

Series **DS3000**

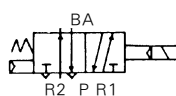
5 Port Pilot Solenoid Valve Body Ported Type / Base Ported Type



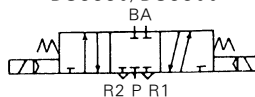
- COMPACT SIZE AND LIGHT WEIGHT
- LARGE FLOW CAPACITY
- LOW POWER CONSUMPTION
- DESIGNED FOR NON-LUBRICATED SERVICE

Symbol

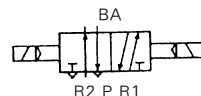
Single
DS3130/DS3100



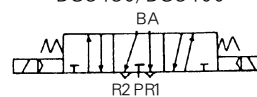
Closed Center
DS3330/DS3300



Double
DS3230/DS3200



Exhaust Center
DS3430/DS3400



How to Order

Valve

U DS3 **1** **3** **0** — **1** **G** **C** — **02** — **XWL** * *

1 2 3 4 5 6 7 8 9 10

1 Series DS3000

Blank : Metric (PT)
U : NPT (UNF)

2 Type of Actuation

1 : 2 Position/Single Solenoid
2 : 2 Position/Double Solenoid
3 : 3 Position/Closed Center
4 : 3 Position/Exhaust Center

3 Body Type

3 : Body Ported type
o : Base Ported type

4 Body option

0 : Standard
3 : Common Exhaust for Main and Pilot Valve

5 Voltage

1 : AC100V, 50/60Hz
2 : AC200V, 50/60Hz
3 : AC120V, 50/60Hz
4 : AC240V, 50/60Hz
5 : DC24V
6 : DC12V
7 : DC6V
8 : Others (DC100V/AC24V)

6 Electrical Entry/Indicator Light and Surge Suppressor

G : Grommet (Lead wire length 12inch)
DZ : DIN Connector With Indicator light and Surge suppressor
D : 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"
(Exhaust Port: 1/8")

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

Manifold

U DSM3 — 3 — **05** 1

1 2

1 Manifold for DS3000 series

Blank : Metric (PT)
U : NPT (UNF)

2 Stations

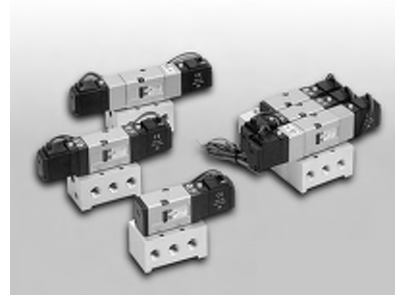
02 : 2 stations
...
20 : 20 stations

How To Order

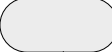
Valve (Including Gasket & Bolt)

DS 3 1 0 0 — 5 DZ  —

1
2
3
4
5
9



Valve + Sub Base

DS 3 1 0 0 — 5 DZ  —  8A  

1
2
3
4
5
6
7
8
9

1 Type of Actuation

- 1 : 2 Position/Single Solenoid
- 2 : 2 Position/Double Solenoid
- 3 : 3 Position/Closed Center
- 4 : 3 Position/Exhaust Center

2 Body Option

- 0 : Standard

3 Voltage

- 1 : AC100V, 50/60Hz
- 2 : AC200V, 50/60Hz
- 3 : AC120V, 50/60Hz
- 4 : AC240V, 50/60Hz
- 5 : DC24V
- 6 : DC12V
- 7 : DC6V

8 : Others (DC100V/AC24V)

4 Electronic Entry/Indicator

- Light and Surge Suppressor
- G : Grommet (Lead wire length 300mm)
- DZ : DIN Connector with Indicator light and Surge Suppressor
- N : DIN Connector

5 Manual Override

- Blank : Non-locking PushType
- L : Knob locking Type

6 Threads

- Blank : Rc(PT)
- U : NPT
- G : Rc(PF)

7 Port Size (Sup., CYL)

- Blank : Valve Body Only (without sub Plate)
- 8A : Rc(PT)1/4, NPT1/4 (with sub Plate)

8 One-Touch Fitting

- Blank : Without one-Touch Fitting
- 06 ϕ : ϕ 6 One-Touch Fitting
- 08 ϕ : ϕ 8 One-Touch Fitting

9 Special Option

- Blank : Standard Type
- XC16 : Copper-Free

Manifold

 DSM3 — 00 — 02 — 06

1
2
3

1 Thread

- Blank : Rc(PT)
- U : NPT

2 Stations

- 01 : 1 Station
- 02 : 2 Stations
- 03 : 3 Stations
- 04 : 4 Stations
- 05 : 5 Stations
- 06 : 6 Stations
- 07 : 7 Stations
- 08 : 8 Stations
- 09 : 9 Stations
- 10 : 10 Stations

3 0 One-Touching Fitting

- 06 : ϕ 6 One-Touch Fitting
- 08 : ϕ 8 One-Touch Fitting
- Blank : None

Blanking Plate

(Including Gasket & Bolt)

DSB 3 — 00

Din Terminal Box How to Order

DS3130-61-2005- **Code**

1

1 Symbol

Code	Voltage
1	AC 100V
2	AC 200V
3	AC 120V
4	AC 240V
5	DC 24V
6	DC 12V
7	DC 6V
8	Others (DC100V/AC24V)

Specifications

Fluid		Air
Operating Pressure Range	2 Position Single · 3 Position	0.15~0.9MPa(21~128 PSI)
	2 Position Double	0.1~0.9MPa(14~128 PSI)
Ambient and Fluid Temperature		Max. 50℃(122°F)
Response Time	2 Position Single/Double	30 ms or less (0.5 MPa)
	3 Position	40 ms or less (0.5 MPa)
Max. Operating Frequency	2 Position Single/Double	5 C/S
	3 Position	3 C/S
Lubrication		If Required
Manual Override		Non-lock Push Type, Knob Lock type
Mounting Position		Free
Impact/Vibration Resistance		30 G/5 G(8.3~2000 Hz)
Enclosure		Dust Proof
Pilot Exhaust		Individual exhaust, Common exhaust for main valve and pilot valve
Electrical entry		Grommet, DIN connector
Coil Voltages	AC 50/60Hz	100 VAC, 200 VAC, 120 VAC, 240 VAC, AC24V
	DC	6 VDC, 12 VDC, 24 VDC
Allowable Voltage		-15~+10% of rated voltage
Power Consumption	AC	Inrush 5.6 VA (50 Hz), 5.0 VA (60 Hz)
		Holding 3.4 VA (50Hz), 2.3 VA (60 Hz)
	DC	1.8W/2W(With LED)
Indicator Light/Surge Suppressor Circuit		AC LED, Varistor
		DC LED, Varistor

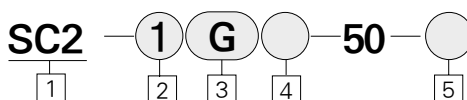
Model

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

(1)Body Ported Valve can be directly mounted on Manifold, type B, Common exhaust

(2)In case of Body Ported, Exhaust Port is only 1/8".

Pilot Valve Assembly



1 For DS series Valve Ass'y

2 Voltage

- 1 : AC100V, 50/60Hz
- 2 : AC200V, 50/60Hz
- 3 : AC120V, 50/60Hz
- 4 : AC240V, 50/60Hz
- 5 : DC24V

6 : DC12V

7 : DC6V

8 : Others (DC100V/AC24V)

3 Electrical Entry/Indicator Light and Surge Suppressor

G : Grommet(Lead wire)

length 300mm (12 inch)

DZ : DIN connector

With Indicator light and Surge suppressor

D : DIN Connector

4 Manual override

Blank : Non-Lock Push type

C : Knob locking type

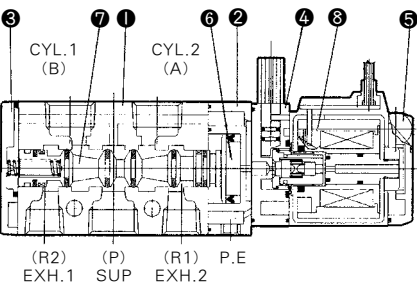
5 Special Option

Blank : Standard Type

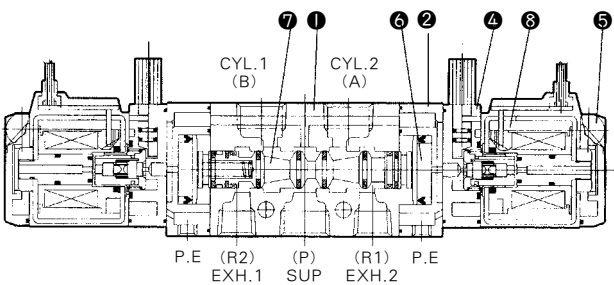
XC16 : Copper-Free

Construction

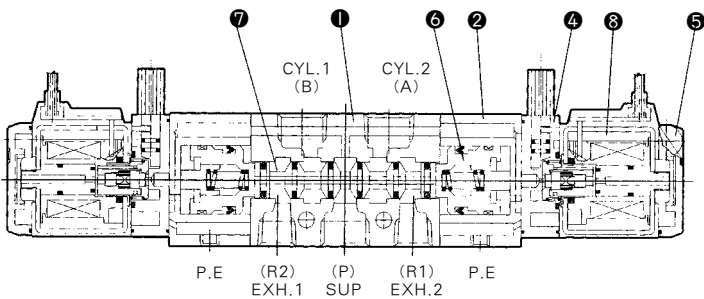
Single Solenoid



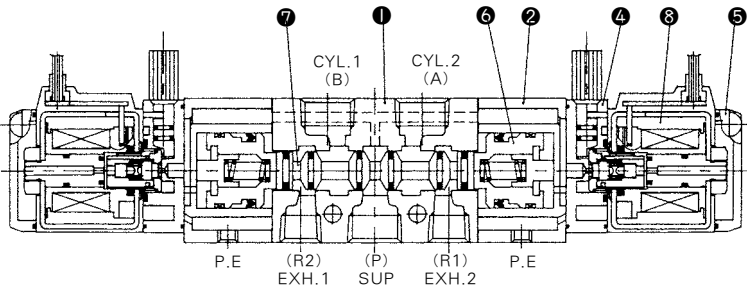
Double Solenoid



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	
⑧	Sub-Plate	Aluminum Die Casting	Metallic

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

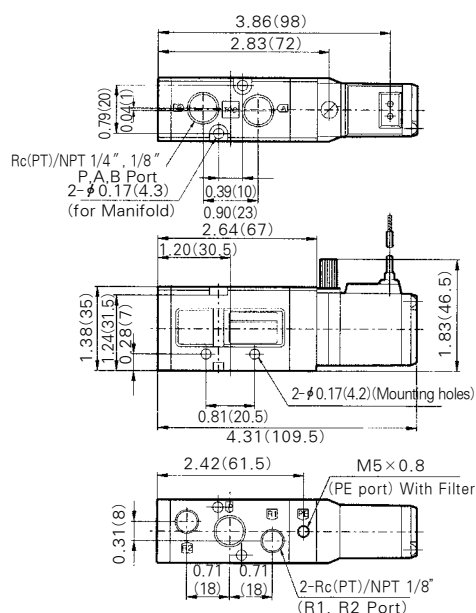
Spare Parts

No.	Description	Material	Notes
⑧	Pilot Valve Assembly	-	-

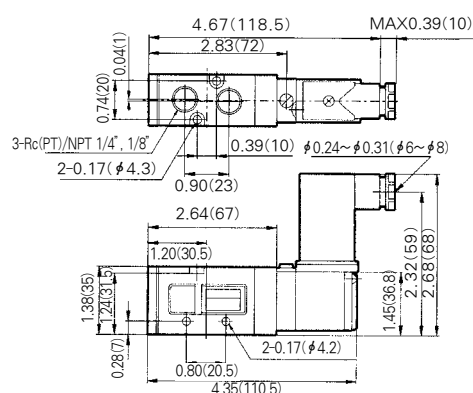
Body Ported/2 Position Single Solenoid

inch(mm)

Grommet/DS3130-OG



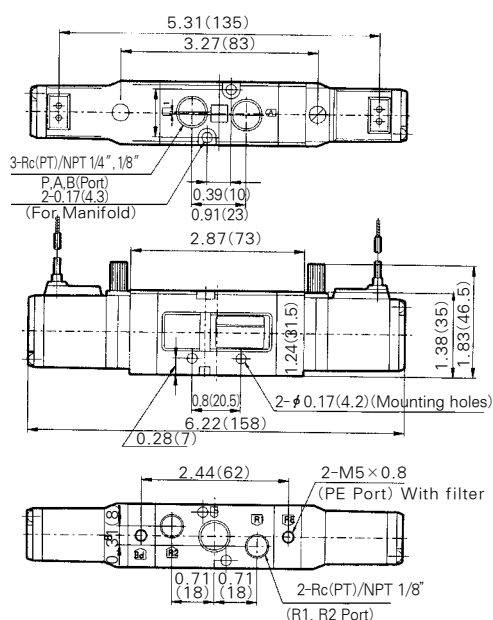
DIN Connector/DS3130-ODZ



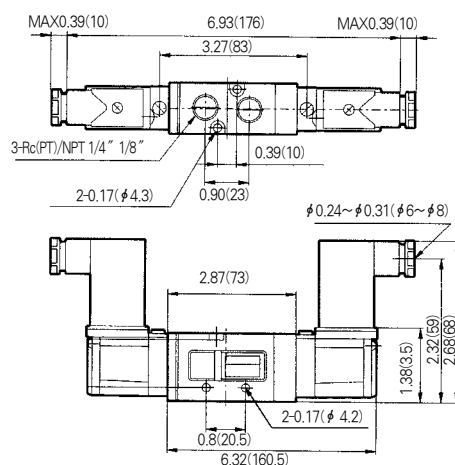
Body Port/2 Position Double Solenoid

inch(mm)

Grommet/DS3230-OGC



DIN Connector/DS3230-ODZ



DW

DR100

RS

DV1000 ·
3000 · 4000

DS300

DS3000

DS5000

DS2000

DX2R

DP300 ·
3000 · 5000

DS6000

DX2

DM

DH

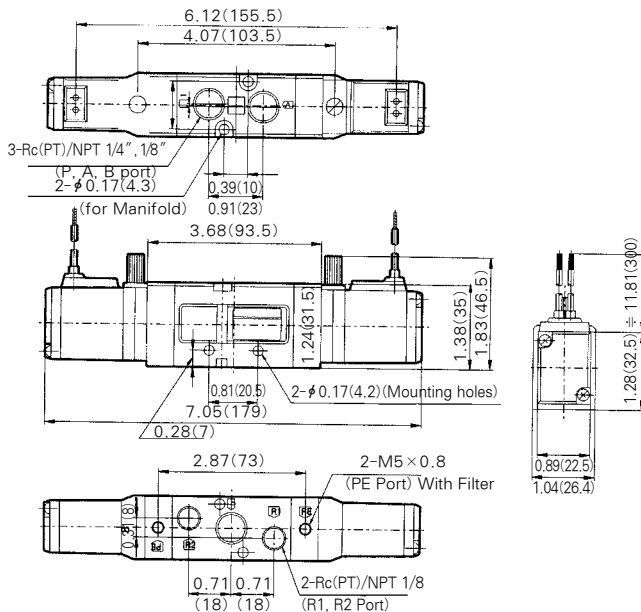
DT220

DC

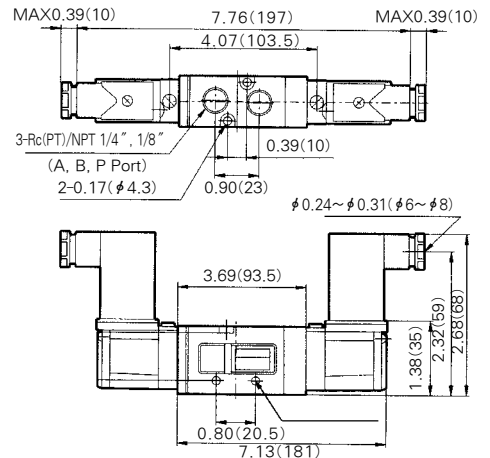
Body Ported/3 Position Double Solenoid

inch(mm)

Grommet/DS3330-○G, DS3430-○G



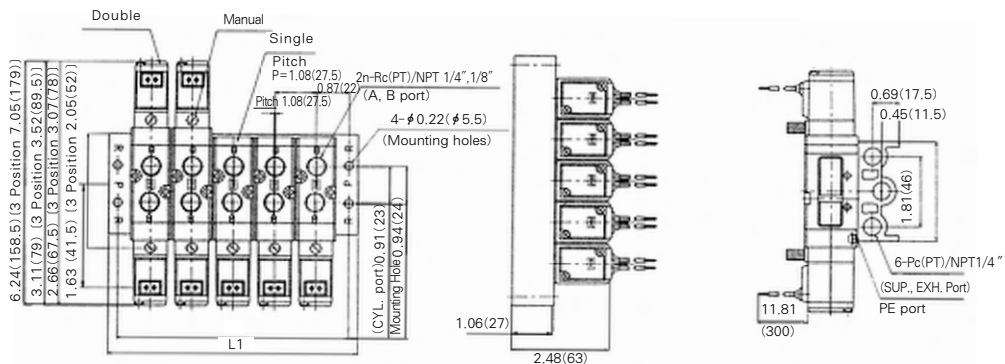
DIN Connector/DS3330-○DZ
DS3430-○DZ



B Mount Type/Dimensions DSM3-30

inch(mm)

Common Exhaust/DSM3-30-○○1



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

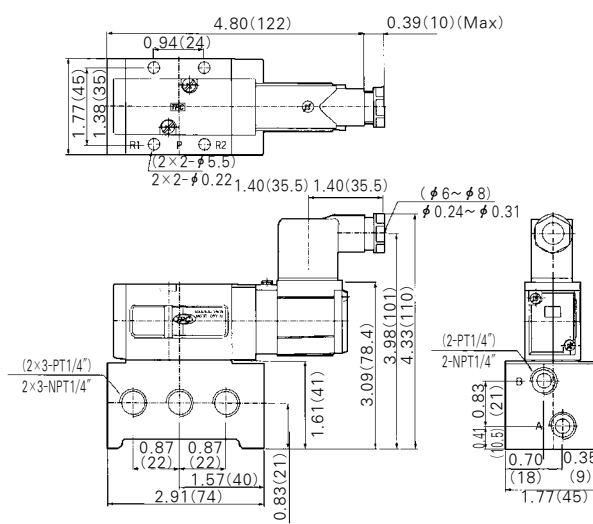
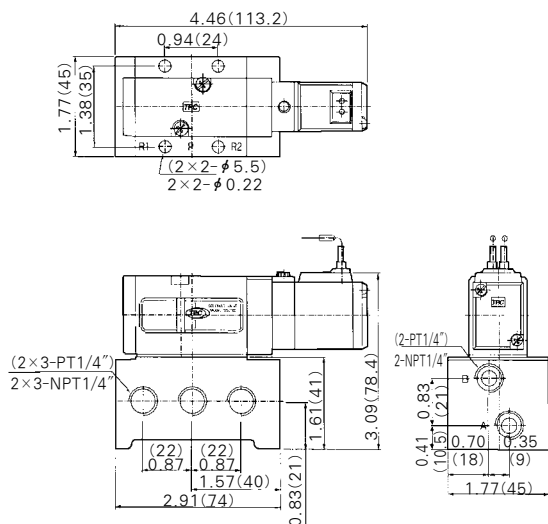
																			mm
Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	83.5	111	138.5	166	193.5	221	248.5	276	303.5	331	358.5	386	413.5	441	468.5	496	523.5	551	578.5
L2	71.5	99	126.5	154	181.5	209	236.5	264	291.5	319	346.5	374	401.5	429	456.5	484	511.5	539	566.5

Dimensions/2 Position Single Solenoid

inch(mm)

Grommet/DS3100-OG

DIN Connector/DS3100-ODZ

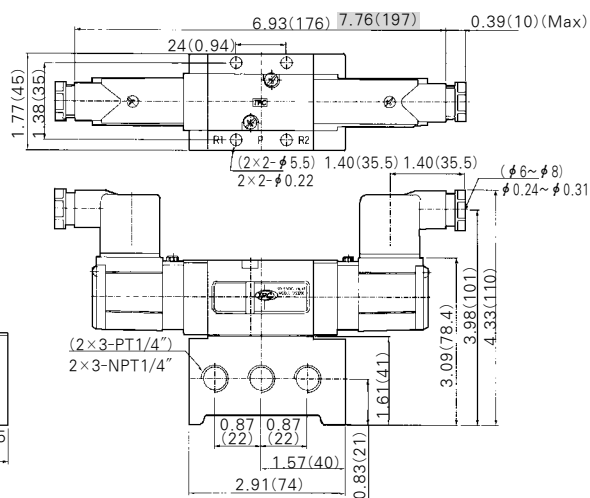
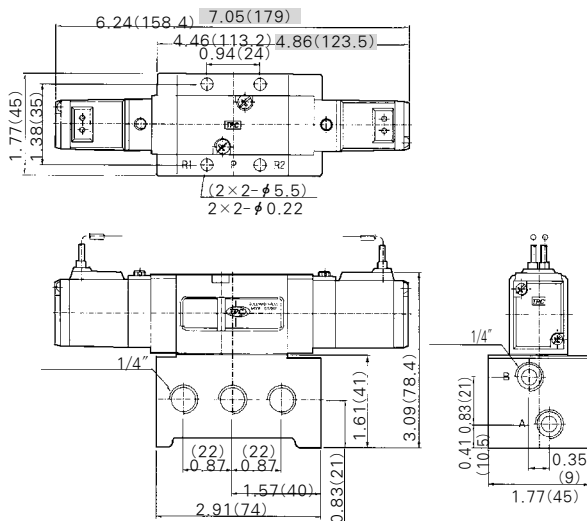


Dimensions/2 Position Double Solenoid · 3 Position Closed Center · Exhaust Center

inch(mm)

Grommet/DS3200, 3300, 3400-OG

DIN Connector/DS3200, 3300, 3400-ODZ



※ : 3Position

DW

DR100

RS

DV1000 ·
3000 · 4000

DS300

DS3000

DS5000

DS2000

DX2R

DP300 ·
3000 · 5000

DS6000

DX2

DM

DH

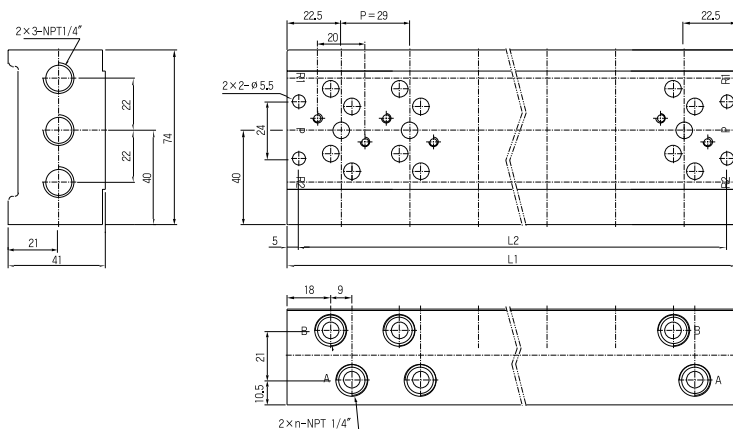
DT220

DC

Series DS3000

Dimensions / Manifold Block

inch(mm)

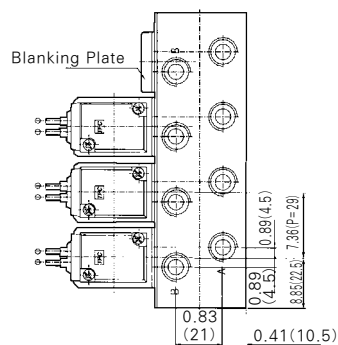
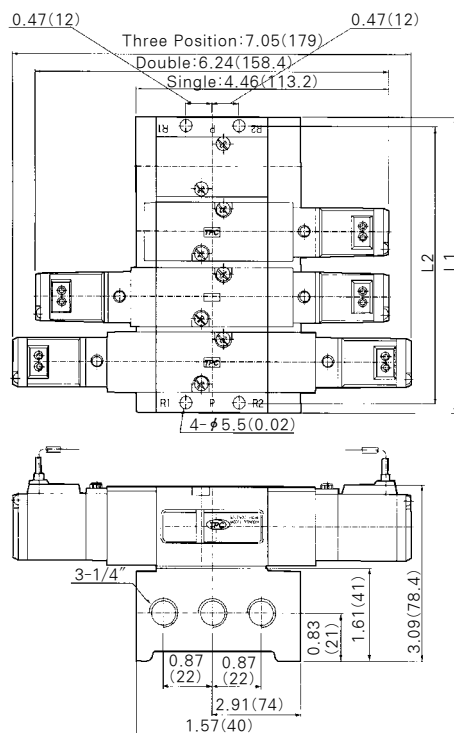


inch(mm)

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)

⚠ Precautions

Use as a 3 Port Valve

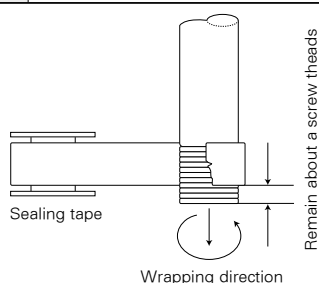
It is preferred that plugging one of the Cylinder Ports(A or B) enables use as a 3 Port Valve. The use of special applications such as a Non-leakage Valve should be avoided. If used as a 3 Port Valve, it is preferred to make sure the Exhaust port is open.

Plug		A Port	B Port
Function		N.C	N.O
Solenoid	Single		
	Double		

Mounting

- ① Prior to mounting, it is preferred to make sure that Chips, Cutting Oil, Dust etc. are cleaned up.
- ② It is preferred to make sure that Chips or Sealing material will not get in in event of screwing the pipe or fitting into a port.
- ③ A Filter has already been installed to the Pilot Exhaust(P.E.) Port. So with this construction, if a Silencer is to be added, be sure to first remove the Filter.
- ④ It is needed to clamp torque of piping.

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



Use at Low Temperature

It is available for use under 14F(-10C), but it should be carefully taken to protect against freezing moisture.

Lubricant

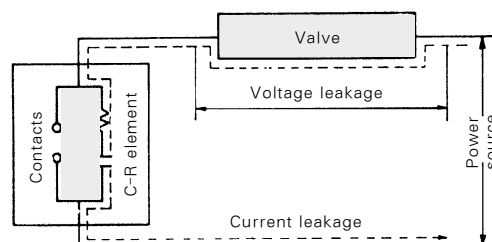
- ① Pre-lubrication is needed for valves – further lubrication is not needed.
- ② In event that lubricant is used, be sure to adapt Turbine Oil (ISO VG32)

Momentary Energizing

It is needed 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 in the case that the switch is off, leakage voltage of DC coil must be less than 3% of the rated voltage.
- ② It will increase the leakage voltage in event that a C-R element is used.



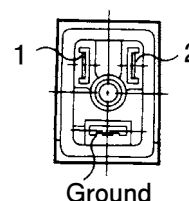
Remarks

Port	DS3000
Supply	P
Cylinder	A, B
Exhaust	R1, R2
Symbol (Single solenoid)	P : SUP. B : CYL.1 A : CYL.2 R1 : EXH.1 R2 : EXH.2

Electrical Connection

Inner connections are as follows for the DIN Connection and Terminal connection (with surge voltage protection circuit).

DIN connection



Terminal No.	1	2
DIN connection	+	-

Indicator Light/Surge Voltage Suppressor Circuit

Voltage	AC, DC
24V	EZ, TZ, DZ (Less than 24V)
200V	Neon lamp Varistor EZ, TZ, DZ (200V or more)