

Series DS 2000

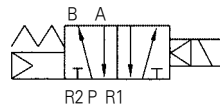
Elastic Seal 5 Port Pilot Type



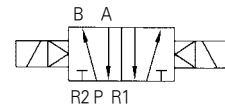
- COMPACT SIZE AND LIGHT WEIGHT - 18mm WIDTH
- LARGE FLOW CAPACITY - Cv 0.53
EFFECTIVE ORIFICE 9.5mm²
- LOW POWER CONSUMPTION - 1.7W(DC)
- MANY VARIATIONS AVAILABLE

Symbol

Single
DS 2120



Double
DS 2220



How To Order

 DS 2 1 2 0 — 1 G — 01
1 2 3 4 5 6 7 8

1 Series

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

2 Series

DS2000/UDS2000 Series

3 Type of Actuation

1 : 2 Position Single
2 : 2 Position Double

4 Body Type

2 : Body Ported Type

5 Body Option

O : Standard

6 Voltage

1 : AC 110V(50/60Hz)
2 : AC 220V(50/60Hz)
3 : AC 120V(50/60Hz)
5 : DC 24V
*6 : DC 12V

* Option

7 Electrical Entry/Indicator Light and Surge Suppression

G : Grommet

HZ: Plug connector type(With indicator Light and surge voltage suppressor)

※ Plug connector type of DC has only HZ type

8 Port Size

01 : 1/8

Pilot Valve Assembly

 DSM2 — 20 — 051
1 2 3

1 Series

Blank : Rc(PT)Port

U : NPT Manifold For Series UDS2000

2 Manifold Specifications

20 : Manifold Specifications

3 Stations

2~20Stations

Specifications

		DS2120	DS2220
Fluid		Air	
Operating Pressure Range(kgf/cm ²)		1.5~7	1~7
Effective Orifice mm ² (Cv)		9.5(0.53)	
Ambient and Fluid Temperature		Max. 50℃	
Response Time(5kgf/cm ²)		20ms or less	
Max. Operating frequency		10c/s	
Lubrication		Not required	
Manual Override		Non-locking Push Type	
Impact/Vibration Resistance		30G/5G(8.3~2000HZ)	
Enclosure		Dust Proof	
Coil Voltage		120V, 220V, AC 50/60HZ 110V, DC12V, 24V	
Allowable Voltage		-15%~+10% of Rated Voltage	
Coil Insulation		Class B or equivalent(130℃)	
Apparent Power	AC	Inrush	4.5VA(50HZ), 4.2VA(60HZ)
		Holding	3.0VA(50HZ), 2.6VA(60HZ)
Power Consumption	DC	1.7W	
Weight(gf)		100	150
Surge suppressor circuit		AC:Varistor, DC:Diode	
Indicator Light		LED	

DV1000 ·
3000 · 4000

DV2000

DS2000

DS3000

DS5000

DS6000

DX2

DV100

DS300

DW

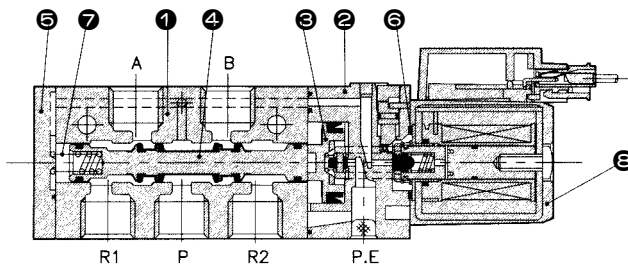
DP300 ·
3000 · 5000

DM

DH

Construction/Parts List

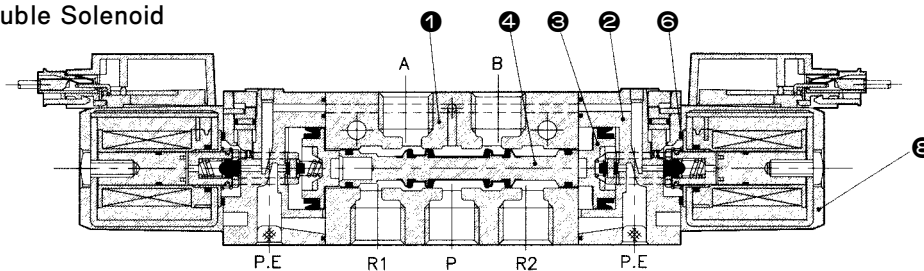
Single Solenoid



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	SMS
⑧	Coil Ass'y	

Double Solenoid



Series DS2000

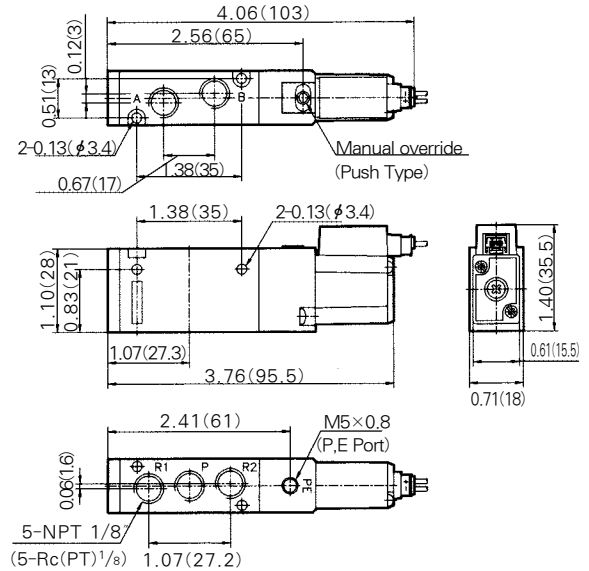
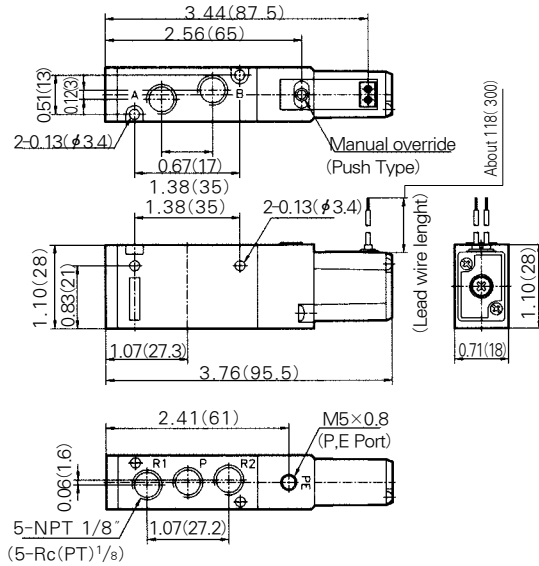
Body Ported/2 Position Single Solenoid

inch(mm)

Grommet(G)

DS 2120 - ○G

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



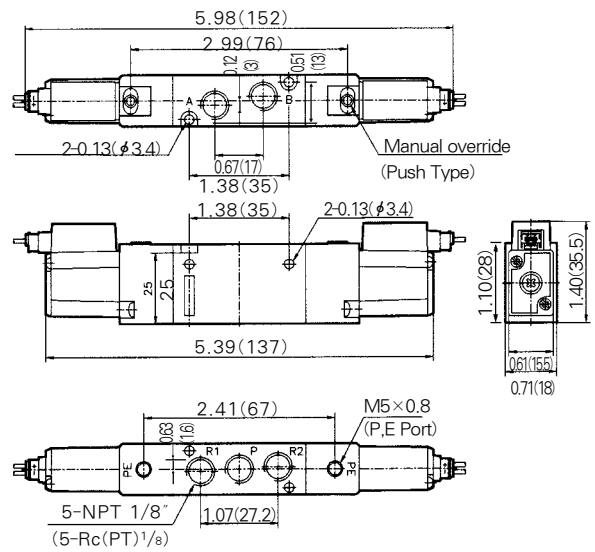
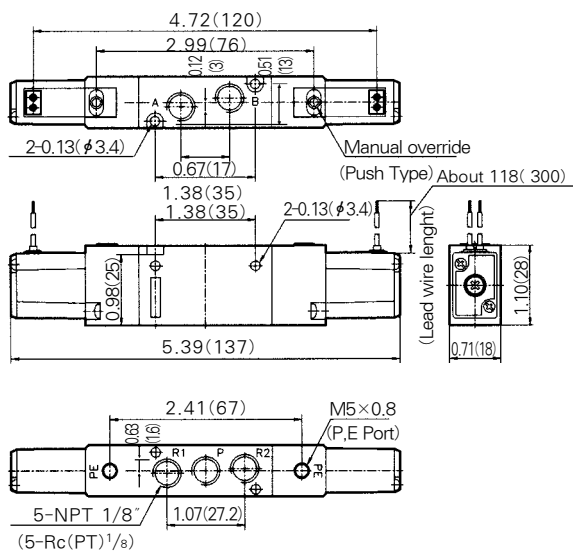
Body Ported/2 Position Double Solenoid

inch(mm)

Grommet(G)

DS 2220 - ○G

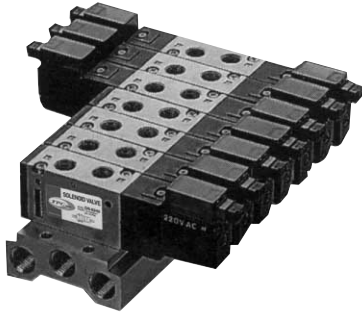
Plug Connector Type(H, HZ) DS2220 - ○ $\frac{H}{HZ}$



Manifold

Manifold Specifications

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



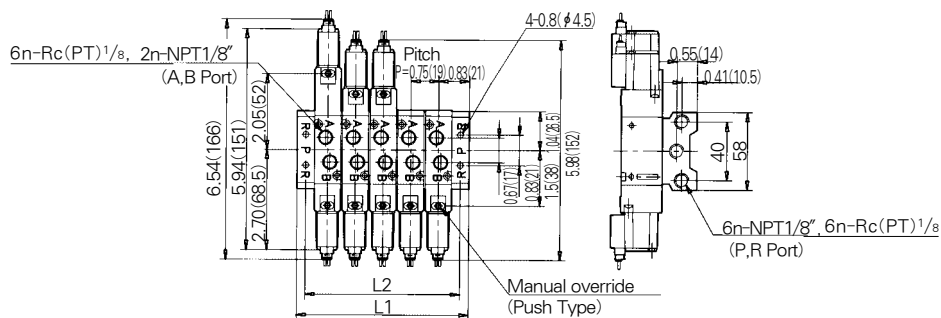
Manifold Specifications

Model	Exhaust	Piping/Port Location			Port Size NPT	Applicable Valve
		P(SUP)	R(EXH)	A.B(CYL)		
B	Common	Side	Side	Top	1/8"	DS2○20
		Base	Base	Valve		

- DV1000 · 3000 · 4000
- DV2000
- DS2000
- DS3000
- DS5000
- DS6000
- DX2
- DV100
- DS300
- DW
- DP300 · 3000 · 5000
- DM
- DH

B Mount Type/DSM-20

inch(mm)



L:Size

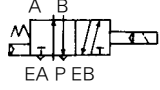
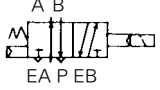
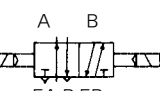
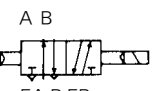
inch(mm)

L	N	inch(mm)																		
		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)

Precautions

Use as a 3 Port Valve

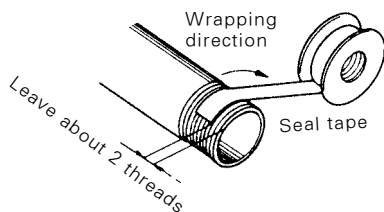
Plugging one of the Cylinder Ports (A or B) enables use as a 3 Port Valve. It should not be used in special applications such as a Non-leakage Valve. Make sure the Exhaust port is open if used as a 3 Port Valve.

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

Mounting

1. Make sure that Chips, Cutting Oil, Dust, etc. are cleaned up before mounting.
2. When screwing the pipe or fitting into a port, ensure that Chips or Sealing material will not get in.
3. A Filter has already been installed to the Pilot Exhaust(P.E.) Port, so if a Silencer is to be added, 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

Available for use under -10°C , however care should be taken to protect against freezing moisture.

Quality Of Fluid

1. Filtration to 10 Microns is sufficient.

Lubricant

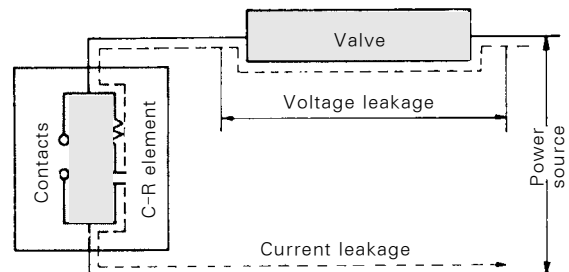
1. Valves are pre-lubricated - no further lubrication is necessary.
2. If a lubricant is used, please use Turbine Oil (ISO VG32).

Momentary Energizing

When using a Double Solenoid type with momentary energizing, make sure the energizing time is more than 0.05 seconds.

Leakage Voltage

1. For the leakage current, residual leakage voltage of AC coil must be less than 20% of the rated voltage, and leakage voltage of DC coil must be less than 3% of the rated voltage when the switch is off.
2. When using a C-R element, it will increase the leakage voltage.



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 