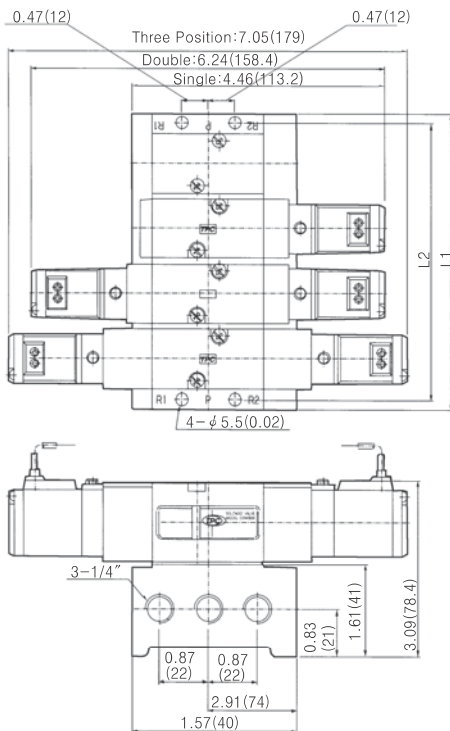


inch(mm)

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)

## Dimensions/Manifold ASS' Y

inch(mm)



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)