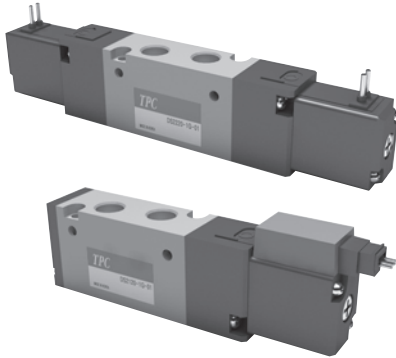


Series **DS2000**

Elastic Seal 5 Port Pilot Type Solenoid Valve



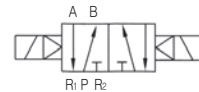
- COMPACT SIZE AND LIGHT WEIGHT – 18mm WIDTH
- LARGE FLOW CAPACITY – Cv 0.53
EFFECTIVE ORIFICE 9.5mm²
- LOW POWER CONSUMPTION – 1.7W(DC)

Symbol

Single
DS 2120



Double
DS 2220



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

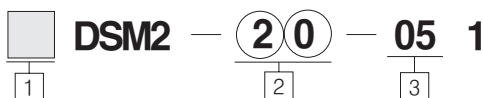
6 Port Size

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.

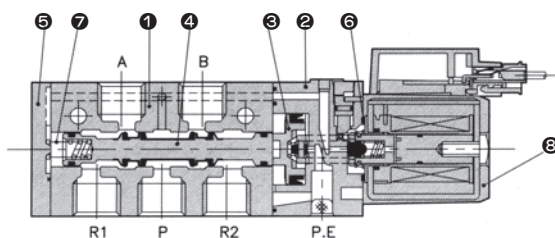
Be sure to read before handling. Refer to(B-68) for safety Instruction and common precautions.

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	

Construction/Parts List

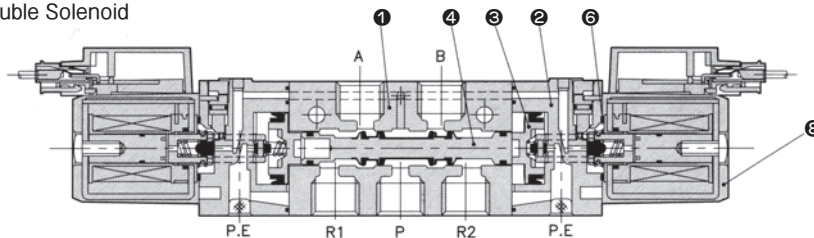
Single Solenoid



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



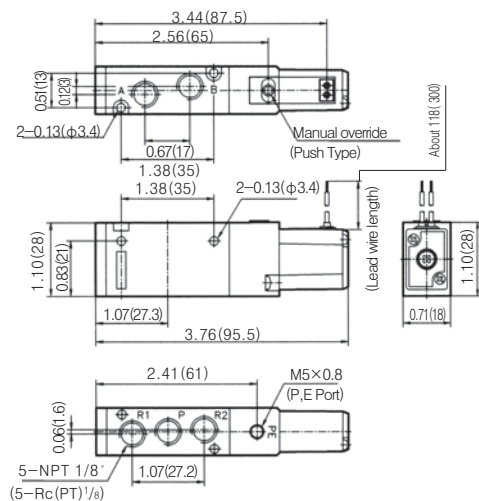
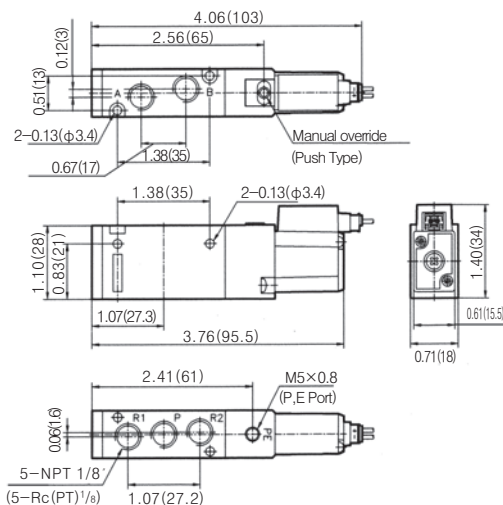
Body Ported/2 Position Single Solenoid

inch (mm)

Grommet(G)

DS 2120 - ○G

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



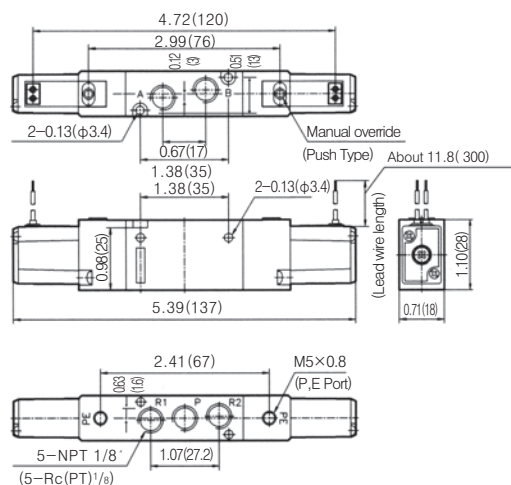
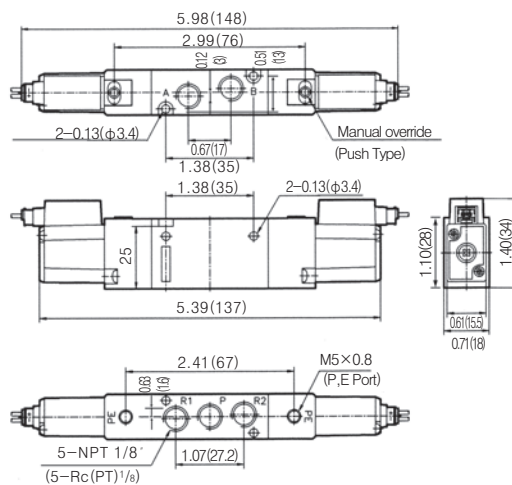
Body Ported/2 Position Double Solenoid

inch (mm)

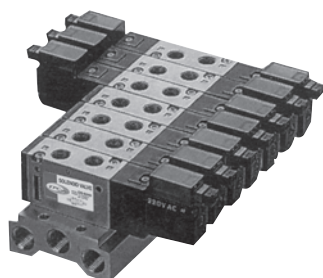
Grommet(G)

DS 2220 - ○G

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



Manifold



Manifold Specifications

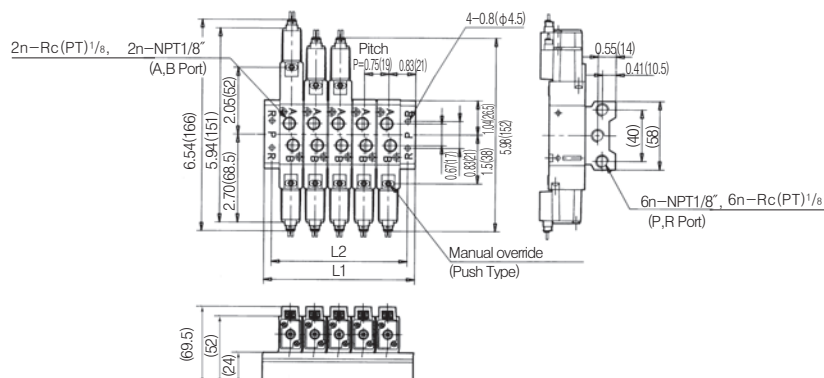
Manifold Type	B Mount
P(SUP) · R(EXH)Exhaust	Common Exhaust SUP · EXH
Maximum Stations	20 Stations

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"	DS2○20
		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 ₁	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 ₂	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

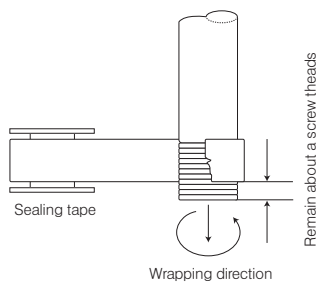
The use as a 3 port Valve may be enabled by Plugging one of the Cylinder Ports (A or B). Special applications such as a Non-leakage Valve should be avoided. Be sure to check the Exhaust port is open if used as a 3 Port Valve.

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 -10°C, however a careful protection against freezing moisture is needed.

Quality Of Fluid

1. Filtration to 10 microns is enough.

Lubricant

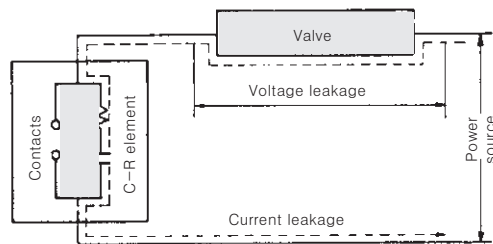
1. Pre-lubrication is needed for valves – further lubrication is not needed.
2. In event that lubricant is used, it is preferred to use Turbine Oil (ISO VG32).

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)	<div> <div> P : SUP. B : CYL.1 A : CYL.2 R1 : EXH.1 R2 : EXH.2 </div> </div>