

# 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.) Main valve/SUP, CYL port 1/4, EXH port 1/8
Port size	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	VFM350-02-00	—	—
	Roller lever	VFM350-02-01	VM-01C	Polyacetal roller
		VFM350-02-01S	VM-01CS	Hard steel roller
	One way roller lever	VFM350-02-02	VM-02C	Polyacetal roller
		VFM350-02-02S	VM-02CS	Hard steel roller
	Straight plunger	VFM350-02-05	VM-05D	—
Roller plunger	VFM350-02-06	VM-06D	Polyacetal roller	
	VFM350-02-06S	VM-06DS	Hard steel roller	
Manual operation	Toggle lever	VFM350-02-08	VM-08D	—
	Push button (Mushroom)	VFM350-02-30R	VM-30CR	Red
		VFM350-02-30B	VM-30CB	Black
		VFM350-02-30G	VM-30CG	Green
		VFM350-02-30Y	VM-30CY	Yellow
	Push button (Extended)	VFM350-02-32R	VM-32CR	Red
		VFM350-02-32B	VM-32CB	Black
		VFM350-02-32G	VM-32CG	Green
	Push button (Flush)	VFM350-02-32Y	VM-32CY	Yellow
		VFM350-02-33	VM-33C	With a set of red, black, green, yellow
	Twist selector (2 position)	VFM350-02-34R	VM-34CR	Red
		VFM350-02-34B	VM-34CB	Black
		VFM350-02-34G	VM-34CG	Green
VFM350-02-34Y		VM-34CY	Yellow	
Key selector (2 position)	VFM350-02-36	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.

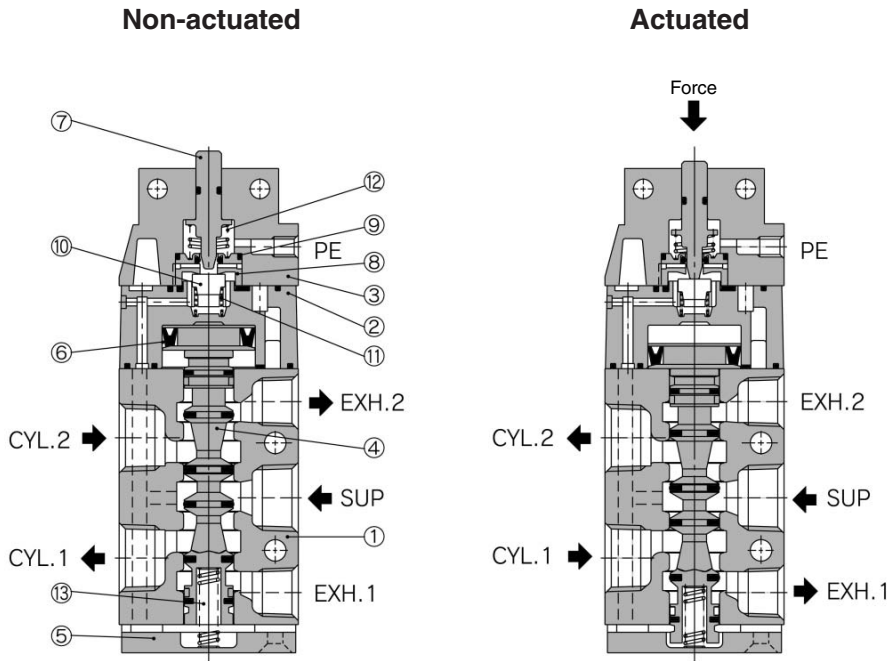
### How to Order

VFM35 **0** **02** **01** **S**  

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

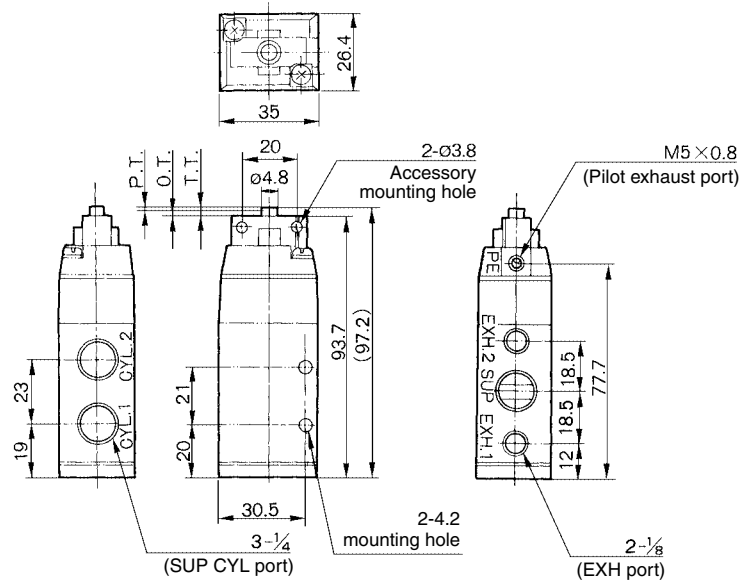
No.	Description	Material	Note
⑧	Valve seat (A)	POM	
⑨	Valve seat (B)	POM	
⑩	Valve	NBR	
⑪	Valve spring	Stainless steel	
⑫	Return spring	Stainless steel	
⑬	Spool spring	Stainless steel	

# Series VFM300

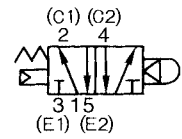
## Series VFM300

### Basic

VFM350-02-00



### JIS Symbol

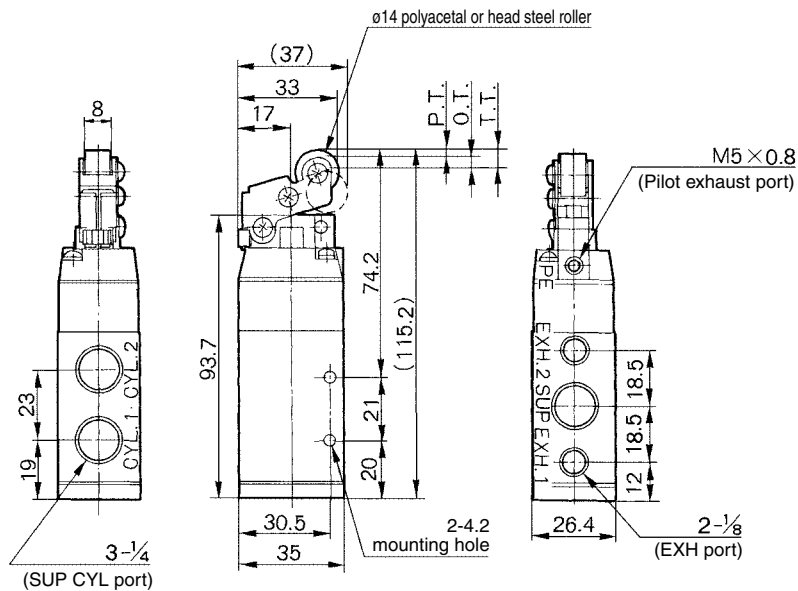


\* 0.5 MPa supply

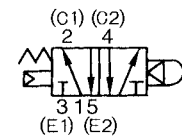
F.O.F. *	16 N
P.T.	1.0 mm
O.T.	2.0 mm
T.T.	3.0 mm

### Roller lever

VFM350-02-01  
VFM350-02-01S



### JIS Symbol

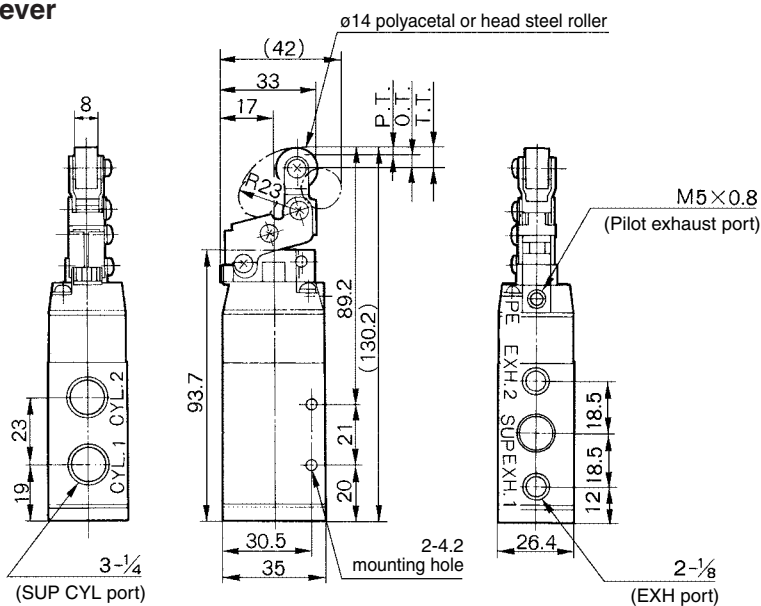


\* 0.5 MPa supply

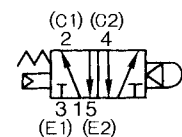
F.O.F. *	8 N
P.T.	2.2 mm
O.T.	4.0 mm
T.T.	6.2 mm

### One way roller lever

VFM350-02-02  
VFM350-02-02S



### JIS Symbol



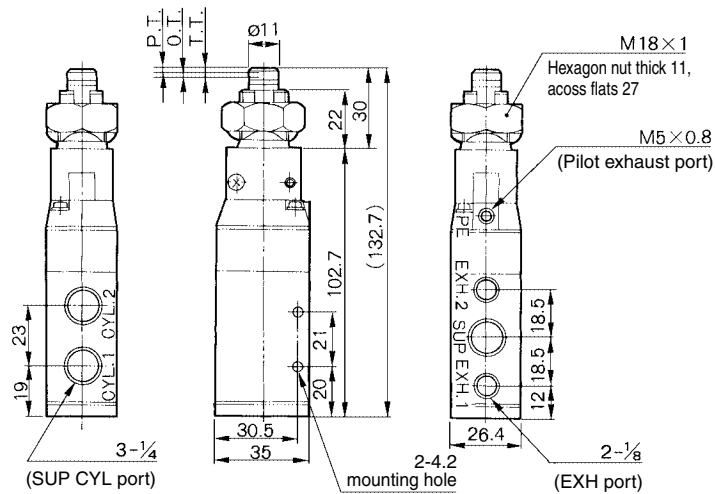
\* 0.5 MPa supply

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

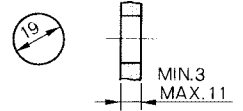
# 5 Port Mechanical Valve Rubber Seal Series VFM300

## Series VFM300

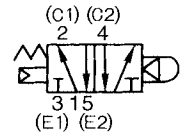
### Straight plunger VFM350-02-05



#### Panel mounting hole



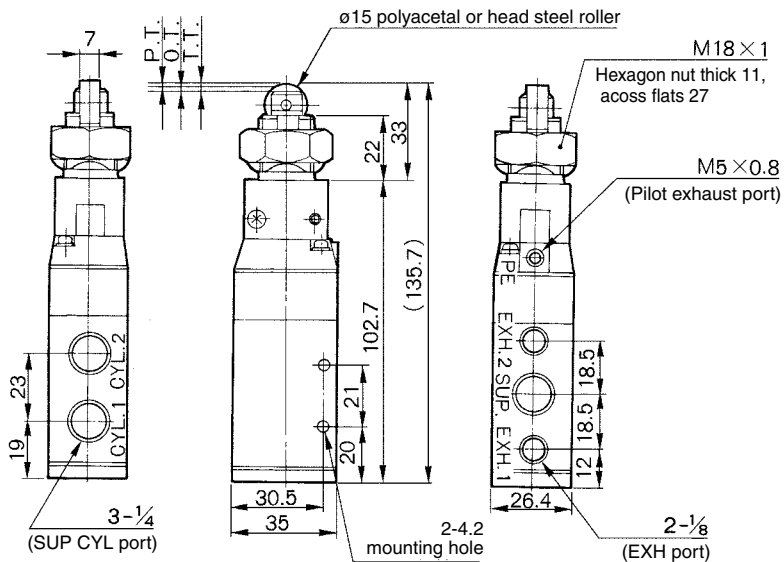
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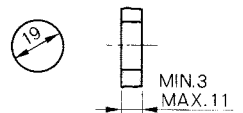
\* 0.5 MPa supply

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

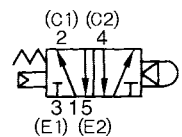
### Roller plunger VFM350-02-06 VFM350-02-06S



#### Panel mounting hole



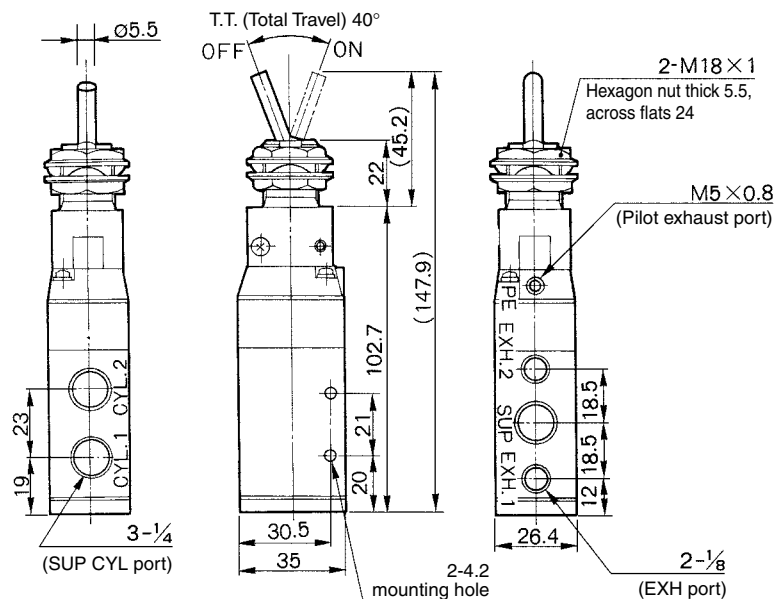
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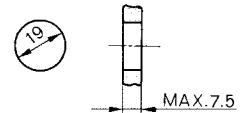
\* 0.5 MPa supply

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

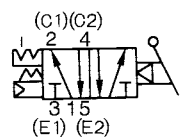
### Toggle lever VFM350-02-08



#### Panel mounting hole



#### JIS Symbol



\* 0.5 MPa supply

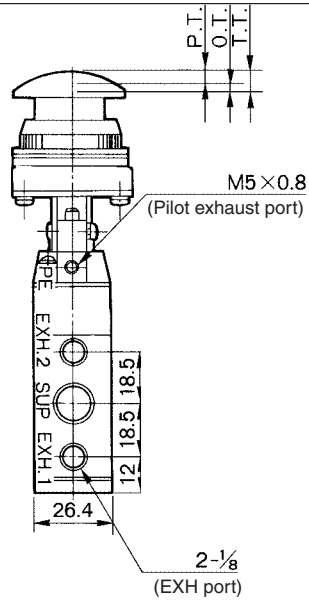
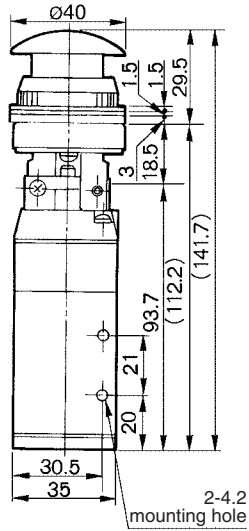
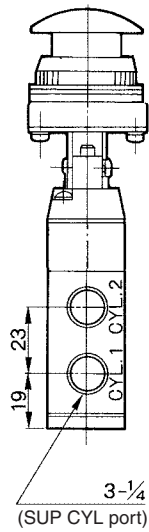
F.O.F. *	15 N
T.T.	40°

# Series VFM300

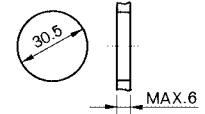
## Series VFM300

### Push button (Mushroom)

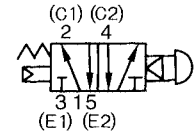
VFM350-02-30R/B/G/Y



#### Panel mounting hole



#### JIS Symbol

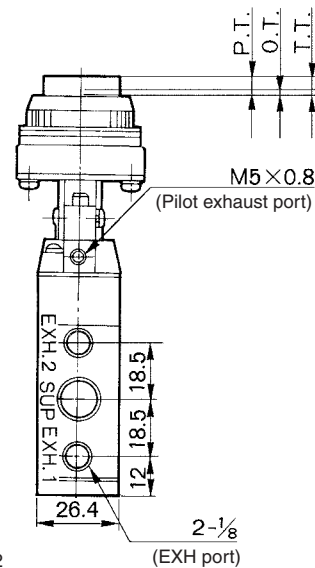
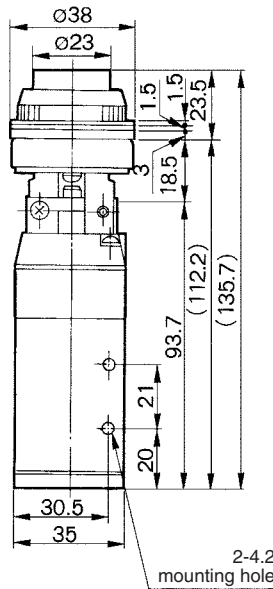
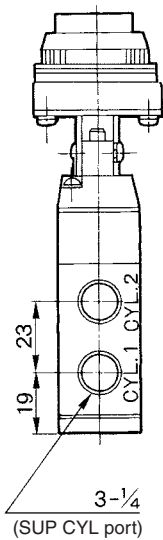


\* 0.5 MPa supply

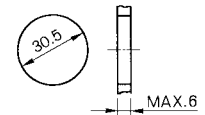
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

### Push button (Extended)

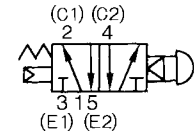
VFM350-02-32R/B/G/Y



#### Panel mounting hole



#### JIS Symbol

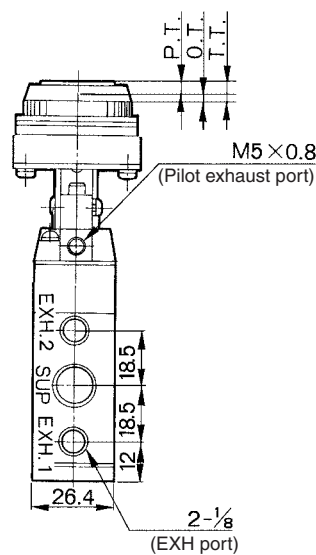
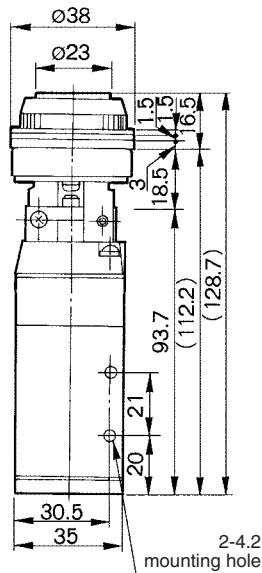
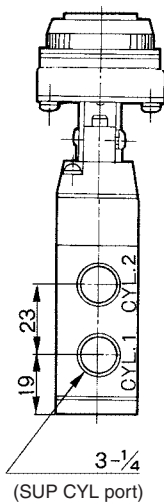


\* 0.5 MPa supply

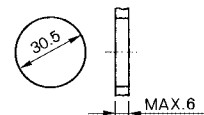
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

### Push button (Flush)

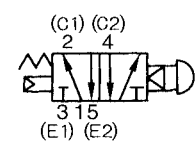
VFM350-02-33



#### Panel mounting hole



#### JIS Symbol



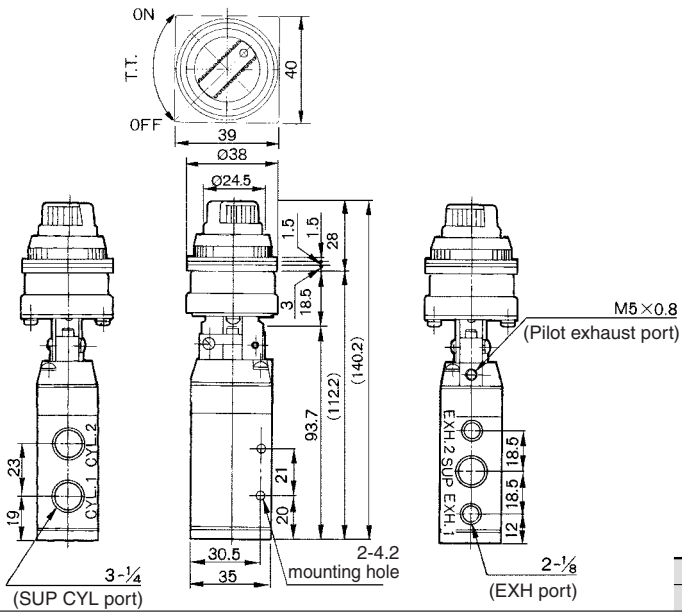
\* 0.5 MPa supply

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

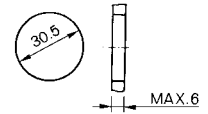
# 5 Port Mechanical Valve Rubber Seal Series VFM300

## Series VFM300

### Twist selector (2 position) VFM350-02-34R/B/G/Y



#### Panel mounting hole

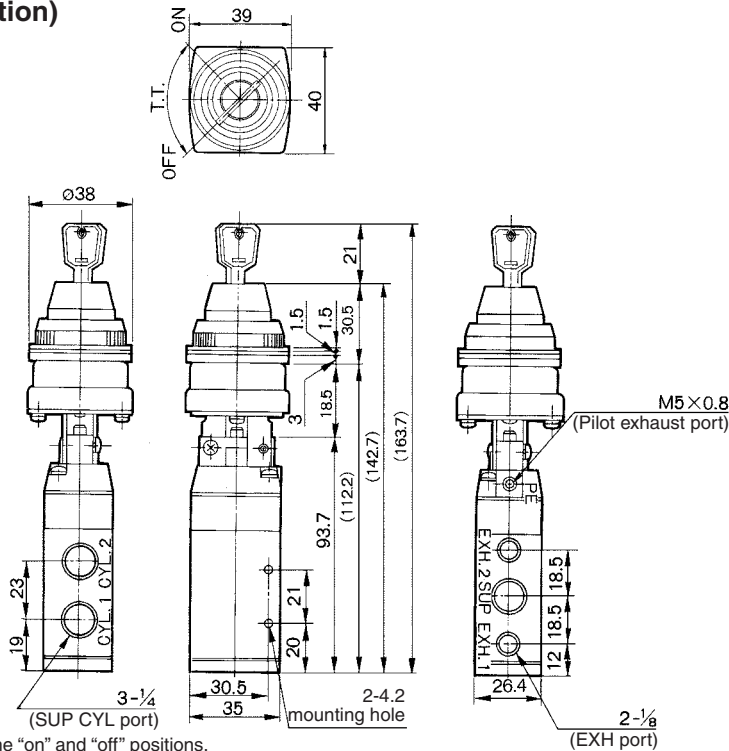


#### JIS Symbol

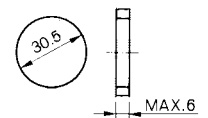


* 0.5 MPa supply	
F.O.F. *	23 N
T.T.	90°

### Key selector (2 position) VFM350-02-36



#### Panel mounting hole



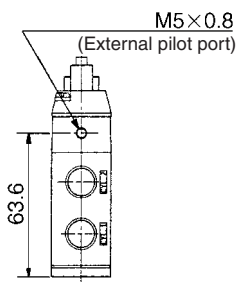
#### JIS Symbol



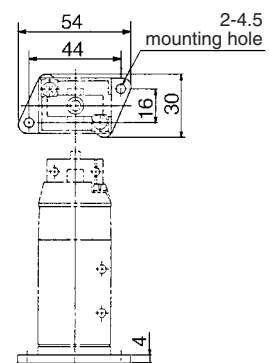
* 0.5 MPa supply	
F.O.F. *	26 N
T.T.	90°

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

### External pilot type VFM351 type



### With foot bracket VFM350-02-□□-F



# 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.

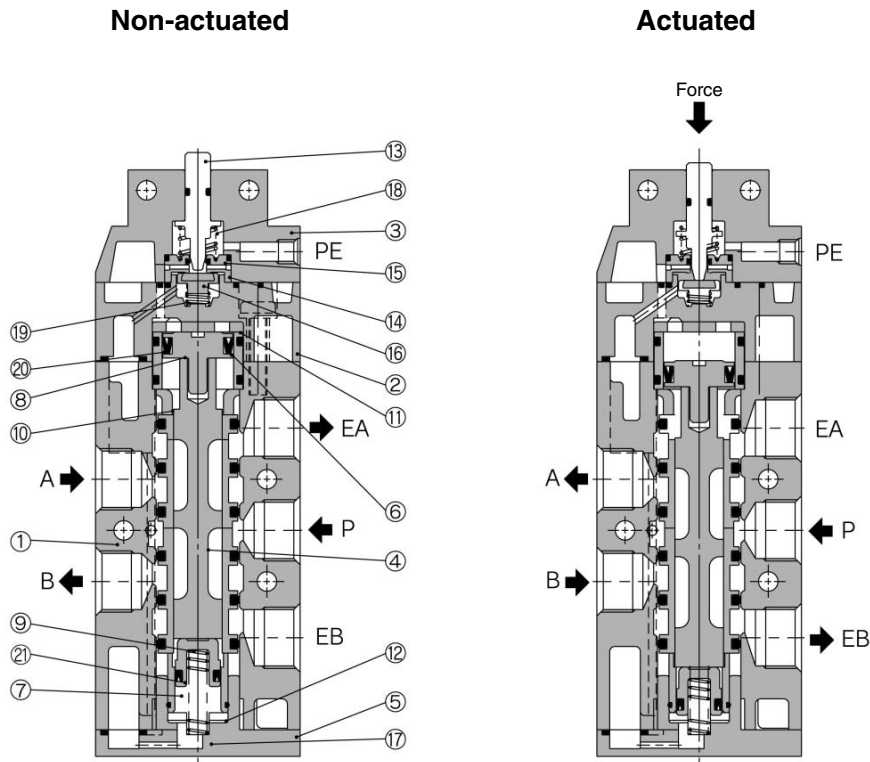
Note 3) The handle of the selector (2 position) cannot be removed or replaced alone.

### How to Order

VFM25 0 02 01 S

<b>Body option</b>	<b>Port size</b>	<b>Actuator type</b>	<b>Suffix for actuator</b>	<b>Option</b>
0 Internal pilot type	02 Rc 1/4	00 Basic	S Hard steel roller	F Foot bracket (Only internal pilot)
1 External pilot type		01 Roller lever	R Red	
		02 One way roller lever	B Black	
		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)		

### 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	

S□A

V□A

S□A

V□A

VM

VR

VH

VHS

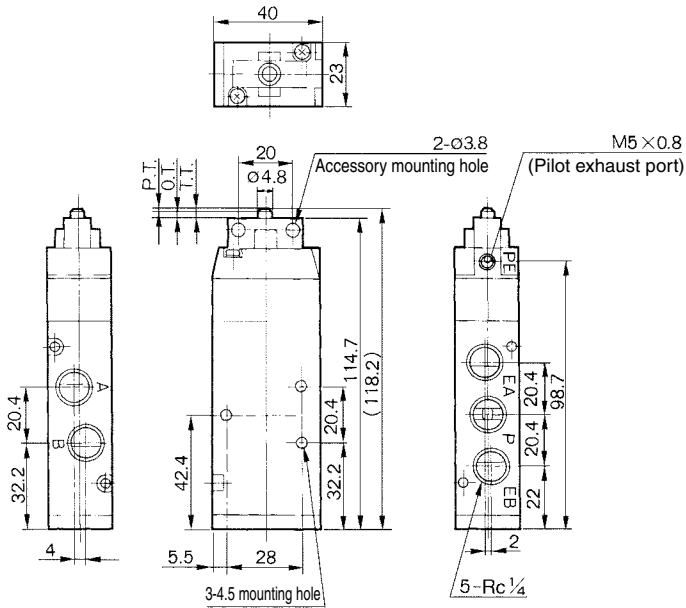


# Series VFM200

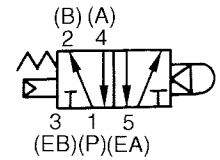
## Series VFM200

### Basic

VFM250-02-00



### JIS Symbol



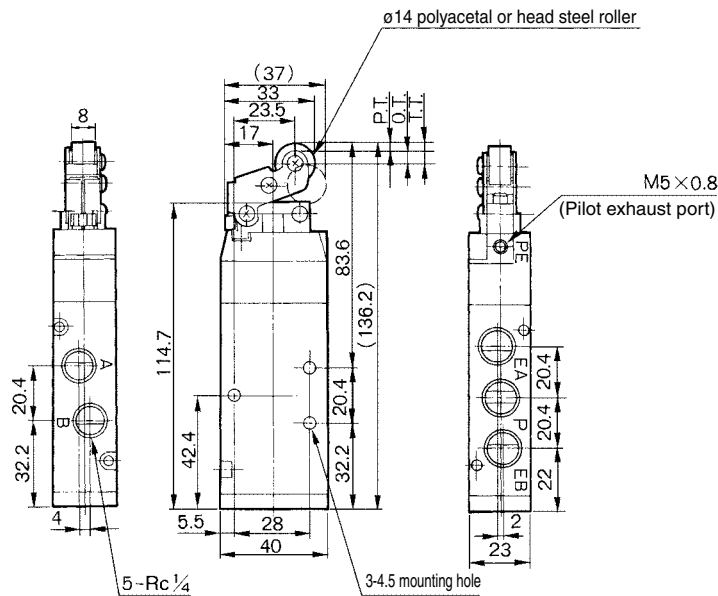
\* 0.5 MPa supply

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

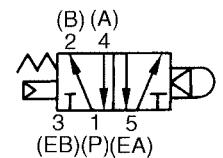
### Roller lever

VFM250-02-01

VFM250-02-01S



### JIS Symbol



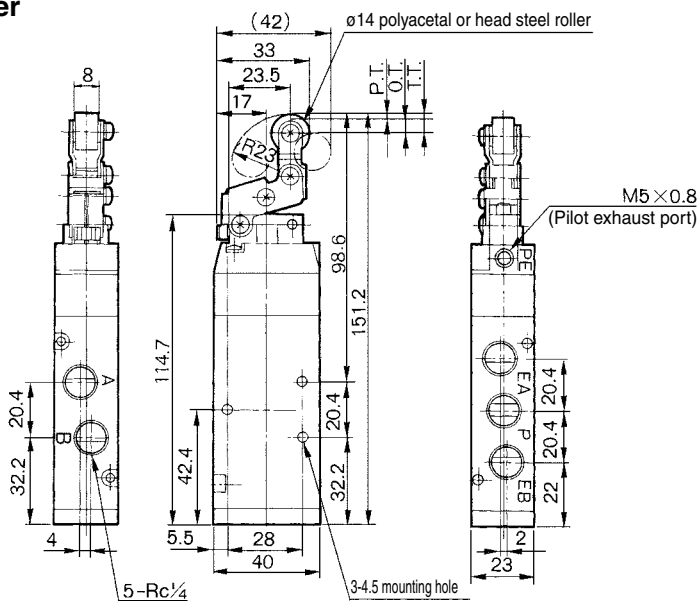
\* 0.5 MPa supply

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

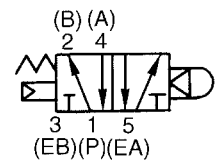
### One way roller lever

VFM250-02-02

VFM250-02-02S



### JIS Symbol



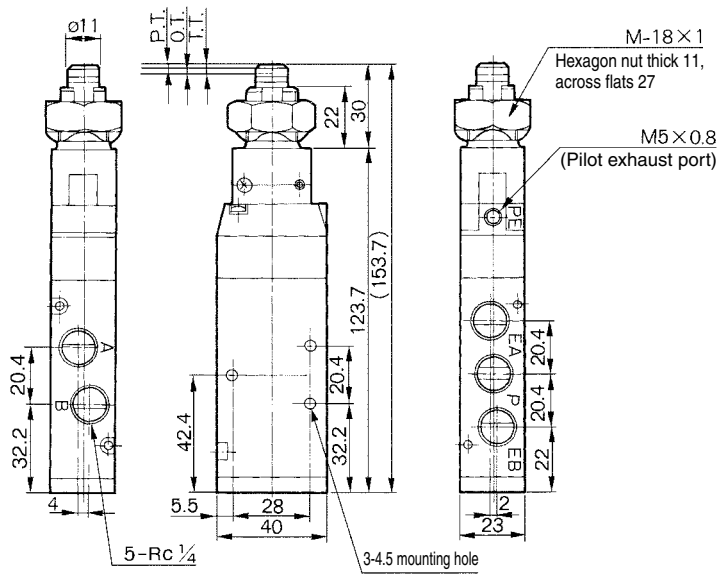
\* 0.5 MPa supply

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

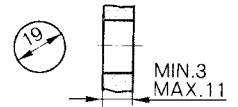
# 5 Port Mechanical Valve Metal Seal Series VFM200

## Series VFM200

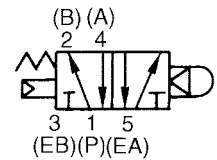
### Straight plunger VFM250-02-05



#### Panel mounting hole



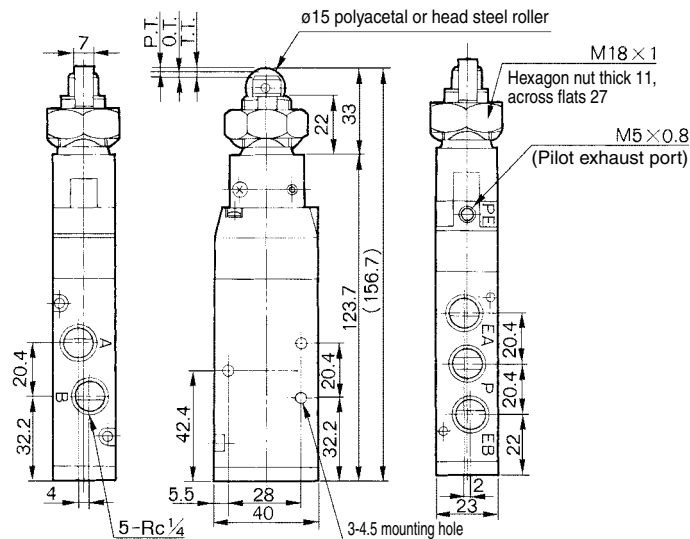
#### JIS Symbol



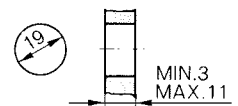
\* 0.5 MPa supply

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

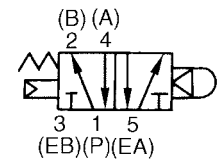
### Roller plunger VFM250-02-06 VFM250-02-06S



#### Panel mounting hole



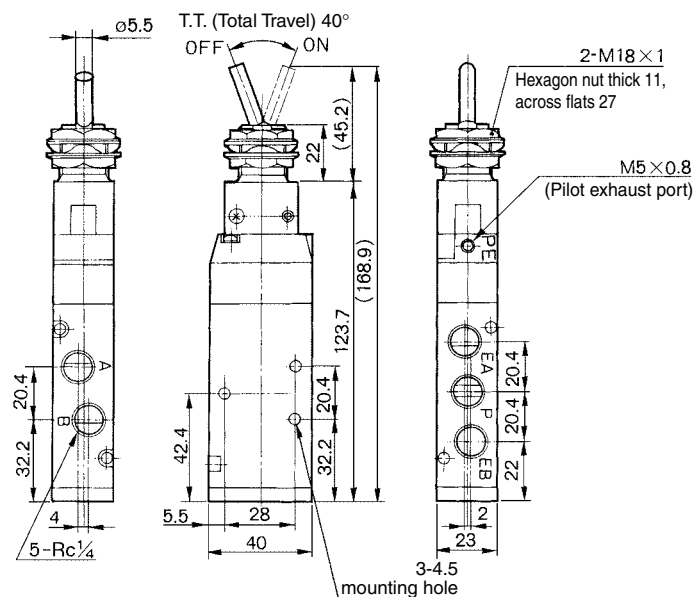
#### JIS symbol



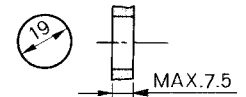
\* 0.5 MPa supply

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

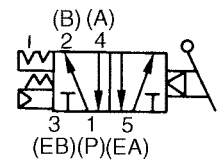
### Toggle lever VFM250-02-08



#### Panel mounting hole



#### JIS symbol



\* 0.5 MPa supply

F.O.F. *	15 N
T.T.	40°

□A

□A

□A

□A

VM

VR

VH

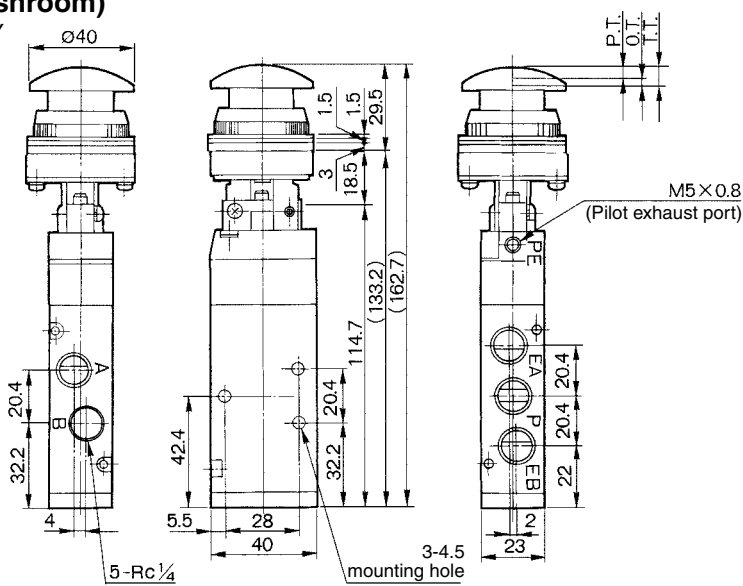
VHS

# Series VFM200

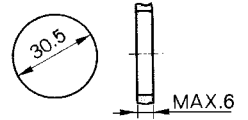
## Series VFM200

### Push button (Mushroom)

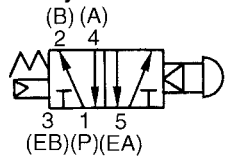
VFM250-02-30R/B/G/Y



#### Panel mounting hole



#### JIS Symbol

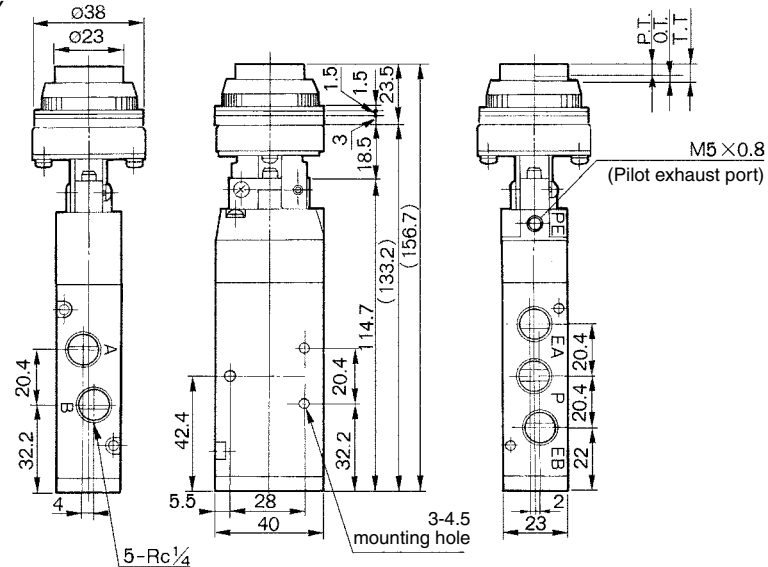


\* 0.5 MPa supply

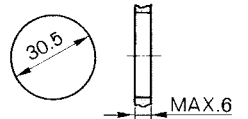
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

### Push button (Extended)

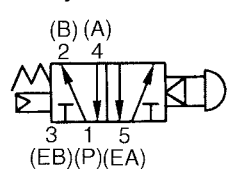
VFM250-02-32R/B/G/Y



#### Panel mounting hole



#### JIS Symbol

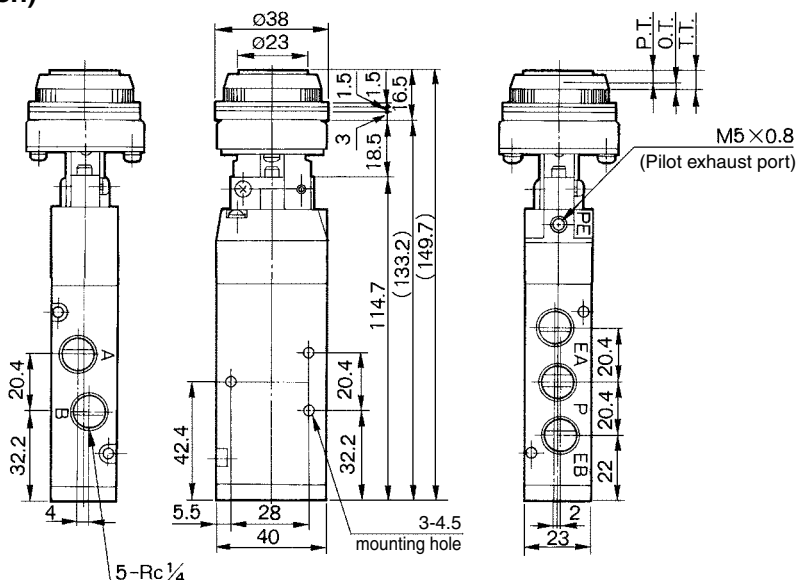


\* 0.5 MPa supply

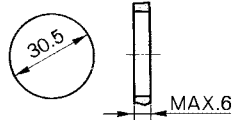
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

### Push button (Flush)

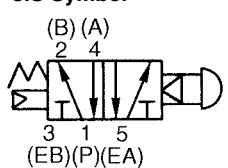
VFM250-02-33



#### Panel mounting hole



#### JIS Symbol



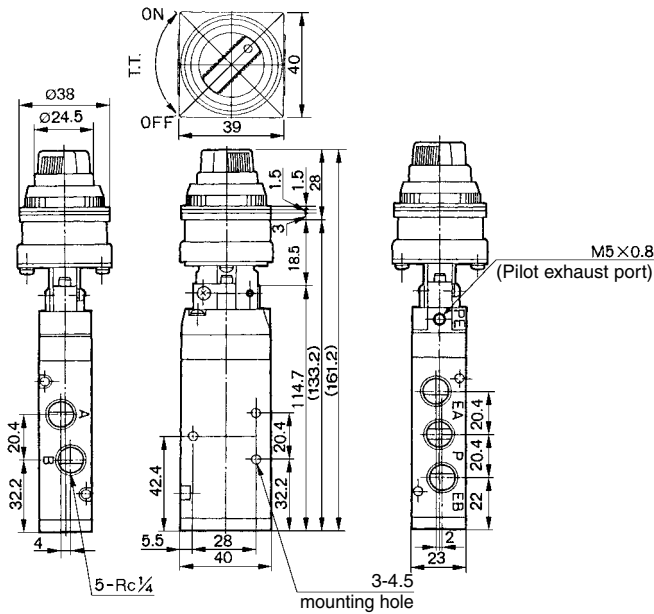
\* 0.5 MPa supply

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

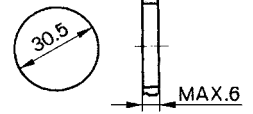
# 5 Port Mechanical Valve Metal Seal Series VFM200

## Series VFM200

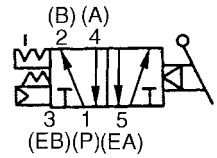
### Twist selector (2 position) VFM250-02-34R/B/G/Y



#### Panel mounting hole



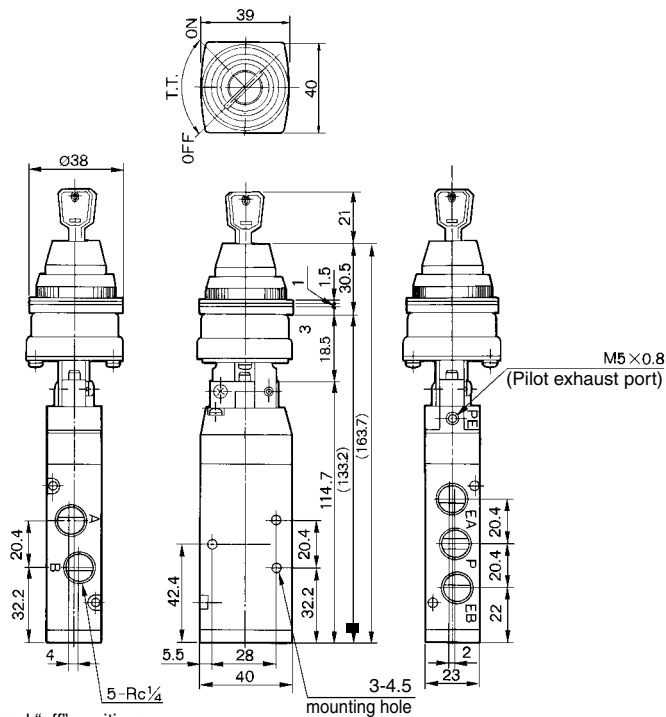
#### JIS Symbol



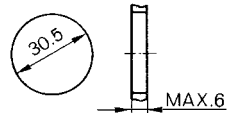
\* 0.5 MPa supply

F.O.F. *	23 N
T.T.	90°

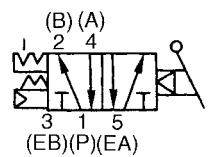
### Key selector (2 position) VFM250-02-36



#### Panel mounting hole



#### JIS Symbol



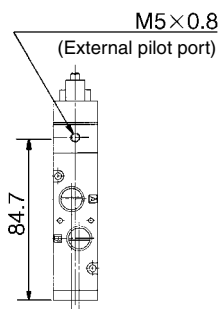
\* 0.5 MPa supply

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

