

# 5 Port Pilot Rubber Seal Series VF3000

**Compact and light weight:  
26.4mm width  
Large flow capacity:  
N/min 981, 1/4  
Low power consumption:  
1.8W(DC)**



Body Ported



Base mounted (with sub-plate)

## Specifications

Fluid	Air	
Operating pressure range	2 position single/3 position	0.15 to 0.9MPa
	2 position double	0.1 to 0.9MPa
Ambient and fluid temperature	Max. 50°C	
Response time <sup>(1)</sup>	2 position single/double	20ms or less(At 0.5MPa)
	3 position	40ms or less(At 0.5MPa)
Max. operating cycle	2 position single/double	10Hz
	3 position	3Hz
Lubrication	Not required	
Manual override	Non-locking push, Locking slotted, Locking knob	
Mounting position	Free	
Impact/Vibration resistance <sup>(2)</sup>	300/50m/s <sup>2</sup>	
Enclosure	Dust proof	
Pilot exhaust	Individual exhaust, Common exhaust for main valve and pilot valve	



Note 1) Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis and right angle directions of the main valve and armature, or both energized and de-energized states.

Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2000Hz. Test was performed at both energized and de-energized states to the axis and right angle directions of the main valve and armature. (Valve in the initial stage.)

Electrical entry	DIN connector		
Voltages (V)	AC50/60Hz	100, 200, 12, 24, 48, 110, 220, 240	
	DC	24, 6, 12, 48, 100, 110	
Allowable voltage	-15 to +10% of rated voltage		
Apparent power <sup>(1)</sup>	AC	In-rush	5.6VA(50Hz), 5.0VA(60Hz)
		Holding	3.4VA(50Hz), 2.3VA(60Hz)
Power consumption <sup>(1)</sup>	DC	1.8W, 2W(With LED)	
Indicator light and surge voltage suppressor	AC	ZNR(Varistor), Neon light(LED100V or less)	
	DC	ZNR(Varistor), LED(Neon lamp; 100V or more)	



Note 1) At rated voltage

## Options

Description	Part No.	Application
Bracket	DXT031-40-3A	VF3122 only
Silencer	AN110-01	1/8

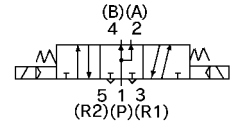
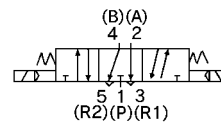
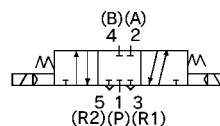
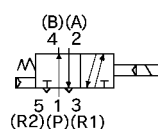
## Symbol

Single VF3130

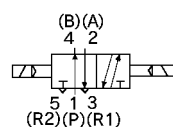
Closed Centre VF3330

Exhaust Centre VF3430

Pressure Centre VF3530




Double VF3230



# VF3000


## Model

Piping	Model <sup>(1)</sup>	Position/Solenoid	Port size <sup>(2)</sup>	Effective area(Nℓ/min) mm <sup>2</sup>			Weight <sup>(3)</sup> (kg)
				1/8	1/4	3/8	
Body ported	VF3122-□□-01-F-Q	2/Single	1/8	15.3(834)	18(981)	-	0.24
	VF3130-□□-02-Q	2/Single		14.4(785)	18(981)	-	0.21
	VF3230-□□-01-Q	2/Double		14.4(785)	18(981)	-	0.29
	VF3330-□□-01-Q	3/Closed centre	1/4	11.7(637)	14.4(785)	-	0.44
	VF3430-□□-02-Q	3/Exhaust centre		14.4(785)	18(981)	-	0.44
	VF3530-□□-01-Q	3/Pressure centre		14.4(785) <sup>(4)</sup> 9.9(539)	16.2(883) <sup>(4)</sup> 10.8(588)	-	0.44
Base mounted (with sub-plate)	VF3140-□□-02-Q	2/Single	1/4	-	16(883)	18(981)	0.38
	VF3240-□□-03-Q	2/Double		-	16(883)	18(981)	0.47
	VF3340-□□-03-Q	3/Closed centre		-	12.5(687)	14.5(785)	0.61
	VF3440-□□-03-Q	3/Exhaust centre	3/8	-	16(883)	18(981)	0.61
	VF3540-□□-03-Q	3/Pressure centre		-	12.7(687) <sup>(4)</sup> 8.2(441)	13.3(736) <sup>(4)</sup> 8.7(490)	0.61

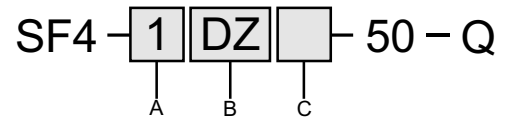
-  (1) If exhaust for main valve and pilot valve is common, model number will be VF3□33, VF3□43  
 (2) In case of body ported, exhaust (EXH) port (R1, R2) is only 1/8.  
 (3) Weight is for grommet type.  
 (4) In centre position the flow "P→A, B" is shown.

## Model for Manifold

Model *	Manifold			
	Type	Exhaust	A, B(CYL.)port	
VF3□30-□□-01	B mount	30	Common	Valve
VF3□40-□□		40	Common	Base
VF3□50-□□		50	Individual	Base
VF3□60-□□-01	S mount	60, 61	Common	Valve
VF3□70-□□-01		70, 71	Individual	Valve

-  (1) If exhaust for main valve and pilot valve is common, model number will be VF3□33, VF3□43, VF3□63.

## How to Order Pilot Valve Assembly



### A Voltage

1	100V AC50/60Hz
2	200V AC50/60Hz
3*	110 to 120V AC50/60Hz
4*	220V AC50/60Hz
5	24V DC
6*	12V DC
7*	240V AC50/60Hz
9*	Others


### C Manual override

-	Non-locking push style
B	Locking slotted style
C	Locking knob style

\* Option

## B Electrical entry/Indicator light and surge voltage suppressor

Symbol	Electrical entry	Indicator light/surge voltage suppressor	
D	DIN connector	None	
DZ		W/ connector	*
DO		W/o connector	None
DOZ		W/o connector	*
Y	DIN connector (DIN43650B)	None	
YZ		W/ connector	*
YO		W/o connector	None
YOZ		W/o connector	*

-  \* With light and surge suppressor  
 (Note) Interchangeable with the previous model, "DXT154-A-□□□□".

## How to Order

### Ordering source area code

Code	areas
—	Japan, Asia Australia
E	Europe
N	North America

### Body option

0	Standard
3*	Common exhaust for main valve and pilot valve

\* Option

### Port size (P, A, B port)

01	1/8
02	1/4

R1, R2  
1/8

### Thread

—	Rc (PT)
F	G (PF)
N	NPT
T	NPTF

### Option

F	With bracket
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\* Not installed  
when delivered

Body ported single solenoid with bracket **VF3122** — **1** **D** — **02** — **F** — **Q**

For 30 type manifold, Body ported **VF3** **1** **3** **0** — **1** **D** — **02** — **Q**

For 40 type manifold, Base mounted **VF3** **1** **4** **0** — **1** **D** — **02** — **Q**

For 50 type manifold **VF3** **1** **50** — **1** **D** — **Q**

For 60, 61, 70, 71 type manifold **VF3** **1** **6** **0** — **1** **D** — **02** — **Q**

### Configuration

1	Single
2	Double
3	Closed centre
4	Exhaust centre
5	Pressure centre

### Body

6	For 60 and 61 type manifold
7	For 70 and 71 type manifold

### Body option

0	Standard
3*	Common exhaust for main valve and pilot valve

\* Option  
VF3□63 only

### Voltage

1	100V AC, 50/60Hz
2	200V AC, 50/60Hz
3	110 to 120V AC, 50/60Hz
4	220V AC, 50/60Hz
5	24V DC
6	12V DC
7	240V AC, 50/60Hz
9	Others, less than 250V/CA and 50V/DC

### Manual override

—	Non-locking push
B	Locking slotted style
C	Locking knob style

### Indicator light/surge voltage suppressor

—	None
Z	With indicator light/surge voltage suppressor

### Port size (A/B Port)

01	1/8
02	1/4

R port of  
"VF3□70"  
is 1/4.

### Port size

—	Without sub-plate
02	1/4
03	3/8

### Thread

—	Rc (PT)
00F	G (PF)
00N	NPT
00T	NPTF

### Thread

—	Rc (PT)
F	G (PF)
N	NPT
T	NPTF

### Electrical entry

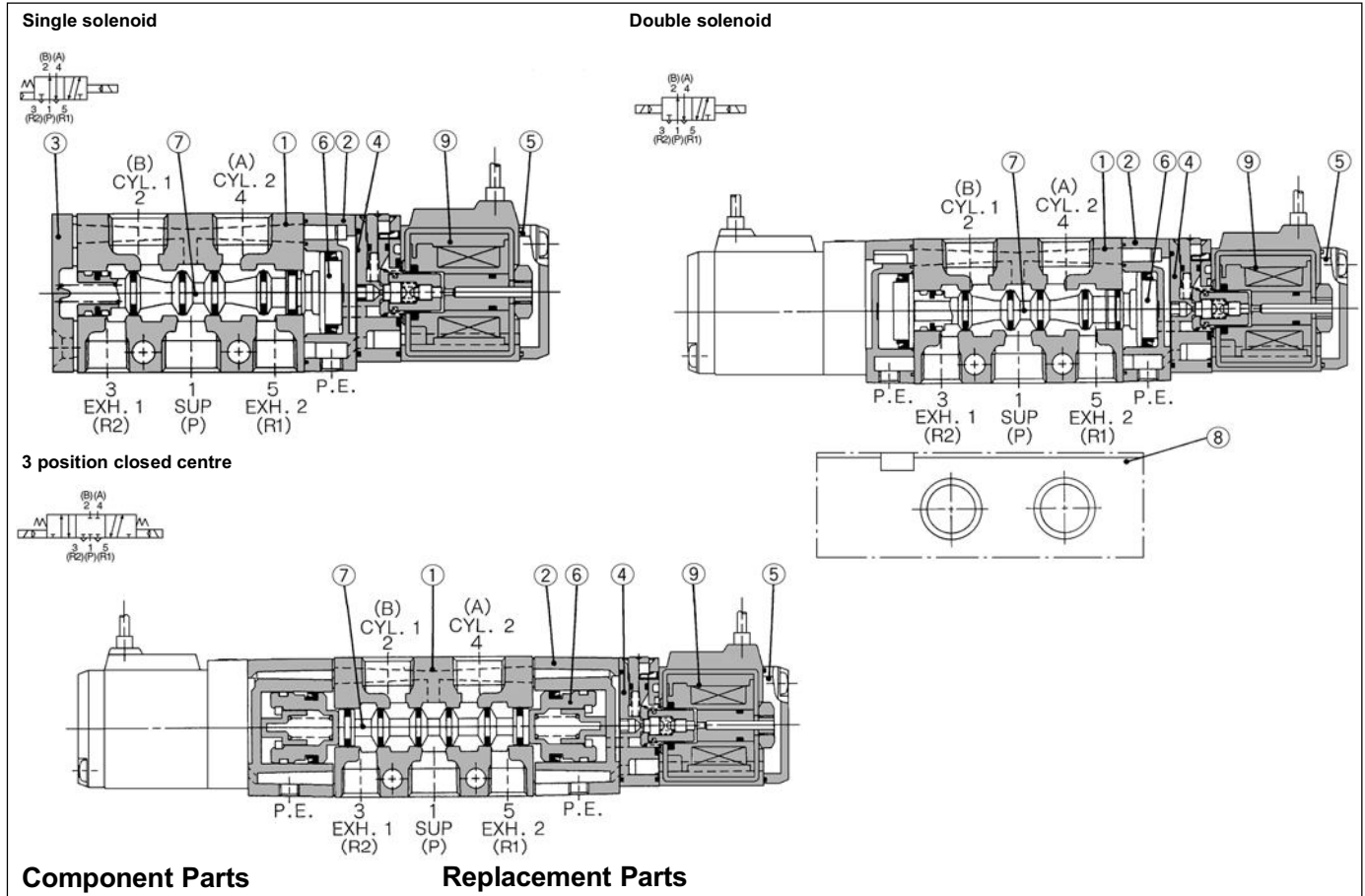
D	DIN connector	With connector
DO		Without connector
Y	DIN connector (DIN43650B)	With connector
YO		Without connector

Contact SMC for other voltages (9)

Protective class  
class I (Mark: )..... DIN terminal type

# VF3000

## Construction



### Component Parts

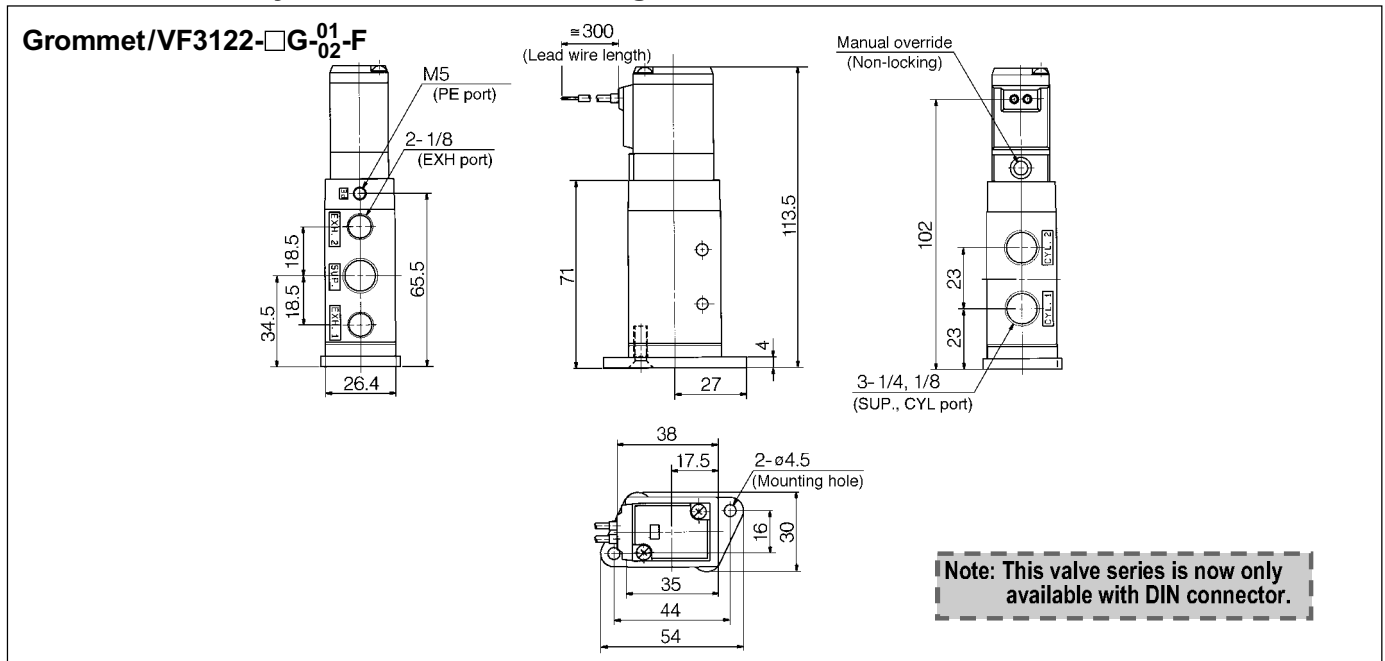
No.	Description	Material	Notes
①	Body	Aluminium die-cast	Metallic paint
②	Adapter plate	Resin*	Black***
③	End cover	Aluminium die-cast	Black
④	Pilot body	Resin	
⑤	Pilot cover	Resin	
⑥	Piston	Resin**	
⑦	Spool	Aluminium, NBR	

### Replacement Parts

No.	Description	Part No.	Notes
⑧	Sub-plate	DXT031-41-3P	3/8 Aluminum die-cast
		DXT031-41-4P	1/4 Aluminum die-cast
⑨	Pilot valve assembly	SF4-□□□-50	Refer to p.1.7-12

\* 3 position: Zinc die-cast  
 \*\* 3 position: Aluminum  
 \*\*\* 3 position: Metallic paint

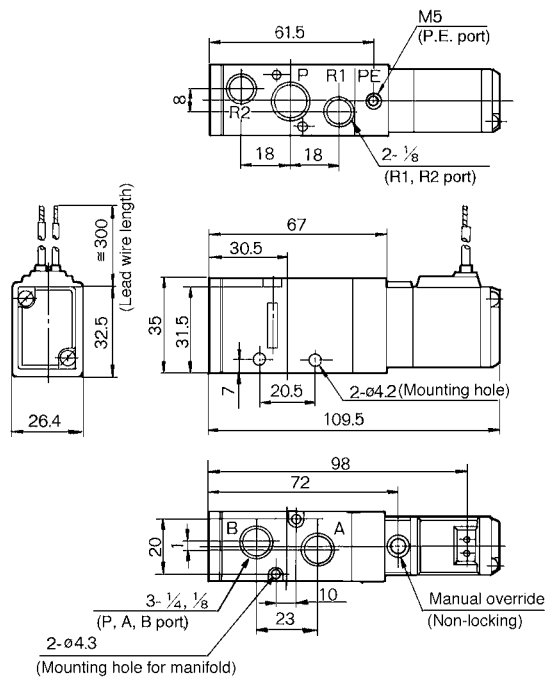
## With Bracket/Body Ported: 2 Position Single Solenoid



**Note: This valve series is now only available with DIN connector.**

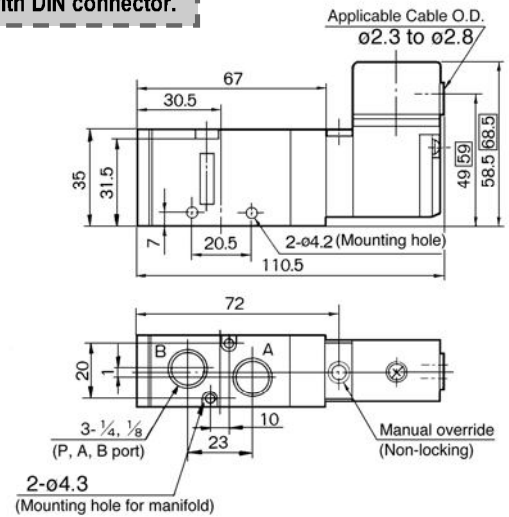
## Body Ported: 2 Position Single Solenoid

Grommet/VF3130-□G



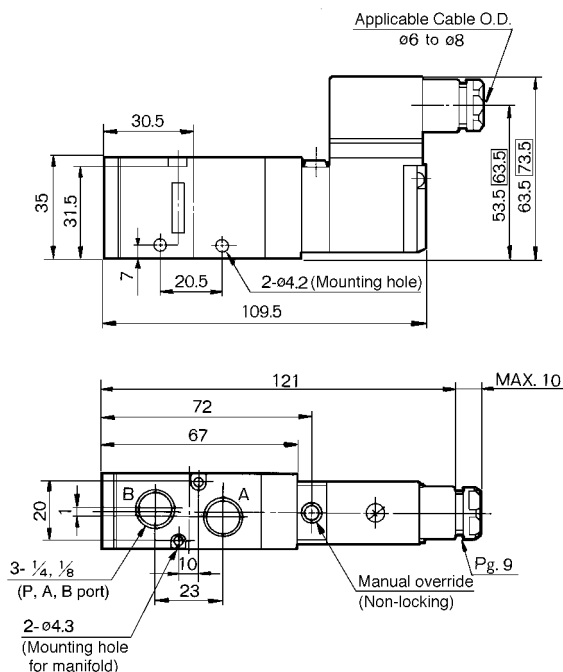
Grommet terminal/VF3130-□E

**Note: This valve series is now only available with DIN connector.**



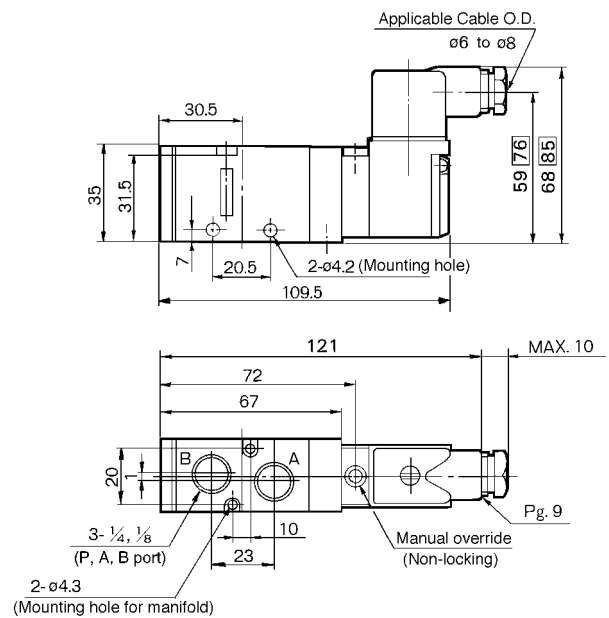
□: With indicator light and surge voltage suppressor

Conduit terminal/VF3130-□T



□: With indicator light and surge voltage suppressor

DIN connector/VF3130-□D/Y

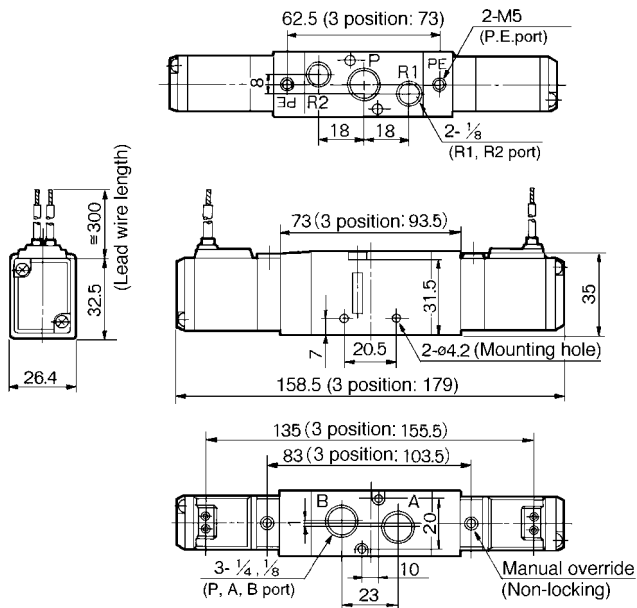


□: With indicator light and surge voltage suppressor

# VF3000

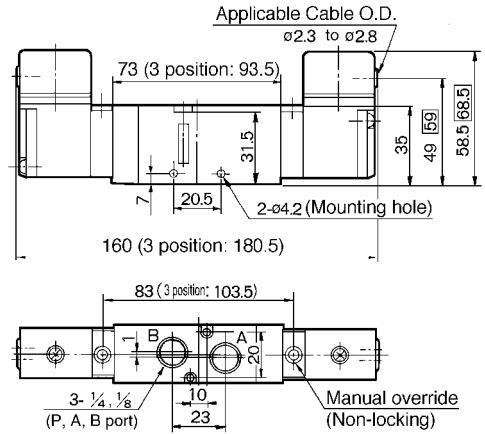
## Body Ported: 2 Position Double Solenoid, 3 Position Closed Centre/Exhaust Centre/Pressure Centre

### Grommet/VF3□30-□G



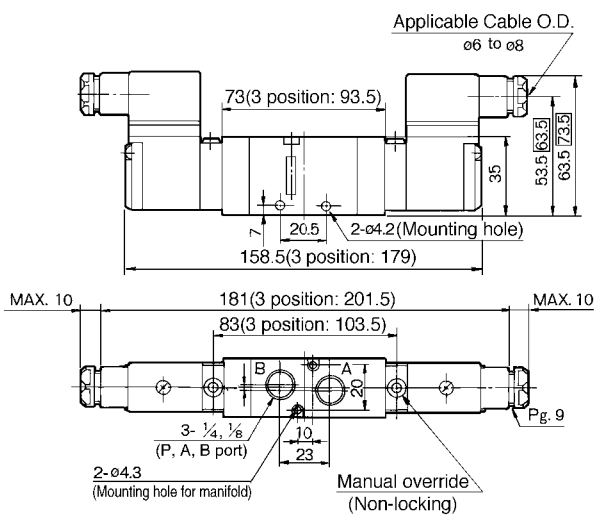
**Note: This valve series is now only available with DIN connector.**

### Grommet terminal/VF3□30-□E



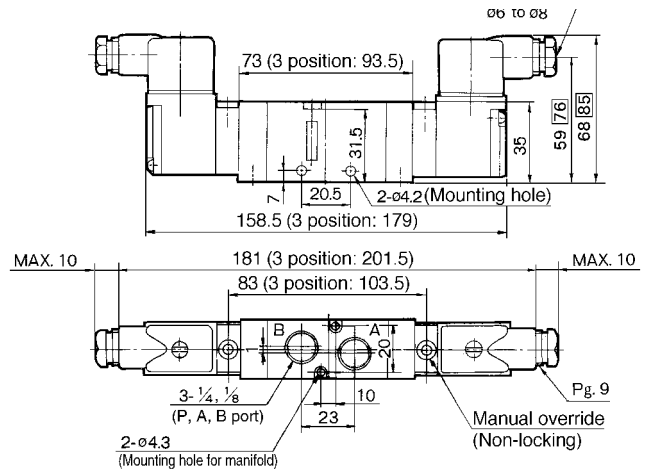
□: With indicator light and surge voltage suppressor

### Conduit terminal/VF3□30-□T



□: With indicator light and surge voltage suppressor

### DIN connector/VF3□30-□D/Y

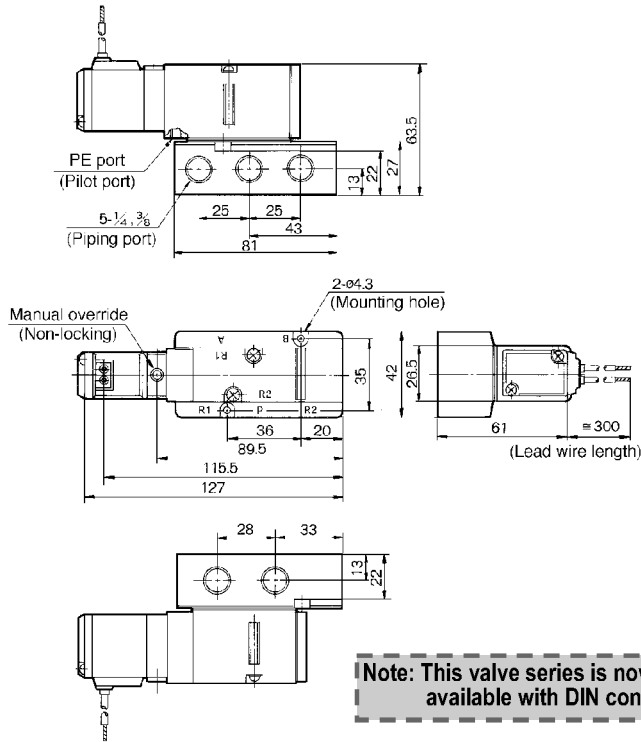


□: With indicator light and surge voltage suppressor

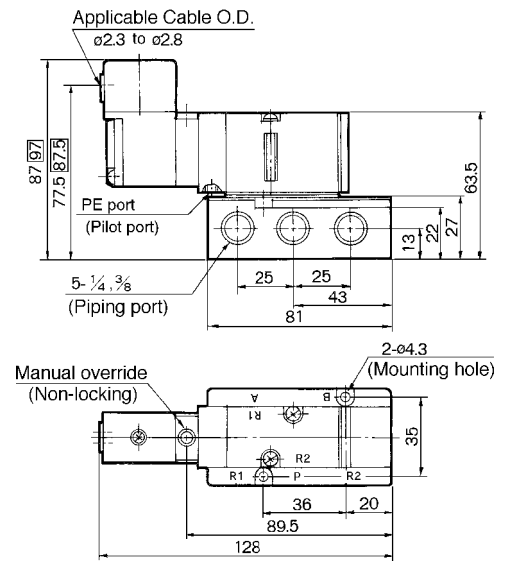
**Note: This valve series is now only available with DIN connector.**

## Base Mounted (With sub-plate): 2 Position Single Solenoid

Grommet/VF3140-□G

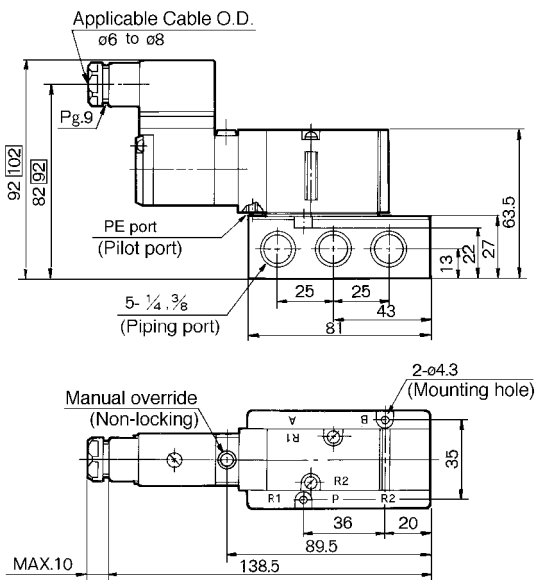


Grommet terminal/VF3140-□E



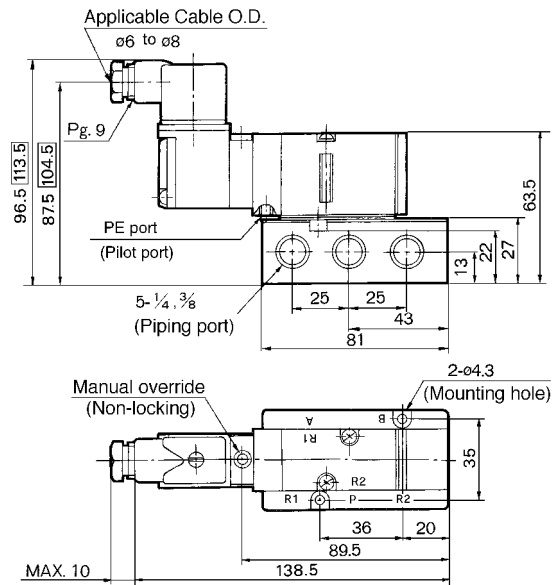
□: With indicator light and surge voltage suppressor

Conduit terminal/VF3140-□T



□: With indicator light and surge voltage suppressor

DIN connector/VF3140-□D/Y

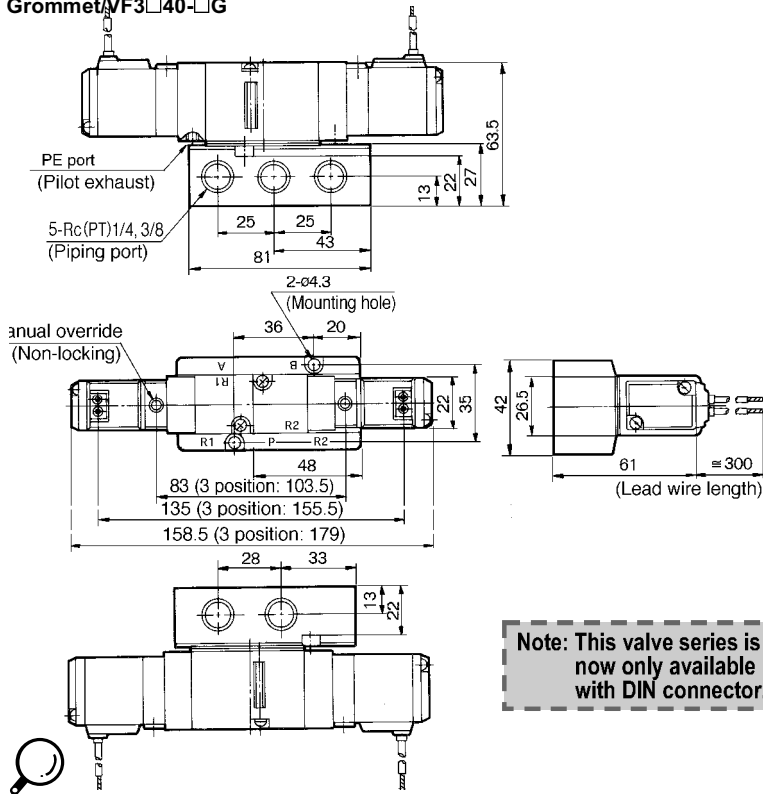


□: With indicator light and surge voltage suppressor

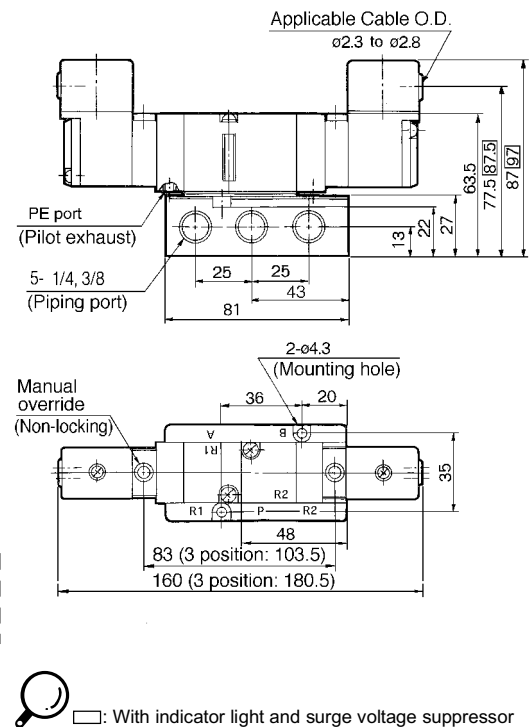
# VF3000

## Base Mounted (With sub-plate): 2 Position Double Solenoid, 3 Position Closed Centre/Exhaust Centre/Pressure Centre

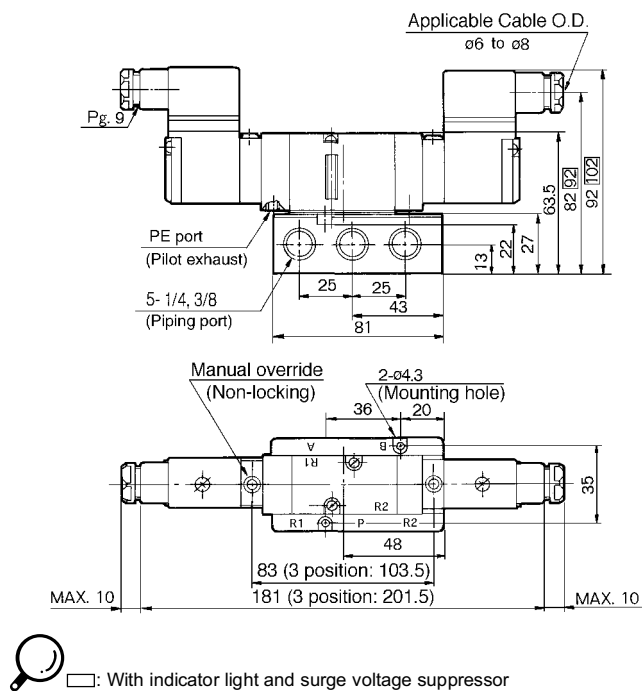
### Grommet/VF3□40-□G



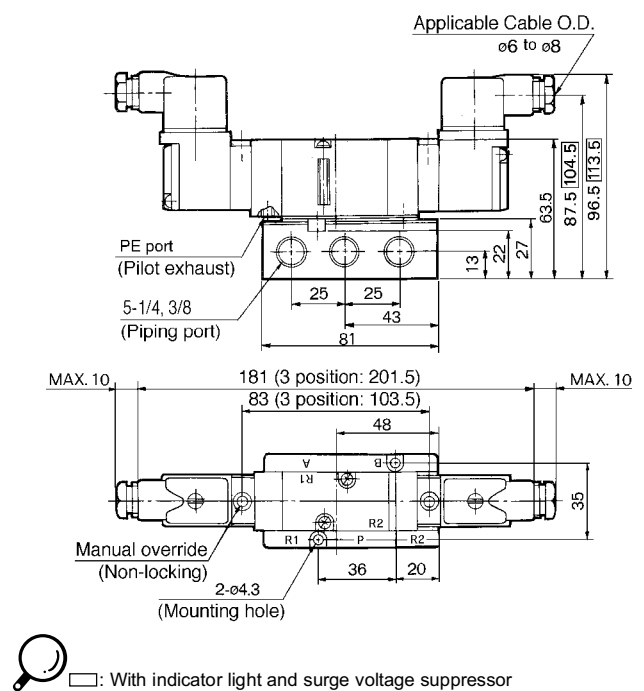
### Grommet terminal/VF3□40-□E



### Conduit terminal/VF3□40-□T



### DIN connector/VF3□40-□D





# Series VF3000 Manifold



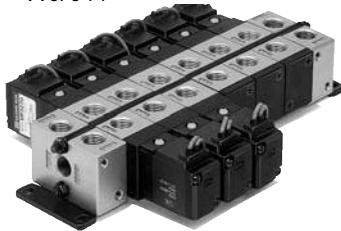
VV5F3-40



VV5F3-30



VV5F3-71



VV5F3-60

## Manifold Specifications

Manifold	B mount(Single Base type)		S mount	
	Exhaust	Common	Individual	Common
Maximum stations*	20		10	



\* In case of more than 8 stations for B mount or more than 4 stations for S mount, supply air from both sides of P(SUP.) port and exhaust from both sides of R(EXH.) port.

Manifold	Model	Exhaust <sup>(1)</sup>	Piping/Port location			Port size			Applicable valve
			P(SUP)	R(EXH)	A, B(CYL)	P(SUP)	R(EXH)	A, B(CYL)	
B mount	VV5F3-30	Common	Side Base	Side Base	Top Valve	1/4	1/4	1/8 1/4	VF3□30 VF3□33
	VV5F3-40	Common	Side Base	Side Base	Bottom Base	1/4	1/4	1/4	VF3□40 VF3□43
	VV5F3-50	Individual	Side Base	Top Valve	Bottom Base	1/4	1/4	1/4	VF3□50
S mount	VV5F3-60	Common	Side Sideplate	Top Sideplate	Top Valve	1/4	1/4	1/8 1/4	VF3□60 VF3□63
	VV5F3-61	Common	Side Sideplate	Side Sideplate	Side Valve	1/4	1/4	1/8 1/4	VF3160 VF3163 (Only single solenoid)
	VV5F3-70	Individual	Side Sideplate	Bottom Valve	Top Valve	1/4	1/4	1/8 1/4	VF3□70
	VV5F3-71	Individual	Side Sideplate	Side Valve	Side Valve	1/4	1/4	1/8 1/4	VF3170 (Only single solenoid)



Note 1) Supply (P port) is common.

Note 2) Common exhaust for main valve and pilot valve is possible only in the valves of common exhaust.

## Options

Description	Part No.	Applicable manifold
Spacer ass'y for individual exhaust*	DXT155-17-1A	VV5F3-30, 40
Blank plate ass'y	DXT031-38-1A	VV5F3-30, 40, 50



\* Used to exhaust air individually from certain valves mounted on common exhaust manifolds "type 30" and "type 40".

## How to Order Manifold Base

Please indicate the appropriate valves and/or blank plate assembly and manifold base separately.

(Example) VV5F3-40-052-02 1pc. (Manifold base)

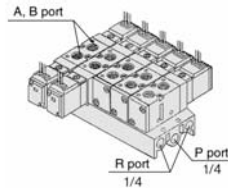
VF3140-1G 2pcs. (Valve)

VF3240-1G 2pcs. (Valve)

DXT031-38-1A 1pc. (Blank plate assembly)

### B mount (Integrated style)

#### Top piping/Common exhaust 30 Type



VV5F3 - 30 - 05 1

Ordering source area code

Code	areas
-	Japan, Asia Australia
E	Europe
N	North America

Stations	
02	2 stations
⋮	⋮
20	20 stations

Thread	
-	Rc (PT)
00F	G (PF)
00N	NPT
00T	NPTF

#### Applicable solenoid valves

VF3□30-□□□□-01-02-Q

VF3□33-□□□□-01-02-Q

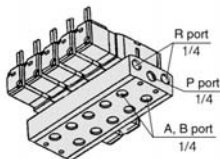
#### Applicable blank plate ass'y

DXT031-38-1A

#### Applicable spacer ass'y

DXT155-17-1A

#### Bottom piping/Common exhaust 40 Type



VV5F3 - 40 - 05 2 - 02

Ordering source area code

Code	areas
-	Japan, Asia Australia
E	Europe
N	North America

Stations	
02	2 stations
⋮	⋮
20	20 stations

Thread	
-	Rc (PT)
F	G (PF)
N	NPT
T	NPTF

#### Applicable solenoid valves

VF3□40-□□□□-Q

VF3□43-□□□□-Q

#### Applicable blank plate ass'y

DXT031-38-1A

#### Applicable spacer ass'y

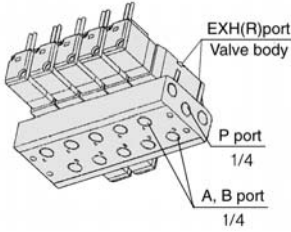
DXT155-17-1A

# VF3000

## B mount (Integrated style)

### Bottom piping/Individual exhaust

50 Type



VV5F3 - 50 - 05 4 - 02

#### Ordering source area code

Code	areas
—	Japan,Asia Australia
E	Europe
N	North America

#### Stations

02	2 stations
⋮	⋮
20	20 stations

#### Applicable solenoid valves

VF3□50-□□□□-Q

#### Applicable blank plate ass'y

DXT031-38-1A

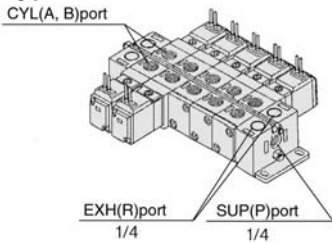
#### Thread

—	Rc (PT)
F	G (PF)
N	NPT
T	NPTF

## S mount (Separated)

### Top piping/Common exhaust

60 Type



VV5F3 - 60 - 05 1 -

#### Ordering source area code

Code	areas
—	Japan,Asia Australia
E	Europe
N	North America

#### Stations

02	2 stations
⋮	⋮
10	10 stations

#### Applicable solenoid valves

VF3□60-□□□□-01-02-Q

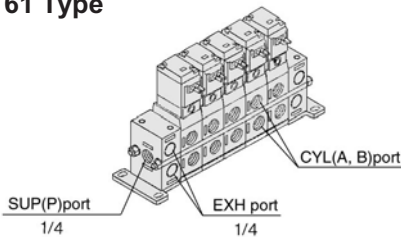
VF3□63-□□□□-01-02-Q

#### Thread

—	Rc (PT)
00F	G (PF)
00N	NPT
00T	NPTF

### Side piping/Common exhaust

61 Type



VV5F3 - 61 - 05 1 -

#### Ordering source area code

Code	areas
—	Japan,Asia Australia
E	Europe
N	North America

#### Stations

02	2 stations
⋮	⋮
10	10 stations

#### Applicable solenoid valves

VF3160-□□□□-01-02-Q

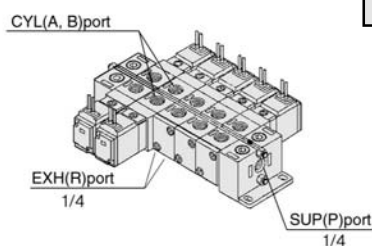
VF3163-□□□□-01-02-Q

#### Thread

—	Rc (PT)
00F	G (PF)
00N	NPT
00T	NPTF

### Top piping/Individual exhaust

70 Type



VV5F3 - 70 - 05 3 -

#### Ordering source area code

Code	areas
—	Japan,Asia Australia
E	Europe
N	North America

#### Stations

02	2 stations
⋮	⋮
10	10 stations

#### Applicable solenoid valves

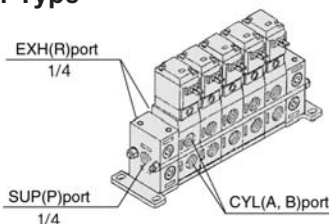
VF3□70-□□□□-01-02-Q

#### Thread

—	Rc (PT)
00F	G (PF)
00N	NPT
00T	NPTF

### Side piping/Individual exhaust

71 Type



VV5F3 - 71 - 05 3 -

#### Ordering source area code

Code	areas
—	Japan,Asia Australia
E	Europe
N	North America

#### Stations

02	2 stations
⋮	⋮
10	10 stations

#### Applicable solenoid valves

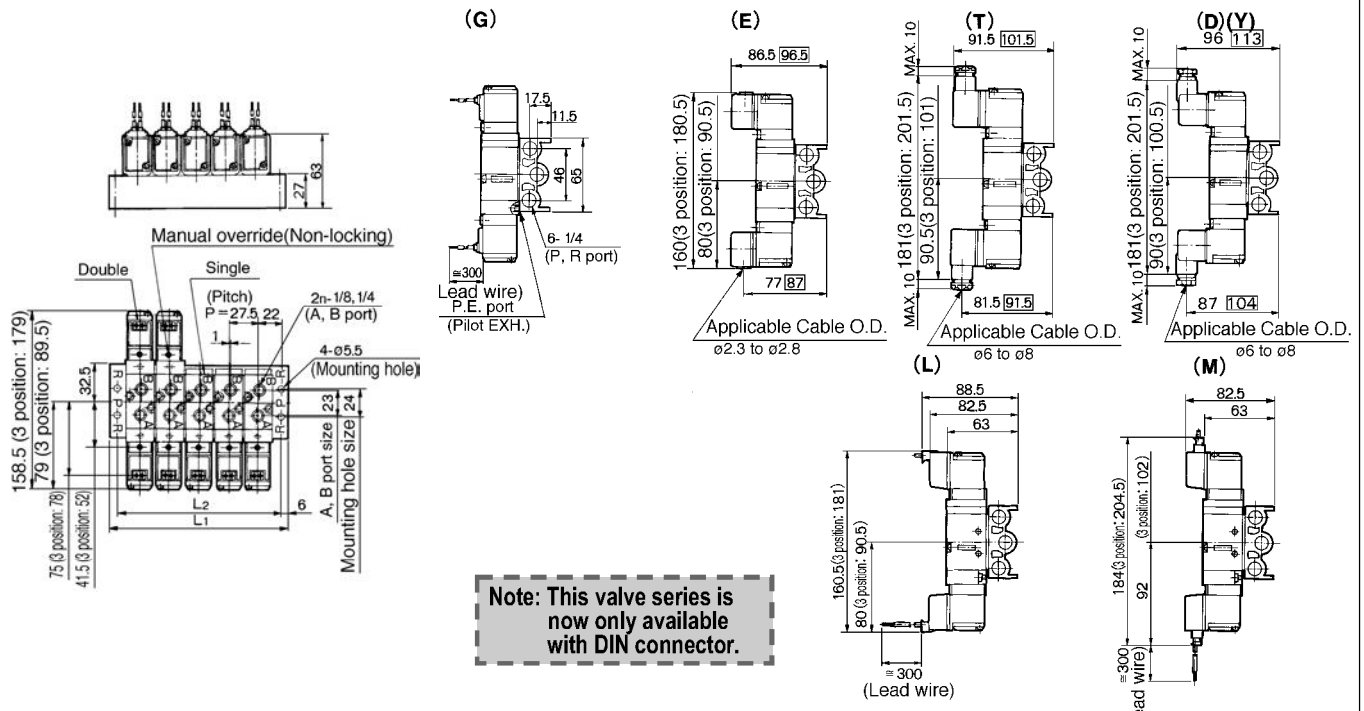
VF3170-□□□□-01-02-Q

#### Thread

—	Rc (PT)
00F	G (PF)
00N	NPT
00T	NPTF

## B Mount/VV5F3-30, VV5F3-40

Common exhaust/VV5F3-30 □□□□



L: Dimensions(mm)

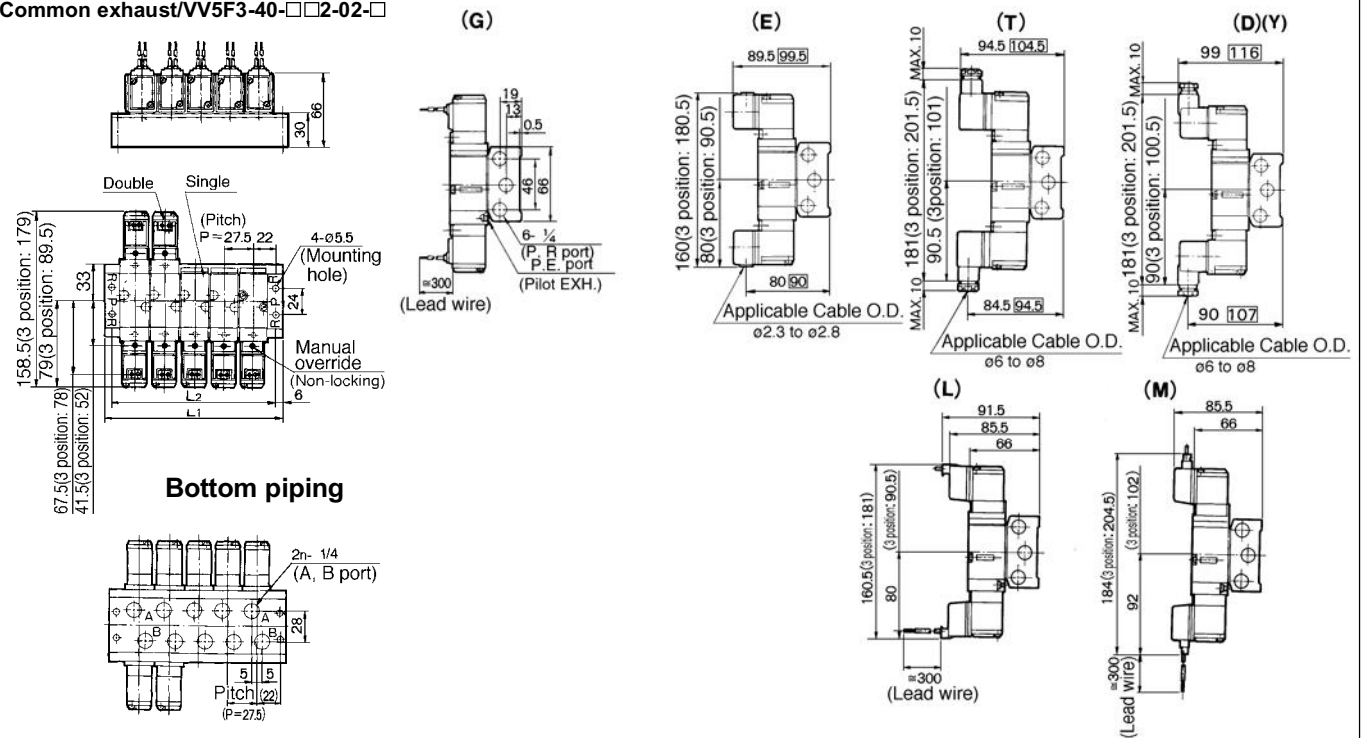
n: Station



□: With indicator light and surge voltage suppressor

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>		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
L <sub>2</sub>		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

Common exhaust/VV5F3-40 □□□□2-02-□



L: Dimensions(mm)

n: Station



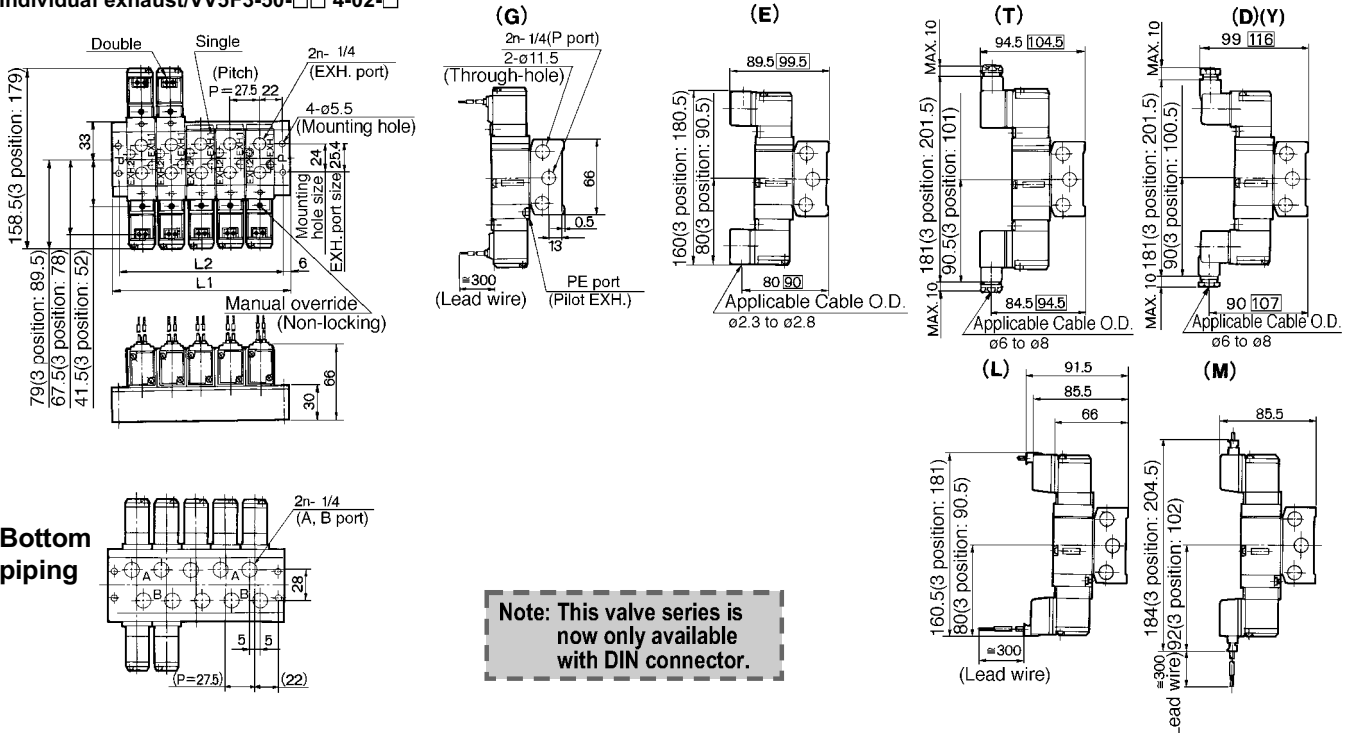
□: With indicator light and surge voltage suppressor

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>		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
L <sub>2</sub>		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

# VF3000

## B Mount/VV5F3-50, Spacer for Individual exhaust

Individual exhaust/VV5F3-50-□□ 4-02-□



L: Dimensions(mm)

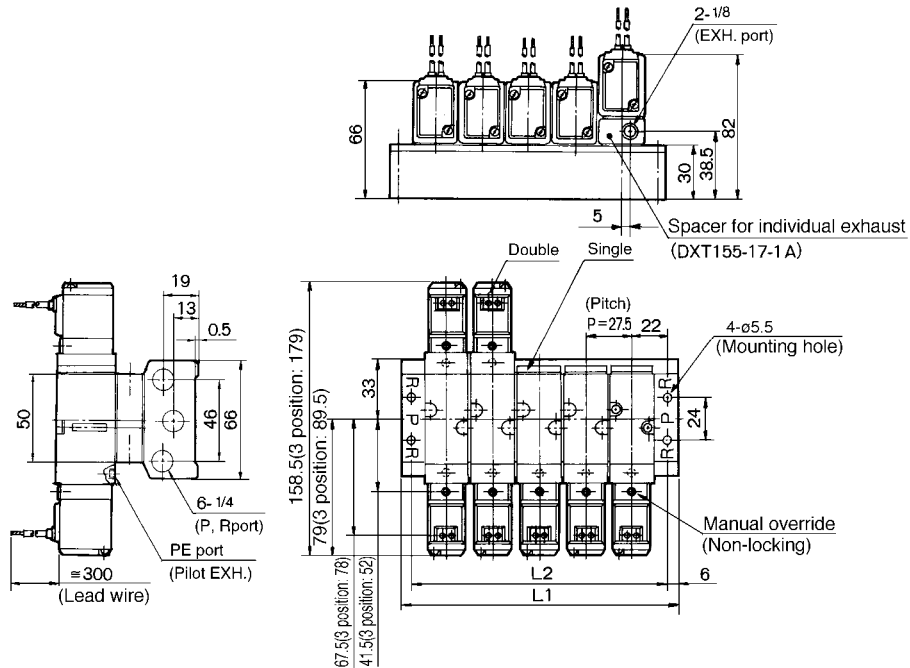
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L <sub>1</sub>	83.5	111	138.5	166	193.5	221	248.5	276	303.5	331	358.5	386	413.5	441	468.5	496	523.5	551	578.5
L <sub>2</sub>	71.5	99	126.5	154	181.5	209	236.5	264	291.5	319	346.5	374	401.5	429	456.5	484	511.5	539	566.5

n: Station



□: With indicator light and surge voltage suppressor

## Spacer for individual exhaust/Applicable model: VV5F3-30, VV5F3-40



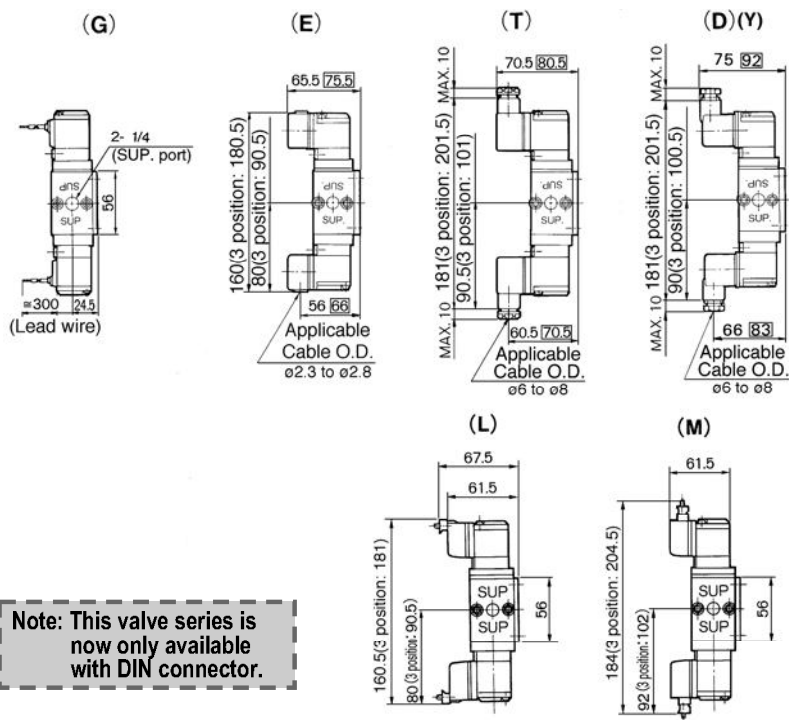
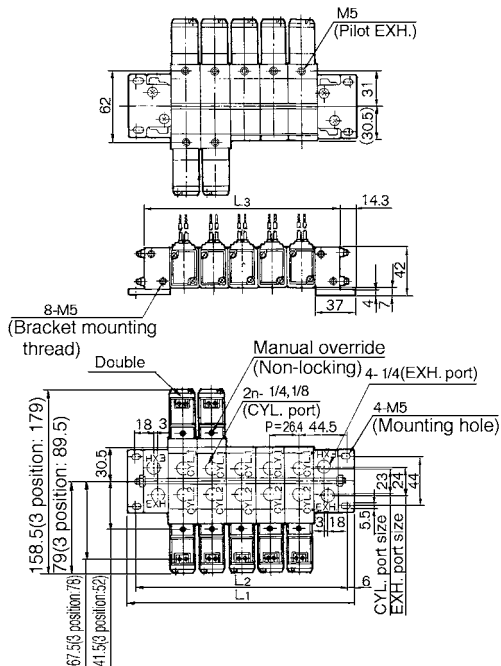
L: Dimensions(mm)

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>	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
L <sub>2</sub>	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

n: Station

## S Mount/VV5F3-60, VV5F3-61

Common exhaust/VV5F3-60-□□ 1-□



**Note: This valve series is now only available with DIN connector.**

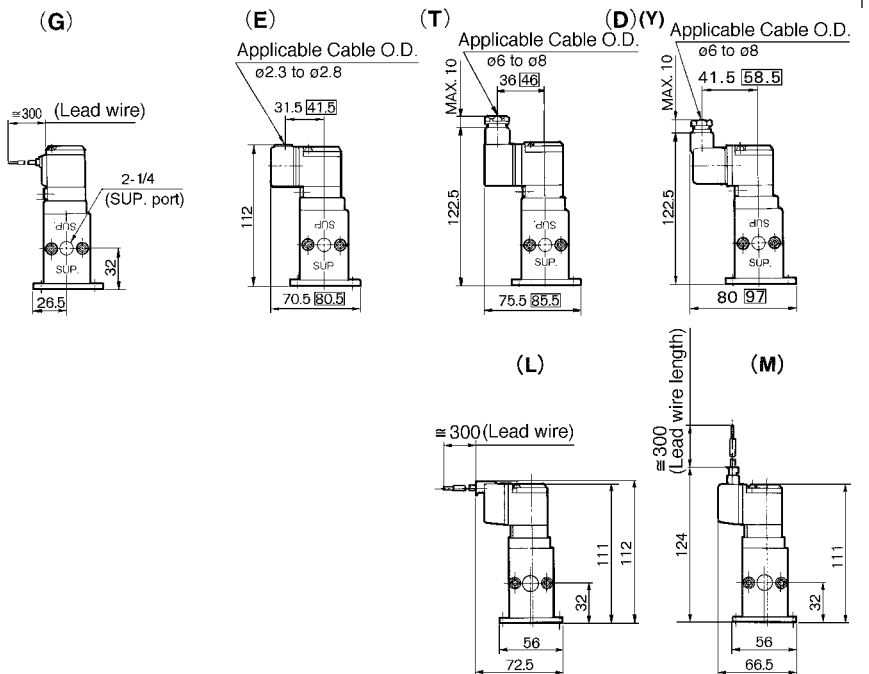
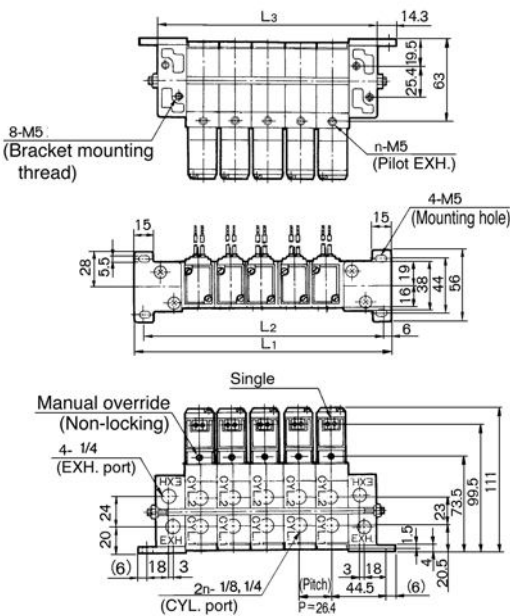
L: Dimensions(mm)

L	n	2	3	4	5	6	7	8	9	10
L1	n	127.5	154	180	206.5	233	259.5	286	312	338.5
L2	n	115.5	142	168	194.5	221	247.5	274	300	326.5
L3	n	99	125	151.5	178	204.5	231	257	283.5	310



□: With indicator light and surge voltage suppressor

Common exhaust/VV5F3-61-□□ 1-□



L: Dimensions(mm)

L	n	2	3	4	5	6	7	8	9	10
L1	n	127.5	154	180	206.5	233	259.5	286	312	338.5
L2	n	115.5	142	168	194.5	221	247.5	274	300	326.5
L3	n	99	125	151.5	178	204.5	231	257	283.5	310

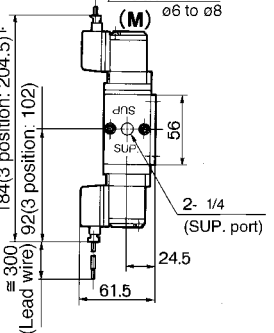
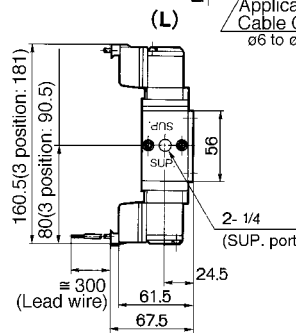
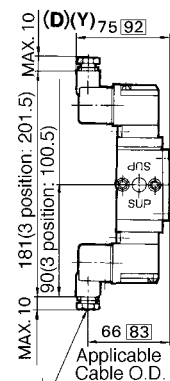
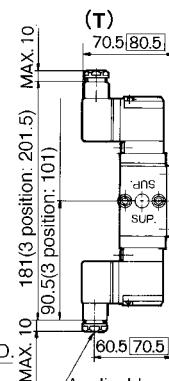
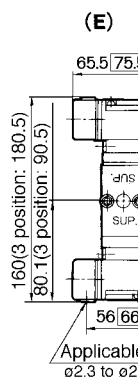
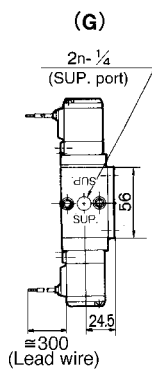
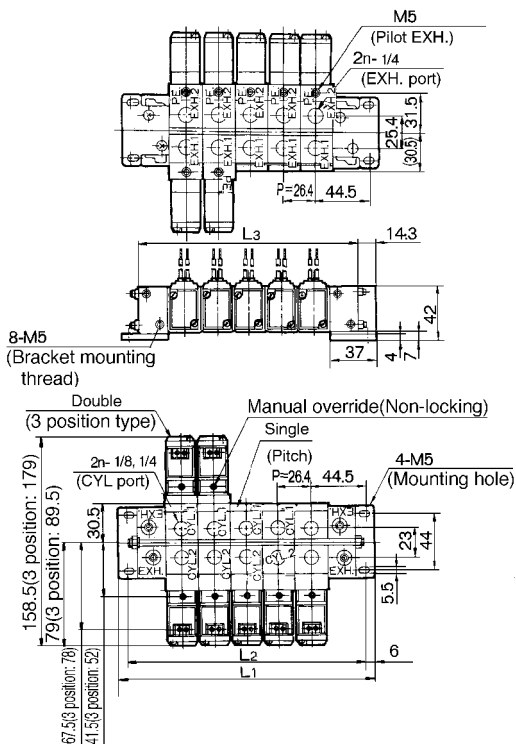


□: With indicator light and surge voltage suppressor

# VF3000

## S Mount/VV5F3-70, VV5F3-71

### Individual exhaust/VV5F3-70-□□3-□



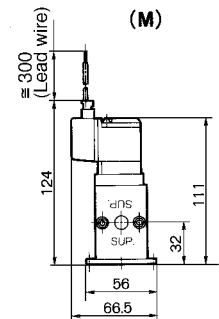
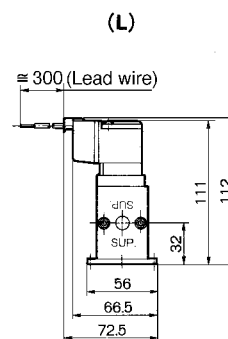
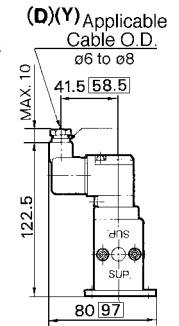
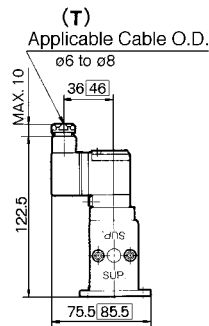
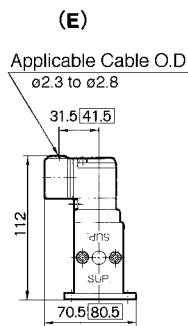
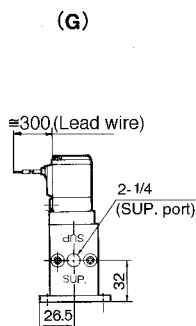
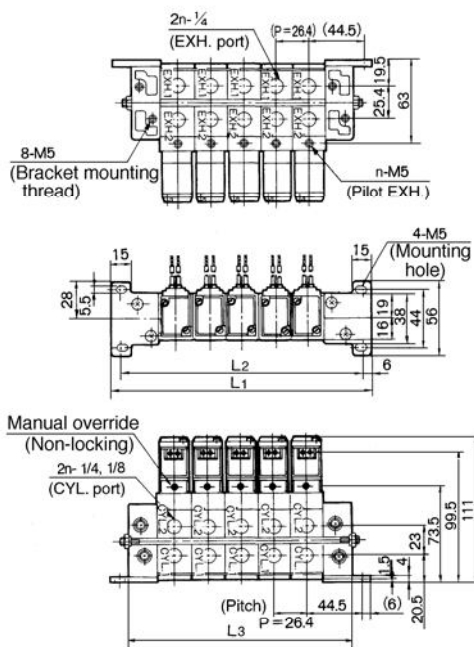
L: Dimensions(mm)

L \ n	2	3	4	5	6	7	8	9	10
L1	127.5	154	180	206.5	233	259.5	286	312	338.5
L2	115.5	142	168	194.5	221	247.5	274	300	326.5
L3	99	125	151.5	178	204.5	231	257	283.5	310

n: Station

□: With indicator light and surge voltage suppressor

### Individual exhaust/VV5F3-71-□□3-□



Note: This valve series is now only available with DIN connector.

L: Dimensions(mm)

L \ n	2	3	4	5	6	7	8	9	10
L1	127.5	154	180	206.5	233	259.5	286	312	338.5
L2	115.5	142	168	194.5	221	247.5	274	300	326.5
L3	99	125	151.5	178	204.5	231	257	283.5	310

n: Station

□: With indicator light and surge voltage suppressor