

# 5 Port Mechanical Valve Rubber Seal Series **VFM300**

**Compact design,  
large flow capacity 18 mm<sup>2</sup>**

**High cycle rate,  
long life/300 c.p.m. or less**

**Piping possible to any EXH  
port.**

Proper countermeasures can be taken for applications in which the noise of the exhaust could cause problems to the surroundings.

**External pilot model  
available. (Option)**

**Foot bracket and manifold  
mounting possible.**



## Specifications

Fluid	Air/Inert gas
Operating pressure	0.15 to 0.9 MPa <sup>(1)</sup>
Ambient and fluid temperature	-5 to 60°C (No freezing)
Effective area	18 mm <sup>2</sup>
Maximum frequency (Mechanical operation type)	300 c.p.m. or less
Lubrication	Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)
Port size	Main valve/SUP, CYL port 1/4, EXH port 1/8 Pilot valve (EXH)/M5 x 0.8
Option	Foot bracket <sup>(2)</sup>
Weight (Basic)	260 g

\* Please contact SMC for manifold mounting style.

Note 1) External pilot type Main valve: 0 to 0.9 MPa  
Pilot valve: 0.15 to 0.9 MPa

Note 2) The standard body can not be retrofitted with a foot bracket.

## Model

	Actuator	Model	Actuator part no.	Application	
Mechanical operation	Basic	<b>VFM350-02-00</b>	—	—	
	Roller lever	<b>VFM350-02-01</b>	VM-01C	Polyacetal roller	
		<b>VFM350-02-01S</b>	VM-01CS	Hard steel roller	
	One way roller lever	<b>VFM350-02-02</b>	VM-02C	Polyacetal roller	
		<b>VFM350-02-02S</b>	VM-02CS	Hard steel roller	
	Straight plunger	<b>VFM350-02-05</b>	VM-05D	—	
Manual operation	Roller plunger	<b>VFM350-02-06</b>	VM-06D	Polyacetal roller	
		<b>VFM350-02-06S</b>	VM-06DS	Hard steel roller	
	Toggle lever	<b>VFM350-02-08</b>	VM-08D	—	
	Push button (Mushroom)		<b>VFM350-02-30R</b>	VM-30CR	Red
			<b>VFM350-02-30B</b>	VM-30CB	Black
			<b>VFM350-02-30G</b>	VM-30CG	Green
			<b>VFM350-02-30Y</b>	VM-30CY	Yellow
	Push button (Extended)		<b>VFM350-02-32R</b>	VM-32CR	Red
			<b>VFM350-02-32B</b>	VM-32CB	Black
			<b>VFM350-02-32G</b>	VM-32CG	Green
			<b>VFM350-02-32Y</b>	VM-32CY	Yellow
	Push button (Flush)	<b>VFM350-02-33</b>	VM-33C	With a set of red, black, green, yellow	
	Twist selector (2 position)		<b>VFM350-02-34R</b>	VM-34CR	Red
			<b>VFM350-02-34B</b>	VM-34CB	Black
		<b>VFM350-02-34G</b>	VM-34CG	Green	
		<b>VFM350-02-34Y</b>	VM-34CY	Yellow	
Key selector (2 position)	<b>VFM350-02-36</b>	VM-36C	—		

Note 1) Actuator replacement is available for all types.

Note 2) For push button (mushroom), push button (extended), push button (flush) and a single unit of fastening ring, refer to pages 5-6-6 to 5-6-7. The other parts are not replaceable.

Note 3) The handle of the selector (2 position) cannot be removed or replaced alone.

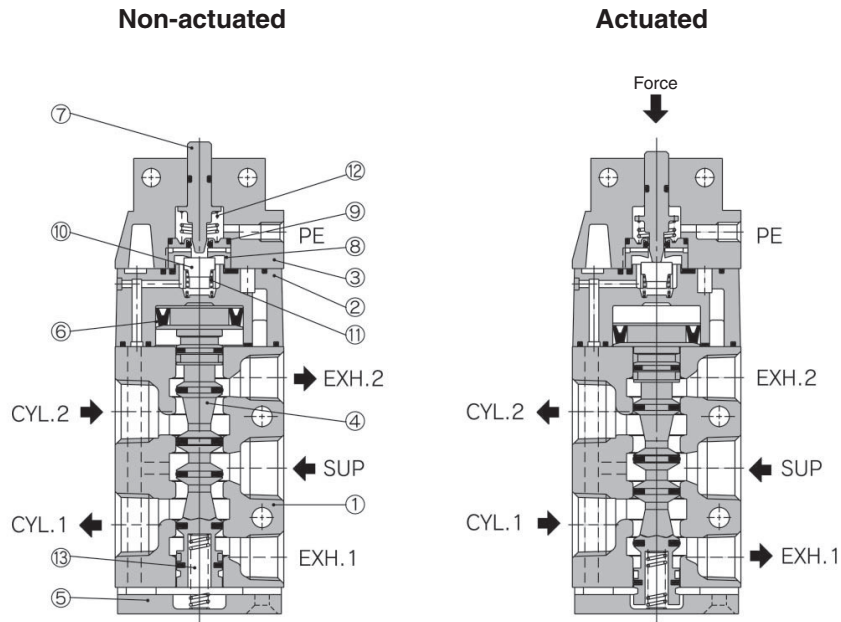
### How to Order

VFM35 **0** **02** **01** **S**

<p>• <b>Port size</b></p> <table border="1"> <tr><td>02</td><td>Rc 1/4</td></tr> <tr><td>N02</td><td>NPT 1/4</td></tr> <tr><td>F02</td><td>G 1/4</td></tr> </table> <p>• <b>Body option</b></p> <table border="1"> <tr><td>0</td><td>Internal pilot type</td></tr> <tr><td>1</td><td>External pilot type</td></tr> </table>	02	Rc 1/4	N02	NPT 1/4	F02	G 1/4	0	Internal pilot type	1	External pilot type	<p>• <b>Actuator type</b></p> <table border="1"> <tr><td>00</td><td>Basic</td></tr> <tr><td>01</td><td>Roller lever</td></tr> <tr><td>02</td><td>One way roller lever</td></tr> <tr><td>05</td><td>Straight plunger</td></tr> <tr><td>06</td><td>Roller plunger</td></tr> <tr><td>08</td><td>Toggle lever</td></tr> <tr><td>30</td><td>Push button (Mushroom)</td></tr> <tr><td>32</td><td>Push button (Extended)</td></tr> <tr><td>33</td><td>Push button (Flush)</td></tr> <tr><td>34</td><td>Twist selector (2 position)</td></tr> <tr><td>36</td><td>Key selector (2 position)</td></tr> </table>	00	Basic	01	Roller lever	02	One way roller lever	05	Straight plunger	06	Roller plunger	08	Toggle lever	30	Push button (Mushroom)	32	Push button (Extended)	33	Push button (Flush)	34	Twist selector (2 position)	36	Key selector (2 position)	<p>• <b>Suffix for actuator</b></p> <table border="1"> <tr><td>S</td><td>Hard steel roller</td></tr> <tr><td>R</td><td>Red</td></tr> <tr><td>B</td><td>Black</td></tr> <tr><td>G</td><td>Green</td></tr> <tr><td>Y</td><td>Yellow</td></tr> </table> <p>Color of push button selector</p>	S	Hard steel roller	R	Red	B	Black	G	Green	Y	Yellow	<p>• <b>Option</b></p> <table border="1"> <tr><td>F</td><td>Foot bracket (Only internal pilot)</td></tr> </table>	F	Foot bracket (Only internal pilot)
02	Rc 1/4																																														
N02	NPT 1/4																																														
F02	G 1/4																																														
0	Internal pilot type																																														
1	External pilot type																																														
00	Basic																																														
01	Roller lever																																														
02	One way roller lever																																														
05	Straight plunger																																														
06	Roller plunger																																														
08	Toggle lever																																														
30	Push button (Mushroom)																																														
32	Push button (Extended)																																														
33	Push button (Flush)																																														
34	Twist selector (2 position)																																														
36	Key selector (2 position)																																														
S	Hard steel roller																																														
R	Red																																														
B	Black																																														
G	Green																																														
Y	Yellow																																														
F	Foot bracket (Only internal pilot)																																														

- S□A
- V□A
- S□A
- V□A
- VM
- VR
- VH
- VHS

### Construction



### Component Parts

No.	Description	Material	Note
①	Body	ADC	Metallic plated
②	Pilot body	PBT	Metallic plated
③	Head cover	ZDC	Black zinc chromated
④	Spool valve assembly		
⑤	End cover	ADC	Metallic plated
⑥	Piston	POM	
⑦	Plunger	POM	

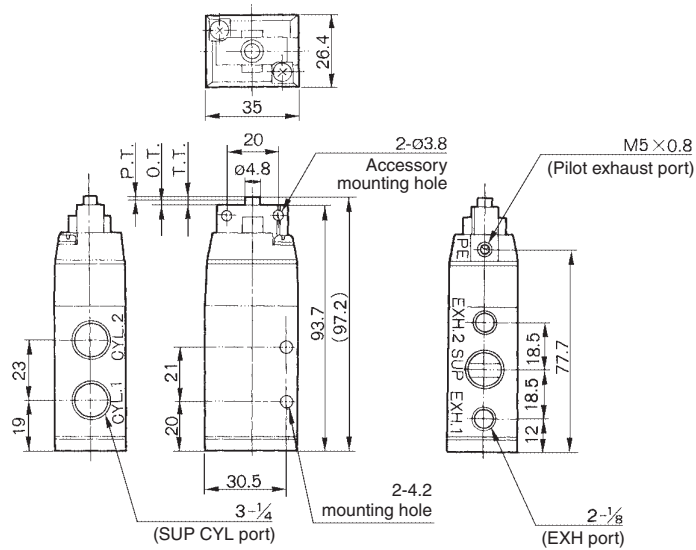
No.	Description	Material	Note
⑧	Valve seat (A)	POM	
⑨	Valve seat (B)	POM	
⑩	Valve	NBR	
⑪	Valve spring	Stainless steel	
⑫	Return spring	Stainless steel	
⑬	Spool spring	Stainless steel	

# Series VFM300

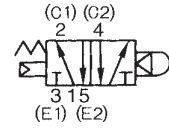
## Series VFM300

### Basic

VFM350-02-00



### JIS Symbol



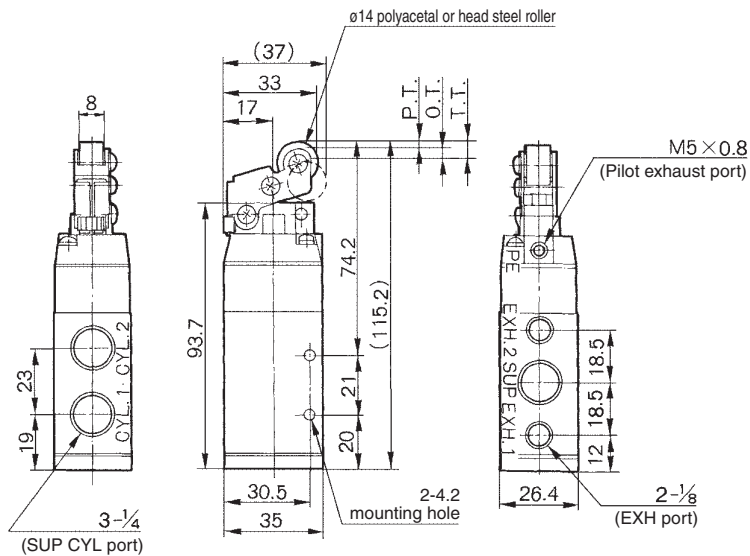
\* 0.5 MPa supply

F.O.F.*	16 N
P.T.	1.0 mm
O.T.	2.0 mm
T.T.	3.0 mm

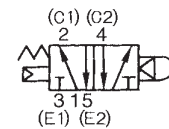
### Roller lever

VFM350-02-01

VFM350-02-01S



### JIS Symbol



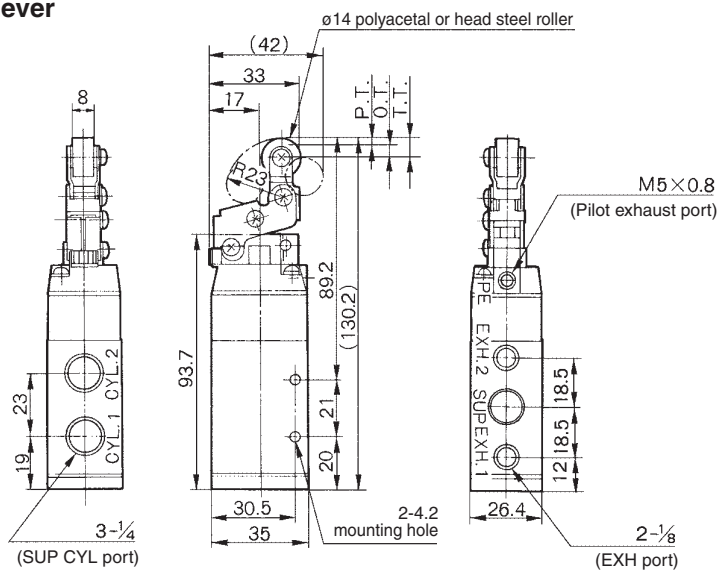
\* 0.5 MPa supply

F.O.F.*	8 N
P.T.	2.2 mm
O.T.	4.0 mm
T.T.	6.2 mm

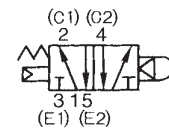
### One way roller lever

VFM350-02-02

VFM350-02-02S



### JIS Symbol



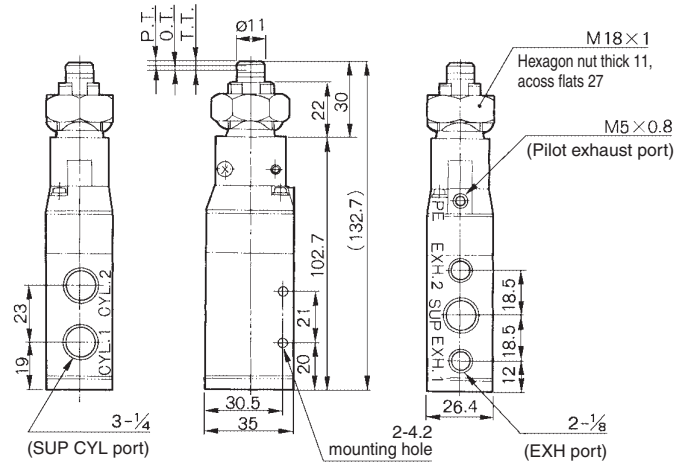
\* 0.5 MPa supply

F.O.F.*	7 N
P.T.	2.4 mm
O.T.	4.6 mm
T.T.	7.0 mm

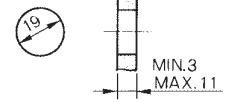
# 5 Port Mechanical Valve Rubber Seal Series VFM300

## Series VFM300

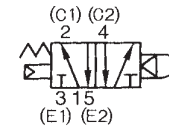
### Straight plunger VFM350-02-05



#### Panel mounting hole



#### JIS symbol



\* 0.5 MPa supply

F.O.F. *	20 N
P.T.	1.5 mm
O.T.	2.0 mm
T.T.	3.5 mm

□A

□A

□A

□A

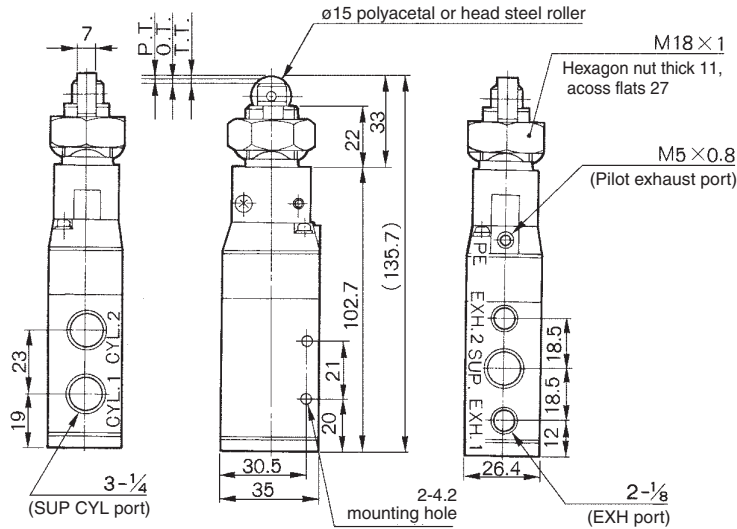
VM

VR

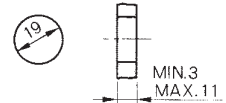
VH

VHS

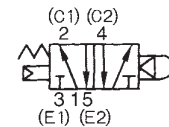
### Roller plunger VFM350-02-06 VFM350-02-06S



#### Panel mounting hole



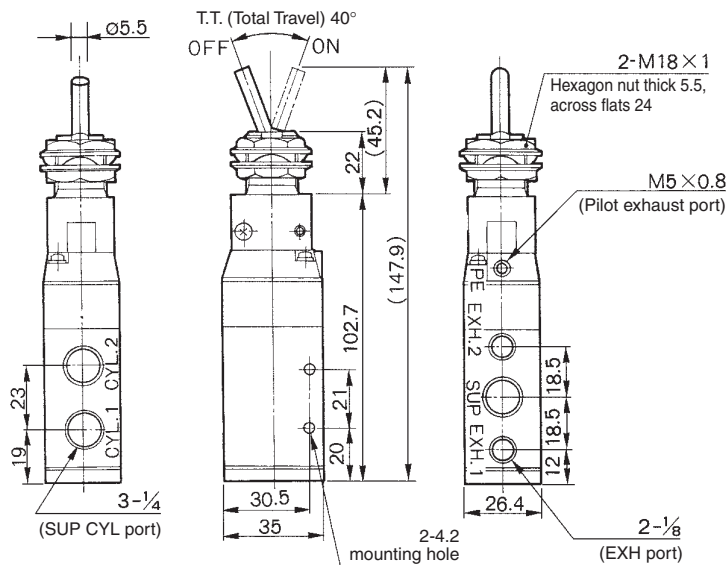
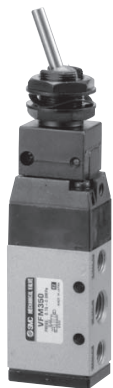
#### JIS symbol



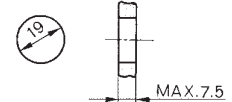
\* 0.5 MPa supply

F.O.F. *	20 N
P.T.	1.5 mm
O.T.	2.0 mm
T.T.	3.5 mm

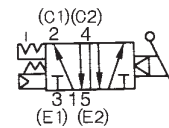
### Toggle lever VFM350-02-08



#### Panel mounting hole



#### JIS Symbol



\* 0.5 MPa supply

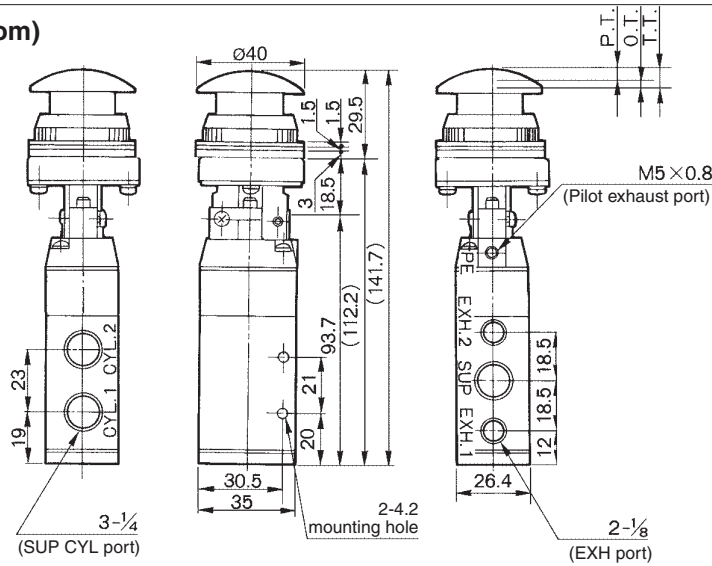
F.O.F. *	15 N
T.T.	40°

# Series VFM300

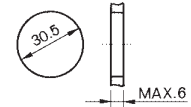
## Series VFM300

### Push button (Mushroom)

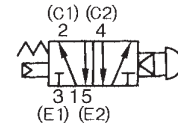
VFM350-02-30R/B/G/Y



#### Panel mounting hole



#### JIS Symbol

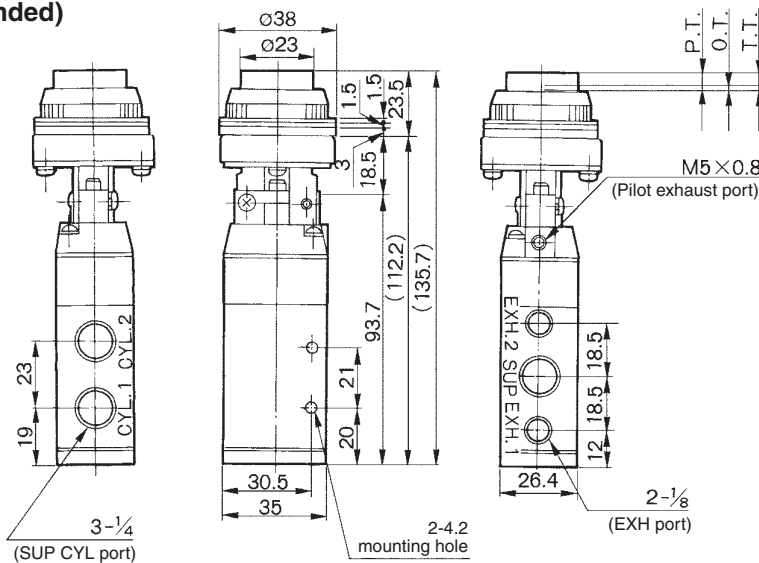


\* 0.5 MPa supply

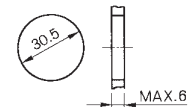
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

### Push button (Extended)

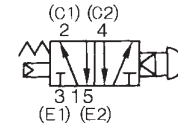
VFM350-02-32R/B/G/Y



#### Panel mounting hole



#### JIS Symbol

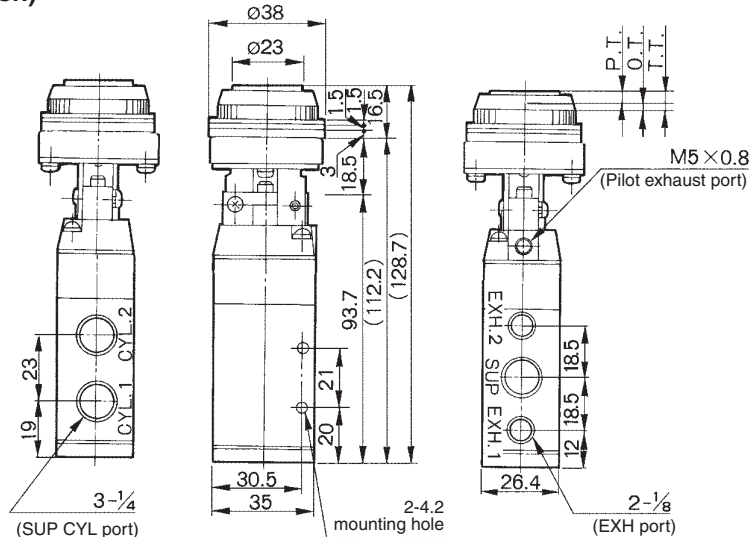


\* 0.5 MPa supply

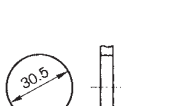
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

### Push button (Flush)

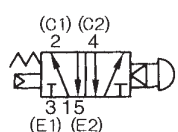
VFM350-02-33



#### Panel mounting hole



#### JIS Symbol



\* 0.5 MPa supply

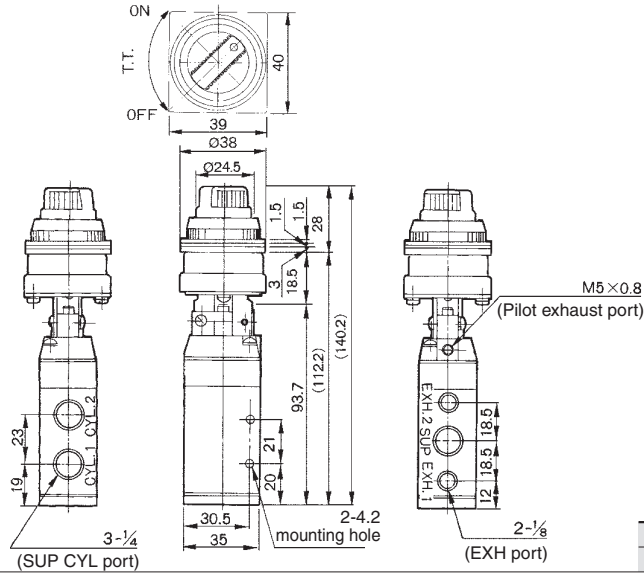
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

# 5 Port Mechanical Valve Rubber Seal Series VFM300

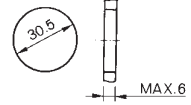
## Series VFM300

### Twist selector (2 position)

VFM350-02-34R/B/G/Y



### Panel mounting hole



### JIS Symbol

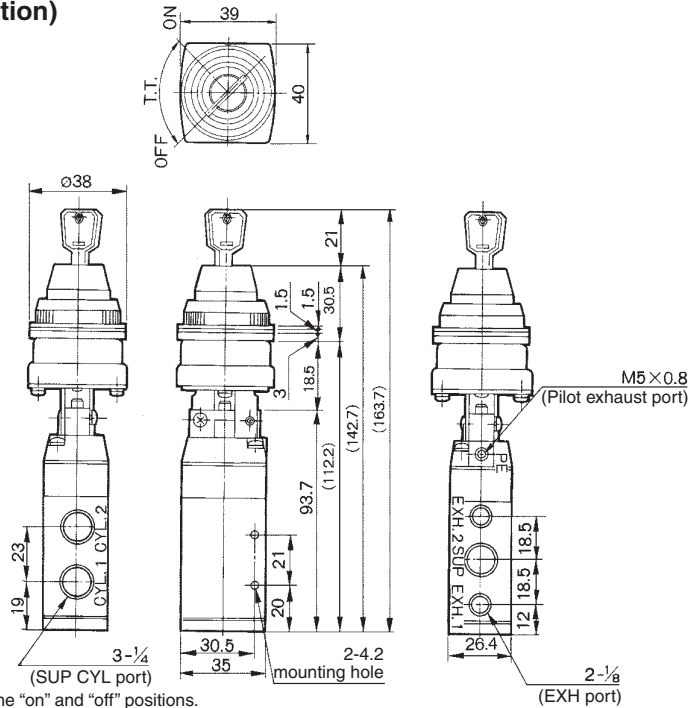
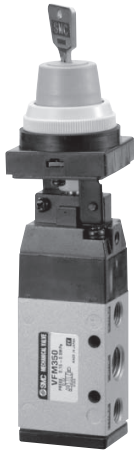


\* 0.5 MPa supply

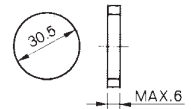
F.O.F. *	23 N
T.T.	90°

### Key selector (2 position)

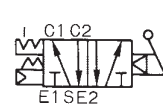
VFM350-02-36



### Panel mounting hole



### JIS Symbol



\* 0.5 MPa supply

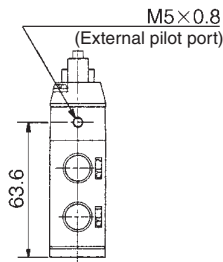
F.O.F. *	26 N
T.T.	90°



Key can be removed at the "on" and "off" positions.

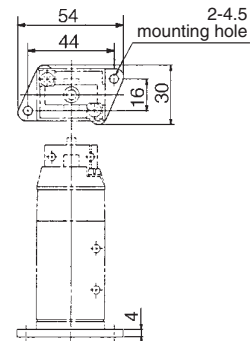
### External pilot type

VFM351 type



### With foot bracket

VFM350-02-□□-F



□A

□A

□A

□A

VM

VR

VH

VHS

# 5 Port Mechanical Valve Metal Seal Series **VFM200**

**Compact design,  
large flow capacity 18 mm<sup>2</sup>  
High cycle rate,  
long life/300 c.p.m. or less  
Piping possible to any EXH  
port.**

Proper countermeasures can be taken for applications in which the noise of the exhaust could cause problems to the surroundings.

**External pilot model  
available. (Option)**

**Foot bracket and manifold  
mounting possible.**



## Specifications

Fluid	Air/Inert gas
Operating pressure	0.1 to 1.0 MPa <sup>(1)</sup>
Ambient and fluid temperature	-5 to 60°C (No freezing)
Effective area	18 mm <sup>2</sup>
Maximum frequency (Mechanical operation type)	300 c.p.m. or less
Lubrication	Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)
Port size	Main valve Rc 1/4
	Pilot valve (EXH)/M5 x 0.8
Option	Foot bracket <sup>(2)</sup>
Weight (Basic)	300 g

\* Please contact SMC for manifold mounting style.

Note 1) External pilot type Main valve: 0 to 1.0 MPa  
Pilot valve: 0.1 to 1.0 MPa

Note 2) The standard body can not be retrofitted with a foot bracket.

## Model

	Actuator	Model	Actuator part no.	Application
Mechanical operation	Basic	<b>VFM250-02-00</b>	—	—
	Roller lever	<b>VFM250-02-01</b>	VM-01C	Polyacetal roller
		<b>VFM250-02-01S</b>	VM-01CS	Hard steel roller
	One way roller lever	<b>VFM250-02-02</b>	VM-02C	Polyacetal roller
		<b>VFM250-02-02S</b>	VM-02CS	Hard steel roller
	Straight plunger	<b>VFM250-02-05</b>	VM-05D	—
Roller plunger	<b>VFM250-02-06</b>	VM-06D	Polyacetal roller	
	<b>VFM250-02-06S</b>	VM-06DS	Hard steel roller	
Manual operation	Toggle lever	<b>VFM250-02-08</b>	VM-08D	—
	Push button (Mushroom)	<b>VFM250-02-30R</b>	VM-30CR	Red
		<b>VFM250-02-30B</b>	VM-30CB	Black
		<b>VFM250-02-30G</b>	VM-30CG	Green
		<b>VFM250-02-30Y</b>	VM-30CY	Yellow
	Push button (Extended)	<b>VFM250-02-32R</b>	VM-32CR	Red
		<b>VFM250-02-32B</b>	VM-32CB	Black
		<b>VFM250-02-32G</b>	VM-32CG	Green
		<b>VFM250-02-32Y</b>	VM-32CY	Yellow
	Push button (Flush)	<b>VFM250-02-33</b>	VM-33C	With a set of red, black, green, yellow
	Twist selector (2 position)	<b>VFM250-02-34R</b>	VM-34CR	Red
		<b>VFM250-02-34B</b>	VM-34CB	Black
		<b>VFM250-02-34G</b>	VM-34CG	Green
		<b>VFM250-02-34Y</b>	VM-34CY	Yellow
Key selector (2 position)	<b>VFM250-02-36</b>	VM-36C	—	

Note 1) Actuator replacement is available for all types.

Note 2) For push button (mushroom), push button (extended), push button (flush) and a single unit of fastening ring, refer to pages 5-6-6 to 5-6-7. The other parts are not replaceable.

Note 3) The handle of the selector (2 position) cannot be removed or replaced alone.

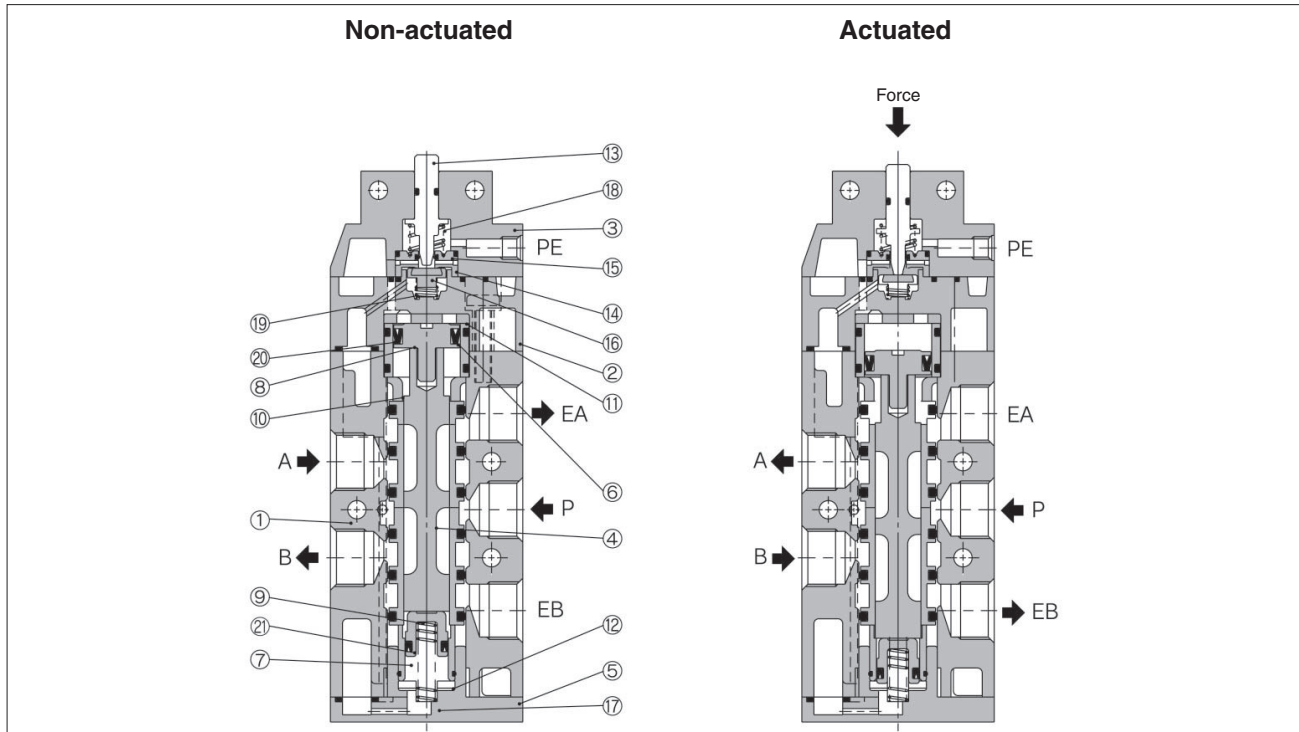
### How to Order

VFM25 0 02 01 S

Port size		Actuator type		Suffix for actuator		Option	
02	Rc 1/4	00	Basic	S	Hard steel roller	F	Foot bracket (Only internal pilot)
Body option		01	Roller lever	R	Red	Color of push button selector	
0	Internal pilot type	02	One way roller lever	B	Black		
1	External pilot type	05	Straight plunger	G	Green		
		06	Roller plunger	Y	Yellow		
		08	Toggle lever				
		30	Push button (Mushroom)				
		32	Push button (Extended)				
		33	Push button (Flush)				
		34	Twist selector (2 position)				
		36	Key selector (2 position)				

- S□A
- V□A
- S□A
- V□A
- VM**
- VR
- VH
- VHS

### Construction



### Component Parts

No.	Description	Material	Note
①	Body	ADC	Metallic plated
②	Pilot body	ZDC	Metallic plated
③	Head cover	ZDC	Black zinc chromated
④	Spool/sleeve	Stainless steel	
⑤	End cover	POM	
⑥	Piston guide	Brass	
⑦	Piston guide for end cover	Brass	
⑧	Piston	POM	
⑨	Piston for end cover	POM	
⑩	Guide bushing	POM	
⑪	Cushion	Urethane rubber	

No.	Description	Material	Note
⑫	Cushion for end cover	Urethane rubber	
⑬	Plunger	POM	
⑭	Valve seat (A)	POM	
⑮	Valve seat (B)	POM	
⑯	Valve	NBR	
⑰	Return spring	Stainless steel	
⑱	Return spring	Stainless steel	
⑲	Valve spring	Stainless steel	
⑳	Mini Y packing	NBR	
㉑	Mini Y packing	NBR	

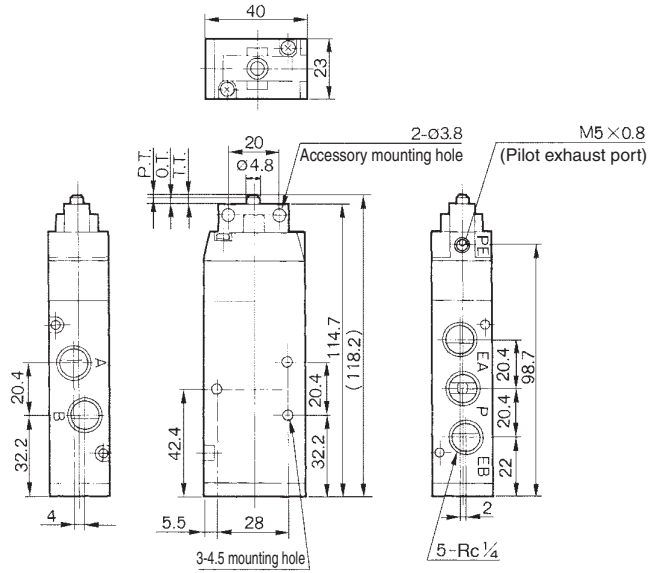


# Series VFM200

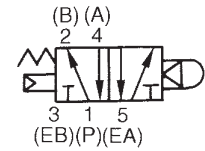
## Series VFM200

### Basic

VFM250-02-00



### JIS Symbol



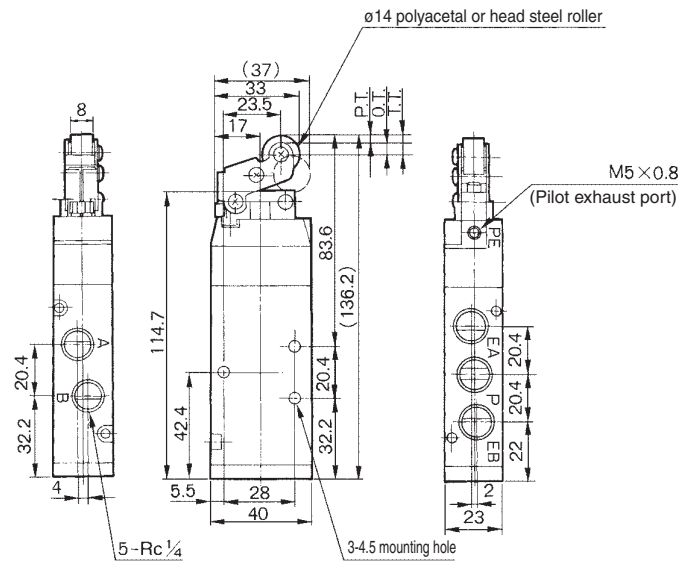
\* 0.5 MPa supply

F.O.F. *	16 N
P.T.	1.0 mm
O.T.	2.0 mm
T.T.	3.0 mm

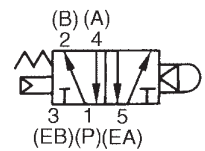
### Roller lever

VFM250-02-01

VFM250-02-01S



### JIS Symbol



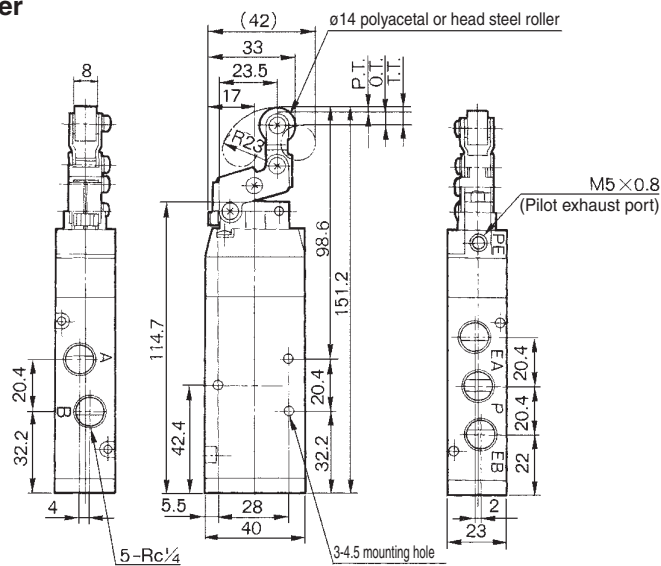
\* 0.5 MPa supply

F.O.F. *	8 N
P.T.	2.2 mm
O.T.	4.0 mm
T.T.	6.2 mm

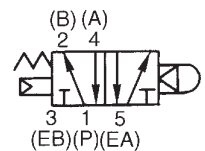
### One way roller lever

VFM250-02-02

VFM250-02-02S



### JIS Symbol



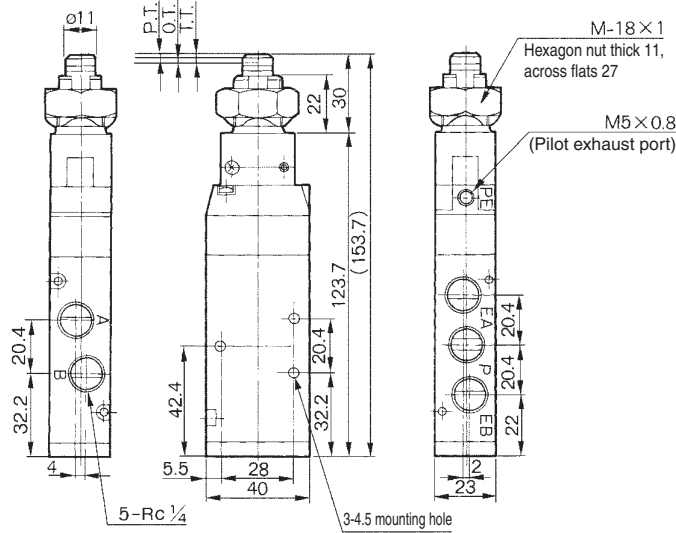
\* 0.5 MPa supply

F.O.F. *	7 N
P.T.	2.4 mm
O.T.	4.6 mm
T.T.	7.0 mm

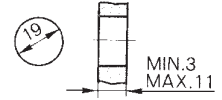
# 5 Port Mechanical Valve Metal Seal Series VFM200

## Series VFM200

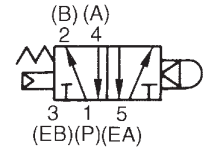
### Straight plunger VFM250-02-05



### Panel mounting hole



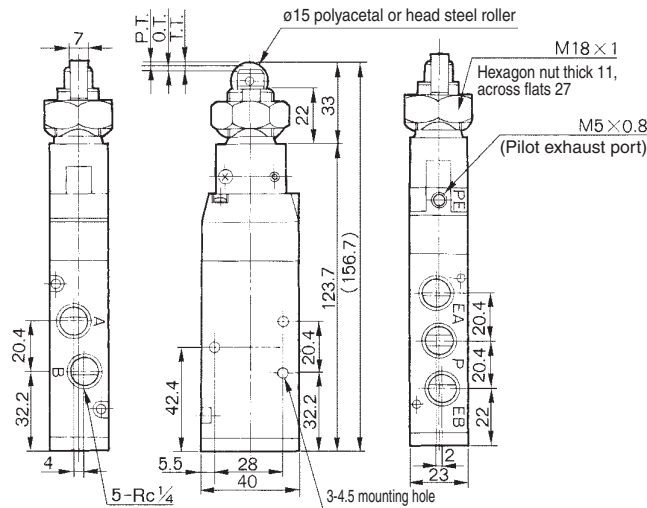
### JIS Symbol



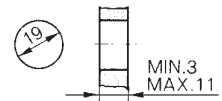
\* 0.5 MPa supply

F.O.F. *	20 N
P.T.	1.5 mm
O.T.	2.0 mm
T.T.	3.5 mm

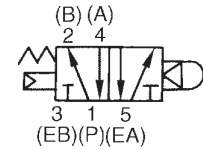
### Roller plunger VFM250-02-06 VFM250-02-06S



### Panel mounting hole



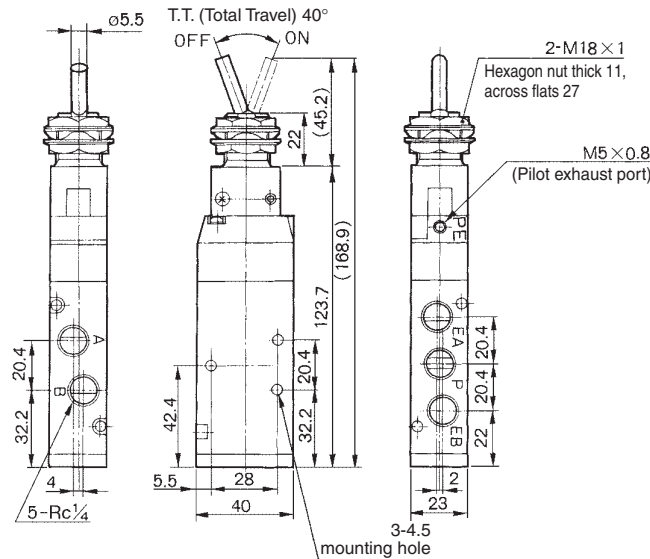
### JIS symbol



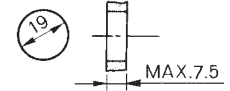
\* 0.5 MPa supply

F.O.F. *	20 N
P.T.	1.5 mm
O.T.	2.0 mm
T.T.	3.5 mm

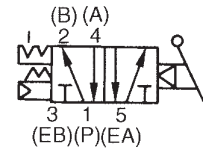
### Toggle lever VFM250-02-08



### Panel mounting hole



### JIS symbol



\* 0.5 MPa supply

F.O.F. *	15 N
T.T.	40°

□A

□A

□A

□A

VM

VR

VH

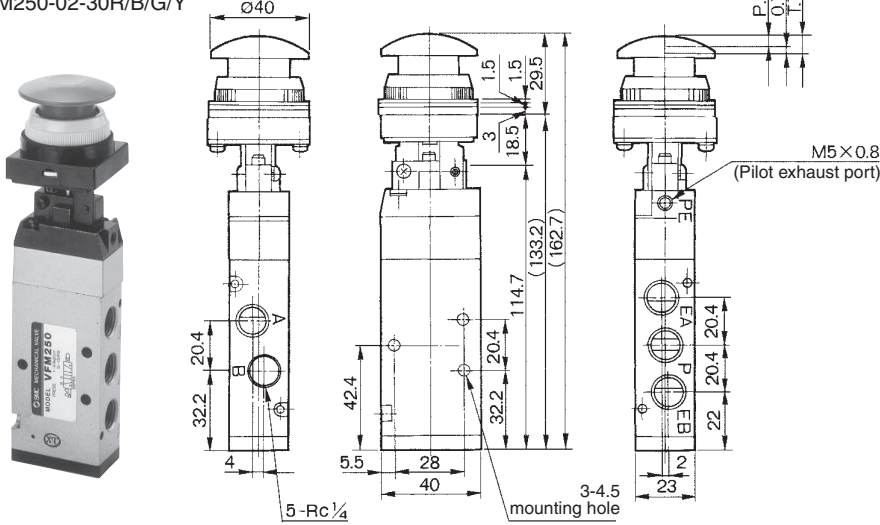
VHS

# Series VFM200

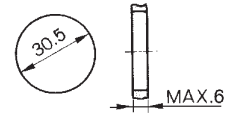
## Series VFM200

### Push button (Mushroom)

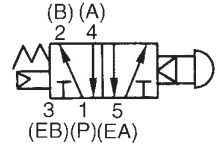
VFM250-02-30R/B/G/Y



### Panel mounting hole



### JIS Symbol

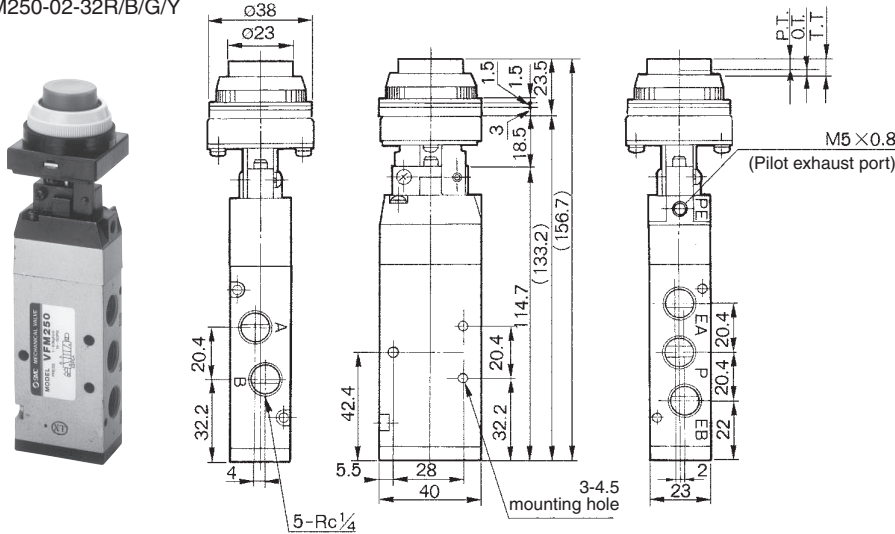


\* 0.5 MPa supply

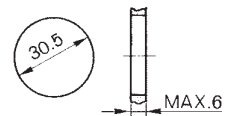
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

### Push button (Extended)

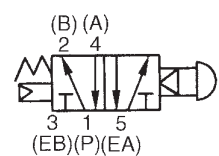
VFM250-02-32R/B/G/Y



### Panel mounting hole



### JIS Symbol

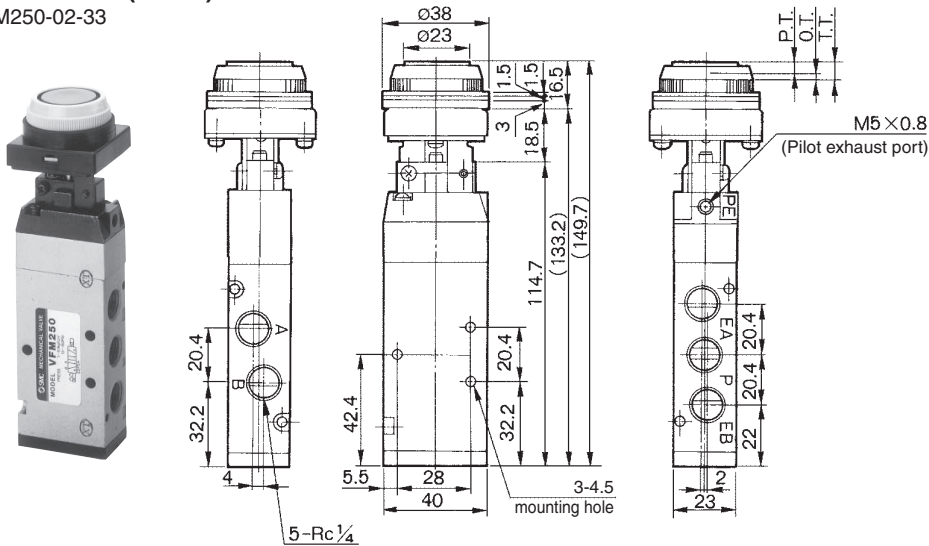


\* 0.5 MPa supply

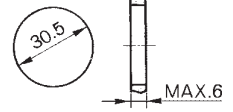
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

### Push button (Flush)

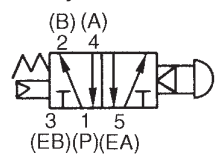
VFM250-02-33



### Panel mounting hole



### JIS Symbol



\* 0.5 MPa supply

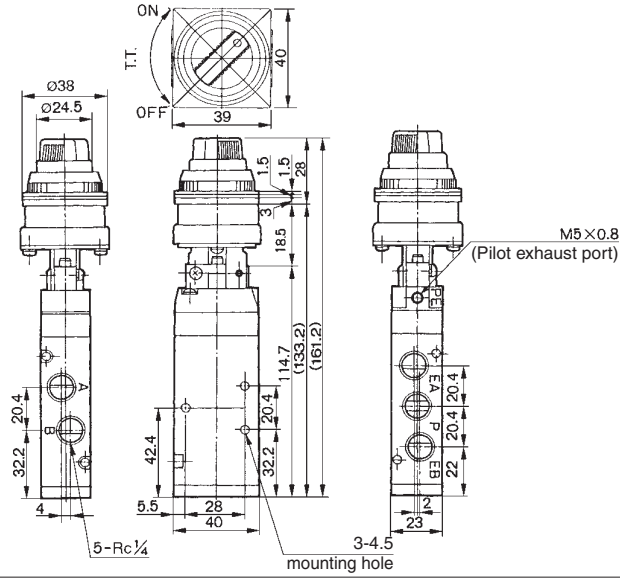
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

# 5 Port Mechanical Valve Metal Seal Series VFM200

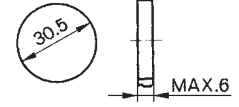
## Series VFM200

### Twist selector (2 position)

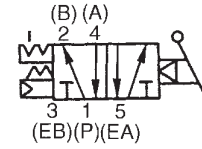
VFM250-02-34R/B/G/Y



#### Panel mounting hole



#### JIS Symbol



* 0.5 MPa supply	
F.O.F. *	23 N
T.T.	90°

□A

□A

□A

□A

VM

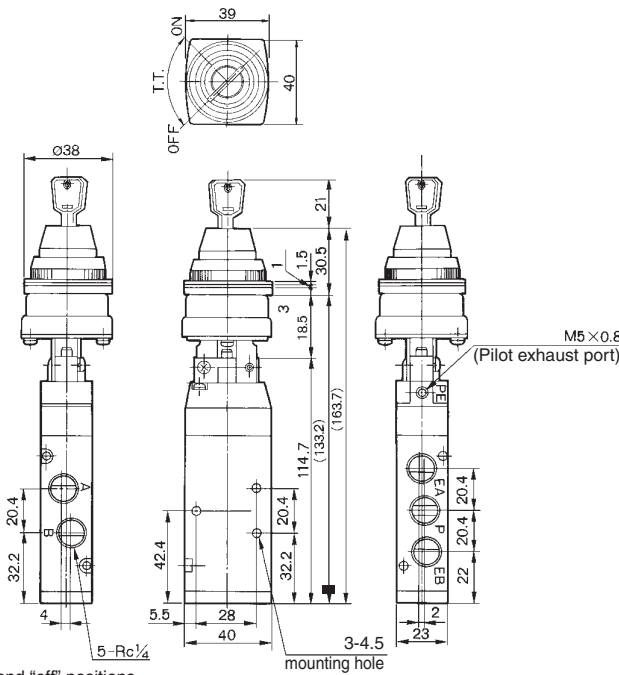
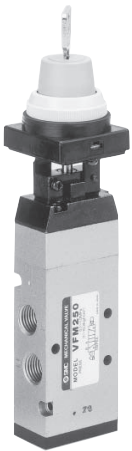
VR

VH

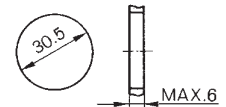
VHS

### Key selector (2 position)

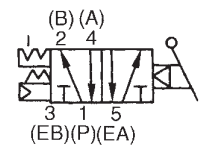
VFM250-02-36



#### Panel mounting hole



#### JIS Symbol



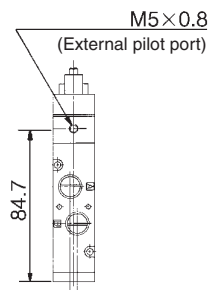
* 0.5 MPa supply	
F.O.F. *	26 N
T.T.	90°



Key can be removed at the "on" and "off" positions.

### External pilot type

VFM251 type



### With foot bracket

VFM250-02-□□-F

