

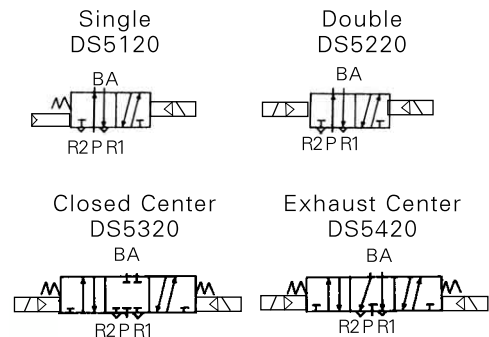
Series **DS5000**

Rubber Seal 5 Port Pilot Type

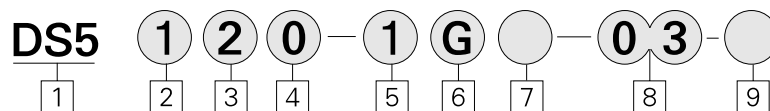


- COMPACT SIZE AND LIGHT WEIGHT
- LARGE FLOW CAPACITY
- LOW POWER CONSUMPTION
- DESIGNED FOR NON-LUBRICATED SERVICE

Symbol



How to Order



1 DS5000 Series

2 Type of Actuation

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

3 Body Type

- 2 : For 20 Type Manifold, Body Ported

4 Body Option

- 0 : Standard
- 3 : Common Exhaust for Main valve 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 : AC24V, 50/60Hz

9 : Other

6 Electrical Entry/Indicator Light and Surge Suppressor

- G : Grommet (Lead wire length 300mm)
- DZ : DIN Connector With Indicator light and Surge suppressor

7 Manual Override

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

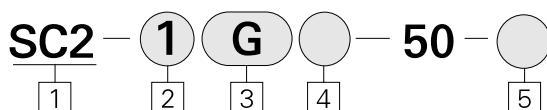
8 Port Size(SUP., CYL')

- 03 : Rc(PT) 3/8
- 04 : Rc(PT) 1/2 (Exhaust Port 3/8)

9 Special Option

- Blank : Standard type
- XC16 : Copper-free

Pilot Valve Assembly



1 For DS5000 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 : AC24V, 50/60Hz
- 9 : Other

3 Electrical Entry/Indicator Light and Surge

Suppressor

- G : Grommet (Lead wire length 300mm)
- DZ : DIN Connector With Indicator light and Surge suppressor

4 Manual Override

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

5 Special Option

- Blank : Standard type
- XC16 : Copper-free

Specifications

Fluid		Air
Operating Pressure Range	2 Position Single/3 Position	1.5~9 kgf/cm ² {0.15~0.9 MPa}
	2 Position Double	1~9 kgf/cm ² {0.1~0.9 MPa}
Ambient and Fluid Temperature		Max. 50℃
Response Time	2 Position Single/Double	40ms or less {0.5 MPa}
	3 Position	50ms or less {0.5 MPa}
Max. Operating Frequency	2 Position Single/Double	5 Hz
	3 Position	3 Hz
Lubrication		Not required ※
Manual Override		Non-Locking Push Type, Knob locking type
Mounting Position		Free
Impact/Vibration Resistance		30G/5G(8.3~2000Hz)
Enclosure		Dust Proof
Electrical entry		Grommet, DIN Connector
Coil Voltages	AC 50/60Hz	100 VAC, 200 VAC, 120 VAC, 240 VAC
	DC	6 VDC, 12 VDC, 24 VDC
Allowable Voltage		-15~+10% of Rated Voltage
Power consumption	AC	Inrush 5.6VA(50Hz), 5.0VA(60Hz)
		Holding 3.4VA(50Hz), 2.3VA(60Hz)
	DC 1.8W/2W(With LED)	
Indicator Light/Surge	AC	LED, Varistor
Suppressor Circuit	DC	LED, Varistor

※ If provided, use Turbine 0.1(ISO VG #32)

Model

Piping	Type	Position Solenoid	(1)Port size (SUP,CYL.)	Effective orifice mm ² (Cv factor)		(2)Weight(lbs)	
				Rc(PT)3/8	Rc(PT)1/2	Rc(PT)3/8	Rc(PT)1/2
Body ported	DS5120-  - ⁰³ / ₀₄	2/Single	Rc(PT)3/8	50(2.8)	58(3.2)	0.38	0.37
	DS5220-  - ⁰³ / ₀₄	2/Double		50(2.8)	58(3.2)	0.48	0.47
	DS5320-  - ⁰³ / ₀₄	3/Closed Center	Rc(PT)1/2	40(2.2)	45(2.5)	0.59	0.58
	DS5420-  - ⁰³ / ₀₄	3/Exhaust Center		43(2.4)	48(2.7)	0.59	0.58

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

(2) Weight is for Grommet type

(3) In case of Body Ported type, Exhaust Port is only 3/8

Accessories/Options

Description	Model	Application
Silencer	SN 300-03	Rc(PT) 3/8

Model for Manifold

Model	Type		Exhaust	A, B(CYL')Port
DS5020-  - ⁰³ / ₀₄	B Mount	20	Common	Valve

Manifold



DSM5-20-051

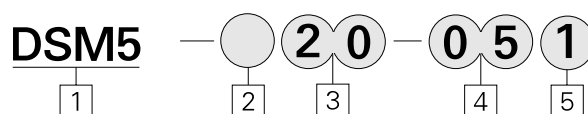
Manifold Specifications

Manifold type	B Mount
Exhaust	Common Exhaust
Maximum Stations	10 Stations

Manifold Type	Model	Exhaust Port	Piping/Port location			Port Size			Applicable Valve
			P	R	A,B	P	R	A,B	
B Mount	DSM5-20	Common	Side	Side	Top	3/8	3/8	3/8,	DS5○20
			Base	Base	Valve	1/2	3/8	1/2	

How to Order

Manifold Base



1 Manifold for DS5000 series

2 Thread

Blank : Rc(PT)
UDSM5 Series : NPT

3 Manifold Specifications

Code : 20
Port location for CYL' port : Valve
Port size for EXH.
P : Rc(PT) 1/2

R : Rc(PT) 3/8
Applicable : DS5○20

4 Stations

02 : 2 Stations
:
10 : 10 Stations

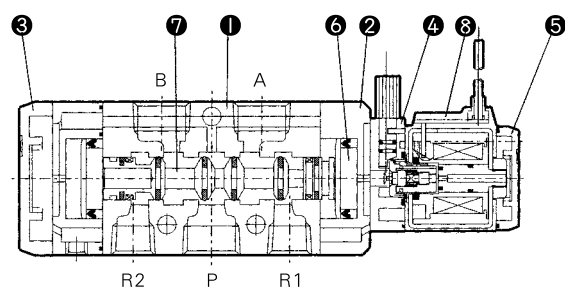
5 Component Symbol

Code : 1
Passage
P(SUP) : Common
R(EXH) : Common
Piping
A,B(CYL') : Top
Applicable manifold type
: 20

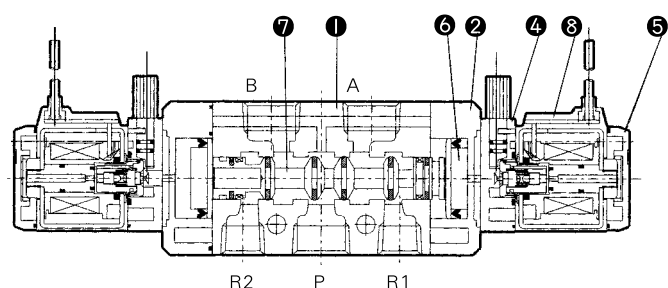
Series DS5000

Construction/Parts List

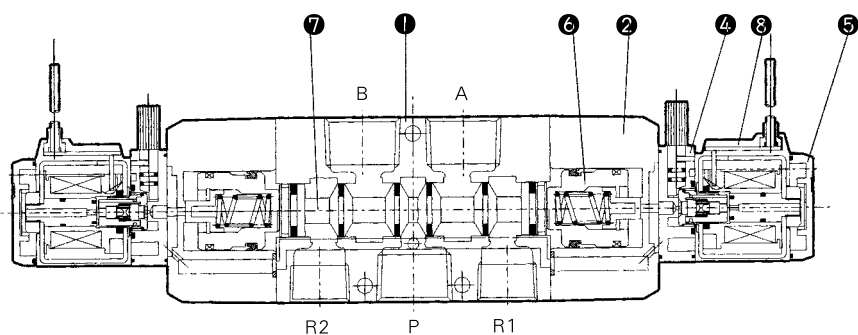
Single Solenoid



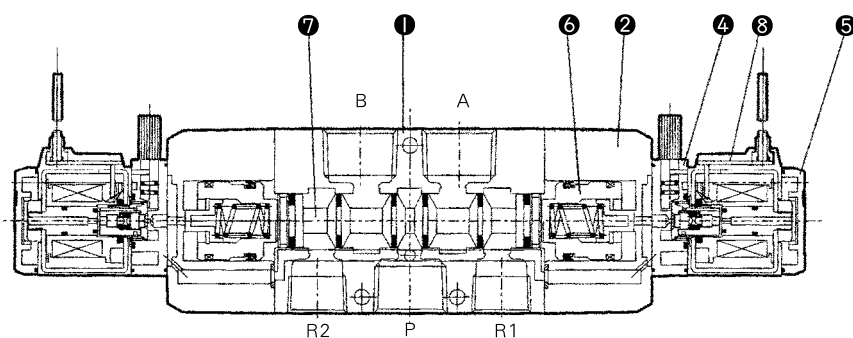
Double Solenoid



3 Position Closed Center



3 Position Exhaust Center



Main Parts

No.	Description	Material	Notes
①	Body	Aluminum Die Casting	Metallic Paint
②	Adapter Plate	Aluminum Die Casting	Black Paint
③	End Cover	Aluminum Die Casting	Black Paint
④	Pilot Body	Polyacetal	
⑤	Pilot Cover	Polyacetal	
⑥	Piston	(※)Polyacetal	
⑦	Spool	Aluminum · NBR	

※ 3 Position : Aluminum

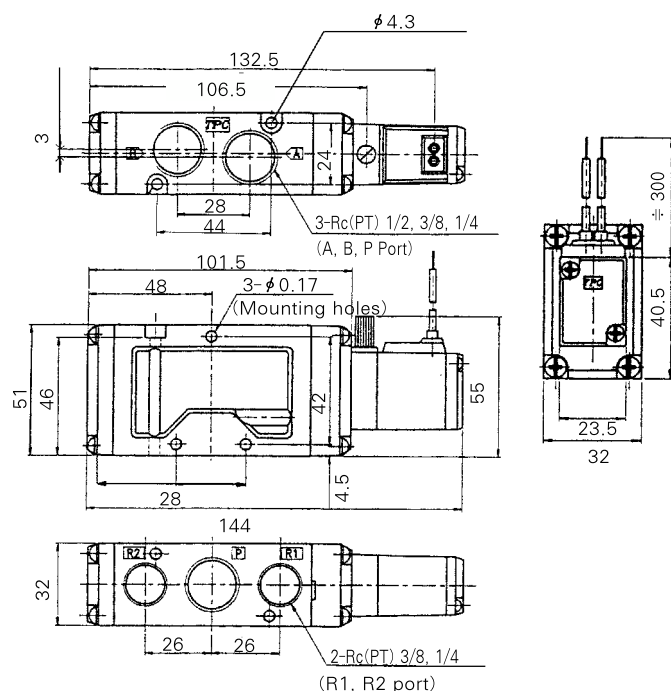
Spare Parts

No.	Description	Material	Notes
⑧	Pilot Valve Ass'y	—	

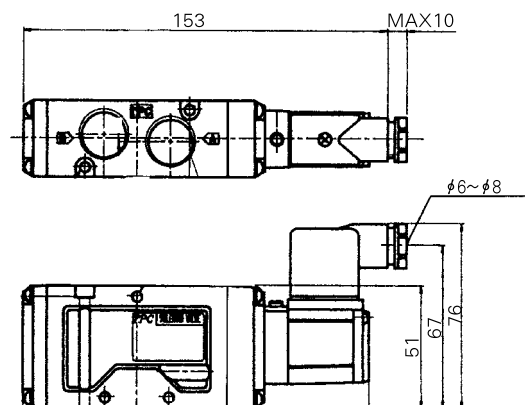
Body ported/2 Position Single Solenoid

(mm)

Grommet/DS512 ○ - ○ GC



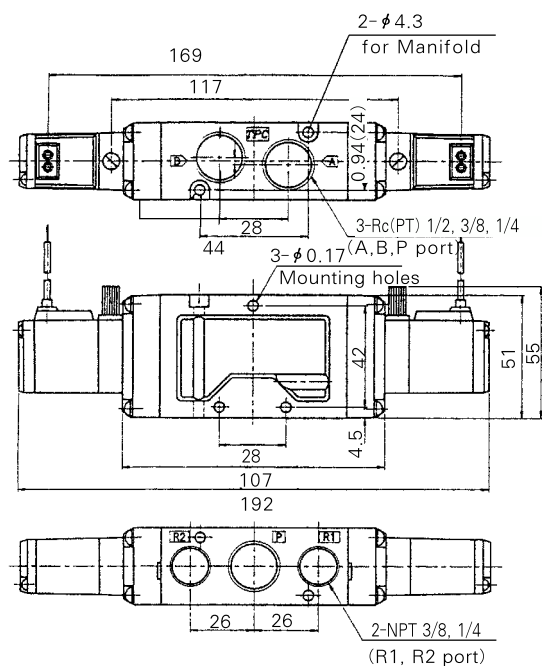
DIN Connector/DS512 ○ - ○ DZ



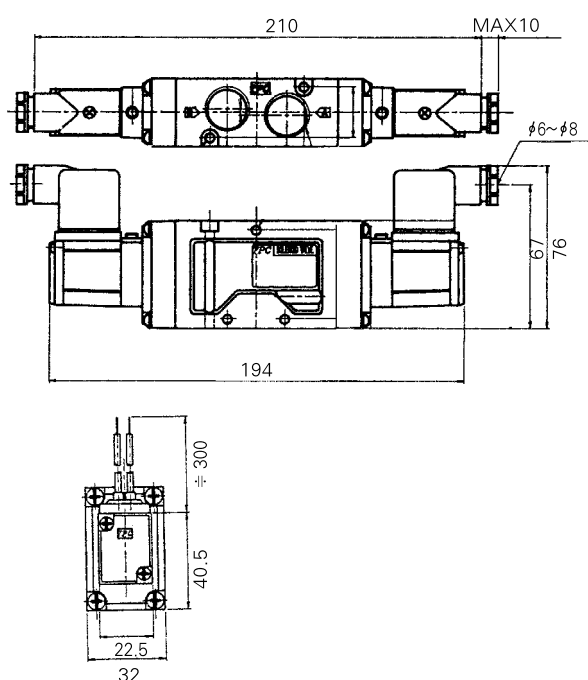
Body ported/2 Position Double Solenoid

(mm)

Grommet/DS522 ○ - ○ G



DIN Connector/DS 5220-○DZ



DW

DS

DV

DX2

DP

DM

DH

DT

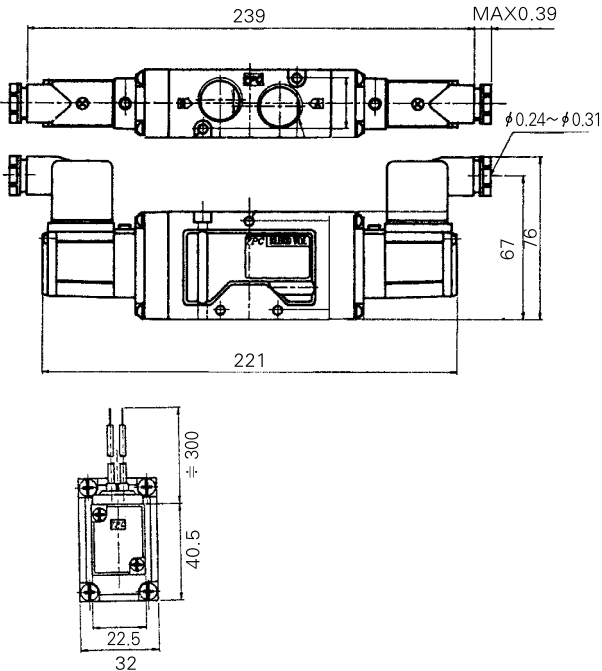
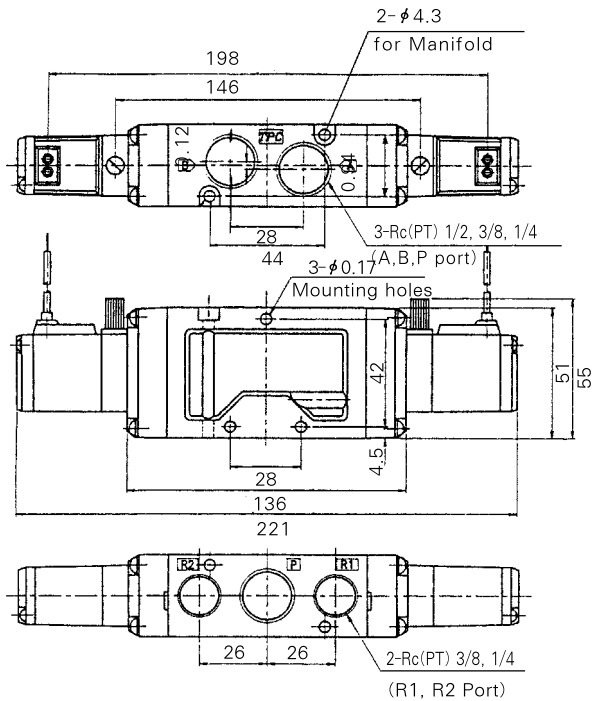
DC

Series DS5000

Body ported/3 Position Double Solenoid (mm)

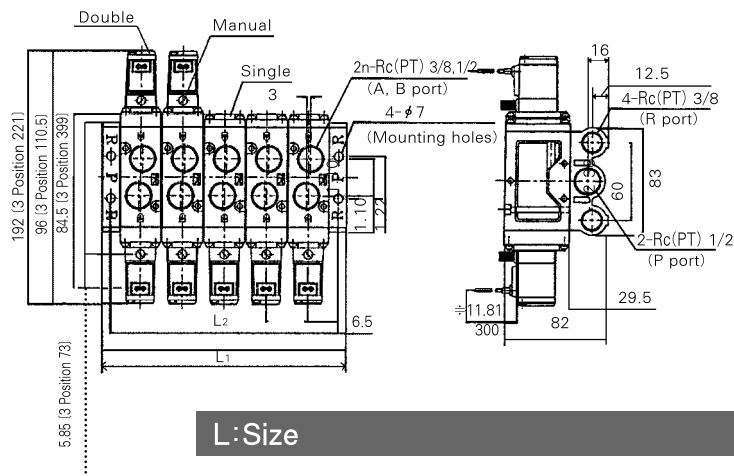
Grommet/DS 5320 - ○G, DS5420-○G

Din Connector / DS5320 - ○DZ
DS5420 - ○DZ



B Mount Type/Dimensions DSM5-30 (mm)

Common Exhaust/DSM5 - 20 - ○○1



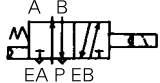
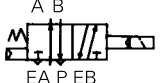
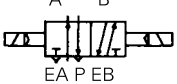
L: Size n: station NO.

L \ 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

Precautions

Use as a 3 Port Valve

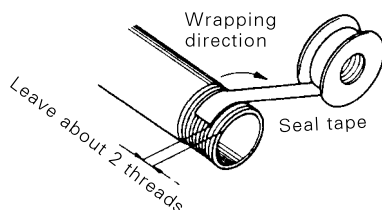
Plugging one of the Cylinder Ports (A or B) enables use as a 3 Port Valve. It should not be used in special applications such as a Non-leakage Valve. Make sure the Exhaust port is open if used as a 3 Port Valve.

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. When using a DS3320 or DS5330 Closed Center type, make sure piping leakage does not occur between Valve and Cylinder.
4. 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.
5. 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

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

Lubricant

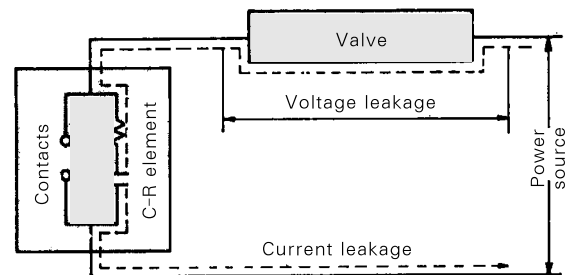
1. Valves are pre-lubricated – no further lubrication is necessary.
2. If a lubricant is used, please use Turbine Oil (ISO VG32).

Momentary Energizing

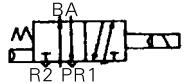
When using a Double Solenoid type with momentary energizing, make sure the energizing time more than 0.05 seconds.

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 rake voltage when the switch is off.
2. When using a C-R element, it will increase the leakage voltage.



Remarks

Port	DS3000, DS5000
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 

DW

DS

DV

DX2

DP

DM

DH

DT

DC