

# Directional Control Valves




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※ Specifications in this catalogue may be changed for product performance upgrade without notice, so that please separately inquire to manufacturer when purchasing the product.

## Valve Precaution and Procedures

Be sure to read the following before specifying and using TPC pneumatic valve products.

### Selection

TPC products are designed to meet most common parameters in machine engineering standards. When designing machines with TPC valve products refer to the detailed precautions and specifications referenced for each item considered.

Make sure that when you are selecting TPC valves that pressure, cycle rate, dwell time, and environmental conditions are taken into account when specifying the correct valve for the application.

If there are any questions regarding the usage of TPC valve products or if the application exceeds published specifications, please contact TPC trained factory personnel.

Under no circumstances is the product to be used outside of the published specifications without the written support of TPC.

### Installation & Maintenance

Proper installation will help to maintain TPC products maximum design life span.

Make sure that when installing TPC products that air cleanliness is maintained and that proper filtration is used. If lubrication is desired, please verify that the lubricant used is compatible with the materials contained in TPC products.

If water or condensation is present in the air supply or could become present, be sure that precautions are made such as the installation of an air dryer or other suitable component to ensure that clean dry air is maintained.

Make sure that when piping TPC products that the piping or tubing is free of debris and/or contaminants. Any substances, which are not removed, could cause the TPC product to fail prematurely.

TPC products are not meant for "Wash Down" applications; if the product is to be used in a "Wash Down" environment, please contact the factory so that the design may be reviewed. TPC may have solutions to allow product usage in this environment.

When servicing all TPC products make sure that all OSHA safety procedures are adhered to as are applicable in maintaining TPC products.

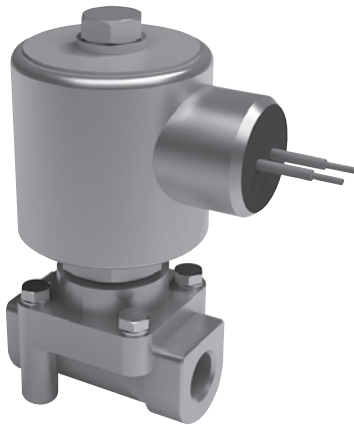
### DANGER

TPC products are not designed to work in areas requiring special certifications such as FAA, Nuclear, or where fire or explosions could occur. In these areas please contact a TPC factory trained representative to confirm the usage of TPC valve products in these applications.

TPC products are designed to work in most areas above 32 degrees F where the product is protected from external environmental hazards. These can be, but not limited to Salt water spray, temperatures below 32 degrees F, direct sunlight for prolonged periods of time, and corrosive gases, chemicals, water, and steam. If questions arise as to whether the environment may be detrimental for use of TPC valve products, please contact a factory trained TPC representative.

# Series DW

## 2 Port Solenoid Valve



### ●WIDER RANGE OF OPERATING PRESSURE

- 0 ~ 7kgf/cm<sup>2</sup> (TV2W03)
- 0 ~ 10kgf/cm<sup>2</sup> (TV2W10,15)
- 0.3 ~ 10kgf/cm<sup>2</sup> (TV2W20, 25)

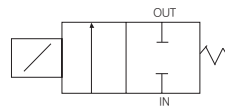
### ●HIGH FLOW CAPACITY

### ●LOW VOLTAGE SOLENOID

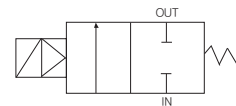
### ●CAN BE MOUNTED ANYWHERE

### Symbol

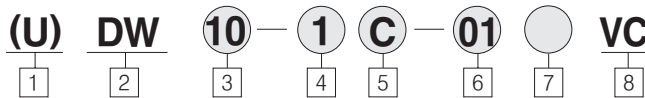
Direct Acting Type  
(N.C)



Air Pilot Type  
(N.C)



## How to Order



### 1 Series

Blank : Rc(PT)  
U : NPT

### 2 2 Port Solenoid Valve Applicable Fluid

DW : Water, Air, Oil  
DWS : Steam

### 3 Body(Orifice Size)

03 :  $\phi$  2.5—Direct Type Solenoid  
10 :  $\phi$  10  
15 :  $\phi$  15  
20 :  $\phi$  20  
25 :  $\phi$  25

Pilot Type Solenoid

### 4 Voltage

1 : AC110V, 60Hz / AC100V, 50/60Hz  
2 : AC220V, 60Hz / AC200V, 50/60Hz  
5 : DC24V  
9 : Others

### 5 Electrical Entry

G : Grommet (only Rc(PT) 1/8)  
C : Connector

### 6 Port Size Rc(PT)

01 : 1/8                      04 : 1/2  
02 : 1/4                      06 : 3/4  
03 : 3/8                      10 : 1

### 7 Material

Blank : Standard  
S : SUS Type

### 8 VC : Vacuum Type(−100kpa) (AC Voltage)

## Standard Specifications

Applicable	Air, Water, Oil, Steam		
Proof Pressure	1.5MPa(213.35psi)		
Fluid Temperature	0~70°C(32°F~158°F)		
Ambient and Fluid Temperature	Max. 60°C(140°F)		
Electrical Entry	Grommet, Connector		
Actuation Type	Direct or Pilot Solenoid		
Valve Type	Normal Close		
Seat Type	Poppet		
Rated Voltage	AC (50/60Hz)	100V, 200V	
	DC	24V	
Allowance Voltage Range	Rated Voltage $\pm$ 10%		
Coil Insulation	Class B or Equivalent 110°C(230°F)		
Power Consumption	AC	Inrush	17VA (60Hz)
		Holding	15VA (60Hz)
Material	DC	11W	
	Body	BC 6	
	Seal	NBR	

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 DW

## Applicable Specifications

Coil Apparent Power	AC110, 220V(50/60Hz)
	DC 6, 12V
Body Material	Stainless steel(SCS13)
Coil Insulation	H Class(180°C)(356°F)
	AC100, 110, 200, 220V Only

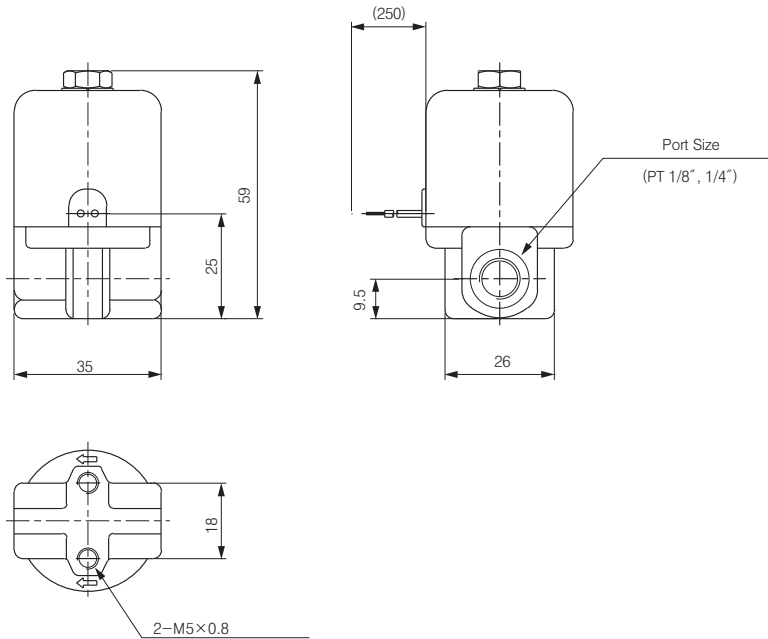
## Model

Type	Port (Size)	Pressure		Orifice Size (φ mm)	Effective Orifice (mm <sup>2</sup> )	Weight (kg)
DW03-*G-0'1	1/8(6A)	0~0.7MPa (0~99.5psi)		2.5	6	0.3
DW03-*G-0'2	1/4(8A)			2.5	6	0.3
DW10-*C-0'2	1/4(8A)	AC: 0~1MPa (0~140.2psi)	DC: 0.03~0.7MPa (4.27~99.5psi)	10	34	0.5
DW10-*C-0'3	3/8(10A)			10	43	0.5
DW15-*C-0'4	1/2(15A)			15	160	0.7
DW20-*C-0'6	3/4(20A)	0.03~1MPa (4.27~140.2psi)		20	170	0.9
DW25-*C-10	1(25A)			25	225	1.2



## Direct Type

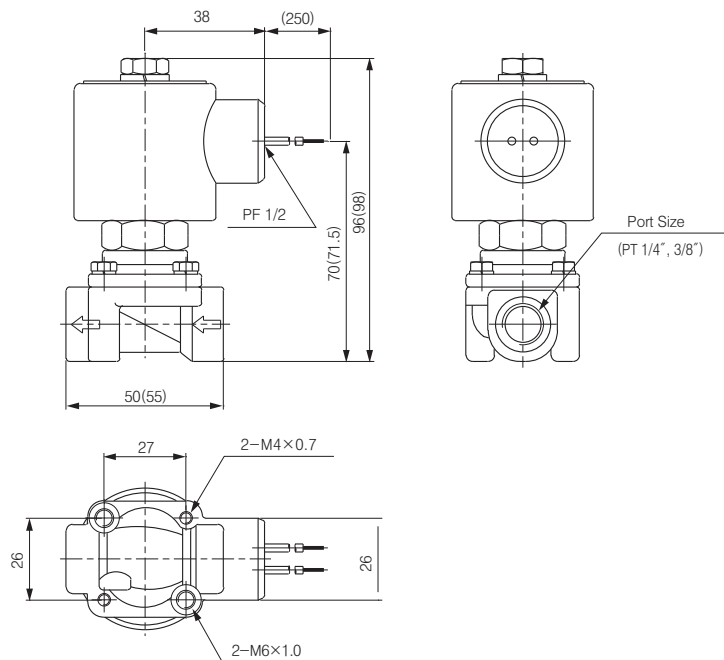
DW ○ 03 - ○ - 01  
02



※ ( ) is for DC24V

## Pilot Type

DW ○ 10 - ○ - 02  
03



※ ( ) is for DC24V

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

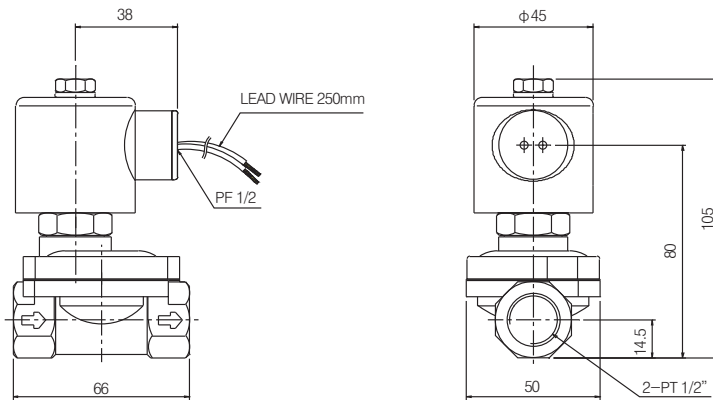
DM

DT220

# Series DW

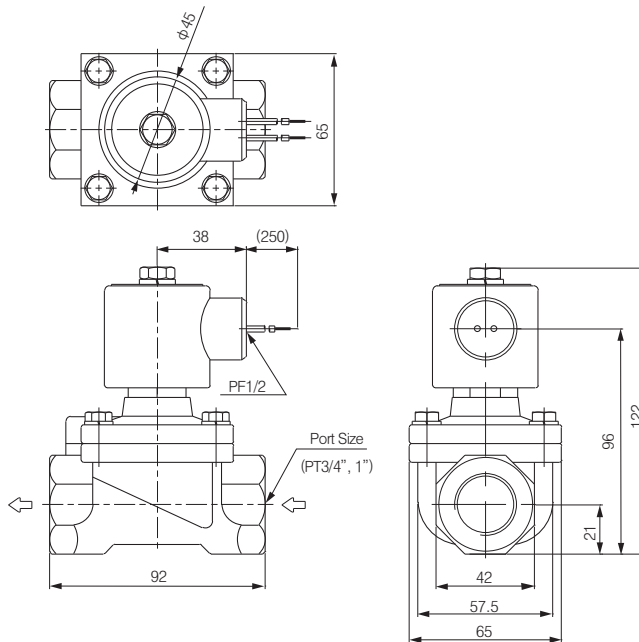
## Pilot Type

DW ○ 15 - ○ - 04



## Pilot Type

DW ○ 20 - ○ - 06  
DW ○ 25 - ○ - 10



## ⚠ Precautions

### Piping

- ❶ The piping should be thoroughly flushed to remove sludge, cutting oil and dust.
- ❷ During piping and coupling connection, care should be taken so as to prevent contamination by cut thread chips or sealing materials. (one screw thread should extend beyond the tape when applying sealing tape to threads)
- ❸ Be sure to pay attention to the piping direction (IN, OUT). IN or other marks are indicated on the inlet side.
- ❹ It is preferred that the coil should not be subjected to an extended force. Be sure to apply a wrench to the outside of the pipe mounting area only when tightening.
- ❺ Grounding the piping system should be avoided. Otherwise electrolytic corrosion may occur.
- ❻ It is preferred to install a relief valve within the circuit so as to prevent collection of fluid within the piping circuit.

### Mounting

- ❶ It is preferred that the solenoid valve can be installed in any orientation. Foreign material in the fluid is liable to adhere to the core when mounted upside down. Avoid installation. Be sure to mount the valve with its coil facing up.
- ❷ Coil assembly warm with insulating material etc should be avoided. The coil may burn out. Anti-freezing tape, heater, etc. Should be applied to piping and body areas only.
- ❸ Placing the valve in areas of severe vibration is avoided. Otherwise, the arm to a minimum to avoid resonance may be shortened.

### Storage

It is preferred that in order to prevent corrosion and deterioration of rubber parts, long time storage after using the valve for water will require complete removal of moisture.

### Long Period Energization or De-energization

The valve switching period is determined based on the type and quality of the fluid. The valve should be switched at least once every 10 days when pure water is taken as a standard. A system check mechanism should be installed if the cycle is greater than 10 days. The valve should not be used as an emergency circuit breaker. Be sure to specify operational conditions for use under conditions similar to that.

### Fluid Temperature

Be sure to check the temperature range for each model. The temperature range changes according to the sealing material, coil insulation, power, supply, etc. Contact our representative for use other than standard use.

### Wiring

- ❶ Be sure to check that the minimum diameter for 0.5mm<sup>2</sup>.
- ❷ It is preferred to use an electric circuit which prevents chattering at the point of contact.
- ❸ It is preferred to place a surge suppressor in parallel with the solenoid voltage suppressor (option) when the electric is apt to be damaged by surge voltage.
- ❹ Be sure to check that the allowable voltage range is -10%~+10% of the rated voltage. In event that great response is desired for DC power, it is needed to adjust the voltage range to within  $\pm 5\%$  of the rated voltage. Voltage drop is measured at a part of the lead wire connected to the coil.
- ❺ Be sure to check that the voltage found on both ends of the coil is AC:20% or less of the rated voltage DC:2% or less of the rated voltage when it de-energizes.  
Here, the DC value is for a temperature of 20 $\pm$ 5 $^{\circ}$ C.  
At lower temperatures, the DC value will be lower.

### Applicable Fluid

- ❶ Fluid Classification  
When selecting a valve for your application, ensure the compatibility of the fluid and valve materials. Generally, the recommended viscosity of fluid is 50cSt max.  
For further details, contact our representative.  
<Reference> Standard materials  
Body: Brass or BC6 Seal: NBR, Coil: Insulation Type B.  
These are for water, air, and oil use. For materials other than standard, refer to the "Option list" and "Applicable fluid check list."  
The specifications may be slightly different.

- ❷ Fluid Quality  
Wearing of the valve seat and iron core. may be promoted by fluid mixed with foreign material. Function of the valve or sealing trouble may be on adhesion of foreign particles to the iron core and sliding section. So as to prevent this, it is preferred to place a filter (strainer) immediately in front of the solenoid valve. In general, a mesh of 80~100 is recommended.
- ❸ Lubricant  
Lubricant is not needed in our solenoid valves. However, be sure to check that lubricated air will increase their life.
- ❹ When flammable oil and gas is supposed to be used, prevention of leakage both inside and outside of the valve should be exercised.
- ❺ When oil and other impurities are not allowed in the fluid, be sure to use nonlube treated parts.
- ❻ The option and fluid may not be applicable as they are since only general applications are shown. It is needed to check actual conditions on your own for appropriate selection under conditions near the limit of valve operation.

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

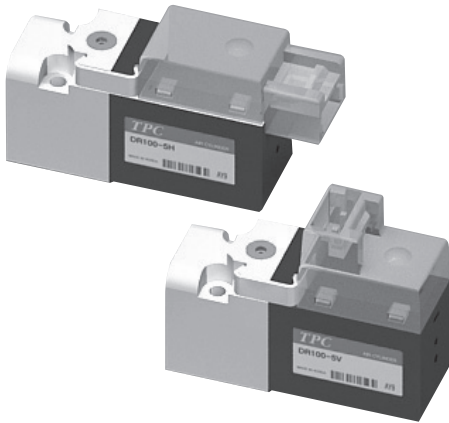
DP300  
DP3000  
DP5000

DM

DT220

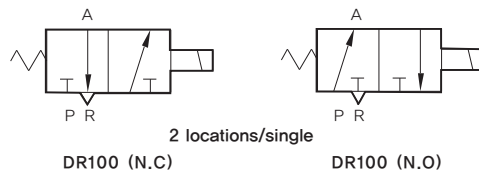
# Series DR 100

## 3-port Miniature Solenoid Valve



- SUBCOMPACT (100MM WIDE) TYPE VALVE
- SUPERB UTILIZATION CONDITION IN HIGH PRESSURE (MAX' 0.8MPa)
- LARGE FLUX GUARANTEED (SUPPLY/EXHAUST=18/20ℓ /min)
- UPGRADE IMPACT-RESISTANCE VIBRATION-RESISTANCE PERFORMANCE
- VISUAL DISTANCE GUARANTEED BY LED LAMP (LAMP WINDOW LENS EQUIPPED, HIGH BRIGHTNESS LED APPLIED)
- MINIMIZED THERMAL DEFORMATION AND E/PLASTIC WITH EXCELLENT DIMENSION STABILITY APPLIED, FLUORINE SERIES SEALING SYSTEM APPLIED WHICH HAS HIGH PERFORMANCE IN HIGH TEMPERATURE.
- LOW ELECTRIC CONSUMPTION TYPE (OPTION ENERGY CONSERVATION TYPE)

### Symbol



## How to Order

DR 100 — 
 5
H
N — 
 M5 — 
 XWL \* \*

1
2
3
4
5
6

#### 1 DR100 Series

Subcompact type (10mm wide)  
3 port valve  
100 : N.C Type  
120 : N.O Type

#### 2 Voltage

1 : AC110V  
2 : AC220V  
5 : DC24V  
6 : DC12V

\*AC110V, AC220V are only for Vertical type.

#### 3 Electrical Entry (DC, AC)

V : Vertical type connector  
H : Horizontal type connector

\*Contact for standard and terminal type.

#### 4 PCB Type

Blank : Standard type (Lamp Type)  
N : Lead wire excluded  
D : Non-polar lamp type  
S : Power saving PCB Type  
(0.85 → 0.45W)

\*Application range of D,S is V and H types of DC only.

#### 5 Option

Blank : Without sub-plate  
M5 : With sub-plate (M5×0.8)

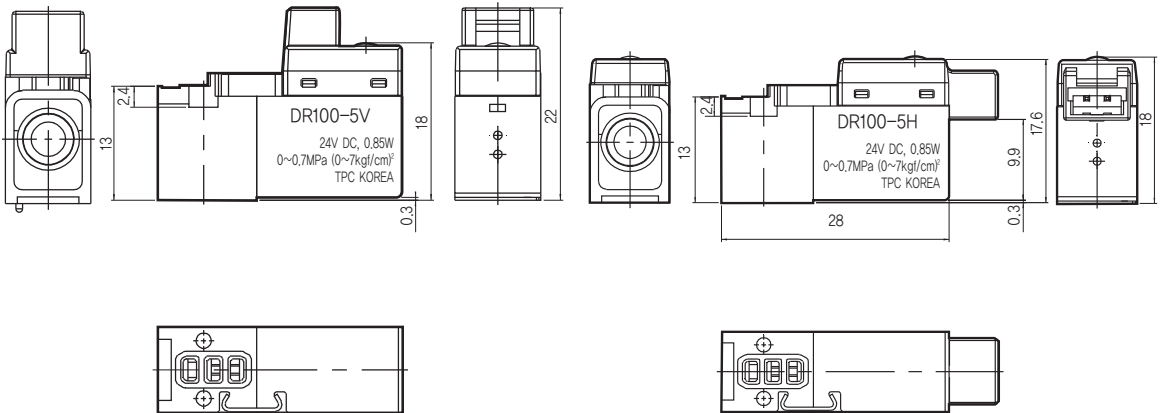
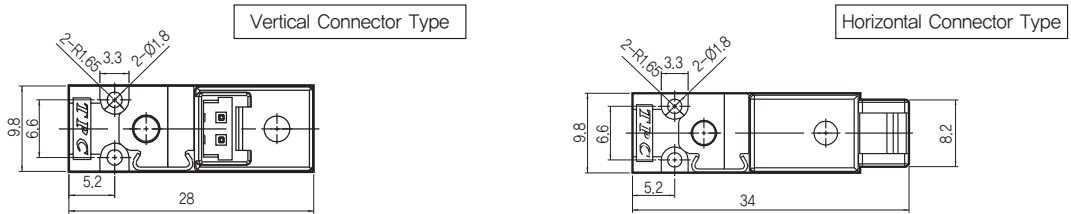
#### 6 Length of Lead Wire

Blank : 300mm  
XWL01 : 100mm  
XWL02 : 200mm  
XWL04 : 400mm

Specifications

DR Series		DR100	DR120
Applied Fluid		Air	
Applied Pressure Range		0~0.7(0~7)	
Operating Method		N.C Type	N.O Type
Ambient Temperature and Applied Fluid Temperature (°C)		Maximum 50	
Allowable Voltage Fluctuation (%)		-10~+10 of Voltage	
Maximum Operating Frequency (Hz)	DC	20	10
	AC	15	5
Minimum Operating Frequency		1 Time / 30 Days	
Lubrication		Not Required	
Impact-Resistance/Vibration-Resistance (m/s <sup>2</sup> )		300 / 50	
Protecting Structure		Vibration-Resistance	
Mounting Position		Free	
Manual Override		NON LOCK PUSH Type	
Lead Track Extracting Method and Color		DC / Horizontal Type, Vertical Type (+ : Red, - : Black)	
Rated Voltage (V)	DC	12V, 24V	
	AC	110V, 220V	
Effective Sectional Area mm <sup>2</sup> (ℓ / min)		Supply(P→A) : 0.28(18), Exhaust(A→R) : 0.3(20)	
Power (W)		Standard : 0.85 or Less (Lamp Attached, Rated Voltage Approved) Power Saving : 0.45 or Less	
Response Time (ms)		Less Than 10 in Common (0.5MPa base)	

Dimensions (DR100 Series)



DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

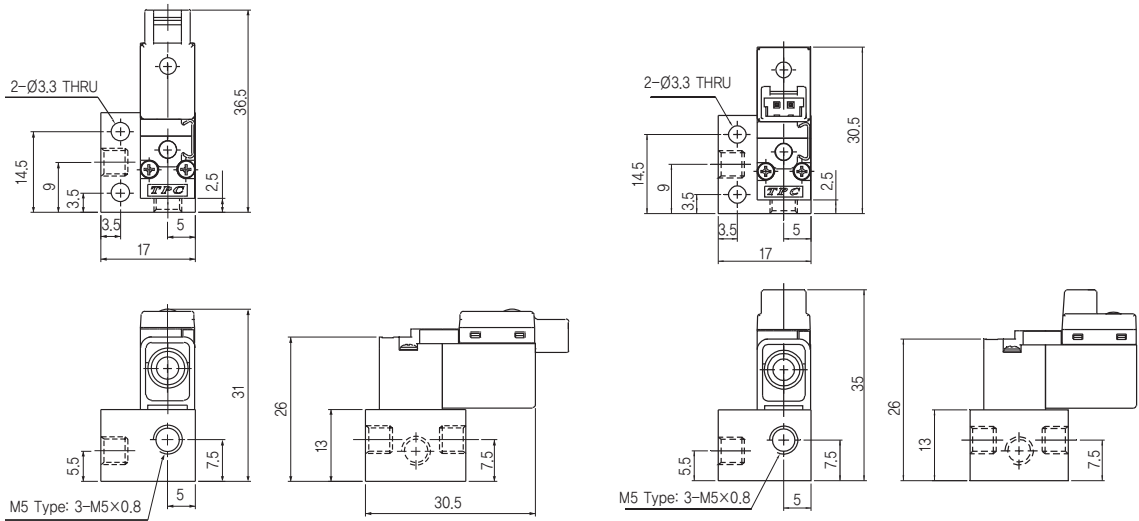
DP300  
DP3000  
DP5000

DM

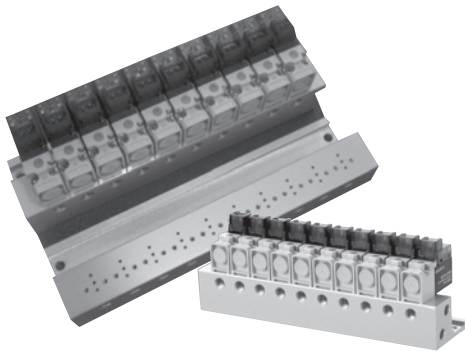
DT220

# Series DR 100

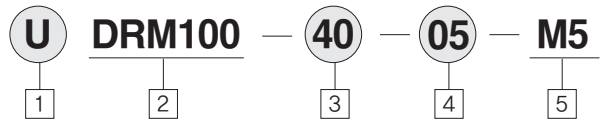
## Dimensions (DR100 Series Sub-Plate Type)



### Manifold



### How to Order



1 Blank : Rc(PT)  
U : NPT

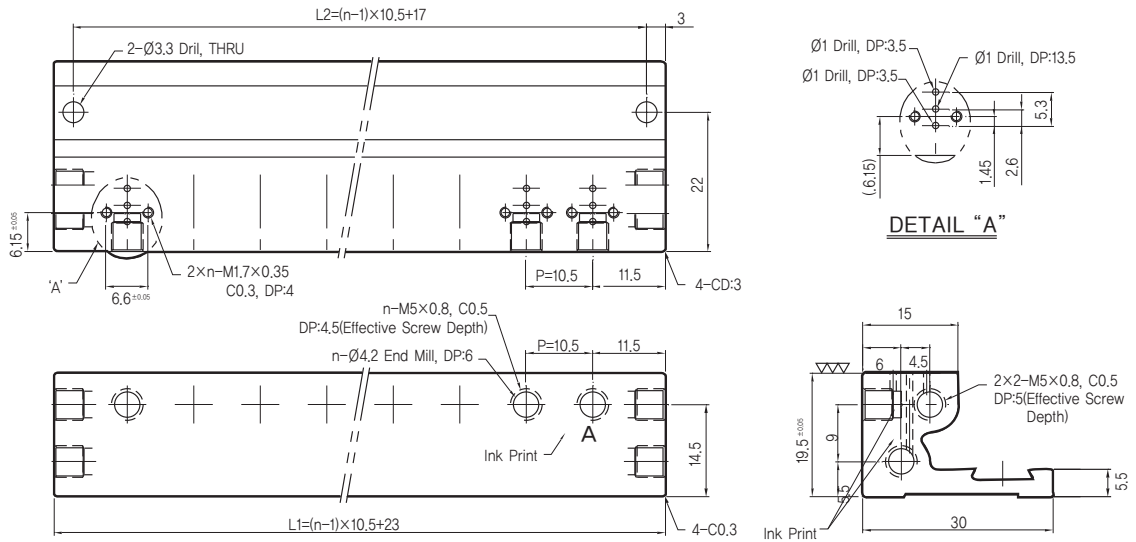
2 Manifold for DR100 Series  
10mm body size valve

3 Manifold Specifications  
40 : Base mounted

4 Stations  
02 : 2 stations  
03 : 3 stations  
10 : 10 station  
:  
20 : 20 station

5 Port Size  
M5:M5x0.8

Exterior shape dimension drawing (DRM100)



\* In case of using DR120 (N/O), please replace P and R of manifold for use. (n=Connection Number)

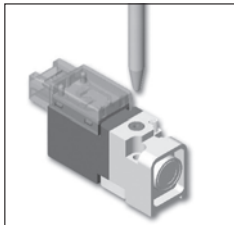
n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	33.5	44	54.5	65	75.5	86	96.5	107	117.5	128	135.5	149	159.5	170	180.5	191	201.5	212	222.5
L2	27.5	38	48.5	59	69.5	80	90.5	101	111.5	122	132.5	143	153.5	164	174.5	185	195.5	206	216.5

△ Notice for Product

User must fully understand the notice herein. Refer to a preface for notice and common notice contents for use.

△ Warning

- Manual (Non-lock push type) operation  
Since manual operation runs installed equipment, it should be utilized after checking danger parameters.



△ Notice

- Do not use sharp end device to manipulate manual.
- Do not apply overload when pushing manual.

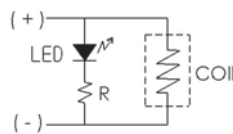
- Lead track length of plug connector  
The length of plug connector lead track is approximately 300m.
- Surge voltage protection circuit → PCB circuit (H and V type plug connector type)  
(1) DC Type
  - Standard type (Lamp attached) → As a standard type, possible to use for any side, but should be cautious of polarity for turning on the lamp
  - Non-polar type (Lamp attached) → Non-polar type, possible to use for any side
  - Energy saving type (Lamp and voltage protection circuit attached) → should be cautious of polarity



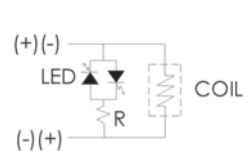
● Notice

Refer to DV Series of Basic notices

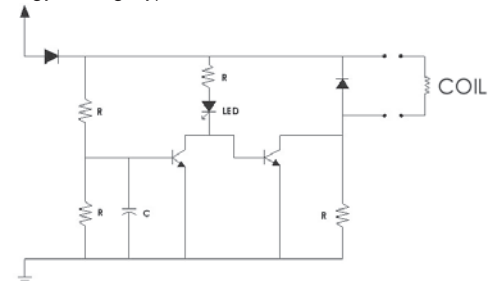
Polar Type



Non-Polar Type



Energy Saving Type



DW

DR100

DR200

RS1000, 2000

RS4000

SI UNIT

DV1000, DV3000, DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

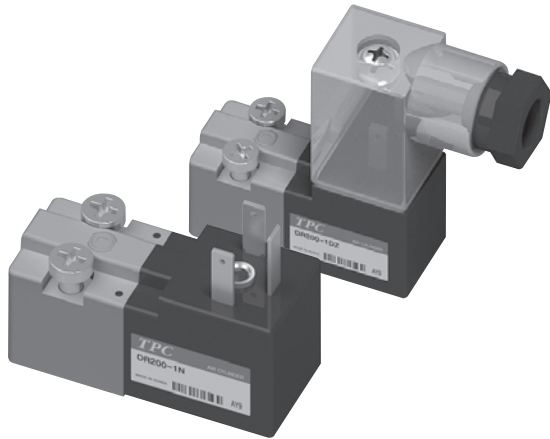
DP300, DP3000, DP5000

DM

DT220

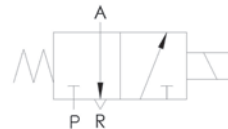
# Series **DR 200**

## 3-Port Small (15mm) Solenoid Valve



- 15MM WIDE 3-PORT DIRECT MOTION TYPE VALVE
- SUPERB PERFORMANCE IN HIGH PRESSURE CONDITION (MAX' 1.0MPA)
- REALIZATION OF COMPACT SIZE AND LIGHT WEIGHT
- SUPERB PERFORMANCE E/PLASTIC APPLIED FOR CHEMICAL-RESISTANCE

symbol (N.C)



### How to Order

**DR 200** — **1** **D** — **M5**

1                      2    3                      4

**1** DR200 Series  
Small (15mm wide) 3-port valve

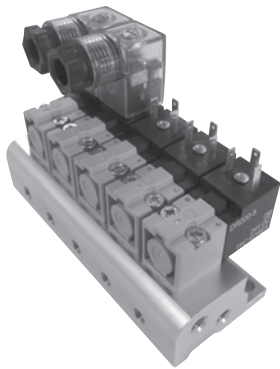
**2** Voltage  
1 : AC 110V  
2 : AC 220V  
5 : DC 24V

**3** Electrical Entry  
D : DIN type terminal (Lamp non-existed)  
DZ : DIN type terminal (Lamp existed)  
N : Connector non-existed

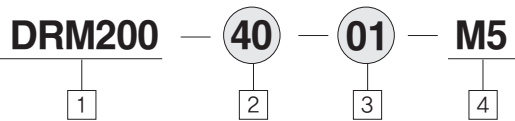
**4** Sub Plate Option  
Blank : None  
M5 : Sub-plate attached  
(for M5x0.8 pipe port installation)



Manifold



How to Order



1 Manifold for DR200 Valve  
Subcompact (15mm wide) valve

2 Piping Method  
40 : Base piping type

3 Connection Number  
01 : 1connection setting  
(in case of single use of sub-plate)

02 : 2connection setting  
03 : 3connection setting  
04 : 4connection setting  
⋮  
12 : 12connection setting

4 Port Screw Classification  
M5 : M5 X 0.8  
(P, A and R port)

Specifications

Applied Fluid	Air	
Applied Pressure Range Mpa(kgf/cm <sup>2</sup> )	0~1.0(0~10)	
Operating Method	N.C Type	
Ambient Temperature and Applied Fluid Temperature (°C)	Maximum 50	
Allowable Voltage Fluctuation (%)	-10~+10 of Voltage	
Maximum Operating Frequency (Hz)	10	
Minimum Operating Frequency	1 Time / 30 Days	
Lubrication	Not Required	
Impact-Resistance/Vibration-Resistance (m/s <sup>2</sup> )	150 / 30	
Protecting Structure	IP65	
Mounting Position	Frdd	
Manual Override	Non Lock Push Type	
Lead Track Extracting Method	Din Type Connector	
Coil Rated Voltage (V)	AC 50/60Hz	110, 220
	DC	24
Apparent electric Power (VA)	3.5	
Energy Consumption (W)	1.8	
Effective Sectional Area mm <sup>2</sup> (ℓ /min)	Supply(P→A) : 0.56 (36), Exhaust(A→R) : 0.65 (42)	
Response Time (ms)	15 or Less (0.5MPa base)	

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

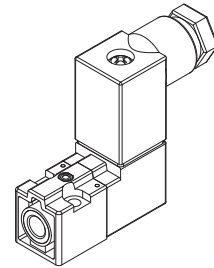
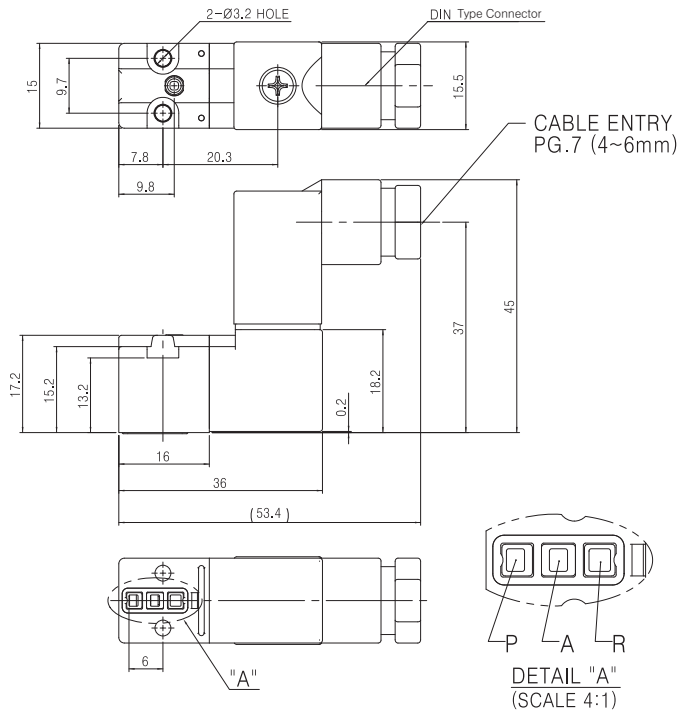
DP300  
DP3000  
DP5000

DM

DT220

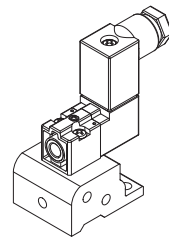
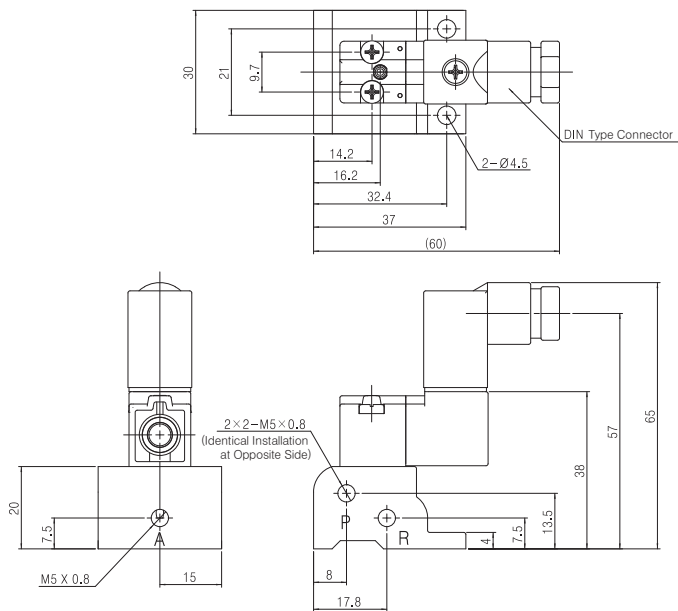
# Series DR200

## Dimensions



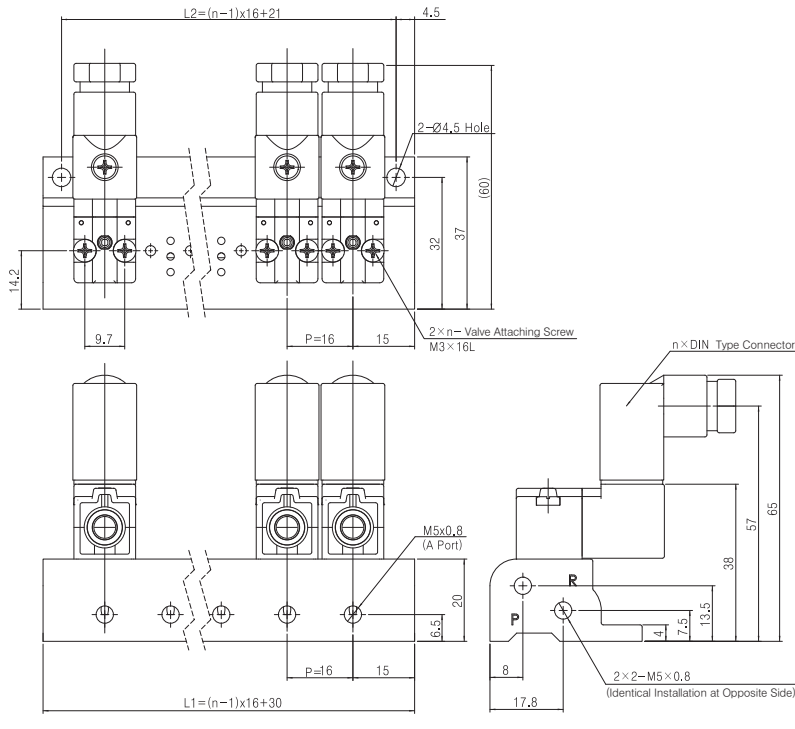
ISO METRIC VIEW  
(SCALE 2:1)

## Dimensions (Sub-Plate Attaching Type)



ISO METRIC VIEW  
(SCALE 1:1)

Dimensions (DRM100)



(n=Connection Number)

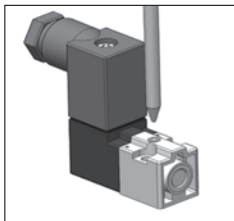
n	1	2	3	4	5	6	7	8	9	10	11	12
L1	30	46	62	78	94	110	126	142	158	174	190	206
L2	21	37	53	69	85	101	117	133	149	165	181	197

△ Notice for Product

User must fully understand the notice herein. Refer to a preface for notice and common notice contents for use.

△ Caution

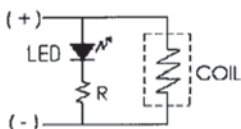
- Manual (Non-lock push type) operation  
Since manual operation runs installed equipment, it should be utilized after checking danger parameters.



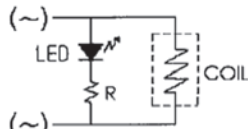
△ Notice

- Do not use sharp end device to manipulate manual.
- Do not apply overload when pushing manual.

● Valve circuit diagram (DC)



(AC)



● Din type connector connecting guideline

- ① Disassembly connector from terminal with releasing fixed screw.
- ② Remove fixed screw, and disassembly case and terminal block by flat-head screwdriver with using a groove at lower side of connector.
- ③ Disassembly ground nut, and disassembly washer and grommet.
- ④ Pass electric wire through the sequence of ground, washer, grommet (rubber) and case.
- ⑤ Release terminal screw of separated terminal block, and firmly fix core wire.
- ⑥ Put terminal block into the case correctly.
- ⑦ Fasten ground nut, and fix wire.
- ⑧ After assembly of connector and terminal, connect fix screw.

Note) 1. In case connector and terminal are not properly assembled, try it again after adjusting terminal (3 PIN) posture.  
2. If overload is applied for fix screw connection, be cautious for damage to case.

● Notice for attaching valve at manifold

- ① It is recommended to use exclusive attaching screw enclosed with package.
- ② If excessive connecting torque during attachment is applied for screw, it causes deformation of body. Be cautious. (Proper connecting torque: 2.5~3kgf.cm)

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 RS

- Easy to identify operation status along solenoids
  - Sol' A turns on red, and Sol' B turns on green LED.

- Actualization of intensive wiring method
  - Providing convenience to wiring process in accordance with integration of wires
  - Convenient response and dimension replacement for SI Unit of D-Sub connector and Flat cable connector

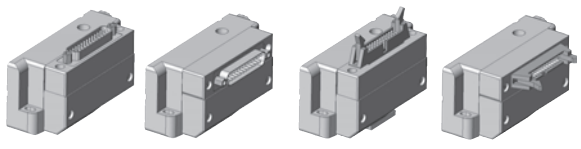
- Possible to select integrated exhaust and silencer built-in method

- Easy to replace middle block in accordance with internal wiring by multi-polar connector

- Actualization of base separation method
  - In accordance with separation of bases along each connection number, comfortable for increase/decrease

- Single and double base compatibility available
  - PCB direction change by one base (Patent registered)

- Possible for vertical and horizontal wiring and strength secured
  - Providing comfort in wiring for customers
  - Strength secured



**Actualization of non-polar type base specification**

- Overall Responding to (+) common and (-) common

**Actualization of safety and environment-friendly performance**

- RoHS response and UL and CE mark certificate currently processing

**Responding to external pilot method**

- Application available for different pressure or vacuum control

**Possible to respond Dual 3 port**

- Possible to conduct 3 port 2EA with 1EA valve (Possible to respond N.C and N.O)

**High speed response & large capacity**

- Less and 12ms for response time
- Over 0.22 for effective section area
- \* Single base

**Possible for maximum 24connection for connection number**

- Responding to 24connection for single case and 12connection for double

**Possible to install multi-SUP/EXH Block**

- Regardless of location and quantity of SUP/EXH block installation, possible to control different pressure and prevent back pressure

**Comfortable for fitting replacement**

- Possible to respond  $\phi 4$  and  $\phi 6$  for A and B ports
- Fitting replacement available under valve assembled condition
- Utility model registration completed

**Diversification of Piping fittings**

- Responding to general fittings and inch fittings

**Actualization of Connection diversification**

- Connecting of Din Rail and Direct connection (Tie Rod) available

**N.C/N.C**

**N.O/N.O**

**sol.a**, **R1**, **P**, **R2**, **sol.b**, **A**, **B**

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 RS 1000, 2000

## Plug-in Type 5-port Pilot Type Solenoid Valve



- POSSIBLE TO CONNECT BY DIN RAIL OR TIE ROD IN ACCORDANCE WITH UTILIZATION CONDITION
- NO RESTRICTION IN INSTALLATION LOCATION AND QUANTITY OF SUP/EXH BLOCK
- POSSIBLE FOR 24 CONNECTION FOR SINGLE AND 12 CONNECTION FOR DOUBLE
- NON-POLAR TYPE, RESPONSE TO (+) AND (-) COMMON (DUAL 3-PORT TYPE IS ENERGY SAVING BASED, RESPONSE AVAILABLE ONLY FOR (+) COMMON)
- POSSIBLE TO MAKE SINGLE, DOUBLE, 3-POSITION AND DUAL 3-PORT 4 POSITION
- POSSIBLE TO INSTALL SINGLE AND DOUBLE VALVE ON THE SAME BASE
- POSSIBLE TO RESPOND D-SUB CONNECTOR, FLAT CABLE CONNECTOR AND SI UNIT

### Solenoid Valve Specification

Applied Fluid		Air	
Operating Pressure Range MPa(kgf/cm <sup>2</sup> )	Internal Pilot	2 Position Single	0.15~0.7 (1.5~7.1)
		2 Position Single	0.1~0.7 (1~7.1)
		3 Position	0.2~0.7 (2~7.1)
	External Pilot	4 Position Dual 3 Port	0.15~0.7(2~7.1)
		Operating Pressure Range	-100kPa~0.7MPa
		Pilot Pressure	0.25~0.7
Ambient Temperature and Fluid Temperature(°C)		0~50	
Manual Override		Non Lock Push Method	
Pilot Exhaust Method	Internal Pilot	Integrated Exhaust Type for Main and Pilot Valve	
	External Pilot	Pilot Valve Individual Exhaust Type	
Lubrication		Non-Lube	
Mounting		Free	
Impact/Vibration-Resistance %		150/30(8.3~2000Hz)	
Maximum Operation Frequency (Hz)	2 Position, 4 Position		5
	3 Position		3
Enclosure		IP40	
Rated Voltage (V)		DC 24, DC 12	
Allowable Voltage Fluctuation (%)		-10 ~ + 10 of Rated Voltage	
Polarity		Non Polar Based (Note 1)	
Power Consumption (W)		0.85 (Energy Saving Type 0.35)	

### Manifold Specification

Index		RS1000	RS2000
Connection Method Between Blocks	Compatible Between Din Rail and Tie Rod		
	SUP/EXH Method		
SUP/EXH Method		Integrated SUP/EXH	
Max. Stations		24 Stations	
Number of Output		24	
Port Size	P, R	Ø8, Ø5/16"	Ø10, Ø3/8"
	A, B	Ø4, Ø6, Ø5/32", Ø1/4"	Ø4, Ø6, Ø5/32", Ø1/4", Ø5/16"

### Weight sheet

				(Unit : g)
Item	RS1000	RS2000	Note	
Valve	Single	60	84	
	Double	68	94	
	3-Position	70	100	
MANIFOLD SIDE COVER ASSY		232	338	
Base Product		36	80	

Note 1) Dual 3-port type is energy saving based, available only for (+) common.

Dual 3-port type is basically power-saving (+) common, and if you want (-) common, separate orders are required.

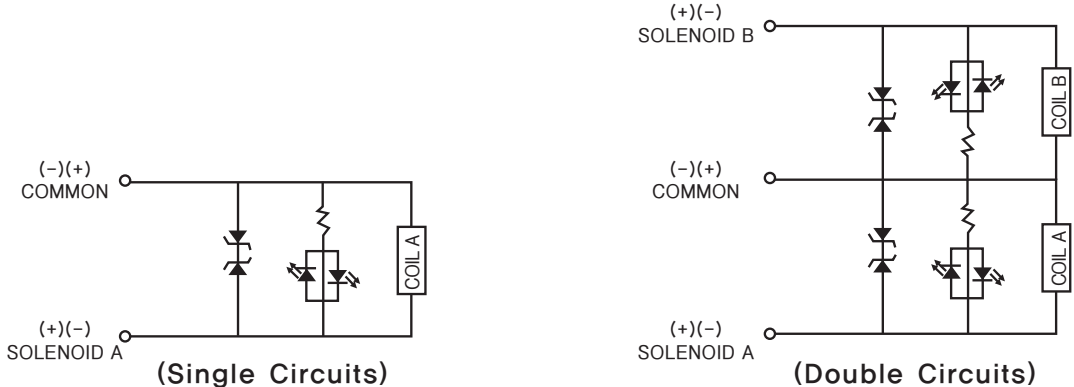
Valve Flow Characteristics

Valve Description	Pipe contact diameter		Effective sectional diameter mm <sup>2</sup> (Cv value)	
	RS1000	RS2000	RS1000	RS2000
Single Solenoid	Ø6	Ø8	4.0(0.22)	9.5(0.53)
Double Solenoid	Ø6	Ø8	4.0(0.22)	9.5(0.53)
Closed Center	Ø6	Ø8	3.3(0.18)	7.2(0.40)
Exhaust Center	Ø6	Ø8	3.3(0.18)	7.2(0.40)
Pressure Center	Ø6	Ø8	4.9(0.27)	10.8(0.60)
4 location N.C/N.C	Ø6	Ø8	3.3(0.18)	8.1(0.45)
4 location N.O/N.O	Ø6	Ø8	4.0(0.22)	8.4(0.47)
4 location N.C/N.O	Ø6	Ø8	3.3(0.18)/4.0(0.22)	8.4(0.47)/8.1(0.45)

Solenoid Valve Response Time

Type	Response Time (ms)	
	RS1000	RS2000
2 position single	12 or less	30 or Less
2 position double	11 or less	20 or Less
3 position	18 or less	34 or Less
4 position dual 3 port	25 or less	40 or Less

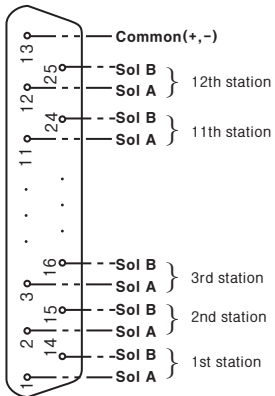
Valve Circuit Diagram



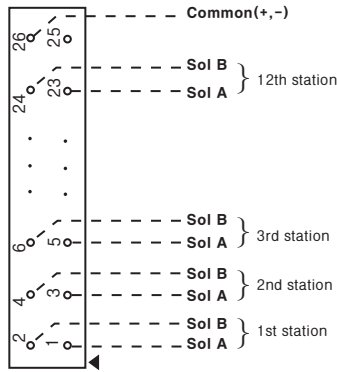
- ▶ Non-polar type solenoid, Sol A is red and Sol B is green lamp.
- ▶ Since surge protecting circuit is equipped, it is safe against surge voltage.

Manifold Electrical Arrangement

D-Sub Connector Type



Flat Cable Connector Type



- ▶ Non-polar solenoid valve, no problem to use any of (+) or (-) common.
- ▶ Since wiring above is base for less than 12 connection, Single is available only for Sol A, Double is with sequence of 1 → 14 → 2 → 15, and Flat cable connector is with sequence of 1 → 2 → 3 → 4 → without omission, however, it should be cautious that the case of combining single and double is different to the wiring above.

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

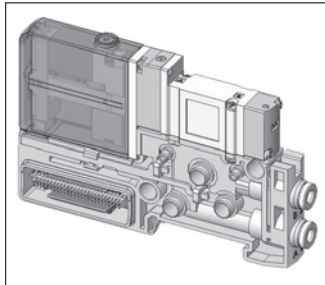
DT220



# Series RS 1000, 2000

## Plug In Valve Model Number System

### 1) How to Order Valve & Base Assembly Type



RS 1 1 40   B — 5 — T6 —   —  

1   2   3   4   5   6   7

#### 1 Series

- 1 : RS1000
- 2 : RS2000

\* Requested to separately inquire for order

#### 2 Configuration

- 1 : 2 position single
- 2 : 2 position Double
- 3 : 3 position Closed Center
- 4 : 3 position Exhaust Center
- 5 : 3 position Pressure Center
- 6 : 4 position dual 3-port :NC, NC
- 7 : 4 position dual 3-port :NO, NO
- 8 : 4 position dual 3-port :NC, NO

1		5	
2		6	
3		7	
4		8	

#### 3 Pilot Specification

- Blank : Internal pilot
- P : External pilot

Note) 4 location dual 3-port valve does not have external pilot specification.

#### 4 Voltage

- 5 : DC 24V
- 6 : DC 12V

#### 5 A, B Port Size

Symbol	mm	Symbol	Inch	Applied series
T3	Ø3			RS1000
T4	Ø4	U4	Ø5/32"	
T6	Ø6	U6	Ø1/4"	
T4	Ø4	U4	Ø5/32"	RS2000
T6	Ø6	U6	Ø1/4"	
T8	Ø8	U8	Ø5/16"	

#### 6 PCB wiring specification

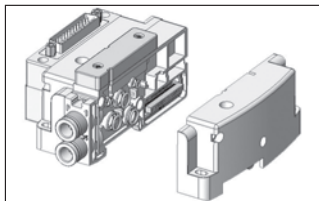
- Blank : Double wiring specification
- S : Single wiring specification

Note) Single also uses basic double wiring specification, and single wiring is combined only or over 12 connection setting.

#### 7 Manifold Attachment

- Blank : Non manifold
- WM : Manifold attached

### 2) How to Order Manifold Side Cover Type



RSM 1 A — D V — B   — T8

1   2   3   4   5   6

#### 1 Series

- 1 : RS1000
- \* 2 : RS2000

#### 2 Connector Type

- D : D-Sub Connector (25Pin)
- F : Flat Cable Connector (26Pin)

#### 3 Connector Extracting Direction

- V : Vertical direction
- H : Horizontal direction

Connector Type	Horizontal direction	Vertical direction
D-sub Connector		
Flat Cable Connector		

#### 4 A and B Port Extracting Location

B (2~10 stations)		
T (2~10 stations)		
A (more than 11 stations)		

#### 5 Pilot Specification

No symbol	Internal Pilot	
N	Internal Pilot, Silencer Equipped	
P	External Pilot	
PN	External Pilot, Silencer Equipped	

#### 6 P, E Port Size

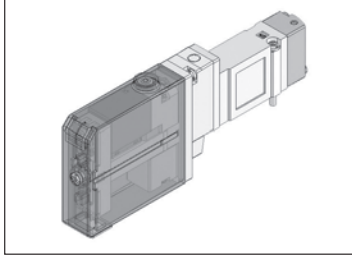
Symbol	mm	Symbol	Inch	Applied series
T8	Ø8	U8	Ø5/32"	RS1000
T10	Ø10	U10	Ø3/8"	RS2000

Note) \*Mark is a non-standard.



## Plug In Valve Item Number System

### 3) How to Order Valve Type



**RS** 1 1 **40**   - 5 -  

1   2                      3                      4                      5

#### 2 Configuration

- 1 : 2 position single
- 2 : 2 position Double
- 3 : 3 position Closed Center
- 4 : 3 position Exhaust Center
- 5 : 3 position Pressure Center
- 6 : 4 position dual 3-port : NC, NC
- 7 : 4 position dual 3-port : NO, NO
- 8 : 4 position dual 3-port : NC, NO

#### 3 Pilot specification

- Blank : Internal pilot
- P : External pilot
- Note) 4 location dual 3-port valve does not have external pilot specification.

#### 4 Voltage

- 5 : DC 24V
- 6 : DC 12V

#### 5 Manifold Option

- Blank : Without manifold
- WM : With Manifold

1		5	
2		6	
3		7	
4		8	

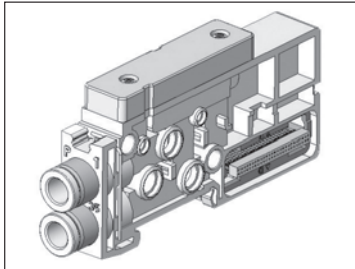
#### 1 Series

- 1 : RS1000
- \* 2 : RS2000

\* Contact us for order

## Plug In Valve Item Number System

### 4) How to Order Sup/Exh Block Type



**RSM** 1 **S** -   M

1                      2                      3

#### 1 Series

- 1 : RS1000
- \* 2 : RS2000
- \* (Inquire separately for order)

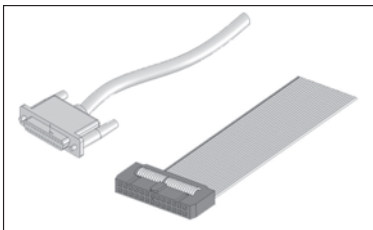
#### 2 Pilot Specification

Blank	Internal Pilot	
N	Internal Pilot, Silencer Equipped	
P	External Pilot	
PN	External Pilot, Silencer Equipped	

#### 3 P,E Port Size

Symbol	mm	Symbol	Inch	Series
M	ø8	I	ø5/16"	RS1000
	ø10		ø3/8"	RS2000

### 5) How to Order Cable Type



**RSM** - **C** - D - 15

1                      2

#### 1 Connector Type

- D : D-Sub Connector (25Pin)
- F : Flat Cable Connector (26Pin)

#### 2 Cable Length

- 15 : 1.5m
- 30 : 3m
- 50 : 5m

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

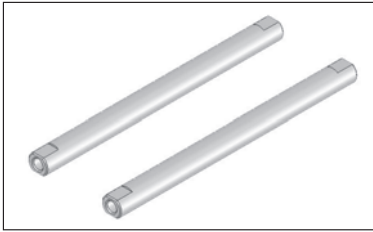
DP300  
DP3000  
DP5000

DM

DT220

# Series RS 1000, 2000

## 6) How to Order Tie Rod Type (over 5-stations)

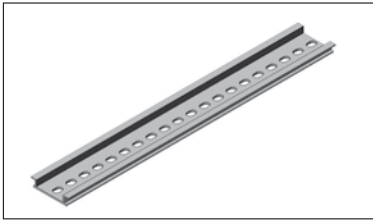


**R S M** 1 T - B 5 -  

1                      2                      3

- 1 Series
  - 1 : RS1000
  - \* 2 : RS2000
- 2 Base Station Number (5~24-station)
- 3 Sup/Exh Station
  - Blank : 1 Station
  - S2 : 2 Stations
  - S3 : 3 Stations
  - 4 : 4 Stations

## 7) How to Order Din Rail Type



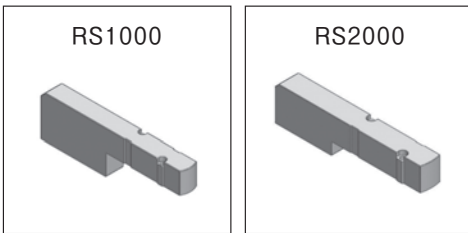
**R S M** 1 D - B 06

1                      2

- 1 Series
  - 1 : RS1000
  - \* 2 : RS2000
- 2 BASE Station Number
  - 06 : 2~6 Stations
  - 10 : 7~10 Stations
  - 15 : 11~15 Stations
  - 20 : 16~20 Stations
  - 24 : 21~24 Stations

### Plug In Valve Item Number System

## 8) How to Order Blank Plate Type



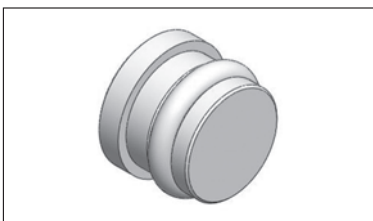
**R S M** 1 - B

●

● Series

1	RS1000
2	RS2000

## 9) RS1000 Block Disc Indicating Method



**R S M 1 - 1 0 6 A 2 2 1 4**

※ In case of providing more than 2 types of pressure into one manifold, utilize with attaching at base P-Port.

RS Series Valve, Manifold Ass'y Sheet

Manifold Assembly Item Number											
Voltage (V)		Pilot Method		Connecting		Connecting Direction		Silencer Attached		Requested Quantity	
24V	12V	Internal	External	D-Sub	Flat	Vertical	Horizontal	Y	N	SET	

USER	
Order/Special Order NO.	
A person in Charge	(Sign)

Index		Connection Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Valve	Switching Method																										
Manifold (Fitting Size)	RS1000	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	
		Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	Ø4	
	RS2000	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	Ø8	
		Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	Ø6	
Special Contents																											

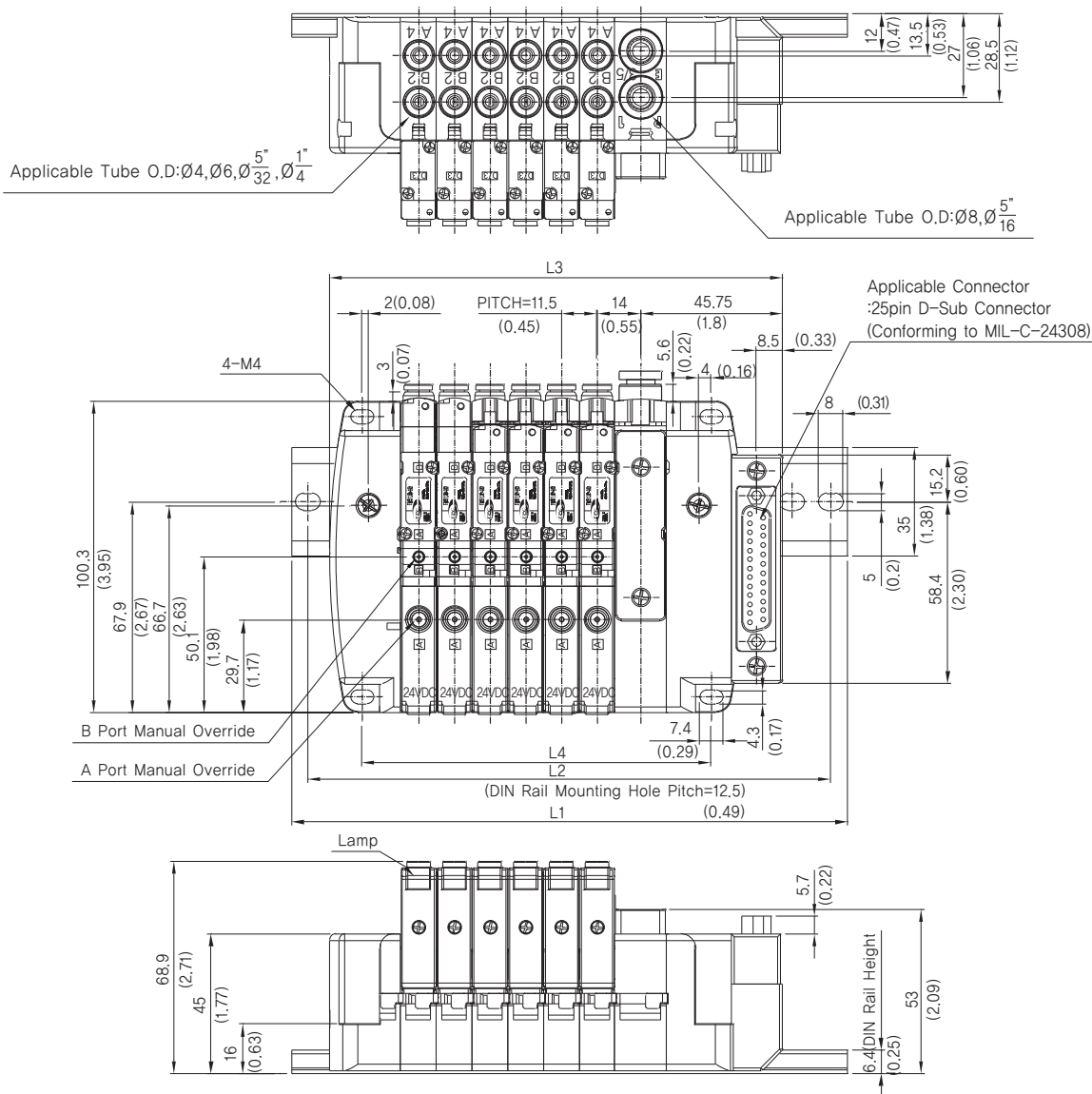
Order Method and Notices

- 1) Refer to catalogue type indicating method for manifold assembly and valve switching method for documentation. Documentation example:
- 2) It is possible to order maximum 24-connection (single wiring) for single and maximum 12-connection (double wiring) for double and other specifications. (Double wiring applied for less than 12-connection)
- 3) External pilot type is not produced for dual 3-port.
- 4) In case manifold fitting size is identical along connection-sets, do not fill fitting size blank, and assign fitting size at manifold assembly type indicating method. (Ex --> Manifold assembly = RSM1-DRDV-05B-T06/ Fitting size not selected)
- 5) In case manifold fitting size is different along connection-set, select applied fitting size at fitting size blank, and assign fitting size as \*\* at manifold assembly type indicating method. (Ex --> Manifold assembly = RSM1-DRDV-05B-\*/ Fitting size selected)
- 6) Select O mark at applied specification.
- 7) Separately indicate items beside catalogue dimension at special items.

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 RS 1000, 2000

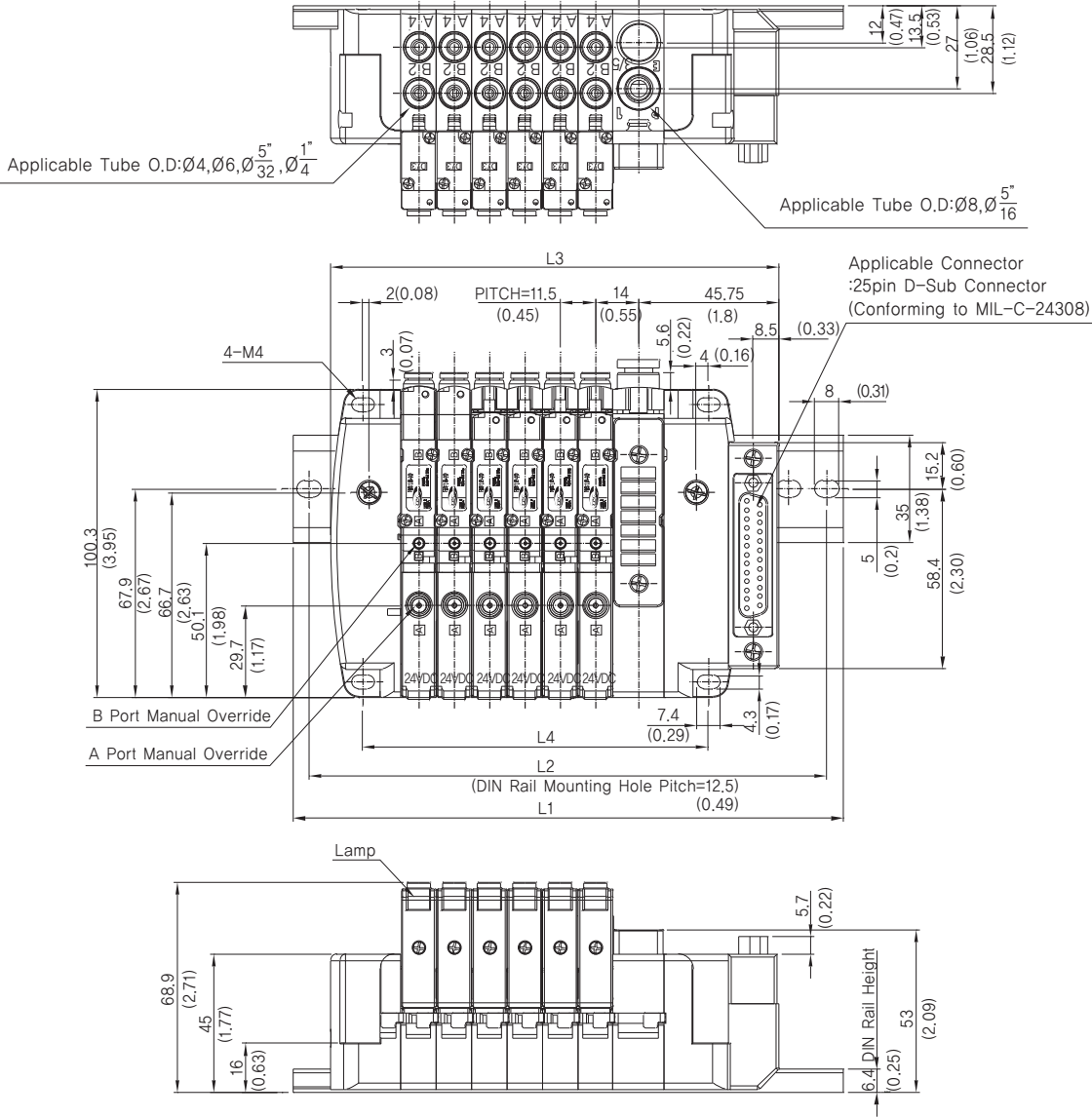
## RS1000 External Dimension Drawing (Basic Type, D-Sub)



### Dimensions

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		L1	mm			200				250				300						387.5				437.5
L1	inch			7.87				9.84				11.81						15.26				17.22		
L2	mm			187.5				237.5				287.5						375				425		
L2	inch			7.38				9.35				11.32						14.76				16.73		
L3	mm	100	111.5	123	134.5	146	157.5	169	180.5	192	220	231.5	243	245.5	266	277.5	289	300.5	312	323.5	335	346.5	358	369.5
L3	inch	3.94	4.39	4.84	5.30	5.75	6.20	6.65	7.11	7.56	8.66	9.11	9.57	10.02	10.47	10.93	11.38	11.83	12.28	12.74	13.19	13.64	14.09	14.55
L4	mm	66.5	78	89.5	101	112.5	124	135.5	147	158.5	186.5	198	209.5	221	232.5	244	255.5	267	278.5	290	301.5	313	324.5	336
L4	inch	2.62	3.07	3.52	3.98	4.43	4.88	5.33	5.79	6.24	7.34	7.80	8.25	8.70	9.15	9.61	10.06	10.51	10.96	11.42	11.87	12.32	12.78	13.23

RS1000 External Dimension Drawing (Built-in Silencer, D-Sub)



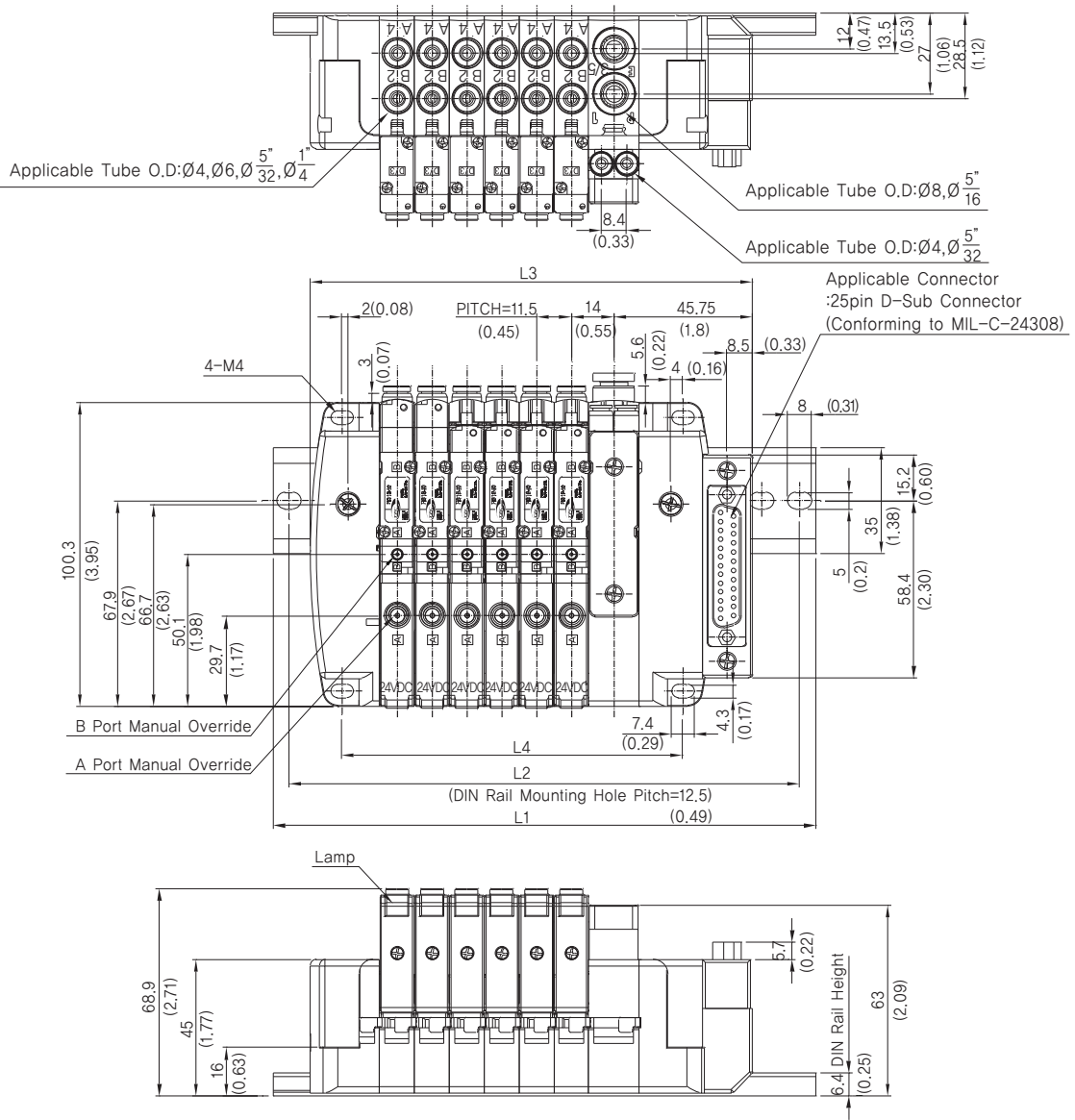
Dimensions

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		mm			200					250					300					387.5				437.5
inch			7.87					9.84					11.81					15.26				17.22		
mm			187.5					237.5					287.5					375				425		
inch			7.38					9.35					11.32					14.76				16.73		
mm	100	111.5	123	134.5	146	157.5	169	180.5	192	220	231.5	243	245.5	266	277.5	289	300.5	312	323.5	335	346.5	358	369.5	
inch	3.94	4.39	4.84	5.30	5.75	6.20	6.65	7.11	7.56	8.66	9.11	9.57	10.02	10.47	10.93	11.38	11.83	12.28	12.74	13.19	13.64	14.09	14.55	
mm	66.5	78	89.5	101	112.5	124	135.5	147	158.5	186.5	198	209.5	221	232.5	244	255.5	267	278.5	290	301.5	313	324.5	336	
inch	2.62	3.07	3.52	3.98	4.43	4.88	5.33	5.79	6.24	7.34	7.80	8.25	8.70	9.15	9.61	10.06	10.51	10.96	11.42	11.87	12.32	12.78	13.23	

- 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 RS 1000, 2000

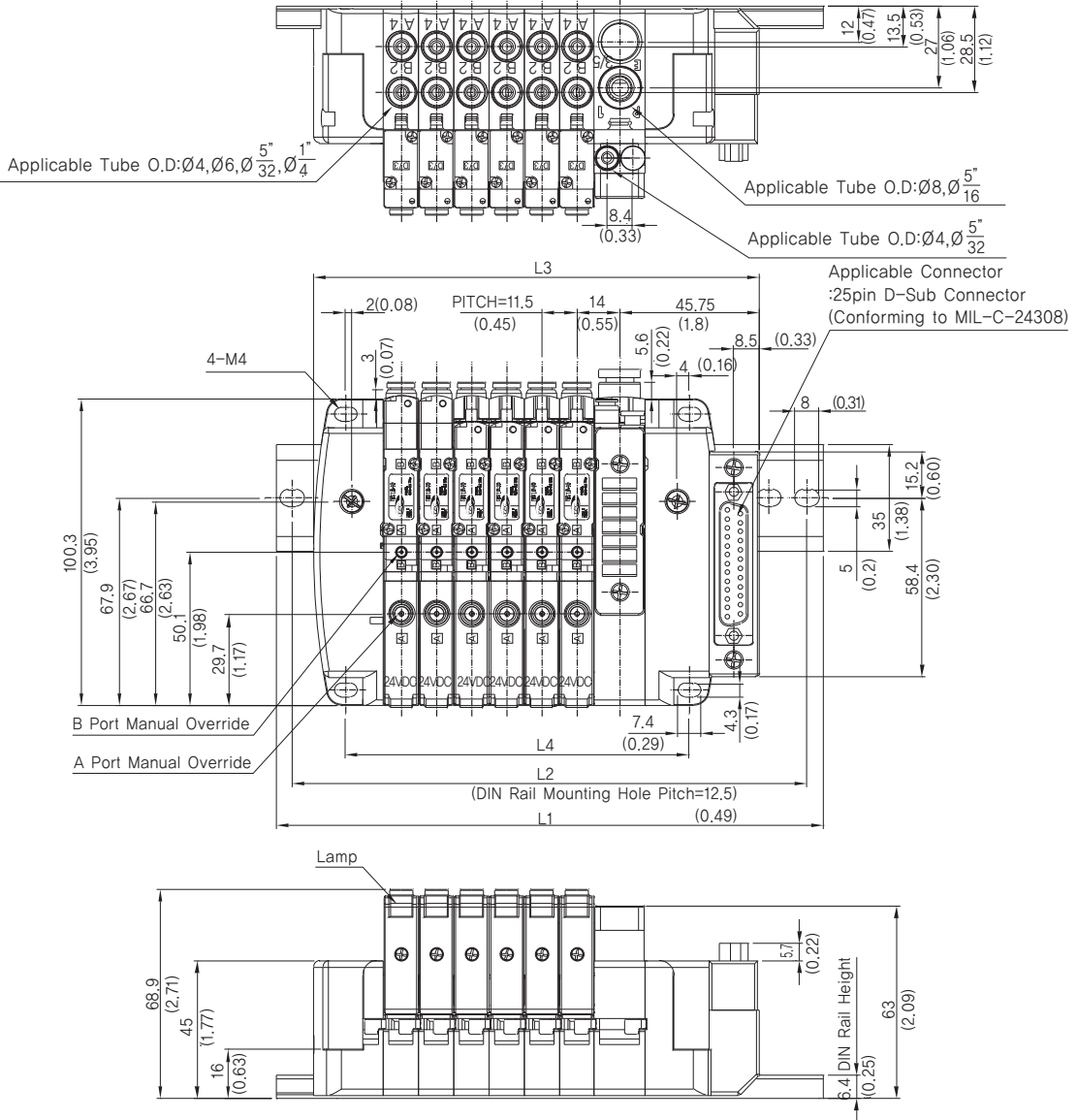
## RS1000 External Dimension Drawing (External Pilot, D-Sub)



### Dimensions

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		mm			200					250				300						387.5				437.5
inch			7.87					9.84				11.81						15.26				17.22		
mm			187.5					237.5				287.5						375				425		
inch			7.38					9.35				11.32						14.76				16.73		
mm	100	111.5	123	134.5	146	157.5	169	180.5	192	220	231.5	243	245.5	266	277.5	289	300.5	312	323.5	335	346.5	358	369.5	
inch	3.94	4.39	4.84	5.30	5.75	6.20	6.65	7.11	7.56	8.66	9.11	9.57	10.02	10.47	10.93	11.38	11.83	12.28	12.74	13.19	13.64	14.09	14.55	
mm	66.5	78	89.5	101	112.5	124	135.5	147	158.5	186.5	198	209.5	221	232.5	244	255.5	267	278.5	290	301.5	313	324.5	336	
inch	2.62	3.07	3.52	3.98	4.43	4.88	5.33	5.79	6.24	7.34	7.80	8.25	8.70	9.15	9.61	10.06	10.51	10.96	11.42	11.87	12.32	12.78	13.23	

RS1000 External Dimension Drawing (External Pilot, Built-in Silencer, D-Sub)



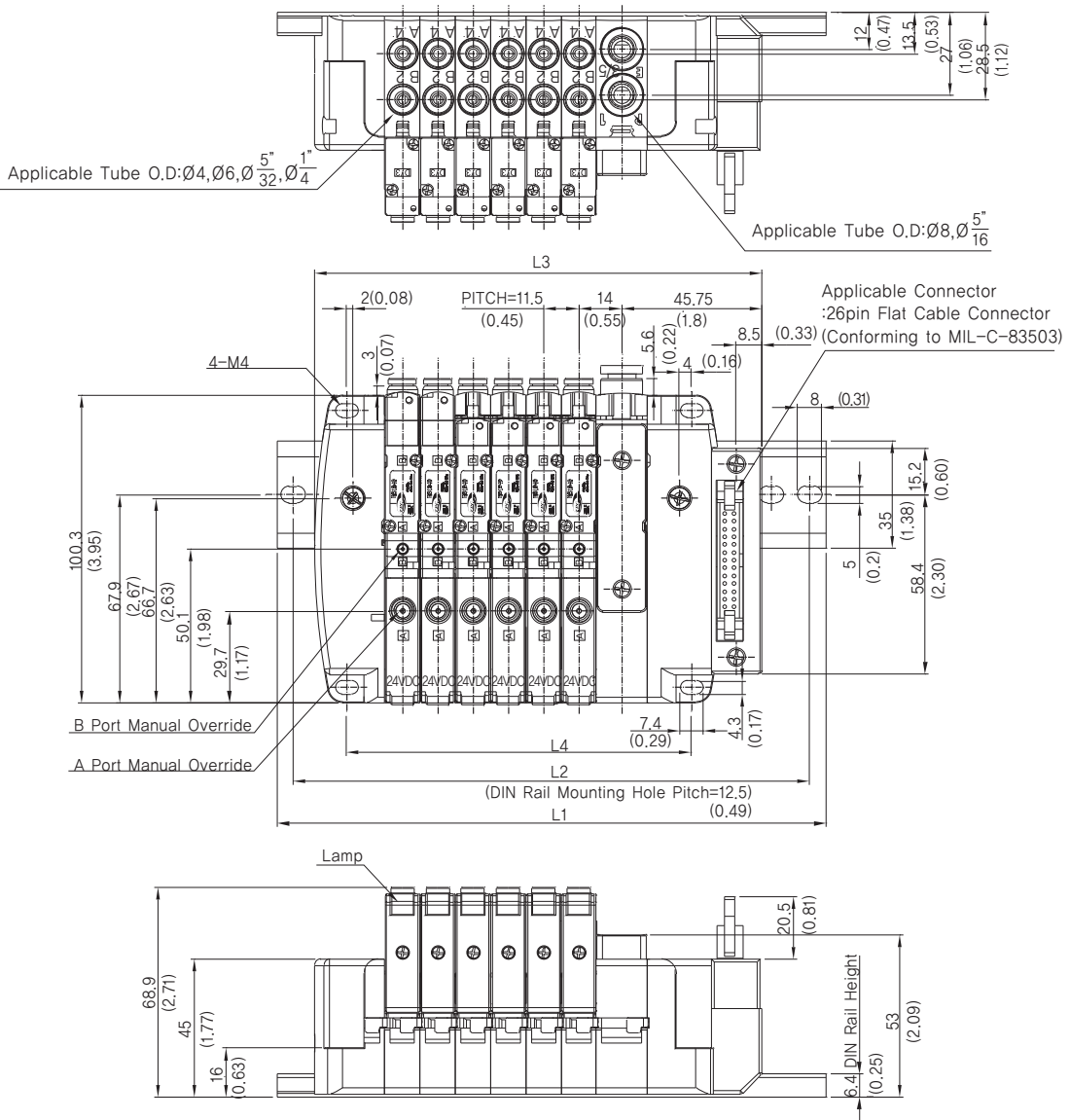
Dimensions

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		mm			200					250					300					387.5				437.5
inch			7.87					9.84					11.81					15.26				17.22		
mm			187.5					237.5					287.5					375				425		
inch			7.38					9.35					11.32					14.76				16.73		
mm	100	111.5	123	134.5	146	157.5	169	180.5	192	220	231.5	243	245.5	266	277.5	289	300.5	312	323.5	335	346.5	358	369.5	
inch	3.94	4.39	4.84	5.30	5.75	6.20	6.65	7.11	7.56	8.66	9.11	9.57	10.02	10.47	10.93	11.38	11.83	12.28	12.74	13.19	13.64	14.09	14.55	
mm	66.5	78	89.5	101	112.5	124	135.5	147	158.5	186.5	198	209.5	221	232.5	244	255.5	267	278.5	290	301.5	313	324.5	336	
inch	2.62	3.07	3.52	3.98	4.43	4.88	5.33	5.79	6.24	7.34	7.80	8.25	8.70	9.15	9.61	10.06	10.51	10.96	11.42	11.87	12.32	12.78	13.23	

- 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 RS 1000, 2000

## RS1000 External Dimension Drawing (Basic Type, Flat Cable)

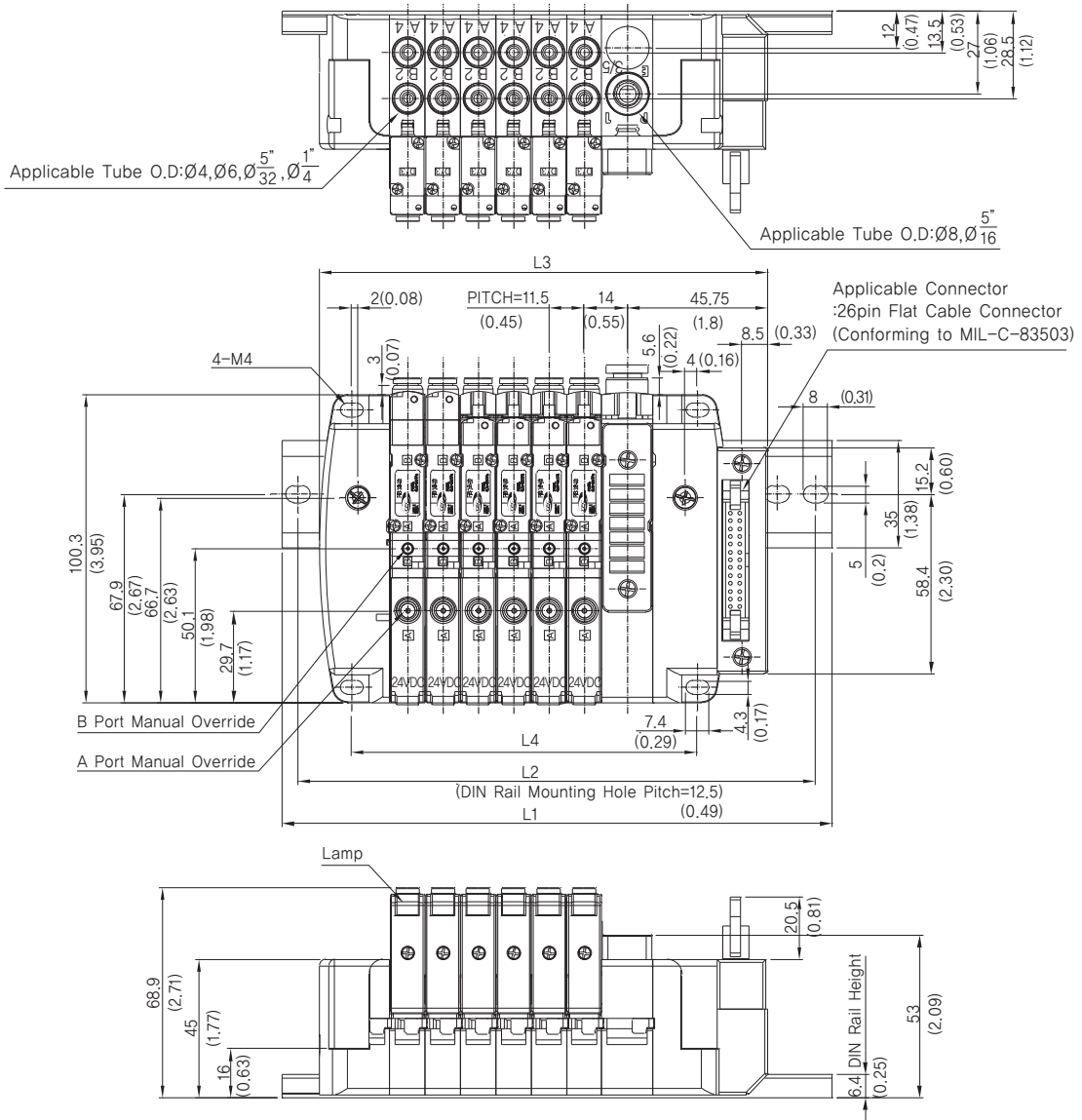


### Dimensions

L	n																								
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
L1	mm			200				250				300					387.5				437.5				
	inch			7.87				9.84				11.81					15.26				17.22				
L2	mm			187.5				237.5				287.5					375				425				
	inch			7.38				9.35				11.32					14.76				16.73				
L3	mm	100	111.5	123	134.5	146	157.5	169	180.5	192	220	231.5	243	245.5	266	277.5	289	300.5	312	323.5	335	346.5	358	369.5	
	inch	3.94	4.39	4.84	5.30	5.75	6.20	6.65	7.11	7.56	8.66	9.11	9.57	10.02	10.47	10.93	11.38	11.83	12.28	12.74	13.19	13.64	14.09	14.55	
L4	mm	66.5	78	89.5	101	112.5	124	135.5	147	158.5	186.5	198	209.5	221	232.5	244	255.5	267	278.5	290	301.5	313	324.5	336	
	inch	2.62	3.07	3.52	3.98	4.43	4.88	5.33	5.79	6.24	7.34	7.80	8.25	8.70	9.15	9.61	10.06	10.51	10.96	11.42	11.87	12.32	12.78	13.23	



## RS1000 External Dimension Drawing (Built-in Silencer, Flat Cable)



### Dimensions

L	n	n																							
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
L1	mm			200					250									387.5					437.5		
	inch			7.87					9.84									15.26					17.22		
L2	mm			187.5					237.5									375					425		
	inch			7.38					9.35									14.76					16.73		
L3	mm	100	111.5	123	134.5	146	157.5	169	180.5	192	220	231.5	243	245.5	266	277.5	289	300.5	312	323.5	335	346.5	358	369.5	
	inch	3.94	4.39	4.84	5.30	5.75	6.20	6.65	7.11	7.56	8.66	9.11	9.57	10.02	10.47	10.93	11.38	11.83	12.28	12.74	13.19	13.64	14.09	14.55	
L4	mm	66.5	78	89.5	101	112.5	124	135.5	147	158.5	186.5	198	209.5	221	232.5	244	255.5	267	278.5	290	301.5	313	324.5	336	
	inch	2.62	3.07	3.52	3.98	4.43	4.88	5.33	5.79	6.24	7.34	7.80	8.25	8.70	9.15	9.61	10.06	10.51	10.96	11.42	11.87	12.32	12.78	13.23	

DW

DR100

DR200

RS1000, 2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

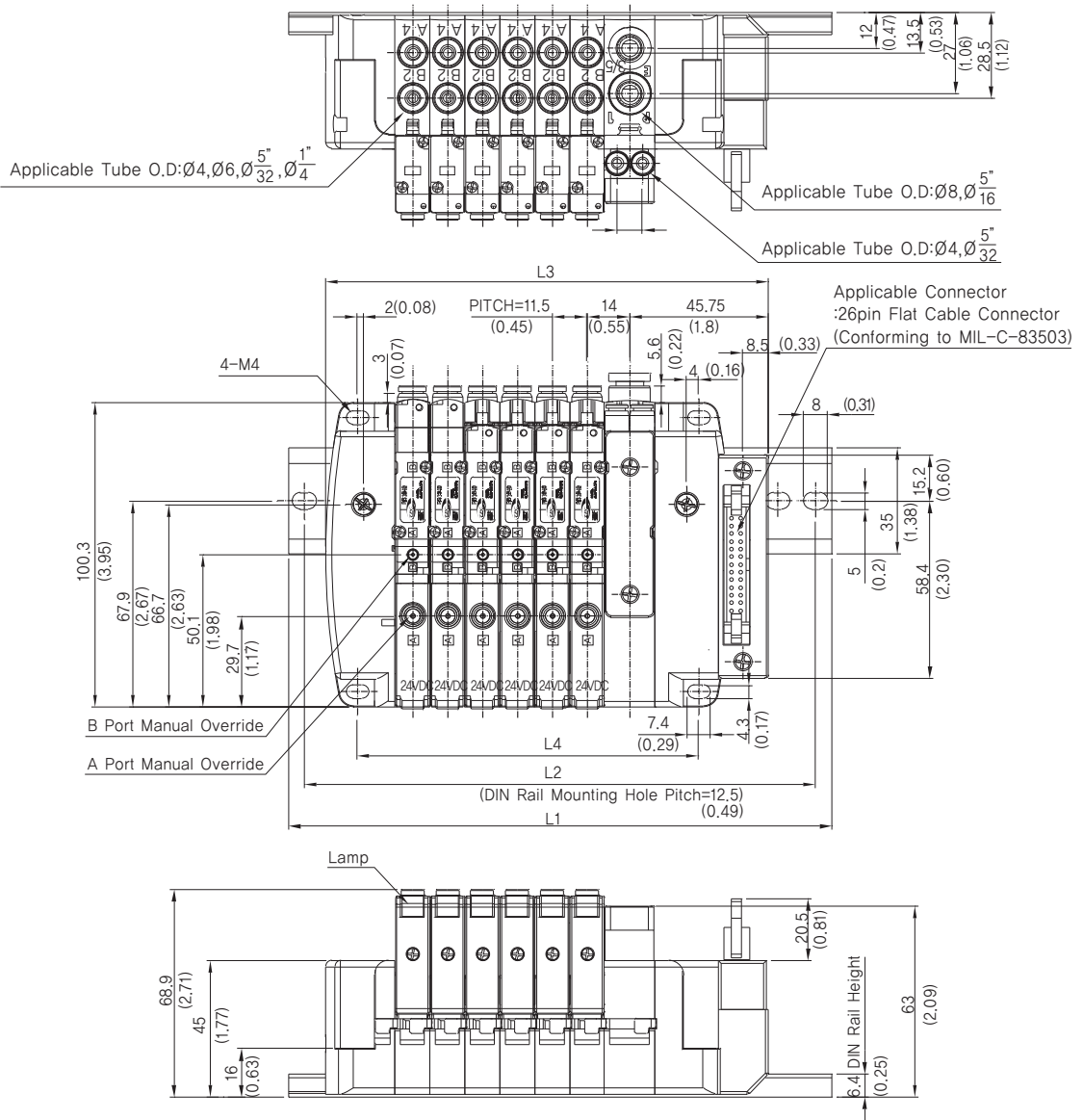
DP300  
DP3000  
DP5000

DM

DT220

# Series RS 1000, 2000

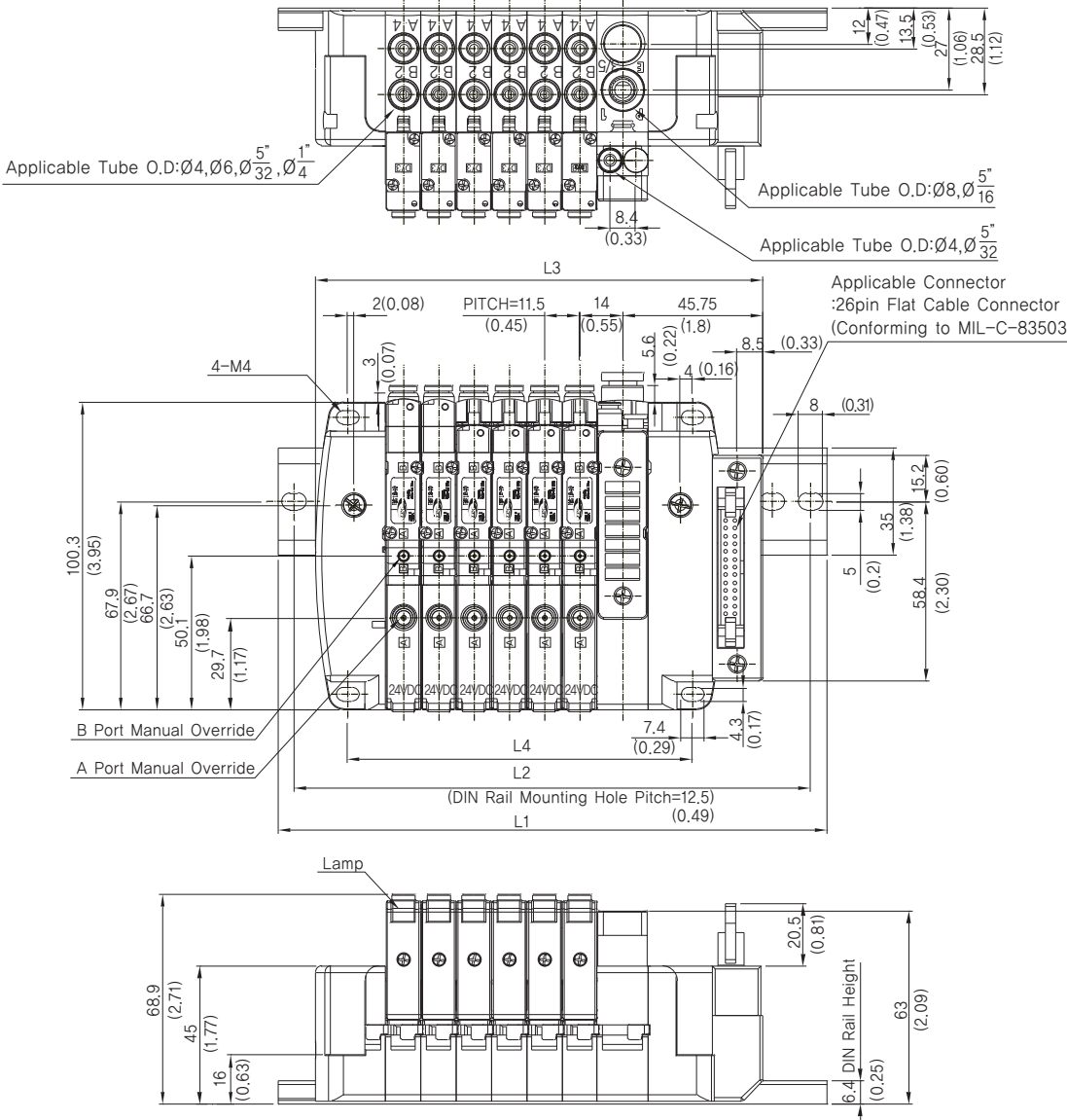
## RS1000 External Dimension Drawing (External Pilot Type, Flat Cable)



### Dimensions

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		L1	mm			200				250				300					387.5				437.5	
L1	inch			7.87				9.84				11.81					15.26				17.22			
L2	mm			187.5				237.5				287.5					375				425			
L2	inch			7.38				9.35				11.32					14.76				16.73			
L3	mm	100	111.5	123	134.5	146	157.5	169	180.5	192	220	231.5	243	245.5	266	277.5	289	300.5	312	323.5	335	346.5	358	369.5
L3	inch	3.94	4.39	4.84	5.30	5.75	6.20	6.65	7.11	7.56	8.66	9.11	9.57	10.02	10.47	10.93	11.38	11.83	12.28	12.74	13.19	13.64	14.09	14.55
L4	mm	66.5	78	89.5	101	112.5	124	135.5	147	158.5	186.5	198	209.5	221	232.5	244	255.5	267	278.5	290	301.5	313	324.5	336
L4	inch	2.62	3.07	3.52	3.98	4.43	4.88	5.33	5.79	6.24	7.34	7.80	8.25	8.70	9.15	9.61	10.06	10.51	10.96	11.42	11.87	12.32	12.78	13.23

RS1000 External Dimension Drawing (Built-in Silencer, External Pilot Type, Flat Cable)



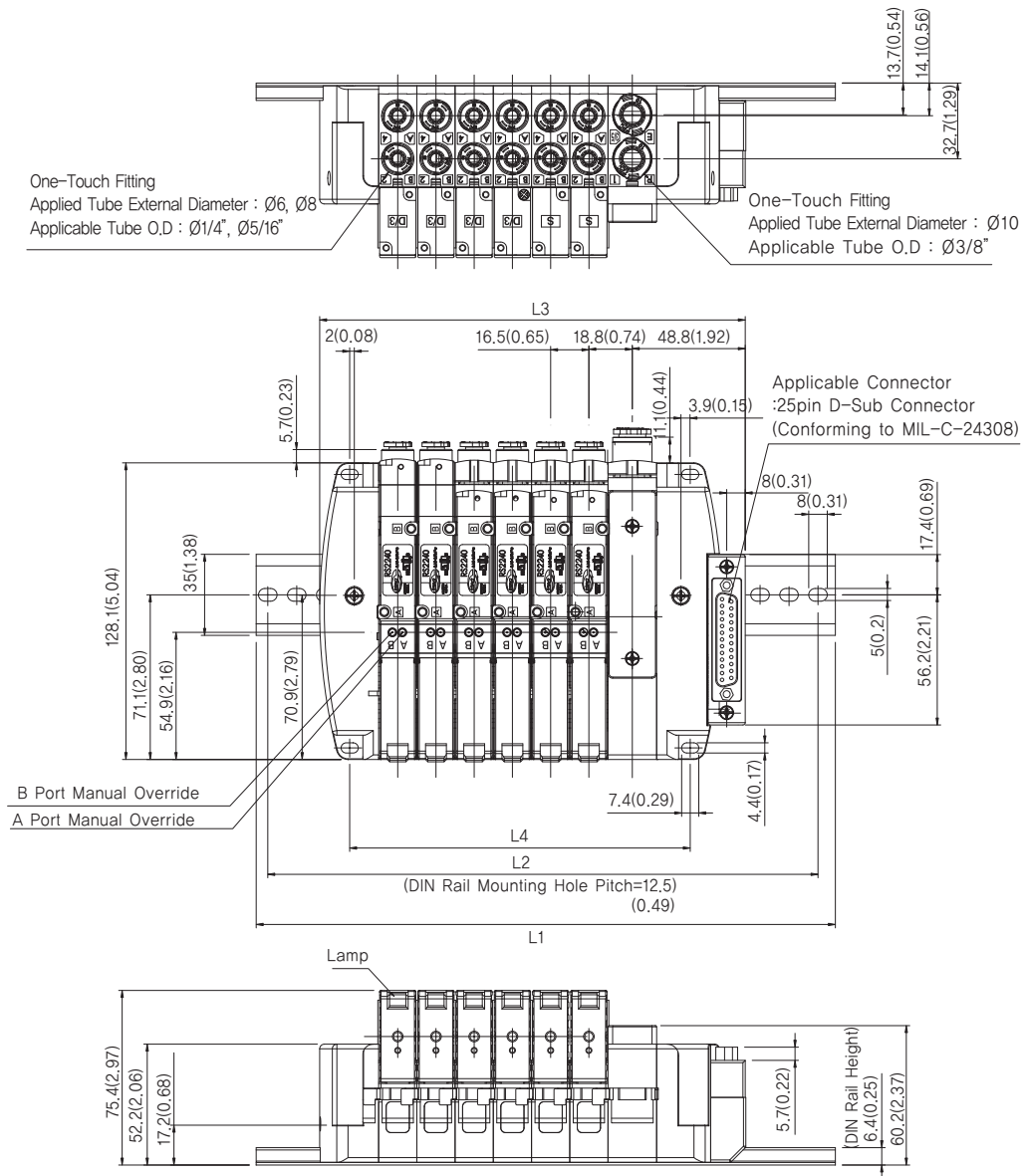
Dimensions

L	n																								
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
L1	mm			200					250						300					387.5				437.5	
	inch			7.87					9.84						11.81					15.26				17.22	
L2	mm			187.5					237.5						287.5					375				425	
	inch			7.38					9.35						11.32					14.76				16.73	
L3	mm	100	111.5	123	134.5	146	157.5	169	180.5	192	220	231.5	243	245.5	266	277.5	289	300.5	312	323.5	335	346.5	358	369.5	
	inch	3.94	4.39	4.84	5.30	5.75	6.20	6.65	7.11	7.56	8.66	9.11	9.57	10.02	10.47	10.93	11.38	11.83	12.28	12.74	13.19	13.64	14.09	14.55	
L4	mm	66.5	78	89.5	101	112.5	124	135.5	147	158.5	186.5	198	209.5	221	232.5	244	255.5	267	278.5	290	301.5	313	324.5	336	
	inch	2.62	3.07	3.52	3.98	4.43	4.88	5.33	5.79	6.24	7.34	7.80	8.25	8.70	9.15	9.61	10.06	10.51	10.96	11.42	11.87	12.32	12.78	13.23	

- 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 RS 1000, 2000

## RS2000 External Dimension Drawing (External Pilot Type, Flat Cable)



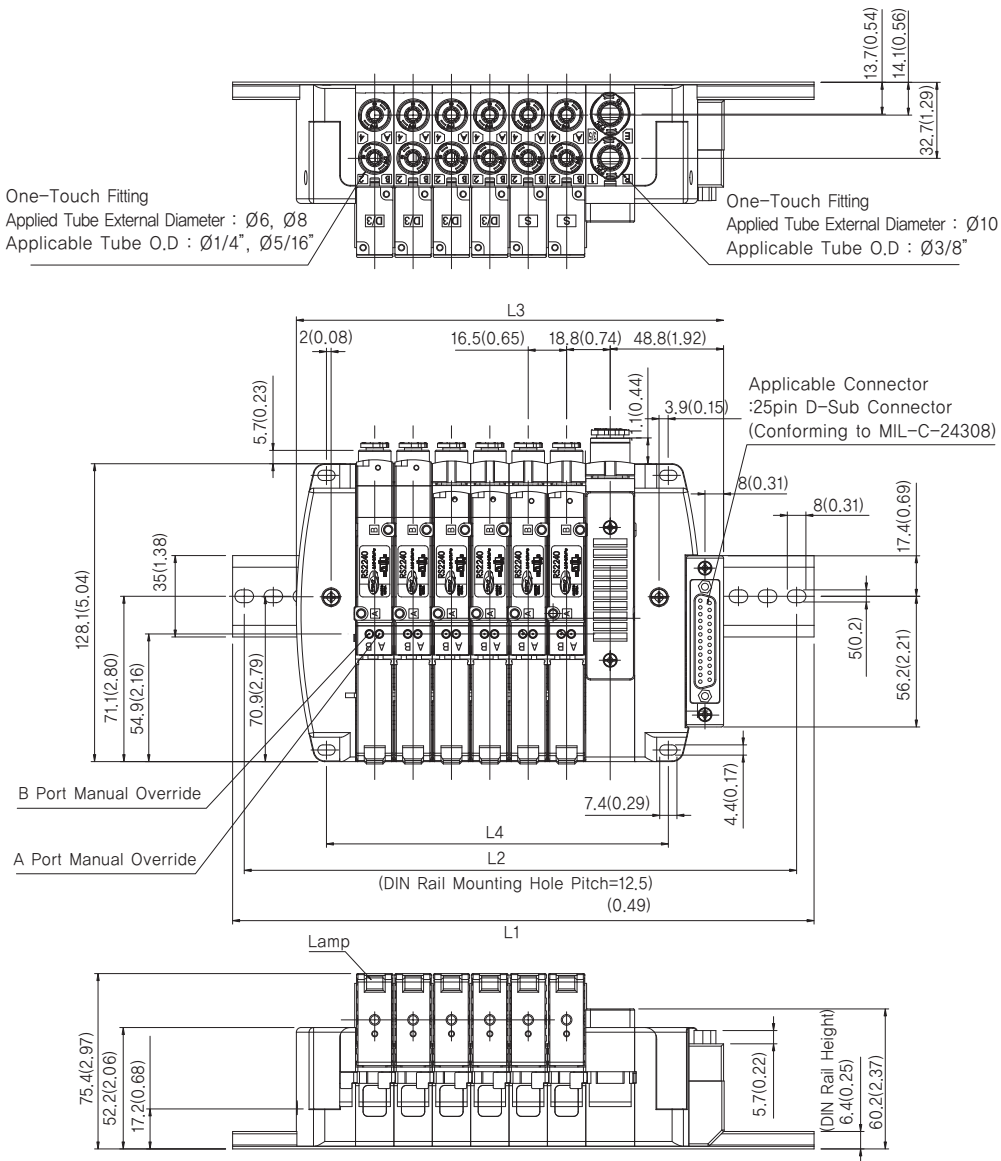
### Dimensions

Units : mm(inch)

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	mm			250				300				400					500				587			
	inch			9.84				11.81				15.7					19.7				23.1			
L2	mm			237.5				287.5				387.5					487.5				574.5			
	inch			9.35				11.3				15.2					19.2				22.6			
L3	mm	117.7	134.2	150.7	167.2	183.7	200.2	216.7	233.2	249.7	287.2	303.7	320.2	336.7	353.2	369.7	386.2	402.7	419.2	435.7	452.2	468.7	485.2	501.7
	inch	4.63	5.28	5.93	6.58	7.23	7.88	8.53	9.18	9.83	11.3	11.95	12.6	13.25	13.9	14.55	15.2	15.85	16.5	17.15	17.8	18.45	19.1	19.75
L4	mm	81	97.5	114	130.5	147	163.5	180	196.5	213	250.5	267	283.5	300	316.5	333	349.5	366	382.5	399	415.5	432	448.5	465
	inch	3.19	3.84	4.49	5.14	5.79	6.44	7.09	7.74	8.39	9.86	10.51	11.16	11.81	12.46	13.11	13.76	14.4	15.06	15.7	16.36	17	17.66	18.3

Note 1) In case N-connection is additionally installed at Sup/Exh Block, L3 and L4 need to add 21 (0.83) X N from the dimension above.

RS2000 External Dimension Drawing(External Pilot Type, Flat Cable)



Dimensions

Units : mm(inch)

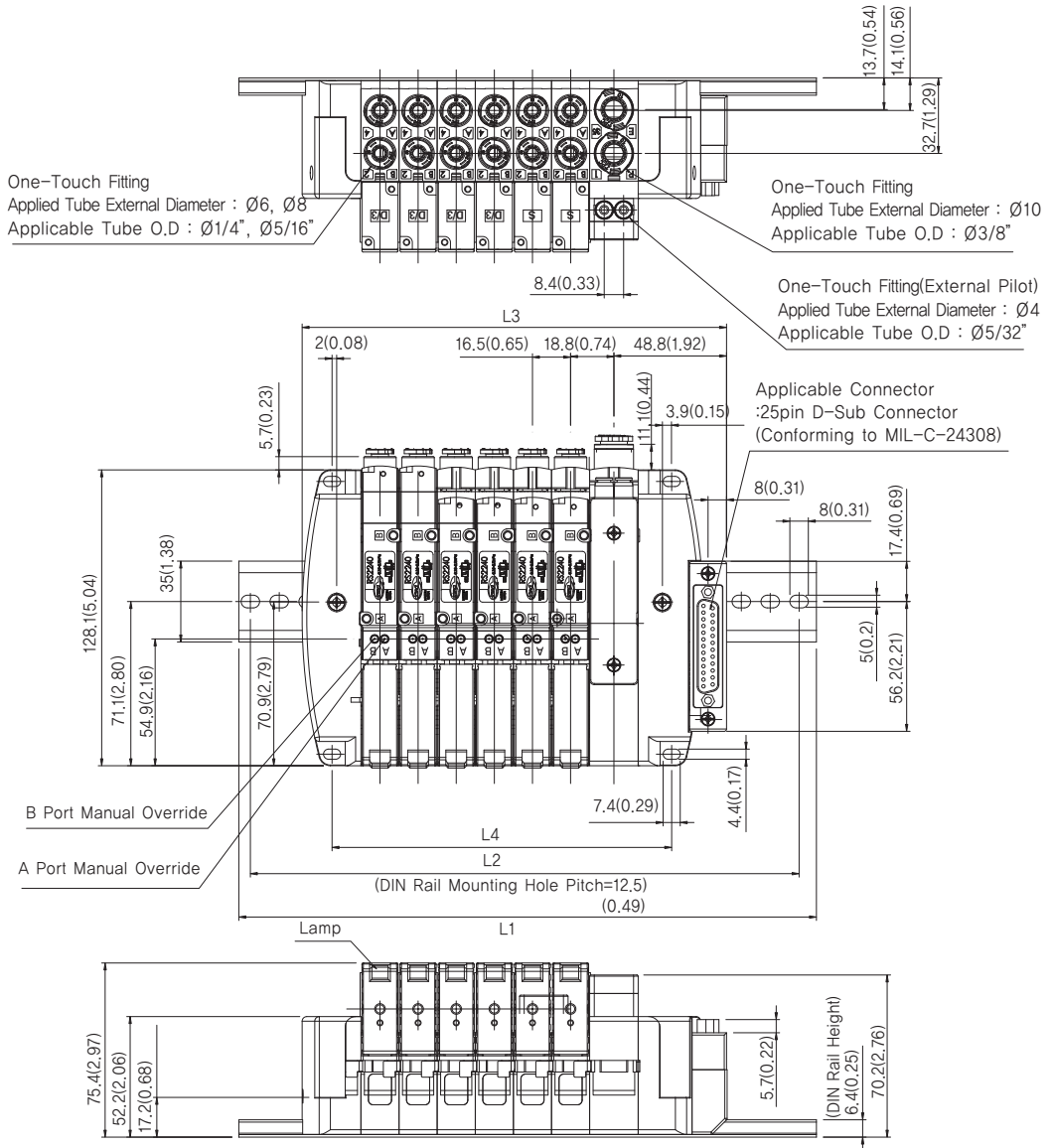
L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		L1	mm		250					300					400					500				587
L1	inch		9.84					11.81					15.7					19.7				23.1		
L2	mm		237.5					287.5					387.5					487.5				574.5		
L2	inch		9.35					11.3					15.2					19.2				22.6		
L3	mm	117.7	134.2	150.7	167.2	183.7	200.2	216.7	233.2	249.7	287.2	303.7	320.2	336.7	353.2	369.7	386.2	402.7	419.2	435.7	452.2	468.7	485.2	501.7
L3	inch	4.63	5.28	5.93	6.58	7.23	7.88	8.53	9.18	9.83	11.3	11.95	12.6	13.25	13.9	14.55	15.2	15.85	16.5	17.15	17.8	18.45	19.1	19.75
L4	mm	81	97.5	114	130.5	147	163.5	180	196.5	213	250.5	267	283.5	300	316.5	333	349.5	366	382.5	399	415.5	432	448.5	465
L4	inch	3.19	3.84	4.49	5.14	5.79	6.44	7.09	7.74	8.39	9.86	10.51	11.16	11.81	12.46	13.11	13.76	14.4	15.06	15.7	16.36	17	17.66	18.3

Note 1) In case N-connection is additionally installed at Sup/Exh Block, L3 and L4 need to add 21 (0.83) X N from the dimension above.

- 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 RS 1000, 2000

## RS2000 External Dimension Drawing (External Pilot Type, Flat Cable)



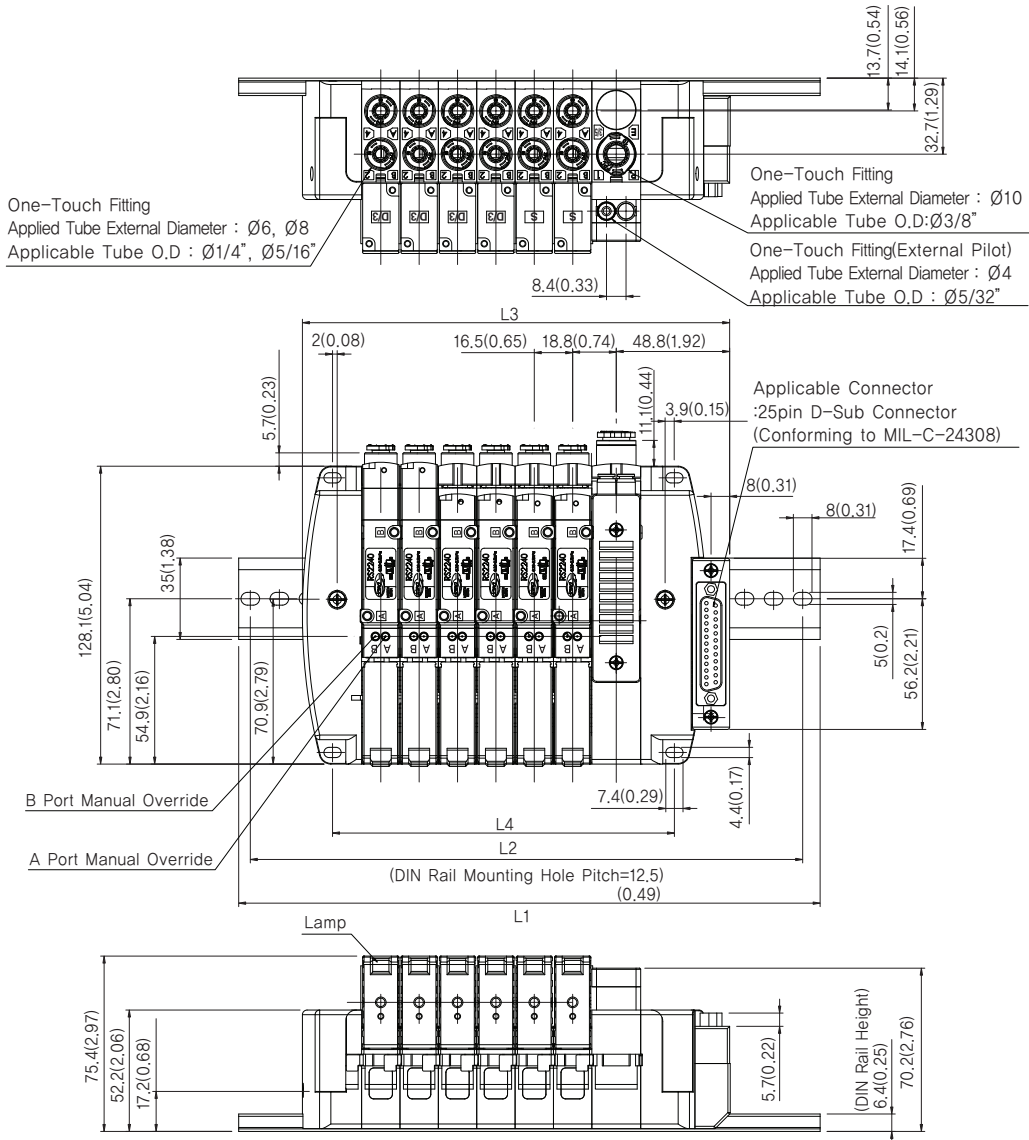
### Dimensions

Units : mm(inch)

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		L1	mm		250					300				400					500				587	
L1	inch		9.84					11.81				15.7					19.7				23.1			
L2	mm		237.5					287.5				387.5					487.5				574.5			
L2	inch		9.35					11.3				15.2					19.2				22.6			
L3	mm	117.7	134.2	150.7	167.2	183.7	200.2	216.7	233.2	249.7	287.2	303.7	320.2	336.7	353.2	369.7	386.2	402.7	419.2	435.7	452.2	468.7	485.2	501.7
	inch	4.63	5.28	5.93	6.58	7.23	7.88	8.53	9.18	9.83	11.3	11.95	12.6	13.25	13.9	14.55	15.2	15.85	16.5	17.15	17.8	18.45	19.1	19.75
L4	mm	81	97.5	114	130.5	147	163.5	180	196.5	213	250.5	267	283.5	300	316.5	333	349.5	366	382.5	399	415.5	432	448.5	465
	inch	3.19	3.84	4.49	5.14	5.79	6.44	7.09	7.74	8.39	9.86	10.51	11.16	11.81	12.46	13.11	13.76	14.4	15.06	15.7	16.36	17	17.66	18.3

Note 1) In case N-connection is additionally installed at Sup/Exh Block, L3 and L4 need to add 21 (0.83) X N from the dimension above.

RS2000 (External Pilot type, Flat Cable)



Dimensions

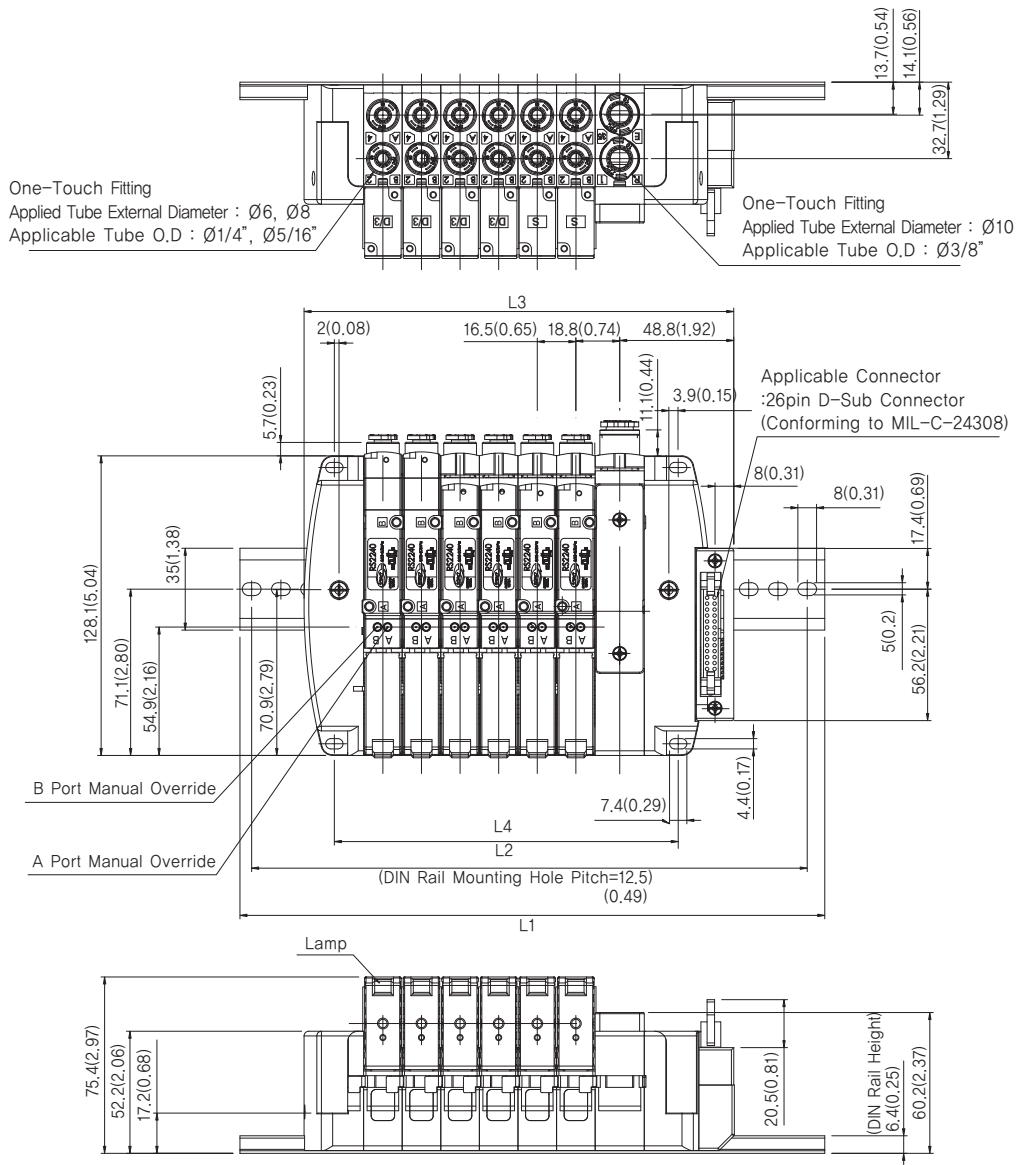
Units : mm(inch)

L	n																								
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
L1	mm			250					300				400					500				587			
	inch			9.84					11.81				15.7					19.7				23.1			
L2	mm			237.5					287.5				387.5					487.5				574.5			
	inch			9.35					11.3				15.2					19.2				22.6			
L3	mm	117.7	134.2	150.7	167.2	183.7	200.2	216.7	233.2	249.7	287.2	303.7	320.2	336.7	353.2	369.7	386.2	402.7	419.2	435.7	452.2	468.7	485.2	501.7	
	inch	4.63	5.28	5.93	6.58	7.23	7.88	8.53	9.18	9.83	11.3	11.95	12.6	13.25	13.9	14.55	15.2	15.85	16.5	17.15	17.8	18.45	19.1	19.75	
L4	mm	81	97.5	114	130.5	147	163.5	180	196.5	213	250.5	267	283.5	300	316.5	333	349.5	366	382.5	399	415.5	432	448.5	465	
	inch	3.19	3.84	4.49	5.14	5.79	6.44	7.09	7.74	8.39	9.86	10.51	11.16	11.81	12.46	13.11	13.76	14.4	15.06	15.7	16.36	17	17.66	18.3	

Note 1) In case N-connection is additionally installed at Sup/Exh Block, L3 and L4 need to add 21 (0.83) X N from the dimension above.

- 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

## RS2000 External Dimension Drawing (External Pilot Type, Flat Cable)



### Dimensions

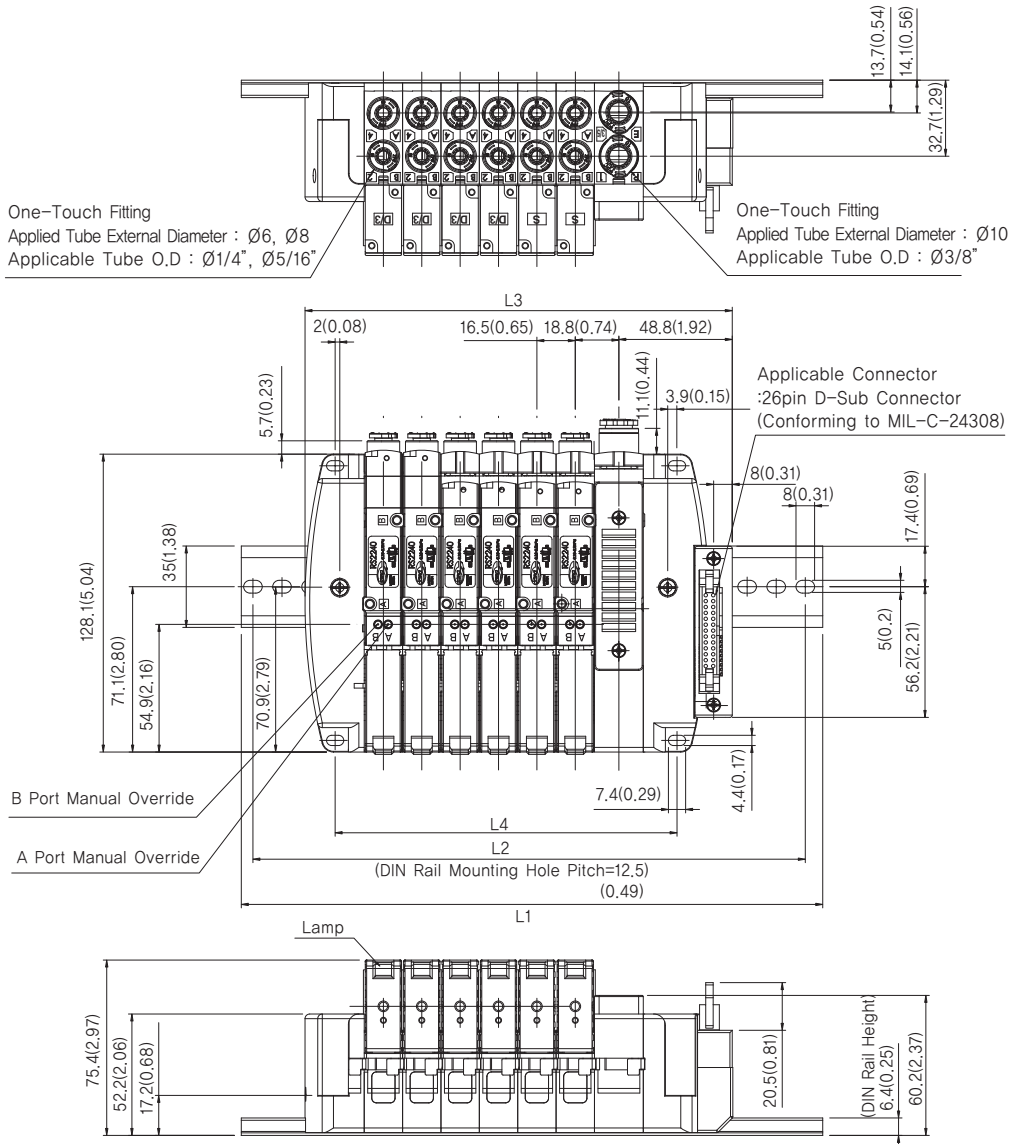
Units : mm(inch)

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		L1	mm			250				300				400					500				587	
L1	inch			9.84				11.81				15.7					19.7				23.1			
L2	mm			237.5				287.5				387.5					487.5				574.5			
L2	inch			9.35				11.3				15.2					19.2				22.6			
L3	mm	117.7	134.2	150.7	167.2	183.7	200.2	216.7	233.2	249.7	287.2	303.7	320.2	336.7	353.2	369.7	386.2	402.7	419.2	435.7	452.2	468.7	485.2	501.7
	inch	4.63	5.28	5.93	6.58	7.23	7.88	8.53	9.18	9.83	11.3	11.95	12.6	13.25	13.9	14.55	15.2	15.85	16.5	17.15	17.8	18.45	19.1	19.75
L4	mm	81	97.5	114	130.5	147	163.5	180	196.5	213	250.5	267	283.5	300	316.5	333	349.5	366	382.5	399	415.5	432	448.5	465
	inch	3.19	3.84	4.49	5.14	5.79	6.44	7.09	7.74	8.39	9.86	10.51	11.16	11.81	12.46	13.11	13.76	14.4	15.06	15.7	16.36	17	17.66	18.3

Note 1) In case N-connection is additionally installed at Sup/Exh Block, L3 and L4 need to add 21 (0.83) X N from the dimension above.



## RS2000 External Dimension Drawing (External Pilot Type, Flat Cable)



### Dimensions

Units : mm(inch)

L	n																								
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
L1	mm			250					300				400						500					587	
	inch			9.84					11.81				15.7						19.7					23.1	
L2	mm			237.5					287.5				387.5						487.5					574.5	
	inch			9.35					11.3				15.2						19.2					22.6	
L3	mm	117.7	134.2	150.7	167.2	183.7	200.2	216.7	233.2	249.7	287.2	303.7	320.2	336.7	353.2	369.7	386.2	402.7	419.2	435.7	452.2	468.7	485.2	501.7	
	inch	4.63	5.28	5.93	6.58	7.23	7.88	8.53	9.18	9.83	11.3	11.95	12.6	13.25	13.9	14.55	15.2	15.85	16.5	17.15	17.8	18.45	19.1	19.75	
L4	mm	81	97.5	114	130.5	147	163.5	180	196.5	213	250.5	267	283.5	300	316.5	333	349.5	366	382.5	399	415.5	432	448.5	465	
	inch	3.19	3.84	4.49	5.14	5.79	6.44	7.09	7.74	8.39	9.86	10.51	11.16	11.81	12.46	13.11	13.76	14.4	15.06	15.7	16.36	17	17.66	18.3	

Note 1) In case N-connection is additionally installed at Sup/Exh Block, L3 and L4 need to add 21 (0.83) X N from the dimension above.

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

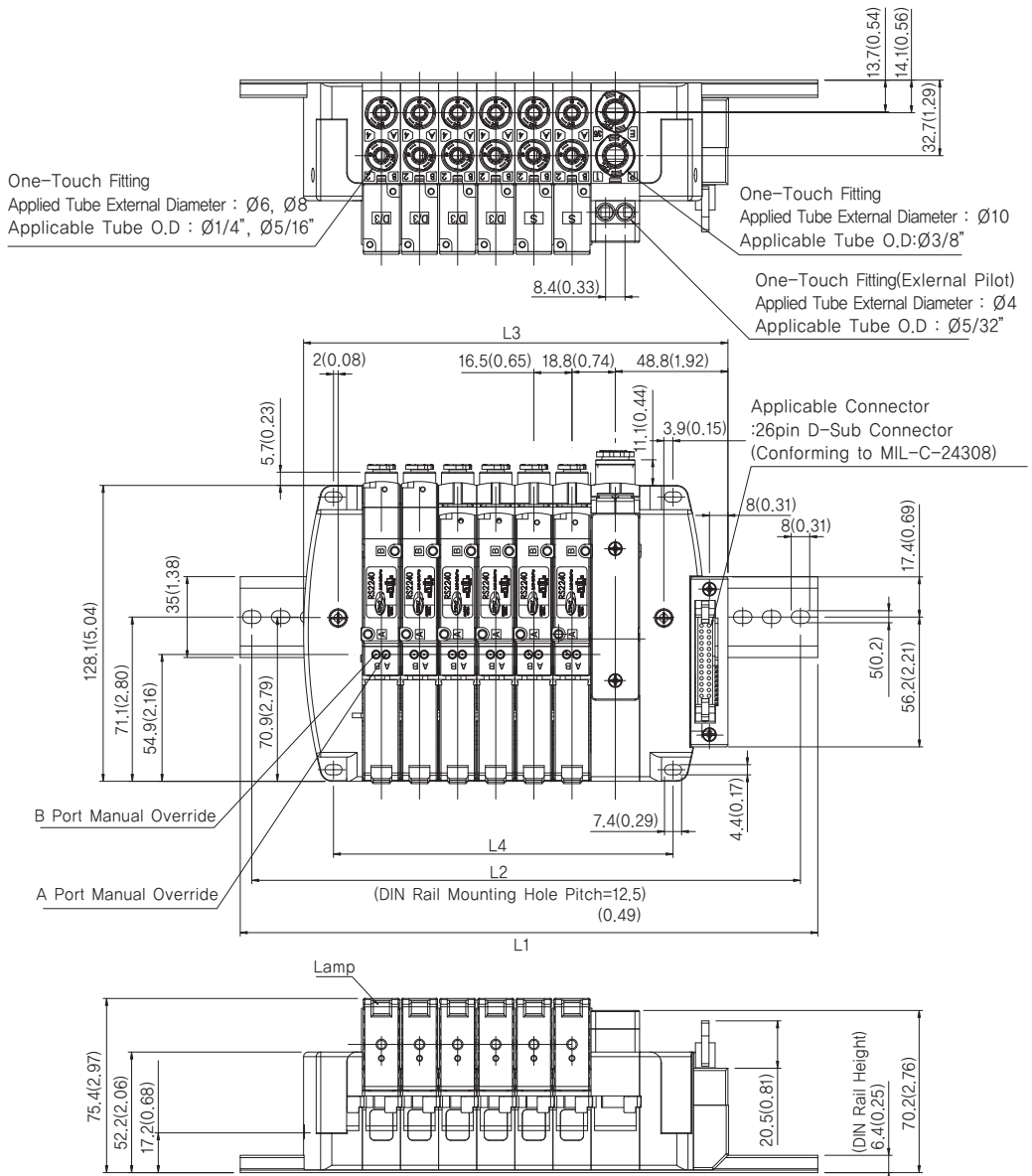
DH

DP300  
DP3000  
DP5000

DM

DT220

## RS2000 External Dimension Drawing (External Pilot Type, Flat Cable)



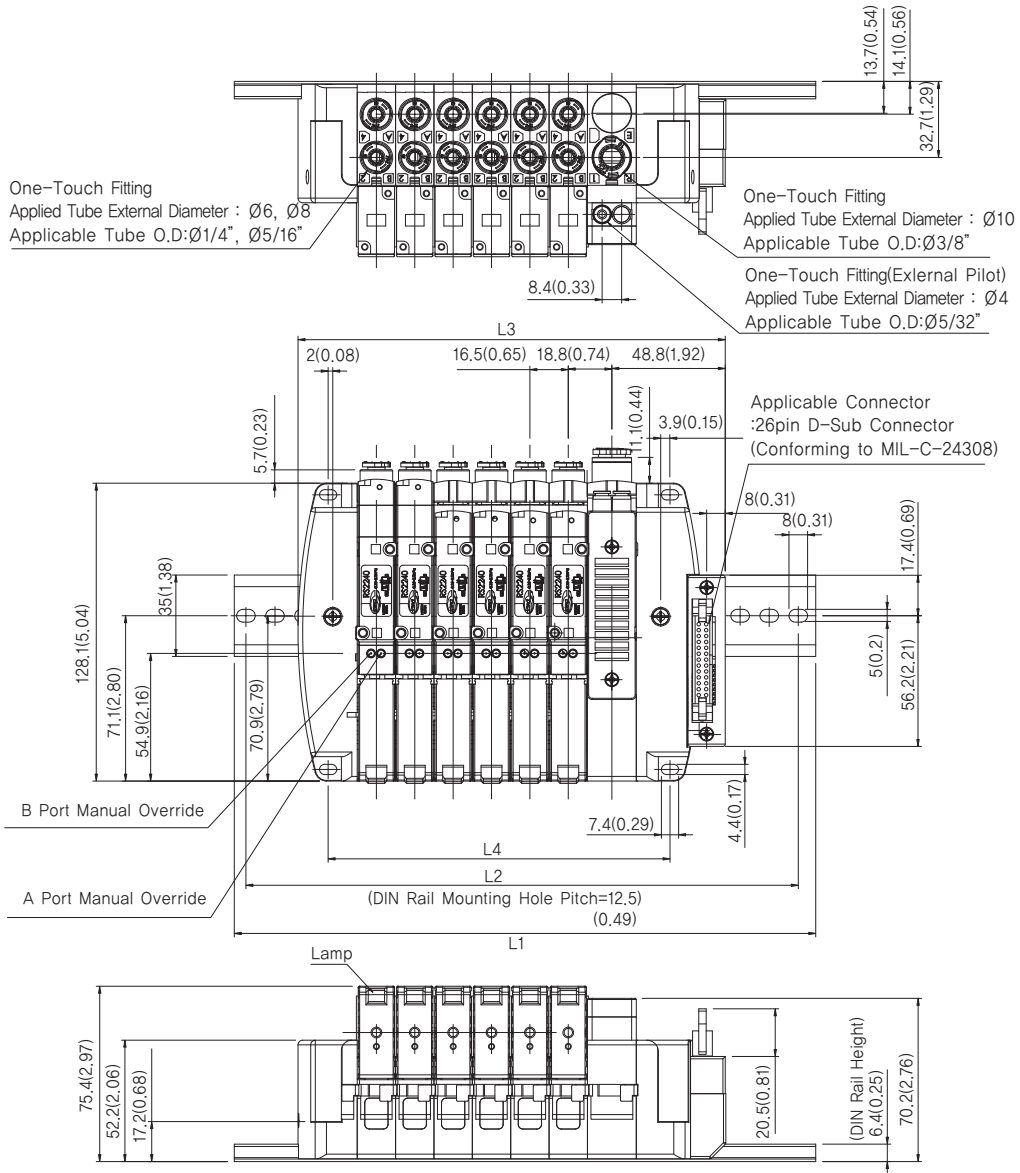
### Dimensions

Units : mm(inch)

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		L1	mm			250				300					400					500				587
L1	inch			9.84				11.81					15.7					19.7				23.1		
L2	mm			237.5				287.5					387.5					487.5				574.5		
L2	inch			9.35				11.3					15.2					19.2				22.6		
L3	mm	117.7	134.2	150.7	167.2	183.7	200.2	216.7	233.2	249.7	287.2	303.7	320.2	336.7	353.2	369.7	386.2	402.7	419.2	435.7	452.2	468.7	485.2	501.7
L3	inch	4.63	5.28	5.93	6.58	7.23	7.88	8.53	9.18	9.83	11.3	11.95	12.6	13.25	13.9	14.55	15.2	15.85	16.5	17.15	17.8	18.45	19.1	19.75
L4	mm	81	97.5	114	130.5	147	163.5	180	196.5	213	250.5	267	283.5	300	316.5	333	349.5	366	382.5	399	415.5	432	448.5	465
L4	inch	3.19	3.84	4.49	5.14	5.79	6.44	7.09	7.74	8.39	9.86	10.51	11.16	11.81	12.46	13.11	13.76	14.4	15.06	15.7	16.36	17	17.66	18.3

Note 1) In case N-connection is additionally installed at Sup/Exh Block, L3 and L4 need to add 21 (0.83) X N from the dimension above.

RS2000 External Dimension Drawing(External Pilot Type, Flat Cable)



Dimensions

Units : mm(inch)

L	n																								
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
L1	mm			250					300										500					587	
	inch			9.84					11.81										19.7					23.1	
L2	mm			237.5					287.5										487.5					574.5	
	inch			9.35					11.3										19.2					22.6	
L3	mm	117.7	134.2	150.7	167.2	183.7	200.2	216.7	233.2	249.7	267.2	283.7	300.2	316.7	333.2	349.7	366.2	382.7	400.2	416.7	433.2	449.7	466.2	482.7	500.2
	inch	4.63	5.28	5.93	6.58	7.23	7.88	8.53	9.18	9.83	10.48	11.13	11.78	12.43	13.08	13.73	14.38	15.03	15.68	16.33	16.98	17.63	18.28	18.93	19.58
L4	mm	81	97.5	114	130.5	147	163.5	180	196.5	213	229.5	246	262.5	279	295.5	312	328.5	345	361.5	378	394.5	411	427.5	444	
	inch	3.19	3.84	4.49	5.14	5.79	6.44	7.09	7.74	8.39	9.04	9.69	10.34	10.99	11.64	12.29	12.94	13.59	14.24	14.89	15.54	16.19	16.84	17.49	

Note 1) In case N-connection is additionally installed at Sup/Exh Block, L3 and L4 need to add 21 (0.83) X N from the dimension above.

- 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

## Notice for RS1000 Plug In Valve Utilization

Please fully understand the contents herein, and check details along relevant types for notices along each series.

### Notices Along Products (1-1)

#### ⚠ Danger

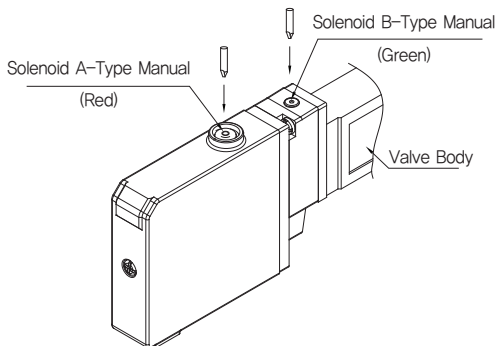
##### [Basic Contents for Users]

- 1) There is possible damage to the product, do not bend a product with excessive load under fully assembled condition.
- 2) In order to prevent malfunctioning of valve, implement inspection after shutting down pressure and power for increasing/decreasing valve.

#### ⚠ Notice

##### [Manual Control of Non-Lock Push Method]

- 1) In application of tools such as screwdriver, softly press manual button up/down.
- 2) If pressing and releasing the button, manual mode is returned to automatic mode.
- 3) In case of pressing manual with an angle, it may cause damage or breakdown.



#### ⚠ Warning

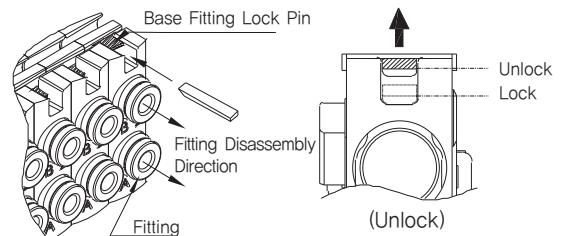
- 1) In case of replacing fittings, please carry out after checking pressure removal.
  - 2) Be cautious if releasing fitting lock pin, A and B fittings are disassembled.
  - 3) Long period continual power supply
    - ① In case of long period continual power supply to electric valve, it can cause performance of electric valve or vicinity equipments owing to temperature elevation of coil.
    - ② In case of long period continual power supply of electric valve with attaching in control panel or insulated space, please make heat-prevention measure within applicable temperature range of valve.
- \* In case of long period continual power supply for electric valve of close 3-connection or more in the same manifold, be cautious as temperature can increase.

#### ⚠ Notice

##### [Fitting Replacement Method]

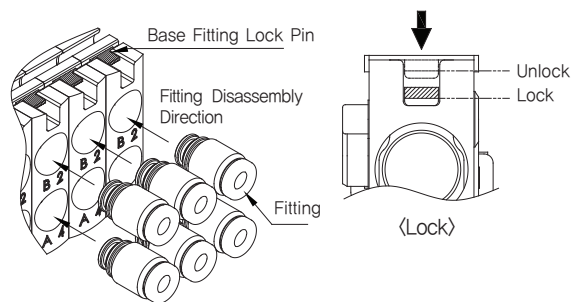
##### - Disassembly -

- 1) Lift base fitting lock pin with a tool like flat-head screwdriver without excessive force using leverage effect till disassemble status.
- 2) After removing lock pin, gradually add force on fittings to extract to forward direction.
- 3) Be cautious not to miss fittings from abrupt disassembly.



##### - Assembly -

- 1) After fully inserting a fitting in A and B port under disassembly status, locate lock pin into lock-status.
- 2) Be cautious that if lock pin is not fully locked, lock pin is possibly damaged or disassembled.



##### [In case of Tube installation]

- 1) Fully and slowly insert tube into fitting.
- 2) Check if tube is extracted by light-pulling after installation of tube.
- 3) Cut torn or overlapped part of tube for proper utilization if any. (It may cause leakage.)

## Notice for RS1000 Plug In Valve Utilization

Please fully understand the contents herein, and check details along relevant types for notices along each series.

### Notices Along Products (1-2)

#### **⚠ Danger**

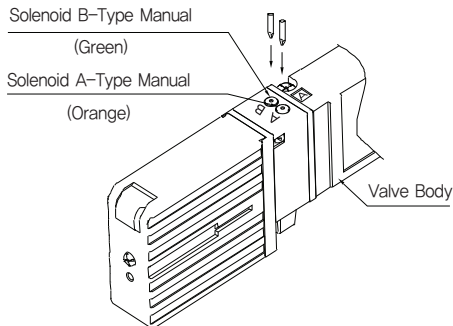
##### [Basic Contents for Users]

- 1) There is possible damage to the product, do not bend a product with excessive load under fully assembled condition.
- 2) In order to prevent malfunctioning of valve, implement inspection after shutting down pressure and power for increasing/decreasing valve.

#### **⚠ Notice**

##### [Manual Control of Non-Lock Push Method]

- 1) In application of tools such as screwdriver, softly press manual button up/down.
- 2) If pressing and releasing a button, manual mode is returned to automatic mode.
- 3) In case of pressing manual with an angle, it may cause damage or breakaway.



#### **⚠ Warning**

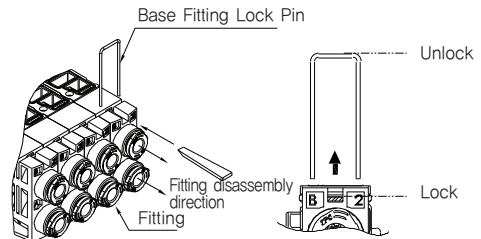
- 1) In case of replacing fittings, please carry out after checking pressure removal.
  - 2) Be cautious if releasing fitting lock pin, A and B fittings are disassembled.
  - 3) Long period continual power supply
    - ① In case of long period continual power supply to electric valve, it can possibly bring effect to performance of the electric valve or vicinity equipments owing to temperature elevation of coil.
    - ② In case of long period continual power supply of electric valve with attaching in control panel or insulated space, please make heat-prevention measure within applicable temperature range of valve.
- \* In case of long period continual power supply for electric valve of close 3-connection or more in the same manifold, be cautious for dramatic temperature increasing.

#### **⚠ Notice**

##### [Fitting Replacement Method]

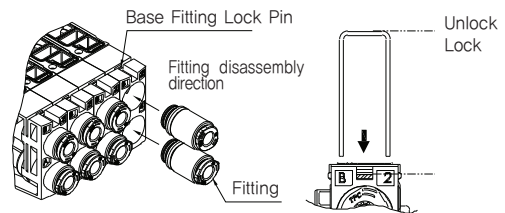
###### - Disassembly -

- 1) Possible to replace fittings with valve installed status for single, double and dual valve.
- 2) Fitting replacement available for 3-position valve after removing valve
- 3) Lift base fitting lock pin with a tool like flat-head screwdriver without excessive force using leverage effect till disassemble status.
- 4) After removing lock pink, gradually add force on fittings to extract to forward direction.
- 5) Be cautious not to miss fittings from abrupt disassembly.



###### - Assembly -

- 1) After fully inserting a fitting in A and B port under disassembly status, locate lock pin into lock-status.
- 2) Be cautious that if lock pin is not fully locked, lock pin is possibly damaged or disassembled.



##### [In case of Tube installation]

- 1) Fully and slowly insert tube into fitting.
- 2) Check if tube is extracted by light-pulling after installation of tube.
- 3) Cut torn or overlapped part of tube for proper utilization if any. (It may cause leakage.)

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

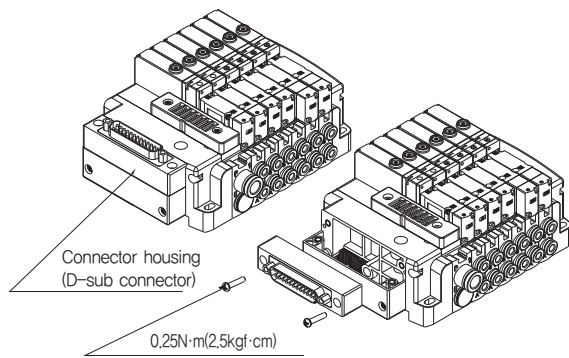
DT220

### Notices Along Products (2)

#### ⚠ Notice

##### [Notices for Connector Extracting Direction Change]

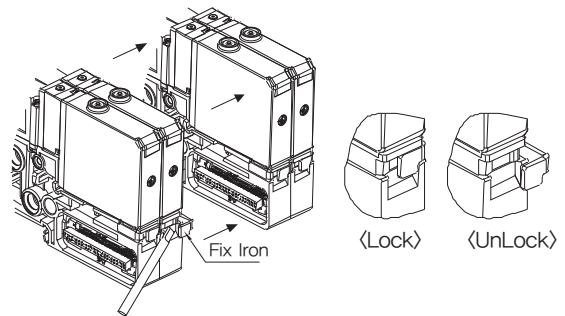
- 1) Horizontal or vertical attaching is available for extracting direction of D-sub and Flat cable connector for disassembly/assembly of connector housing. (But, assemble with proper torque for screw connecting)
- 2) In case of assembly of connector housing, overlap of lead wire may cause disconnection during assembly. Connect with screw after checking lead wire settled inside.
- 3) If excessively pulling D-sub or flat cable connector housing after disassembly, it may cause connection failure owing to extraction of internal connector.



#### ⚠ Notice

##### [Assembly/Disassembly of Valve Block]

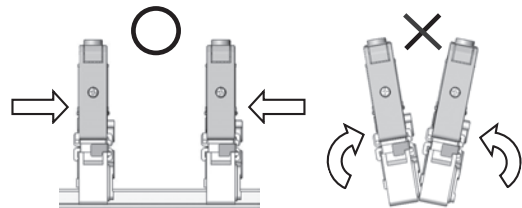
- 1) In case of valve block increase/decrease, bracket should be located in releasing status.
- 2) Bracket is disassembled using leverage effect with inserting fittings like flat-head screwdriver into base home.
- 3) It is released if disassembled in maximum without applying excessive force on bracket.
- 4) Be cautious, if excessive external force is applied to bracket, it may cause bending or damage.
- 5) Easy disassembly is available if fitting face is opened under released condition of bracket. (But, if it is forced to be disassembled with excessive force, it may cause damage to products.)
- 6) In case of valve block assembly, bracket of assembly target block and its counter-block should be located at disassembly location. (If bracket is located at assembly status, it does not allow assembly, and excessive assembly may cause bending of bracket, which deters assembly)
- 7) Prior to assembly of block, check attachment condition of passage part O-ring and gasket, and locate each passage part and wiring connector horizontally adjusted.
- 8) In case of valve block increase/decrease, it should be assembled or disassembled with Din-rail or tie rod attached condition. In case of rail or tie rod not existed, wiring connector connection is properly made only if valve block is assembled or disassembled with laying on flat floor.
- 9) In order to prevent connection failure of wiring connector, check assembly status additionally.
- 10) Pull bracket till it is fully locked for fixing after attachment. (Unstable block attachment may cause imperfect assembly of bracket, so that pull bracket after complete attachment)



#### ⚠ Warning

##### [Valve Block Assembly Method]

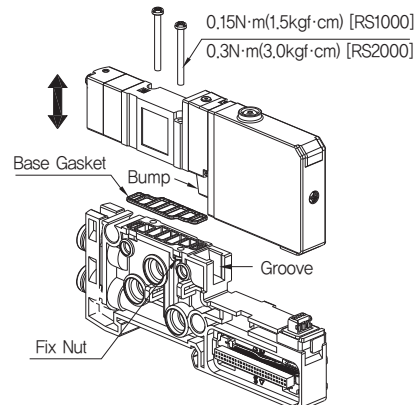
- 1) Assembly must be executed with Din-rail or tie rod attached condition for valve block assembly. In case Din-rail or tie rod does not exist, assemble valve block with laying on flat floor which makes assembly surface horizontal and applying certain degree of force on both hands.
- 2) Improper assembly method may cause damage of connector and connection failure.



#### ⚠ Notice

##### [Assembly/Disassembly of Valve]

- 1) Valve replacement is available with valve block assembled condition.
- 2) Carry out valve after checking gasket settled status and fixing nut of base.
- 3) Insert bump of valve into groove of base in advance during valve assembly. (Only if bump and groove are coincident, power supply connector and mount screw locations are coincident)
- 4) Assemble mount screw of valve at a base with proper torque. (Power connector is automatically connected by screw assembly)





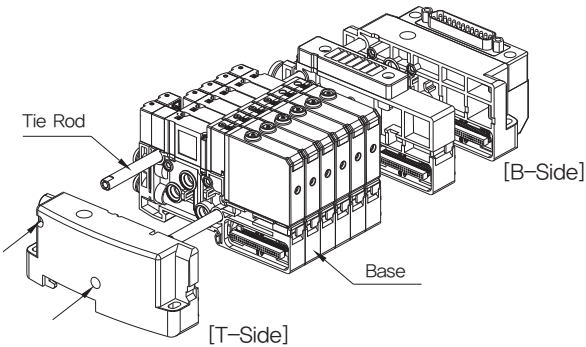
Notice for RS1000 & RS2000 Plug In Valve Utilization

Notice Along Products (3)

**⚠ Notice**

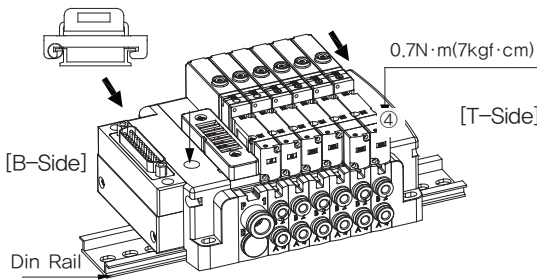
**[Assembly/Disassembly of Tie Rod Type]**

- 1) Use in case failure of installation by installation in severe vibration or multi-connection is used.
- 2) Tie rod suitable for target connection of increase/decrease of valve should be applied.
- 3) In case of base disassembly, disassemble valve block after disassembly of screw of T-side screws (2EA).



**[Connecting to TB-Side Cover]**

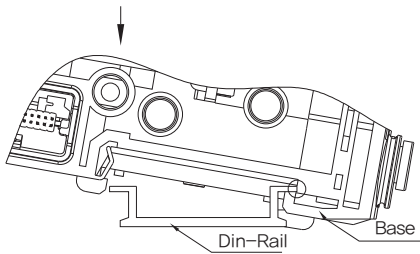
- 1) Use Din rail stopper of T and B-side covers to fix Din rail.
- 2) Since Din rail stopper is possibly assembled unstable as it is shown in a figure below, please connect screw with pulling the cover into arrow direction along the sequence.
- 3) If valve block is not properly assembled or disassembled under Din rail fixed condition, please carry out assembly/disassembly of block after disassembly of Din rail.



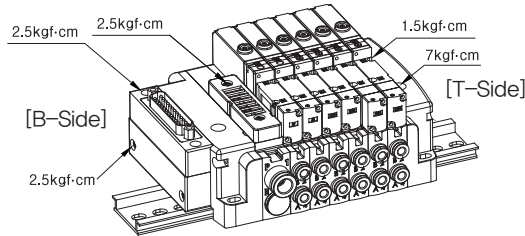
**[Din-Rail Type Connection]**

- 1) It is easy to increase/decrease and attachment of Din rail.
- 2) Please connect Din rail base in application of leverage effect based on lower groove of base.
- 3) Disassemble in the opposite sequence of assembly.

**(In Case of Base Connection)**



**[Screw Proper Connection Torque]**



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

## Notice for RS1000 & RS2000 Plug In Valve Utilization

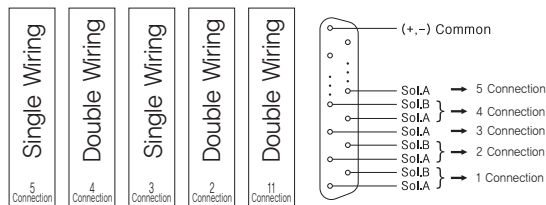
### Notice Along Products (4)

#### ⚠ Notice

##### [Wiring]

- 1) This product is available for maximum 24 points in case of using D-sub (25 pin) and flat cable (26 pin), and also possible for (+) and (-) Common.
- 2) Available for single and double wiring under the same base, and it is designed for double wiring as a base and possible to replace to single wiring.
- 3) Single wiring is used for over 13-connection. In case internal wire of base is single, only single valve installation is available, and in case of double wire, all types of valve installation including single valve are available.
- 4) In case of inserting single wire into middle connection number, be cautious that contact point sequence on D-sub or flat cable is possibly changed.

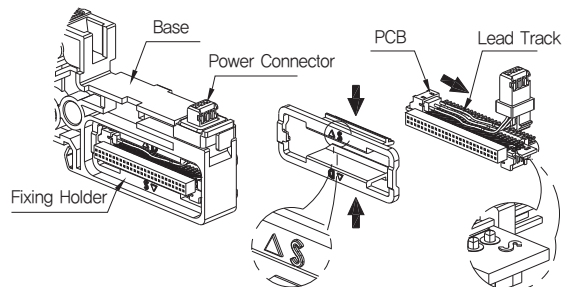
(Ex)



#### ⚠ Warning

##### [Replacement to Single Wire]

- 1) Single wiring is set only when control point is not sufficient during valve control.
- 2) Disassembly from base with pressing PCB fixing holder.
- 3) Please disassemble power connector without applying excessive force to lead track, PCB and connector after disassembly of PCB.  
(Applying excessive force may cause damage to lead track)
- 4) Assemble to base with connecting lead track connector of "S" face and carefully inserting header pin directing to inside.
- 5) Assemble under the condition which "S" of fixing holder shows upward.



#### [Piping]

- 1) In case of lack of supply or generation of back-pressure, it is possible to resolve with increment of Sup/Exh block.
- 2) It is possible to add Sup/Exh block without limitation, however, it should be cautious for the length of tie rod or Din rail.
- 3) In case of using a number of blocks, it is less effective to use the same main supply line, so that it is recommended to use additional supply line.

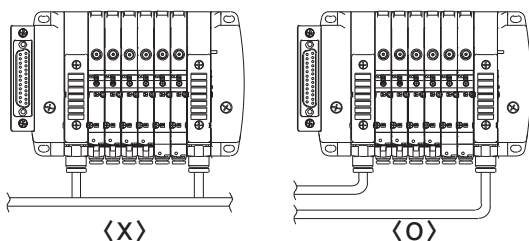


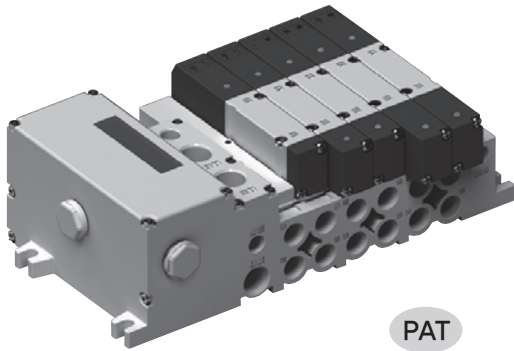
Table for Line Colors Along D-Sub Connector Terminal Number

Terminal Number	Lead Track Color	Terminal Number	Lead Track Color
1	Black	14	Green, Yellow Line
2	Black, White Line	15	Green, White Line
3	Brown	16	Blue
4	Brown, White Line	17	Blue, Yellow Line
5	Red	18	Blue, White Line
6	Red, Yellow Line	19	Violet
7	Red, White Line	20	Violet, White Line
8	Pink	21	Gray
9	Pink, White Line	22	Gray, Red Line
10	Yellow	23	White
11	Yellow, Red Line	24	White, Red Line
12	Yellow, Blue Line	25	White, Blue Line
13	Green		



# Series RS 4000

## Plug-In Type Solenoid Valve



PAT

- COMPACT EXTERNAL DESIGN
- PRECISE COIL MOTION IN ACCORDANCE WITH ADOPTION OF HIGHLY BRIGHT LED
- POSSIBLE FOR 18-CONNECTION FOR SINGLE AND 9-CONNECTION FOR DOUBLE CASE
- POSSIBLE TO RESPONSE SI UNIT AND TERMINAL BOARD
- NON-POLAR TYPE, RESPONDING TO (+) AND (-) COMMON
- POSSIBLE TO DEMONSTRATE SINGLE, DOUBLE AND 3-POSITION
- CONNECTION BY TIE ROD

### How to Order

RS 4 1 40 [ ] - 5 - [ ]

#### Pilot Specifications

Blank Internal Pilot

#### Configuration

1	2 Position Single	
2	2 Position Double	
3	3 Position Closed Center	
4	3 Position Exhaust Center	
5	3 Position Pressure Center	

#### Voltage

5	DC 24V
6	DC 12V

#### Manifold Option

Blank	Without Manifold
WM	With Manifold

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

## How to Order Manifold

**R S M** 4 - T - 06 B   - 03

**Connector Type**

T	Terminal Block
---	----------------

**Valve Connection Number**

02	2 Station	Double Wiring Specification
08	8 Station	Arrangement Assigned (Note 1)
02	2 Station	
18	18 Station	

Note1) Please present the specification in accordance with arrangement assignment.  
 Note2) Since 2-station valve is mounted at 1 block, please order in even connection number.

**Pilot Specification**

Blank	Internal Pilot
-------	----------------

**P, E Port Extracting Location**

B Side (2~18 Station)	
-----------------------	--

**A, B Port Connection Diameter (mm)**

Symbol	A, B Port	P, EPort
02	Rc(PT) 1/4	PT 1/2
03	Rc(PT) 3/8	

**A, BPort Connection Diameter (Inch)**

Symbol	A, B Port	P, EPort
02U	NPT 1/4	NPT 1/2
03U	NPT 3/8	

## How to Order Manifold Side Cover

**R S M** 4 A - T - B   - 04

**Connector Type**

T	Terminal Block(24pin)
---	-----------------------

**Pilot Specification**

Blank	Internal Pilot
-------	----------------

**P, E Port Extracting Location**

B Side (2~16 Station)	
-----------------------	--

**Port Connection Diameter (mm)**

Symbol	P, E Port
04	Rc(PT) 1/2

**Port Connection Diameter (Inch)**

Symbol	P, E Port
04U	NPT 1/2

## How to Order Base

**R S M** 4 - B - 03 -  

**Port Connection Diameter (mm)**

Symbol	A, B Port
02	Rc(PT) 1/4
03	Rc(PT) 3/8

**Port Connection Diameter (Inch)**

Symbol	A, BPort
02U	NPT 1/4
03U	NPT 3/8

**PCB Wire Specification**

D	Double Wire Specification
S	Single Wire Specification

How to Order Tie Rod

R S M 4 T - B 6

※ Valve combination connection number: 1~18-station  
 ※ Be cautious that 2-connection valve is mounted on 1 block.

Solenoid Valve Specifications

Applied Fluid		Air	
Operating Pressure Range (kgf/cm <sup>2</sup> )	Internal Pilot	2 Position Single	0.15~0.7
		2 Position Double	0.10~0.7
		3 Position	0.20~0.7
Ambient Temperature and Applied Fluid Temperature (°C) Manual Override		-5 ~ 50	
		Non Lock Push Type	
Pilot Exhaust Method	Internal Pilot	Main Valve, Pilot Valve Integrated Exhaust Type	
Lubrication		Non-Lube	
Mounting		Free	
Impact-Resistance/Vibration-Resistance %		150/30 (8.3~2000Hz)	
Maximum Operation Frequency (Hz)		2 Position	5
		3 Position	3
Protection Structure		IP65	
Rated Voltage (V)		DC 24 (DC 12V)	
Allowable Voltage Fluctuation		-10 ~ + 10 of Rated Voltage	
Polarity		Non-Polar Base	
Power Consumption (W)		0.85 (Lamp and Surge Protection Circuit Attached)	

Manifold Specification

Index	RS4000	
Connection Method Between Blocks	Tie Rod	
Sup/Exh Method	Integrated Sub/Exh	
Maximum Valve Stations	18	
Number of Output	18	
Port Size	P, R	Rc(PT) 1/2, NPT 1/2
	A, B	Rc(PT) 1/4, Rc(PT) 3/8 NPT 1/4, NPT 3/8

Solenoid Valve Response Time

Type	Responding Time (ms)
2 Position Single	ON: less than 30, OFF: less than 40
2 Position Double	Less than 30
3 Position	Less than 50

Valve Flow Characteristics

Type	Switching Method	Pipe Contact Diameter	Effective Sectional Area ml (Cv Value)
BASE Pipe Type	RS4140	Single solenoid	Rc(PT) 3/8 32.4 (1.8)
	RS4240	Double solenoid	Rc(PT) 3/8 32.4 (1.8)
	RS4340	Closed center	Rc(PT) 3/8 32.4 (1.8)
	RS4440	Exhaust center	Rc(PT) 3/8 32.4 (1.8)
	RS4540	Pressure center	Rc(PT) 3/8 37.4 (2.0)

Weight sheet

(Unit : g)

Item	RS4000	Remark
VALVE	SINGLE	210
	DOUBLE	238
	3-POSITION	260
MANIFOLD SIDE COVER ASSY	2,032	RS4000 6-connection Set Tie Rod Included
Base Single Product	550	

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

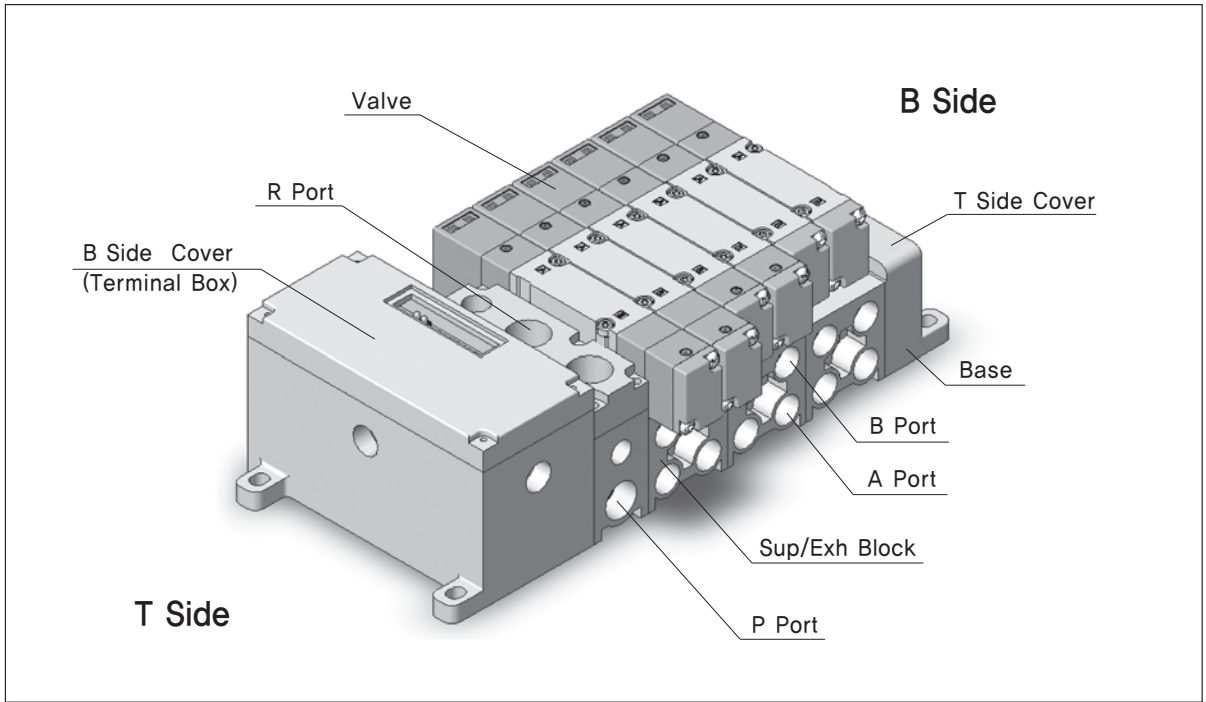
DH

DP300  
DP3000  
DP5000

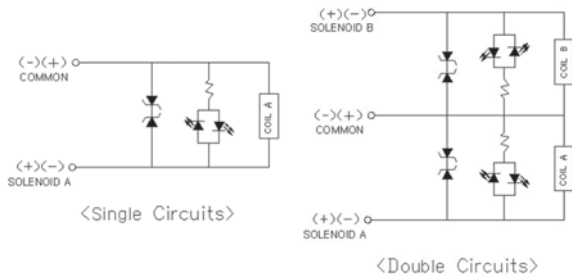
DM

DT220

## External Design



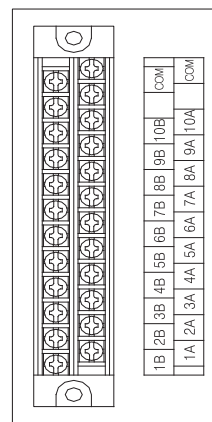
## Valve Circuit Diagram



- ▶ Solenoid is non-polar type with red for sol A and green lamp for sol B.
- ▶ Owing to surge protection circuit equipped, it is safe with surge voltage.

## Manifold Electric Wiring

Terminal Block Type

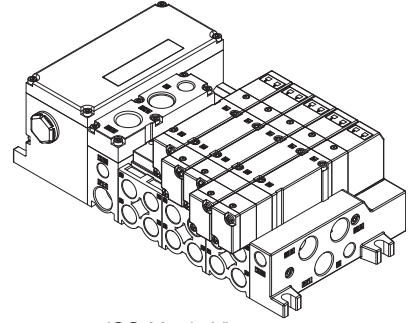
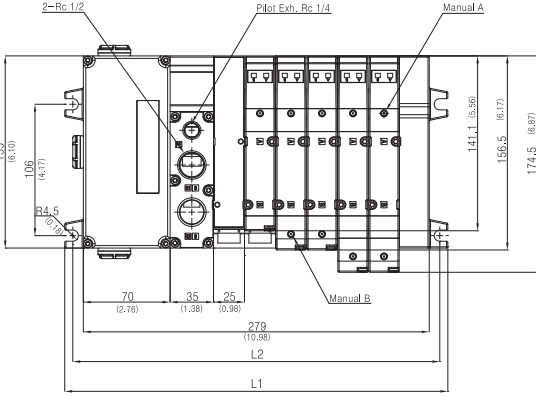


- Common(+, -)
- 9B (Sol B) } 9th station
  - 9A (Sol A) }
  - 8B (Sol B) } 8th station
  - 8A (Sol A) }
  - 7B (Sol B) } 7th station
  - 7A (Sol A) }
  - 6B (Sol B) } 6th station
  - 6A (Sol A) }
  - 5B (Sol B) } 5th station
  - 5A (Sol A) }
  - 4B (Sol B) } 4th station
  - 4A (Sol A) }
  - 3B (Sol B) } 3rd station
  - 3A (Sol A) }
  - 2B (Sol B) } 2nd station
  - 2A (Sol A) }
  - 1B (Sol B) } 1st station
  - 1A (Sol A) }

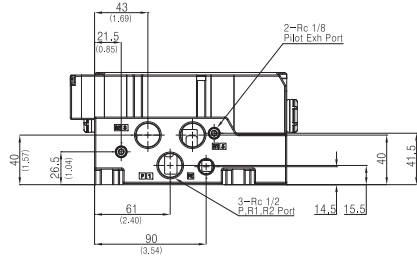
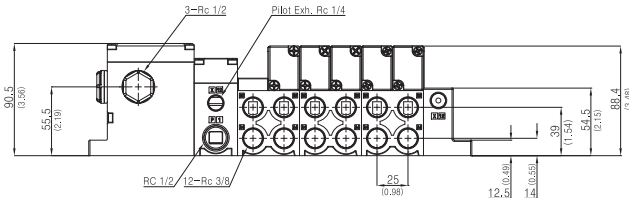
- ▶ Since solenoid valve is non-polar type, it is available for utilization of either (+) or (-) Common.
- ▶ Wiring above is basic form for Double 9-connection, and Single is connected to Sol A, while Double is connected to 1A → 1B → 2A → 2B in sequence without omission. In case of connecting with combination of Single and Double, please separately inquire since it is different to wiring sequence above.

Exterior Dimension Drawings

Terminal Block Type



ISO Metric View



Dimension Table

(Unit : mm)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L1	209	234	259	284	309	334	359	384	409	434	459	484	509	534	559	584	609
L2	196	241	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Note1) Formula L1=25n+159  
 Note2) Formula L2=25n+146

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

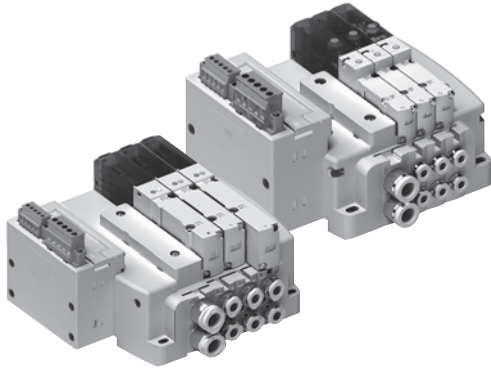
DP300  
DP3000  
DP5000

DM

DT220

# Series SI UNIT

## Serial Interface Unit (Plug-In Type Solenoid Valve)



- SIMPLE INSTALLATION
- OUTPUT 16-POINT
- RESPONSE OF IP20(RS1000, RS2000) AND IP65(RS4000)

### How to Order Manifold Side Cover

**RSM 1 A - SU1 C - B - T8**

Series

1	RS1000(10mm)
2	RS2000(15mm)
4	RS4000(24mm)

Network Type

SU1	Output only (16-point)
-----	------------------------

Protocol

C	CC-Link
N	DeviceNet

P, E Port Extracting Location

B	"B" Side (2~10 Station)
T	"T" Side (2~10 Station)
A	Both Side( 2~16 Station)

Note) In case of RS 4000, possible to mount only B-side

B (2~10 Station)		RS1000 RS2000
T (2~10 Station)		
A (Over 11 Station)		RS4000
B (2~10 Station)		

Pilot Specifications

Blank	Internal Pilot
N	Internal Pilot Silencer Equipped
P	External Pilot
PN	External Pilot Silencer Equipped

Note) In case of RS4000 with silencer equipped, inquire separately.

#### Weight sheet (Unit : g)

Type	RS1000	RS2000	RS4000
B, T	320	410	2,000
A	390	530	-

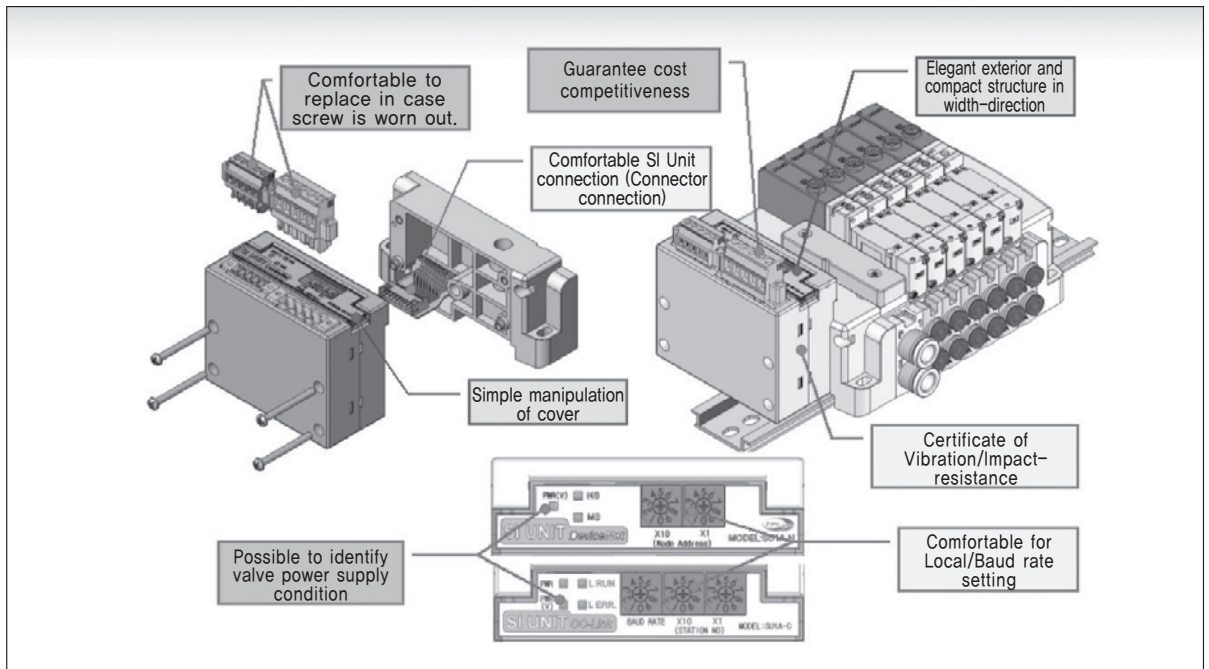
P, E Port Size

Symbol	mm	Symbol	Inch	Applied Series
T8	Ø8	U8	Ø5/16"	RS1000
T10	Ø10	U10	Ø3/8"	RS2000
04	P, R : Rc(PT) 1/2 PE, X : Rc(PT) 1/4	04U	P, R : NPT 1/2 PE, X : NPT 1/4	RS4000

\*Mant is non standard

※ Refer to RS Series standard product order type for valve and accessories beside the type above.

## RS1(2)000



DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV5000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

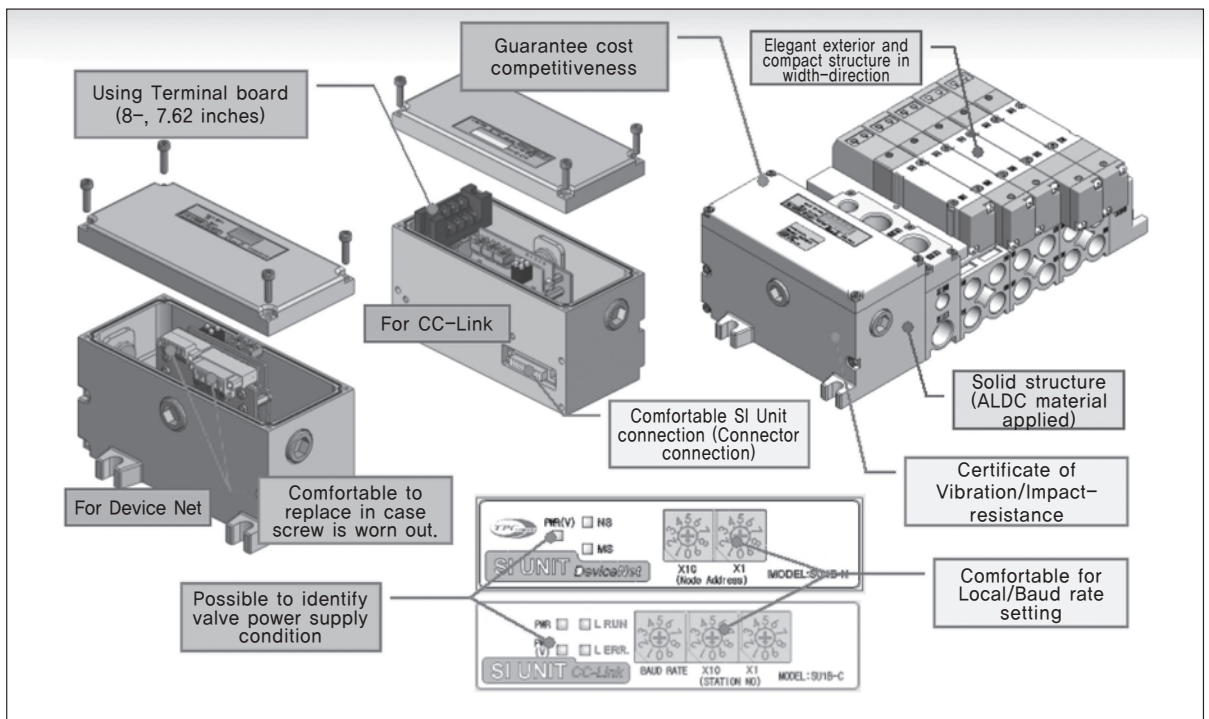
DH

DP300  
DP3000  
DP5000

DM

DT220

## RS4000



## How to Order Manifold

RSM **4** - **SU1** **C** - **05** **B**  - **03**

Series

4	RS4000(24mm)
---	--------------

Network Type

SU1	Output only (16-point)
-----	------------------------

Protocol

C	CC-Link
N	DeviceNet

Valve Station Number

02	2 Stations	Double wiring specification
08	8 Stations	
02	2 Stations	Single wiring specification (Note1)
16	16 Stations	

Note 1) Please present specification in accordance with arrangement assignment.

P, E Port Extracting Location



Pilot Specification

Blank	Internal pilot
-------	----------------

A, B Port Size (mm)

Symbol	A, B Port	P, R, PE, XPort
02	Rc(PT) 1/4	P, R : Rc(PT) 1/2
03	Rc(PT) 3/8	PE,X : Rc(PT) 1/4

A, B Port Size (Inch)

Symbol	A, B Port	P, R, PE, XPort
02U	NPT 1/4	P, R : NPT 1/2
03U	NPT 3/8	PE,X : NPT 1/4

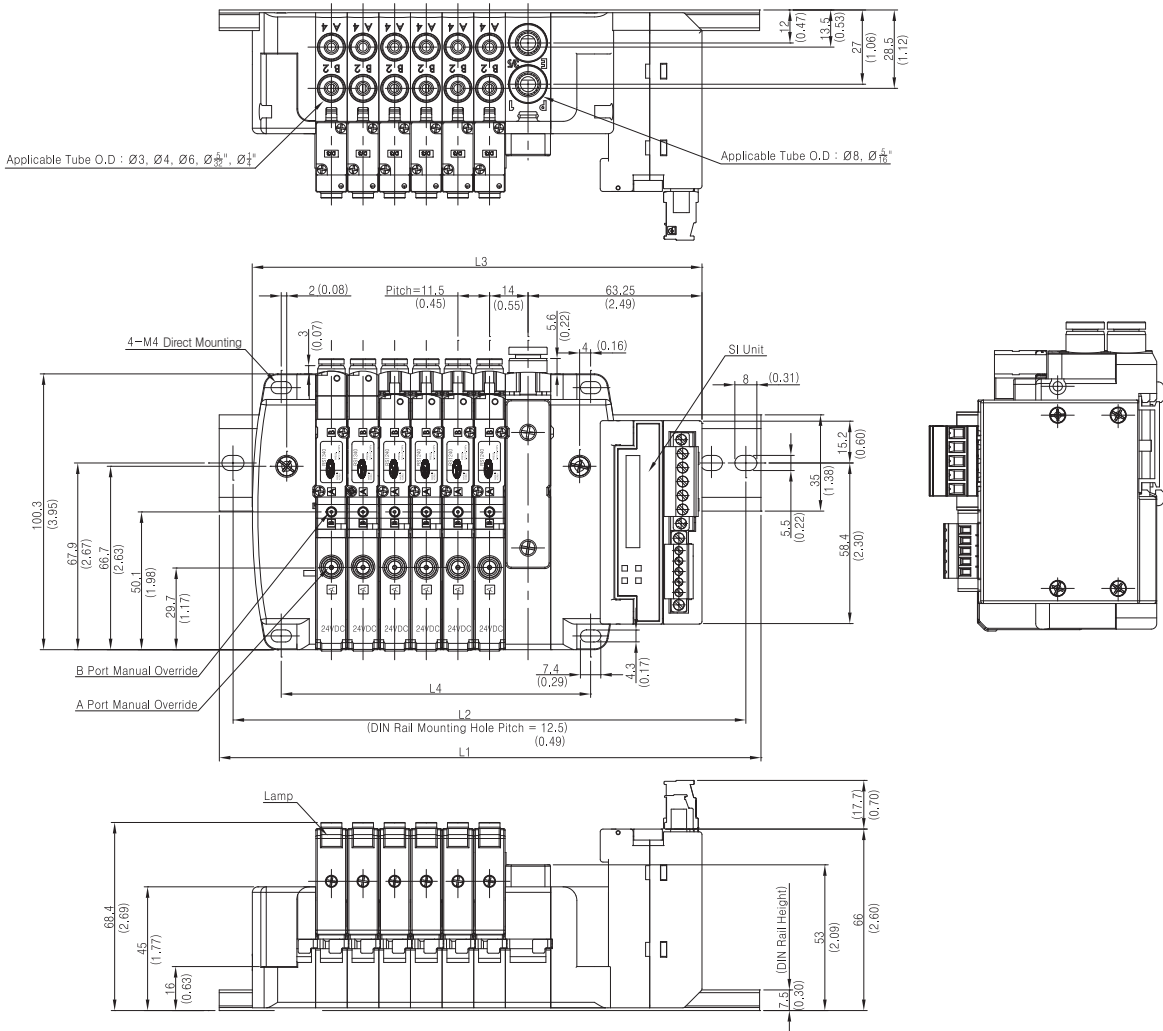
\* Refer to RS Series standard product order type for valve and accessories beside the type above.

## Specification

Item		CC-Link	DeviceNet
Voltage		DC24V	
Range of Voltage	Communication Power	DC24V±10%	
	Electric Valve	DC24V +10%/-5%	
Output Point		16 Point	
Paragraph Protection		Applied	
Electric Current Consumption	Communication and Internal Power	70 mA or Less	100 mA or Less
	Valve Power	2A or Less	
Valve Contact Valve Specifications	Output	NPN	
	Contact Load	DC24V Which Has Lamp Surge Voltage Protection Circuit Less Than 2.1W	
Insulation Type		Photo Coupler Insulation	
Residual Voltage		0.5V or Less	
Environment Resistant Performance	Protection Structure	IP20(RS1000, 2000), IP65(RS4000)	
	Vltage Resistant	AC500V 1min. (Between FG and External Terminal)	
	Insulation Resistance	10 MΩ or More, (DC500V, Between FG and External Terminal)	
	Vicinity Temperature	During Operation : 0~50°C, During Storage : -20~60°C	
	Vicinity Humidity	35%~85% RH(Should be Freeze-Independent)	
	Vibration Resistant	5~9Hz(Constant Amplitude) 1.75mm, 9Hz~150Hz(constant Acceleration) 4.9m/s <sup>2</sup> 3 Times Each in X, Y and Z Direction	
	Impact Resistant	147 m/s <sup>2</sup> , 3 Times Each in X, Y and Z direction	
Utilization Circumstance		Should be Free Form Corrosive Gas	
Responding System		Ver. 1.10	Volume I (Edition 2.1), Volume III (Edition 1.1)
Address Setting Range		1~64	0 ~ 63
Communication Maximum Distance		1,200 m	500 m
Communication Speed		156k, 625k, 2.5M, 5M, 10 Mbps	125k, 250k, 500 kbps
Responding Message		Polling Message	COS/Cyclic/Polling I/O Message
Slave Type		Remote I/O	Group 2 Only Server
Contact Type		T-Division Type, Multi-Drop Type	T-Division Type, Multi-Drop Type



## External Dimension Drawing (RS1000)



### Dimensions

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		L1	mm		200				250				300			350
	inch		7.87				9.84				11.81			13.78		
L2	mm		187.5				237.5				287.5			337.5		
	inch		7.38				9.35				11.32			13.29		
L3	mm	117.5	129	140.5	152	163.5	175	186.5	198	209.5	221	232.5	244	255.5	267	278.5
	inch	4.63	5.08	5.53	5.98	6.44	6.89	7.34	7.80	8.25	8.70	9.15	9.61	10.06	10.51	10.96
L4	mm	66.5	78	89.5	101	112.5	124	135.5	147	158.5	186.5	198	209.5	221	232.5	244
	inch	2.62	3.07	3.52	3.98	4.43	4.88	5.33	5.79	6.24	7.34	7.80	8.25	8.70	9.15	9.61

Note1) In case of over 11-connection set, Sub/Exh block is mounted at both sides.

Note2) In case of additional installation of Sup/Exh, L3 and L4 should add 16.5(0.65) X N from standard dimension above.

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000

DV3000

DV5000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

DP300

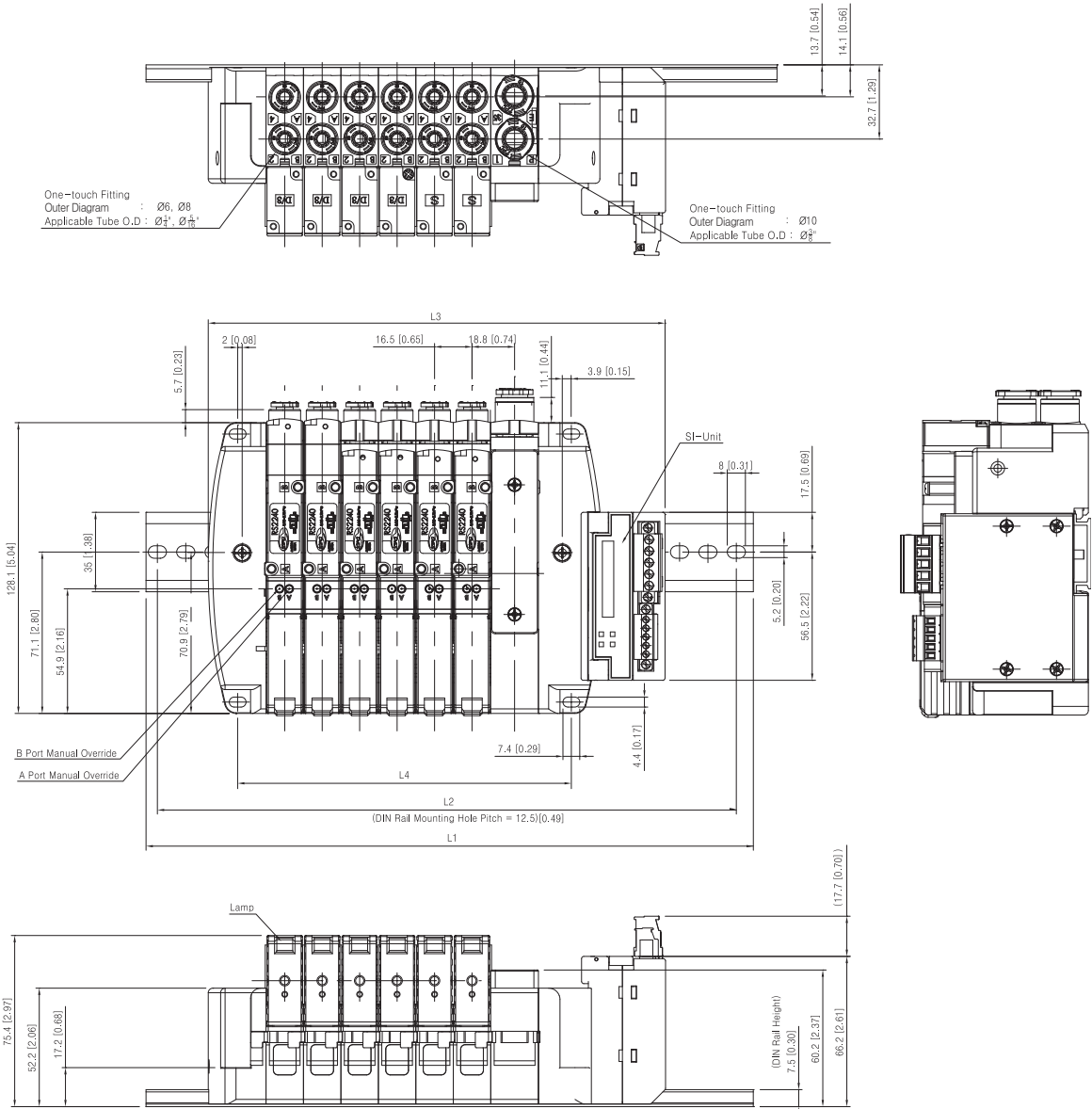
DP3000

DP5000

DM

DT220

## External Dimension Drawing (RS2000)

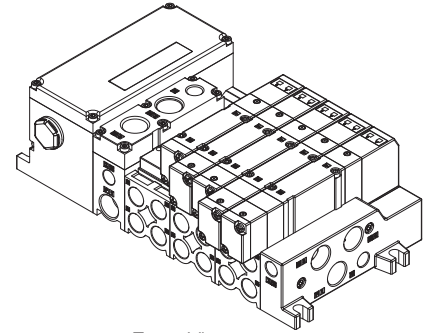
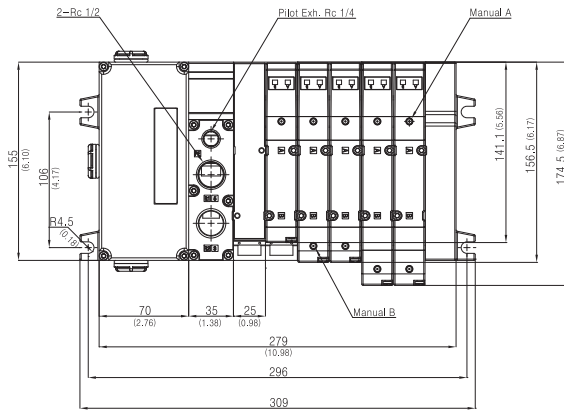


### Dimensions

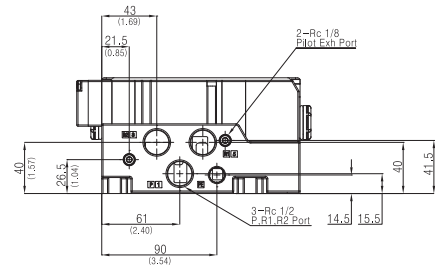
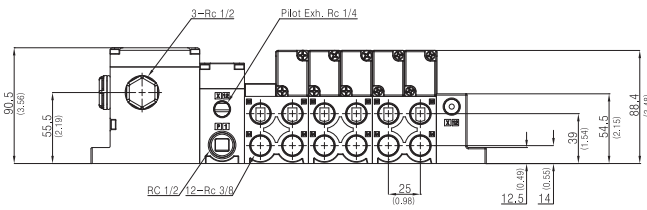
L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		L1	mm		250					300				350		
	inch		9.84					11.81				13.78				17.22
L2	mm		237.5					287.5				337.5				425
	inch		9.35					11.32				13.29				16.73
L3	mm	135.2	151.7	168.2	184.7	201.2	217.7	234.2	250.7	267.2	283.7	300.2	316.7	333.2	349.7	366.2
	inch	5.32	5.97	6.62	7.27	7.92	8.57	9.22	9.87	10.52	11.17	11.82	12.47	13.12	13.77	14.42
L4	mm	81	97.5	114	130.5	147	163.5	180	196.5	213	229.5	246	262.5	279	295.5	312
	inch	3.19	3.84	4.49	5.14	5.79	6.44	7.09	7.74	8.39	9.04	9.69	10.33	10.98	11.63	12.28

Note1) In case of additional installation of Sup/Exh, L3 and L4 should add 16.5(0.65) X N from standard dimension above.

## External Dimension Drawing (RS4000)



Front View



### Dimensions

(Unit : mm)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L1	209	234	259	284	309	334	359	384	409	434	459	484	509	534	559	584	609
L2	196	241	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Note1) Formula L1=25n+159  
 Note2) Formula L2=25n+146

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV5000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH


DP300  
DP3000  
DP5000

DM

DT220

## Safety Notices

- ※ Safety notices should be complied since it is to prevent accident and risk with proper and safe utilization of product.
- ※ Notices are divided to "Warning" and "Notice", and their indications are as below,

 **Warning** : In case of violation, it may cause severe injury or death.

 **Notice** : In case of violation, it may cause light injury or damage to product.

### **Warning**

- 1) This product is produced to utilize for general FA equipments. Please contact the company in case of utilization of this product for facilities which possibly generate huge impact on human life and asset  
(ex : nuclear energy control, medical equipment, vehicles, railway, aviation or safety equipment).
- 2) Do not carry out maintenance or checking with power supplied. It may cause electric shock.
- 3) Disassembly for repair or remodeling is prohibited except technician of manufacturer. It may cause injury or damage.

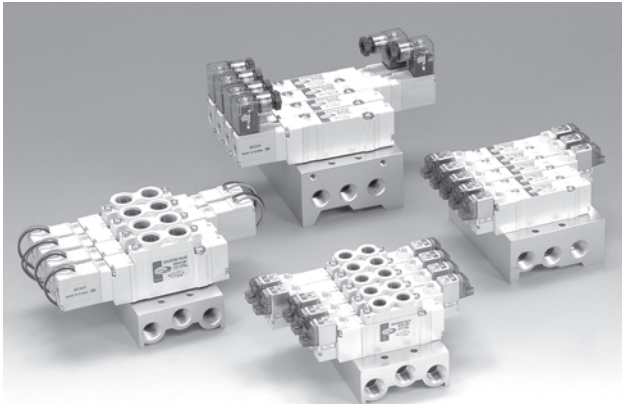
### **Notice**

- 1) Do not use outdoors.  
It may shorten lifespan of product or cause electric shock.
- 2) Be cautious during operation of product.  
Do not apply excessive impact (over 100m/s<sup>2</sup>). It may cause damage or failure of product.
- 3) The product must be utilized within the range of specifications. It may shorten lifespan of product, and cause fire.  
If using beside product specifications (voltage, vicinity temperature, impact, etc), it may cause damage or failure of product.
- 4) Secure sufficient space for maintenance.
- 5) Be cautious for wiring. Users should fully understand wire connection method for proper wiring procedures.  
Incorrect wiring may cause failure of product, damage, fire or electric shock.
- 6) Carry out wiring where power cable or high-tension power line is not located, otherwise noise or surge is mixed into signal line.
- 7) Do not utilize the product in combustible or explosive gas areas.  
In case of using in combustible or explosive gas areas, it may cause injury owing to fire or explosion.
- 8) Do not utilize the product in the locations where vibration, impact, moisture or direct light are existed.  
It may cause fire or explosion.
- 9) If heat source exists around the product, radiant heat should be blocked.
- 10) Do not utilize the product in the location where surge generating source exists.  
It may cause damage or failure of product, and make a measure not to allow surge come into signal line.
- 11) Do not allow dust or wire leftover come into the product. It may cause fire or device failure.
- 12) Utilization environment should be considered along protection structure.  
Utilization of IP20 in water or oil flying location is prohibited, and utilizes IP65 with unused port being closed.

- ※ Refer to additionally provided Operation manual for installation-related details.

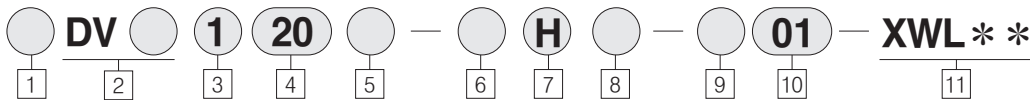
# Series DV1000 · 3000 · 4000

## 5port Pilot Solenoid Valve



- **QUICK RESPONSE TIME & LARGE FLOW CAPACITY**
  - Response time is less than 12ms (DR1000)
  - Increase of CV factor(2.5 times larger than conventional valve with the same body width)
  - Low power consumption : 0.6W (Current draw : 25mA at 24V DC )
- **HIGH RELIABILITY**
  - Long life
  - Wear Ring → To prevent spool abrasion
  - U Packing → To minimize frictional resistance
  - Piston return type at retraction
- **PRODUCT FEATURES**
  - Easy wiring
  - Nickel plated(Copper free) application as standard
  - Built-in LED for grommet type as standard

### How to Order



#### 1 Series

Blank : Rc(PT)  
U : NPT

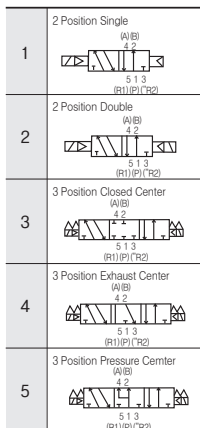
#### 2 DV Valve Series

1 : DV1000 Series  
3 : DV3000 Series  
4 : DV4000 Series

#### 3 Configuration

1 : Single Solenoid  
2 : Double Solenoid  
3 : Closed Center  
4 : Exhaust Center  
5 : Pressure Center

#### Standard Circuit Diagram



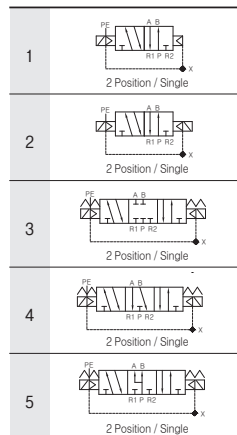
#### 4 Manifold Specifications

20 : Body Ported  
40 : Base Mounted  
※ Interior fitting type is just for body ported type

#### 5 Pilot Configuration

Blank : Internal Pilot  
P : External Pilot  
※ External pilot is possible only to the one with sub plate

#### External Pilot Valve Circuit Diagram



#### 6 Voltage

5 : DC24V 1 : AC100V  
6 : DC12V 2 : AC220V  
※ G, D, DZ types are only available for DC24V

#### 7 Electrical Entry

H : Horizontal Connector (Impossible AV Voltage)  
V : Vertical Connector  
G : Grommet Type (Basic Option Lamp)  
D : Din Terminal Type (Without Lamp)  
DZ : Din terminal Type (With Lamp)—only, 24VDC  
※ For coil ass'y refer to p.702, DR100, How to Order  
※ AC110V, AC220V are only for horizontal type

#### 8 PCB Type

Blank : Basic Type(Lamp Type)  
D : Non-Polar Type : Lamp Type  
S : Power Saving Type(0.85→0.45W)  
※ Applicable range of D, S is only for VH type of DC

#### 9 Blank : Rc(PT)

G : Rc(PF)

#### 10 Port Size

Blank : Without Sub Plate  
M5 : M5×0.8(Series DV1000)  
10 : 10-32UNF(Series UDV1000)  
01 : Rc(PT)1/8(Series DV3000)  
02 : Rc(PT)1/4(Series DV4000)

※ Included fittings type is only for body ported type

Symbol	Content	Application Series
T4	Ø4 One Touch Fitting	DV1000
T6	Ø6 One Touch Fitting	
T4	Ø4 One Touch Fitting	DV3000
T6	Ø6 One Touch Fitting	
T8	Ø8 One Touch Fitting	DV4000
T8	Ø8 One Touch Fitting	
T10	Ø10 One Touch Fitting	

#### 11 Length of Lead Wire

Blank : 300mm(Standard)

XWL 01 : 100mm

XWL 02 : 200mm

:

20 : 2000mm

※ Contact us for non standard length

※ When using a TPC valve be sure to use the TPC gasket  
※ It is standard to attach the LAMP/SURGE voltage protection circuit. (Products without a LAMP or SURGE voltage protection circuit should be contacted separately)

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

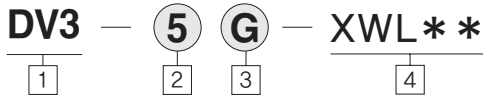
DP300  
DP3000  
DP5000

DM

DT220

# Series DV1000

## PILOT Valve ASS'Y(G, D, DZ)



- ① DV Series Pilot Valve Ass'y  
(for DV3000, DV4000)
- ② Voltage  
5 : DC24V
- ③ Electrical Entry  
G : Grommet type(Lamp)  
D : Din Terminal type(No Lamp)  
DZ : Din Terminal type(Lamp)

- ④ Length of Lead Wire  
Blank : 300mm(Basic)  
XWL 01 : 100mm  
02 : 200mm  
:  
20 : 2000mm

## PORT PLUG ASS'Y



- ① DV Series  
1 : DV1000 Series  
3 : DV3000 Series  
4 : DV4000 Series

- ② Port Connector Diameter

Symbol	Content	Application Series
T4	Ø4 One Touch Fitting	DV1000
T6	Ø6 One Touch Fitting	
T4	Ø4 One Touch Fitting	DV3000
T6	Ø6 One Touch Fitting	
T8	Ø8 One Touch Fitting	
T8	Ø8 One Touch Fitting	DV4000
T10	Ø10 One Touch Fitting	

## Mainfold

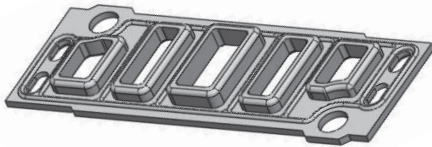


- ① 1 : DV1 000 Series(Exterior Pilot Type Valve(Mainifold))  
3 : DV 3000 Series(Exterior Pilot Type Valve(Mainifold))

- ② Manifold Specification  
40 : Base Mount

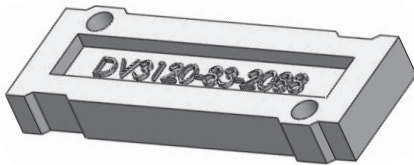
- ③ Base Station Number  
1~20 : Station  
\* Note(Station I has Sub Plate)

## Manifold Gasket



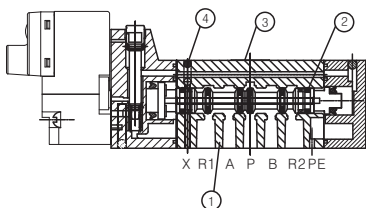
DV Manifold Gasket	
Series	Number
DV1000	DV1140-52-2083
DV3000	DV3140-52-2093
DV4000	DV4140-52-2107

## Blank Plate



DV Blank Plate			
Series	Number	Name	Note
DV1000	DV1120-83-2078	DV1000 Blank Plate	
DV3000	DV3120-83-2088	DV3000	Rubber
DV4000	DV4120-83-2102	DV4000	

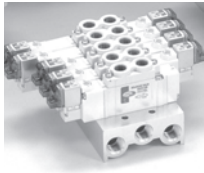
## Construction



No.	Part Number	Part Name	Qty	Note
①	DV1140P-02-2178	Valve Body(For External Pilot Valve)	1	
②	RS1140-27-2208	Spool O-Ring	2	RS1000
③	DV1140P-42-2178	Name Plate	1	(Singel)
④	Standard Part	Steel Ball	2	Ø1.7

Note) Parts not in the below list are same as standard parts for internal pilot valve.

## Manifold



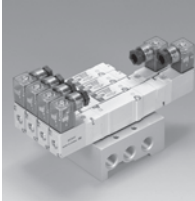
Body ported(Plug Type)



Base Mounted(Grommet Type)



Body ported(DIN Type)



Base Mounted(DIN Type)

## Specifications

Series		DV1000	DV3000	DV4000
Action		5 Port Pilot Type Solenoid Valve (Rubber Seal)		
Fluid		Air (Vacuum is Available)		
Operating Pressure Range (MPa, kgf/cm <sup>2</sup> )	2 Position Single	0.25~0.7 (2.5~7.1)		0.15~0.7 (1.5~7.1)
	2 Position Double	0.25~0.7 (2.5~7.1)		0.1~0.7 (1~7.1)
Main (P, A, B Port) Use Pressurer (MPa)	3 Position	0.25~0.7 (2.5~7.1)		0.2~0.7 (2~7.1)
		-100KPa ~ 0.7		-
Ambient and Fluid Temperature C(°F)		MAX. 50°C (122°F)		
Manual Override		Push&Lock Type		
Pilot Exhaust Type		Individual exhaust Common exhaust for main valve and pilot Valve		
		Mainfold PE Port Command Exhaust Type (Separated Piping)	-	
Lubrication		Not Required		
Mounting Position		Free		
Impact/Vibration	H.V	150/30 (8.3~2000Hz)		
Resistance (m/s)	G,D,DZ	300/50		
Max. Operating Frequency	2 Position	10	5	5
	3 Position	3	3	3
Protection Structure		Dust Proof		
Lead Electrical Entry		Connector Mounting Type (H:Horizontal,V:Vertical), Grommet, Din Terminal Type		
Voltage		DC12, DC24V, AC110V, AC220V		
Voltage Allowance		-10(%)~+10(%)(of Rated Voltage)		
Polarity		Non-polar (standard) (*DC24V: Polarity type)		
Response Time (ms)	at 5kgf/cm <sup>2</sup> (71.1psi)	H.V	~12ms	~18ms
		G,D,DZ	-	~26ms
Power Consumption (W)	H.V	1.0(*DC24V:0.6) (Indicator Light and Surge suppressor)		
	G,D,DZ	With Lamp(1.8) Without Lamp(1.6)		
Effective Orifice	Single	3.6mm <sup>2</sup> (Cv0.2)	9.0mm <sup>2</sup> (Cv0.5)	16.2mm <sup>2</sup> (Cv0.9)

\* The other options same as standard type (Body ported type DV1000, 3000)

## Series DV1000 · 3000 · 4000 Body Ported Type Effective Orifice and Reponse Time

Type	Valve Model	Port Size Rc(PT)/NPT	Configuration	Operating Pressure Range Mpa (psi)	Effective Orifice (mm <sup>2</sup> ) (Cv)	Response Time (ms)		Weight · g(oz)	
						H,V	G,D,DZ		
DV1120-O-M5	DV 1120	M5/ 10-32 UNF	2	Single	0.15~0.70 (20~100)	3.6 (0.20)	~12	-	52(1.83)
DV1220-O-M5	DV 1220			Double	0.10~0.70 (14~100)	3.6 (0.20)	~10	-	64(2.26)
DV1320-O-M5	DV 1320		3	Closed Center	0.20~0.70 (27~100)	3.3 (0.18)	~16	-	68(2.4)
DV1420-O-M5	DV 1420			Exhaust Center	0.20~0.70 (27~100)	3.3 (0.18)	~16	-	68(2.4)
DV1520-O-M5	DV 1520			Pressure Center	0.20~0.70 (27~100)	3.6 (0.20)	~16	-	68(2.4)
DV3120-O-M5	DV 3120			2	Single	0.15~0.70 (20~100)	9.0 (0.50)	~18	~26
DV3220-O-M5	DV 3220	Double	0.10~0.70 (14~100)		9.0 (0.50)	~18	~22	134(4.72)	
DV3320-O-M5	DV 3320	Rc(PT)/NPT 1/8"	3	Closed Center	0.20~0.70 (27~100)	7.2 (0.40)	~32	~38	142(5.01)
DV3420-O-M5	DV 3420			Exhaust Center	0.20~0.70 (27~100)	7.2 (0.40)	~32	~38	142(5.01)
DV3520-O-M5	DV 3520			Pressure Center	0.20~0.70 (27~100)	9.5 (0.53)	~32	~38	142(5.01)
DV4120-O-M5	DV 4120	Rc(PT)/NPT1 1/4"	2	Single	0.15~0.70 (20~100)	16.2 (0.90)	~30	~38	124(4.37)
DV4220-O-M5	DV 4220			Double	0.10~0.70 (14~100)	16.2 (0.90)	~30	~30	136(4.8)
DV4320-O-M5	DV 4320		3	Closed Center	0.20~0.70 (27~100)	10.8 (0.60)	~50	~56	144(5.08)
DV4420-O-M5	DV 4420			Exhaust Center	0.20~0.70 (27~100)	10.8 (0.60)	~50	~56	144(5.08)
DV4520-O-M5	DV 4520			Pressure Center	0.20~0.70 (27~100)	17.1 (0.96)	~50	~56	144(5.08)

## Series DV1000 · 3000 · 4000 Base Mounted Type Effective Orifice and Reponse Time

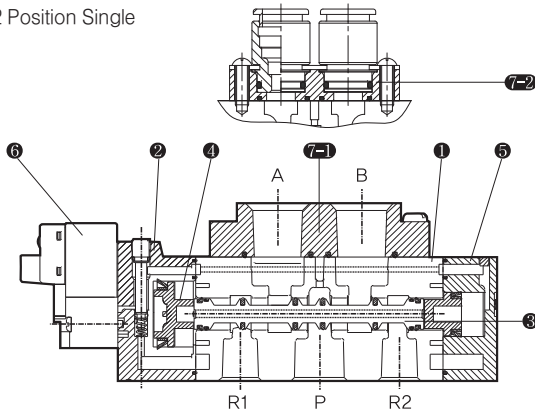
Type	Valve Model	Port Size		Configuration	Operating Pressure Range Mpa (psi)	Effective Orifice (mm <sup>2</sup> ) (Cv)	Response Time (ms)		Weight · g(oz)	
		P, R1, R2	A, B				H,V	G,D,DZ		
DV1140-O-M5	DV 1140	Rc(PT)/NPT 1/8"	Rc(PT)/NPT M5x0.8 10-32 UNF	2	Single	0.15~0.70 (20~100)	4.0 (0.22)	~12	-	46(1.62)
DV1240-O-M5	DV 1240				Double	0.10~0.70 (14~100)	4.0 (0.22)	~10	-	58(2.05)
DV1340-O-M5	DV 1340			3	Closed Center	0.20~0.70 (27~100)	3.6 (0.20)	~16	-	62(2.19)
DV1440-O-M5	DV 1440				Exhaust Center	0.20~0.70 (27~100)	3.6 (0.20)	~16	-	62(2.19)
DV1540-O-M5	DV 1540				Pressure Center	0.20~0.70 (27~100)	3.8 (0.21)	~16	-	62(2.19)
DV3140-O-M5	DV 3140				2	Single	0.15~0.70 (20~100)	9.5 (0.53)	~18	~26
DV3240-O-M5	DV 3240	Double	0.10~0.70 (14~100)	9.5 (0.53)		~18	~22	106(3.74)		
DV3340-O-M5	DV 3340	Rc(PT)/NPT 1/4"	Rc(PT)/NPT 1/8	3	Closed Center	0.20~0.70 (27~100)	7.2 (0.40)	~32	~38	114(4.02)
DV3440-O-M5	DV 3440				Exhaust Center	0.20~0.70 (27~100)	7.2 (0.40)	~32	~38	114(4.02)
DV3540-O-M5	DV 3540				Pressure Center	0.20~0.70 (27~100)	10.0 (0.55)	~32	~38	114(4.02)
DV4140-O-M5	DV 4140	Rc(PT)/NPT 3/8"	Rc(PT)/NPT 1/4	2	Single	0.15~0.70 (20~100)	16.2 (0.90)	~30	~38	80(2.8)
DV4240-O-M5	DV 4240				Double	0.10~0.70 (14~100)	16.2 (0.90)	~30	~30	96(3.4)
DV4340-O-M5	DV 4340			3	Closed Center	0.20~0.70 (27~100)	10.8 (0.60)	~50	~56	104(3.67)
DV4440-O-M5	DV 4440				Exhaust Center	0.20~0.70 (27~100)	10.8 (0.60)	~50	~56	104(3.67)
DV4540-O-M5	DV 4540				Pressure Center	0.20~0.70 (27~100)	17.1 (0.96)	~50	~56	104(3.67)



# Series DV1000

## Construction / Body Ported type

2 Position Single

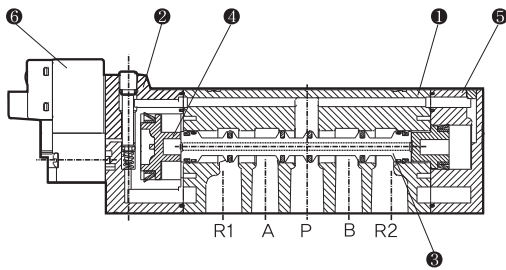


### Main parts

No.	Description	Material	Note
1	Body	Aluminum die cast	(DV4000Aluminum Die Cast)
2	Adapter plate	Resin	
3	Spool	Aluminum	
4	Piston	Resin	
5	End cover	Resin	
6	Solenoid ass'y	-	
7-1	Port Plug Ass'y	-	Standard
7-2			Fitting Type

## Construction / Base mounted type

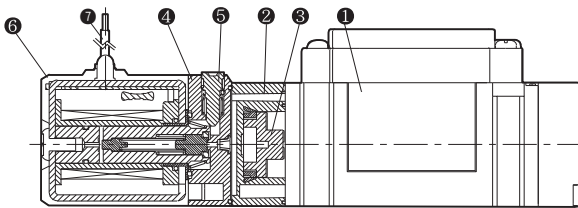
2 Position Single



### Main parts

No.	Description	Material	Note
1	Body	Aluminum die cast	(DV4000Aluminum Die Cast)
2	Adapter plate	Resin	
3	Spool	Aluminum	
4	Piston	Resin	
5	End cover	Resin	
6	Solenoid ass'y	-	

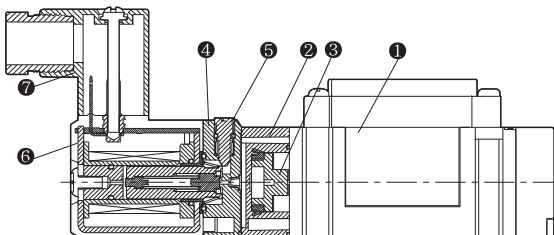
## Construction / Grommet type



### Main parts

No.	Description	Material	Note
1	Body	-	DV3000/DV4000 SERIES
2	Adapter plate	Resin	
3	Piston	Resin	
4	Pilot body	Resin	
5	Manual	Resin	
6	Solenoid coil	-	
7	Lead wire	-	

## Construction / Din terminal type



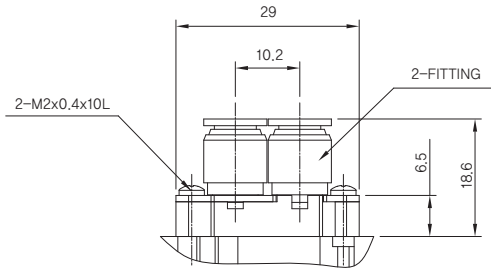
### Main parts

No.	Description	Material	Note
1	Body	-	DV3000/DV4000 SERIES
2	Adapter plate	Resin	
3	Piston	Resin	
4	Pilot body	Resin	
5	Manual	Resin	
6	Solenoid coil	-	
7	Din connector ass'y	-	mpm



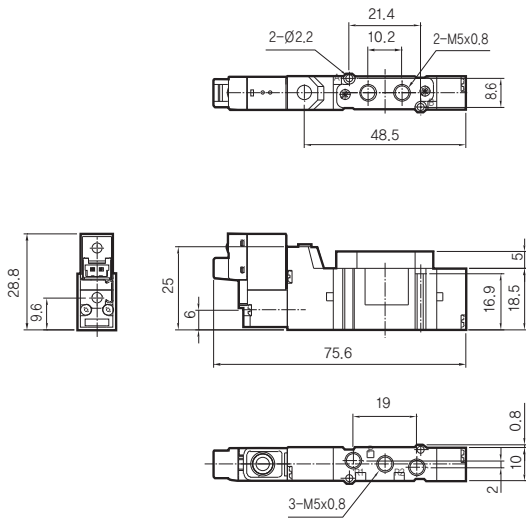
## Series DV1000 / 2 Position / H: Horizontal Connector Type

### DV1000 Fitting Included Dimension Drawing (Body Ported Type)

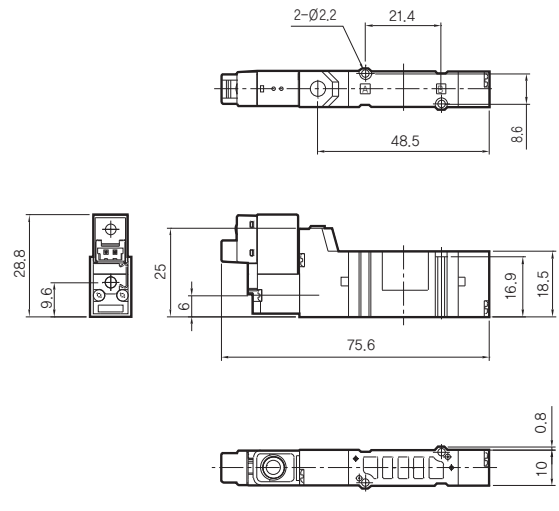


※The other options same as DV1000 standard type (Body ported type)

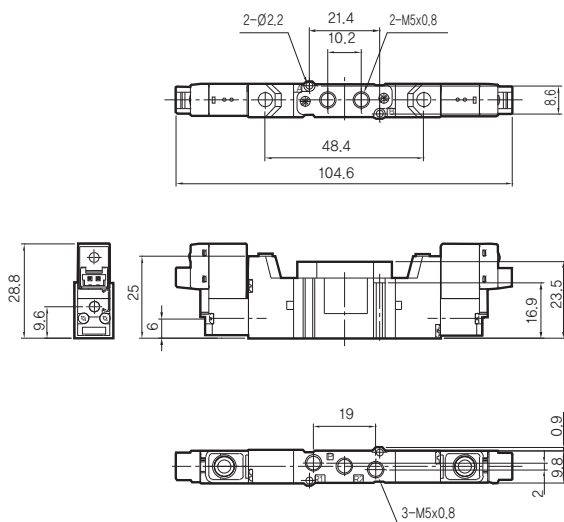
### DV1120 Single / Body Ported Type



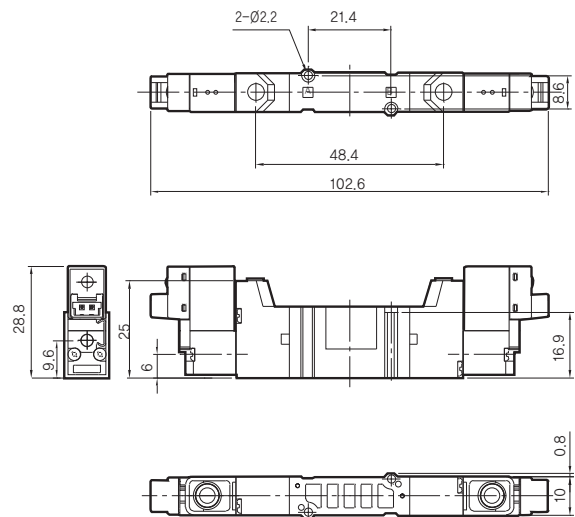
### DV1140 Single / Base Mounted Type



### DV1220 Double / Body Ported Type



### DV1240 Double / Base Mounted 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

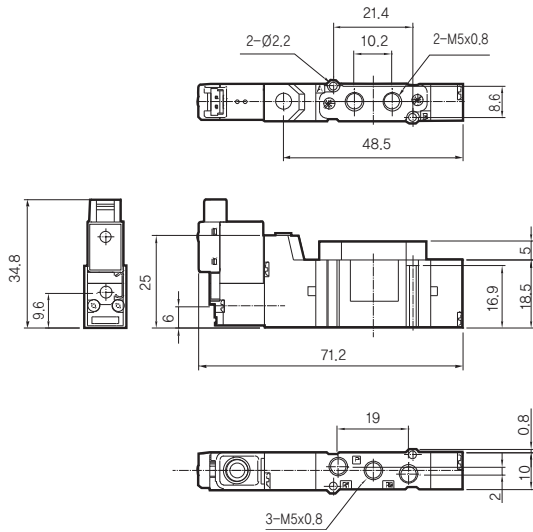
DT220

# Series DV1000

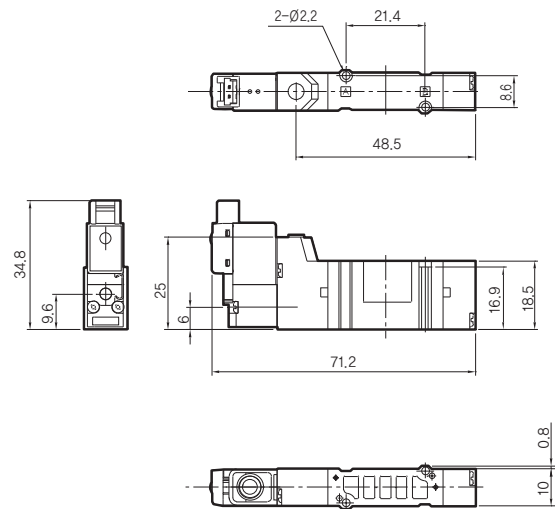
Series DV1000 / 2 Position / V: Vertical Connector Type

(Unit:mm)

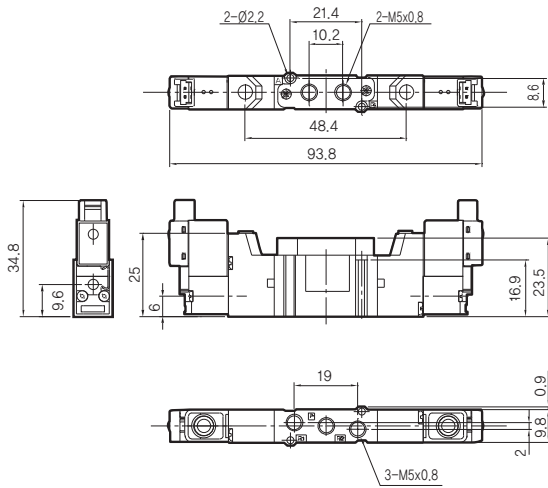
DV1120 Single / Body Ported Type



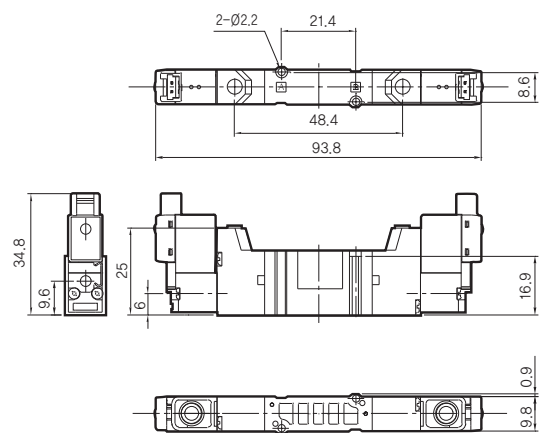
DV1140 Single / Base Mounted Type



DV1220 Double / Body Ported Type



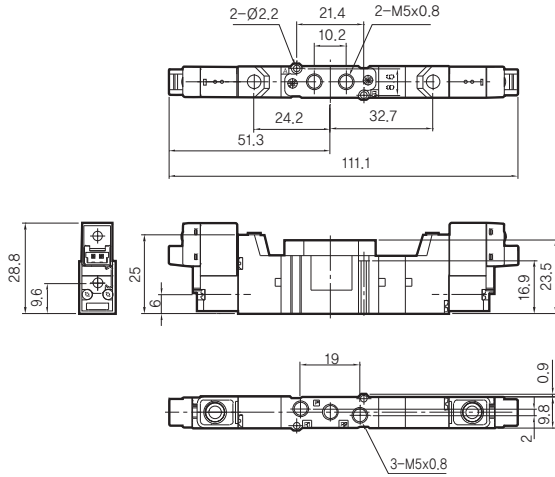
DV1240 Double / Base Mounted Type



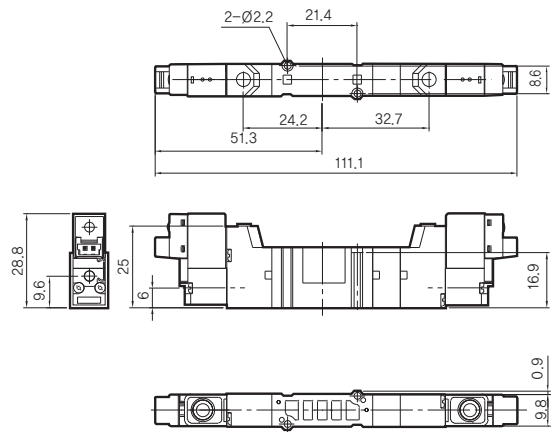
## Series DV1000 / 3 Position / H: Horizontal Connector Type

(Unit:mm)

### DV1320/1420/1520 3 Position / Body Ported Type



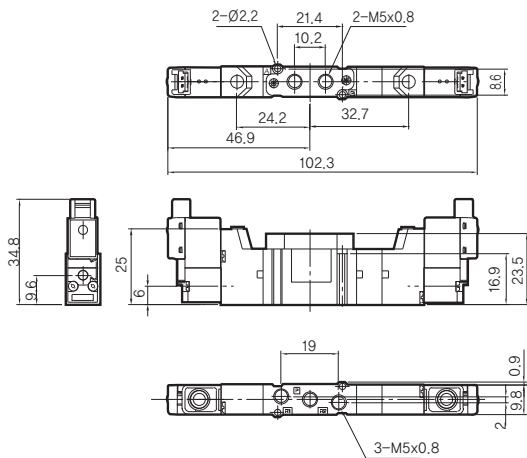
### DV1340/1440/1540 3 Position / Base Mounted Type



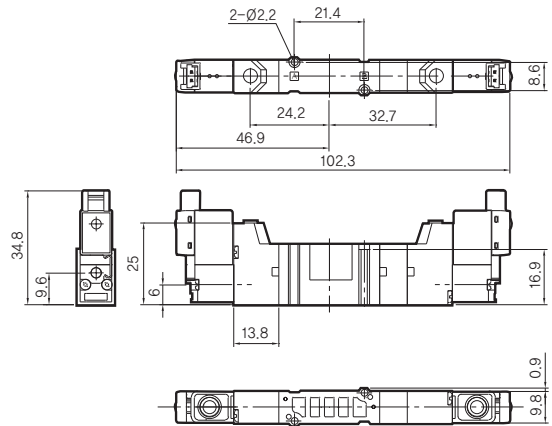
## Series DV1000 / 3 Position / V: Vertical Connector Type

(Unit:mm)

### DV1320/1420/1520 3 Position / Body Ported Type



### DV1340/1440/1540 3 Position / Base Mounted 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

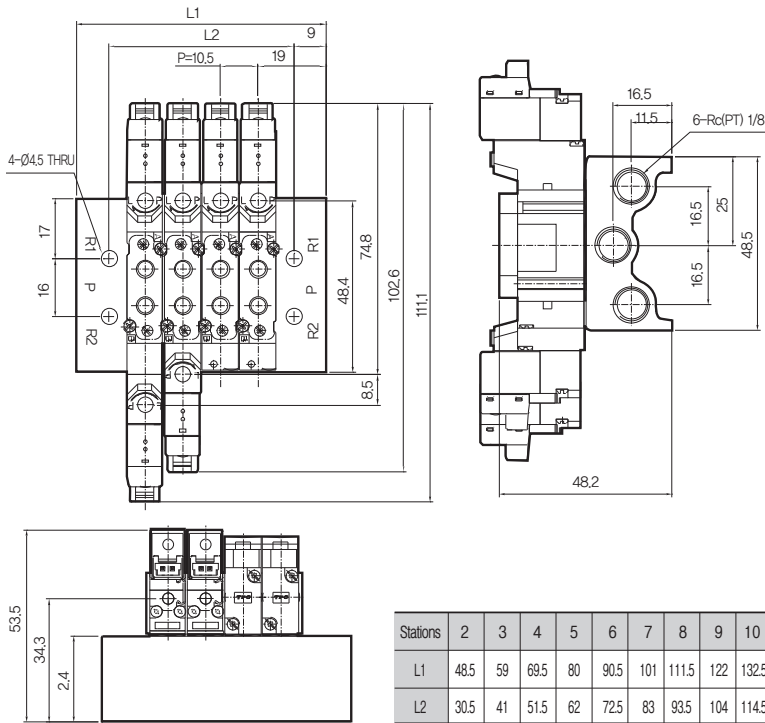
DM

DT220

# Series DV1000

## Manifold Dimensions / Series DV1000 (Body Ported) / H: Horizontal Connector Type

(Unit:mm)



### How to order

**DVM1** — **20** — **05**

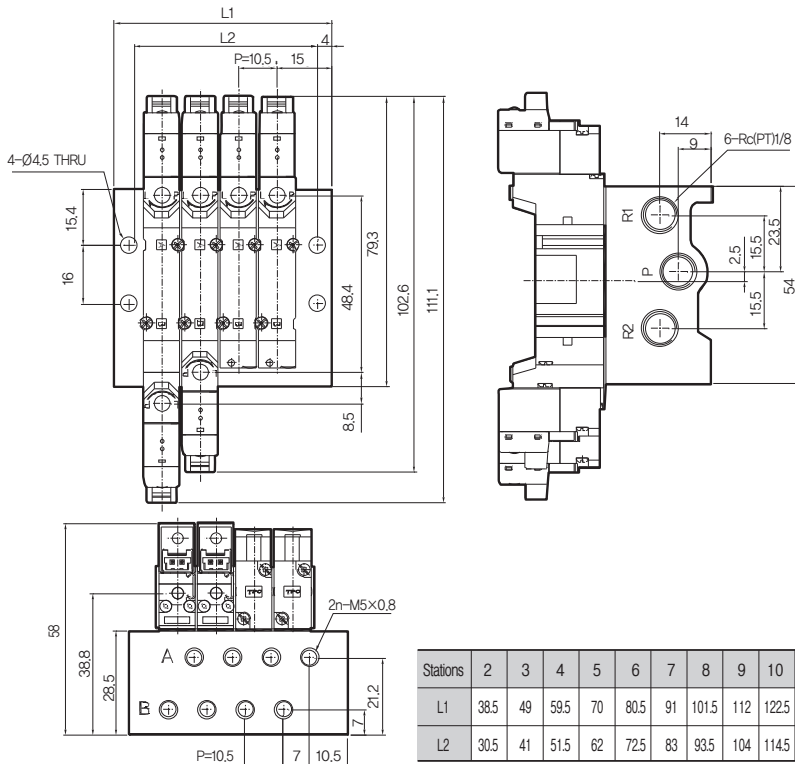
1                      2                      3

- 1 DV1000 Manifold
- 2 Body Ported Type
- 3 Stations (2~20)

	(mm)																		
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	48.5	59	69.5	80	90.5	101	111.5	122	132.5	143	153.5	164	174.5	185	195.5	206	216.5	227	237.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

## Manifold Dimensions / Series DV1000 (Base Mounted) / H: Horizontal Connector Type

(Unit:mm)



### How To Order

**DVM1** — **40** — **05**

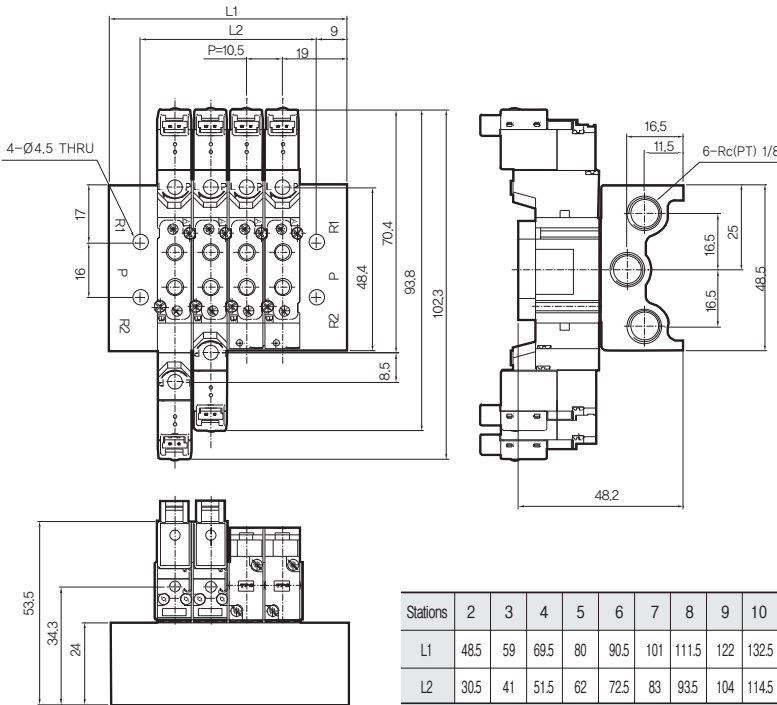
1                      2                      3

- 1 DV1000 Manifold
- 2 Base Mounted type
- 3 Stations (2~20)

	(mm)																		
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	38.5	49	59.5	70	80.5	91	101.5	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

## Dimensions / Series DV1000 (Body Ported) / V: Vertical Connector Type

(Unit:mm)



### How To Order

**DVM1** — **20** — **05**

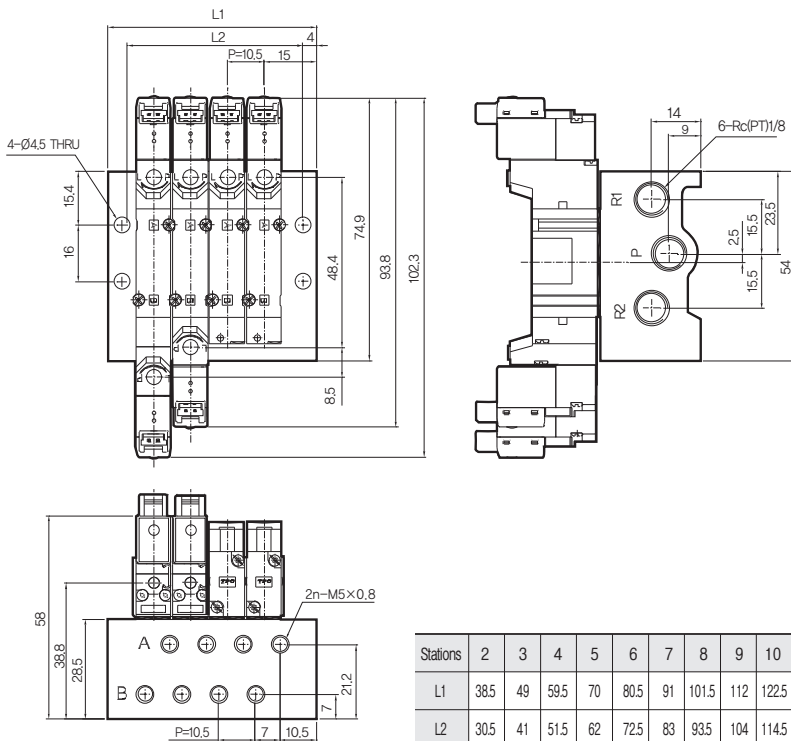
1                      2                      3

1 DV1000 Manifold  
2 Body Ported Type  
3 Stations (2~20)

Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	48.5	59	69.5	80	90.5	101	111.5	122	132.5	143	153.5	164	174.5	185	195.5	206	216.5	227	237.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

## Dimensions / Series DV1000 (Base Mounted) / V: Vertical Connector Type

(Unit:mm)



### How To Order

**DVM1** — **40** — **05**

1                      2                      3

1 DV1000 Manifold  
2 Base Mounted type  
3 Stations (2~20)

Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	38.5	49	59.5	70	80.5	91	101.5	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

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

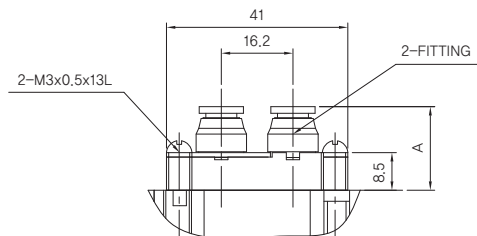
DT220

# Series DV3000

## Series DV3000 / 2 Position / H: Horizontal Connector Type

(Unit:mm)

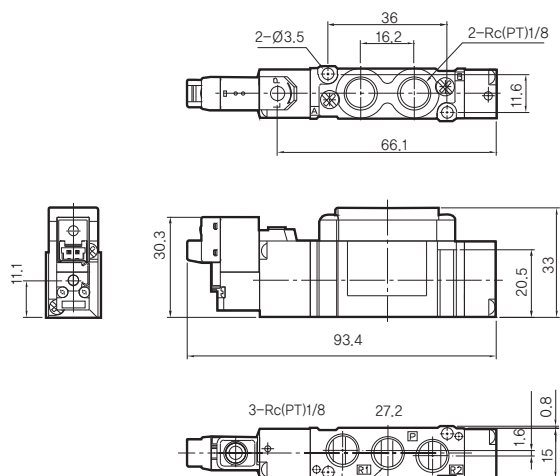
### DV3000 Fitting Included Dimension Drawing(Body Ported Type)



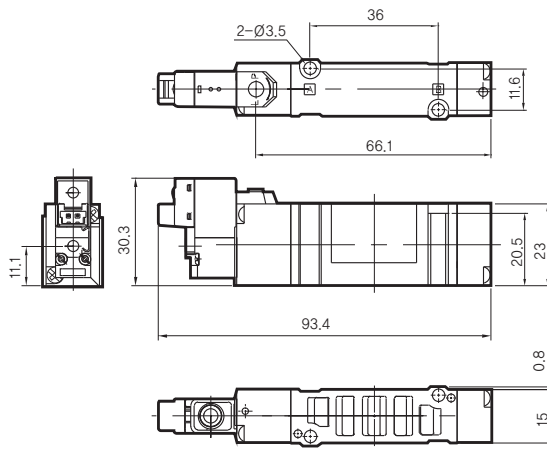
※The other options same as DV3000 standard type(Body ported type)

Series	Applicable Fitting Size	A	Note
DV3000	Ø4	18.9	
	Ø6	24	
	Ø8	24.8	

### DV3120 Single / Body Ported Type

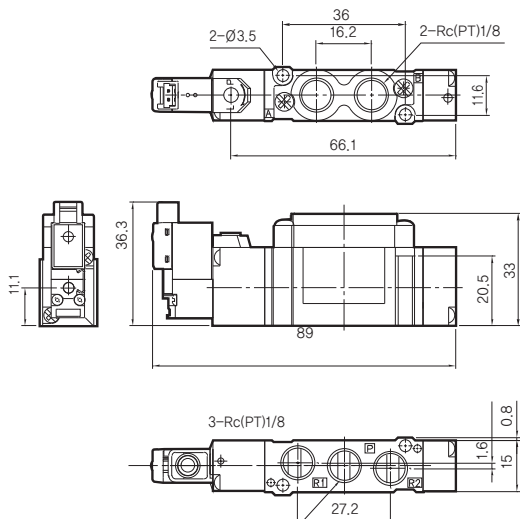


### DV3140 Single / Base Mounted Type

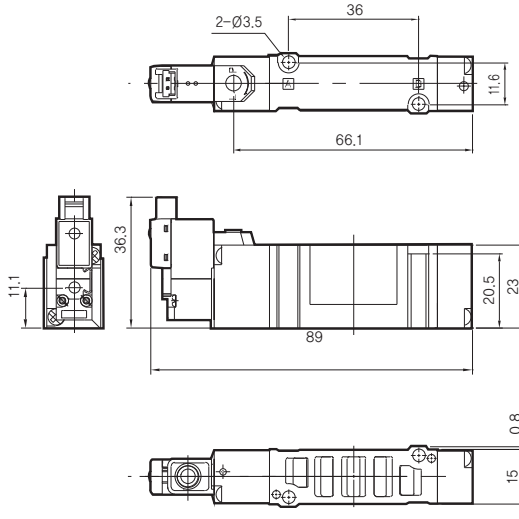


## Series DV3000 / 2 Position / V: Vertical Connector Type

### DV3120 Single / Body Ported Type



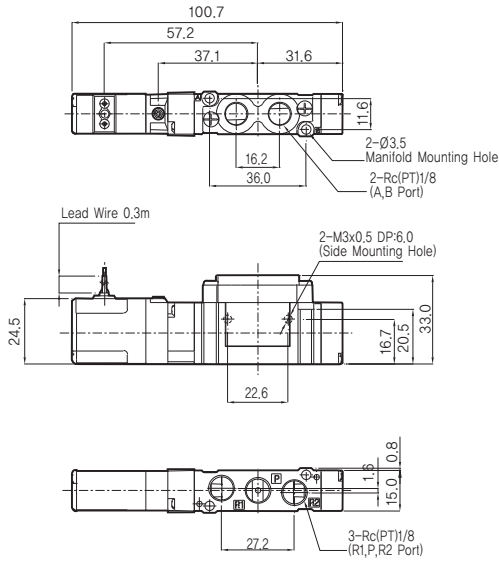
### DV3140 Single / Base Mounted Type



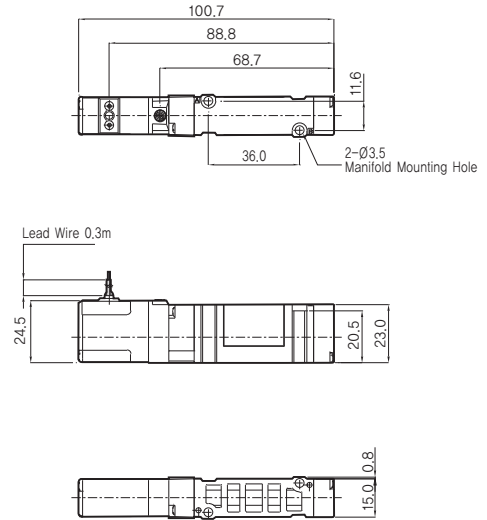
## Series DV3000 / 2 Position / Grommet Type

(Unit:mm)

### DV3120 Single / Body Ported Type



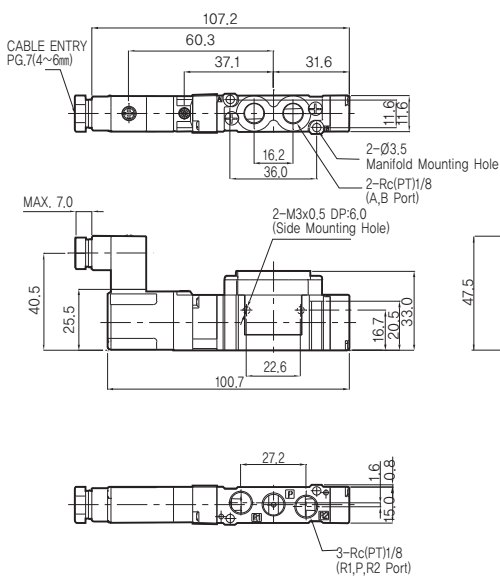
### DV3140 Single / Base Mounted Type



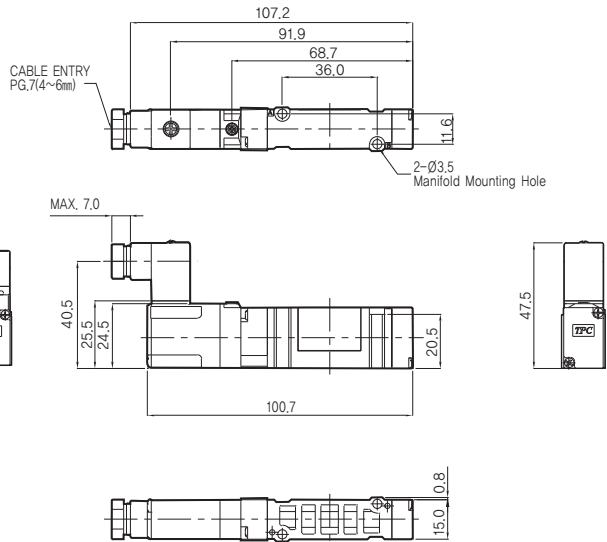
## Series DV3000 / 2 Position / Din Terminal Type

(Unit:mm)

### DV3120 Single / Body Ported Type



### DV3140 Single / Base Mounted 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

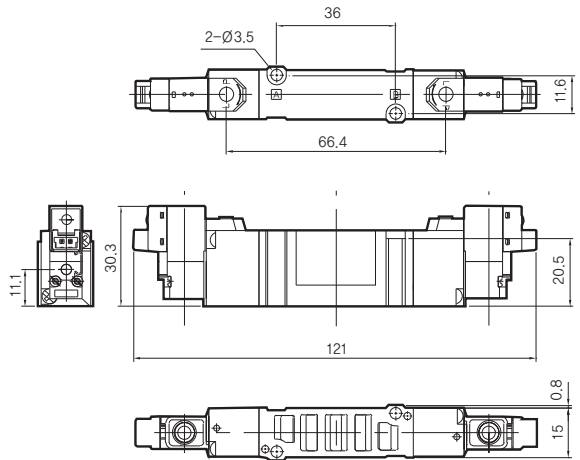
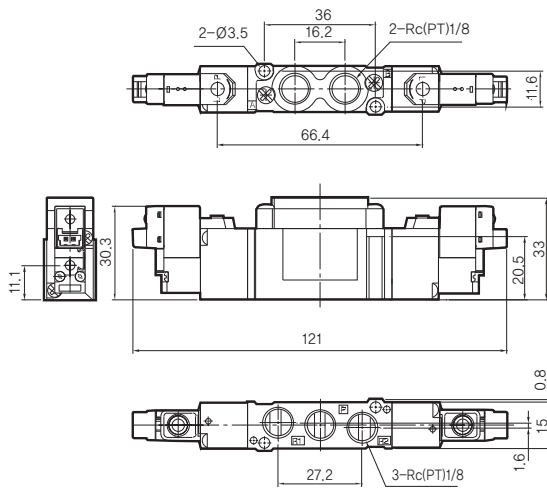
# Series DV3000

Series DV3000 / 2 Position / H: Horizontal Connector Type

(Unit:mm)

## DV3220 Double / Body Ported Type

## DV3240 Double / Base Mounted Type

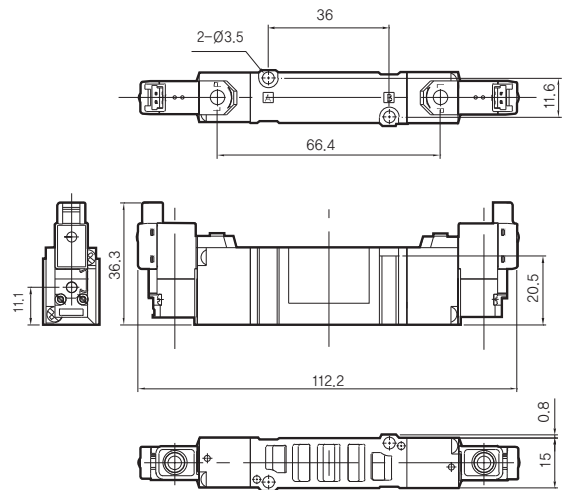
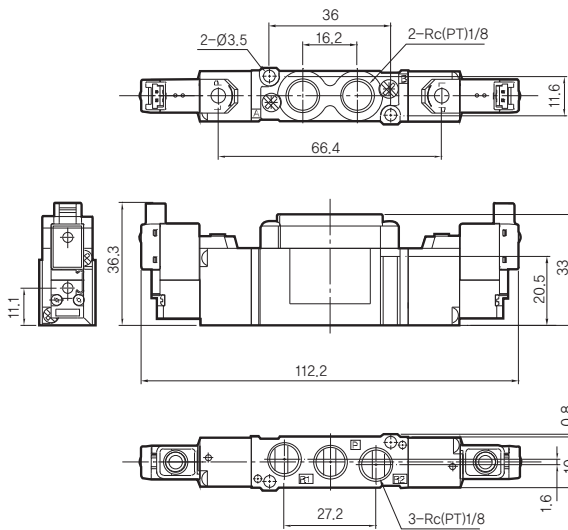


Series DV3000 / 2 Position / V: Vertical Connector Type

(Unit:mm)

## DV3220 Double / Body Ported Type

## DV3240 Double / Base Mounted Type

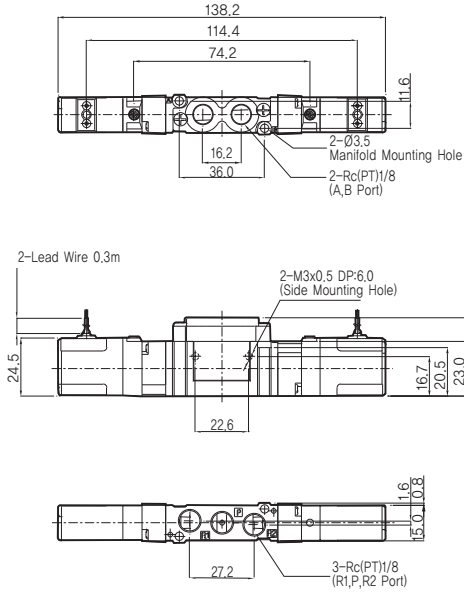




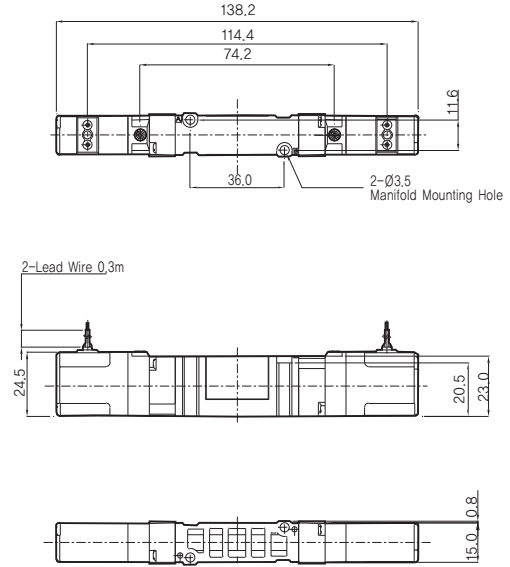
## Series DV3000 / 2 Position / Grommet Type

(Unit:mm)

### DV3220 Double / Body Ported Type



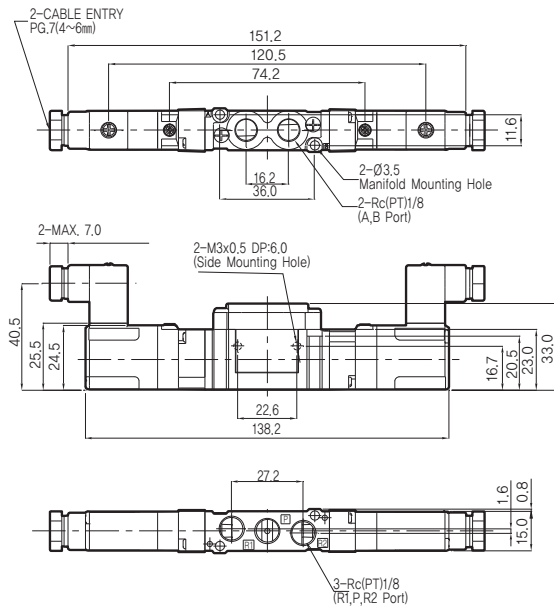
### DV3240 Double / Base Mounted Type



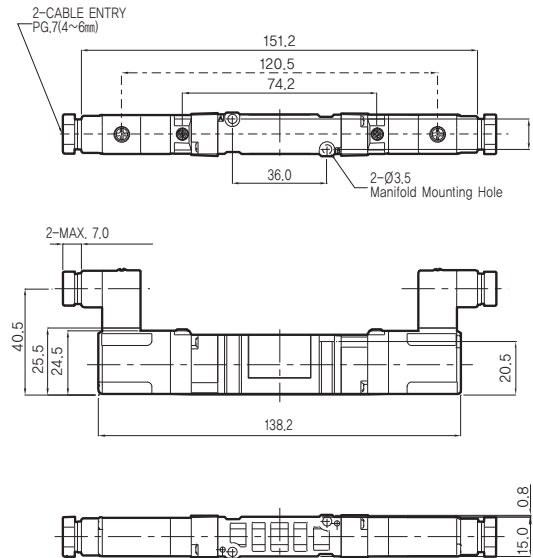
## Series DV3000 / 2 Position / Din Terminal Type

(Unit:mm)

### DV3220 Double / Body Ported Type



### DV3240 Double / Base Mounted 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

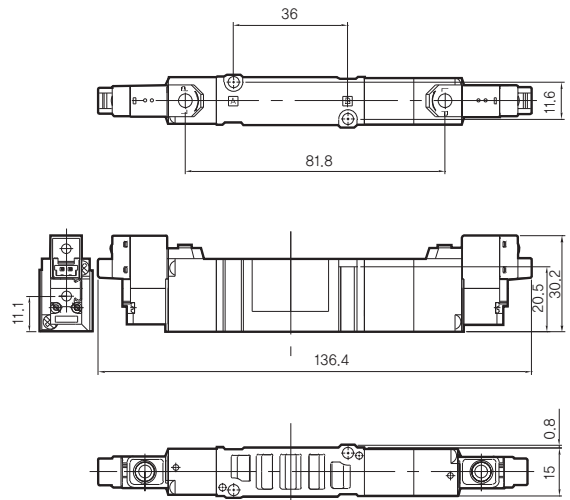
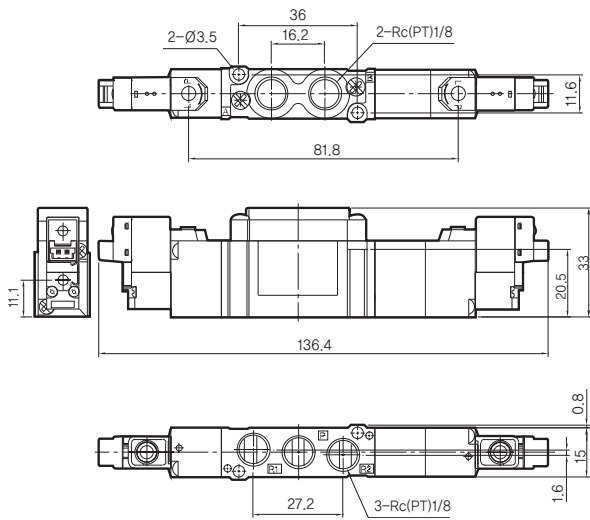
# Series DV3000

## Series DV3000 / 3 Position / H: Horizontal Connector Type

(Unit:mm)

### DV3320/3420/3520 3 Position / Body Ported Type

### DV3340/3440/3540 3 Position / Base Mounted Type

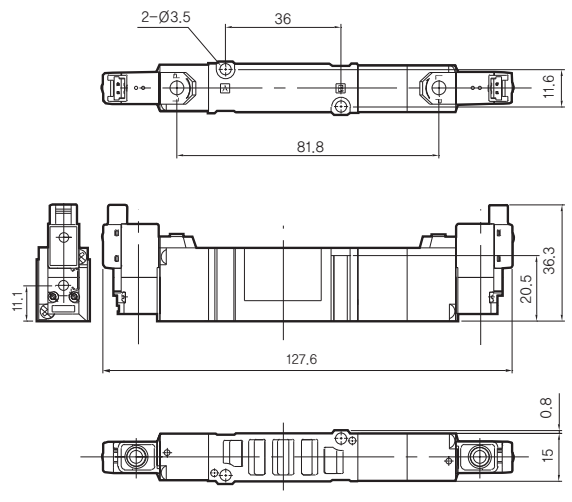
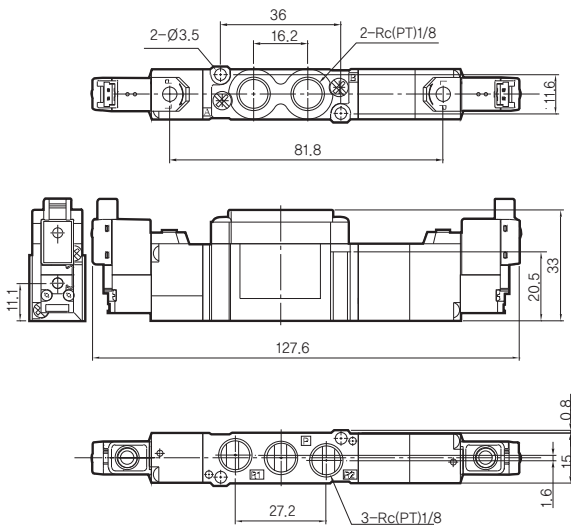


## Series DV3000 / 3 Position / V: Vertical Connector Type

(Unit:mm)

### DV3320/3420/3520 3 Position / Body Ported Type

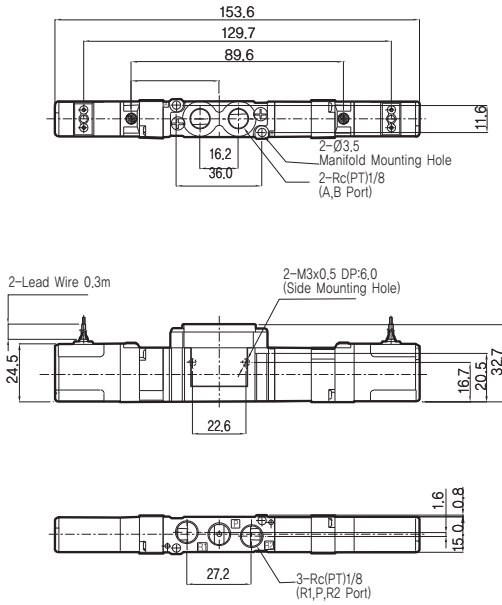
### DV3340/3440/3540 3 Position / Base Mounted Type



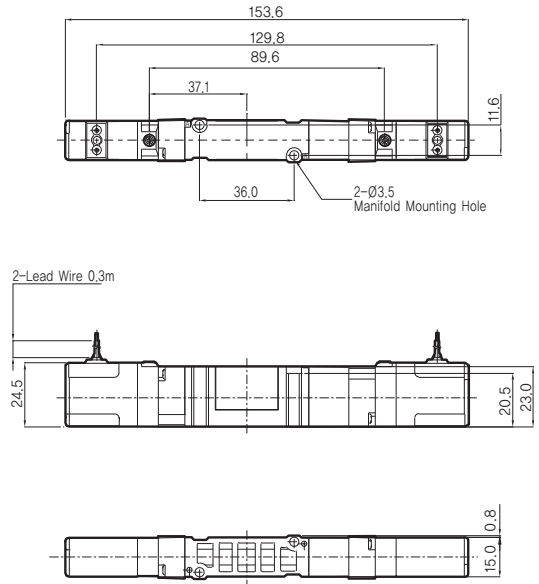
## Series DV3000 / 3 Position / Grommet Type

(Unit: mm)

### DV3320/3420/3520 3 Position / Body Ported Type



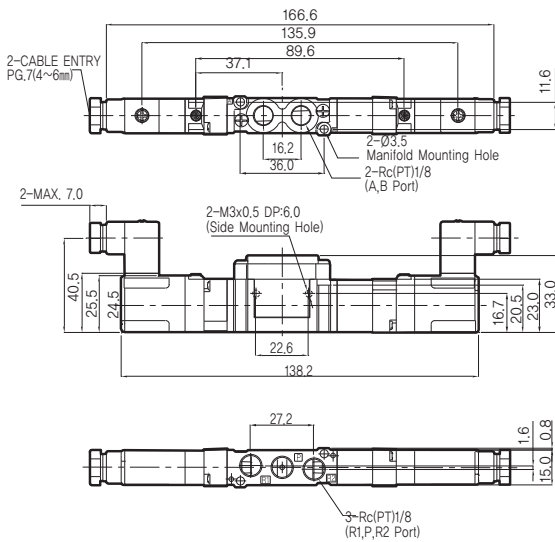
### DV3340/3440/3540 3 Position / Base Mounted Type



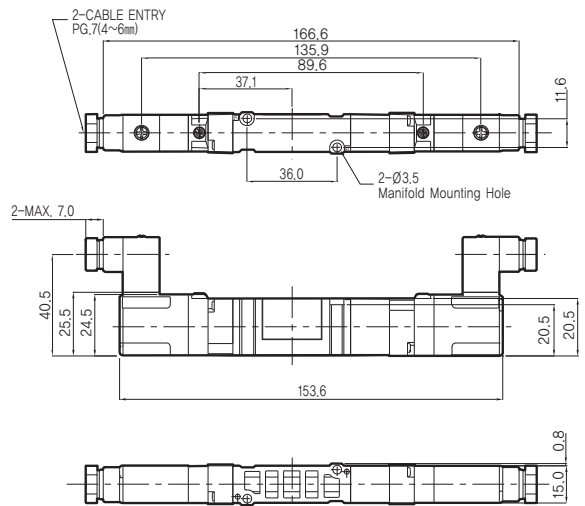
## Series DV3000 / 3 Position / Din Terminal Type

(Unit: mm)

### DV3320/3420/3520 3 Position / Body Ported Type



### DV3340/3440/3540 3 Position / Base Mounted 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

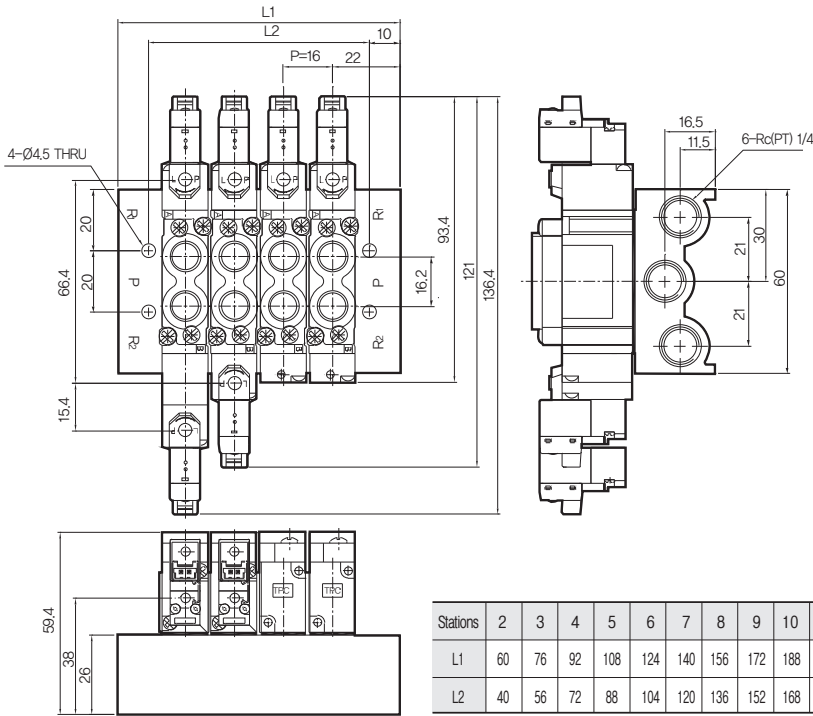
DM

DT220

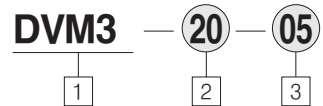
# Series DV3000

## Manifold Dimensions / Series DV3000 Body Ported / H: Horizontal Connector Type

(Unit: mm)



### How To Order



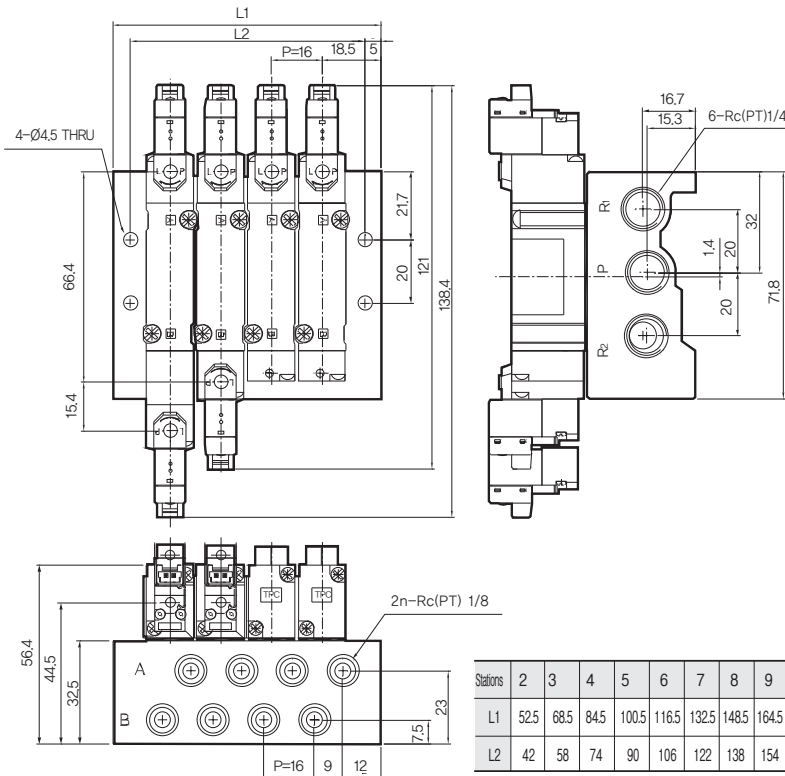
- 1 DV3000 Manifold
- 2 Body Ported Type
- 3 Stations (2~20)

Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	60	76	92	108	124	140	156	172	188	204	220	236	252	268	284	300	316	332	348
L2	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328

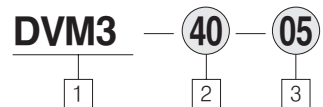
(mm)

## Manifold Dimensions / Series DV3000 Base Mounted / H: Horizontal Connector Type

(Unit: mm)



### How To Order



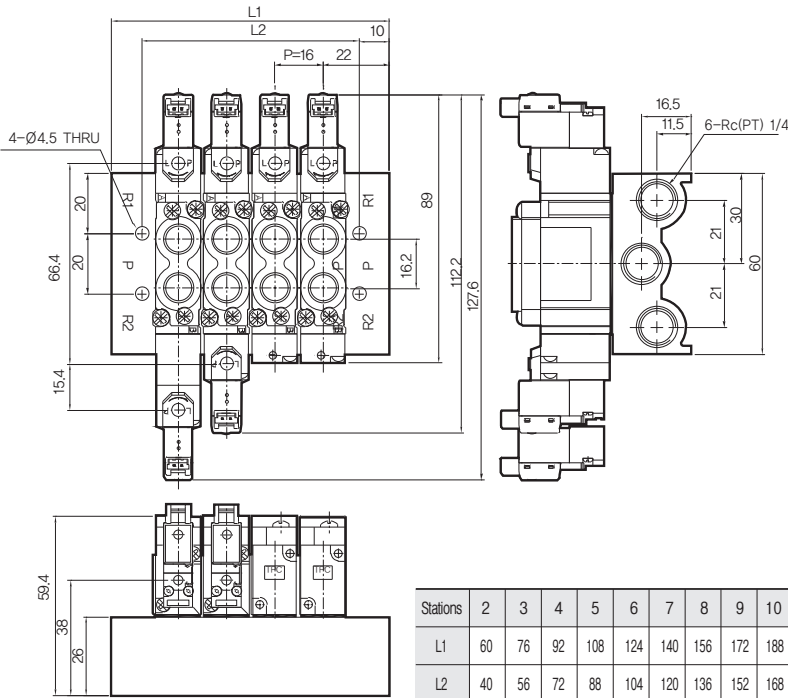
- 1 DV3000 Manifold
- 2 Base Mounted Type
- 3 Stations (2~20)

Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	52.5	68.5	84.5	100.5	116.5	132.5	148.5	164.5	180.5	196.5	212.5	228.5	244.5	260.5	276.5	292.5	308.5	324.5	340.5
L2	42	58	74	90	106	122	138	154	170	188	202	218	234	250	266	282	298	314	330

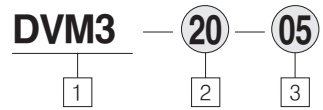
(mm)

## Manifold Dimensions / Series DV3000 Body Ported / V: Vertical Connector Type

(Unit:mm)



### How To Order

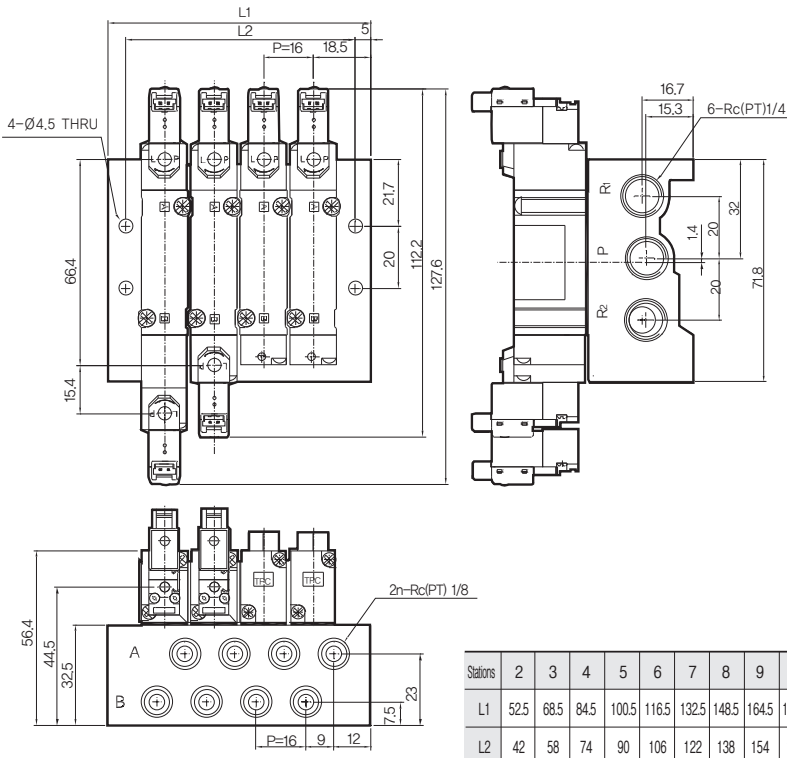


- 1 DV3000 Manifold
- 2 Body Ported Type
- 3 Stations (2~20)

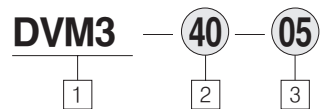
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	60	76	92	108	124	140	156	172	188	204	220	236	252	268	284	300	316	332	348
L2	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328

## Manifold Dimensions / Series DV3000 Base Mounted / V: Vertical Connector Type

(Unit:mm)



### How To Order



- 1 DV3000 Manifold
- 2 Base Mounted Type
- 3 Stations (2~20)

Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	52.5	68.5	84.5	100.5	116.5	132.5	148.5	164.5	180.5	196.5	212.5	228.5	244.5	260.5	276.5	292.5	308.5	324.5	340.5
L2	42	58	74	90	106	122	138	154	170	188	202	218	234	250	266	282	298	314	330

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

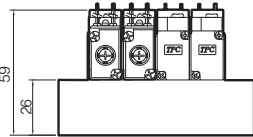
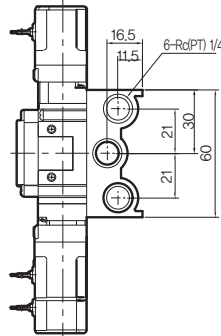
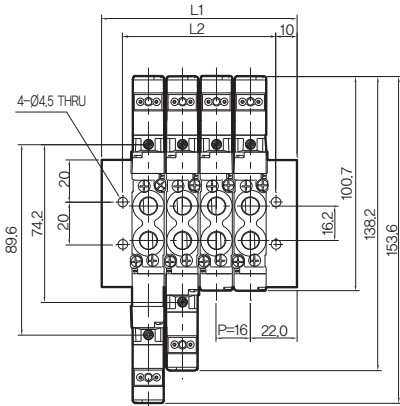
DM

DT220

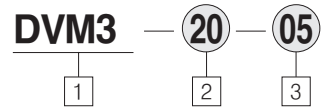
# Series DV3000

## DV3000 Body Ported Manifold Dimensions / Grommet Type

(Unit:mm)



### How To Order

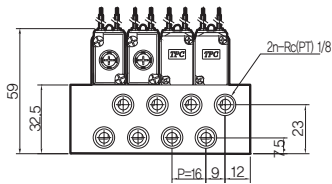
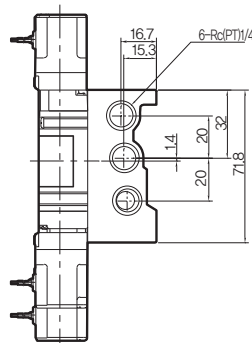
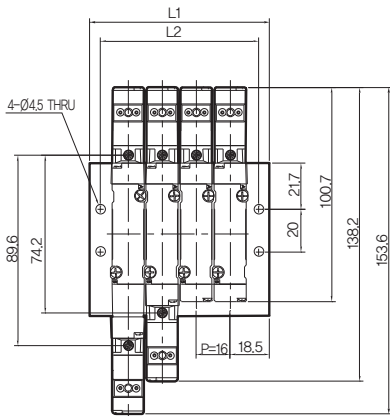


- 1 DV3000 Manifold
- 2 Body Ported Type
- 3 Stations (2~20)

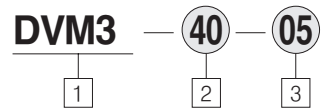
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	60	76	92	108	124	140	156	172	188	204	220	236	252	268	284	300	316	332	348
L2	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328

## DV3000 Base Mounted Manifold Dimensions / Grommet Type

(Unit:mm)



### How To Order

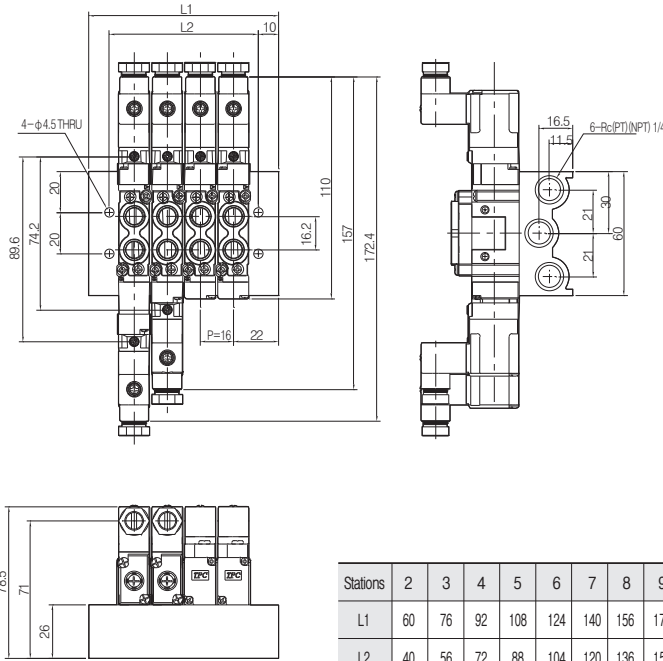


- 1 DV3000 Manifold
- 2 Body Ported Type
- 3 Stations (2~20)

Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	52.5	68.5	84.5	100.5	116.5	132.5	148.5	164.5	180.5	196.5	212.5	228.5	244.5	260.5	276.5	292.5	308.5	324.5	340.5
L2	42	58	74	90	106	122	138	154	170	188	202	218	234	250	266	282	298	314	330

## Manifold Dimensions / Series DV3000 Body Ported / Din Terminal Type

(Unit: mm)



### How To Order

**DVM3** — **20** — **05**

1                      2                      3

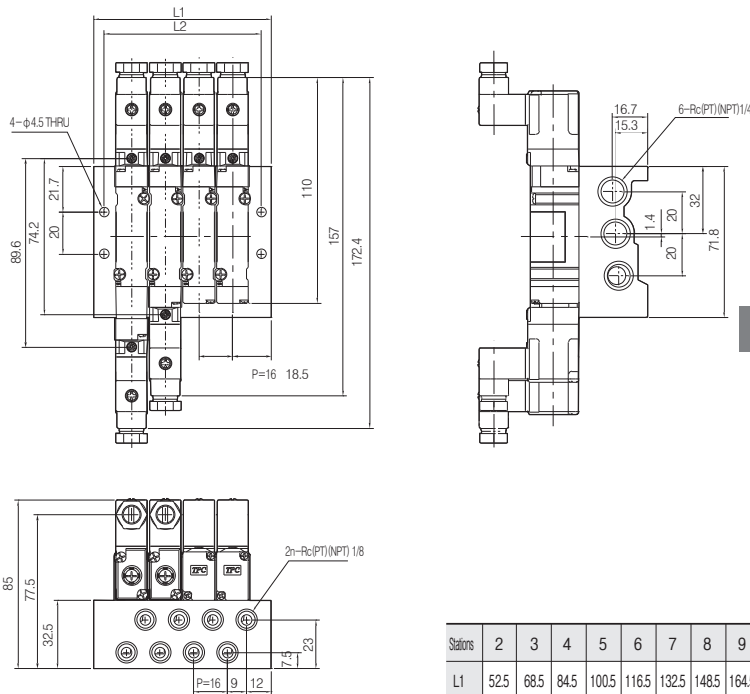
- 1 DV3000 Manifold
- 2 Body Ported Type
- 3 Stations (2~20)

Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	60	76	92	108	124	140	156	172	188	204	220	236	252	268	284	300	316	332	348
L2	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328

(mm)

## Manifold Dimensions / Series DV3000 Base Mounted / Din Terminal Type

(Unit: mm)



### How To Order

**DVM3** — **40** — **05**

1                      2                      3

- 1 DV3000 Manifold
- 2 Base Mounted Type
- 3 Stations (2~20)

Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	52.5	68.5	84.5	100.5	116.5	132.5	148.5	164.5	180.5	196.5	212.5	228.5	244.5	260.5	276.5	292.5	308.5	324.5	340.5
L2	42	58	74	90	106	122	138	154	170	188	202	218	234	250	266	282	298	314	330

(mm)

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

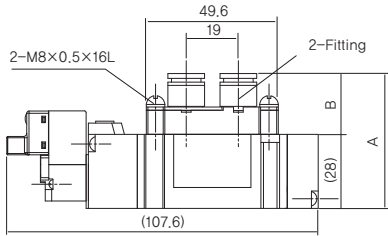
DT220

# Series DV4000

## Series DV4000 / 2 Position / H : Horizontal Connector Type

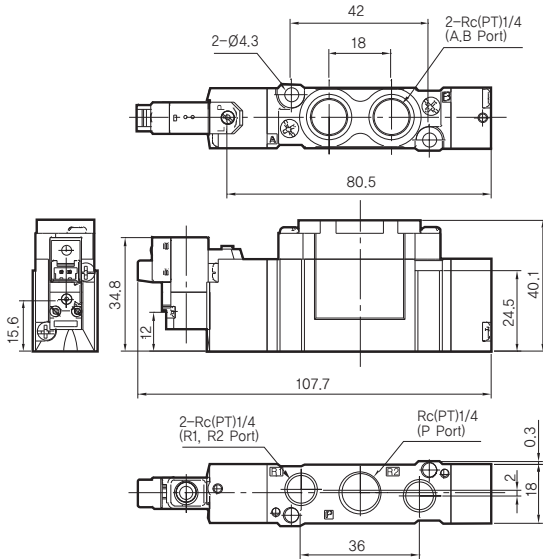
(Unit:mm)

### DV4120 Single / Fitting Included Dimension Drawing(Body Ported Type)

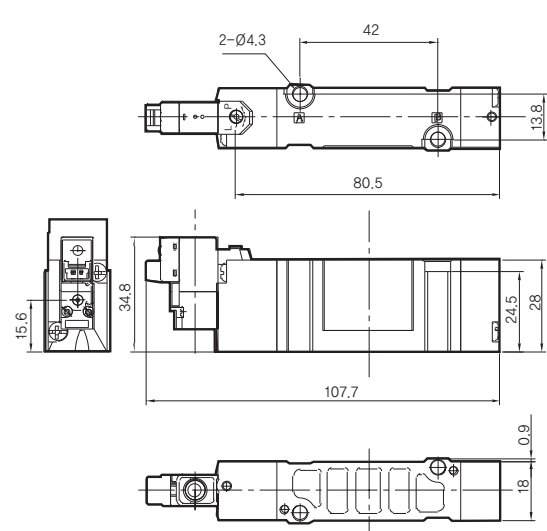


Series	Applicable Fitting Size	A	B	Note
DV4000	Ø8	54.1	26.1	
	Ø10	55.1	27.1	

### DV4120 Single / Body Ported Type



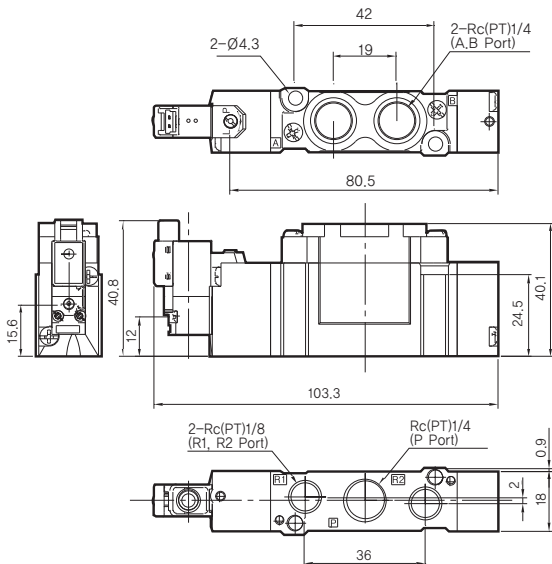
### DV4140 Single / Base Mounted Type



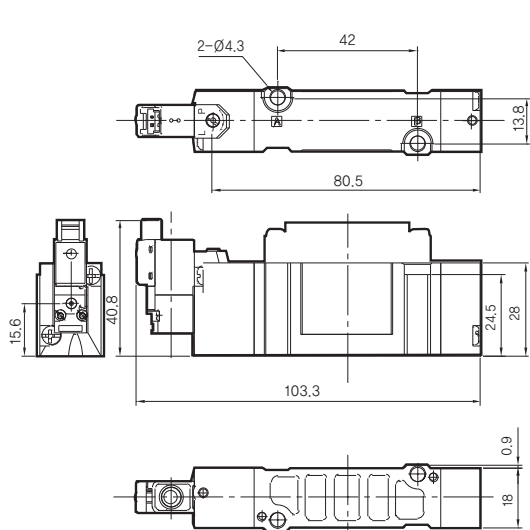
## Series DV4000 / 2 Position / V : Vertical Connector Type

(Unit:mm)

### DV4120 Single / Body Ported Type



### DV4140 Single / Base Mounted Type

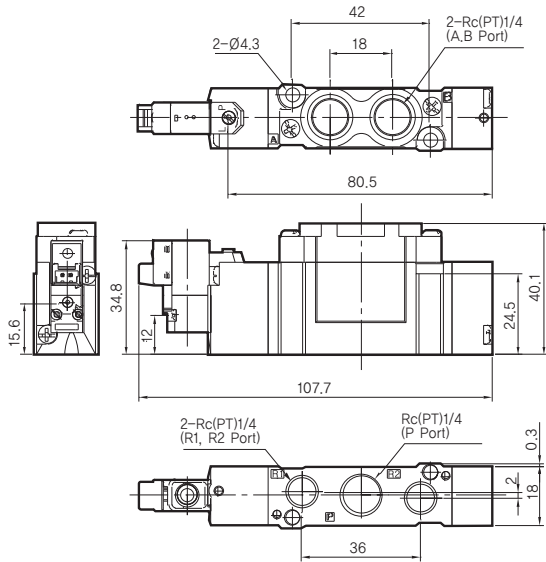




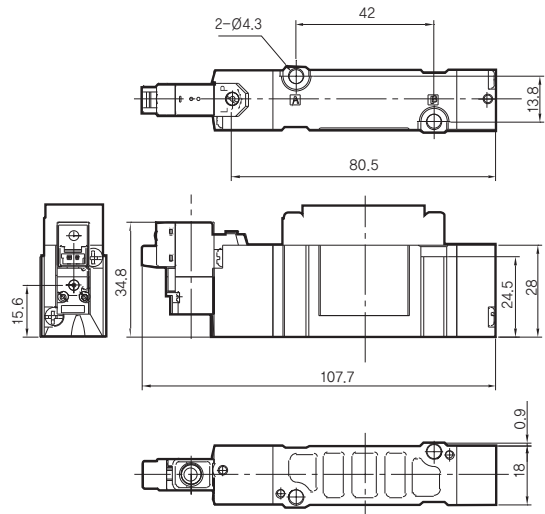
## Series DV4000 / 2 Position / H: Horizontal Connector Type

(Unit:mm)

### DV4120 Single / Body Ported Type



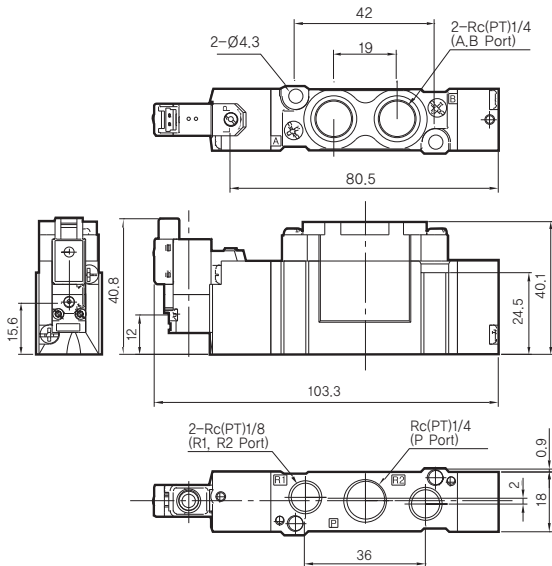
### DV4140 Single / Base Mounted Type



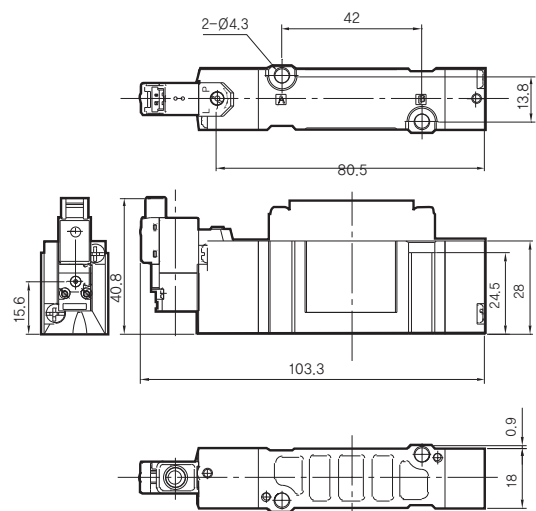
## Series DV4000 / 2 Position / V: Vertical Connector Type

(Unit:mm)

### DV4120 Single / Body Ported Type



### DV4140 Single / Base Mounted 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

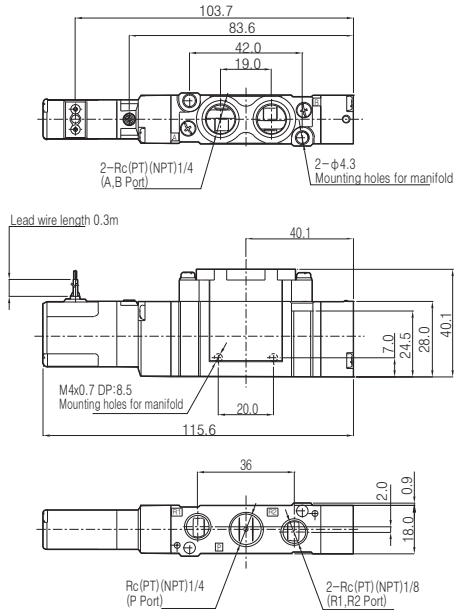
DT220

# Series DV4000

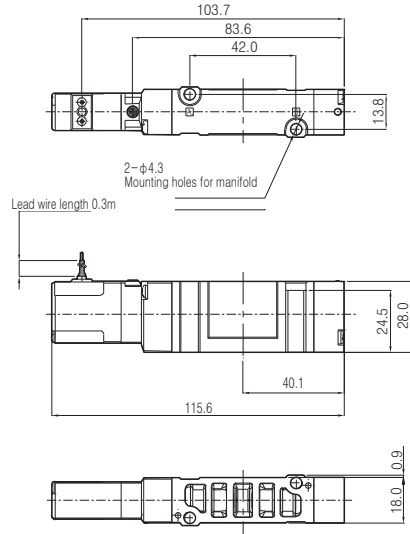
## Series DV4000 / 2 Position / Grommet Type

(Unit:mm)

### DV4120 Single / Body Ported Type



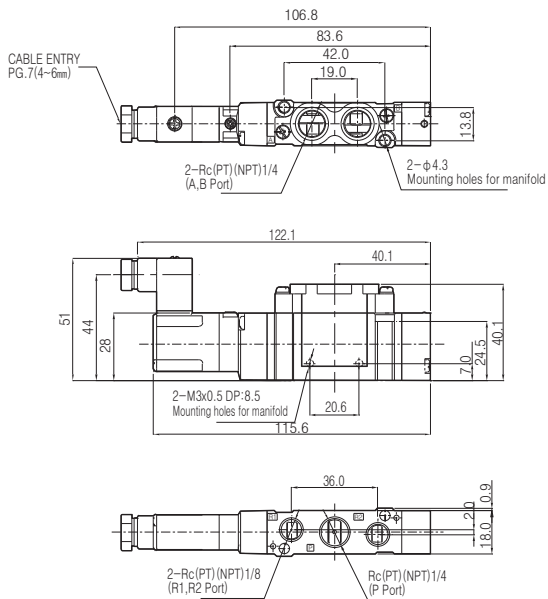
### DV4140 Single / Base Mounted Type



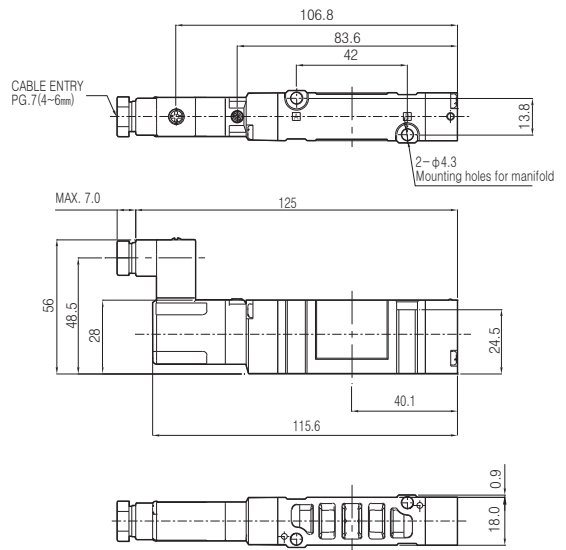
## Series DV4000 / 2 Position / Din Terminal Type

(Unit:mm)

### DV4120 Single / Body Ported Type



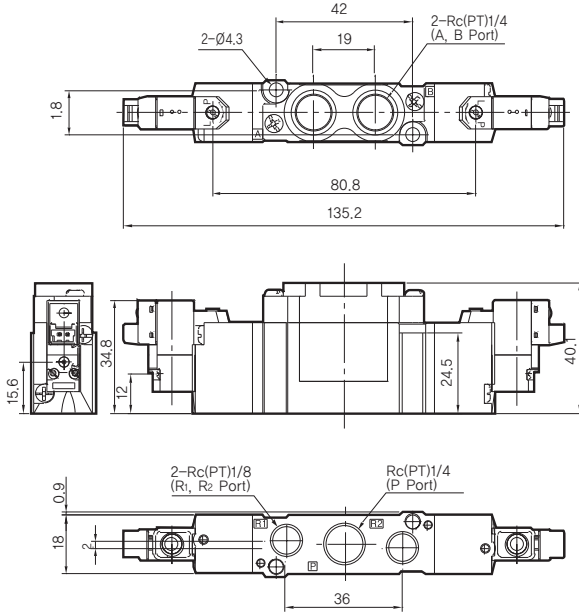
### DV4140 Single / Base Mounted Type



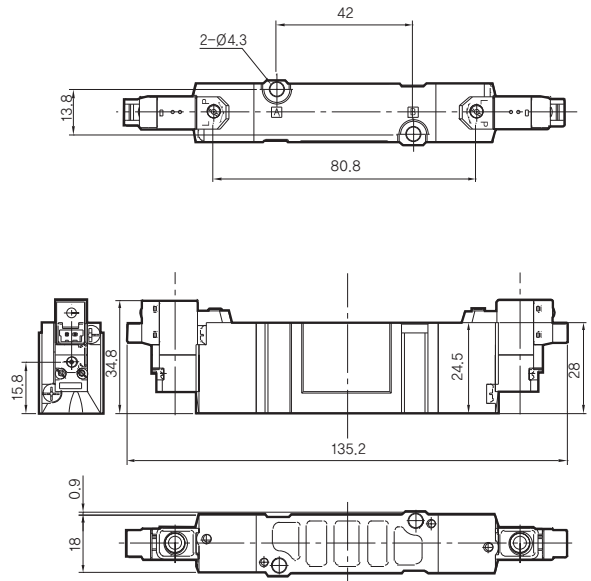
## Series DV4000 / 2 Position / H: Horizontal Connector Type

(Unit:mm)

### DV4220 Double / Body Ported Type



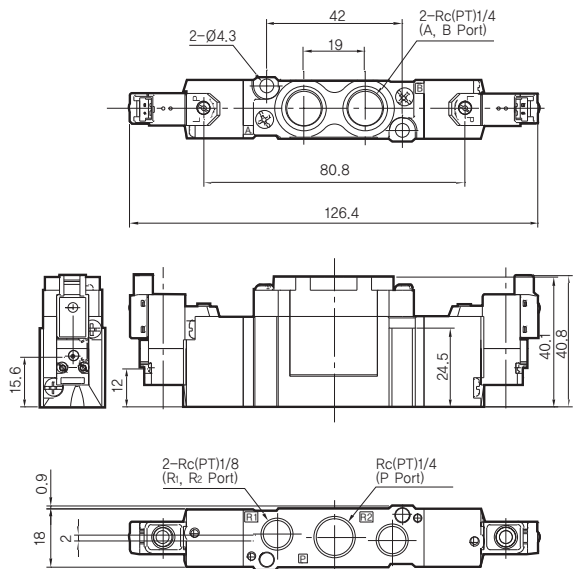
### DV4240 Double / Base Mounted Type



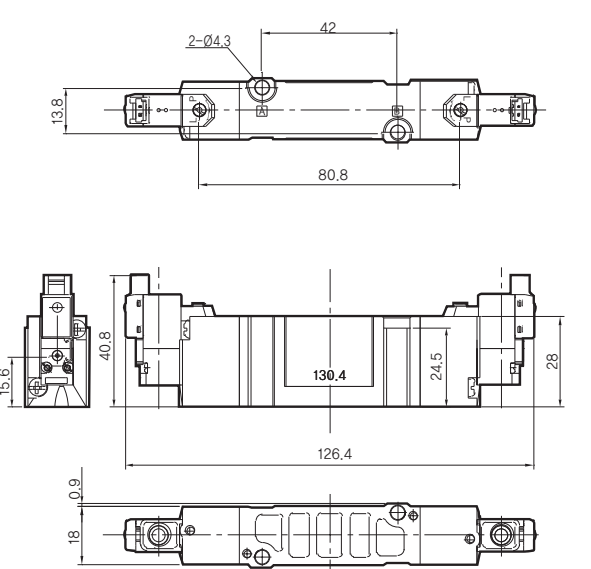
## Series DV4000 / 2 Position / V: Vertical Connector Type

(Unit:mm)

### DV4220 Double / Body Ported Type



### DV4240 Double / Base Mounted 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

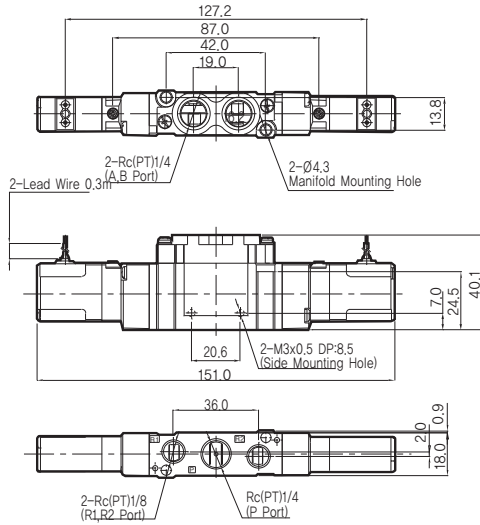
DT220

# Series DV4000

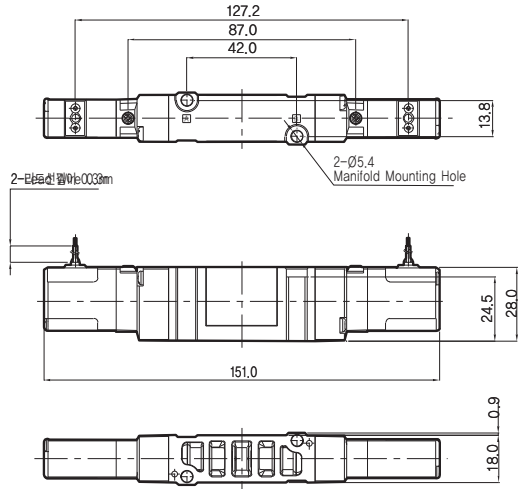
Series DV4000 / 2 Position / Grommet Type

(Unit:mm)

## DV4220 Double / Body Ported Type



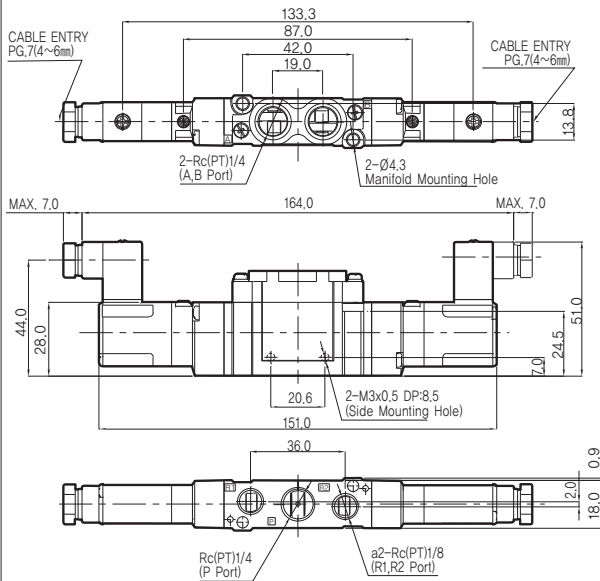
## DV4240 Double / Base Mounted Type



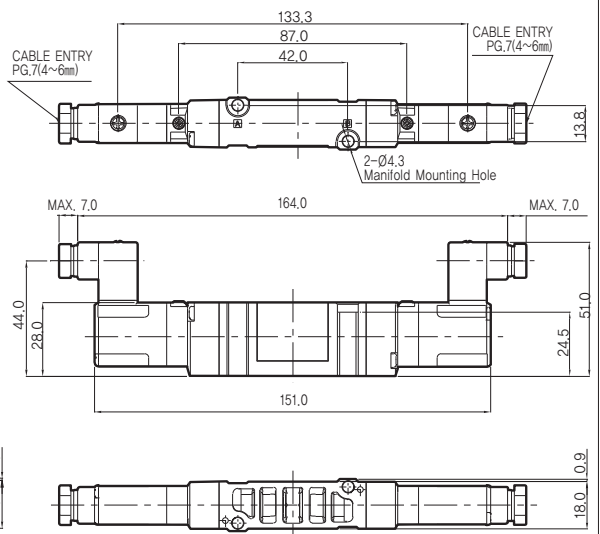
Series DV4000 / 2 Position / Din Terminal Type

(Unit:mm)

## DV4220 Double / Body Ported Type



## DV4240 Double / Base Mounted Type

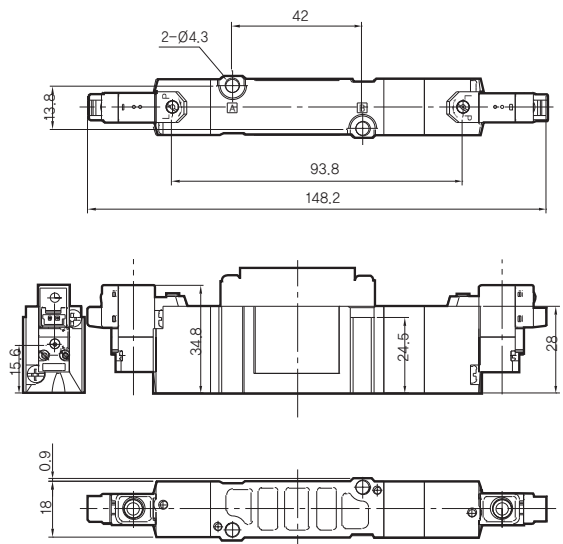
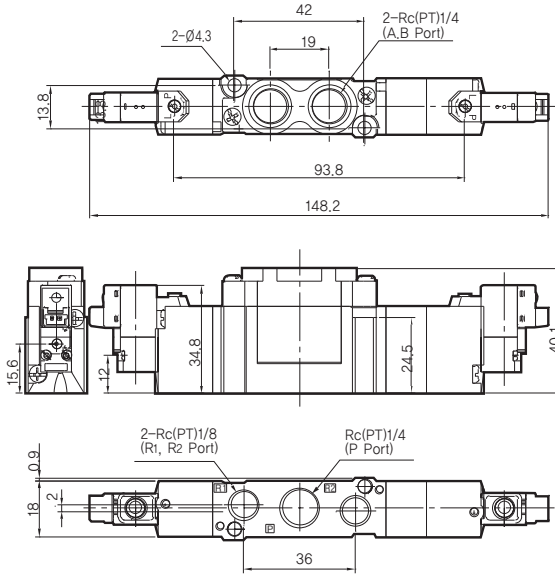


## Series DV4000 / 3 Position / H: Horizontal Connector Type

(Unit:mm)

### DV4320/4420/4520 3 Position / Body Ported Type

### DV4340/4440/4540 3 Position / Base Mounted Type

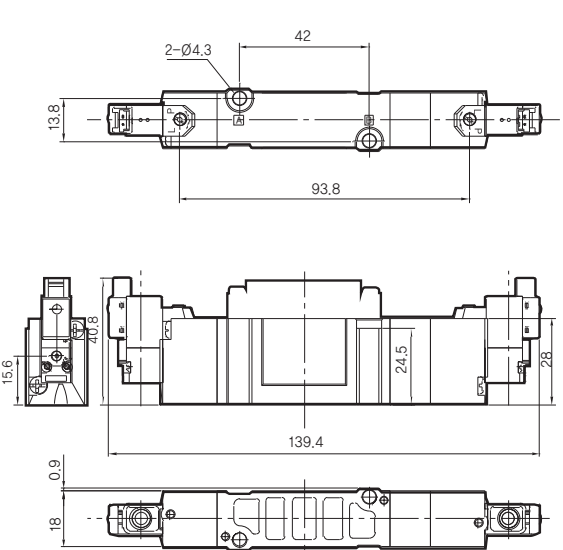
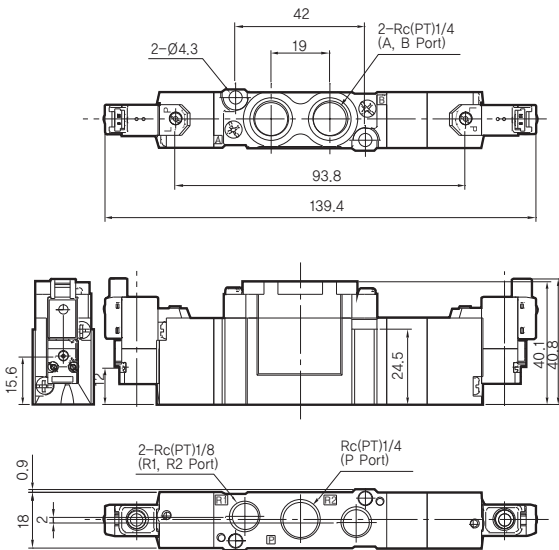


## Series DV4000 / 3 Position / V: Vertical Connector Type

(Unit:mm)

### DV4320/4420/4520 3 Position / Body Ported Type

### DV4340/4440/4540 3 Position / Base Mounted 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

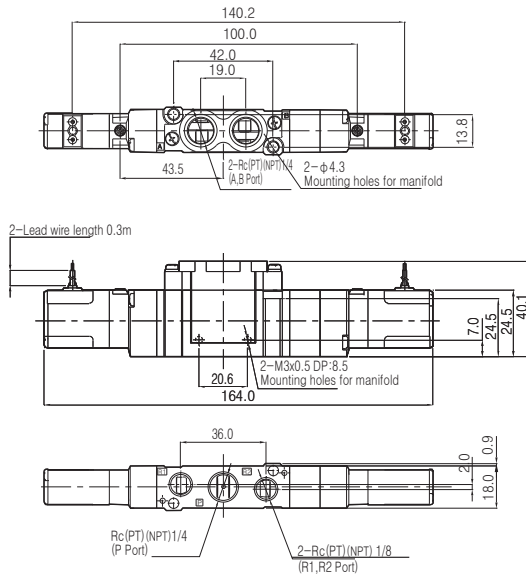
DT220

# Series DV4000

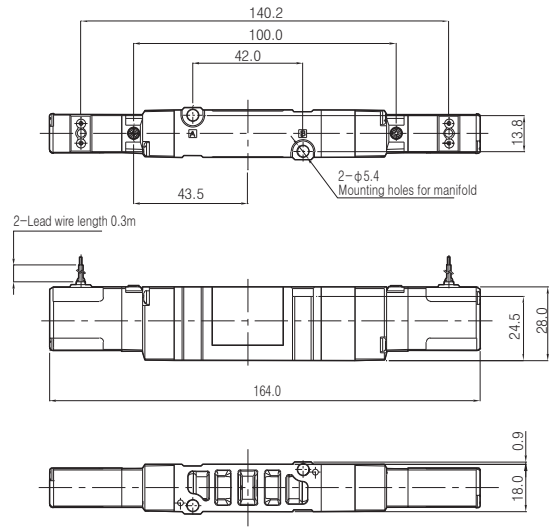
## Series DV4000 / 3 Position / Grommet Type

(Unit:mm)

### DV4320/4420/4520 3 Position / Body Ported Type



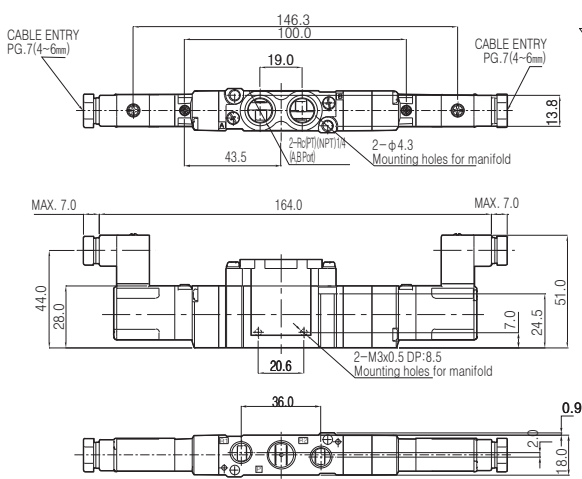
### DV4340/4440/4540 3 Position / Base Mounted Type



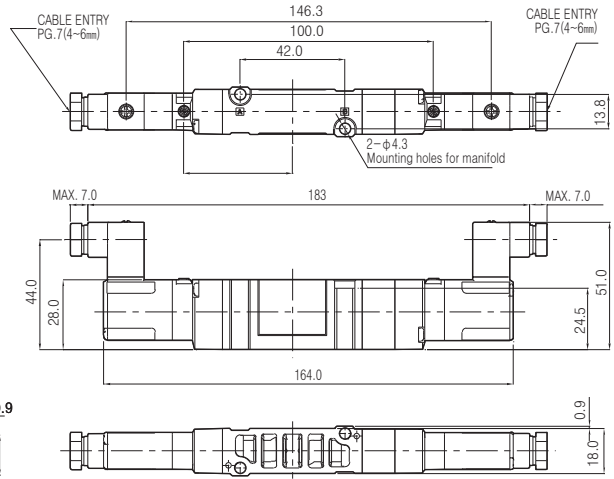
## Series DV4000 / 3 Position / Din Terminal Type

(Unit:mm)

### DV4320/4420/4520 3 Position / Body Ported Type

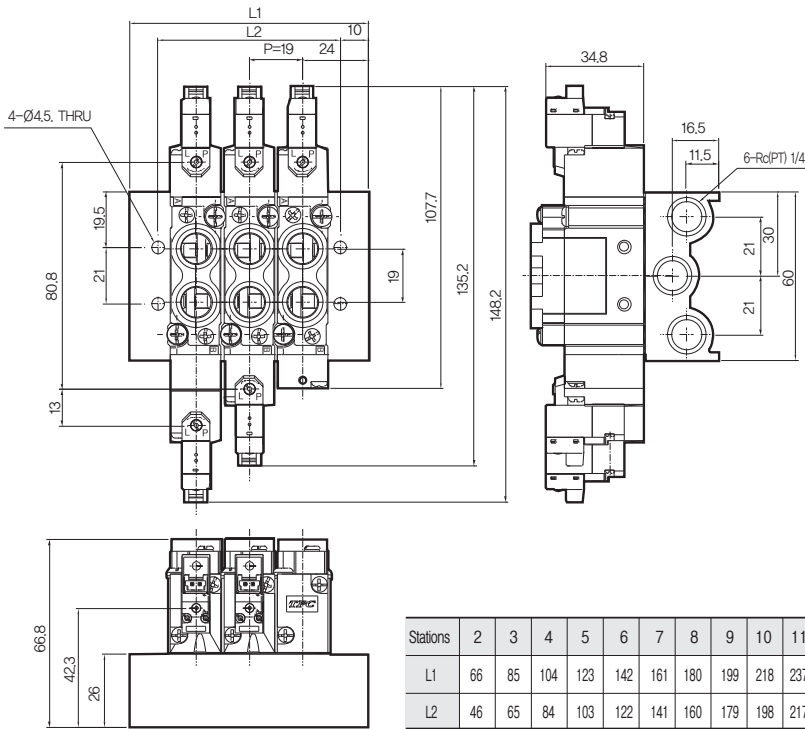


### DV4340/4440/4540 3 Position / Base Mounted Type

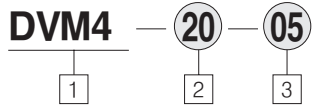


## Manifold Dimensions / Series DV4000 Body Ported / H: Horizontal Connector Type

(Unit:mm)



### How To Order

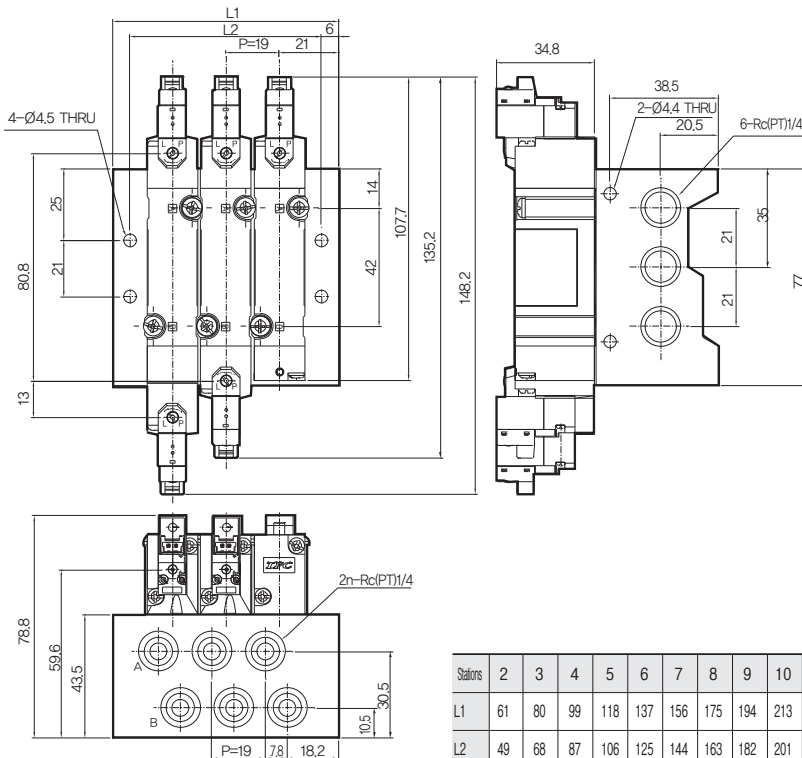


- 1 DV4000 Manifold
- 2 Body Ported Type
- 3 Stations (2~20)

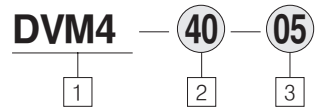
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389	408
L2	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388

## Manifold Dimensions / Series DV4000 Base Mounted / H: Horizontal Connector Type

(Unit:mm)



### How To Order



- 1 DV4000 Manifold
- 2 Base Mounted Type
- 3 Stations (2~20)

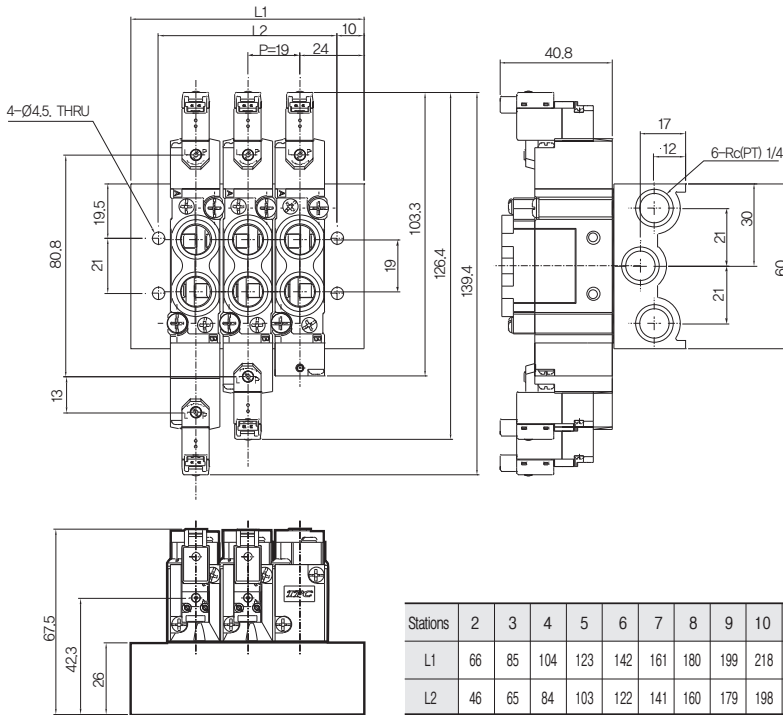
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	61	80	99	118	137	156	175	194	213	232	251	270	289	308	327	346	365	384	403
L2	49	68	87	106	125	144	163	182	201	220	239	258	277	296	315	334	353	372	391

- 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 DV4000

## Manifold Dimensions / Series DV4000 Body Ported / V: Vertical Connector Type

(Unit:mm)



### How To Order

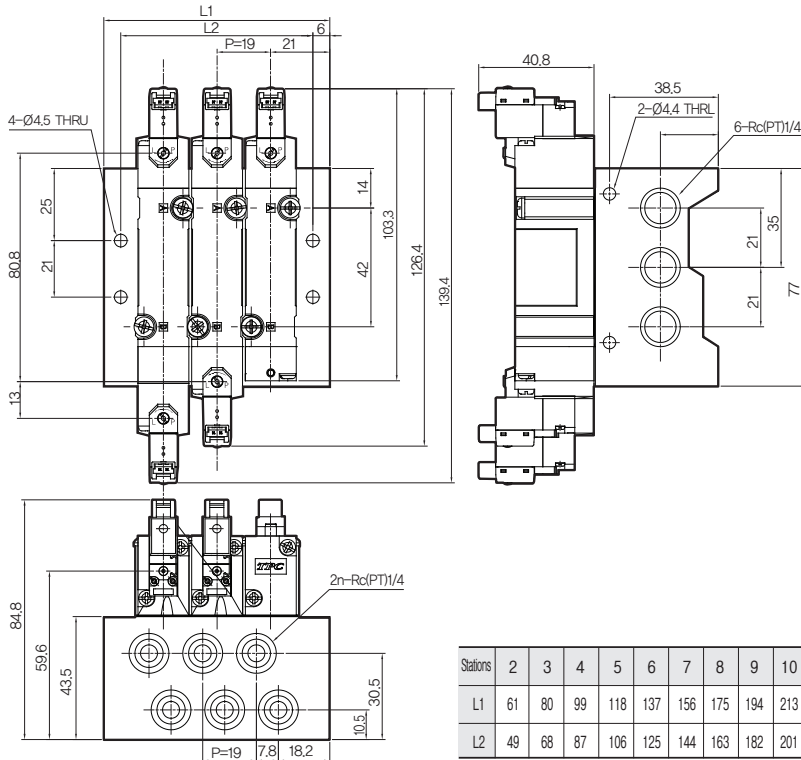
**DVM4** — **20** — **05**  
1    2    3

- 1 DV4000 Manifold
- 2 Body Ported Type
- 3 Stations (2~20)

	(mm)																		
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389	408
L2	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388

## Manifold Dimensions / Series DV4000 Base Mounted / V: Vertical Connector Type

(Unit:mm)



### How To Order

**DVM4** — **40** — **05**  
1    2    3

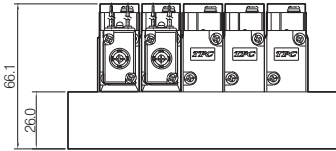
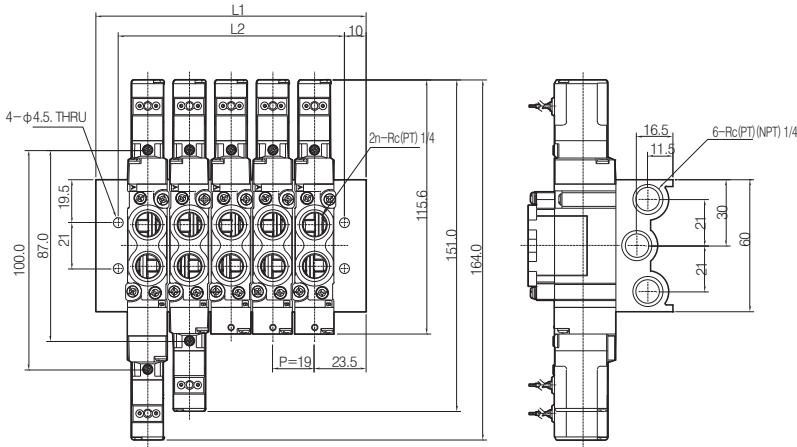
- 1 DV4000 Manifold
- 2 Base Mounted Type
- 3 Stations (2~20)

	(mm)																		
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	61	80	99	118	137	156	175	194	213	232	251	270	289	308	327	346	365	384	403
L2	49	68	87	106	125	144	163	182	201	220	239	258	277	296	315	334	353	372	391



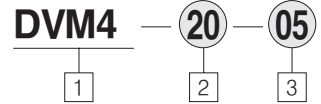
## Manifold Dimensions / Series DV4000 Body Ported : Grommet Type

(Unit:mm)



Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389	408
L2	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388

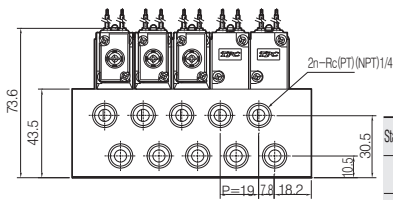
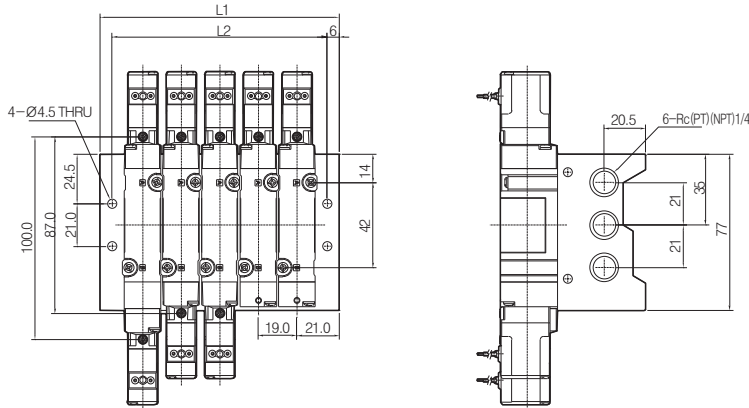
### How To Order



- 1 DV4000 Manifold
- 2 Body Ported Type
- 3 Stations (2~20)

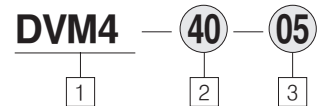
## Manifold Dimensions / Series DV4000 Base Mounted : Grommet Type

(Unit:mm)



Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	61	80	99	118	137	156	175	194	213	232	251	270	289	308	327	346	365	384	403
L2	49	68	87	106	125	144	163	182	201	220	239	258	277	296	315	334	353	372	391

### How To Order



- 1 DV4000 Manifold
- 2 Base Mounted Type
- 3 Stations (2~20)

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

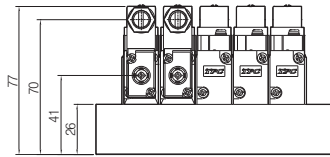
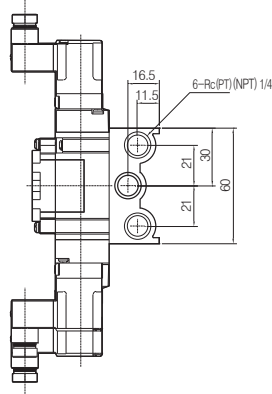
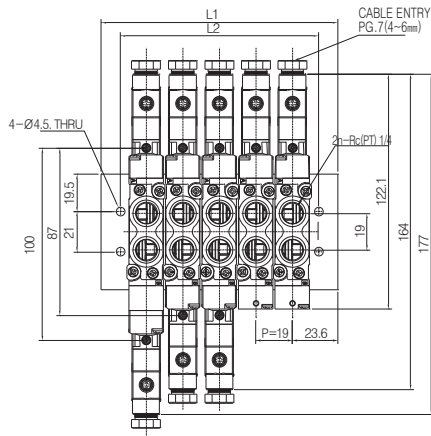
DM

DT220

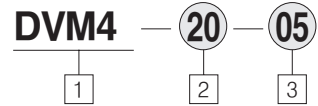
# Series DV4000

## DV4000 Series Body Ported Manifold Dimensions / Din Terminal Type

(Unit:mm)



### How To Order



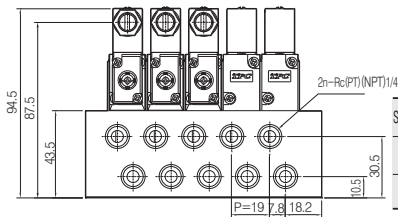
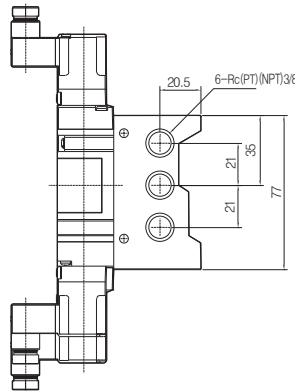
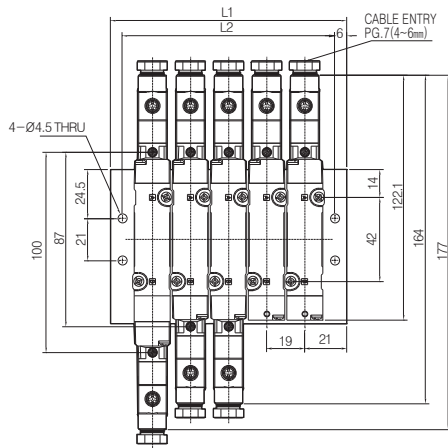
- 1 DV4000 Manifold
- 2 Body Ported Type
- 3 Stations (2~20)

Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389	408
L2	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388

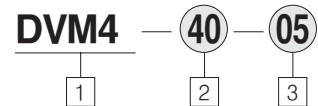
(mm)

## DV4000 Series Base Mounted Manifold Dimensions / Din Terminal Type

(Unit:mm)



### How To Order



- 1 DV4000 Manifold
- 2 Base Mounted Type
- 3 Stations (2~20)

Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	61	80	99	118	137	156	175	194	213	232	251	270	289	308	327	346	365	384	403
L2	49	68	87	106	125	144	163	182	201	220	239	258	277	296	315	334	353	372	391

(mm)

## Safety Instructions

These safety instructions are basically provided so as to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard by labeling "Caution", "Warning" or "Danger". In order to achieve a desired safety, it is preferred to comply ISO 4414(Note1), KS B 6376(Note2), JIS B 8370(Note3) and other safety practices.

- ❗ **Danger** : There is a possibility of serious injury or loss of life in extreme.
- ❗ **Warning** : Operator error may cause serious injury or loss of life.
- ❗ **Caution** : Operator error may cause injury or equipment damage.

Note1) ISO4414 : Pneumatic fluid power-Recommendations for the application of equipment to transmission and control systems.

Note2) KS B 6376 : Pneumatic system axiom

Note3) JIS B 8370 : Pneumatic system axiom

### ❗ Warning

- In event that the product is to be used in any of the following conditions contact us:
  1. In event that conditions and environments beyond the given specifications, or if product is used outdoors.
  2. In the case of Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverage, recreation equipment, emergency stop circuits, press applications, or safety equipment.
  3. In the case of an application provided with the possibility of having effects on people, property, or animals, requiring special safety analysis.
- It is preferred that the compatibility of pneumatic equipment is the responsibility of the person who designs the pneumatic system or decides its specifications.  
 Their compatibility with the specific pneumatic system must be based on specifications or after analysis and/or tests to meet your specific requirements because the products specified here are used in various operating conditions..
- Pneumatically operated machinery and equipment should be handled by only trained personnel.  
 If an operator is unfamiliar with it, compressed air can be dangerous. Trained and experienced operators are preferred to perform assembly, handing or repair of pneumatic systems.
- Service machinery/equipment or attempt to remove components until safety is confirmed should be avoided.
  1. After confirmation of safe locked -out control positions, it is preferred to perform inspection and maintenance of machinery/equipment.
  2. When equipment is to be removed, confirm the safety process as mentioned above. Cut the supply pressure for the equipment and exhaust all residual compressed air in the system.
  3. Be sure to take measures to prevent quick extensions of the cylinder piston rod etc. prior to machinery/equipment is re-started (Bleed air into the system gradually to create back-pressure.)

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

## Precautions

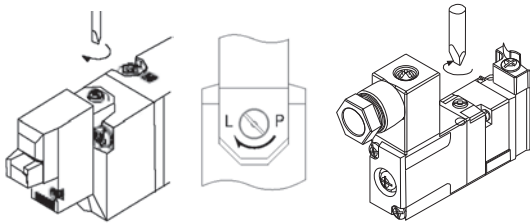
Be sure to read before handling.  
Refer to safety instructions and common precautions.

### Caution

#### Manual operation

##### [The Push-turn Lock method driver operation]

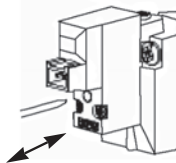
While pushing the manual button turn to the arrow direction. If you do not turn and push you can use the Non-lock Push method to operate. When using a driver you can use a watch driver to easily turn. When removing the Lock you can turn to the opposite direction of the arrow. If you press too hard you will damage the valve.



Caution) When activating automatically have the manual button on the Lock stage and make sure to activate after removing the Lock.

##### [Non-lock Push method manual operation]

Using the Solenoid coil side manual operation press lightly on the manual button under the coil connector with a driver as seen below.



#### Pilot air exhaust port

##### 1) Collection exhaustion

The DV series is a type that the pilot valve exhaustion is collected to the main valve. Be careful that the exhaustion port is clear of obstruction. The P, R port is on both sides of the manifold and you can select the exhaust direction according to the installation location. The P port exhaustion must have the appropriate size for the exhaust connection hole in order to prevent an output deficiency of the actuator and operational errors due to a shortage in pressure. Make sure to use plenty of exhaustion port on both sides to ensure no operational errors occur due to exhaustion resistance when you are installing the R port noise device.

##### 2) Individual exhaust

- ① Since it is in to type of individual exhaustion that releases air in the pilot valve into atmosphere, it cannot be used in places requiring high purity.
- ② Use connector type(H or V) to exhaust(grouped exhaustion) pilot air in grouped state through main valve.

##### [Using the 3 port valve]

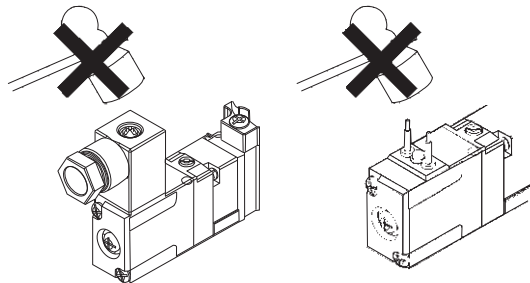
The DV series has a specification of a 5 port valve but if you are using a 3 port valve use one direction of a cylinder port (A,B) to stop up the plug and you will be able to use the Normal Close (N.C) or Normal Open (N.O) 3 port valve.

Except, use with the exhaust port(R1, R2) open.

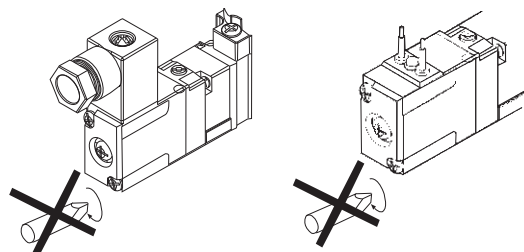
Location of the plug		B port	A port
Conversion Method		N.C	N.O
Number of Solenoids	Single		
	Double		

#### Cautions for wiring and use

- 1) Be careful to prevent connector case of solenoid coil or lamp from being broken by shock.

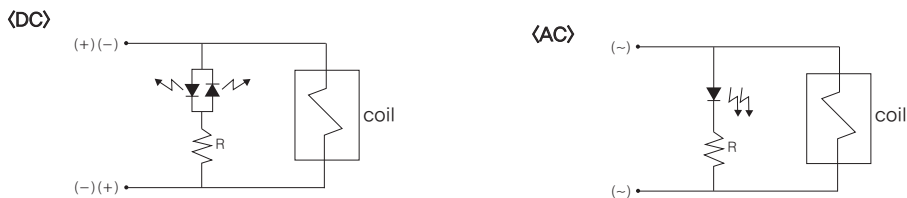


- 2) Do not assemble/disassemble screw at the center of solenoid coil, because it is used to fasten the core.



**! Precautions**

- 3) Avoid the following places where the life of valve may be radically reduced.
  - a. Place with much dust, moisture, vibration or shock
  - b. Place subject to the influence of salt, corrosive gas and chemicals
  - c. Place where the neighboring temperature is not in the range of 0~60°C(32~140°F)
- 4) By operating solenoid valve, keep the fluctuation of rated voltage within + / -10% of rated voltage. Otherwise, malfunction may be caused or coil may be damaged.
- 5) Surge voltage that generated while supplying/blocking power to/at solenoid valve may affect magnetic circuit adversely. Thus, it is required to prepare measure for this problem in the case of PLC control.
- 6) Though power is blocked, operation may continue due to leakage current in the magnetic circuit. Thus, be sure to keep the residual leakage current at both ends under 20% of rated voltage for AC and under 3% of rated voltage for DC.
- 7) Valves of AC 110V, AC 220V Specification  
Our valve is a non-standard option specification solenoid Coil which you may ask about when ordering.



**How to use the plug connector**

When you are installing the connector hold the lever and connector body with your hands and insert the connector in the connector housing, then lock it by pressing in the connector lever hook. When you are separating the connector press the lever to disconnect the hook from the connector housing. When you are pulling the lead line too lightly or put too much force it will result in poor connections or disconnections.

**[How to use DIN Connector]**

**Wiring**

- 1) Be sure to loosen set screw and pull out the connector from the terminal block of the solenoid.
- 2) To separate block and housing, be sure to pull out screw and insert a screwdriver to the slit area near the bottom of terminal block.
- 3) To separate block and housing, and affix it securely with the terminal screw, it is preferred to loose terminal screw of terminal block, it is preferred to place bare end of the bottom of terminal block.
- 4) Be sure to tighten ground nut to secure the wire.

**! Caution**

Use the cable (ø3.5 to ø7) for wiring to meet IP65 standard(enclosure). Tighten the ground nut and set screw with the specified range of torque.

**Change of electrical entry(Orientation)**

After separating terminal block and housing, mount housing at any position(total 4 directions, per 90 degrees), therefore, changing electrical entry.

\* In the case of indicator light, avoid damaging the light with lead wire.

**Precautions**

Plug connector in vertically, never at an angle.

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

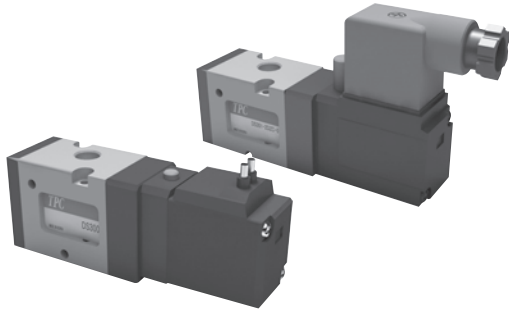
DP300  
DP3000  
DP5000

DM

DT220

# Series DS300

## Rubber Seal 3 Port Pilot Solenoid Type



DS301-0G-00

DS301-0DZ-00

- COMPACT SIZE AND LIGHT WEIGHT
- LARGE FLOW CAPACITY
- LOW POWER CONSUMPTION
- DESIGNED FOR NON-LUBRICATED SERVICE
- EASY MODIFICATION FROM N.C TO N.O.

### Symbol

Single Solenoid

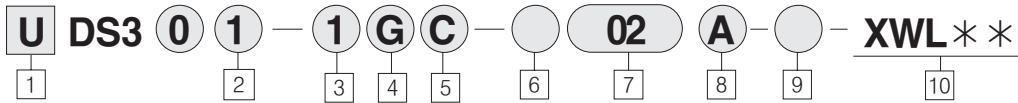
DS300-0000-  
00A(N.C)



DS300-0000-  
00B(N.O)



## How to Order



**1** Series DS300  
Blank : Metric (PT)  
U : NPT (UNF)

**2** Body Option  
1 : Body Ported Type

**3** Voltage  
1 : AC110V, 50/60Hz  
2 : AC220V, 50/60Hz  
3 : AC120V, 50/60Hz  
4 : AC240V, 50/60Hz  
5 : DC24V  
6 : DC12V

7 : DC6V  
8 : AC24V, 50/60Hz  
9 : DC100V

**4** Electrical Entry  
G : Grommet (Lead wire length 12 inch (300 mm))  
DZ : DIN Connector with Indicator Light and Surge Suppressor  
D : DIN Connector  
N : Without DIN Connector

**5** Manual Override  
Blank : Non-lock push type  
C : Knob locking type

**6** Port Thread  
Blank : Rc (PT)  
U : NPT

**7** Port Size (P, A, R Port)  
01 : 1/8"  
02 : 1/4" (Standard)

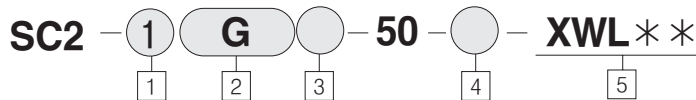
**8** Action  
A : Normally Closed

B : Normally Open

**9** Special Option  
Blank : Standard type  
XC16 : Copper-free

**10** Length of lead wire  
Blank : 300mm (standard)  
XWL01 : 100mm  
XWL02 : 200mm  
:  
XWL20 : 2000mm  
Other length : Contact us

### Pilot Valve Assembly



**1** Voltage  
1 : AC100V, 50/60Hz  
2 : AC200V, 50/60Hz  
3 : AC120V, 50/60Hz  
4 : AC240V, 50/50Hz  
5 : DC24V  
6 : DC12V  
7 : DC6V  
8 : AC24V, 50/60Hz  
9 : DC100V

**2** Electrical Entry  
G : Grommet (Lead wire length 12 inch)  
DZ : DIN Connector With Indicator light and Surge suppressor  
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)  
XWL01 : 100mm  
XWL02 : 200mm  
:  
XWL20 : 2000mm  
Other length : Contact us

Din Terminal Box How to Order

DS3130-61-2005- **Code**

1

1 Voltage Coding

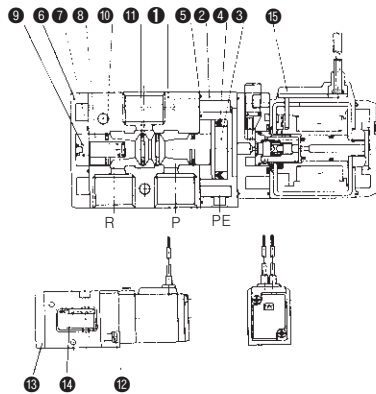
Code	Voltage
1	AC 110V
2	AC 220V
3	AC 120V
4	AC 240V
5	DC 24V
6	DC 12V
7	DC 6V
8	Others(AC24V)
9	DC100V

Specifications

Model	DS300	
Action	Pilot Type	
Position, Port	2 Position 3 Port	
Body Options	Body Ported Type	
Fluid	Air	
Port Size Rc(PT)/NPT	1/8 "	1/4 "
Effective Orifice mm(Cv)	19.2 (1.07)	22 (1.2)
Operating Pressure Range	0.15~0.9 MPa(21~128 PSI)	
Ambient and Fluid Temperature	MAX. 50°C (122°F)	
Response Time	30ms or less(at 0.5Mpa (72psi))	
MAX. Operating Frequency	5 C/S	
Lubrication	Not required	
Manual Override	Non-Lock Push Type, Knob Locking Type	
Mounting Position	Free	
Impact/Vibration Resistance	30 G/5 G (8.3~2000 Hz)	

Electrical Entry		Grommet(G)	DIN Connector(DZ)
Coil Voltage	AC(50/60Hz)	110VAC, 220VAC, 120VAC, 240VAC, 24VAC	
	DC	6VDC, 12VDC, 24VDC, 100VDC	
Allowable Voltage		-15~+10% of Rated Voltage	
Power Consumption	AC	Inrush	5.6 VA(50Hz), 5VA(60Hz)
		Holding	3.4 VA(50Hz), 2.3VA(60Hz)
		DC	1.8W/2.0W (With LED)
Indicator light and Surge Voltage suppressor Circuit		AC	LED, Varistor
		DC	LED, Varistor

Construction/Parts List



No.	Description	Material	Notes
1	Body	Aluminum Diecasting	Metallic Paint
2	Adapter Plate	Resin	
3	Piston Plate	Resin	
4	Piston Packing	NBR	
5	Adapter Plate Gasket	NBR	
6	End Cover	Zinc Diecasting	Black Paint
7	End Cover Gasket	NBR	
8	Spool	Aluminum NBR	
9	Spool Spring	Spring Steel	
10	Spool Packing	NBR	
11	Quad Ring	NBR	
12	+Pan Headed Screw	Carbon Steel	M4×0.7×12 t
13	+Flush Headed Screw	Carbon Steel	M3×0.5×8 t
14	Name Plate	Tetron	
15	Pilot Valve Ass'y	-	

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

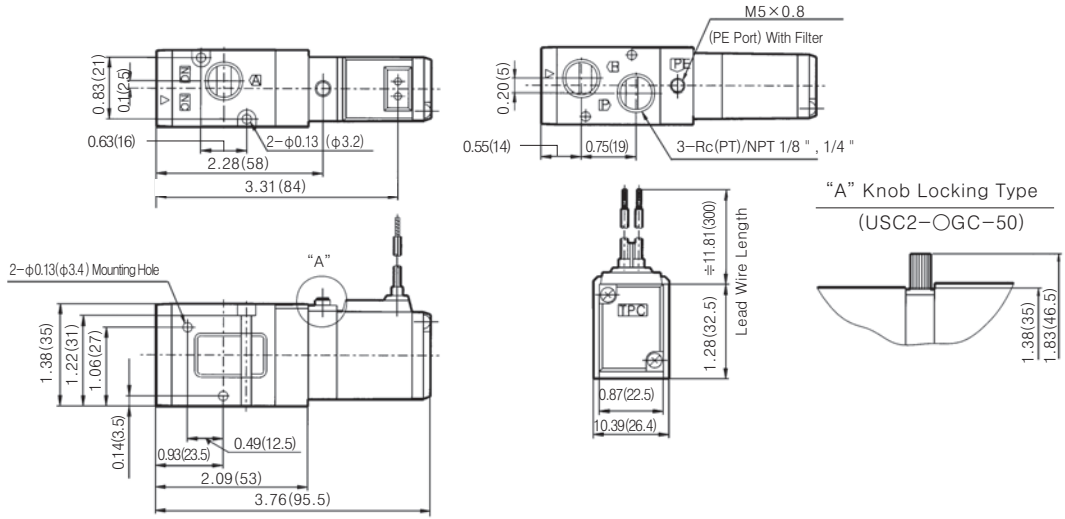
DT220

# Series DS300

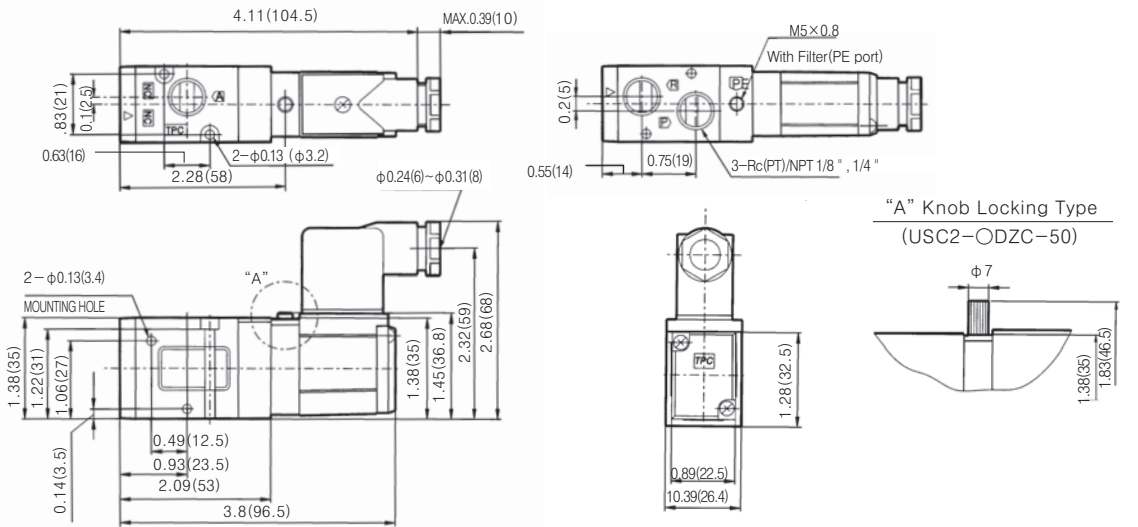
Body Ported/2 Position

inch(mm)

## Grommet DS300-OG



## DIN Connector DS300-ODZ

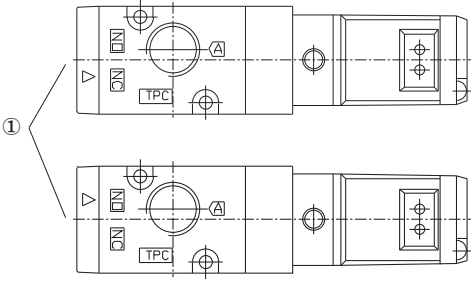


Series	Position				Body Type Body ported type	A · Bport size, effective area mm <sup>2</sup> (Cv factor)				Valve size (mm)	Power consumption (DC) W	operating Pressure range Mpa(PSI)
	2position		3position			Rc(PT)/NPT 1/8"	Rc(PT)/NPT 1/4"	Rc(PT)/NPT 3/8"	Rc(PT)/NPT 1/2"			
	single	Double	CLOSED CENTER	EXHAUST CENTER								
DS300	○	-	-	-	○	19.2 (1.07)	22 (1.2)	-	-	26.4	1.8/2.0	0.15~0.9 {21.3~128}
DS3000	○	○	○	○	○	14.4 (0.8)	18 (1.0)	-	-	26.4	1.8/2.0	
DS5000	○	○	○	○	○	-	-	50 (2.8)	58 (3.2)	32	1.8/2.0	



DS 300 Series

Change of Actuation



As shown in the figure above, in event that it is needed to change the actuation from normally closed style to normally open style, it is preferred to remove the body from the sub plate and reset the “▲” mark on the body corresponding to the “NO” mark on the sub plate.

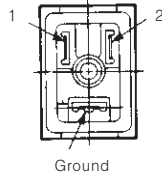
For piping, it is preferred to check the following table.

Post	P	A	R
N · C	Upstream	Downstream	Exhaust side
N · O	Exhaust side	Downstream	Upstream

Electronical Connection

Be sure to check the inner connections are as follows for the DIN connection and Terminal connection (with surge protection circuit).

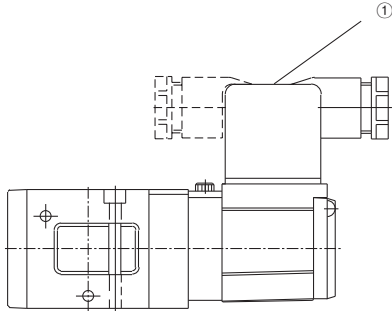
DIN Connection



Terminal NO.	1	2
DIN Connection	+	-

Change of Electrical Entry

Be sure to push out the body of DIN terminal from the cover, and turn it at 180° and then insert it.



DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

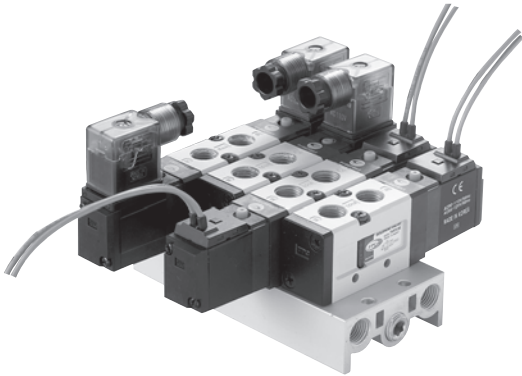
DP300  
DP3000  
DP5000

DM

DT220

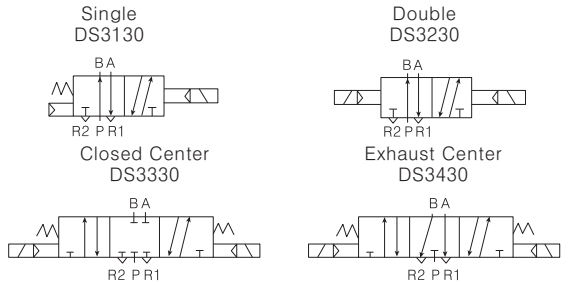
# Series DS3000

## 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 \* \*

1
2
3
4
5
6
7
8
9
10

#### 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'y Order Type

SC2 — 1 G — 50 — — XWL \* \*

1
2
3
4
5

#### 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 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

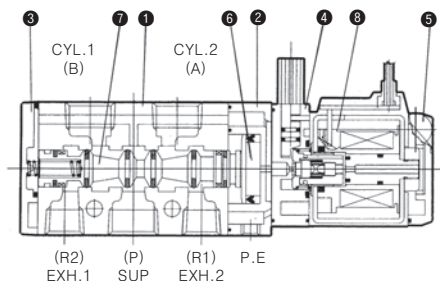
DM

DT220

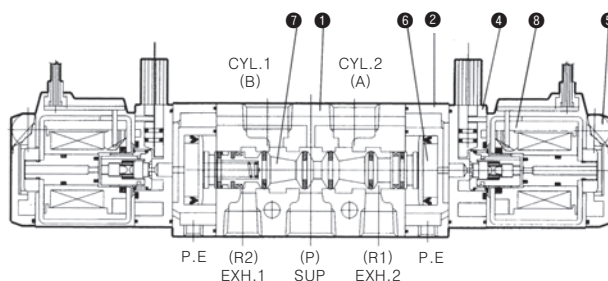
# Series DS3000

## Construction

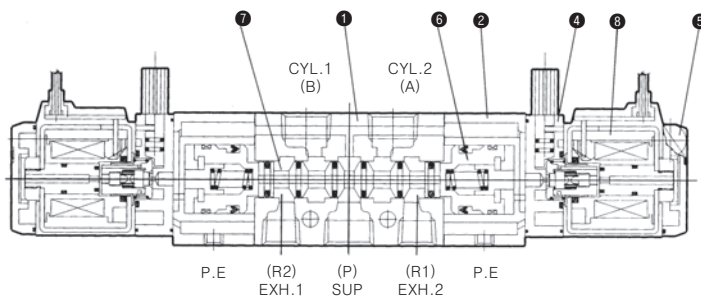
### Single Solenoid



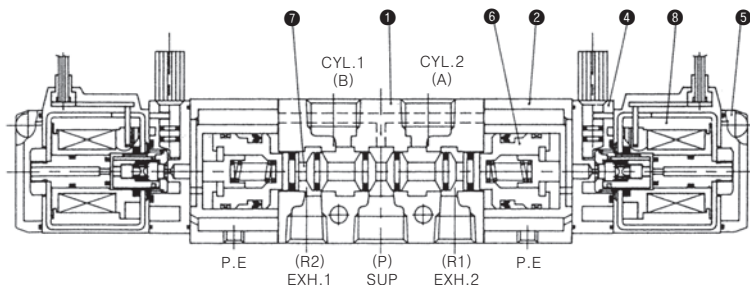
### Double Solenoid



### 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

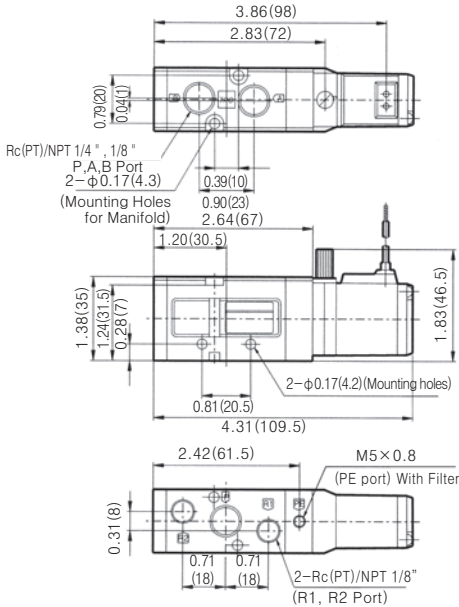
#### Spare Parts

No.	Description	Material	Notes
8	Pilot Valve Assembly	-	-

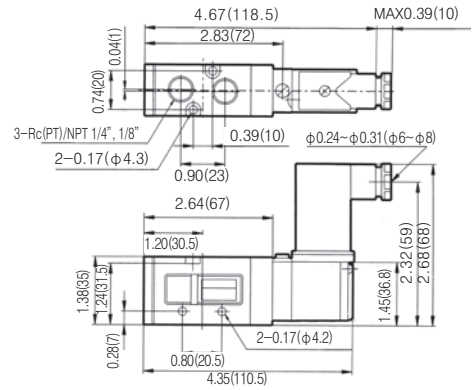
Body Ported/2 Position Single Solenoid

inch(mm)

Grommet/DS3130-OG



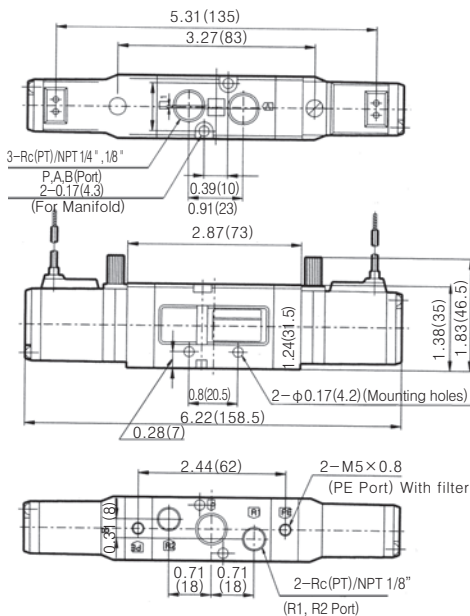
DIN Connector/DS3130-OD



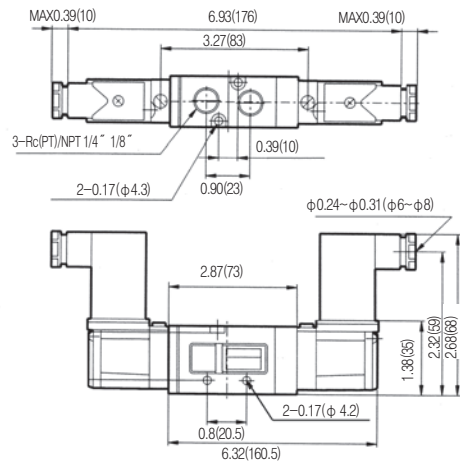
Body Port/2 Position Double Solenoid • 3 Position Closed Center • Exhaust Center

inch(mm)

Grommet/DS3230-OG



DIN Connector/DS3230-OD



DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

DP300  
DP3000  
DP5000

DM

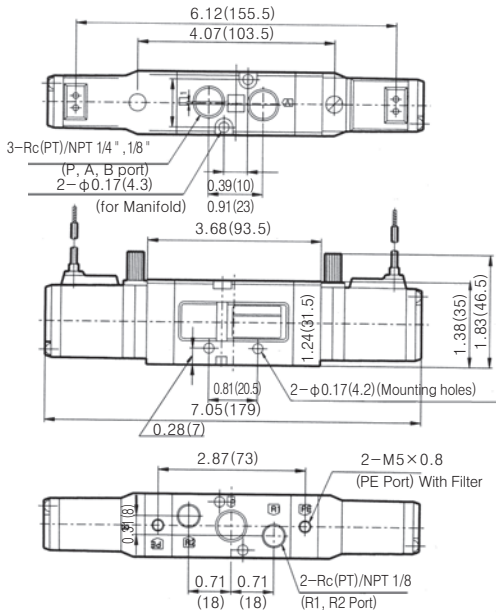
DT220

# Series DS3000

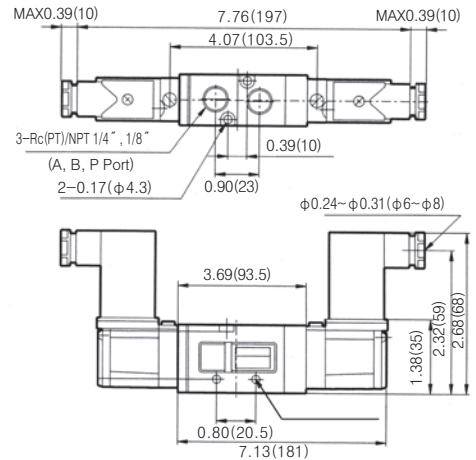
## Body Ported/3 Position Double Solenoid

inch(mm)

Grommet/DS3330-OG, DS3430-OG



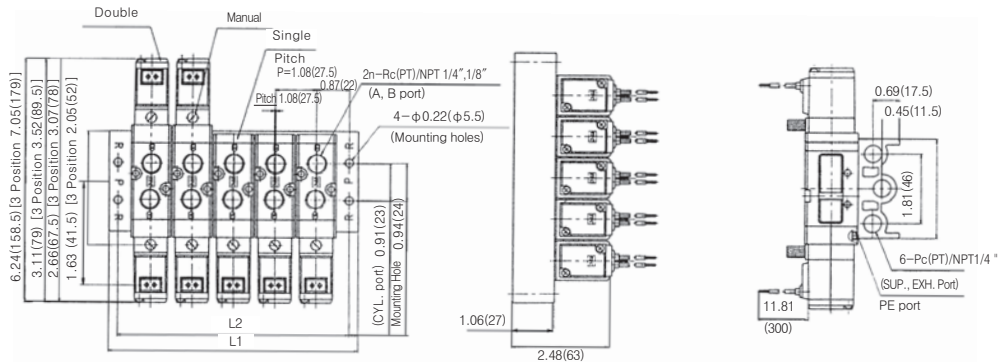
DIN Connector/DS3330-OD  
DS3430-OD



## B Mount Type/Dimensions DSM3-30

inch(mm)

Common Exhaust/DSM3-30-OO1



L:Size

N = Stations

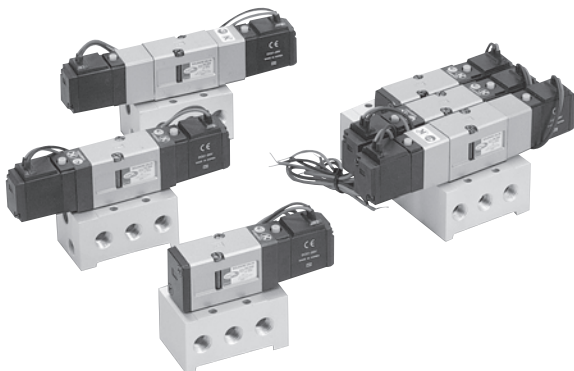
	inch																			
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
L1	3.29	4.37	5.45	6.34	7.62	8.70	9.78	10.87	11.95	13.03	14.11	15.20	16.28	17.36	18.44	19.53	20.61	21.69	22.78	
L2	2.81	3.90	4.98	6.06	7.15	8.23	9.31	10.39	11.48	12.56	13.64	14.72	15.81	16.89	17.97	19.06	20.14	21.22	22.30	

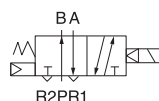
	mm																			
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
L1	83.5	111	138.5	166	193.5	221	248.5	276	303.5	331	358.5	386	413.5	441	468.5	496	523.5	551	578.5	
L2	71.5	99	126.5	154	181.5	209	236.5	264	291.5	319	346.5	374	401.5	429	456.5	484	511.5	539	566.5	

# Series DS3000

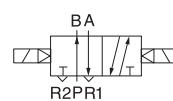
## 5-Port Pilot Type Solenoid Valve/Sub Base Piping Type



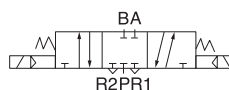
Single  
DS3100



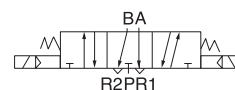
Double  
DS3200



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

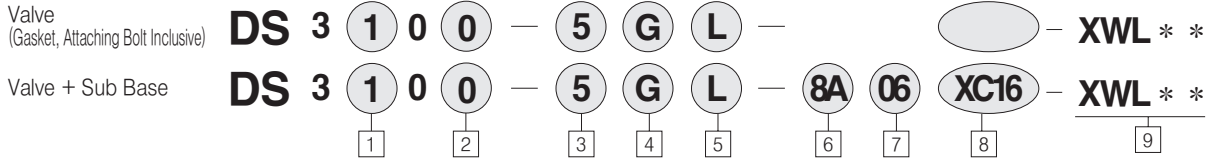
DP300  
DP3000  
DP5000

DM

DT220



## How to Order



**1** Type of Actuation

- 1 → Single
- 2 → Double
- 3 → Closed Center
- 4 → Exhaust Center

**2** Body Option

- 0 → Standard Type

**3** Voltage

- 1 → AC110V(50/60Hz)
- 2 → AC220V(50/60Hz)
- 3 → AC120V(50/60Hz)
- 4 → AC240V(50/60Hz)
- 5 → DC24V
- 6 → DC12V
- 7 → DC6V
- 8 → AC24V(50/60Hz)
- 9 → DC100V

**4** Electrical Entry

- G → Grommet  
(Lead Wire Length 300mm)
- DZ → DIN Connector with Indicator Light and Surge Suppress  
(Lamp/Surge Voltage Protecting Circuit Attached)
- N → DIN Connector

**5** Manual Override

- Blank → Non-Lock Push Type
- L → Locking "L" Type

**6** Port Size

- Blank → Valve Body Only  
(Without Sub Plate)
- 8A → 1/4" (Without Sub Plate Attached)

**7** One Touch Fitting Attachment

- Blank → Without One Touch Fitting
- 06 → Ø6 One Touch Fitting
- 08 → Ø8 One Touch Fitting

**8** Special Option

- Blank → Standard
- XC16 → Copper-free

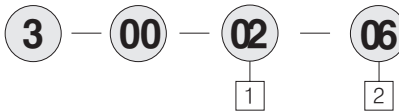
**9** Length of Lead Wire

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

\* Please contact for specification beyond standard length

Manifold

**DSM**



**1** Stations

- 1 → 1 Stations
  - 2 → 2 Stations
  - 3 → 3 Stations
  - 4 → 4 Stations
  - 5 → 5 Stations
  - 6 → 6 Stations
  - 7 → 7 Stations
  - 8 → 8 Stations
  - 9 → 9 Stations
  - 10 → 10 Stations
- (Please contact for over 11-stations)

**2** One Touch Fitting Attached

- Blank → Without One Touch Fitting
- 06 → Ø6 One Touch Fitting Attached
- 08 → Ø8 One Touch Fitting Attached

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

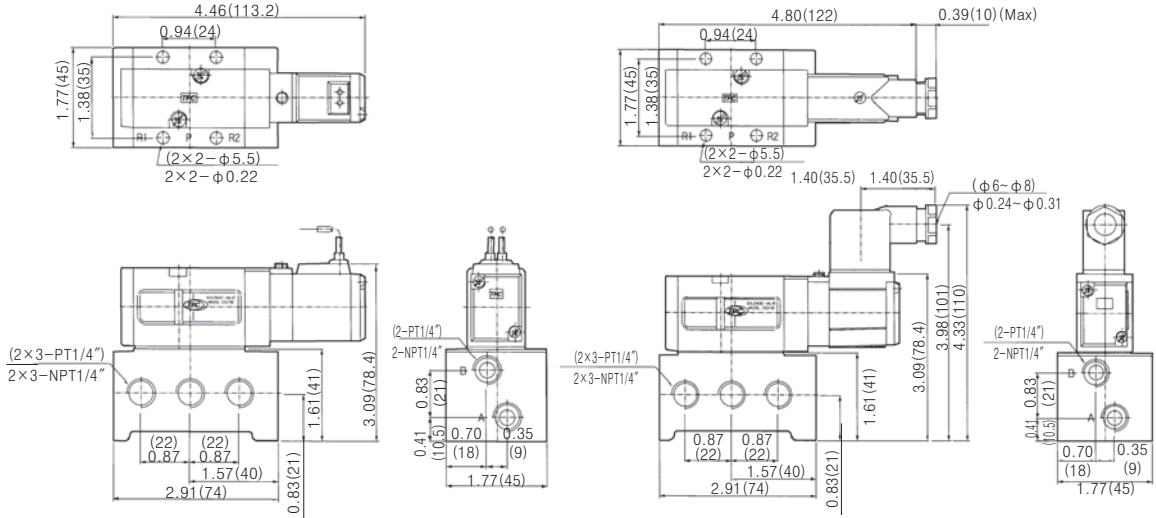


Dimensions/2 Position Single Solenoid

inch(mm)

Grommet/DS3100-OG

DIN Connector/DS3100-ODZ

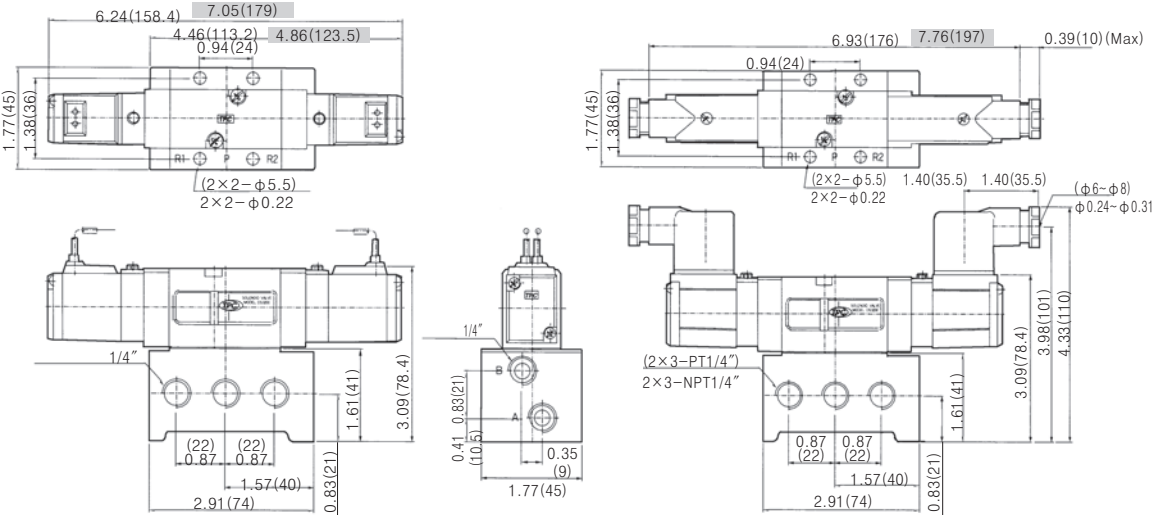


Dimensions/2 Position Double Solenoid · 3 Position Closed Center · Exhaust Center

inch(mm)

Grommet/DS3200, 3300, 3400-OG

DIN Connector/DS3200, 3300, 3400-ODZ



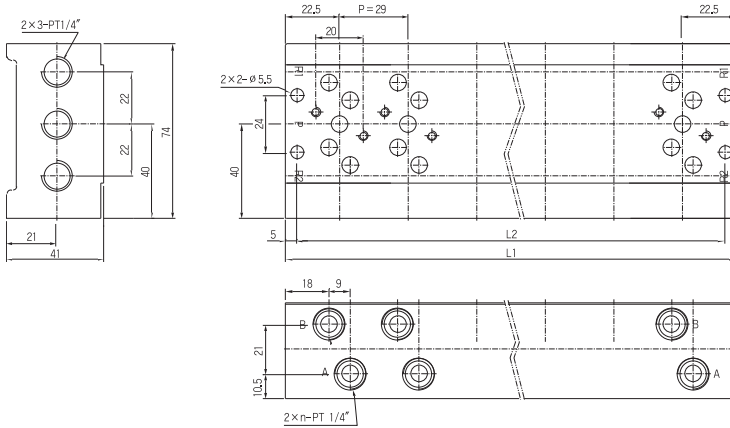
※  : 3Position

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

## Dimensions / Manifold Block

inch(mm)

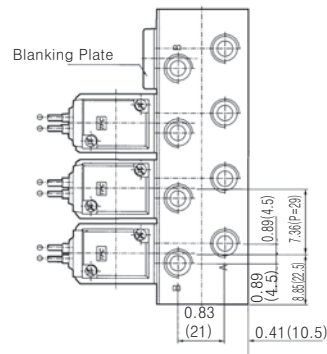
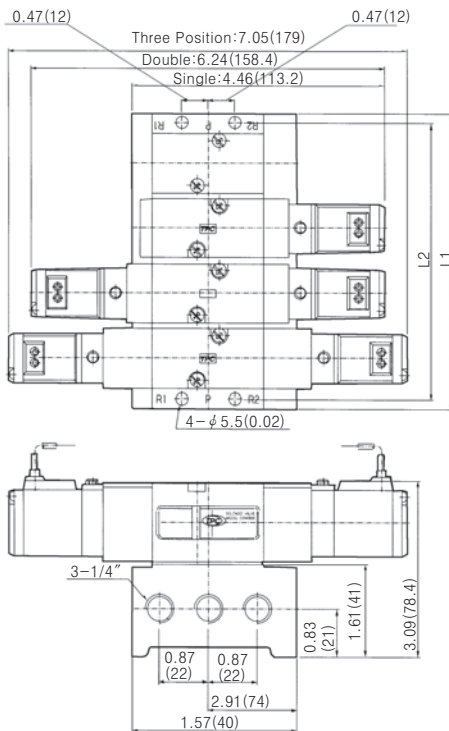


inch(mm)

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)
L2	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)

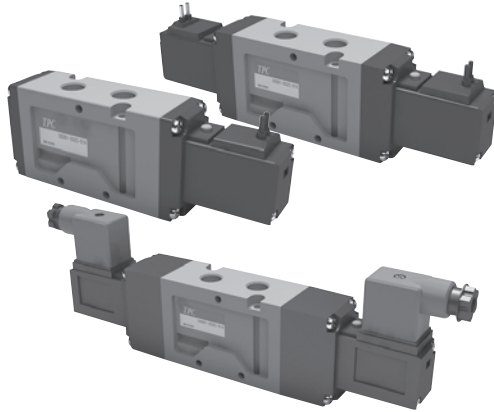


inch(mm)

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)
L2	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)

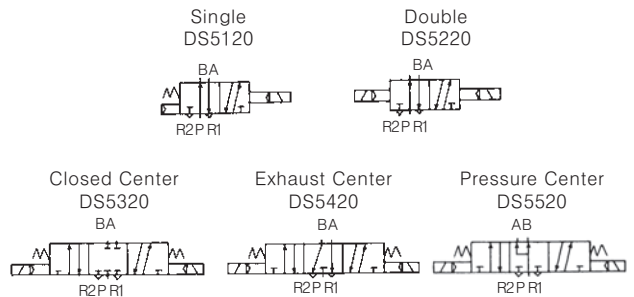
# Series DS5000

## Rubber Body Seal 5-Port Pilot Type

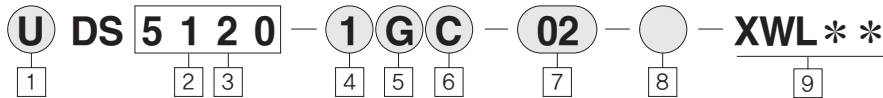


- SMALL SIZE AND LIGHT WEIGHT / WIDTH 32mm
- LARGE VALVE CAPACITY - CV2.8, RC(PT)3/8
- CV3.2, RC(PT)1/2
- LOW POWER CONSUMPTION/1.8W(DC)

### Symbol



### How to Order



#### 1 DS5000

Blank : Metric (PT)  
U : NPT

#### 2 Type of Actuation

- 1 : Single
- 2 : Double
- 3 : Closed Center
- 4 : Exhaust Center
- 5 : Pressure Center

#### 3 Body Type

- 20 : Body ported type
- 23 : Integrated exhaust type

#### 4 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

※ Please contact for other specifications

#### 5 Electrical Entry

G : Grommet  
(Lead wire length 300mm)

DZ : DIN type terminal (Connector attached, Lamp/surge voltage protecting circuit attached)

D : DIN type terminal

N : DIN connector attaching type (No connector)

#### 6 Manual Override

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

#### 7 Port Size

- 02 : 1/4"
- 03 : 3/8"
- 04 : 1/2"

#### 8 Special Option

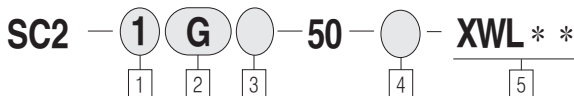
Blank : Standard type  
XC16 : Copper-free

#### 9 Length of Lead Wire

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

※ Please contact for specification beyond standard length

### Pilot Valve Ass'y Order Form : ( Coil Item Number)



#### 1 Voltage

- 1 : AC110V, 50/60Hz
- 2 : AC220V, 50/60Hz
- 3 : AC120V, 50/60Hz
- 4 : AC240V, 50/60Hz
- 5 : DC24V
- 6 : DC12V
- 7 : DC6V

8 : Others (Contact for specifications beside AC24V)  
9 : DC100V

#### 2 Electrical Entry

G : Grommet  
(Lead wire length 300mm)

DZ : DIN type terminal (Connector attached, Lamp/surge voltage protecting circuit attached)

D : DIN type terminal

#### 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)  
XWL01 : 100mm  
XWL02 : 200mm  
XWL04 : 400mm  
:  
XWL20 : 2000mm

※ Contact for specifications beside standard length.

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 DS5000

## 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

## Specifications

Fluid		Air	
Operating Pressure Range	2-position Single, 3-position	0.15~0.9MPa(21~128PSI)	
	2-position Double	0.1~0.9MPa(14~128PSI)	
Ambient and Fluid Temperature		5~50°C (122°F)	
Response Time	2-position Single, Double	40ms or Less {0.5MPa}	
	3-position	50ms or Less {0.5MPa}	
Max. Operating Frequency (Time/Second)	2-position Single, Double	5 c/s	
	3-position	3 c/s	
Lamp (LED)		Standard	
Lubrication		Not Required	
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 Type	
Electrical entry		Grommet      DIN Connector	
Protecting structure		Vibration-Resistant      IP65	
Coil Voltages	AC 50/60Hz	110V, 220V, 120V, 240V, 24V	
	DC	24V, 12V, 6V, 100V	
Allowable Voltage Fluctuation		-15~+10% of Rated Voltage	
Apparent Electric Power	AC	No Lamp	5.6VA(50Hz), 5.0VA(60Hz)
		Lamp Attached	3.4VA(50Hz), 2.3VA(60Hz)
Power Consumption	DC	1.8W/2W(Lamp Attached)	
Lamp/Surge Voltage Protecting Circuit	AC	LED, Varistor	
	DC	LED, Varistor	

## Model

Piping	Type	Position	(1) Port Size (SUP, CYL.)	Effective Orifice mm <sup>2</sup> (Or Factor)		(2) Weight(kg)	
				Rc(PT)3/8	Rc(PT)1/2	Rc(PT)3/8	Rc(PT)1/2
Body Ported	DS5120-00- <sup>02</sup> / <sub>03</sub> - <sup>04</sup>	2 Position Single	Rc(PT)1/4	50(2.8)	58(3.2)	0.38	0.37
	DS5220-00- <sup>02</sup> / <sub>03</sub> - <sup>04</sup>	2 Position Double	Rc(PT)3/8	50(2.8)	58(3.2)	0.48	0.47
	DS5320-00- <sup>02</sup> / <sub>03</sub> - <sup>04</sup>	3 Position Closed Center	Rc(PT)1/2	40(2.2)	45(2.5)	0.59	0.58
	DS5420-00- <sup>02</sup> / <sub>03</sub> - <sup>04</sup>	3 Position Exhaust Center		43(2.4)	48(2.7)	0.59	0.58
	DS5520-00- <sup>02</sup> / <sub>03</sub> - <sup>04</sup>	3 Position Pressure Center		40(2.2)	45(2.5)	0.59	0.58

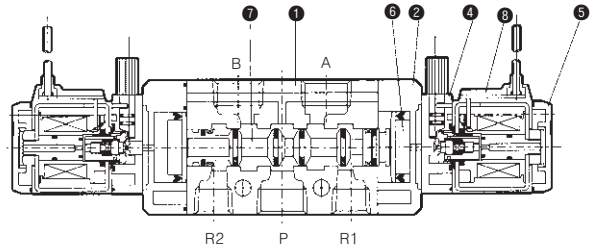
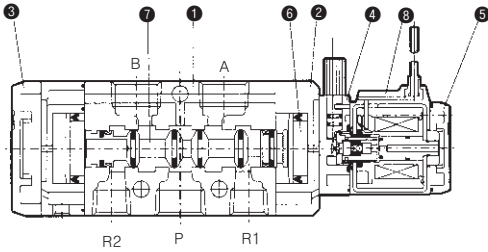
(1) Attachment of direct piping valve is available with each manifold base. (Manifold type/B mount-common exhaust)

(2) Weight of grommet type

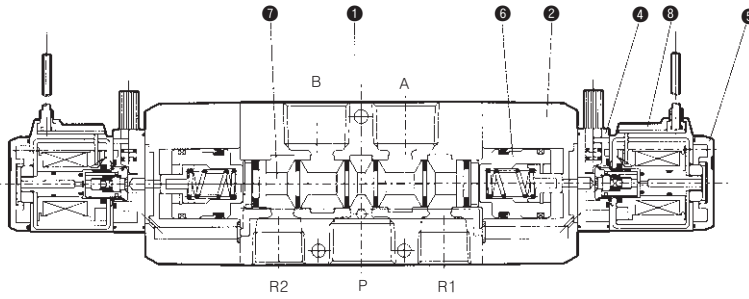
(3) Effective sectional area of valve is assigned by provider, which shows a bit of difference to exhaust-side effective sectional area.

Single Solenoid

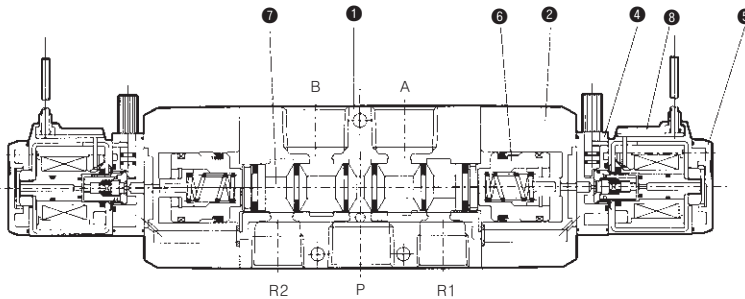
Double Solenoid



3 Position Closed Center



3 Position Exhaust Center



Major Parts

No.	Name of Components	Material	Remark
1	Body	Aluminum Die Casting	Silver Painting
2	Adapter plate	Aluminum Die Casting	Black Painting
3	End Cover	Aluminum Die Casting	Black Painting
4	Pilot Body	Resin	
5	Pilot Cover	Resin	
6	Piston	<sup>(Note1)</sup> Resin	
7	Spool	Aluminum	

Note 1) 3-location type is aluminum.

Reserved Components

No.	Name of Components	Material	Remark
8	<sup>(Note2)</sup> Pilot Valve Ass'y	-	-

Note 2) Contact for ordering.

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

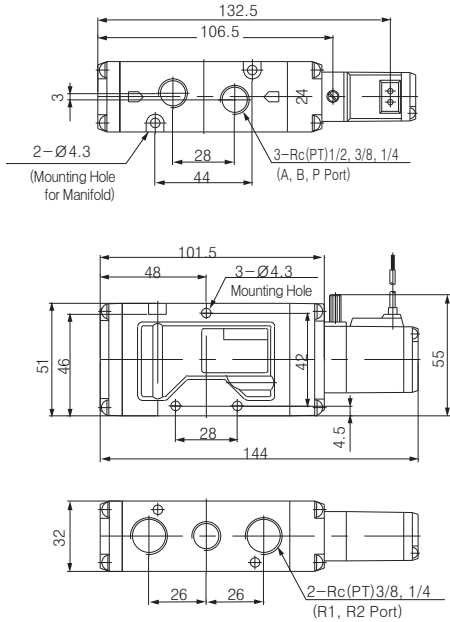
DP300  
DP3000  
DP5000

DM

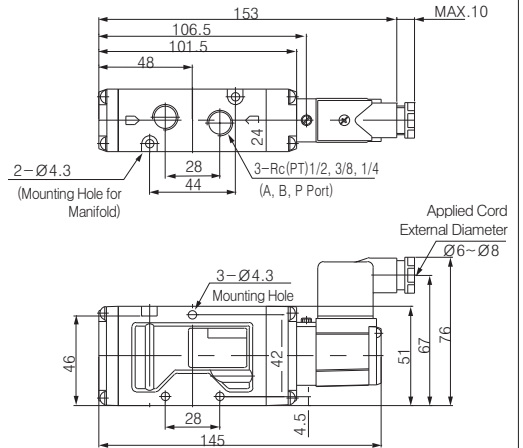
DT220

## Body Ported Type/2-Position Single Solenoid

Grommet DS512 ○ - ○ G

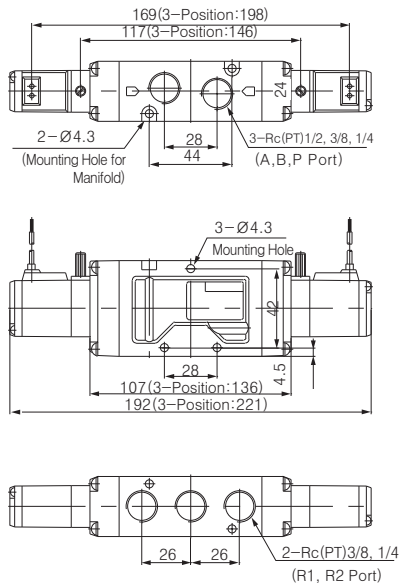


DIN Connector/DS512 ○ - ○ DZ

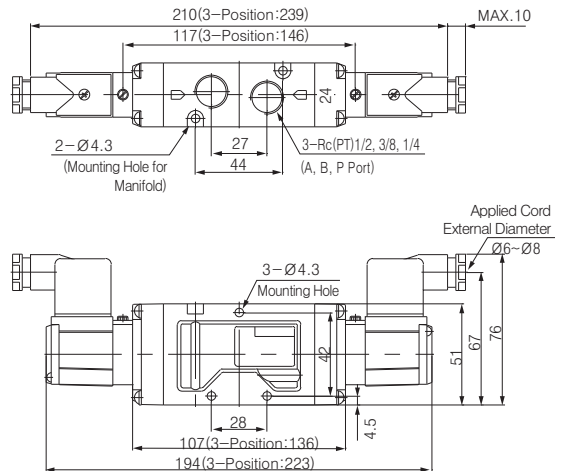


## Body Ported Type/2-Position Double Solenoid · 3-Position Closed Center · Exhaust Center

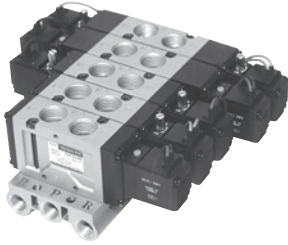
Grommet DS5 ○ 2 ○ - G



DIN Connector/DS5 ○ 2 ○ - ○ DZ



Manifold



TVV5F5-20

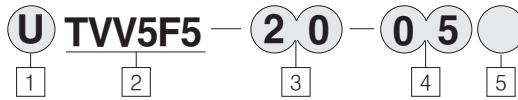
Types/Specifications

Manifold Type	B Mount (Single Base Type)
Exhaust Port Type	Common Exhaust
Maximum Valve Connection Number	10-Connection

(1) For more than 5-connection, pressurized at both ends of P (SUP) port and exhausted by both R (EXH) ports.

Manifold Base Type	R(EXH) Port Type	Piping Direction/Connect Location			Pipe contact diameterRc(PT)			Applied Valve Type
		P	R	A,B	P	R	A,B	
TVV5F5-20	Common	Transverse	Transverse	Upper	1/2	3/8	3/8,	DS5○20
		Base	Base	Valve				

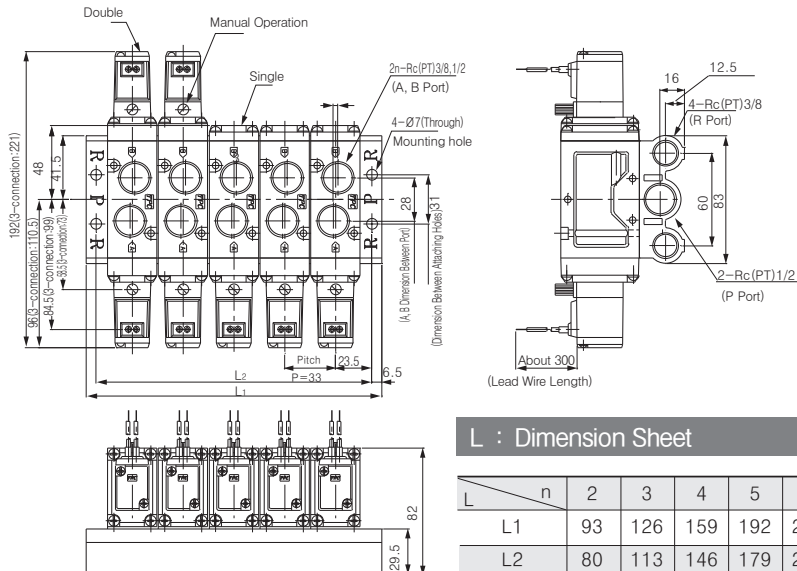
Manifold Base Order Form



- 1 Manifold  
Blank : Metric (PT)  
U : NPT
- 2 DS5000 Series Manifold
- 3 Manifold Specification  
Symbol : 20  
A, B Port Piping Location : Valve  
Port Piping Diameter  
P : Rc(PT)1/2  
R : Rc(PT)3/8  
Applied Valve Type : DS5○20
- 4 Stations  
02 : 2 Stations  
:  
10 : 10 Stations
- 5 Component Symbol  
Symbol : 1  
Passage specification  
P : Common  
R : Common  
Piping Specification  
A, B : Upper  
Remark : 20 Type

Common EXH/TVV5F5 - 20

Common EXH/TVV5F5 - 20 - ○○1



L : Dimension Sheet (n : Connection Number)

n	2	3	4	5	6	7	8	9	10
L1	93	126	159	192	225	258	291	324	357
L2	80	113	146	179	212	245	278	311	344

- 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

## Notices for Handling

### Notices for Products

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

### Indicator Light / Surge Voltage Suppressor

Rated Voltage	AC, DC
Less than 24V	
Less than 200V	

Note 1) No lamp attaching type for Grommet (G) type

Note 2) ZNR is called as Varistor, which is surge voltage protection circuit.

### In Case of Using 3-Port Valve (in case of 5-port)

With closing one direction of cylinder port (A and B), it is applied as 3-port valve of normal closed (N.C) or Normal Open (N.O).

It is comfortable if 3-port valve is needed. But, do not apply for special purposes such as Non Leak Valve. Moreover, please use with opened condition for exhaust port.

Plug Location		B Port (CYL.1 Port)	A Port (CYL.2 Port)
Switching Method		N.C	N.O
Solenoid Number	Single	(X) Plug 	(X) Plug 
	Double	(X) Plug 	(X) Plug 

### For the Quality of Fluid Applied

- ① 5 $\mu$ m filter resolution is sufficient.
- ② Large amount of drain may cause operation failure of pneumatic equipment which firstly uses valve and environmental contamination, so that special management is required. Moreover, if management of drain exhaust is difficult, it is recommended to use automatic exhaust attaching filter.
- ③ If large quantity of carbon powder is generated from compressor, it may cause operation failure owing to attaching on valve inside. It is recommended to use less carbon powder generating compressor or install collecting filter.

### For Piping

- ① Fully remove chip, cutting oil or dust in a pipe with air blow (flushing) or washing prior to piping.
- ② In case of connecting fittings or pipes, be cautious not to allow chip or seal material of piping screw incoming. Moreover, roll over screw part with seal tape with 1.5~2 spin margins.
- ③ Check if silencer is attached to PE port of manifold valve.
- ④ Connecting torque during piping

Contact screw	Proper Tightening Torque kgf · cm (N · m)	Material of Tightening Part
M3	3.1~3.9(0.31~0.39)	Resin
	4.7~5.9(0.47~0.59)	Aluminum
M4	7.5~9.5(0.75~0.95)	Resin
	11.5~14.5(1.15~1.45)	Aluminum
M5	15~20(1.5~2)	Resin
PT 1/8	70~90(7~9)	Aluminum
PT 1/4	120~140(12~14)	



DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

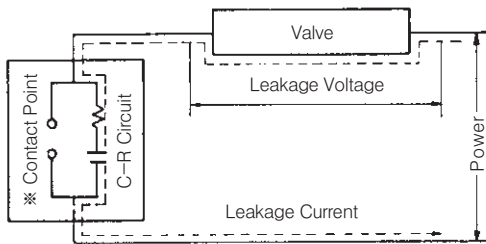
DP300  
DP3000  
DP5000

DM

DT220

**For Leakage Voltage**

- ① In case of power OFF, restrain residual leakage voltage in both end of AC coil under 20% of rated voltage, and under 3% for DC coil. (Please measure AC coil with manually pressing metal pin.)
- ② In case of using C-R circuit for contact point protection, be cautious that leakage voltage possibly increases owing to leakage current through C-R circuit.



※ Be cautious that some of non-contact point relays have protection circuit built-in.

**Operating Environment**

- ① Do not attach around the place affected by corrosive gas, chemical liquid, sea water splash, rainwater and steam.
- ② Make a measure such as protection cover, etc, for attaching in the place affected by water drops, oil and spatter during welding process.
- ③ Prevent inflow of dust into valve with attaching silencer at exhaust port of valve.

**For Using in Low Temperature**

It is available to use by -10°C, however, full caution is needed for condensation of drain and moist. It is recommended to install drier for the case above.

**For Sequential Power Supply**

In case of sequential power supply, apply more than 0.1 second for power supply and 0.05 second for power OFF.

**In Case of Long Term Power Supply**

In case of using for a long period with power supply, please ask for consultation to manufacturer.

**How to Find the Flow Rate**

- ① In case of  $P_2 + 1.033 \leq P_1 + 1.033 \leq 1.89(P_2 + 1.033)$

$$Q = 22.2S \sqrt{\frac{\Delta P(P_2 + 1.033)}{G}} \cdot \sqrt{\frac{273}{273 + \theta}}$$

- ① In case of  $1.89(P_2 + 1.033) < P_1 + 1.033$

$$Q = 11.1S(P_1 + 1.033) \frac{1}{\sqrt{G}} \cdot \sqrt{\frac{273}{273 + \theta}}$$

- Q : Flux in Conventional Condition (N ℓ / min)
- P<sub>1</sub> : 1st Side Pressure (Gauge Pressure) (kgf/cm<sup>2</sup>)
- P<sub>2</sub> : 2st Side Pressure (Gauge Pressure) (kgf/cm<sup>2</sup>)
- ΔP : Pressure Differential (P<sub>1</sub> - P<sub>2</sub>) (kgf/cm<sup>2</sup>)
- S : Effective Sectional Area (mm<sup>2</sup>)
- G : Specific Gravity (Air=1)
- θ : Temperature of Air Applied (°C)

**Lubrication**

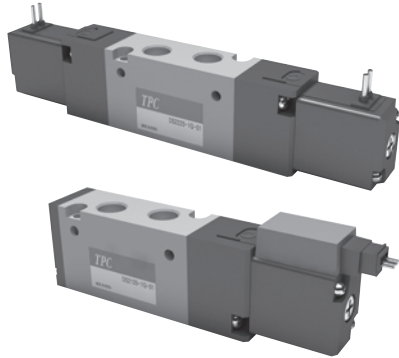
- ① Initially lubricated, possible to use with non-Lube.
  - ② Please use turbine oil class 1 (ISOVG32) for refueling. Moreover, if refueling is stopped, it may cause operation failure owing to loss of initial lubricant, so that refueling should be continued.
- Please contact for turbine oil class 1 (ISOVG32).

**Port Indicating Symbol Sheet**

Index	DS300	DS3000, DS5000
Inlet	P(SUP)	
Outlet	A(CYL)	A(CYL.2) and B(CYL.1)
Exhaust Hole	R(EXH)	R1(EXH2) and R2(EXH1)
KS Symbol (Single solenoid)		
	S:P(SUP)	

# Series DS2000

## Elastic Seal 5 Port Pilot Type Solenoid Valve

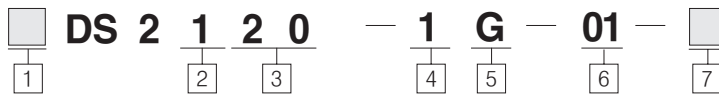


- COMPACT SIZE AND LIGHT WEIGHT – 18mm WIDTH
- LARGE FLOW CAPACITY – Cv 0.53  
EFFECTIVE ORIFICE 9.5mm<sup>2</sup>
- LOW POWER CONSUMPTION – 1.7W(DC)

### Symbol



## How To Order



### 1 Series

Blank : Rc(PT)Port Directional Control Valve  
U : NPT Port Directional Control Valve

### 2 Configuration

1 : 2 Position Single  
2 : 2 Position Double

### 3 Body Type

20 : Body Ported Type

### 4 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  
※ 3, 4 are non-standard

### 5 Electrical Entry

G : Grommet  
H : Plug Connector Type  
HZ : Plug Connector Type(With indicator Light and surge voltage suppressor)

※ Plug connector type of DC has only HZ type

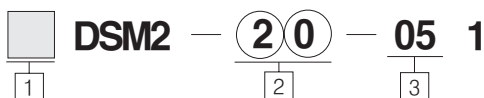
### 6 Port Size

01 : Rc(PT)1/8  
NPT1/8

### 7 Length of Lead Wire

Blank : 300mm(standard)  
XWL01 : 100mm  
XWL02 : 200mm  
:  
XWL20 : 2000mm  
※ Contact us for specification beyond standard length.

## Manifold



### 1 Series

Blank : Rc(PT)Port  
U : NPT Manifold For Series DS2000

### 2 Manifold Specifications

20 : Manifold Specifications

### 3 Stations

2~20Stations

**⚠ Precautions.**

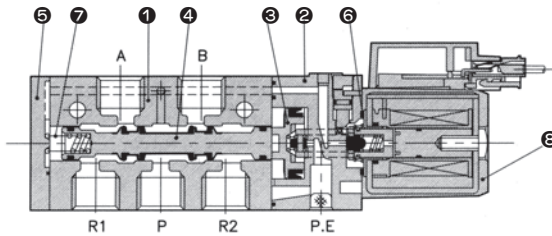
Be sure to read before handling. Refer to(B-68) for safety Instruction and common precautions.

Specifications			
Item	DS2120	DS2220	
Fluid	Air		
Operating Pressure Range(MPa) (psi)	0.15~0.7MPa(21~100psi)	0.1~0.7MPa(14~100psi)	
Effective Orifice mm(Cv)	9.5(0.53)		
Ambient and Fluid Temperature	Max. 50°C (122°F)		
Response Time(0.5MPa)	≤20ms		
Max. Operating frequency	10c/s		
Lubrication	Unnecessary		
Manual Override	Non-locking Push type		
Impact/Vibration Resistance	30G/5G (8.3~2000HZ)		
Enclosure	Dust Proof		
Coil Voltage	AC 50/60HZ 110V, 220V, DC12V, 24V		
Allowable Voltage	-15%~+10% of Rated Voltage		
Coil Insulation	Class B or equivalent(130°C)(266°F)		
Apparent Power	AC	Inrush	4.5VA(50HZ), 4.2VA(60HZ)
		Holding	3.0VA(50HZ), 2.6VA(60HZ)
Power Consumption	DC	1.7W	
Weight g(ozs)	100(3.53)	150(5.3)	
Surge suppressor circuit	AC:Varistor , DC:Diode		
Indicator Light	LED		

DW  
DR100  
DR200  
RS1000, 2000  
RS4000  
SI UNIT  
DV1000, DV3000, DV4000  
DS300  
DS3000  
DS5000  
DS2000  
DS6000

**Construction/Parts List**

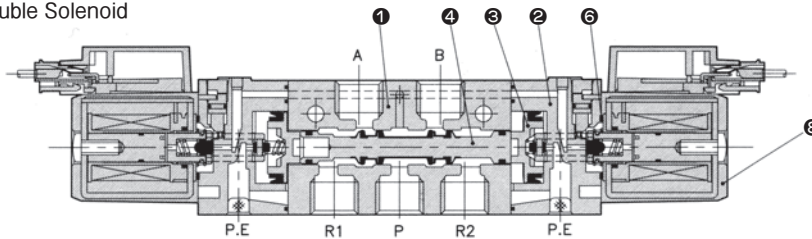
Single Solenoid



Main Parts

No.	Description	Material
①	Body	Aluminum
②	Adapter Plate	Polyacetal
③	Piston	Polyacetal
④	Spool	Aluminum · NBR
⑤	End Cover	Polyacetal
⑥	O-Ring	NBR
⑦	Spring	STS
⑧	Coil Ass'y	

Double Solenoid



DX1,DX2  
DX1(2)R  
DH  
DP300, DP3000, DP5000  
DM  
DT220

# Series DS2000

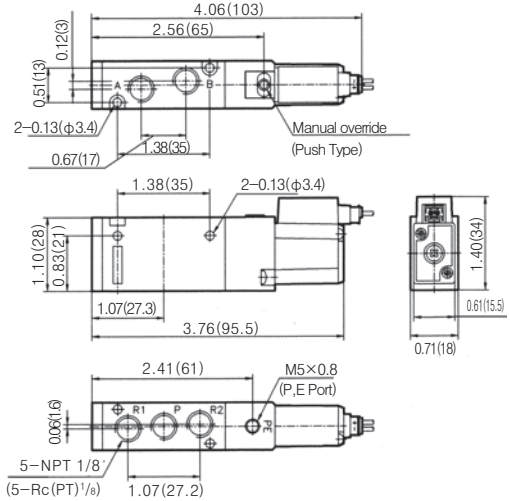
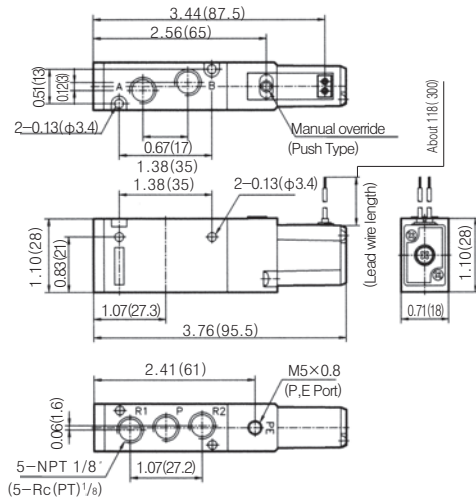
## Body Ported/2 Position Single Solenoid

inch(mm)

Grommet(G)

DS 2120 - ○G

Plug Connector Type(H, HZ) DS2120 - ○  $\frac{H}{HZ}$



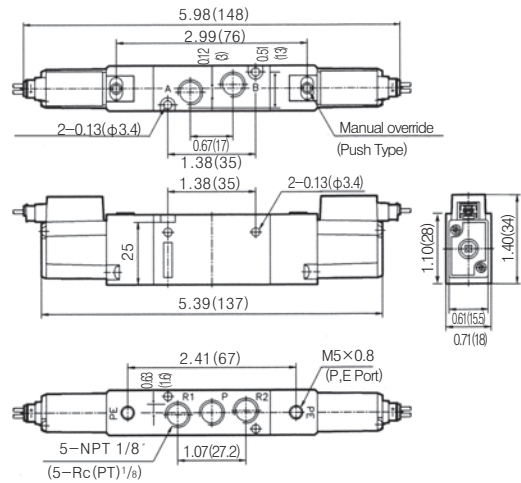
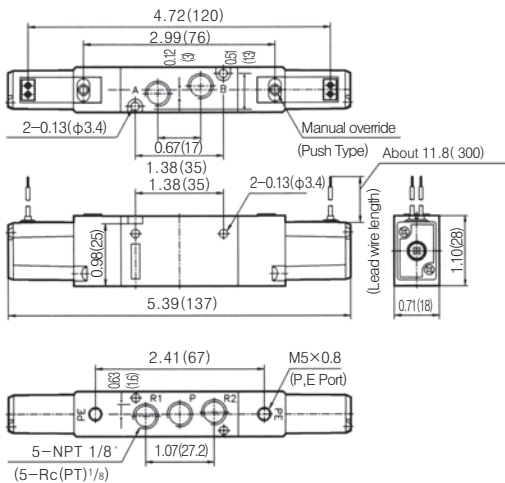
## Body Ported/2 Position Double Solenoid

inch(mm)

Grommet(G)

DS 2220 - ○G

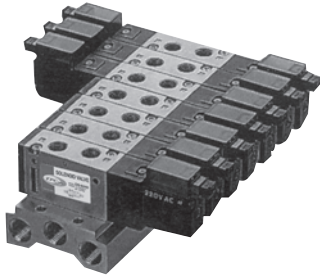
Plug Connector Type(H, HZ) DS2220 - ○  $\frac{H}{HZ}$



Manifold

Manifold Specifications

Manifold Type	B Mount
P(SUP) · R(EXH)Exhaust	Common Exhaust SUP · EXH
Maximum Stations	20 Stations

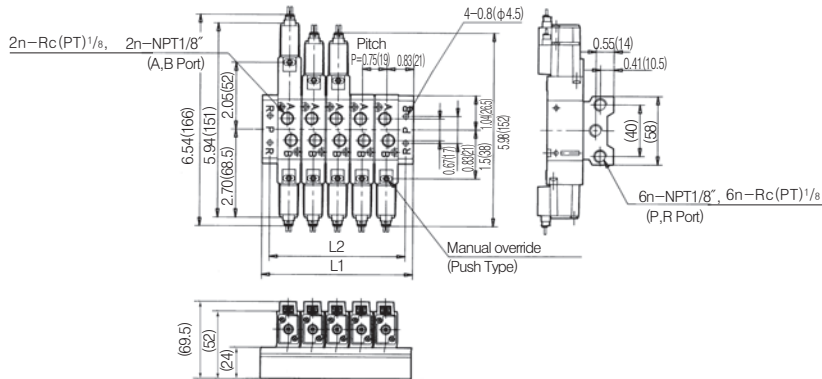


Manifold Specifications

Model	Exhaust	Piping/Port Location			Port Size NPT/Pc(PT)	Applicable Valve
		P(SUP)	R(EXH)	A.B(CYL)		
B	Common	Side	Side	Top	1/8"	DS2O20
		Base	Base	Valve		

DSM2-20

inch(mm)



L : Size

inch(mm)

L \ N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L <sub>1</sub>	2.32 (59)	3.07 (78)	3.82 (97)	4.57 (116)	5.31 (135)	6.06 (154)	6.81 (173)	7.56 (192)	8.31 (211)	9.06 (230)	9.80 (249)	10.55 (268)	11.30 (287)	12.05 (306)	12.8 (325)	13.54 (344)	14.29 (363)	15.04 (382)	15.79 (401)
L <sub>2</sub>	1.93 (49)	2.68 (68)	3.43 (87)	4.17 (106)	4.92 (125)	5.67 (144)	6.42 (163)	7.17 (182)	7.91 (201)	8.66 (220)	9.41 (239)	10.16 (258)	10.91 (277)	11.65 (296)	12.40 (315)	13.15 (334)	13.90 (353)	14.65 (372)	15.39 (391)

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

## ⚠ Precautions

### Use as a 3 Port Valve

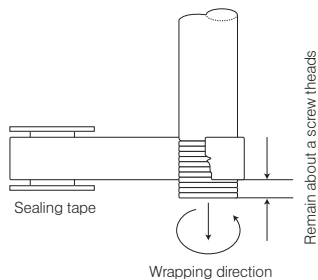
The use as a 3 port Valve may be enabled by Plugging one of the Cylinder Ports (A or B). Special applications such as a Non-leakage Valve should be avoided. Be sure to check the Exhaust port is open if used as a 3 Port Valve.

Plug		A Port (CYL.1 Port)	B Port (CYL.2 Port)
Function		N.C	N.O
Sole-noid	Single		
	Double		

### Mounting

1. Be sure to check that chips, cutting oil, dust, etc. are cleaned up prior to mounting
2. Be sure to check that chips or sealing material will not get in when screwing the pipe or fitting into a port.
3. In event that a filter has already been installed to the pilot exhaust(P.E.) Port, and a silencer is to be added, it is needed to first remove the filter.

Thread	Appropriate Clamping Torque kgf · cm(N · m)
1/8"	70~90(7~9)
1/4"	120~140(12~14)



### Use at Low Temperature

It could be used under -10C, however a careful protection against fleering moisture is needed.

### Quality Of Fluid

1. Filtration to 10 microns is enough.

### Lubricant

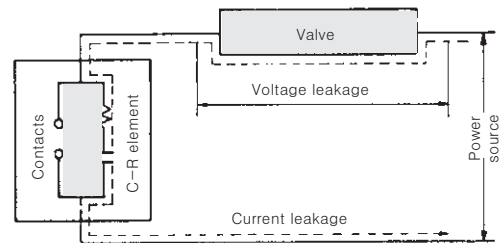
1. Pre-lubrication is needed for valves – further lubrication is not needed.
2. In event that lubricant is used, it is preferred to use Turbine Oil (ISO VG32).

### Momentary Energizing

It is preferred to make sure the energizing time is more than 0.05 seconds when using a double Solenoid type with momentary energizing.

### Leakage Voltage

1. Residual leakage voltage of AC coil must be less than 20% of the rated voltage for the leakage current, and when the switch is off, it is preferred to check that leakage voltage of DC coil must be less than 3% of the rated voltage.
2. It will increase the leakage voltage when using a C-R element.

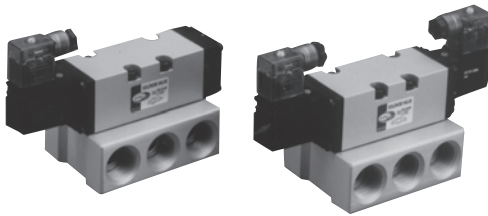


### Remarks

Port	DS2000
Supply	P(SUP)
Cylinder	A(CYL.2), B(CYL.1)
Exhaust	R1(EXH2), R2(EXH1)
Symbol (Single solenoid)	P : SUP. B : CYL.1 A : CYL.2 R1 : EXH.1 R2 : EXH.2

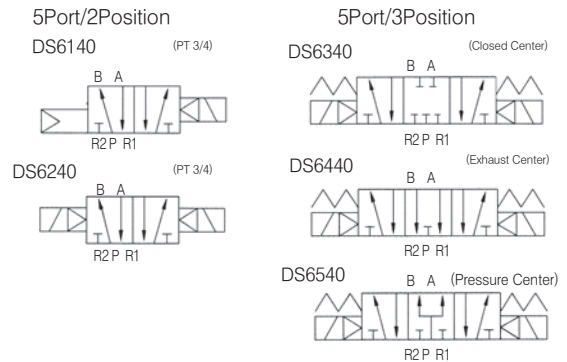
# Series **DS6000**

## Elastic Seal 5 Port Pilot Solenoid Type



- INTEGRATED SUB-BASE
- COMPACT SIZE AND LIGHT FLOW CAPACITY  
EFFECTIVE ORIFICE 90mm<sup>2</sup>(Cv 5.0)
- LOW POWER CONSUMPTION - 1.8w(DC)
- MANY VARIATIONS AVAILABLE

### Symbol



## How To Order

**U DS 6 1 4 0 — 1 G □ 06**

1                      2                      3    4    5    6

### 1 Series

Blank : Rc(PT)Port  
U : NPT

### 2 Configuration

- 1 : 2 Position Single
- 2 : 2 Position Double
- 3 : 3 Position Closed Center
- 4 : 3 Position Exhaust Center
- 5 : 3 Position Pressure Center

### 3 Voltage

- 1 : AC 110V(50/60Hz)
- 2 : AC 220V(50/60Hz)
- 5 : DC 24V
- 6 : DC 12V

### 4 Electrical Entry

- G : Grommet
- D : DIN Connector
- DN: DIN Connector(With indicator Light)
- DZ: DIN Connector(With indicator Light and surge suppressor)

### 5 Thread

Blank : Rc(PT)  
G : Rc(PF)

### 6 Port Size

06 : 3/4

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

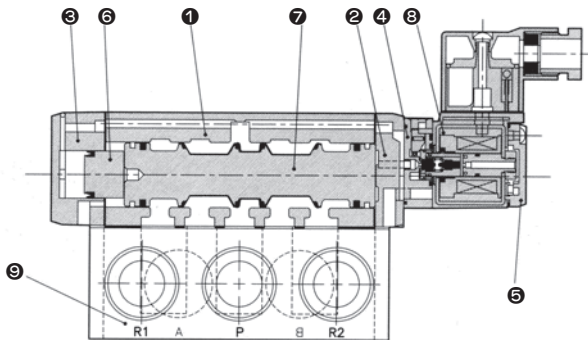
DT220

## Specifications

Model		DS6140	DS6240	DS6340	DS6440	DS6540
Fluid		Air				
Operating Pressure Range MPa(psi)		0.15~1.0(21~141)	0.1~1.0(14~141)	0.15~1.0(21~141psi)		
Effective Orifice mm <sup>2</sup> (Cv)		90(5.0)		70(3.89)		
Ambient and Fluid Temperature		Max. 50° C(122° F)				
Response Time(0.5MPa)		≤40ms		≤60ms		
Max. Operating frequency		5c/s		3c/s		
Lubrication		Not required				
Manual Override		Non-locking Push Type				
Impact/Vibration Resistance		30G/5G(8.3~2000HZ)				
Enclosure		Dust Proof				
Coil Voltage		AC 50/60HZ 110V, 220V, DC12V, 24V				
Allowable Voltage		-15%~+10% of Rated Voltage				
Coil Insulation		Class B or equivalent(130°C)266° F				
Apparent Power	AC	5.6VA(50HZ), 5.0VA(60HZ)				
	Inrush Holding	4.5VA(50HZ), 3.8VA(60HZ)				
Power Consumption	DC	1.8W/2W(With LED)				
Weight(kgf)		1.17	1.2	1.22	1.22	1.22
Surge suppressor circuit		AC, DC : Varistor				
Indicator Light		LED				

## Construction/Parts List

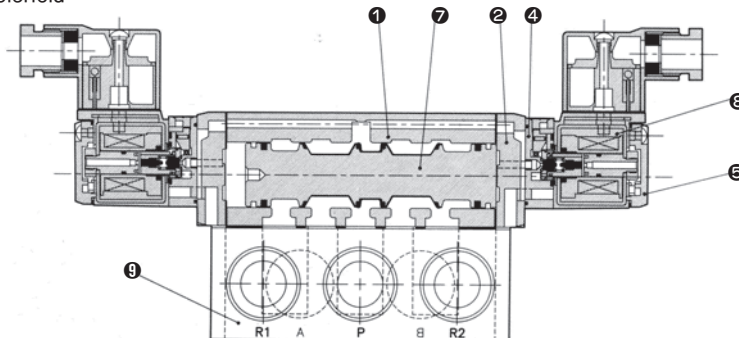
Single Solenoid



Main Parts

No.	Description	Material
1	Body	Aluminum
2	Adapter Plate	Aluminum
3	End Cover	Aluminum
4	Pilot Body	Polyacetal
5	Pilot Cover	Polyacetal
6	Piston	Polyacetal
7	Spool	Aluminum · NBR
8	Coil Ass'y	-
9	Base	Aluminum

Double Solenoid

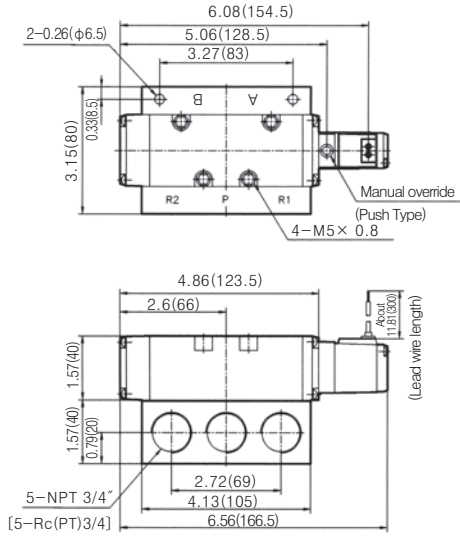




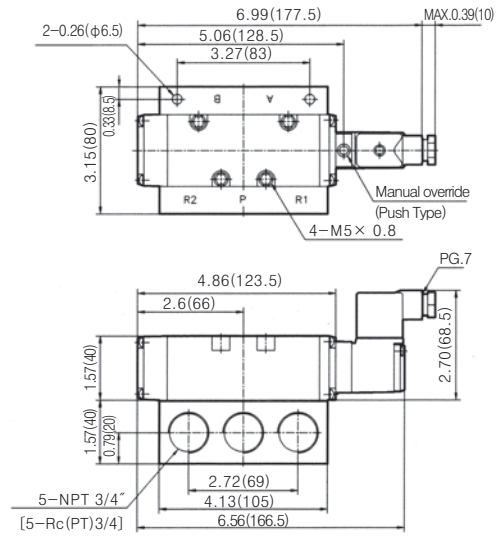
2 Position Single Solenoid

inch(mm)

Grommet(G)/DS 6140-OG



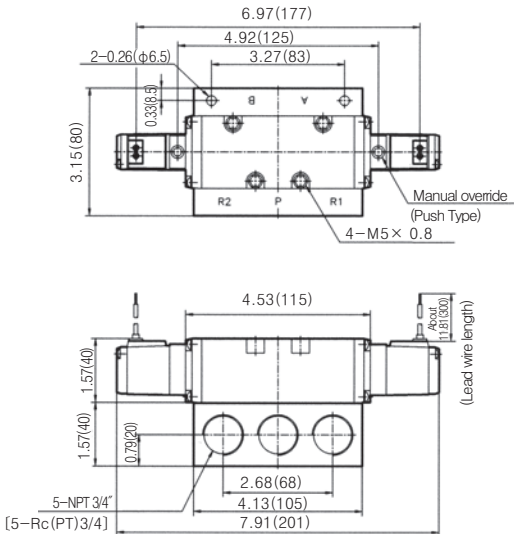
DIN Connector Type (D, DZ) DS6140-O DN DZ



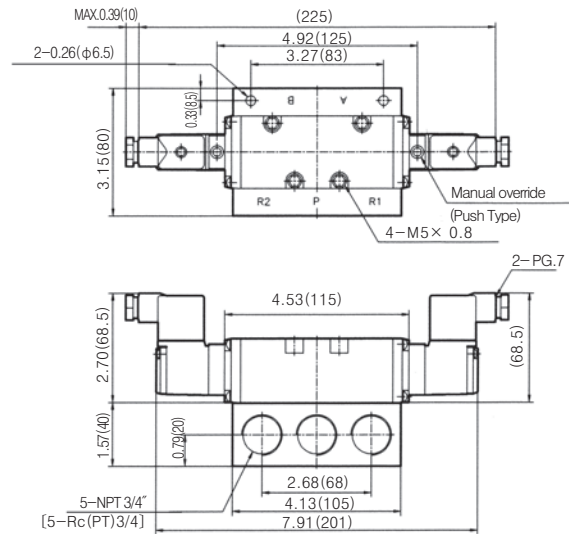
2 Position Double Solenoid

inch(mm)

Grommet(G)/DS 6240 - OG



DIN Connector Type (D, DZ) DS6240-O DN DZ

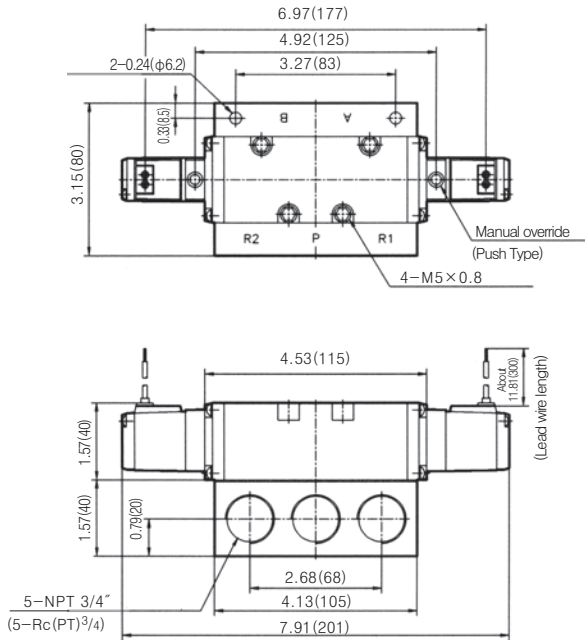


DW
DR100
DR200
RS1000, 2000
RS4000
SI UNIT
DV1000
DV3000
DV4000
DS300
DS3000
DS5000
DS2000
<b>DS6000</b>
DX1,DX2
DX1(2)R
DH
DP300
DP3000
DP5000
DM
DT220

3 Position Closed Center · Exhaust Center · Pressure Center inch(mm)

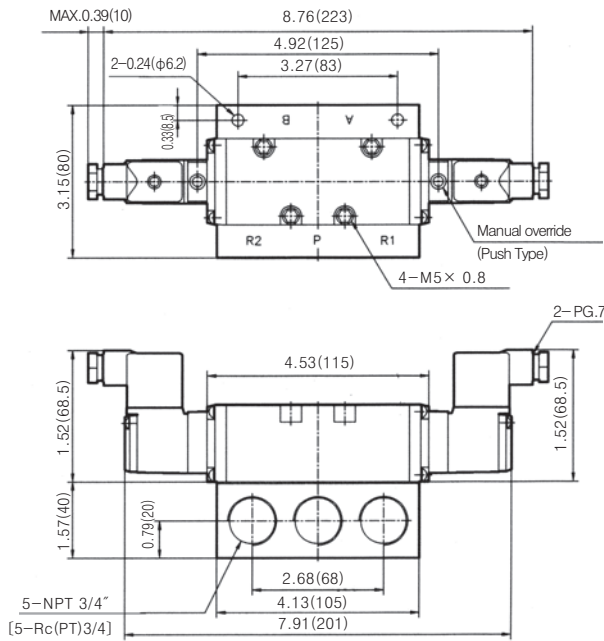
Grommet(G)

DS 6300 - ○G  
4  
5



DIN Connector Type(D, DZ)

DS 6300 - ○D  
4 DN  
5 DZ



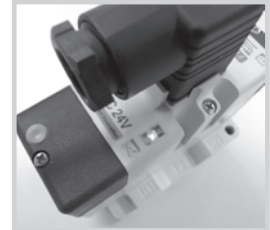
ISO Standard Solenoid Valve (ISO #1, #2)

# DX1, DX2 Series

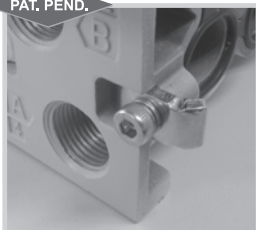
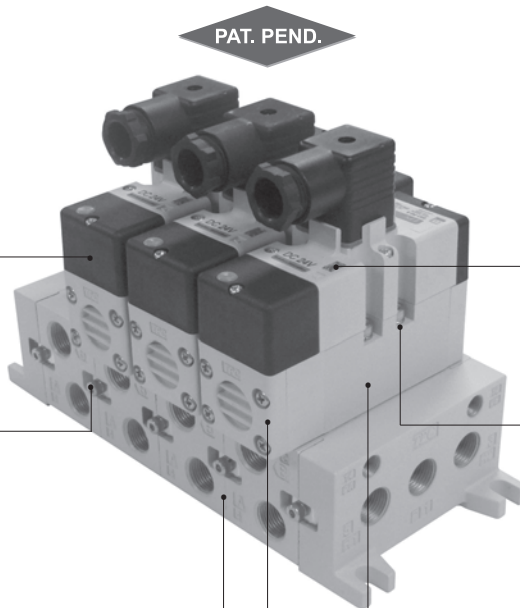
The First Protection Structure IP66 Response in Korea  
(Vibration-Resistance/Water-Proof Type)



Easy disassembly of coil after removing a cover



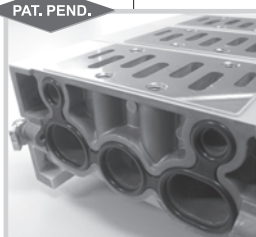
Enhanced visibility in application of high brightness LED



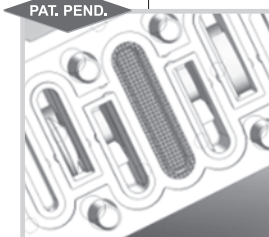
Enhanced assembly performance in accordance with all-in-one clamp without Tap plate



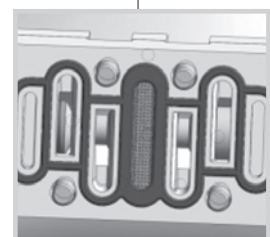
Deviation prevention of attached bolt (all-in-one)



Convenient maintenance and prevention of gasket loss in application of all-in-one manifold gasket



Protection of spool from foreign materials with installation of P port-mesh

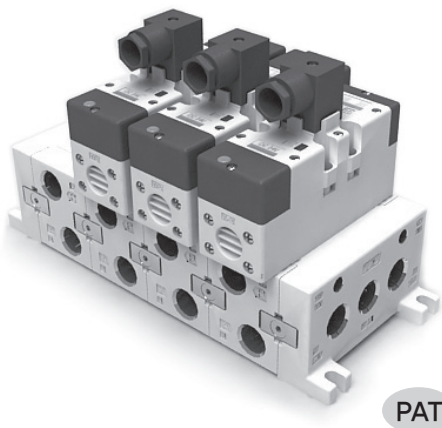


Convenient maintenance in application of all-in-one body gasket

DW
DR100
DR200
RS1000, 2000
RS4000
SI UNIT
DV1000 DV3000 DV5000
DS300
DS3000
DS5000
DS2000
DS6000
<b>DX1,DX2</b>
DX1(2)R
DH
DP300 DP3000 DP5000
DM
DT220

# Series DX1, DX2

## Elastic Body Seal 5-Port Pilot Type



- CONVENIENT SOL V/V REPLACEMENT IN ACCORDANCE WITH SIMPLE COIL COVER DISASSEMBLY
- ENHANCED USER CONVENIENCE IN APPLICATION OF DEVIATION PREVENTION BOLT AT VALVE BODY
- PROTECTION OF PRODUCT FROM FOREIGN MATERIALS IN APPLICATION OF MESH APPLICATION AT P PORT
- ENHANCED USER CONVENIENCE IN APPLICATION OF ALL-IN-ONE GASKET EMBEDDED IN VALVE BODY
- COMFORTABLE ASSEMBLY/DISASSEMBLY IN APPLICATION OF ALL-IN-ONE GASKET AT MANIFOLD CONNECTION PART
- ALL-IN-ONE TAP STRUCTURE WHICH INCREMENT/DECREMENT OF MANIFOLD SOFTNESS IS COMFORTABLE
- SMALL/LIGHT/COMPACT STRUCTURE
- APPLICATION OF BASE PIPING TYPE VALVE

### Symbols

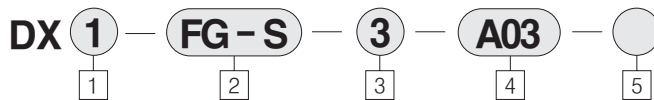
#### 2-Location

DX1 (2)-FG-S	DX1 (2)-FG-D
Single	Double

#### 3-Location

DX1 (2)-FHG-D	DX1 (2)-FJG-D	DX1 (2)-FIG-D
Closed center	Exhaust center	Pressure center

## How to Order-Valve Indication Method



- 1 : DX1 (ISO Size1)  
2 : DX2 (ISO Size2)

#### 2 Configuration

- FG-S : 2-position Single  
FG-D : 2-position Double  
FHG-D : 3-position Closed Center  
FJG-D : 3-position Exhaust Center  
FIG-D : 3-position Pressure Center

#### 3 Voltage

- 1 : AC110V, 50/60Hz  
2 : AC220V, 50/60Hz  
3 : DC24V  
\* Surge voltage protection circuit equipped

#### 4 Port Size

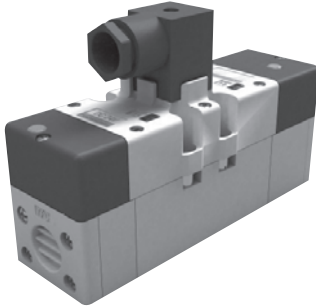
- DX1  
Blank : Valve less base  
A02 : Horizontal pipe 1/4 (DX1)  
A03 : Horizontal pipe 3/8 (DX1)  
B02 : Sub pipe 1/4 (DX1)  
B03 : Sub pipe 3/8 (DX1)  
Note1) Refer to SUB Plate detailed drawing p.822

#### DX2

- Blank : Valve less base  
A03 : Horizontal pipe 1/8 (DX2)  
A04 : Horizontal pipe 1/2 (DX2)  
B03 : Sub pipe 3/8 (DX2)  
B04 : Sub pipe 1/2 (DX2)  
Note2) Refer to p.826 for sub plate detailed dimension drawing

#### 5 Thread

- Blank : Rc(PT)  
U : NPT



## Specifications (DX1, DX2 Series)

Applied fluid	Air	
Applied Pressure Range MPa(kgf/cm <sup>2</sup> )	2 Position Single	0.15~1.0 (1.5~10)
	2 Position Double	0.1~1.0 (1~10)
	3 Position	0.2~1.0 (2~10)
Ambient Temperature and Applied Fluid Temperature (°C)	-5 ~ 60 (But, No Freezing)	
Manual Override	Non Lock Push Type	
Lubrication	Non-Lube	
Mounting	Free	
Impact-Resistance/Vibration-Resistance m/s <sup>2</sup>	150/30(8.3~2000Hz)	
Maximum operating frequency ( Hz )	2 Position	5
	3 Position	3
Enclosure	IP66	
Rated Voltage (V)	DC 24, AC 110V, AC 220V(50/60Hz)	
Voltage Consumption (%)	-10 ~ +10 of Rated Voltage	
Polarity	Non-Polarity Base	
Response Time (ms), 0.5MPa {5kgf/cm <sup>2</sup> }	Refer to Performance Sheet Below	
Power consumption	DC (W)	1.8
Wave electricity	AC (VA)	3.5
Effective Sectional Area mm <sup>2</sup> (Cv)	Refer to Performance Sheet Below	

## Weight sheet

(Unit : g)

Item		DX1	DX2
VALVE	SINGLE	432	618
	DOUBLE	494	678
	3-POSITION	526	716
Manifold	BASE 1 Single Product	292	734
	SIDE COVER	L Side :150	L Side : 346
	BASE 1 Single Product Base	R Side :142	R Side : 356
Sub Plate		325	655

\* Weight of manifold and sub-plate are changeable without pre-notice.

## Performance (DX1 Series)

Type	Switching Method	Pipe Contacting Diameter	Effective Section Diameter mm <sup>2</sup> (Cv)	Response Time (ms)
2 position	DX1-FG-S	Single solenoid	Rc(PT)3/8	27 (1.5)
	DX1-FG-D	Double solenoid	Rc(PT)3/8	
3 position	DX1-FHG-D	Closed center	Rc(PT)3/8	25.2 (1.4)
	DX1-FJG-D	Exhaust center	Rc(PT)3/8	
	DX1-FIG-D	Pressure center	Rc(PT)3/8	

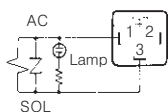
## Performance (DX2 Series)

Type	Switching Method	Pipe Contacting Diameter	Effective Section Diameter mm <sup>2</sup> (Cv)	Response Time (ms)
2 position	DX2-FG-S	Single solenoid	Rc(PT)1/2	54 (3.0)
	DX2-FG-D	Double solenoid		45 or less
3 position	DX2-FHG-D	Closed center	54 (3.0)	50 or less
	DX2-FJG-D	Exhaust center		
	DX2-FIG-D	Pressure center		

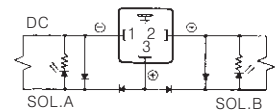
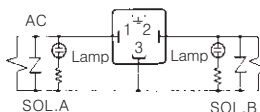
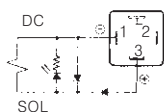
## Indicator Light / Surge Volta Suppressor

- Lamp and surge voltage protecting circuit equipped circuit drawing

Single



Double & 3Position



DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV5000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

DP300  
DP3000  
DP5000

DM

DT220

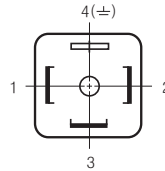
## ■ Notices Along Products

Must check prior to utilization, and refer to Appendix for safety notices or common notices.

## Lead Track Connection Method

### ● DIN Type Terminal Board Type

- Since solenoid is connected in DIN type terminal board type pin terminal board, please connect to correct connector terminal to terminal number.
- Connector utilizing cable external diameter :  $\varnothing 6.8 \sim \varnothing 11.5 \text{mm}$
- Proper torque for connector part screw connection  
 Connector fixing screw : 5kgf.cm  
 Terminal screw : 5kgf.cm



Terminal Number	Internal connection
1	SOL.A Side -
2	SOL.B Side -
3	COM+
4	Grounding(⊕)

### \* Notice

If changing DIN terminal No.3 (COM terminal), it possibly causes damage on power-side circuit.

## Attachment

Although attachment posture is free, please horizontally attach spool part for double solenoid and s-Position valve. Moreover, in case of attaching at vibrating place, attach spool part vertically to vibrating direction.

(Do not use in a place with more than 5G vibration.)

## Piping

- 1) Conduct piping with over the same level pipes.
- 2) Make full flushing for the 1st (supply) port and 2nd (operating equipment side) port, and completely remove foreign materials such as dust, scale, other materials generated from piping works in pipes.
- 3) Check leakage at pipes and connection parts between valve and cylinder and fully remove leakage for manifold which has 3-Position closed center valve attached. Moreover, check leakage for packing of cylinder rod part and piston packing part.

If there is leakage, it may cause movement of cylinder which is supposed to be stopped in neutral position, so that fully prevent leakage at pipes connecting part when off the valve.

In case of rolling over Teflon table thread around screw, leave 1~2 round for the end of screw and roll tape thread over 1~2 layer with pressing by hand to fully attach it to the screw.

When applying liquid seal material, leave 1~2 round for the end of screw and coat moderately without coating at female screw-side of equipment.

In consideration of possible trouble, conduct pipe system design and installation to allow comfortable assembly and disassembly.

## Environmental Conditions

- 1) In case of heavy dust circumstance, protect rod part of cylinder, and prevent permeation of dust into the secondary

pipes by rod part. Make dust permeation preventing measures such as attaching silencer at EXH rod part, or elbow connecting tube to make inlet of connecting tube downward.

- 2) Please contact manufacturer if utilizing in corrosive gas, chemicals and its liquid, moisture or sea water existing place, or over 60°C place.

## Lubricant

It is fully applicable without lubricant. Install lubricator at the first side pipe for utilization of lubricant (in case lubricant is needed for cylinder), and fill with spray. Moreover, use ISO VG32 for lubricant (Spindle and machine lubricant are prohibited), and use lubricant for low temperature in case of utilizing in low temperature environment. Utilization of turbine lubricant under 0oC may cause high viscosity or valve trouble.

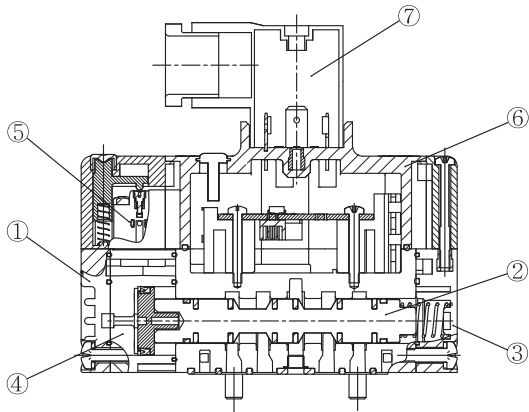
## Repair

If carbon or oil by-product is attached at spool of air source (mostly compressor), it may cause increment of sliding resistance for spool switching, which causes operation error of valve. In severe case, spool is completely fixed, so that air quality should be cautiously considered. Moreover, if left for a long term with SUB pressured condition in bad air quality circumstance, carbon or oil by-product included in compressed air is attached at spool and sleeve clearance, which causes spool fixing.

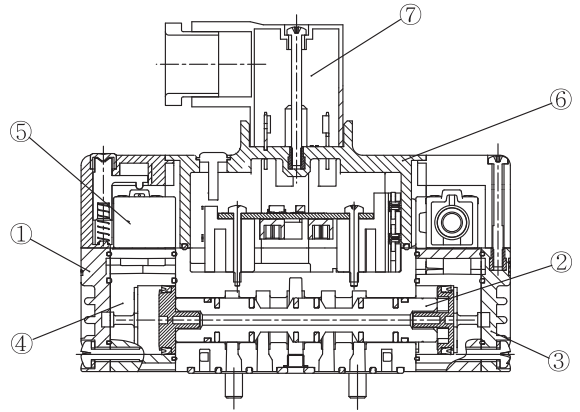
In these cases, check the type of compressor lubricant, and use high quality compressor lubricant not to cause oxidation product. Moreover, install PFH/PFU filter behind TAF series filter which shows high filtering resolution to prevent permeation of foreign material into valve.

Structural Drawing/Component List (DX1 and DX2 Series)

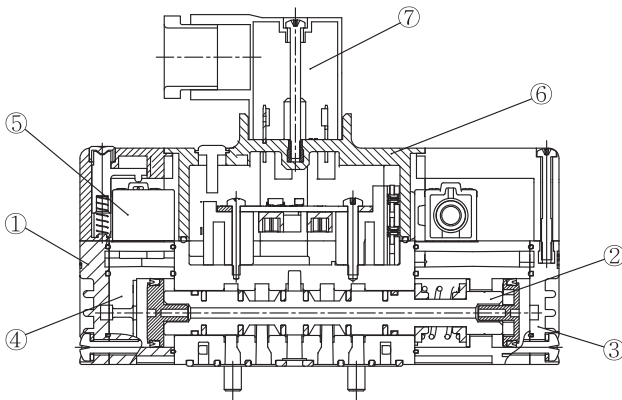
(SINGLE)



(DOUBLE)



(3 POSITION)



Major Components

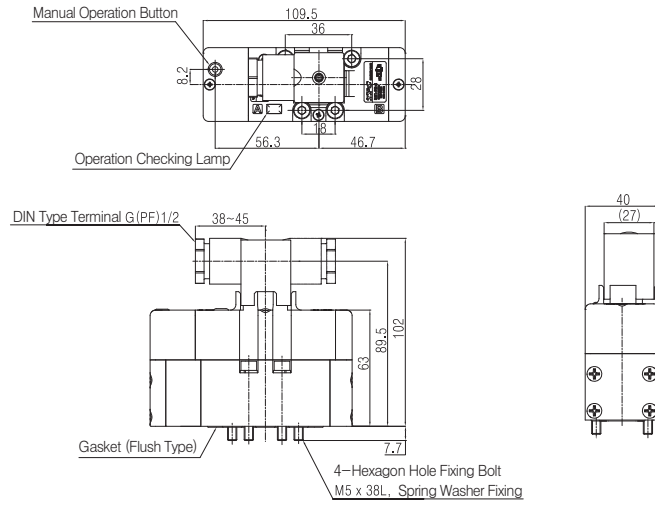
No.	Name of Components	Material	Remark
①	Body	Aluminum Die Cast	White Coating
②	Spool	Aluminum + NBR	
③	End Cover	Resin	
④	Adapter Plate	Resin	
⑤	Pilot Valve Ass'y	-	DR200-*N
⑥	Lamp Case	Resin	
⑦	Connector	Resin	

DW
DR100
DR200
RS1000, 2000
RS4000
SI UNIT
DV1000 DV3000 DV5000
DS300
DS3000
DS5000
DS2000
DS6000
<b>DX1,DX2</b>
DX1(2)R
DH
DP300 DP3000 DP5000
DM
DT220

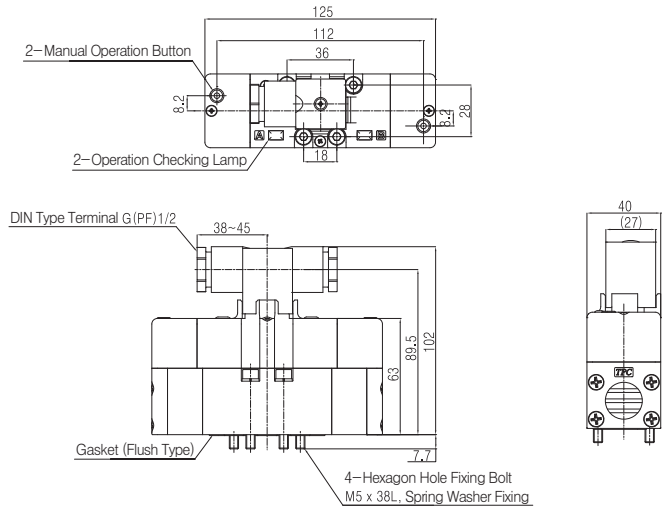
# Series DX1, DX2

## Solenoid Valve/Exterior Dimension Drawing (DX1 Series)

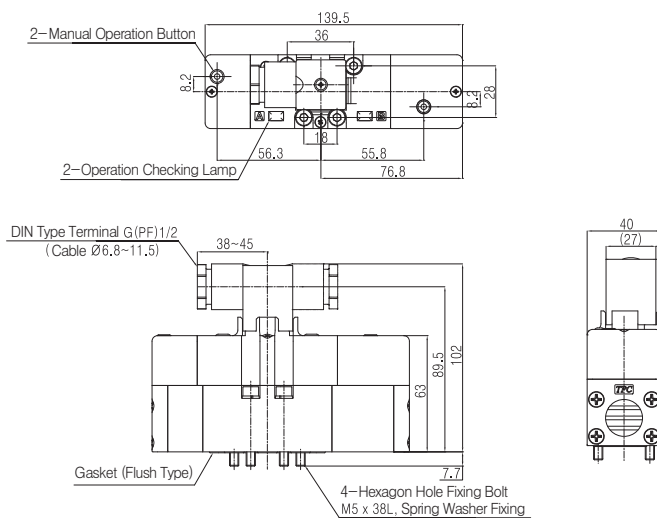
(SINGLE)



(DOUBLE)

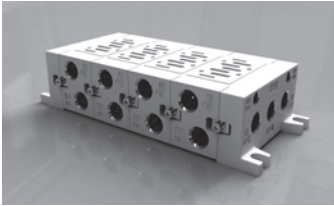


(3 POSITION)





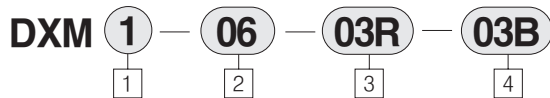
Manifold



Basic Specification

Sub Plate Size	ISO Size	
Applicable Solenoid Valve	DX1 / DX2	
Connection Number	1~10 Stations	
Pipe Contact	A, B Port	Rc(PT)1/4, 3/8
	P, R <sub>1</sub> , R <sub>2</sub> Port	Rc(PT)1/4, 3/8

How to Order



- 1 : DXM1 (ISO Size 1)
- 2 : DXM2 (ISO Size 2)

- 2 Manifold Stations
- 01 : 1 Stations
- 02 : 2 Stations
- :
- 10 : 10 Stations

3 Porting A, B

DX1 Series

- 02R : (Right) Rc(PT) 1/4 A,B Port
- 02L : (Left) Rc(PT) 1/4 A,B Port
- 03R : (Right) Rc(PT) 3/8 A,B Port
- 03L : (Left) Rc(PT) 3/8 A,B Port
- 02RU : (Right) NPT 1/4 A,B Port
- 02LU : (Left) NPT 1/4 A,B Port
- 03RU : (Right) NPT 3/8 A,B Port
- 03LU : (Left) NPT 3/8 A,B Port

DX2 Series

- 03R : (Right) Rc(PT) 3/8 A,B Port
- 03L : (Left) Rc(PT) 3/8 A,B Port
- 04R : (Right) Rc(PT) 1/2 A,B Port
- 04L : (Left) Rc(PT) 1/2 A,B Port
- 03RU : (Right) NPT 3/8 A,B Port
- 03LU : (Left) NPT 3/8 A,B Port
- 04RU : (Right) NPT 1/2 A,B Port
- 04LU : (Left) NPT 1/2 A,B Port

4 Size Cover Port Pipe Contact Specification

DX1 Series

- 02B : Rc(PT) 1/4 P, R<sub>1</sub>, R<sub>2</sub>
- : Rc(PT) 1/8 PB, PA
- 03B : Rc(PT) 3/8 P, R<sub>1</sub>, R<sub>2</sub>
- : Rc(PT) 1/8 PB, PA
- 02BU : NPT 1/4 P, R<sub>1</sub>, R<sub>2</sub>
- : NPT 1/8 PB, PA
- 03BU : NPT 3/8 P, R<sub>1</sub>, R<sub>2</sub>
- : NPT 1/8 PB, PA

DX2 Series

- 04 : Rc(PT) 1/2 P, R<sub>1</sub>, R<sub>2</sub>
- : Rc(PT) 1/8 PB, PA
- 04BU : NPT 1/4 P, R<sub>1</sub>, R<sub>2</sub>
- : NPT 1/8 PB, PA

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV5000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

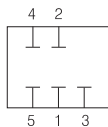
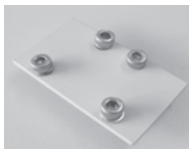
DP300  
DP3000  
DP5000

DM

DT220

Manifold Accessory/Order Type

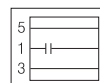
● Blanking plate ASS'Y



Utilization with attaching on block instead of valve in consideration of extension of valve at manifold

DXM1-B

● Block Disk (for P-Port)

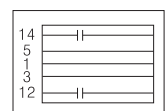
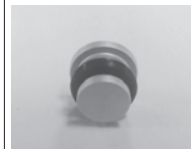


SUP. 통과 차단

Utilization with attaching in the middle of P-port of base in case of supplying over high pressure 2-type pressure into one manifold

DXM1-BD-1

● Block Dist (for PE-Port)



Utilization to block PE-port when pilot exhaust of valve affects to other valves.

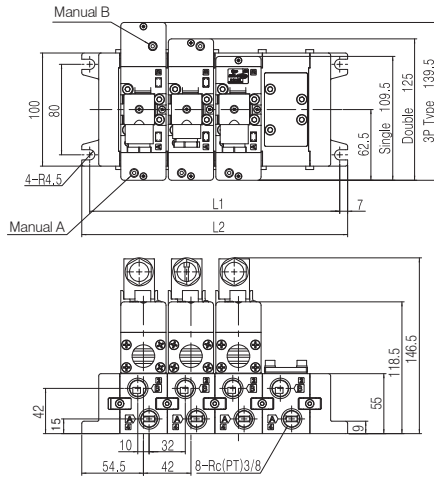
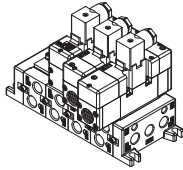
DXM1-BD-2

DXM1-\* for ISO #1, DXM2-\* for ISO #2

# Series DX1, DX2

## Exterior Dimension Drawing/Manifold DXM1 Series

Exterior Dimension drawing



Dimension Sheet

(Unit : mm)

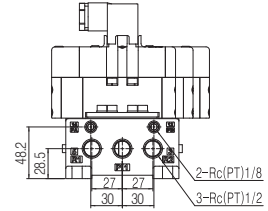
L	n	1	2	3	4	5
L1		95	137	179	221	263
L2		109	151	193	235	277

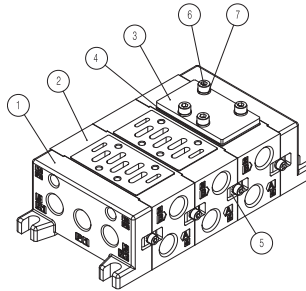
L	n	6	7	8	9	10
L1		305	347	389	431	473
L2		319	361	403	445	487

Note 1) Formula L1=42n+53

Note 2) Formula L2=42n+67

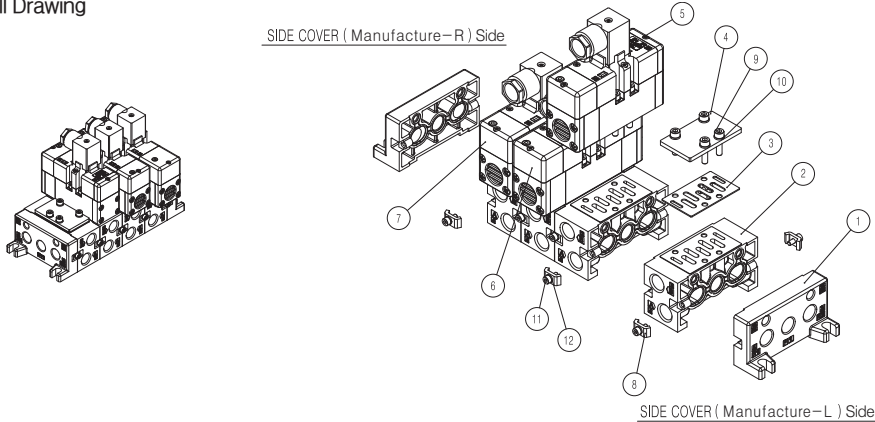


Manifold Components List



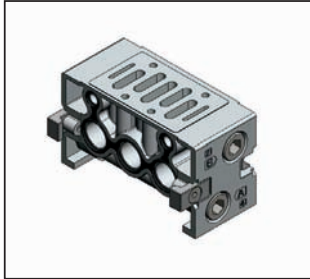
NO	Component Name	Quantity	Material	Remark	NO	Component Name	Quantity	Material	Remark
①	Side Cover Ass'y	2	-		⑤	Connector Clamp Ass'y (Connection Number)	-	-	STS
②	Base Ass'y	(Connection Number)	-		⑥	Hexagon Hole Fixing Bolt	4	STS	M5X0.8X15
③	Blank Plate	1	AL		⑦	Spring Washer	4	STS	
④	Blank Plate Gasket	1	NBR						

Overall Drawing



NO	Component Name	Quantity	Material	Remark	NO	Component Name	Quantity	Material	Remark
①	Side Cover Ass'y	2	-		⑦	Valve Ass'y(Close-Certer)	1	-	
②	Base Ass'y	(Connection Number)	-		⑧	Connector Clamp	(Connection Number)	STEEL	Nickel Plating
③	Blank Plate Gasket	1	NBR		⑨	Hexagon Hole Fixing Bolt	4	STS	M5X0.8X15
④	Blank Plate	1	AL	Granular Painting	⑩	Spring Washer	4	STS	
⑤	Valve Ass'y(Single)	1	-		⑪	Hexagon Hole Fixing Bolt	(Connection Number)	STS	M4X0.7X10
⑥	Valve Ass'y(Double)	1	-		⑫	Spring Washer	(Connection Number)	STS	

**BASE ASS'Y (Used for draw extension)**



BASE ASS'Y

**1 Series**

- 1 : DXM1B (ISO Size 1)
- 2 : DXM2B (ISO Size 2)

**2 Base Porting A, B**

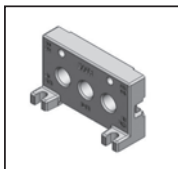
**DX1 Series**

- 02R : (Right) Rc(PT) 1/4 A,B Port
- 02L : (Left) Rc(PT) 1/4 A,B Port
- 03R : (Right) Rc(PT) 3/8 A,B Port
- 03L : (Left) Rc(PT) 3/8 A,B Port
- 02RU : (Right) NPT 1/4 A,B Port
- 02LU : (Left) NPT 1/4 A,B Port
- 03RU : (Right) NPT 3/8 A,B Port
- 03LU : (Left) NPT 3/8 A,B Port

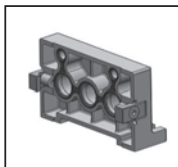
**DX2 Series**

- 03R : (Right) Rc(PT) 3/8 A,B Port
- 03L : (Left) Rc(PT) 3/8 A,B Port
- 04R : (Right) Rc(PT) 1/2 A,B Port
- 04L : (Left) Rc(PT) 1/2 A,B Port
- 03RU : (Right) NPT 3/8 A,B Port
- 03LU : (Left) NPT 3/8 A,B Port
- 04RU : (Right) NPT 1/2 A,B Port
- 04LU : (Left) NPT 1/2 A,B Port

**SIDE COVER ASS'Y (Used for draw separation)**



SIDE COVER



SIDE COVER R ASS'Y

**1 Series**

- 1 : DXM1S (ISO Size 1)
- 2 : DXM2S (ISO Size 2)

**2 Side Cover Port Pipe Specification**

**DX1 Series**

- 02B : Rc(PT) 1/4 P, R1, R2
- : Rc(PT) 1/4 PB, PA
- 03B : Rc(PT) 3/8 P, R1, R2
- : Rc(PT) 1/8 PB, PA
- 02BU : NPT 1/4 P, R1, R2
- : NPT 1/8 PB, PA
- 03BU : NPT 3/8 P, R1, R2
- : NPT 1/8 PB, PA

**DX2 Series**

- 04 : Rc(PT) 1/2 P, R1, R2
- : Rc(PT) 1/8 PB, PA
- 04U : NPT 1/2 P, R1, R2
- : NPT 1/8 PB, PA

**3 Side Cover**

- Blank : SIDE COVER R
- L : SIDE COVER L

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV5000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

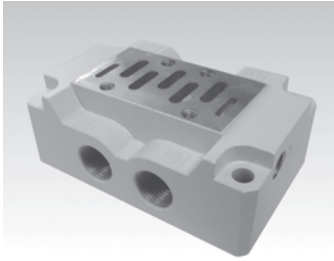
DP300  
DP3000  
DP5000

DM

DT220

# Series DX1, DX2


## Sub-Plate(DXS1-1 Series)



### Specification

Applicable Solenoid Valve	ISO Size ①
Sub-Plate Size	ISO Size ①
Pipe Contact Method	Horizontal Piping : Rc(PT)3/8, 1/2
Weight(g)	320(Rc(PT)3/8, 1/2)

### How to Order (SUB PLATE Indicating Method)

DXS 1 - 1 - **A03** 

1      2

#### ① Pipe specification and interactive contact diameter

A02	Horizontal Piping	: 1/4	P, A, B
		: 3/8	R1, R2
		: 1/8	X, Y
A03		: 3/8	P, A, B, R1, R2
		: 1/8	X, Y
B02	Beneath Piping	: 1/4	P, A, B
		: 3/8	R1, R2
		: 1/8	X, Y
B03		: 3/8	P, A, B, R1, R2
		: 1/8	X, Y

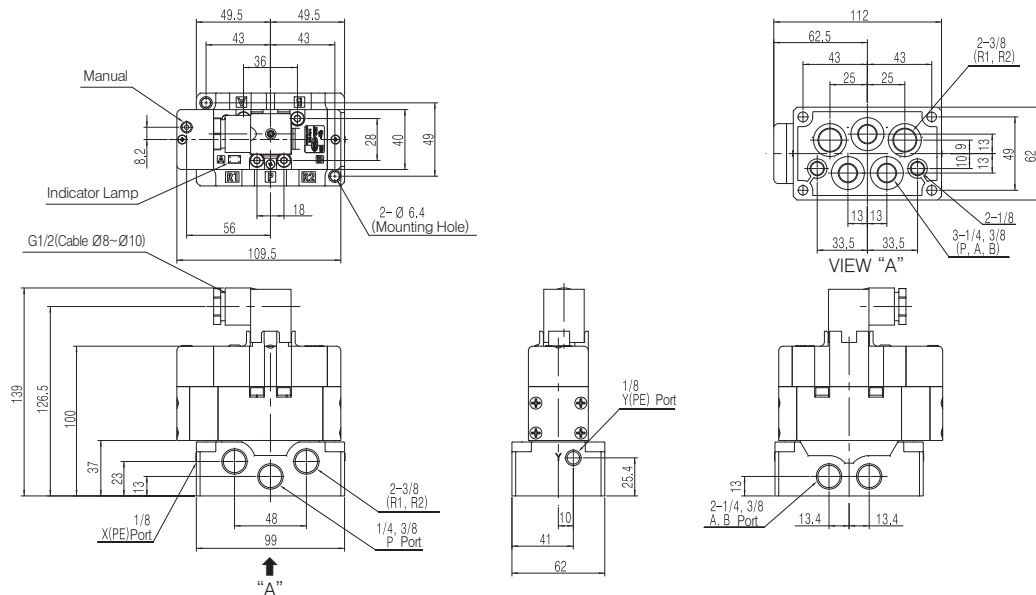
#### ② Thread

Blank : Rc(PT)  
U : NPT

※ DXS1-1-B02 }  
DXS1-1-B03 }  
Beneath pipe sub plate type  
(Customized production)

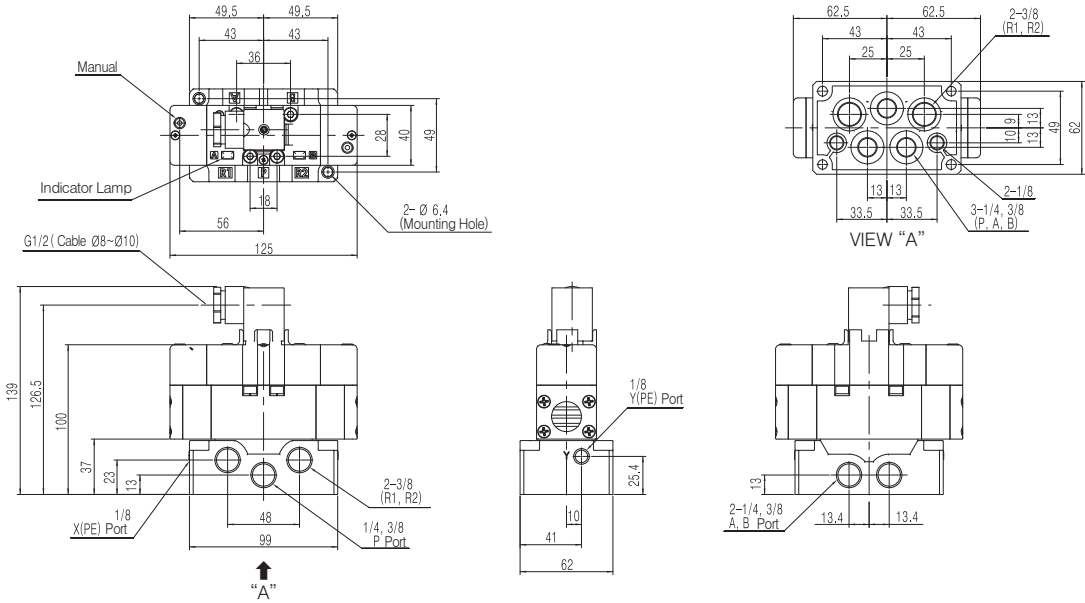
## Solenoid Valve(DX1)+Sub-Plate(DXS1-1)

(In case of Single valve mount - Dimension drawing)

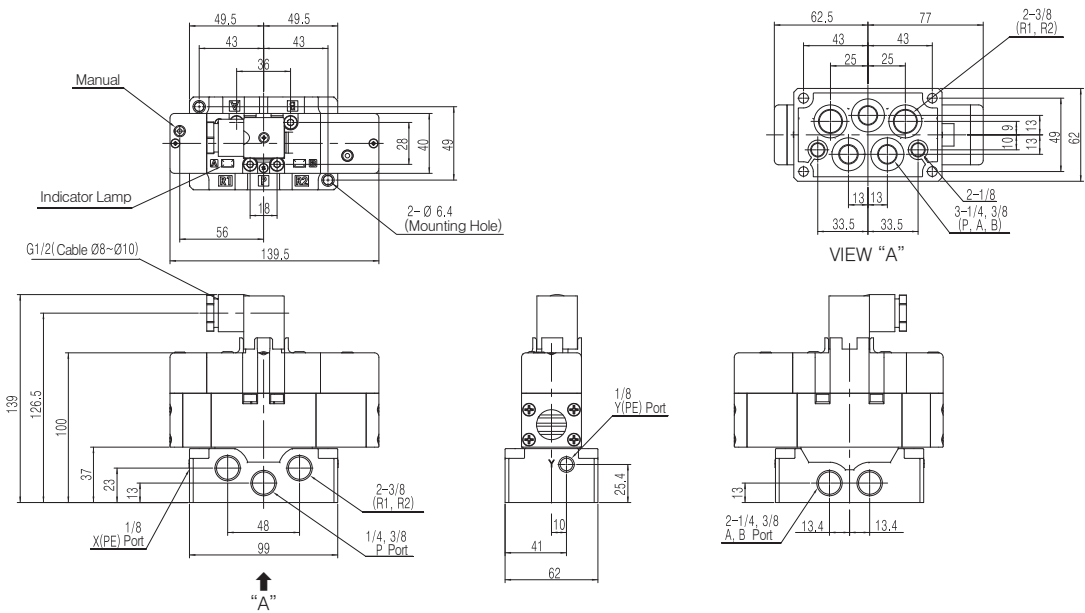


Solenoid Valve(DX1)+Sub-Plate(DXS1-1)

(In case of Double valve mount - Dimension drawing)



(In case of 3-position valve mount - Dimension drawing)

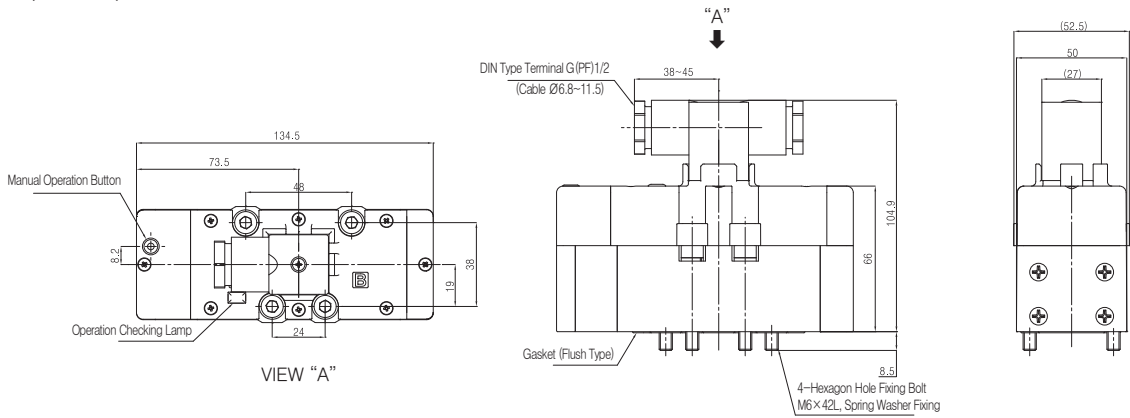


DW
DR100
DR200
RS1000, 2000
RS4000
SI UNIT
DV1000
DV3000
DV5000
DS300
DS3000
DS5000
DS2000
DS6000
<b>DX1,DX2</b>
DX1(2)R
DH
DP300
DP3000
DP5000
DM
DT220

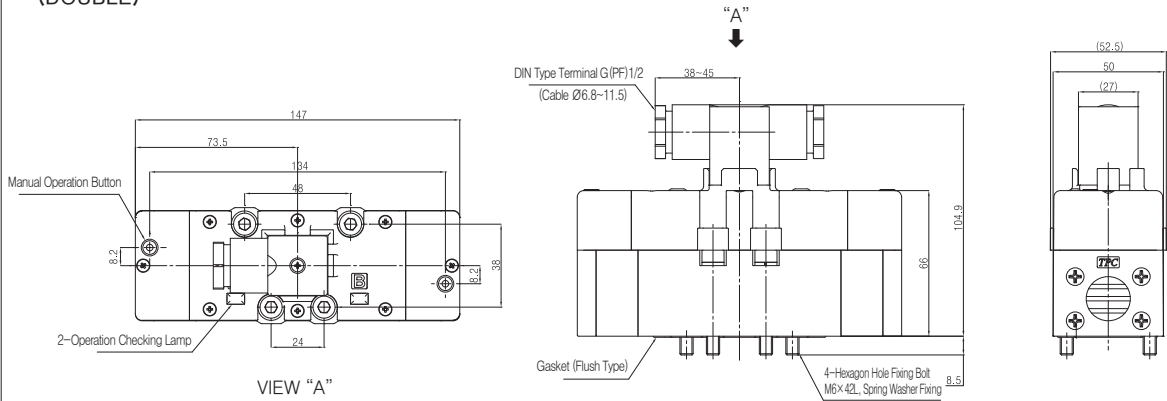
# Series DX1, DX2

## Solenoid Valve/Exterior Dimension Drawing (DX2 Series)

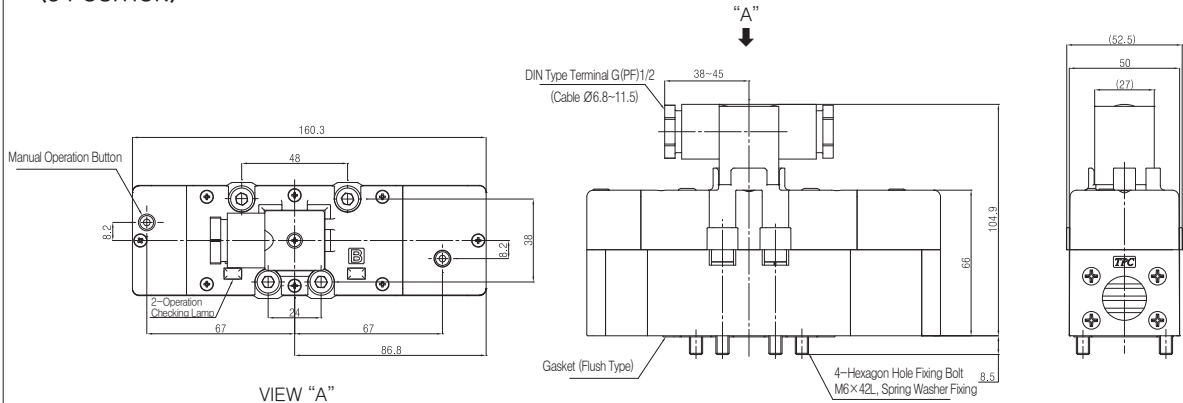
(SINGLE)



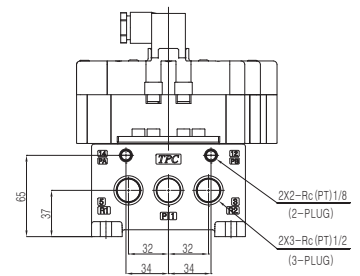
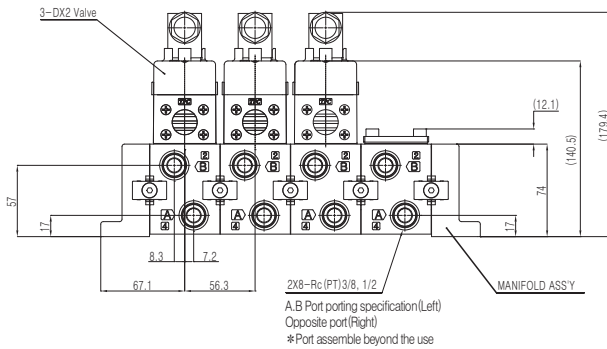
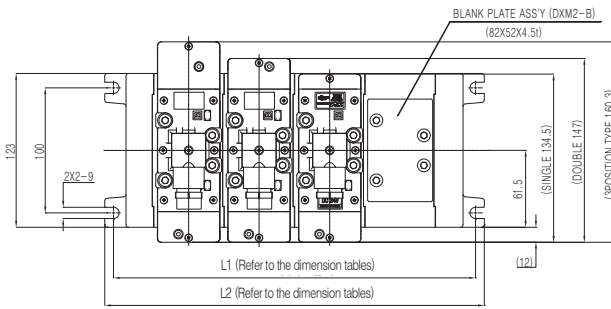
(DOUBLE)



(3 POSITION)



Solenoid Valve/Exterior Dimension Drawing (DX2 Series)



Stations(n)	2	3	4	5	6	7	8	9	10
L1	177	233	290	346	420	458	515	571	627
L2	191	247	304	360	416	472	529	585	641

- DW
- DR100
- DR200
- RS1000, 2000
- RS4000
- SI UNIT
- DV1000 DV3000 DV5000
- DS300
- DS3000
- DS5000
- DS2000
- DS6000
- DX1,DX2**
- DX1(2)R
- DH
- DP300 DP3000 DP5000
- DM
- DT220

# Series DX1, DX2

## Sub-Plate (DXS2-2 Series)



### Specification

Applicable Solenoid Valve	ISO Size ②
Sub Plate Size	ISO Size ②
Pipe Contact Method	Horizontal piping : Rc(PT)3/8, 1/2
Weight(g)	655(Rc(PT)3/8, 1/2)

### How to Order

**DXS2 — 2 — A03 —** 

**1** Pipe specification and interact contact diameter

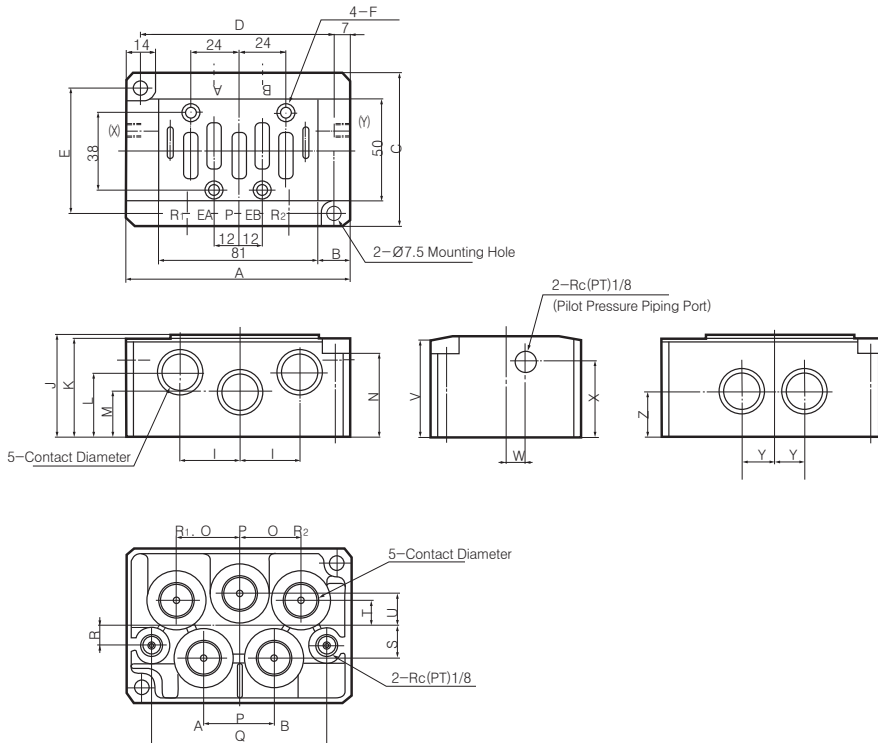
- A03 Horizontal Piping : 3/8 P, A, B, R1, R2  
: 1/8 X, Y
- A04 Horizontal Piping : 1/2 P, A, B, R1, R2  
: 1/8 X, Y
- B03 Beneath Piping : 3/8 P, A, B, R1, R2  
: 1/8 X, Y
- B04 Beneath Piping : 1/2 P, A, B, R1, R2  
: 1/8 X, Y

**2** Thread

- Blank : Rc(PT)
- U : NPT

※ DXS2-2-B03  
DXS2-2-B04  
Beneath pipe sub-plate type  
(Order Made Customized Production)

### Exterior Dimension Drawing / DXS2-2

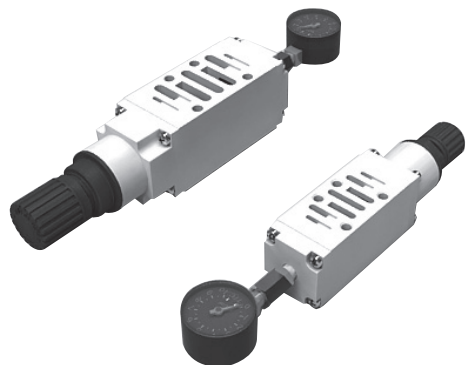


Type No.	Piping Specification	Contact Diameter	A	B	C	D	E	F	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
DXS2-2 A03, A04	Horizontal Piping	Rc(PT) 3/8 · 1/2	112	15.5	75	98	62	4-M6 Depth10	30	50	49	32	23	42	31	36	88	10	16	12	16	47.5	10	38	16	23



# Series **DX1(2)R**

## Sandwich Regulator (ISO#1, #2)



- DECOMPRESSION METHOD WITH SUPPLY OIL FOR P-PORT ADJUSTING TYPE  
DECOMPRESSION METHOD WITH INDIVIDUAL OIL FOR A&B-PORT ADJUSTING TYPE  
(POSSIBLE TO APPLY VALVE OVERALL SWITCHING WAY)
- LIGHT WEIGHT & COMPACT DESIGN
- HANDLE DIRECTION (REFER TO DIMENSION DRAWINGS FOR DETAILS)  
P&B-PORT ADJUSTING TYPE INSTALLED IN RIGHT HAND SIDE AND A-PORT ADJUSTING TYPE INSTALLED IN LEFT HAND SIDE
- OPTIMIZED PRESSURE AND FLUX FEATURES WITH DIAPHRAGM METHOD PRESSURE ADJUSTMENT STRUCTURE
- POSSIBLE TO CHANGE A&B DECOMPRESSING STRUCTURE

### How to Order

**DX2R — P**

1
2

1 Sandwich Regulator  
DX1R : ISO#1 Size  
DX2R : ISO#2 Size

2 Adjustment Pressure Port  
P : P port adjusting type  
A : A port adjusting type  
B : B port adjusting type

### Indication Symbol

Type	Pressure Adjusting Port	Pressure Gauge Contact Diameter	Indication Symbol
DX1(2)R-P	P Port Adjusting Type	Rc (PT) 1/8	
DX1(2)R-A	A Port Adjusting Type		
DX1(2)R-B	B Port Adjusting 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

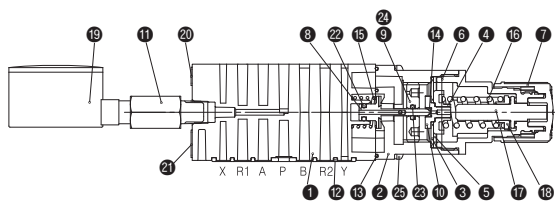
DT220

# Series DX1(2)R

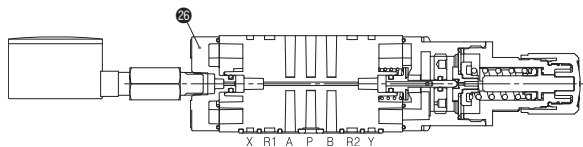
## DX1(2)R Series/Specification

Size Division	DX1R	DX2R	
Guaranteed Pressure-Resistant	1.5MPa(15Kgf/cm <sup>2</sup> )		
Max. Operating Pressure	1.0MPa(10Kgf/cm <sup>2</sup> )		
Pressure Setting Range	0.05~1.0MPa(0.5~10Kgf/cm <sup>2</sup> )		
Pressure Gauge Port Size	Rc(PT) 1/8		
Temperature of Surroundings and Fluid Applied	-5~60°C		
Pressure Relieving Structure	Relieving Type		
Air Supply Side Eff. Area(mm <sup>2</sup> ) (Cv)	P → A	Over 18mm <sup>2</sup> (1.0)	Over 27mm <sup>2</sup> (1.5)
	P → B		
Air Exhaust Side Eff. Area(mm <sup>2</sup> ) (Cv)	A → R1	Over 18mm <sup>2</sup> (1.0)	Over 27mm <sup>2</sup> (1.5)
	B → R2		

## Structure Map/Component List



P Port

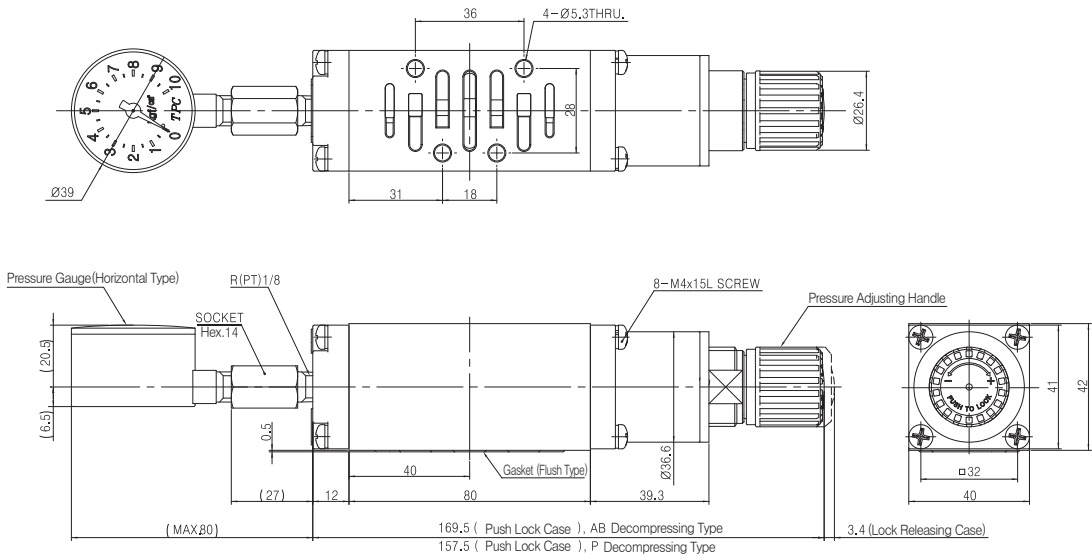


A, B Port

## Major Components

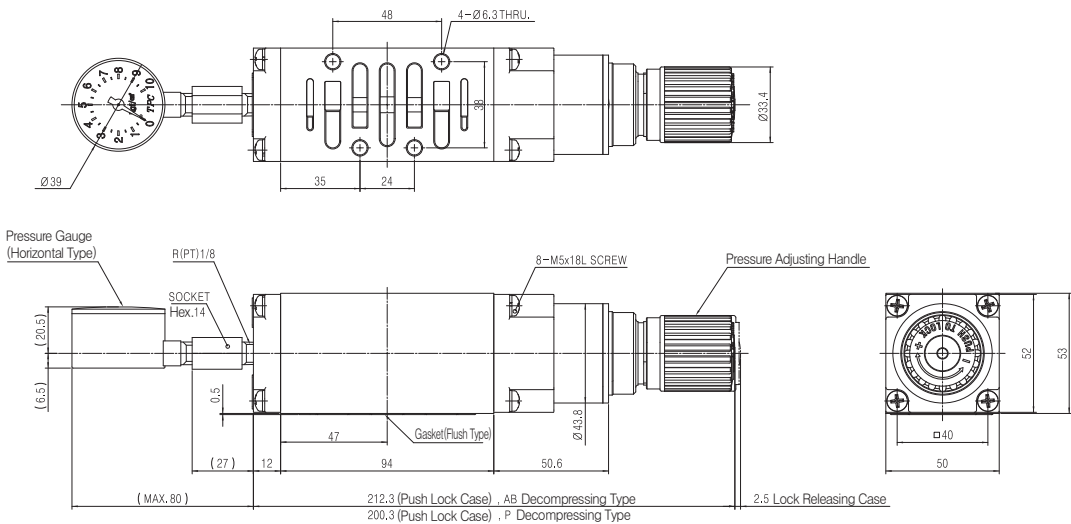
NO	Item Number	Material	Remark
1	Body(P Decompressing type)	Aluminum Die Casting	
2	Chamber	Aluminum Die Casting	
3	Diaphragm	NBR+Resin	
4	Diaphragm Shell	Resin	
5	Diaphragm Ring	Resin	
6	Bonnet	Resin	
7	Handle	Resin	
8	R-Valve Ass'y		
9	Chamber Plate	Aluminum	
10	Relief Valve	Resin	
11	Nipple	Steel	
12	Body Gasket	NBR	
13	Chamber Gasket	NBR	
14	Relief Valve Gasket	NBR	
15	R-Valve Spring	Spring Steel	
16	Adjusting Spring	Hard Steel Wire	
17	Adjusting Bolt	Steel	
18	Adjusting Nut	Steel	
19	Pressure Gauge		
20	Name Plate	Resin	
21	Indication Symbol Plate	Resin	
22	R-Valve O-Ring	NBR	
23	Stem O-Ring	NBR	
24	Spring Pin	Spring Steel	
25	Chamber Screw	Stainless Steel	
26	End Cover	Aluminum Die Casting	For A&B port Decompressing Type

DX1R Sandwich Regulator/External Dimension Drawing



Note) In case of A-port decompressing type, pressure adjusting handle is assembled at opposite side (pressure gauge location)

DX2R Sandwich Regulator/External Dimension Drawing



Note) In case of A-port decompressing type, pressure adjusting handle is assembled at opposite side (pressure gauge location)

DW

DR100

DR200

RS1000, 2000

RS4000

SI UNIT

DV1000 DV3000 DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

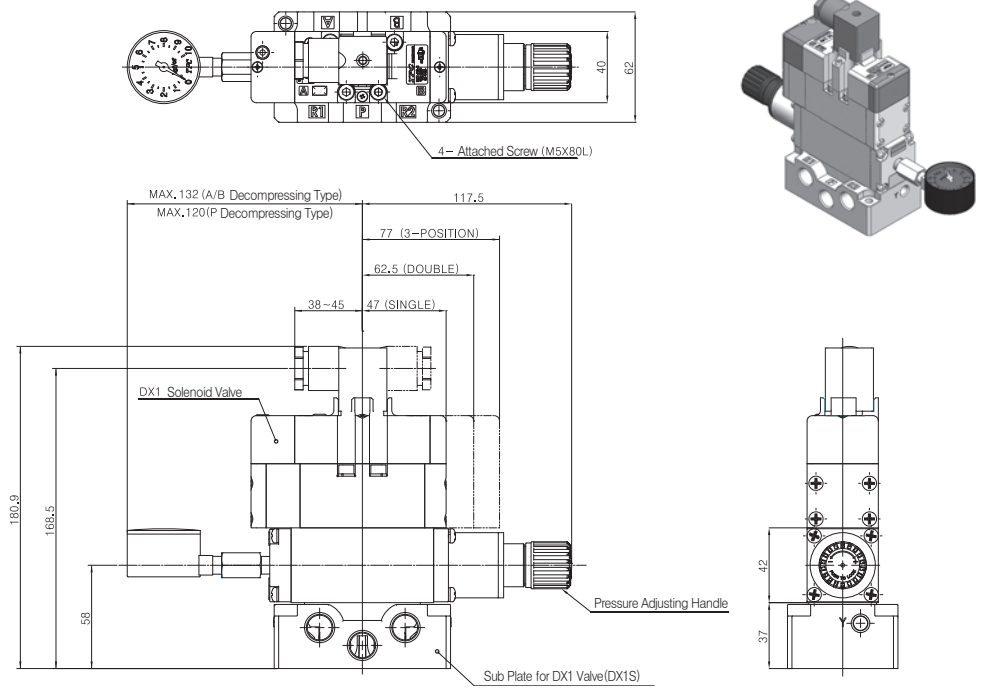
DP300 DP3000 DP5000

DM

DT220

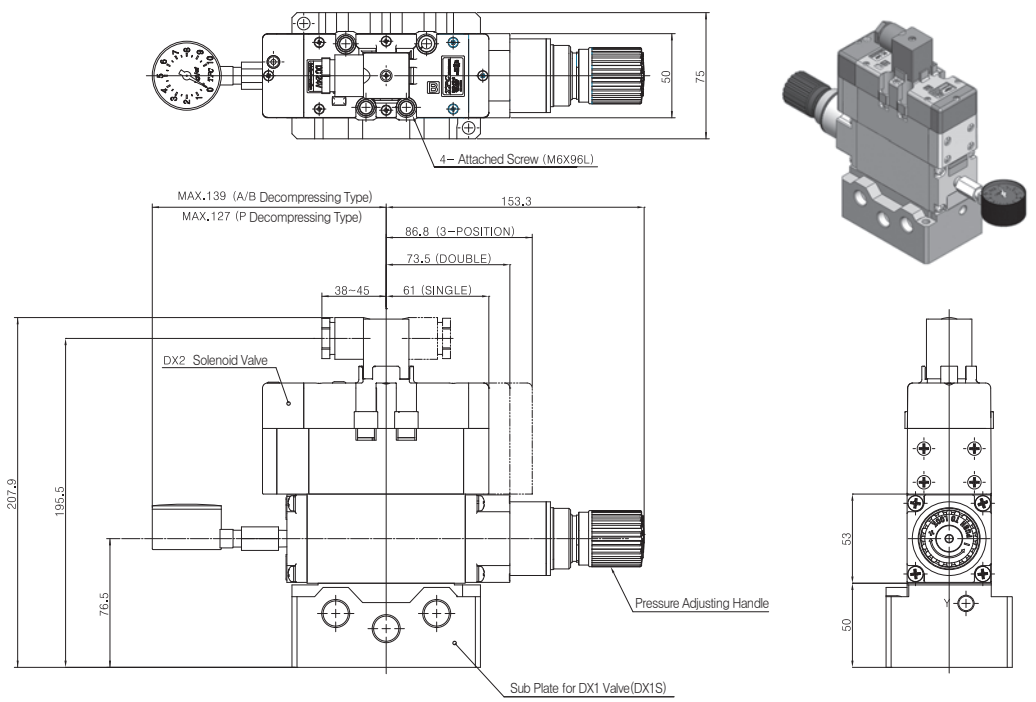
# Series DX1(2)R

## DX1 Solenoid Valve + DX1R Sandwich Regulator External Dimension Drawing



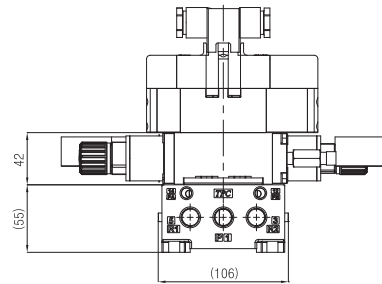
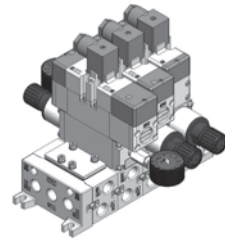
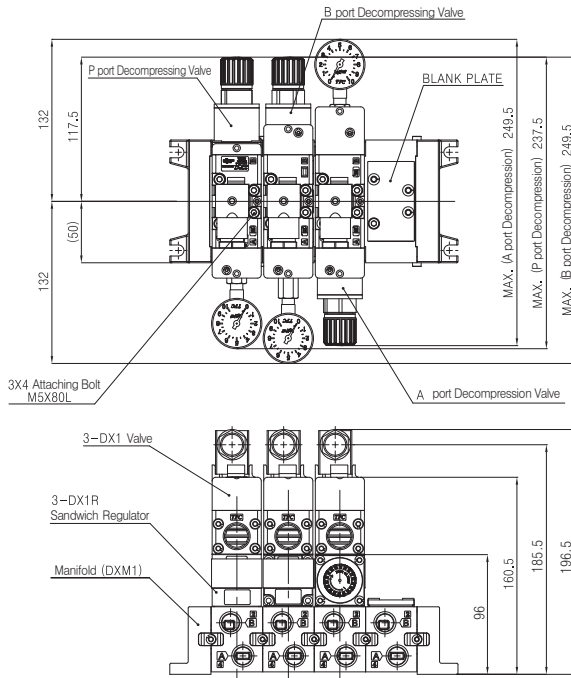
Note) In case of A-port decompressing type, pressure adjusting handle is assembled at opposite side (pressure gauge location)

## DX2 Solenoid Valve + DX2R Sandwich Regulator External Dimension Drawing



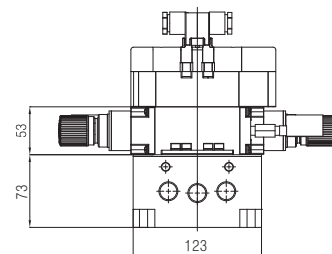
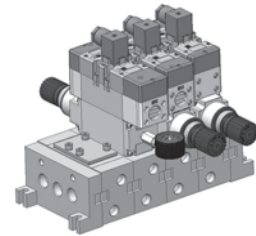
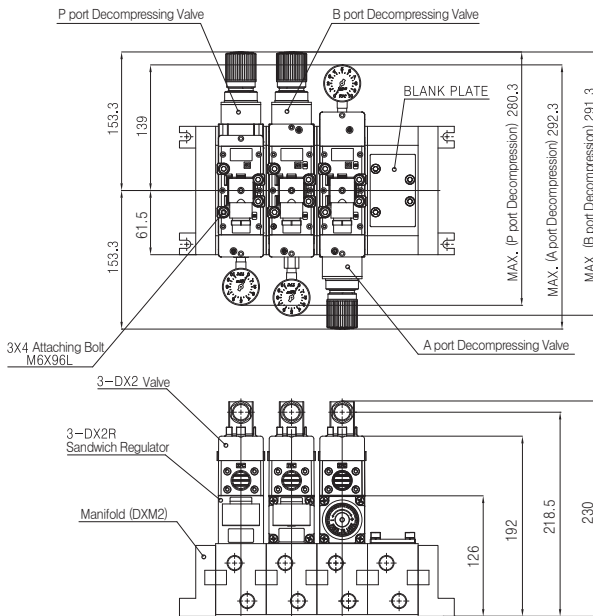
Note) In case of A-port decompressing type, pressure adjusting handle is assembled at opposite side (pressure gauge location)

**DX1 Valve + DX1R Sandwich Regulator + Manifold**



Note) Refer to DX1 valve catalogue for dimensions not indicated above.

**DX2 Valve + DX2R Sandwich Regulator + Manifold**



Note) Refer to DX2 valve catalogue for dimensions not indicated above.

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

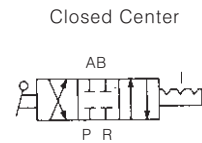
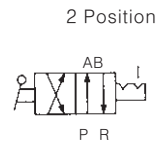
# Series **DH**

## Hand Valve (4 way)

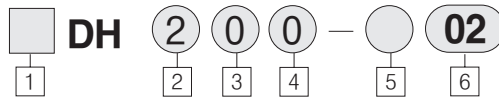


- PORTING OF NPT(PT) 1/4 " , 3/8 " AND 1/2 "
- ALUMINUM DIE CASTING DESIGN FOR HEAVY APPLICATIONS
- DETENTED CENTER POSITION

### Symbol



## How to Order



### 1 Thread

Blank : Rc(PT)  
U : NPT

### 2 Body Size (Basic Size)

2 : Cv 0.4(1/4" Only)  
3 : Cv 1.1(3/8" Only)  
4 : Cv 3.1(1/2" Only)

### 3 Piping & Mounting Position

0 : Piping-Side  
Mounting-Body  
1 : Panel Mountable

### 4 Position Symbol

0 : 3 Position  
Closed Center  
2 : 2 Position

### 5 Thread

Blank : Rc(PT)  
G : Rc(PF)

### 6 Port Size

02 : 1/4  
03 : 3/8  
04 : 1/2

### Model

Series	Port Size Rc(PT)/NPT	Number of Positions	Piping	Model	Effective Orifice	Weight
				Body Ported	in <sup>2</sup> (Cv factor)	kgf(lbs)
DH2 UDH2	1/4 "	3(Closed Center)		DH200-02	0.01 (0.4)	0.55(1.21)
		2Position		DH202-02		
DH3 UDH3	3/8 "	3(Closed Center)		DH300-03	0.03 (1.1)	0.9(1.98)
		2Position		DH302-03		
DH4 UDH4	1/2 "	3(Closed Center)		DH400-04	0.09 (3.1)	1.6(3.53)
		2Position		DH402-03		

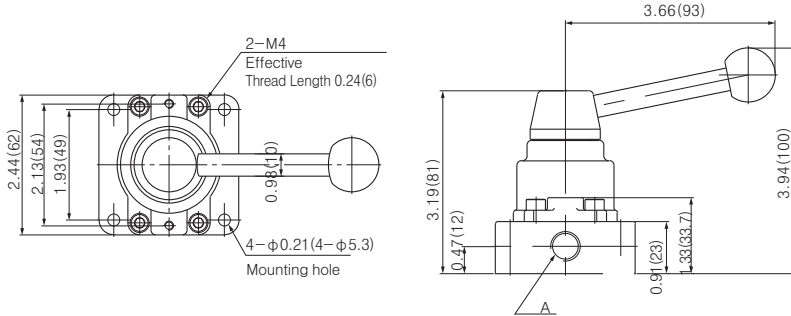
### Standard Specifications

Fluid	Air
Proof Pressure	1.5MPa(200 PSI)
Max. Operating Pressure	990kPa(140 PSI)
Ambient and Operating Fluid Temperature	5~60°C (40~140°F)
Operating Angle	90 °

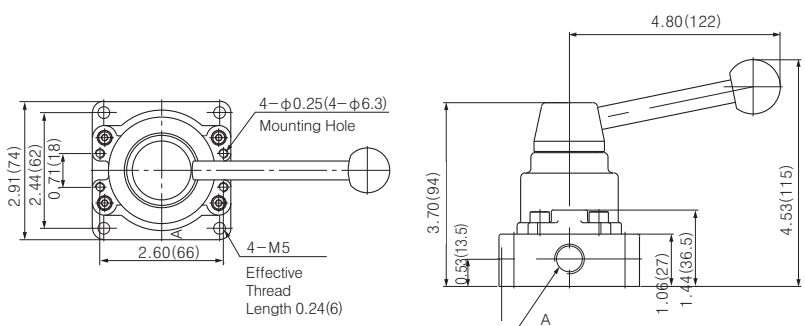
Dimensions

inch(mm)

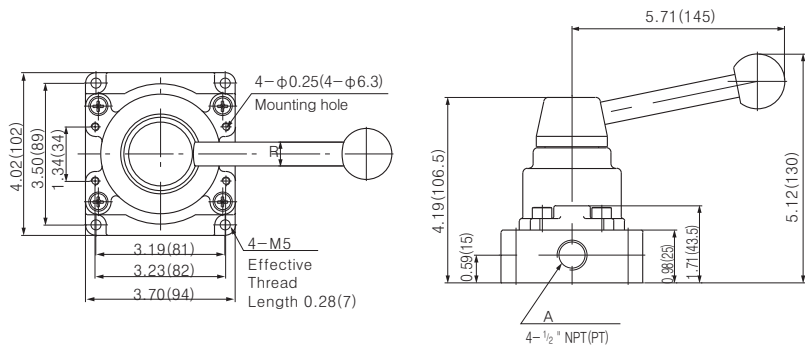
DH200-02/Side Piping



DH300-03/Side Piping



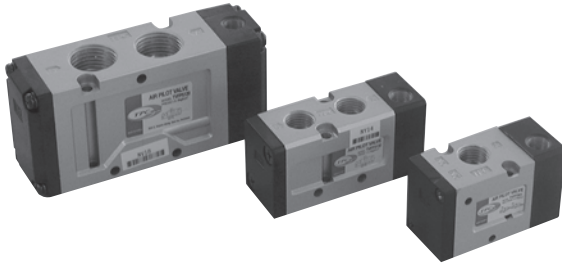
DH400-04/Side Piping



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

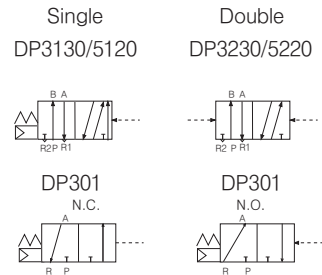
# Series DP300/3000/5000

## 3 · 5 Port Air Pilot Valve



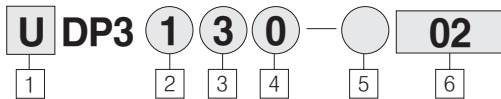
- COMPACT SIZE AND LIGHT WEIGHT
  - 0.63 inch Width (Series UDP300, UDP3000)
  - 1.26 inch Width (Series UDP5000)
- LARGE FLOW CAPACITY
  - Cv. 1.0 - NPT 1/4" (Series UDP300, UDP3000)
  - Cv. 3.2 - NPT 1/2" (Series UDP5000)

### Symbol



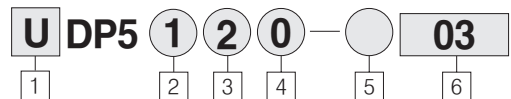
## How to Order

### DP3000



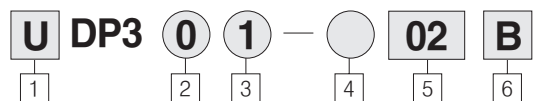
- |   |  |
|---|--|
| <p>1 Series DP3000<br/>Blank : Metric (PT)<br/>U : NPT (UNF)</p> <p>2 Configuration<br/>1 : Single Pilot type<br/>2 : Double Pilot type</p> <p>3 Body Type<br/>3 : For 30 type Manifold<br/>(Body Ported)</p> | <p>4 Body Specifications<br/>0 : Standard</p> <p>5 Thread<br/>Blank : Rc (PT)<br/>G : Rc (PF)</p> <p>6 Port Size (P, A, B)<br/>01 : 1/8"<br/>02 : 1/4"<br/>※ Exhaust Port is only 1/8"</p> |
|---|--|

### DP5000



- |   |  |
|---|--|
| <p>1 Series DP5000<br/>Blank : Metric (PT)<br/>U : NPT (UNF)</p> <p>2 Configuration<br/>1 : Single pilot type<br/>2 : Double pilot type</p> <p>3 Body Type<br/>2 : For 20 type Manifold<br/>(Body Ported)</p> | <p>4 Body Specifications<br/>0 : Standard</p> <p>5 Thread<br/>Blank : Rc (PT)<br/>G : Rc (PF)</p> <p>6 Port Size (P, A, B)<br/>03 : 3/8"<br/>04 : 1/2"<br/>※ Exhaust Port is only 1/8"</p> |
|---|--|

### DP300



- |   |   |  |   |  |  |
|---|---|--|---|--|--|
| <p>1 Series DP300<br/>Blank : Metric (PT)<br/>U : NPT (UNF)</p> | <p>2 Action<br/>0 : Normally Closed /<br/>Normally Open</p> | <p>3 Body Type<br/>1 : Body Ported</p> | <p>4 Thread<br/>Blank : Rc (PT)<br/>G : Rc (PF)</p> | <p>5 Port size (P, A, R)<br/>01 : 1/8"<br/>02 : 1/4"<br/>※ Exhaust port is only 1/8"</p> | <p>6 Body Type<br/>A : N.C.<br/>B : N.O.</p> |
|---|---|--|---|--|--|



## Specifications

Fluid	Air		
Operating Pressure Range	2 Position	Single	0.15~0.9 MPa(21~128PSI)
		Double	0.1~0.9 Mpa(14~128PSI)
Ambient and Fluid Temperature	MAX. 60°C(140°F)		
Pilot Pressure Range	2 Position	Single	<sup>(Note2)</sup> 0.16~0.9 Mpa(24~128PSI)
		Double	0.1~0.9 Mpa(14~128PSI)
Lubrication	Not required		
Impact/Vibration Resistance	30G / 5G (8.3 ~ 2000Hz)		
Mounting Position	Free		
(Note 1) Effective Orifice $mm^2$ (Cv factor)	1/8 "	14 (0.8)	
	1/4 "	17.5 (1.0)	
	3/8 "	48 (2.7)	
	1/2 "	56 (3.1)	
Pilot Port Size	Rc(PT) 1/8 Common use		

(Note 1) Cv—Capacity Co—efficients(Flow Factors)

(Note 2) The minimum pressure for PILOT should be higher than "A"

P : Supply pressure. A :  $0.4 \times P + 14.224$ (PSI)

※  $cm^2 = 0.0016 \text{ in}^2$

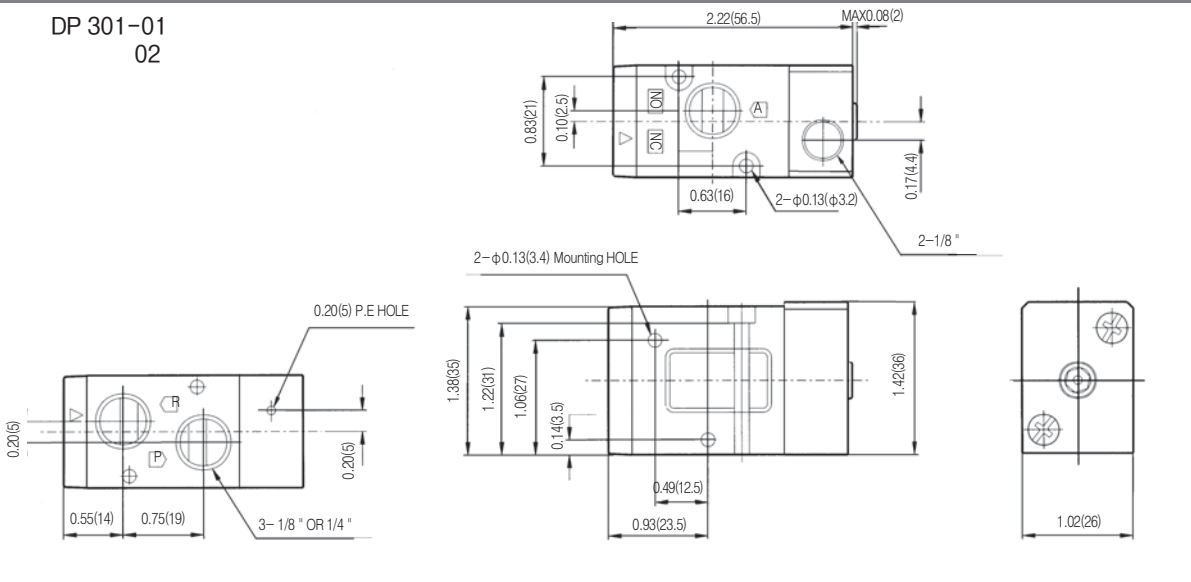
## Model

Piping	Type	Position/Solenoid	Port size	Effective orifice $mm^2$ (Cv factor)	
				1/8"	1/4"
Body Ported	DP300	2 Position Single	1/8"	19.2(1.07)	22(1.2)
			1/4"		
	DP3130	2 Position Single	1/8"	14(0.8)	18(1.0)
	DP3230		2 Position Double	1/4"	14(0.8)
	DP5120	2 Position Single	3/8"	3/8"	1/2"
				48(2.8)	58(3.2)
DP5220	2 Position Double	1/2"	48(2.8)	56(3.2)	

## 3 Port

DP 301-01  
02

inch(mm)



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

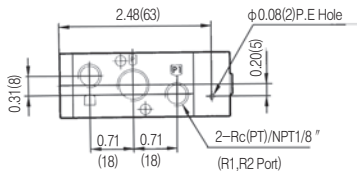
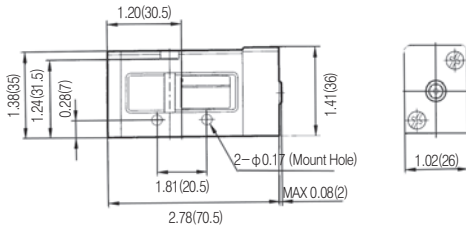
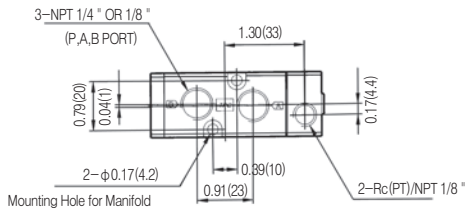
DT220

# Series DP300/3000/5000

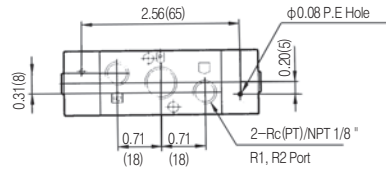
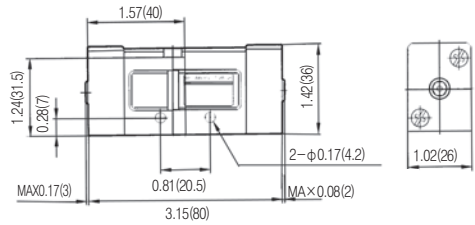
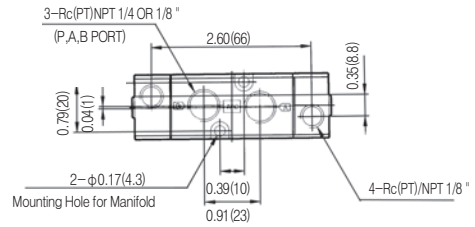
## 5 Port/2 Position Single, Double

inch(mm)

DP3130-01  
02



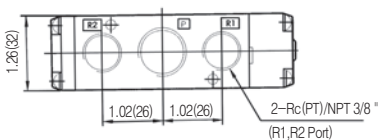
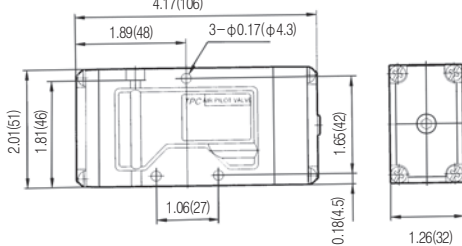
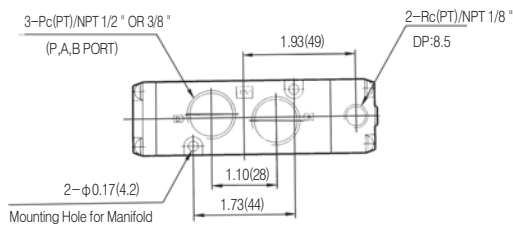
DP3230



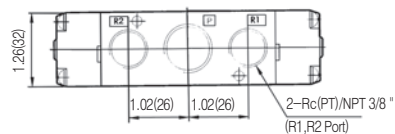
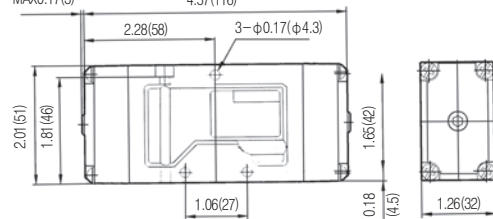
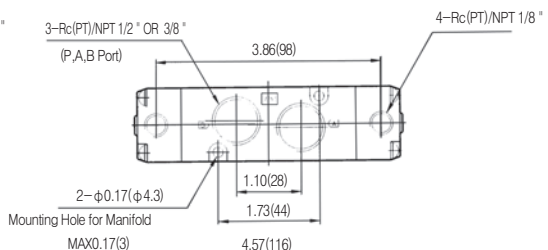
## 5 Port/2 Position Single, Double

inch(mm)

DP5120-03  
04

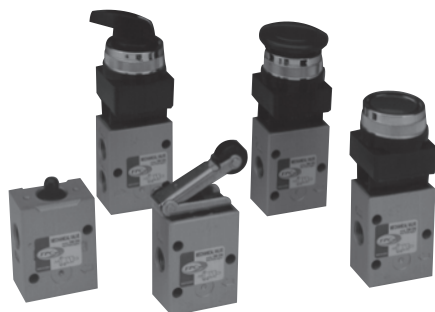


DP5220



# Series DM

## 3 · 5 Port Mechanical Valves



- VARIOUS ACTUATORS AVAILABLE
- EASY TO INTERCHANGE ACTUATOR ASSEMBLIES

### Specifications

Body Type	DM230	DM330	DM450	DM550
Fluid	Air			
Operating Pressure Range	0~7kgf/cm <sup>2</sup> (0~99.57psi)		1.5~7kgf/cm <sup>2</sup> (21.34~7psi)	
Effective Orifice mm <sup>2</sup> (Cv)	11.0(0.6)	19.0(1.0)	14.0(0.7)	19.0(1.0)
Lubrication	Not Required			
Port Size	Rc(PT)1/8	Rc(PT)1/4	Rc(PT)1/8	Rc(PT)1/4
Weight g(ozs)	88(3.1)	125(4.4)	163(5.75)	191(6.74)
Actuator	Basic Type, Roller Plunger, Roller, Push Button (Mushroom), Push Button (Flush), Selector			
Symbol				

### How To Order

DM 2 30 — ○ — 01 B —

1 2 3 4 5 6 7

1 Mechanical Valve

2 Body Type / Size

- 2 : B Type
- 3 : C Type
- 4 : D Type
- 5 : E Type

3 Type of Actuation

- 30 : 2 Position 3 Port N.O./N.C.
- 50 : 2 Position 5 Port

4 Mounting

- Blank : Standard
- \*B : Bracket
- \*Bracket Part No
- DM450 Series : DM-4B
- DM550 Series : DM-5B

5 Port Size

- 01 : 1/8
- 02 : 1/4

6 Actuator

- B : Basic Type

- R : Roller Plunger
- RB : Roller Bearing Type
- E : Push Button (Mushroom)
- R2 : One Way Roller
- RB2 : One Way Roller Bearing Type
- P : Push Button (Flush)
- S : Selector

7 Actuator's Color (switch)

- Blank : Red
- G : Green
- B : Black

B TYPE	C TYPE	D TYPE	E TYPE
<p>3 Ways</p>		<p>5 Ways</p>	

DW

DR100

DR200

RS1000,  
2000

RS4000

SI UNIT

DV1000  
DV3000  
DV4000

DS300

DS3000

DS5000

DS2000

DS6000

DX1,DX2

DX1(2)R

DH

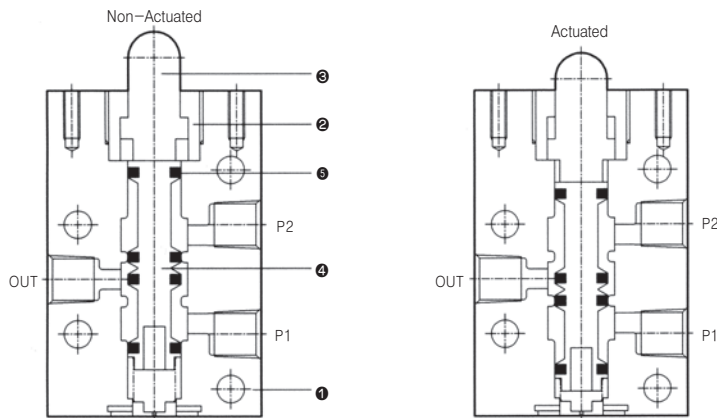
DP300  
DP3000  
DP5000

DM

DT220

# Series DM

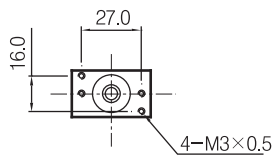
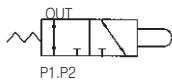
## DM230 Construction/Parts List



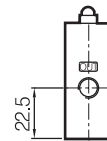
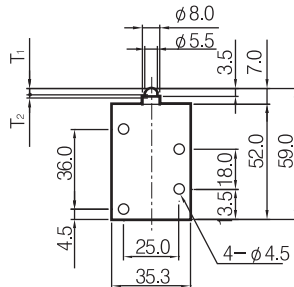
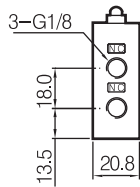
No.	Description	Material
①	Body	A l DC
②	Housing	C3604
③	Button	POM
④	Spool	A l
⑤	Spool Packing	NBR

## DM230-01B(Standard Type)

Symbol

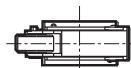
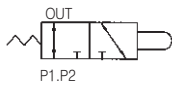


Specifications		
T1	Effective Moving Area	3.5mm
T2	Non-Effective Moving Area	1.0mm
F1	Able to Withstand the Weight	3.5kg
F2	Unable to Withstand the Weight	

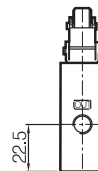
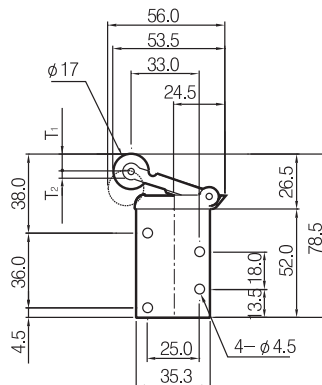
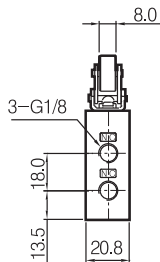


## DM230-01R(Roller Type)/ DM230-01RB(Roller Bearing Type)

Symbol

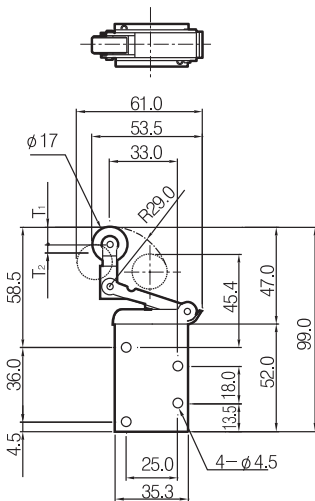
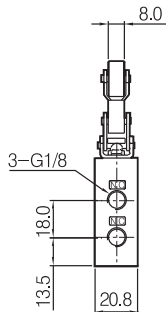
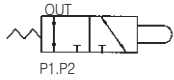


Specifications		
T1	Effective Moving Area	8.0mm
T2	Non-Effective Moving Area	3.0mm
F1	Able to Withstand the Weight	2.0kg
F2	Unable to Withstand the Weight	

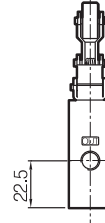


DM230-01R2(One Way Roller Type) / DM230-01R2B(One Way Roller Bearing Type)

Symbol

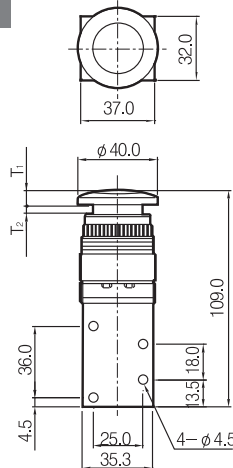
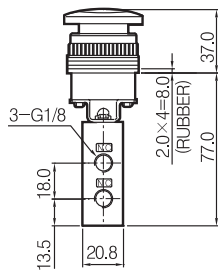


Specifications		
T1	Effective Moving Area	9.0mm
T2	Non-Effective Moving Area	3.5mm
F1	Able to Withstand the Weight	2.0kg
F2	Unable to Withstand the Weight	

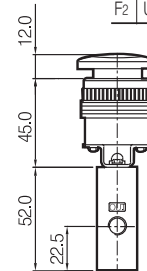


DM230-01E(Mushroom Button Type)

Symbol

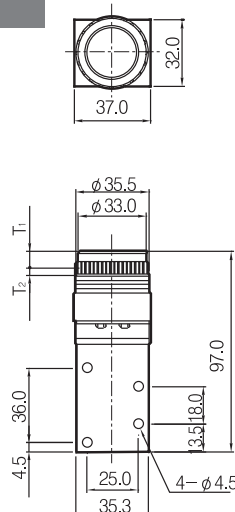
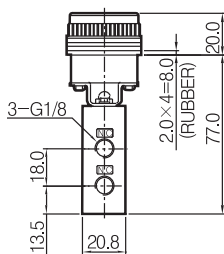
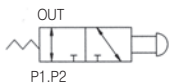


Specifications		
T1	Effective Moving Area	5.5mm
T2	Non-Effective Moving Area	1.0mm
F1	Able to Withstand the Weight	3.5kg
F2	Unable to Withstand the Weight	

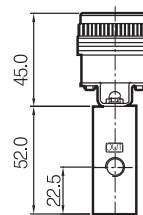


DM230-01P(Push Button Type)

Symbol



Specifications		
T1	Effective Moving Area	5.5mm
T2	Non-Effective Moving Area	1.0mm
F1	Able to Withstand the Weight	3.5kg
F2	Unable to Withstand the Weight	



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

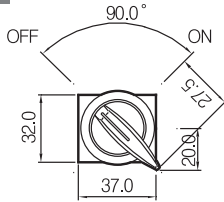
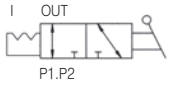
DM

DT220

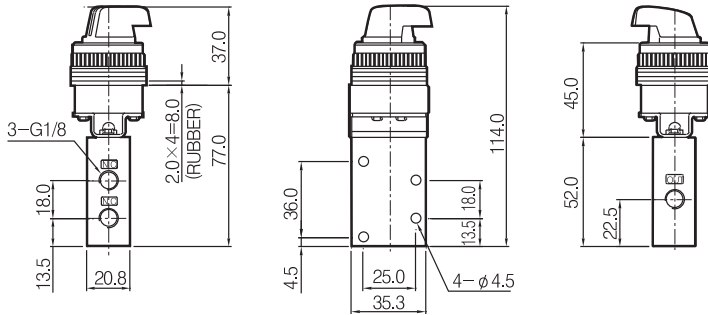
# Series DM

## DM230-01S(Twist Selector Type)

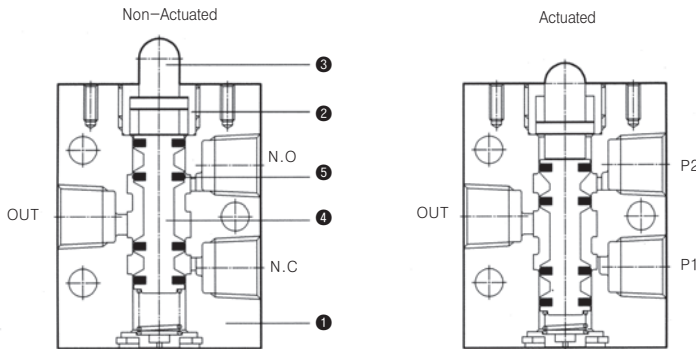
Symbol



Specifications		
T1	Effective Moving Area	3.6mm
T2	Non-Effective Moving Area	
F1	Able to Withstand the Weight	2.5kg
F2	Unable to Withstand the Weight	



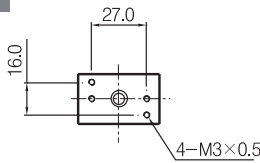
## DM330/Construction/Parts List



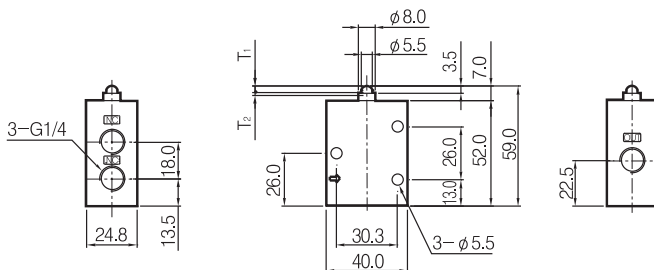
NO.	Description	Material
1	Body	A l DC
2	Housing	C3604
3	Button	POM
4	Spool	A2011
5	Spool Packing	NBR

## DM330-02B(Standard Type)

Symbol

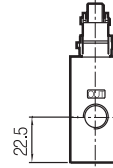
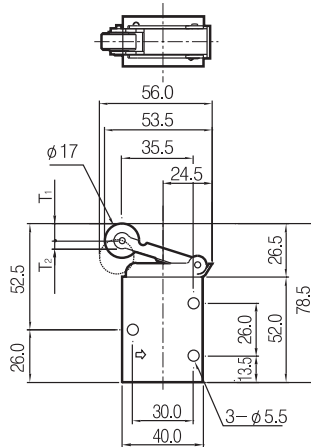
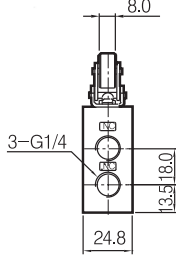
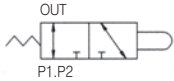


Specifications		
T1	Effective Moving Area	3.5mm
T2	Non-Effective Moving Area	1.0mm
F1	Able to Withstand the Weight	3.5kg
F2	Unable to Withstand the Weight	



**DM330-02R(Roller Type)/DM330-02RB(Roller Bearing Type)**

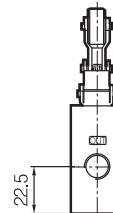
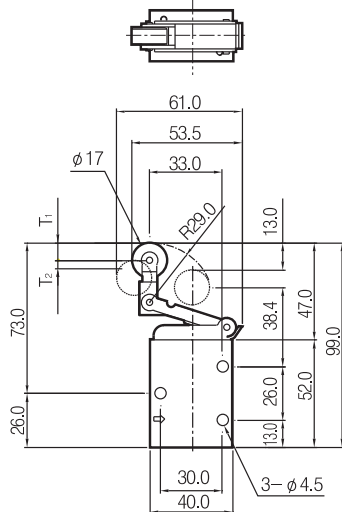
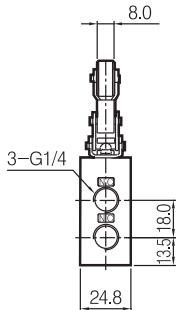
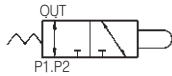
Symbol



Specifications		
T1	Effective Moving Area	8.0mm
T2	Non-Effective Moving Area	3.0mm
F1	Able to Withstand the Weight	2.0kg
F2	Unable to Withstand the Weight	

**DM330-02R2(Only Way Roller Type) / DM330-02R2B(Only Way Roller Bearing Type)**

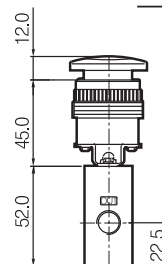
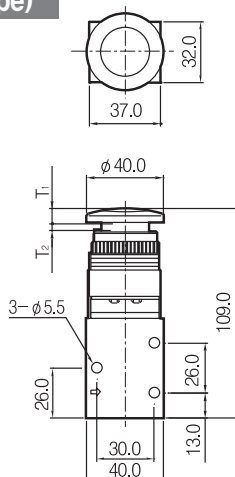
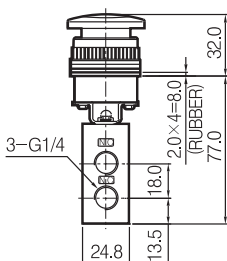
Symbol



Specifications		
T1	Effective Moving Area	9.0mm
T2	Non-Effective Moving Area	3.5mm
F1	Able to Withstand the Weight	2.0kg
F2	Unable to Withstand the Weight	

**DM330-02E(Mushroom Button Type)**

Symbol



Specifications		
T1	Effective Moving Area	5.5mm
T2	Non-Effective Moving Area	1.0mm
F1	Able to Withstand the Weight	3.5kg
F2	Unable to Withstand the Weight	

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

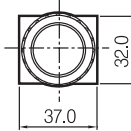
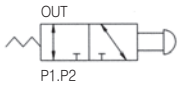
DM

DT220

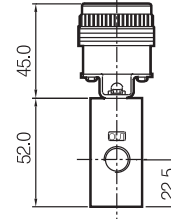
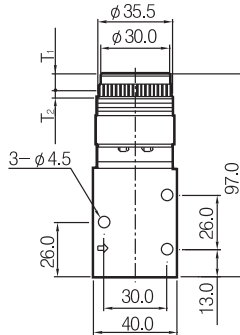
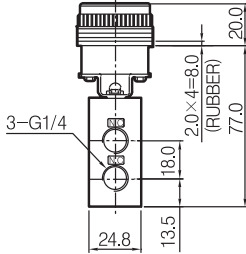
# Series DM

## DM330-02P(Push Button Type)

Symbol

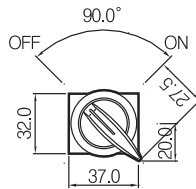
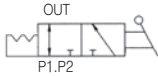


Specifications		
T1	Effective Moving Area	5.5mm
T2	Non-Effective Moving Area	1.0mm
F1	Able to Withstand the Weight	3.5kg
F2	Unable to Withstand the Weight	

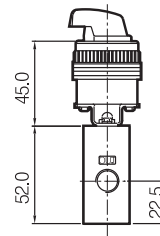
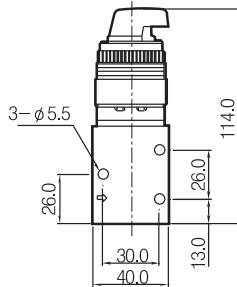
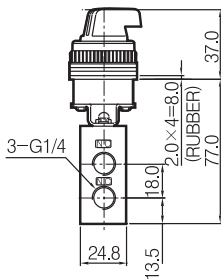


## DM330-02S(Twist Selector Type)

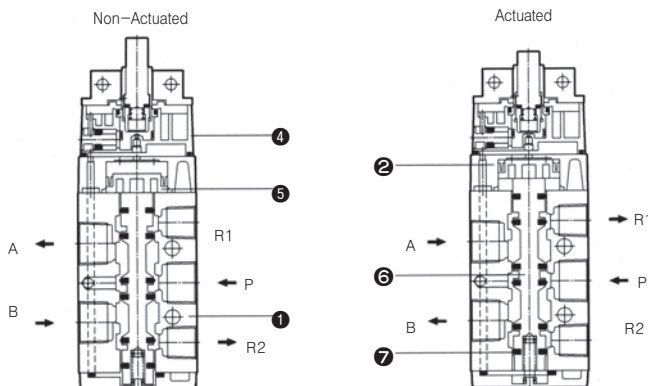
Symbol



Specifications		
T1	Effective Moving Area	3.6mm
T2	Non-Effective Moving Area	
F1	Able to Withstand the Weight	2.5kg
F2	Unable to Withstand the Weight	



## DM450/Construction/Parts List

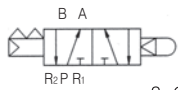


NO.	Description	Material
1	Body	A 1 DC
2	Semi Pilot	ZADC
3	Cap	ZnDC
4	Pilot	ZnDC
5	Piston	PBT
6	Spool	A2011
7	Spool Packing	NBR

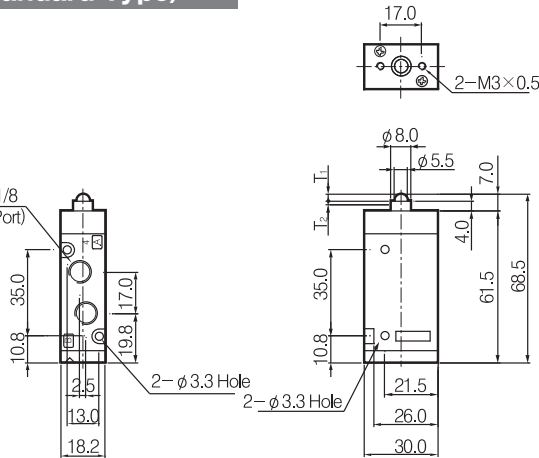


DM450-01B (Standard Type)

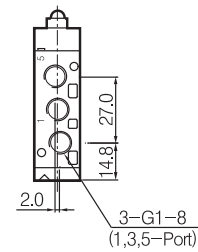
Symbol



2-G1/8  
(2,4-Port)

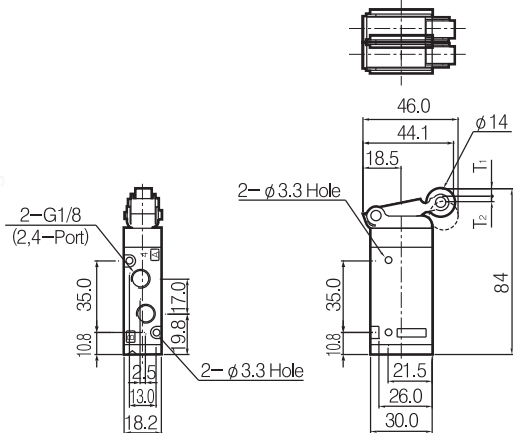
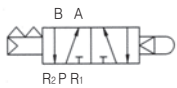


Specifications		
T1	Effective Moving Area	3.0mm
T2	Non-Effective Moving Area	1.0mm
F1	Able to Withstand the Weight	2.5kg
F2	Unable to Withstand the Weight	

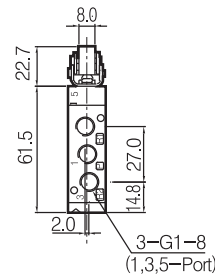


DM450-01R(Roller Type)/DM450-01RB(Roller Bearing Type)

Symbol

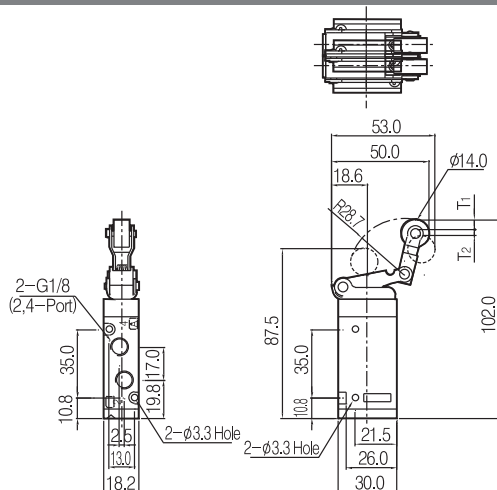
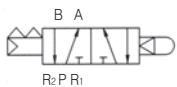


Specifications		
T1	Effective Moving Area	8.5mm
T2	Non-Effective Moving Area	2.0mm
F1	Able to Withstand the Weight	1.5kg
F2	Unable to Withstand the Weight	

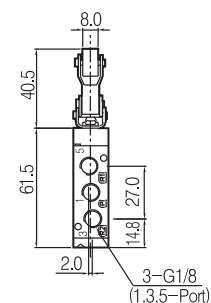


DM450-01R2(One Way Roller Type)/DM450-01R2B(One Way Roller Bearing Type)

Symbol



Specifications		
T1	Effective Moving Area	9.5mm
T2	Non-Effective Moving Area	2.0mm
F1	Able to Withstand the Weight	1.5kg
F2	Unable to Withstand the Weight	



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

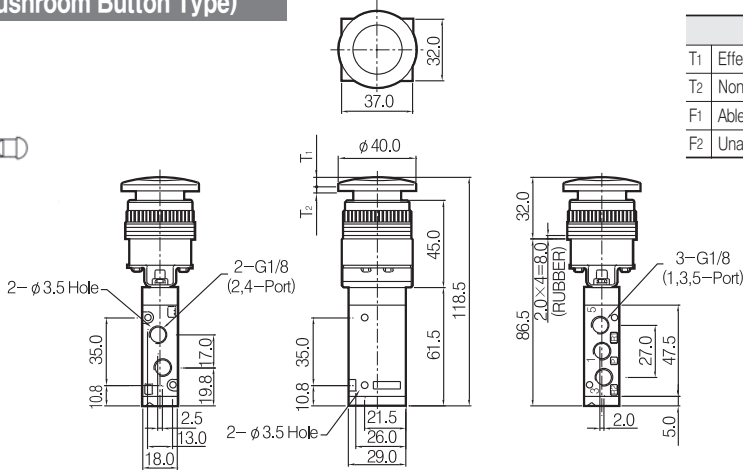
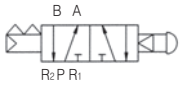
DM

DT220

# Series DM

## DM450-01E(Mushroom Button Type)

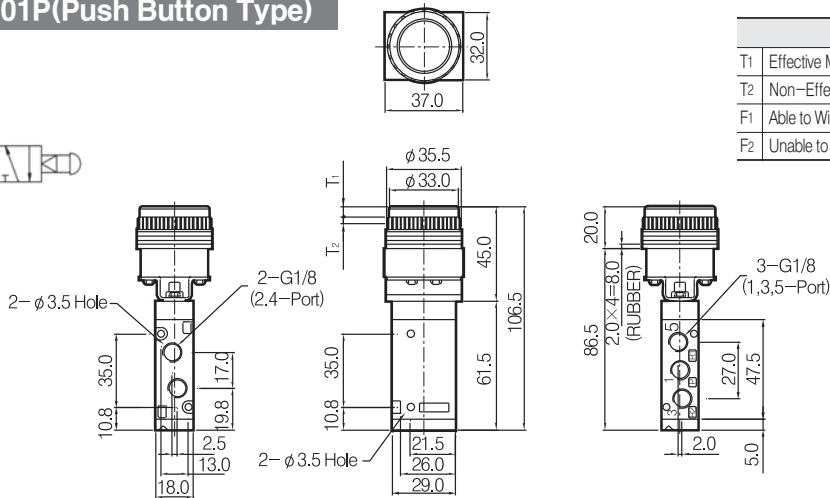
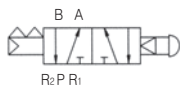
Symbol



Specifications		
T1	Effective Moving Area	6.5mm
T2	Non-Effective Moving Area	1.0mm
F1	Able to Withstand the Weight	3.0kg
F2	Unable to Withstand the Weight	

## DM450-01P(Push Button Type)

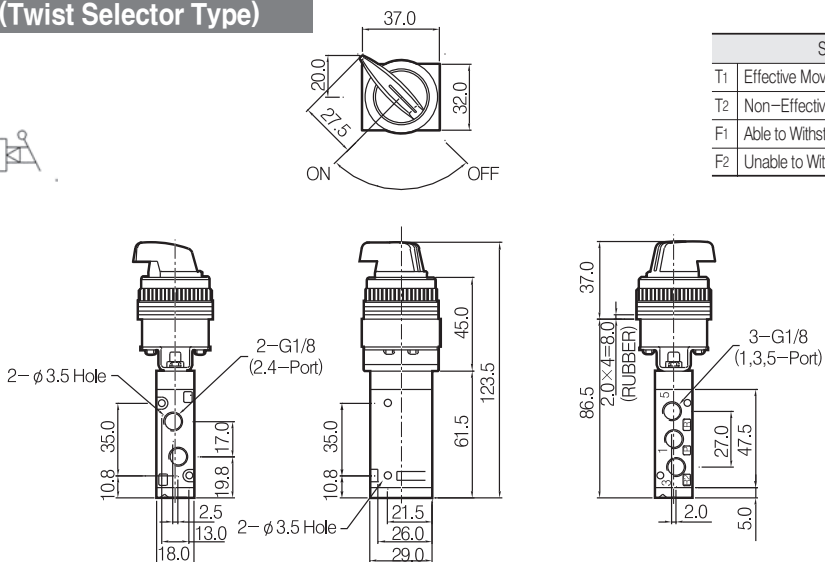
Symbol



Specifications		
T1	Effective Moving Area	6.5mm
T2	Non-Effective Moving Area	1.0mm
F1	Able to Withstand the Weight	3.0kg
F2	Unable to Withstand the Weight	

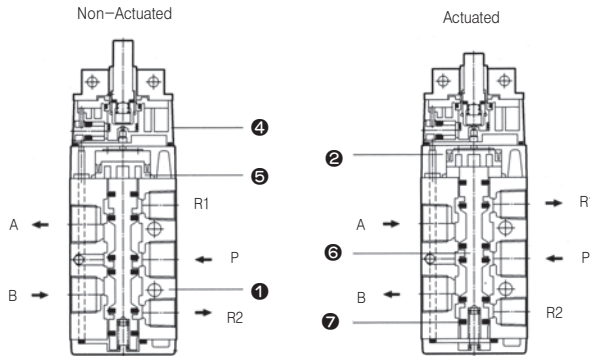
## DM450-01S(Twist Selector Type)

Symbol



Specifications		
T1	Effective Moving Area	3.6mm
T2	Non-Effective Moving Area	
F1	Able to Withstand the Weight	2.5kg
F2	Unable to Withstand the Weight	

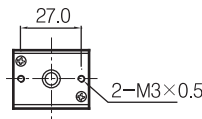
DM450/Construction/Parts List



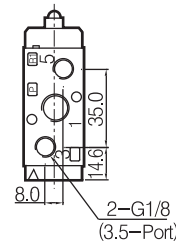
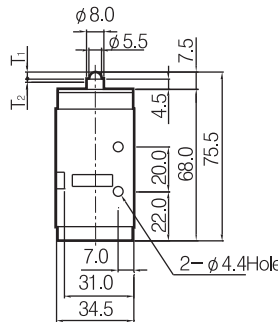
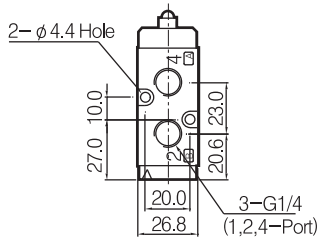
No.	Description	Material
1	Body	Al DC
2	Semi Pilot	ZnDC
3	Cap	ZnDC
4	Pilot	PBT
5	Piston	POM
6	Spool	A2011
7	Spool Packing	NBR

DM550-02B(Standard Type)

Symbol

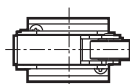
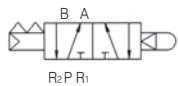


Specifications		
T1	Effective Moving Area	3.6mm
T2	Non-Effective Moving Area	1.0mm
F1	Able to Withstand the Weight	3.5kg
F2	Unable to Withstand the Weight	

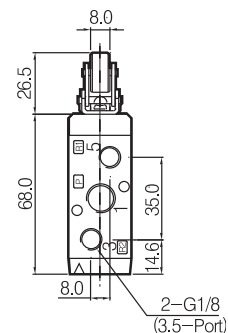
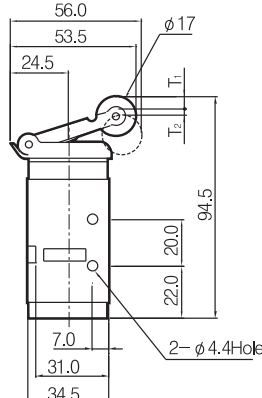
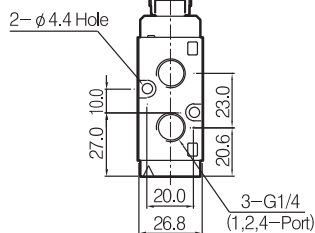


DM550-02R(Roller Type) / DM550-02RB(Roller Bearing Type)

Symbol



Specifications		
T1	Effective Moving Area	9.0mm
T2	Non-Effective Moving Area	3.0mm
F1	Able to Withstand the Weight	1.5kg
F2	Unable to Withstand the Weight	



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

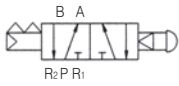
DM

DT220

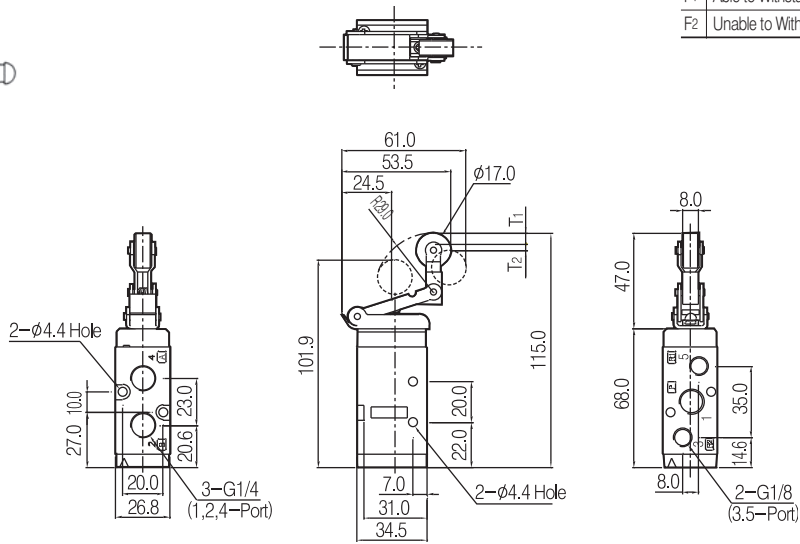
# Series DM

## DM550-02R2(One Way Roller Type)/ DM550-02R2B(One Way Roller Bearing Type)

### Symbol

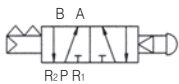


Specifications		
T1	Effective Moving Area	10.5mm
T2	Non-Effective Moving Area	3.0mm
F1	Able to Withstand the Weight	1.5kg
F2	Unable to Withstand the Weight	

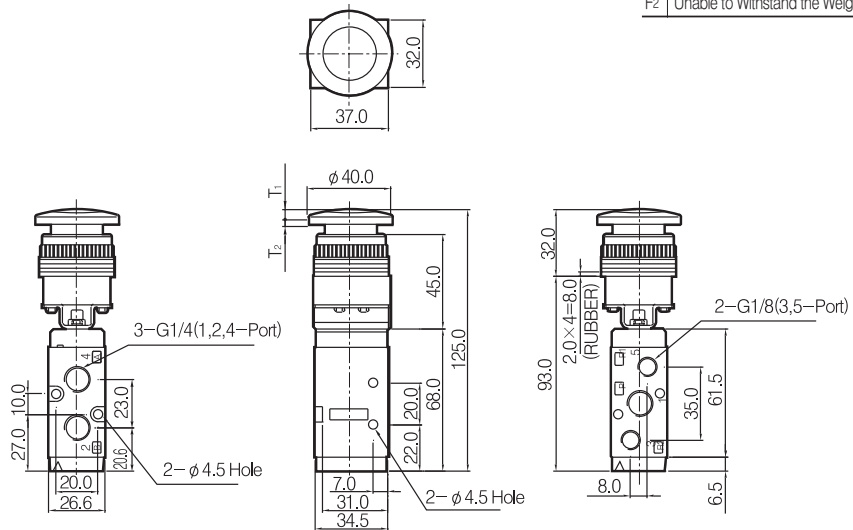


## DM550-02E(Mushroom Button Type)

### Symbol

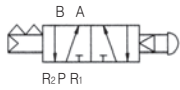


Specifications		
T1	Effective Moving Area	5.5mm
T2	Non-Effective Moving Area	1.0mm
F1	Able to Withstand the Weight	4.0kg
F2	Unable to Withstand the Weight	

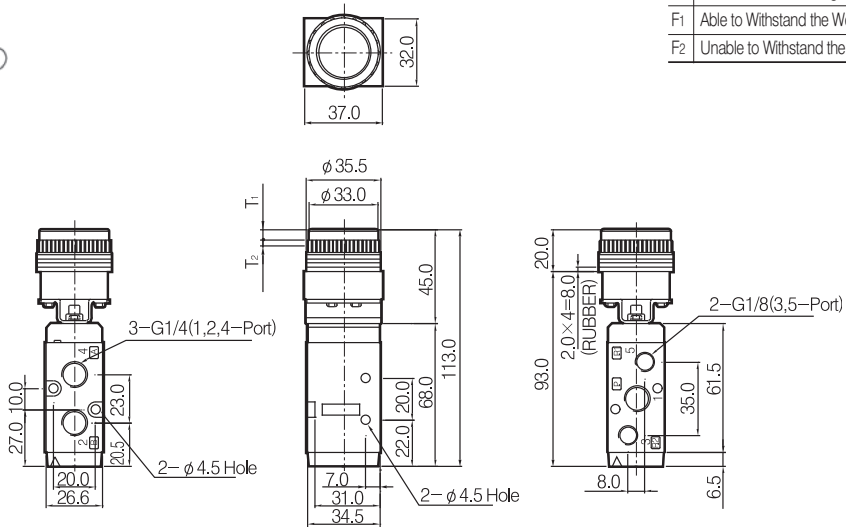


DM550-02P (Push Button Type)

Symbol

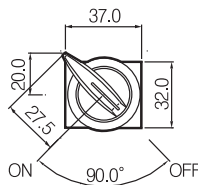
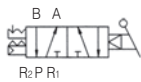


Specifications		
T1	Effective Moving Area	5.5mm
T2	Non-Effective Moving Area	1.0mm
F1	Able to Withstand the Weight	4.0kg
F2	Unable to Withstand the Weight	

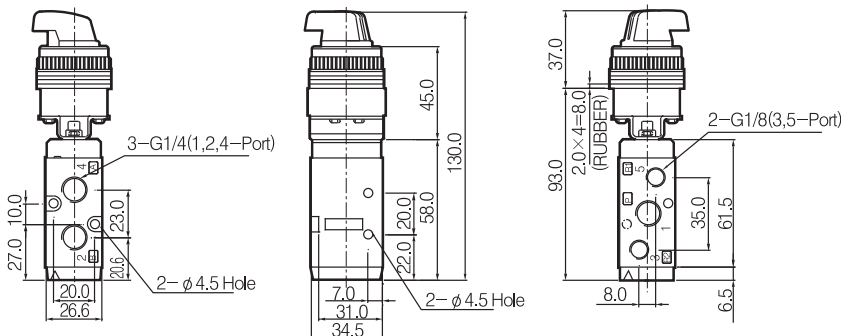


DM550-02S (Twist Selector Type)

Symbol



Specifications		
T1	Effective Moving Area	3.6mm
T2	Non-Effective Moving Area	
F1	Able to Withstand the Weight	2.5kg
F2	Unable to Withstand the Weight	



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

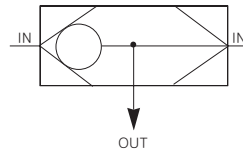
# Series DT220

## OR Valve (Shuttle Valve)



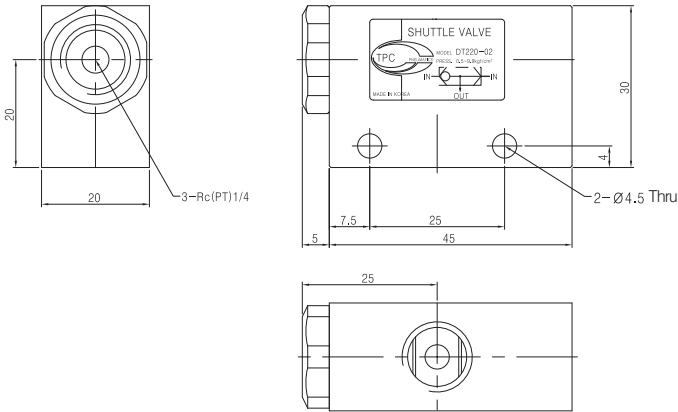
- 3 PORT OR VALVE WITH OUTPUT AND 2 PNEUMATIC SIGNAL INPUT PORT

Symbol



### Dimensions

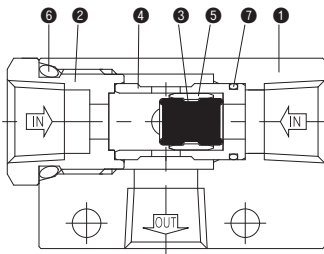
(Unit : mm)



### Model/Specification

Model	DT 220-02
Port Size	Rc(PT) 1/4
Max. Operating Pressure	9.9 kgf/cm <sup>2</sup>
Min. Operating Pressure	0.5 kgf/cm <sup>2</sup>
Ambient and Fluid Temperature	0~60°C
Effectine Area (Cv)	19mm <sup>2</sup> (1.0)
Using pressure difference between high and low pressure on "IN" side.	Minimum 0.5kgf/cm <sup>2</sup>

### Construction/Part List



No.	Description	Material	Note
①	BODY	Aluminum Alloy	
②	BUSH	Carbon Steel	
③	VALVE	Rubber	
④	VALVE SLEEVE	Aluminum Alloy	
⑤	VALVE GUIDE	Copper	
⑥	GASKET A	NBR	
⑦	GASKET B	NBR	