

Mechanical Valves

Series Variation

Model	VM1000	VM100	VM200	VM400	VZM500	VZM400	VFM300	VFM200	VM800
Dimensions (mm)	Side ported 11 x 36 x 16 Bottom ported 11 x 28 x 25	Side ported 17 x 44 x 25 Bottom ported 17 x 44 x 30	25 x 40 x 52	21 x 35 x 53	18 x 28 x 87	18 x 30 x 91	26 x 35 x 94	23 x 40 x 115	30 x 40 x 57
Basic									
Roller lever		●	●	●	●	●	●	●	●
One way roller lever		●	●	●	●	●	●	●	●
Straight plunger		●	●	●	●	●	●	●	●
Roller plunger		●	●	●	●	●	●	●	●
Cross roller plunger		●	●	●	●	●	●	●	●
Toggle lever		●	●	●	●	●	●	●	●
Push button (Mushroom)		●	●	●	●	●	●	●	●
Push button (Extended)		●	●	●	●	●	●	●	●
Push button (Flush)		●	●	●	●	●	●	●	●
Twist selector (2 position)		●	●	●	●	●	●	●	●
Key selector (2 position)		●	●	●	●	●	●	●	●
Twist selector (3 position)		●	●	●	●	●	●	●	●
Foot pedal		●	●	●	●	●	●	●	●
Push-pull		●	●	●	●	●	●	●	●
Effective area (mm²)	1	2.5	19	7	10.8	9.9	18	18	6
Number of ports	2, 3	2, 3	2, 3	3	5	5	5	5	3
Function	Poppet 	Poppet 	Poppet 	Balanced poppet 	Rubber spool 	Metal spool 	Rubber spool 	Metal spool 	Balanced poppet



VM
VMG
VR
VH

Micro Mechanical Valve

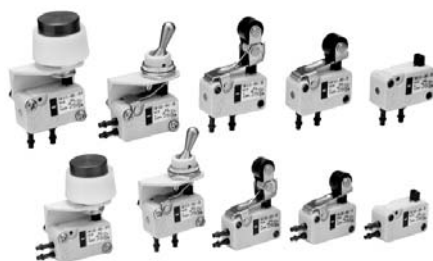
Series VM1000

RoHS

Miniature structure requires little mounting space.

Built-in hose nipple connection.

Piping options:
Side piping, Bottom piping
Over Travel after actuation
(mechanical operated types)



Specifications

Valve type	N.C. poppet
Number of ports	2 or 3
Piping	Side or bottom ported
Fluid	Air/Inert gas
Operating pressure	0 to 0.8 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Effective area	1 mm ²
Lubrication	Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)
Fitting	With hose nipple
Mass (Basic)	6 g

Option

Total travel (T.T.)	2.5 mm (Basic)
---------------------	----------------

- A commercially available actuator for the V microswitch can be installed.
- However, be aware that there are different microswitches, such as the P.T./O.T. or F.O.F. types.
- T.T. 2.5 mm is available for basic style only.

Model

	Actuator	Piping	Number of ports	Applicable tubing		Note
				T0425	TU0425/T0403	
Mechanical operation	Basic	Side ported	3 port	VM1000-4N-00	VM1000-4NU-00	
			2 port	VM1100-4N-00	VM1100-4NU-00	
		Bottom ported	3 port	VM1010-4N-00	VM1010-4NU-00	
			2 port	VM1110-4N-00	VM1110-4NU-00	
	Roller lever	Side ported	3 port	VM1000-4N-01	VM1000-4NU-01	
			2 port	VM1100-4N-01	VM1100-4NU-01	
		Bottom ported	3 port	VM1010-4N-01	VM1010-4NU-01	
			2 port	VM1110-4N-01	VM1110-4NU-01	
	One way roller lever	Side ported	3 port	VM1000-4N-02	VM1000-4NU-02	
			2 port	VM1100-4N-02	VM1100-4NU-02	
		Bottom ported	3 port	VM1010-4N-02	VM1010-4NU-02	
			2 port	VM1110-4N-02	VM1110-4NU-02	
Manual operation	Toggle lever	Side ported	3 port	VM1000-4N-08	VM1000-4NU-08	
			2 port	VM1100-4N-08	VM1100-4NU-08	
		Bottom ported	3 port	VM1010-4N-08	VM1010-4NU-08	
			2 port	VM1110-4N-08	VM1110-4NU-08	
	Push button	Side ported	3 port	VM1000-4N-32R	VM1000-4NU-32R	Red
			2 port	VM1100-4N-32R	VM1100-4NU-32R	Red
		Bottom ported	3 port	VM1010-4N-32R	VM1010-4NU-32R	Red
			2 port	VM1110-4N-32R	VM1110-4NU-32R	Red
		Side ported	3 port	VM1000-4N-32B	VM1000-4NU-32B	Black
			2 port	VM1100-4N-32B	VM1100-4NU-32B	Black
		Bottom ported	3 port	VM1010-4N-32B	VM1010-4NU-32B	Black
			2 port	VM1110-4N-32B	VM1110-4NU-32B	Black
		Side ported	3 port	VM1000-4N-32G	VM1000-4NU-32G	Green
			2 port	VM1100-4N-32G	VM1100-4NU-32G	Green
		Bottom ported	3 port	VM1010-4N-32G	VM1010-4NU-32G	Green
			2 port	VM1110-4N-32G	VM1110-4NU-32G	Green



Note) To replace the push button and push button cover alone, refer to page 1888.
Other parts and actuator cannot be replaced.

How to Order

VM1 0 0 0 - 4N - 00 R

- Applicable tubing (Material/Size)**

4N	Nylon ø4/2.5 (T0425)
	Nylon ø4/3 (T0403)
4NU	Soft Nylon ø4/2.5 (TS0425)
	Polyurethane ø4/2.5 (TU0425)
- Total travel/Basic (T.T.)**

0	4.8 mm
1	2.5 mm (Option)*

* Basic only.
- Actuator type**

00	Basic
01	Roller lever
02	One way roller lever
08	Toggle lever
32	Push button
- Color of push button**

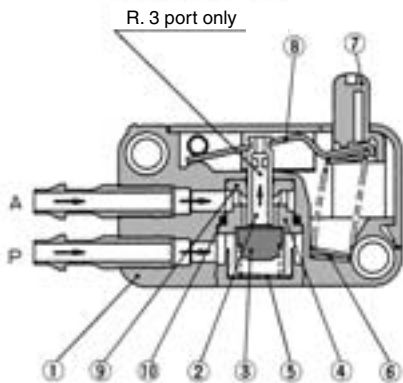
R	Red
G	Green
B	Black
- Piping**

0	Side ported
1	Bottom ported
- Number of ports**

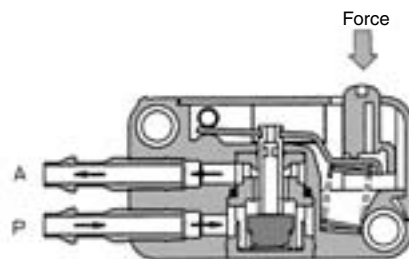
0	3 port
1	2 port

Construction

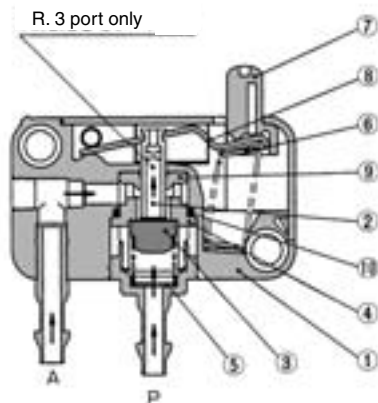
Side ported/Non-actuated



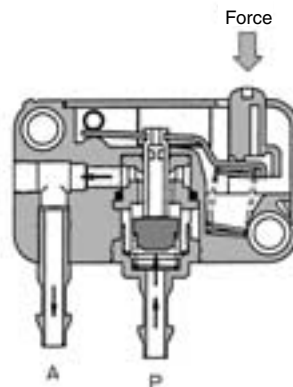
Side ported/Actuated



Bottom ported/Non-actuated



Bottom ported/Actuated



Component Parts

No.	Description	Material	Note
1	Body	PBT	
2	Valve	POM	
3	Valve	NBR	
4	Retainer	POM	
5	Spring	Stainless steel	

No.	Description	Material	Note
6	Spring	Stainless steel	
7	Plunger	POM	T.T. = 2.5 mm only, w/threads
8	Lever	Stainless steel	
9	Packing	NBR	
10	O-ring	NBR	

VM□

VMG

VR□

VH□

Series VM1000

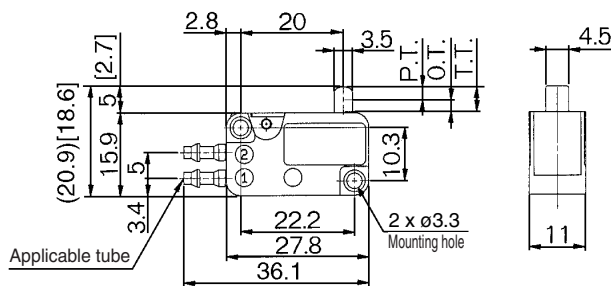
Series VM1000/Side Ported

Basic

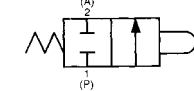
VM1000-4N-00
VM1000-4NU-00
VM1100-4N-00
VM1100-4NU-00



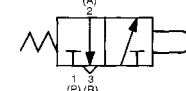
[]: T.T. = 2.5 mm



JIS Symbol/2 port



3 port

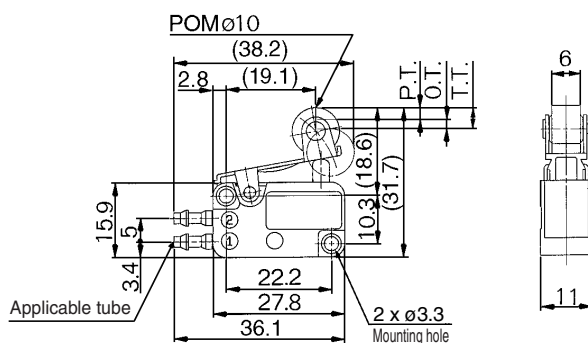


* 0.5 MPa supply

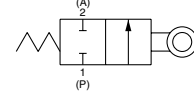
		Applicable tubing	
		T0425	TU0425, T0403, TS0425
Side ported	3 port	VM1000-4N-00	VM1000-4NU-00
	2 port	VM1100-4N-00	VM1100-4NU-00
F.O.F. *		6 N	
P.T.		2.5 mm [2.0 mm]	
O.T.		2.3 mm [0.5 mm]	
T.T.		4.8 mm [2.5 mm]	

Roller lever

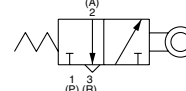
VM1000-4N-01
VM1000-4NU-01
VM1100-4N-01
VM1100-4NU-01



JIS Symbol/2 port



3 port

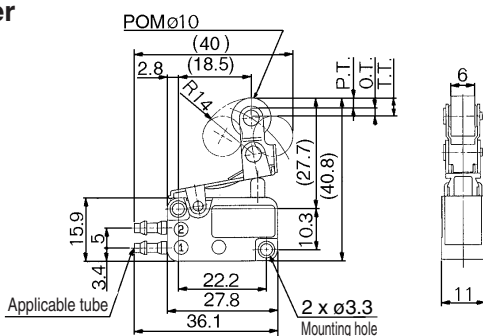


* 0.5 MPa supply

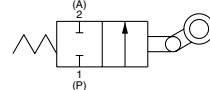
		Applicable tubing	
		T0425	TU0425, T0403, TS0425
Side ported	3 port	VM1000-4N-01	VM1000-4NU-01
	2 port	VM1100-4N-01	VM1100-4NU-01
F.O.F. *		6 N	
P.T.		2.5 mm	
O.T.		2.0 mm	
T.T.		4.5 mm	

One way roller lever

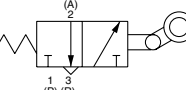
VM1000-4N-02
VM1000-4NU-02
VM1100-4N-02
VM1100-4NU-02



JIS Symbol/2 port



3 port

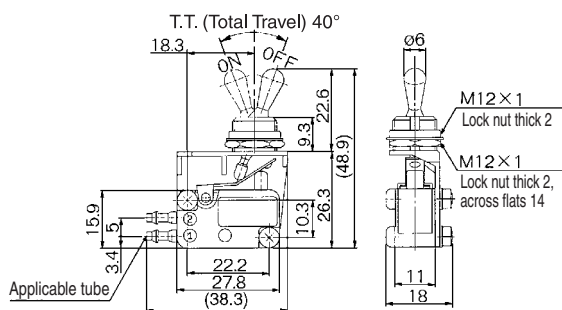


* 0.5 MPa supply

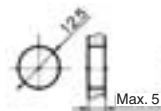
		Applicable tubing	
		T0425	TU0425, T0403, TS0425
Side ported	3 port	VM1000-4N-02	VM1000-4NU-02
	2 port	VM1100-4N-02	VM1100-4NU-02
F.O.F. *		6 N	
P.T.		2.5 mm	
O.T.		2.0 mm	
T.T.		4.5 mm	

Toggle lever

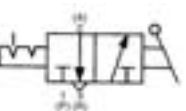
VM1000-4N-08
VM1000-4NU-08
VM1100-4N-08
VM1100-4NU-08



Panel mounting hole JIS Symbol/2 port



3 port

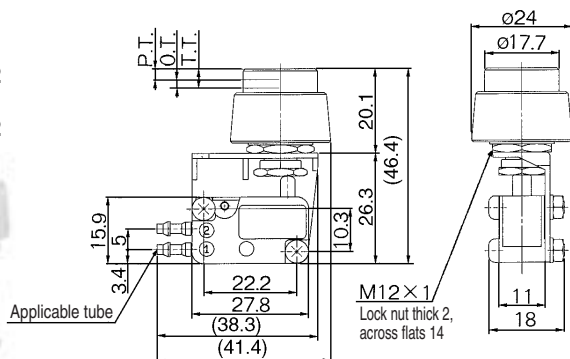


* 0.5 MPa supply

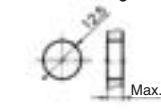
		Applicable tubing	
		T0425	TU0425, T0403, TS0425
Side ported	3 port	VM1000-4N-08	VM1000-4NU-08
	2 port	VM1100-4N-08	VM1100-4NU-08
F.O.F. *		4 N	
P.T.		40°	

Push button

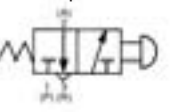
VM1000-4N-32
VM1000-4NU-32
VM1100-4N-32
VM1100-4NU-32



Panel mounting hole JIS Symbol/2 port



3 port



* 0.5 MPa supply

		Applicable tubing	
		T0425	TU0425, T0403, TS0425
Side ported	3 port	VM1000-4N-32	VM1000-4NU-32
	2 port	VM1100-4N-32	VM1100-4NU-32
F.O.F. *		6 N	
P.T.		2.5 mm	
O.T.		2.0 mm	
T.T.		4.5 mm	

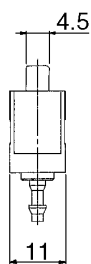
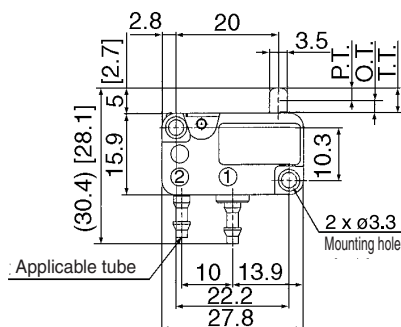
Series VM1000/Bottom Ported

Basic

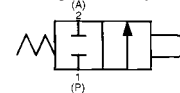
VM1010-4N-00
VM1010-4NU-00
VM1110-4N-00
VM1110-4NU-00



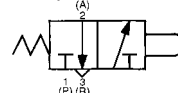
[]: T.T. = 2.5 mm



JIS Symbol/2 port



3 port

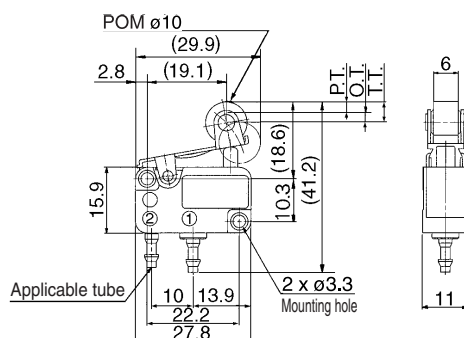


* 0.5 MPa supply

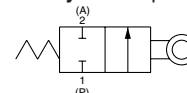
		Applicable tubing	
		T0425	TU0425, T0403, TS0425
Bottom ported	3 port	VM1010-4N-00	VM1010-4NU-00
	2 port	VM1110-4N-00	VM1110-4NU-00
F.O.F. *		6 N	
P.T.		2.5 mm	
O.T.		2.3 mm [0.5 mm]	
T.T.		4.8 mm [2.5 mm]	

Roller lever

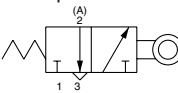
VM1010-4N-01
VM1010-4NU-01
VM1110-4N-01
VM1110-4NU-01



JIS Symbol/2 port



3 port

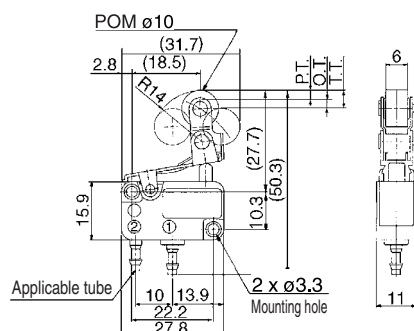


* 0.5 MPa supply

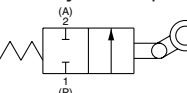
		Applicable tubing	
		T0425	TU0425, T0403, TS0425
Bottom ported	3 port	VM1010-4N-01	VM1010-4NU-01
	2 port	VM1110-4N-01	VM1110-4NU-01
F.O.F. *		6 N	
P.T.		2.5 mm	
O.T.		2.0 mm	
T.T.		4.5 mm	

One way roller lever

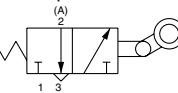
VM1010-4N-02
VM1010-4NU-02
VM1110-4N-02
VM1110-4NU-02



JIS Symbol/2 port



3 port

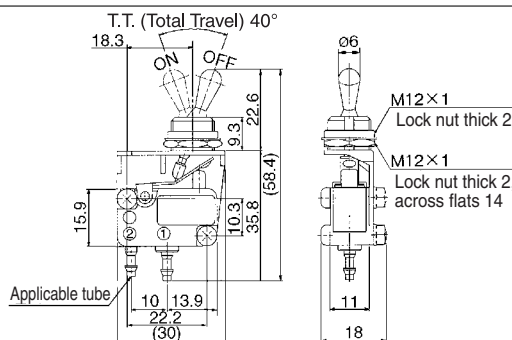


* 0.5 MPa supply

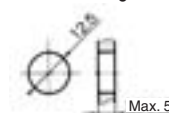
		Applicable tubing	
		T0425	TU0425, T0403, TS0425
Bottom ported	3 port	VM1010-4N-02	VM1010-4NU-02
	2 port	VM1110-4N-02	VM1110-4NU-02
F.O.F. *		6 N	
P.T.		2.5 mm	
O.T.		2.0 mm	
T.T.		4.5 mm	

Toggle lever

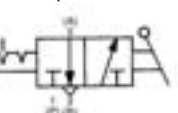
M1010-4N-08
VM1010-4NU-08
VM1110-4N-08
VM1110-4NU-08



Panel mounting hole JIS Symbol/2 port



3 port

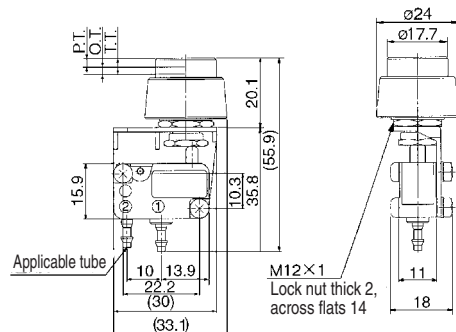


* 0.5 MPa supply

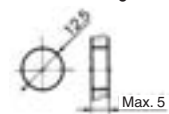
		Applicable tubing	
		T0425	TU0425, T0403, TS0425
Bottom ported	3 port	VM1010-4N-08	VM1010-4NU-08
	2 port	VM1110-4N-08	VM1110-4NU-08
F.O.F. *		4 N	
P.T.		40°	

Push button

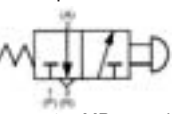
VM1010-4N-32
VM1010-4NU-32
VM1110-4N-32
VM1110-4NU-32



Panel mounting hole JIS Symbol/2 port



3 port



* 0.5 MPa supply

		Applicable tubing	
		T0425	TU0425, T0403, TS0425
Bottom ported	3 port	VM1010-4N-32	VM1010-4NU-32
	2 port	VM1110-4N-32	VM1110-4NU-32
F.O.F. *		6 N	
P.T.		2.5 mm	
O.T.		2.0 mm	
T.T.		4.5 mm	

2/3 Port Mechanical Valve

Series VM100

RoHS

Compact size.
Piping options:
Side piping, Bottom piping
A variety of actuator types.



Specifications

Piping	Side ported	Bottom ported
Fluid	Air/Inert gas	
Operating pressure	-100 kPa to 1.0 MPa	
Ambient and fluid temperature	-5 to 60°C (No freezing)	
Effective area	2.5 mm ²	
Lubrication	Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)	
Port size	1/8	M5 x 0.8
Mass (Basic)	95 g	110 g

Model

		Side ported		Bottom ported		Actuator part no.	Application
		2 port	3 port	2 port	3 port		
Mechanical operation	Basic	VM120-01-00	VM130-01-00	VM122-M5-00	VM132-M5-00	—	
		VM121-01-00	VM131-01-00	VM123-M5-00	VM133-M5-00	—	
	Roller lever	VM121-01-01	VM131-01-01	VM123-M5-01	VM133-M5-01	—	Polyacetal roller
		VM121-01-01S	VM131-01-01S	VM123-M5-01S	VM133-M5-01S	—	Hard steel roller
	One way roller lever	VM121-01-02	VM131-01-02	VM123-M5-02	VM133-M5-02	—	Polyacetal roller
		VM121-01-02S	VM131-01-02S	VM123-M5-02S	VM133-M5-02S	—	Hard steel roller
	Straight plunger	VM120-01-05	VM130-01-05	VM122-M5-05	VM132-M5-05	VM-05B	—
		VM120-01-06	VM130-01-06	VM122-M5-06	VM132-M5-06	VM-06B	Polyacetal roller
	Roller plunger	VM120-01-06S	VM130-01-06S	VM122-M5-06S	VM132-M5-06S	VM-06BS	Hard steel roller
		VM120-01-07	VM130-01-07	VM122-M5-07	VM132-M5-07	VM-07B	Polyacetal roller
Manual operation	Cross roller plunger	VM120-01-07S	VM130-01-07S	VM122-M5-07S	VM132-M5-07S	VM-07BS	Hard steel roller
		VM120-01-08	VM130-01-08	VM122-M5-08	VM132-M5-08	VM-08B	
	Toggle lever	VM120-01-30R	VM130-01-30R	VM122-M5-30R	VM132-M5-30R	VM-30AR	Red
		VM120-01-30B	VM130-01-30B	VM122-M5-30B	VM132-M5-30B	VM-30AB	Black
		VM120-01-30G	VM130-01-30G	VM122-M5-30G	VM132-M5-30G	VM-30AG	Green
		VM120-01-30Y	VM130-01-30Y	VM122-M5-30Y	VM132-M5-30Y	VM-30AY	Yellow
	Push button (Mushroom)	VM120-01-32R	VM130-01-32R	VM122-M5-32R	VM132-M5-32R	VM-32AR	Red
		VM120-01-32B	VM130-01-32B	VM122-M5-32B	VM132-M5-32B	VM-32AB	Black
		VM120-01-32G	VM130-01-32G	VM122-M5-32G	VM132-M5-32G	VM-32AG	Green
		VM120-01-32Y	VM130-01-32Y	VM122-M5-32Y	VM132-M5-32Y	VM-32AY	Yellow
	Push button (Extended)	VM120-01-33	VM130-01-33	VM122-M5-33	VM132-M5-33	VM-33A	With a set of red, black, green, yellow
		VM120-01-34R	VM130-01-34R	VM122-M5-34R	VM132-M5-34R	VM-34AR	Red
		VM120-01-34B	VM130-01-34B	VM122-M5-34B	VM132-M5-34B	VM-34AB	Black
		VM120-01-34G	VM130-01-34G	VM122-M5-34G	VM132-M5-34G	VM-34AG	Green
	Push button (Flush)	VM120-01-34Y	VM130-01-34Y	VM122-M5-34Y	VM132-M5-34Y	VM-34AY	Yellow
		VM120-01-36	VM130-01-36	VM122-M5-36	VM132-M5-36	VM-36A	
	Twist selector (2 position)	VM120-01-35R	VM130-01-35R	VM122-M5-35R	VM132-M5-35R	—	Red
		VM120-01-35B	VM130-01-35B	VM122-M5-35B	VM132-M5-35B	—	Black
		VM120-01-35G	VM130-01-35G	VM122-M5-35G	VM132-M5-35G	—	Green
		VM120-01-35Y	VM130-01-35Y	VM122-M5-35Y	VM132-M5-35Y	—	Yellow
	Twist selector (3 position)	(3 port)	(5 port)	(3 port)	(5 port)		



Note 1) Actuator replacement is available for all types except for roller lever, one way roller lever, and 3 position selector.

Note 2) For push button (mushroom), push button (extended), push button (flush) and a single unit of fastening ring, refer to pages 1887 to 1888. The other parts are not replaceable.

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

How to Order

VM1 **3** **1** - **01** - **01** **S** -

• **Made to Order**
(Refer to pages 1882 to 1885 for details.)
X207 Alternate type, Mushroom push button
X219 Push-lock turn-reset type, Mushroom push button

• **Port size**

01	Rc 1/8
M5	M5 x 0.8 (Female thread)
N01	NPT 1/8
F01	G 1/8

• **Piping direction and the length of push rod**

0	Long	Side ported
1	Short	Side ported
2	Long	Bottom ported
3	Short	Bottom ported

• **Number of ports**

2	2 port
3	3 port

• **Actuator type**

00	Basic
01	Roller lever
02	One way roller lever
05	Straight plunger
06	Roller plunger
07	Cross 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)
35	Twist selector (3 position)

• **Suffix for actuator**

S	Hard steel roller
R	Red
B	Black
G	Green
Y	Yellow

Color of push button selector

• **Suffix for indicator light**

Z	With miniature indicator light (Bottom piping type only)
----------	--

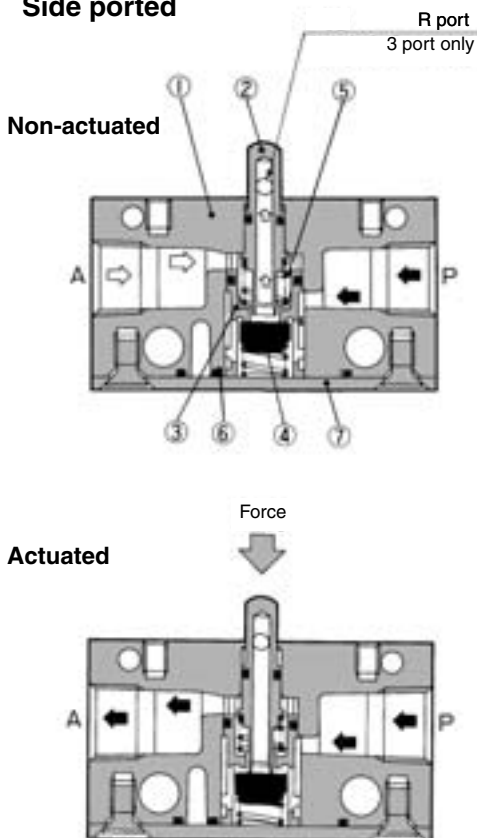
• **Height of rod push**

Actuator	Height of rod push	Side ported		Bottom ported	
		Long	Short	Long	Short
Basic	00	○	○	○	○
Roller lever	01	x	○	x	○
One way roller lever	02	x	○	x	○
Straight plunger	05	○	x	○	x
Roller plunger	06	○	x	○	x
Cross roller plunger	07	○	x	○	x
Toggle lever	08	○	x	○	x
Push button (Mushroom)	30	○	x	○	x
Push button (Extended)	32	○	x	○	x
Push button (Flush)	33	○	x	○	x
Twist selector (2 position)	34	○	x	○	x
Key selector (2 position)	36	○	x	○	x
Twist selector (3 position)	35	x	○	x	○

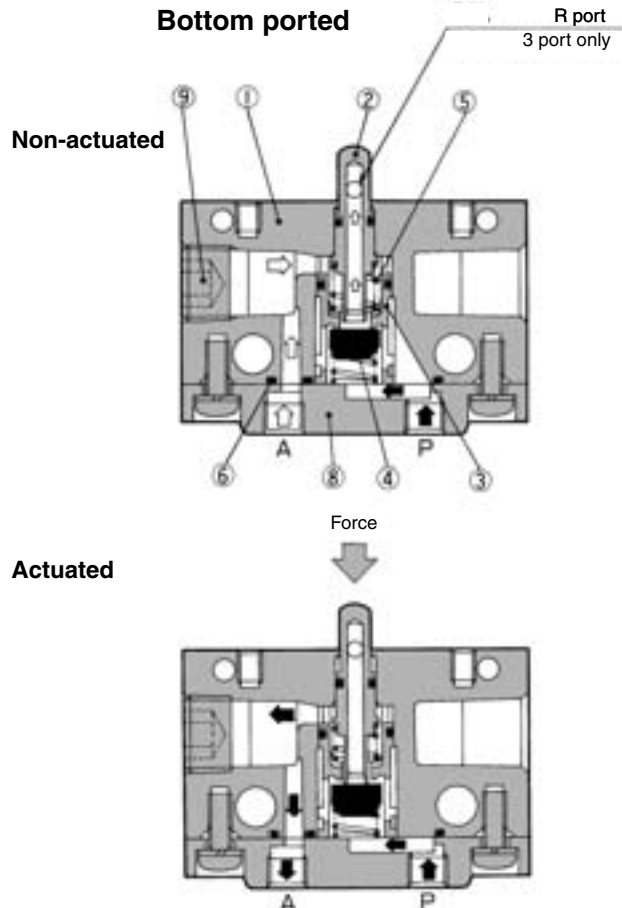
Construction

Combination possible: ○, Combination impossible: x

Side ported



Bottom ported



Component Parts

No.	Description	Material	Note
1	Valve	ZDC	Platinum silver
2	Plunger	POM	
3	Valve sheet	POM	
4	Valve	NBR	
5	Spring	Stainless steel	

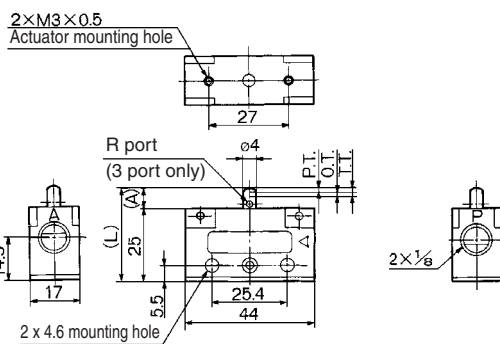
No.	Description	Material	Note
6	Gasket	NBR	
7	Cover	Rolled steel	
8	Sub-plate	ZDC	Platinum silver
9	Hexagon socket head plug	Rolled steel	

Series VM100

Series VM100/Side Ported

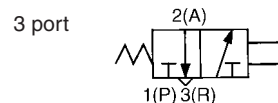
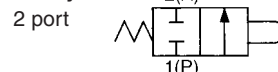
Basic

VM120-01-00
VM130-01-00
VM121-01-00
VM131-01-00



Model	L	A
VM120-01-00 VM130-01-00	32.5	7.5
VM121-01-00 VM131-01-00	28.5	3.5

JIS Symbol

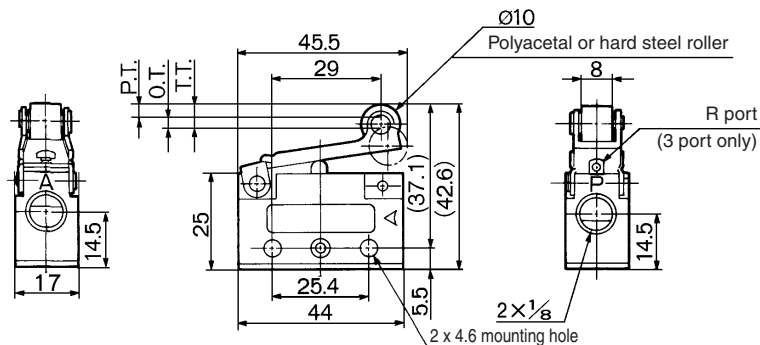


* 0.5 MPa supply

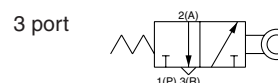
F.O.F. *	20 N
P.T.	1.5 mm
O.T.	1.5 mm
T.T.	3.0 mm

Roller lever

VM121-01-01
VM131-01-01
VM121-01-01S
VM131-01-01S



JIS Symbol

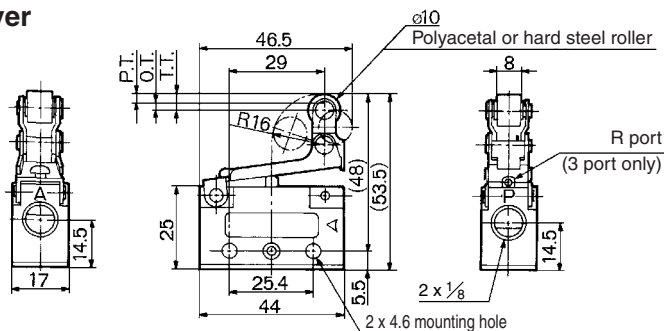


* 0.5 MPa supply

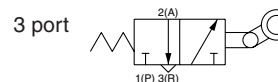
F.O.F. *	10 N
P.T.	3.2 mm
O.T.	2.3 mm
T.T.	5.5 mm

One way roller lever

VM121-01-02
VM131-01-02
VM121-01-02S
VM131-01-02S



JIS Symbol

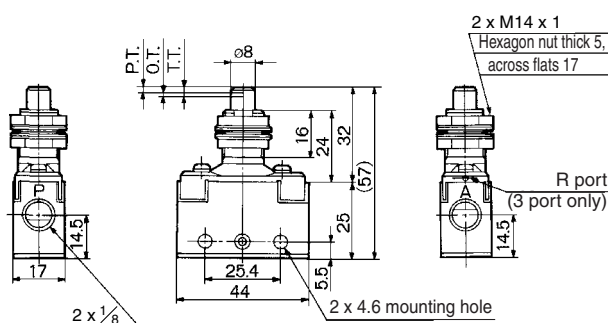


* 0.5 MPa supply

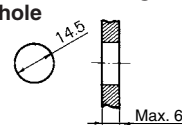
F.O.F. *	10 N
P.T.	3.2 mm
O.T.	2.3 mm
T.T.	5.5 mm

Straight plunger

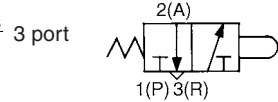
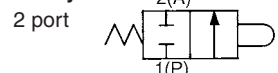
VM120-01-05
VM130-01-05



Panel mounting hole



JIS Symbol

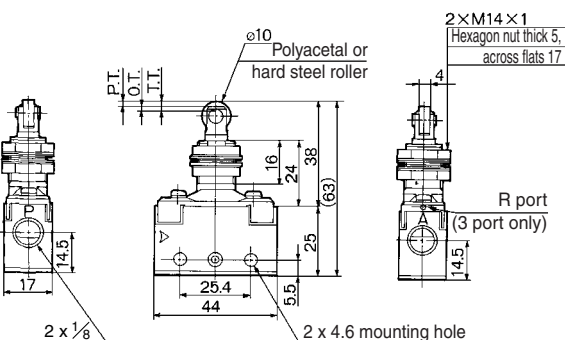


* 0.5 MPa supply

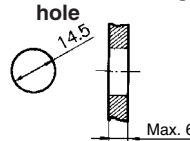
F.O.F. *	23 N
P.T.	2.0 mm
O.T.	1.5 mm
T.T.	3.5 mm

Roller plunger

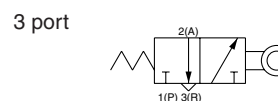
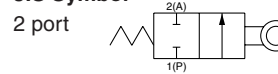
VM120-01-06
VM130-01-06
VM120-01-06S
VM130-01-06S



Panel mounting hole



JIS Symbol



* 0.5 MPa supply

F.O.F. *	23 N
P.T.	2.0 mm
O.T.	1.5 mm
T.T.	3.5 mm

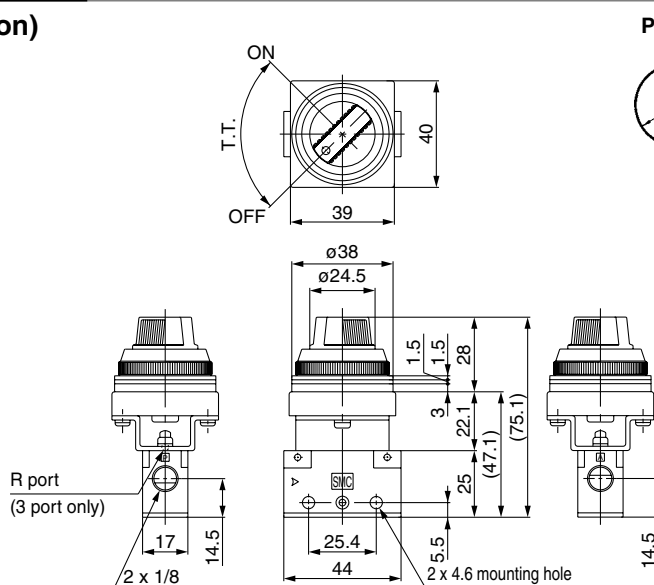
Series VM100

Series VM100/Side Ported

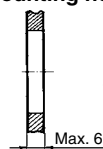
Twist selector (2 position)

VM120-01-34R/B/G/Y

VM130-01-34R/B/G/Y

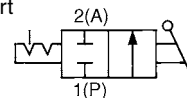


Panel mounting hole

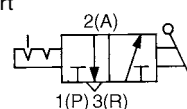


JIS Symbol

2 port



3 port



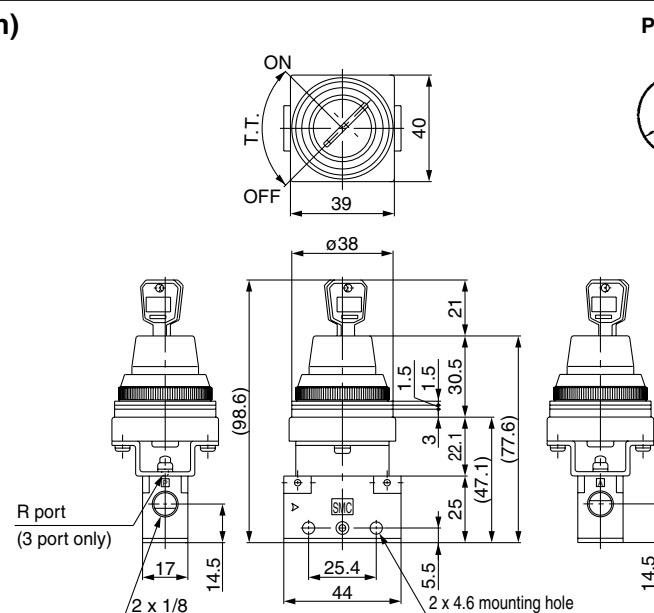
* 0.5 MPa supply

F.O.F. *	15 N
T.T.	90°

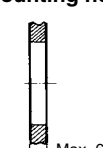
Key selector (2 position)

VM120-01-36

VM130-01-36

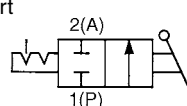


Panel mounting hole

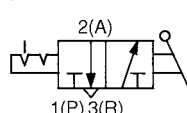


JIS Symbol

2 port



3 port



* 0.5 MPa supply

F.O.F. *	15 N
T.T.	90°

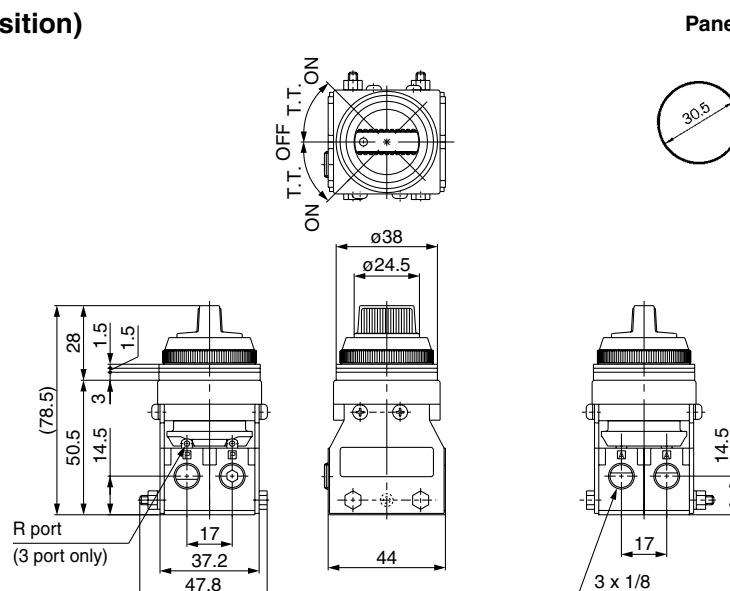


Key can be removed at the "on" and "off" positions.

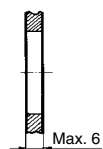
Twist selector (3 position)

VM131-01-35R/B/G/Y

VM151-01-35R/B/G/Y

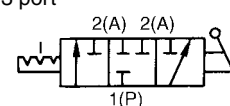


Panel mounting hole

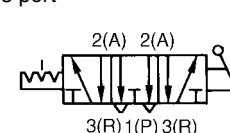


JIS Symbol

3 port



5 port



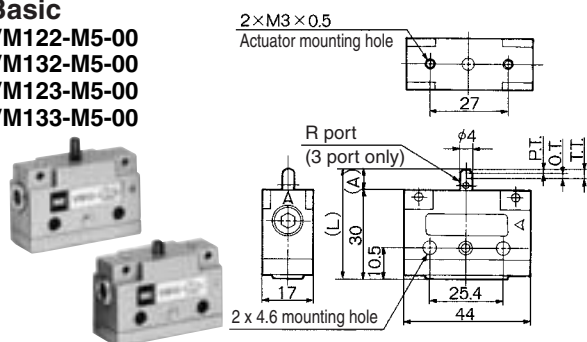
* 0.5 MPa supply

F.O.F. *	15 N
T.T.	45°

Series VM100/Bottom Ported

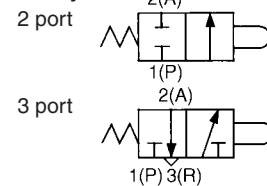
Basic

VM122-M5-00
VM132-M5-00
VM123-M5-00
VM133-M5-00



Model	L	A
VM122-M5-00 VM132-M5-00	37.5	7.5
VM123-M5-00 VM133-M5-00	33.5	3.5

JIS Symbol

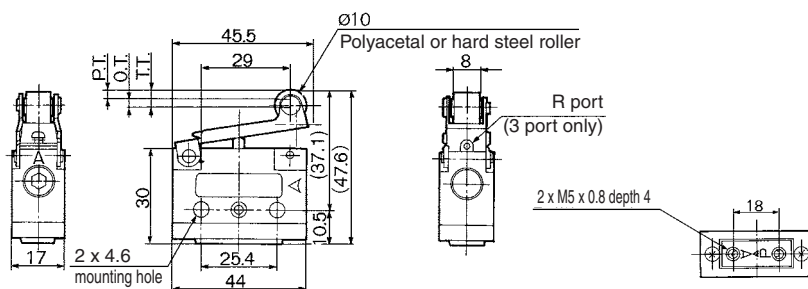


* 0.5 MPa supply

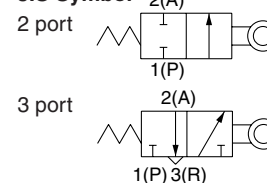
F.O.F. *	20 N
P.T.	1.5 mm
O.T.	1.5 mm
T.T.	3.0 mm

Roller lever

VM123-M5-01
VM133-M5-01
VM123-M5-01S
VM133-M5-01S



JIS Symbol

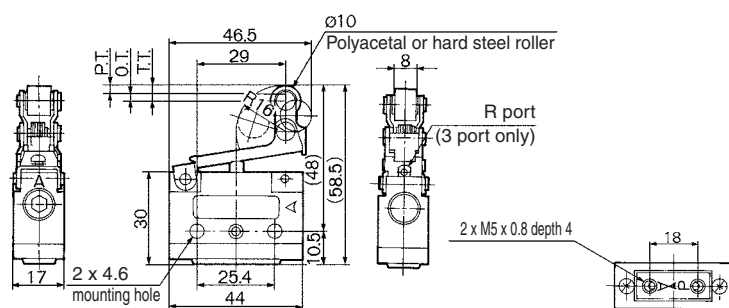


* 0.5 MPa supply

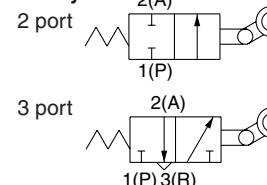
F.O.F. *	10 N
P.T.	3.2 mm
O.T.	2.3 mm
T.T.	5.5 mm

One way roller lever

VM123-M5-02
VM133-M5-02
VM123-M5-02S
VM133-M5-02S



JIS Symbol

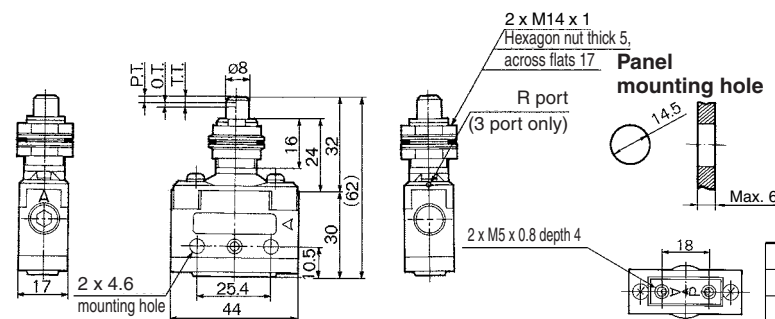


* 0.5 MPa supply

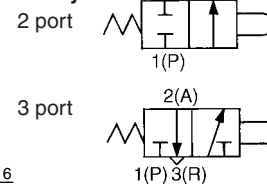
F.O.F. *	10 N
P.T.	3.2 mm
O.T.	2.3 mm
T.T.	5.5 mm

Straight plunger

VM122-M5-05
VM132-M5-05



JIS Symbol

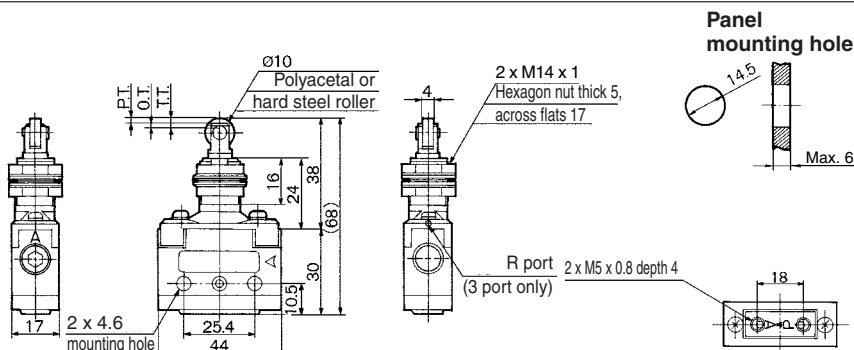


* 0.5 MPa supply

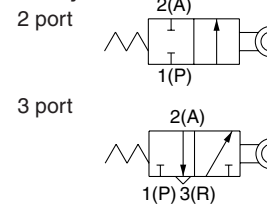
F.O.F. *	23 N
P.T.	2.0 mm
O.T.	1.5 mm
T.T.	3.5 mm

Roller plunger

VM122-M5-06
VM132-M5-06
VM122-M5-06S
VM132-M5-06S



JIS Symbol



* 0.5 MPa supply

F.O.F. *	23 N
P.T.	2.0 mm
O.T.	1.5 mm
T.T.	3.5 mm

VM

VMG

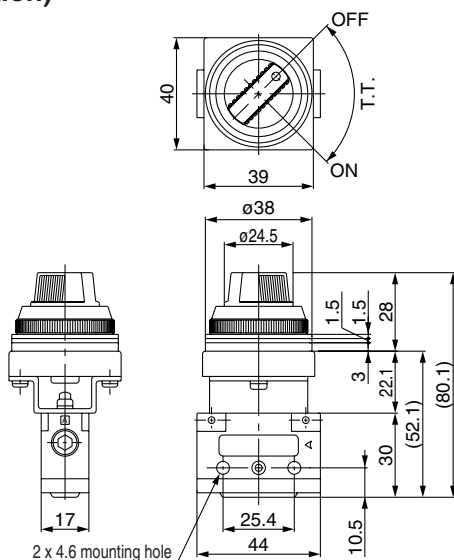
VR

VH

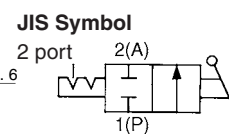
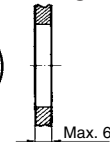
Series VM100/Bottom Ported

Twist selector (2 position)

VM122-M5-34R/B/G/Y
VM132-M5-34R/B/G/Y

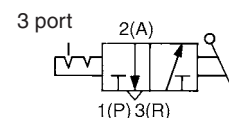
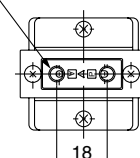
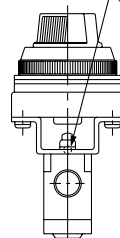


Panel mounting hole



R port
(3 port only)

2 x M5 x 0.8 depth 4

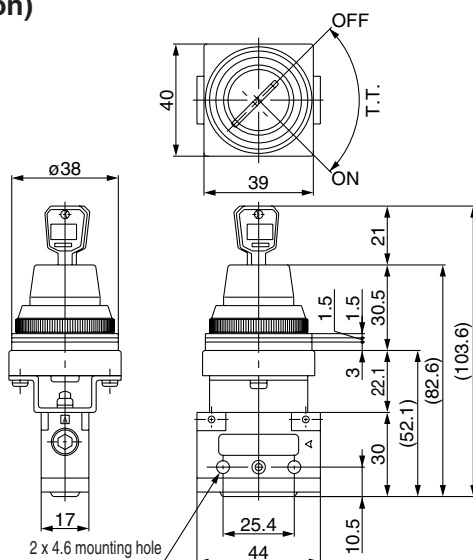


* 0.5 MPa supply

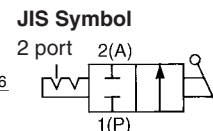
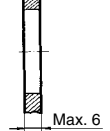
F.O.F. *	15 N
T.T.	90°

Key selector (2 position)

VM122-M5-36
VM132-M5-36

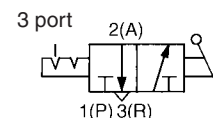
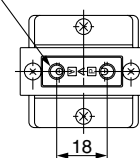
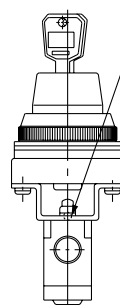


Panel mounting hole



R port
(3 port only)

2 x M5 x 0.8 depth 4



* 0.5 MPa supply

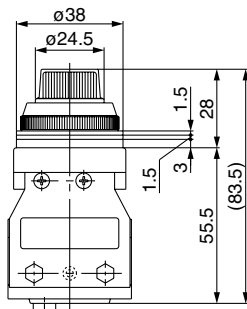
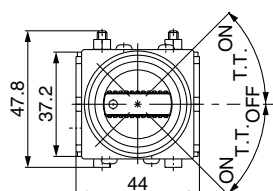
F.O.F. *	15 N
T.T.	90°



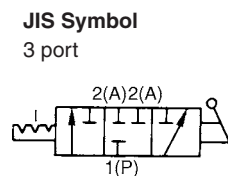
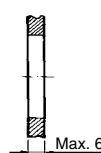
Key can be removed at the "on" and "off" positions.

Twist selector (3 position)

VM133-M5-35R/B/G/Y
VM153-M5-35R/B/G/Y

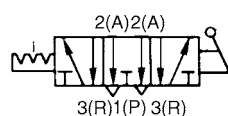
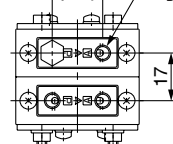


Panel mounting hole



R port
(5 port only)

3 x M5 x 0.8
Depth 4



* 0.5 MPa supply

F.O.F. *	20 N
T.T.	45°

VM

VMG

VR

VH

2/3 Port Mechanical Valve

Series VM200

RoHS

Large flow capacity.
A variety of actuator types.



Specifications

Fluid	Air/Inert gas
Operating pressure	0 to 1.0 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Effective area	19 mm ²
Lubrication	Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)
Port size	1/4
Mass (Basic)	111g

Model

	No. of ports		2 port	3 port	Actuator part no.	Application
	Actuator					
Mechanical operation	Basic	VM220-02-00	VM230-02-00	—	—	
	Roller lever	VM220-02-01	VM230-02-01	VM-01A	Polyacetal roller	
		VM220-02-01S	VM230-02-01S	VM-01AS	Hard steel roller	
	One way roller lever	VM220-02-02	VM230-02-02	VM-02A	Polyacetal roller	
		VM220-02-02S	VM230-02-02S	VM-02AS	Hard steel roller	
	Straight plunger	VM220-02-05	VM230-02-05	VM-05A	—	
	Roller plunger	VM220-02-06	VM230-02-06	VM-06A	Polyacetal roller	
		VM220-02-06S	VM230-02-06S	VM-06AS	Hard steel roller	
Cross roller plunger	VM220-02-07	VM230-02-07	VM-07A	Polyacetal roller		
	VM220-02-07S	VM230-02-07S	VM-07AS	Hard steel roller		
Manual operation	Toggle lever	VM220-02-08	VM230-02-08	VM-08A	—	
	Push button (Mushroom)	VM220-02-30R	VM230-02-30R	VM-30AR	Red	
		VM220-02-30B	VM230-02-30B	VM-30AB	Black	
		VM220-02-30G	VM230-02-30G	VM-30AG	Green	
		VM220-02-30Y	VM230-02-30Y	VM-30AY	Yellow	
	Push button (Extended)	VM220-02-32R	VM230-02-32R	VM-32AR	Red	
		VM220-02-32B	VM230-02-32B	VM-32AB	Black	
		VM220-02-32G	VM230-02-32G	VM-32AG	Green	
		VM220-02-32Y	VM230-02-32Y	VM-32AY	Yellow	
	Push button (Flush)	VM220-02-33	VM230-02-33	VM-33A	With a set of red, black, green, yellow	
	Twist selector (2 position)	VM220-02-34R	VM230-02-34R	VM-34AR	Red	
		VM220-02-34B	VM230-02-34B	VM-34AB	Black	
		VM220-02-34G	VM230-02-34G	VM-34AG	Green	
		VM220-02-34Y	VM230-02-34Y	VM-34AY	Yellow	
	Key selector (2 position)	VM220-02-36	VM230-02-36	VM-36A	—	
	Twist selector (3 position)	VM230-02-35R	VM250-02-35R	—	Red	
		VM230-02-35B	VM250-02-35B	—	Black	
VM230-02-35G		VM250-02-35G	—	Green		
VM230-02-35Y		VM250-02-35Y	—	Yellow		
(3 port)		(5 port)	—	—		
Foot pedal	VM220-02-40	VM230-02-40	—	—		



Note 1) Actuator replacement is available for all types except twist selector (3 position) and foot pedal.

Note 2) For push button (mushroom), push button (extended), push button (flush) and a single unit of fastening ring, refer to pages 1887 to 1888. The other parts are not replaceable.

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

How to Order

VM2 **3** 0 - **02** - **01** **S** -

• Made to Order

(Refer to pages 1882 to 1885 for details.)

X207	Alternate type, Mushroom push button
X219	Push-lock turn-reset type, Mushroom push button

• Suffix for actuator

S	Hard steel roller	Color of push button selector
R	Red	
B	Black	
G	Green	
Y	Yellow	

• Actuator type

00	Basic
01	Roller lever
02	One way roller lever
05	Straight plunger
06	Roller plunger
07	Cross 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)
35	Twist selector (3 position)
40	Foot pedal

• Port size

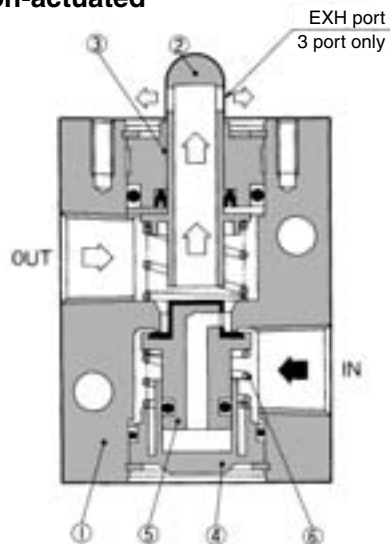
02	Rc 1/4
N02	NPT 1/4
F02	G 1/4

• Number of ports

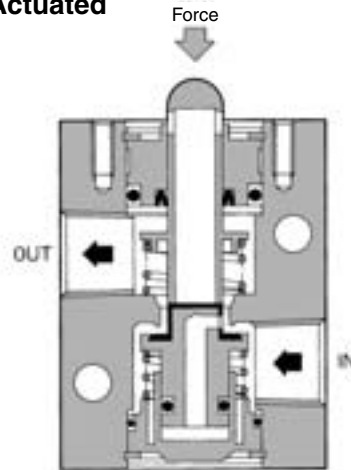
2	2 port
3	3 port

Construction

Non-actuated



Actuated



Component Parts

No.	Description	Material	Note
1	Valve	ADC	Platinum silver
2	Plunger	POM	
3	Plunger retainer	PBT	

No.	Description	Material	Note
4	Cover	POM	
5	Valve	Brass, NBR	
6	Spring	Steel	

VM□

VMG

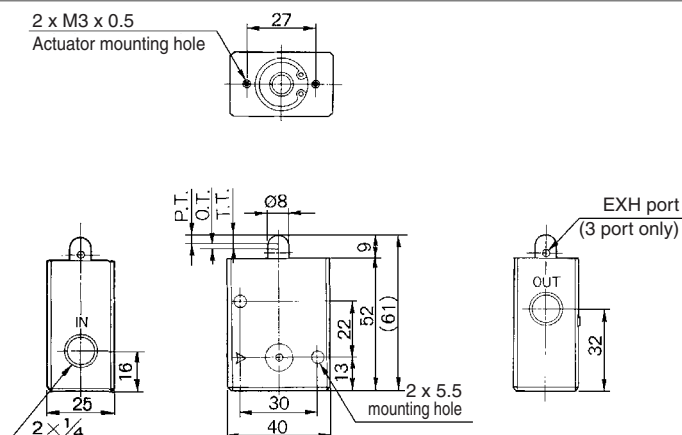
VR□

VH□

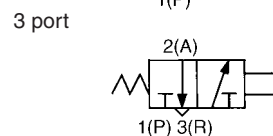
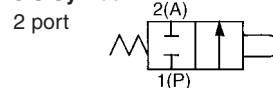
Series VM200

Series VM200

Basic VM220-02-00 VM230-02-00



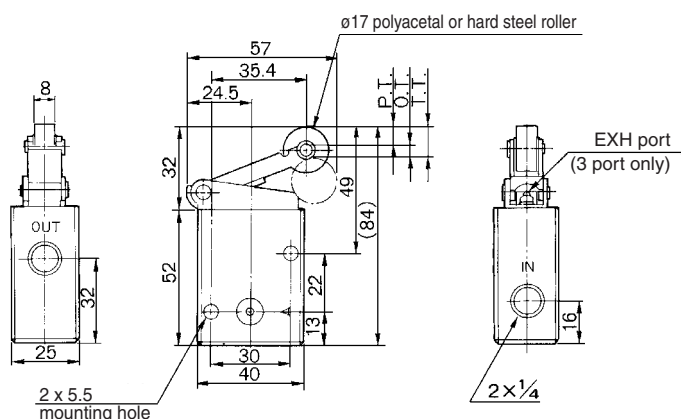
JIS Symbol



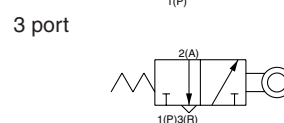
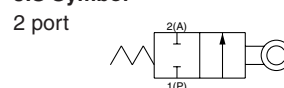
* 0.5 MPa supply

F.O.F. *	52 N
P.T.	3.0 mm
O.T.	2.0 mm
T.T.	5.0 mm

Roller lever VM220-02-01 VM230-02-01 VM220-02-01S VM230-02-01S



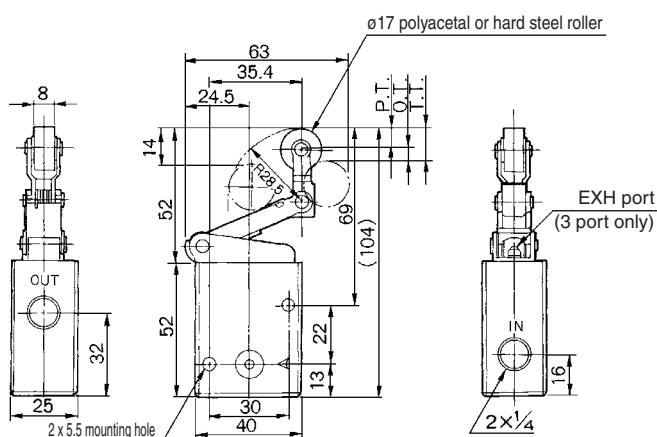
JIS Symbol



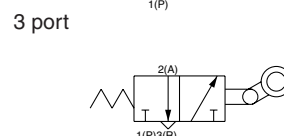
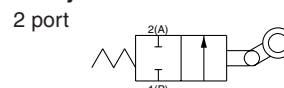
* 0.5 MPa supply

F.O.F. *	24 N
P.T.	6.5 mm
O.T.	4.5 mm
T.T.	11.0 mm

One way roller lever VM220-02-02 VM230-02-02 VM220-02-02S VM230-02-02S



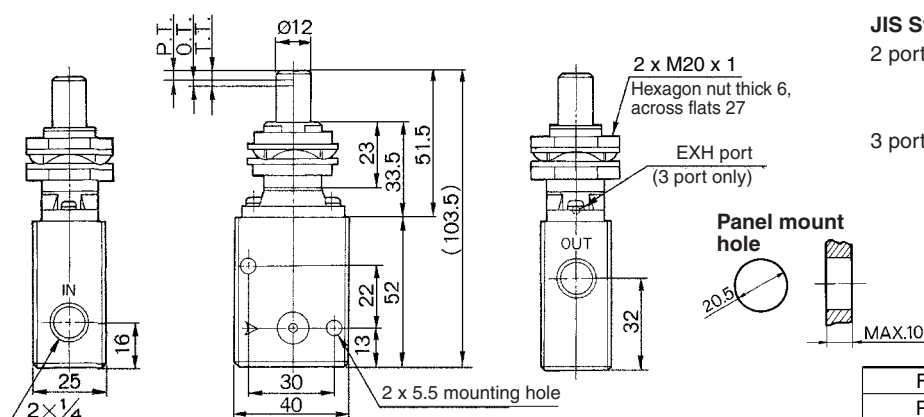
JIS Symbol



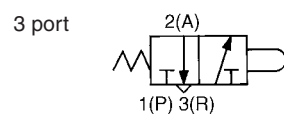
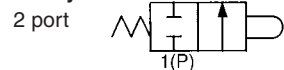
* 0.5 MPa supply

F.O.F. *	22 N
P.T.	7.0 mm
O.T.	5.0 mm
T.T.	12.0 mm

Straight plunger VM220-02-05 VM230-02-05



JIS Symbol



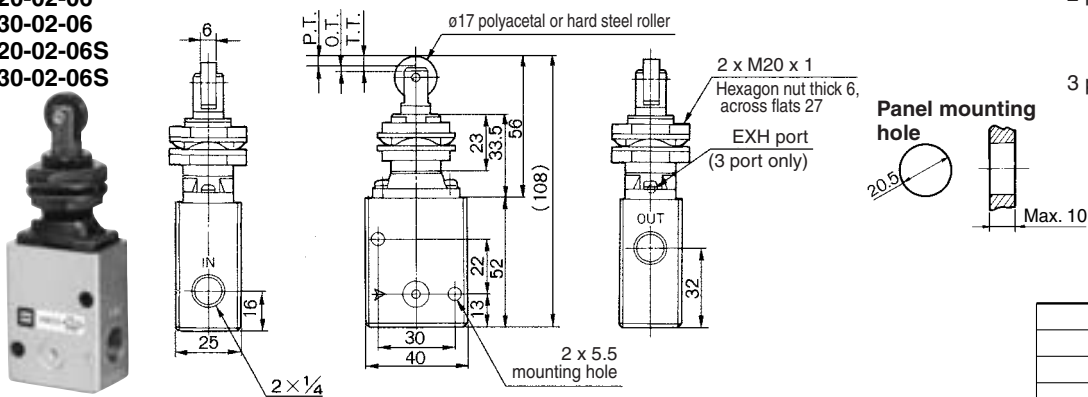
* 0.5 MPa supply

F.O.F. *	56 N
P.T.	3.5 mm
O.T.	2.0 mm
T.T.	5.5 mm

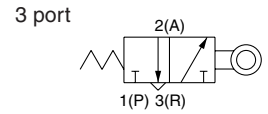
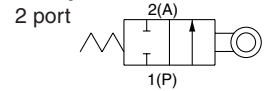
Series VM200

Roller plunger

VM220-02-06
VM230-02-06
VM220-02-06S
VM230-02-06S



JIS Symbol

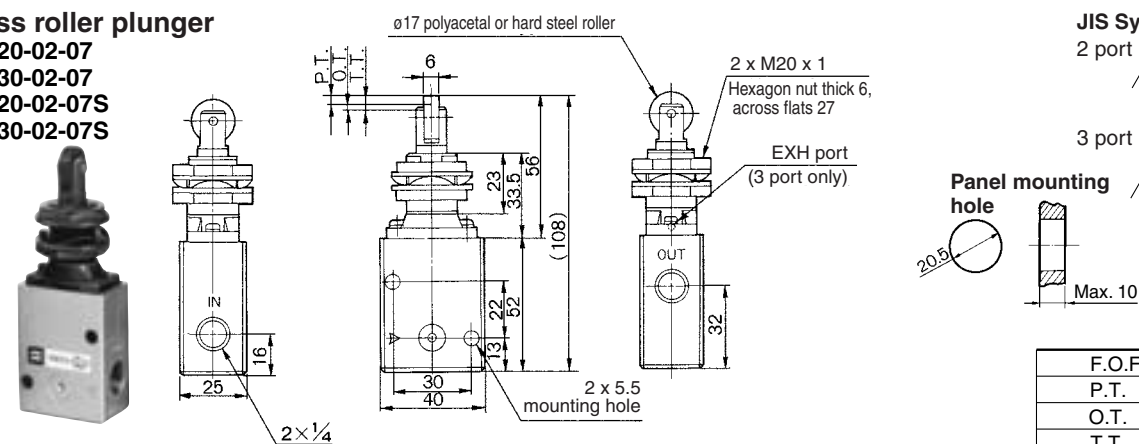


* 0.5 MPa supply

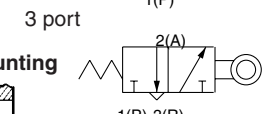
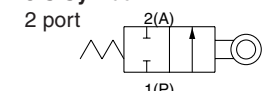
F.O.F. *	56 N
P.T.	3.5 mm
O.T.	2.0 mm
T.T.	5.5 mm

Cross roller plunger

VM220-02-07
VM230-02-07
VM220-02-07S
VM230-02-07S



JIS Symbol

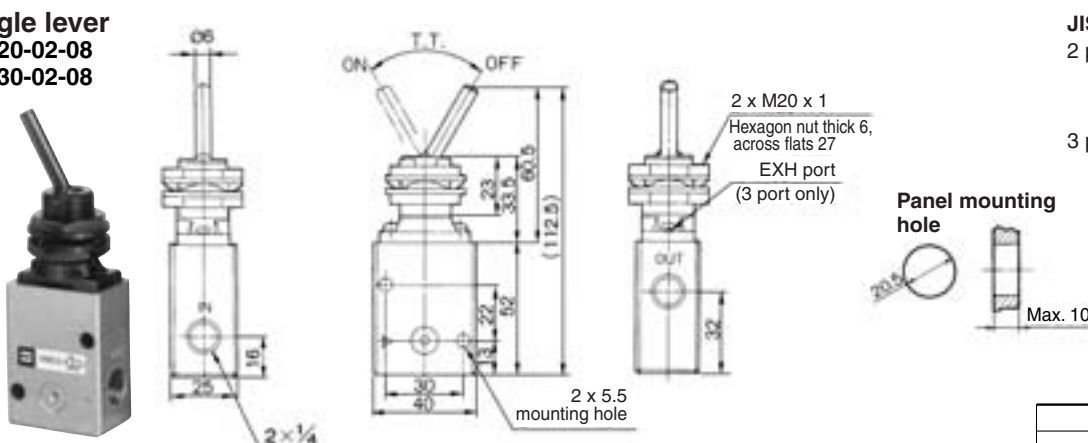


* 0.5 MPa supply

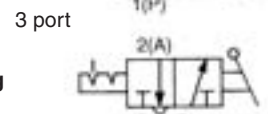
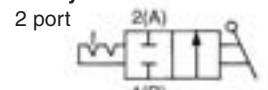
F.O.F. *	56 N
P.T.	3.5 mm
O.T.	2.0 mm
T.T.	5.5 mm

Toggle lever

VM220-02-08
VM230-02-08



JIS Symbol

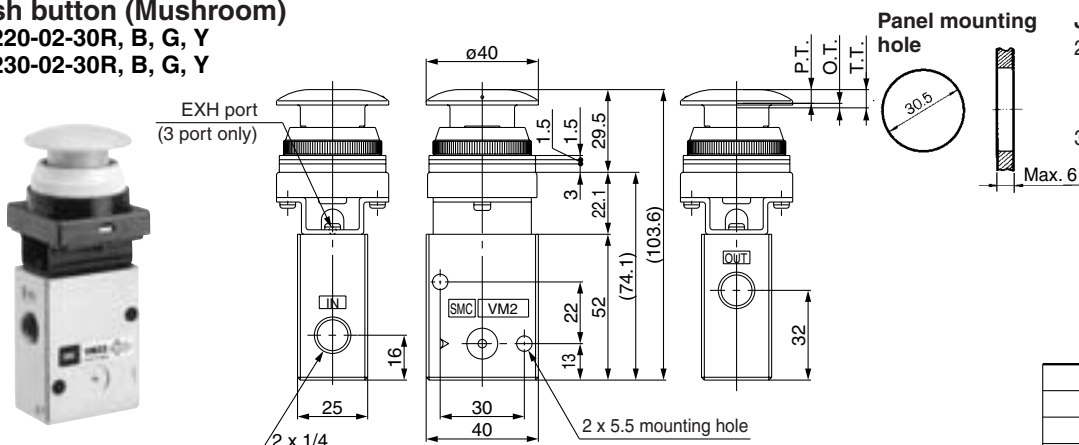


* 0.5 MPa supply

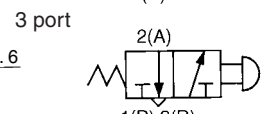
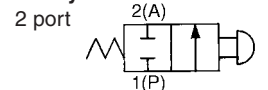
F.O.F. *	12 N
T.T.	60°

Push button (Mushroom)

VM220-02-30R, B, G, Y
VM230-02-30R, B, G, Y



JIS Symbol



* 0.5 MPa supply

F.O.F. *	52 N
P.T.	4.9 mm
O.T.	1.6 mm
T.T.	6.5 mm

VM□

VMG

VR□

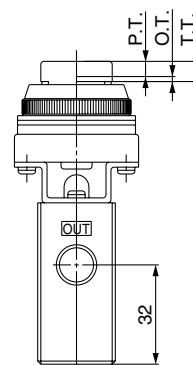
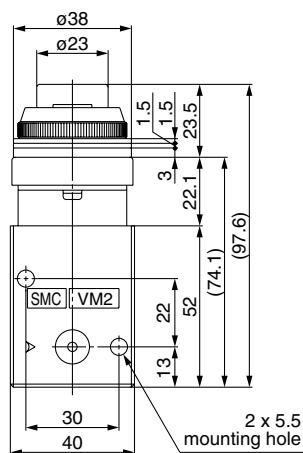
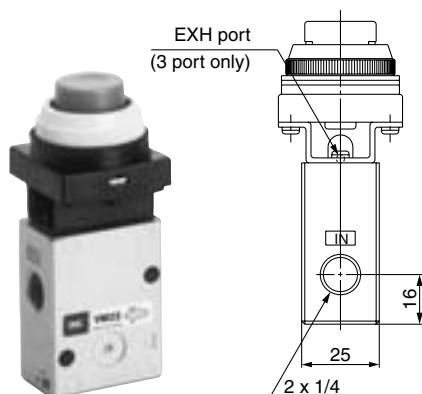
VH□

Series VM200

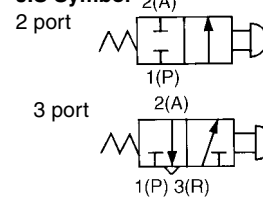
Series VM200

Push button (Extended)

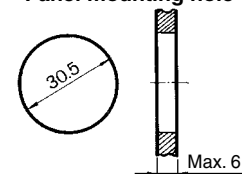
VM220-02-32R/B/G/Y
VM230-02-32R/B/G/Y



JIS Symbol



Panel mounting hole

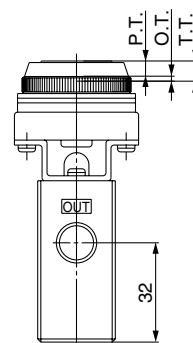
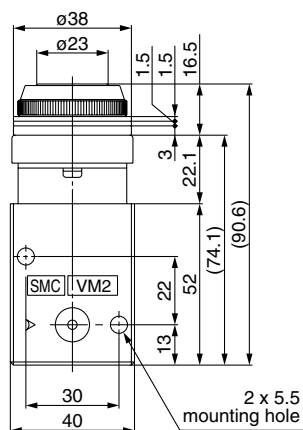
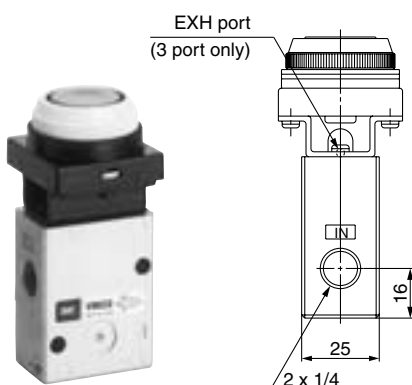


* 0.5 MPa supply

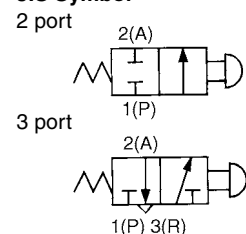
F.O.F. *	52 N
P.T.	4.9 mm
O.T.	1.6 mm
T.T.	6.5 mm

Push button (Flush)

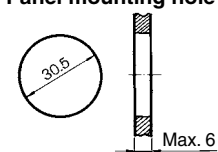
VM220-02-33
VM230-02-33



JIS Symbol



Panel mounting hole

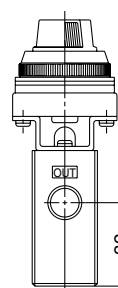
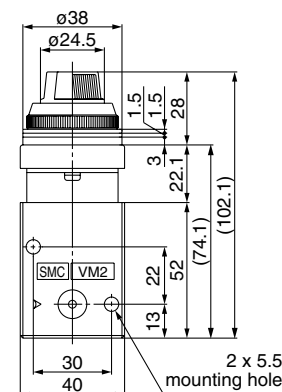
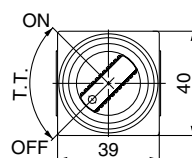
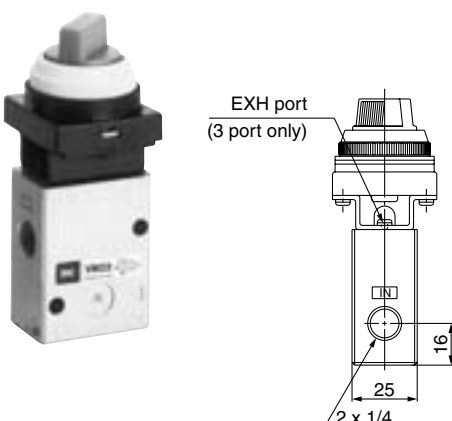


* 0.5 MPa supply

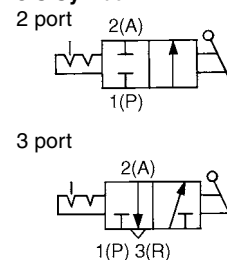
F.O.F. *	52 N
P.T.	4.9 mm
O.T.	1.6 mm
T.T.	6.5 mm

Twist selector (2 position)

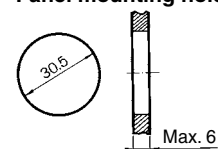
VM220-02-34R/B/G/Y
VM230-02-34R/B/G/Y



JIS Symbol



Panel mounting hole



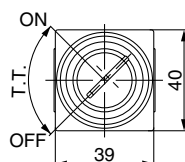
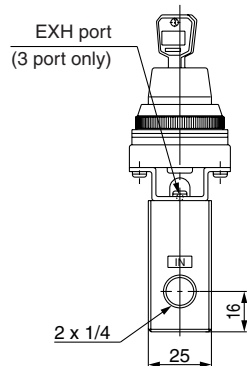
* 0.5 MPa supply

F.O.F. *	32 N
T.T.	90°

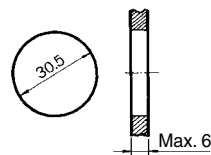
Series VM200

Key selector (2 position)

VM220-02-36
VM230-02-36

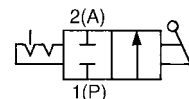


Panel mounting hole

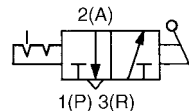


JIS Symbol

2 port



3 port



* 0.5 MPa supply

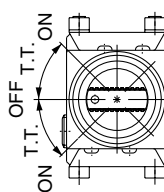
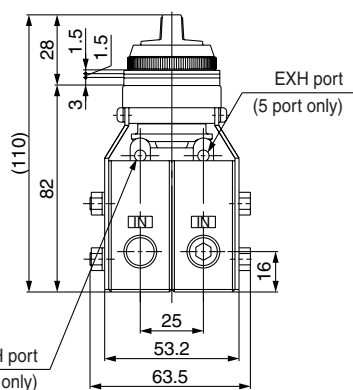
F.O.F. *	32 N
T.T.	90°



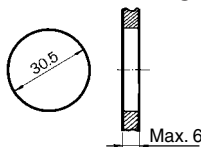
Key can be removed at the "on" and "off" positions.

Twist selector (3 position)

VM230-02-35R/B/G/Y
VM250-02-35R/B/G/Y

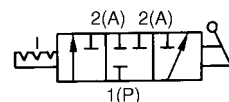


Panel mounting hole

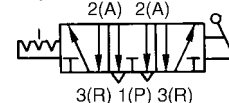


JIS Symbol

3 port



5 port

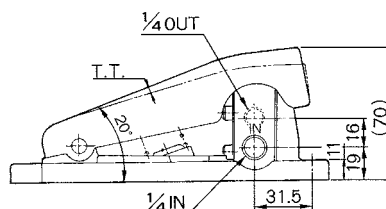
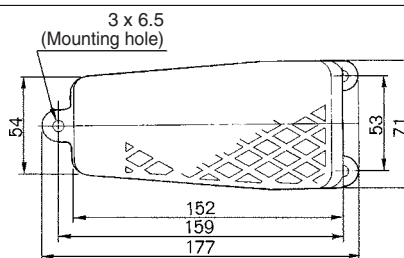


* 0.5 MPa supply

F.O.F. *	40 N
T.T.	45°

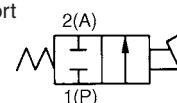
Foot pedal

VM220-02-40
VM230-02-40

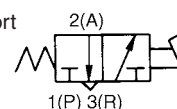


JIS Symbol

2 port



3 port



* 0.5 MPa supply

F.O.F. *	65 N
T.T.	1.2°

VM

VMG

VR

VH

3 Port Mechanical Valve Series VM400

RoHS

Either N.C. or N.O. is available.

Piping possible to any port.

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



Specifications

Fluid	Air/Inert gas
Operating pressure	−100 kPa to 1.0 MPa
Ambient and fluid temperature	−5 to 60°C (No freezing)
Effective area	7 mm ²
Lubrication	Not required (Use turbine oil Class 1 ISO VG32, if lubricated)
Port size	1/8
Mass (Basic)	110g

Model

	Actuator	Model	Actuator part no.	Application
Mechanical operation	Basic	VM430-01-00	—	—
	Roller lever	VM430-01-01	VM-01A	Polyacetal roller
		VM430-01-01S	VM-01AS	Hard steel roller
	One way roller lever	VM430-01-02	VM-02A	Polyacetal roller
		VM430-01-02S	VM-02AS	Hard steel roller
	Straight plunger	VM430-01-05	VM-05A	—
	Roller plunger	VM430-01-06	VM-06A	Polyacetal roller
		VM430-01-06S	VM-06AS	Hard steel roller
	Cross roller plunger	VM430-01-07	VM-07A	Polyacetal roller
		VM430-01-07S	VM-07AS	Hard steel roller
Manual operation	Toggle lever	VM430-01-08	VM-08A	—
	Push button (Mushroom)	VM430-01-30R	VM-30AR	Red
		VM430-01-30B	VM-30AB	Black
		VM430-01-30G	VM-30AG	Green
		VM430-01-30Y	VM-30AY	Yellow
	Push button (Extended)	VM430-01-32R	VM-32AR	Red
		VM430-01-32B	VM-32AB	Black
		VM430-01-32G	VM-32AG	Green
		VM430-01-32Y	VM-32AY	Yellow
	Push button (Flush)	VM430-01-33	VM-33A	With a set of red, black, green, yellow
	Twist selector (2 position)	VM430-01-34R	VM-34AR	Red
		VM430-01-34B	VM-34AB	Black
		VM430-01-34G	VM-34AG	Green
		VM430-01-34Y	VM-34AY	Yellow
	Key selector (2 position)	VM430-01-36	VM-36A	—



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 1887 to 1888. The other parts are not replaceable.

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

How to Order

VM4 3 0 - 01 - 01 S -

- Number of ports**
3 3 port
- Port size**

01	Rc 1/8
N01	NPT 1/8
F01	G 1/8
- Actuator type**

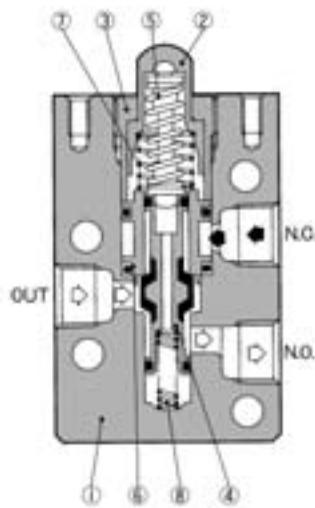
00	Basic
01	Roller lever
02	One way roller lever
05	Straight plunger
06	Roller plunger
07	Cross roller plunger
08	Toggle lever
30	Push button (Mushroom)
32	Push button (Extended)
33	Push button (Flush)
34	Twist selector (2 position)
36	Key selector (2 position)
- Made to Order**
(Refer to pages 1882 to 1885 for details.)

X207	Alternate type, Mushroom push button
X219	Push-lock turn-reset type, Mushroom push button
- Suffix for actuator**

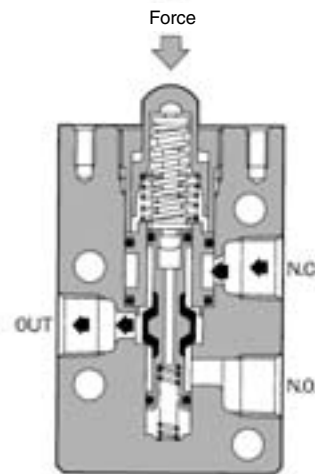
S	Hard steel roller
R	Red
B	Black
G	Green
Y	Yellow

Construction

Non-actuated



Actuated



Component Parts

No.	Description	Material	Note
1	Body	ADC	Platinum silver
2	Plunger	POM	
3	Upper lid	Brass	Black zinc chromated
4	Spool valve	Aluminum alloy	Rubber lined

No.	Description	Material	Note
5	Over travel spring	Stainless steel	
6	Retainer	Brass	
7	Spring	Stainless steel	
8	Spring	Stainless steel	

VM□

VMG

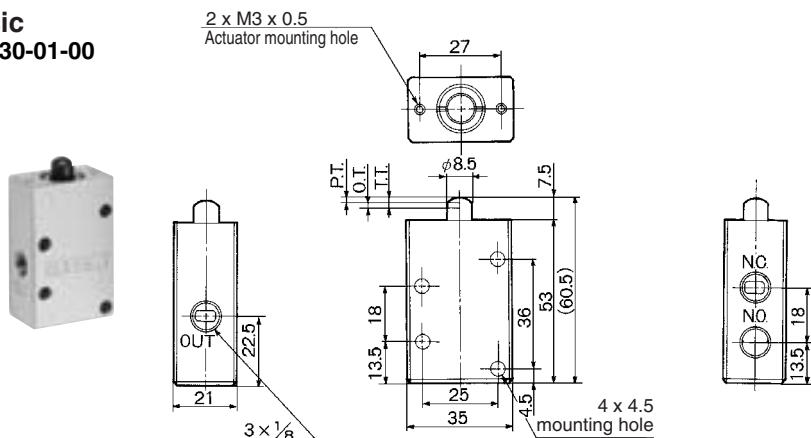
VR□

VH□

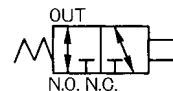
Series VM400

Series VM400

Basic VM430-01-00

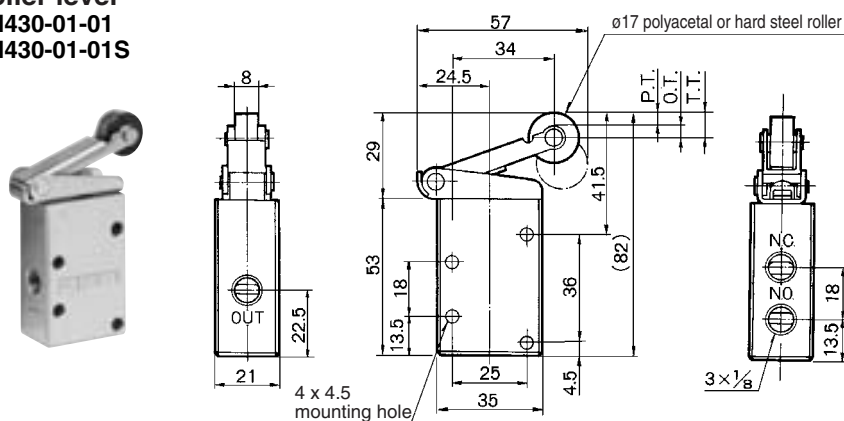


JIS Symbol

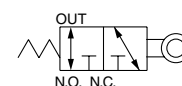


F.O.F.	26 N
P.T.	1.5 mm
O.T.	2.0 mm
T.T.	3.5 mm

Roller lever VM430-01-01 VM430-01-01S

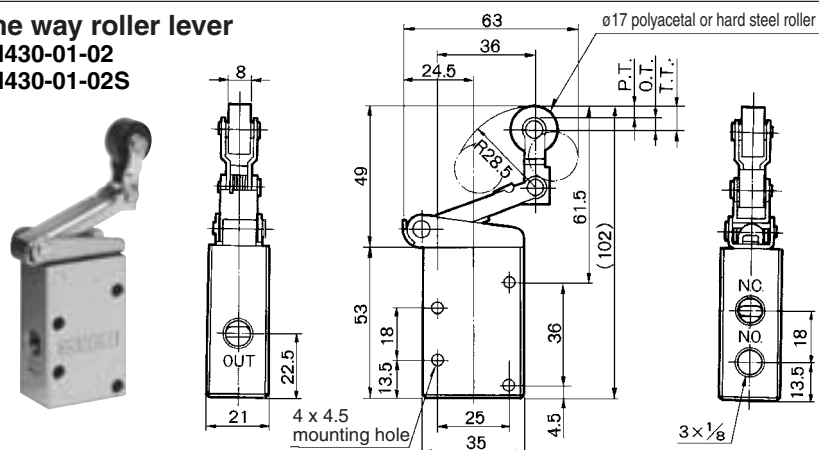


JIS Symbol

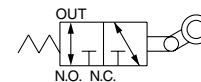


F.O.F.	12 N
P.T.	4.0 mm
O.T.	4.5 mm
T.T.	8.5 mm

One way roller lever VM430-01-02 VM430-01-02S

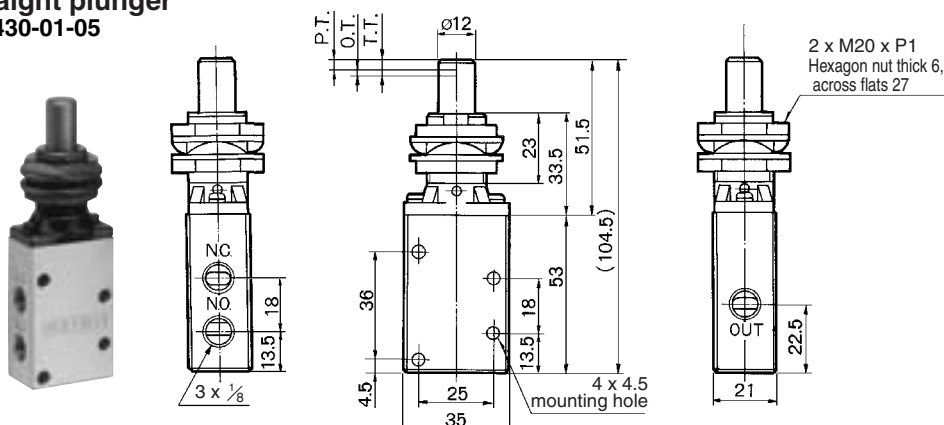


JIS Symbol

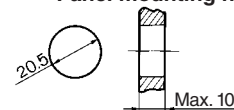


F.O.F.	11 N
P.T.	4.0 mm
O.T.	5.0 mm
T.T.	9.0 mm

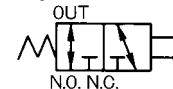
Straight plunger VM430-01-05



Panel mounting hole



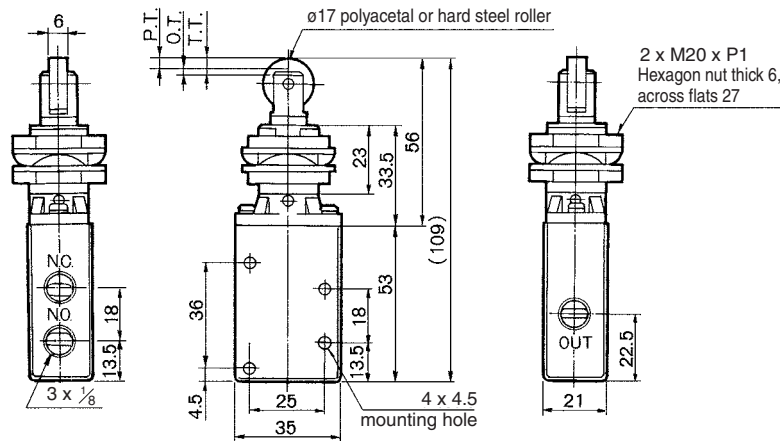
JIS Symbol



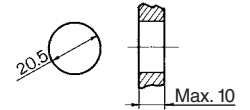
F.O.F.	30 N
P.T.	3.5 mm
O.T.	2.0 mm
T.T.	5.5 mm

Series VM400

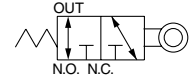
Roller plunger VM430-01-06 VM430-01-06S



Panel mounting hole

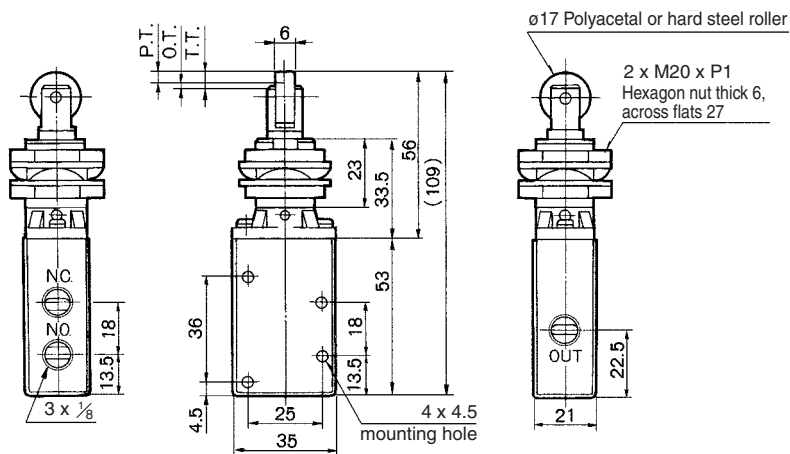


JIS Symbol

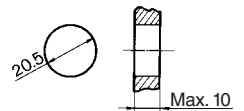


F.O.F.	30 N
P.T.	3.5 mm
O.T.	2.0 mm
T.T.	5.5 mm

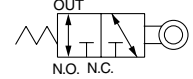
Cross roller plunger VM430-01-07 VM430-01-07S



Panel mounting hole

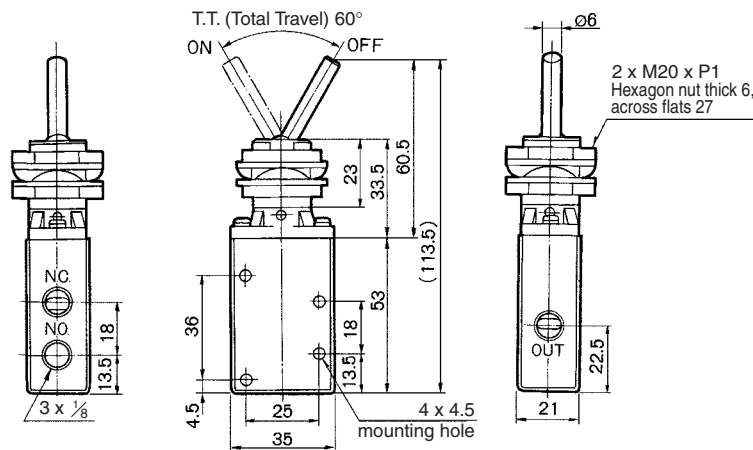


JIS Symbol

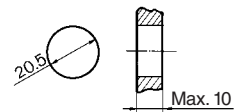


F.O.F.	30 N
P.T.	3.5 mm
O.T.	2.0 mm
T.T.	5.5 mm

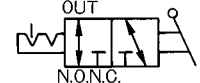
Toggle lever VM430-01-08



Panel mounting hole

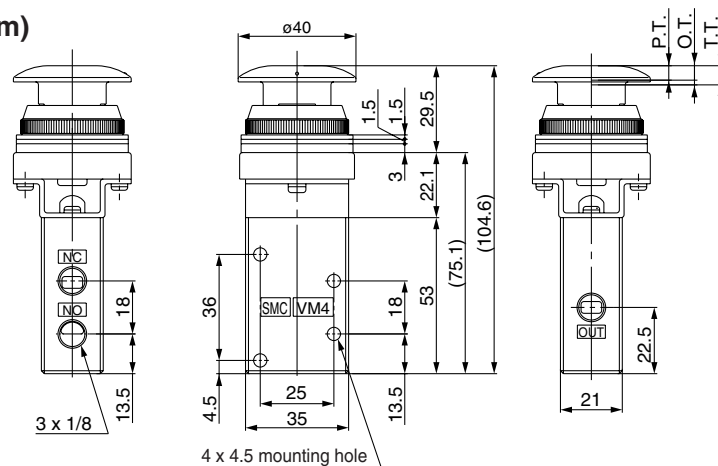


JIS Symbol

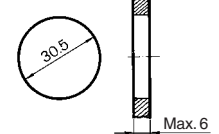


F.O.F.	7 N
T.T.	60°

Push button (Mushroom) VM430-01-30R/B/G/Y



Panel mounting hole



JIS Symbol



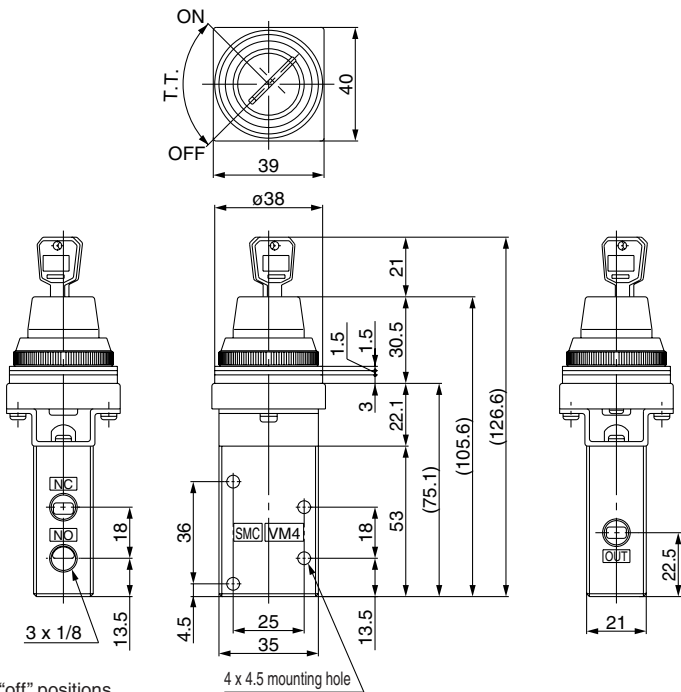
F.O.F.	26 N
P.T.	4.6 mm
O.T.	1.6 mm
T.T.	6.5 mm

Series VM400

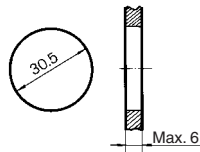
Key selector (2 position)
VM430-01-36



Key can be removed at the “on” and “off” positions.



Panel mounting hole



JIS Symbol



F.O.F.	20 N
T.T.	90°

- VM□
- VMG
- VR□
- VH□

3 Port Mechanical Valve: Heavy Duty Type

Series VM800

RoHS

Sturdy construction.

Either N.C. or N.O. is available.

Piping possible to any port.

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

Many actuator positions and orientation options.



Specifications

Fluid	Air/Inert gas
Operating pressure	-100 kPa to 1.0 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Effective area	6 mm ²
Lubrication	Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)
Port size	1/8
Mass (Basic)	180 g

Model

Actuator	Model	Actuator part no.
Basic	VM830-01-00	—
Roller lever	VM830-01-01	VM-01F
Adjustable roller lever	VM830-01-13	VM-13F
Adjustable rod lever	VM830-01-14	VM-14F



• Actuator replacement is available.

How to Order

VM830 - 01 - 01

Number of ports

3 3 port

Port size

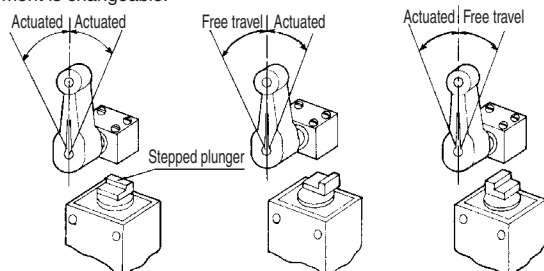
01	Rc 1/8
N01	NPT 1/8
F01	G 1/8

Actuator type

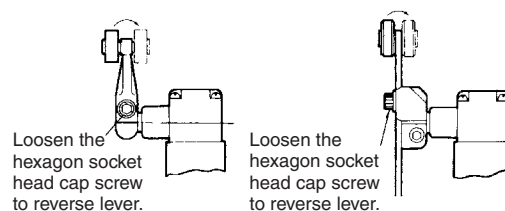
00	Basic
01	Roller lever
13	Adjustable roller lever
14	Adjustable rod lever

Application

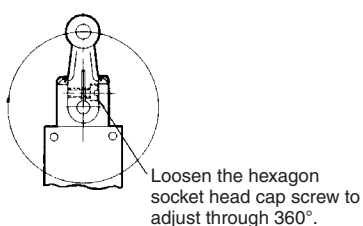
● Movement is changeable.



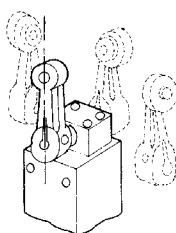
● Roller can be mounted to inside of lever.



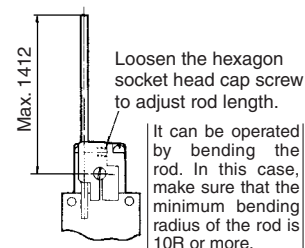
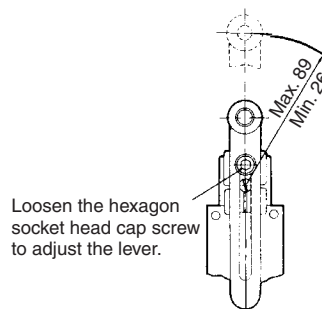
● Lever location can be changed.



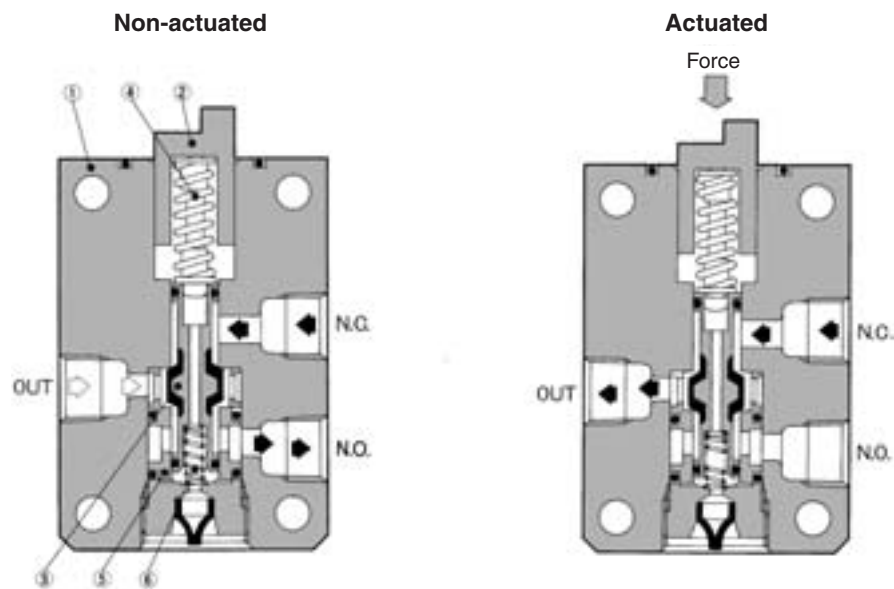
● Head direction can be changed.



● Lever length adjustment.



Construction



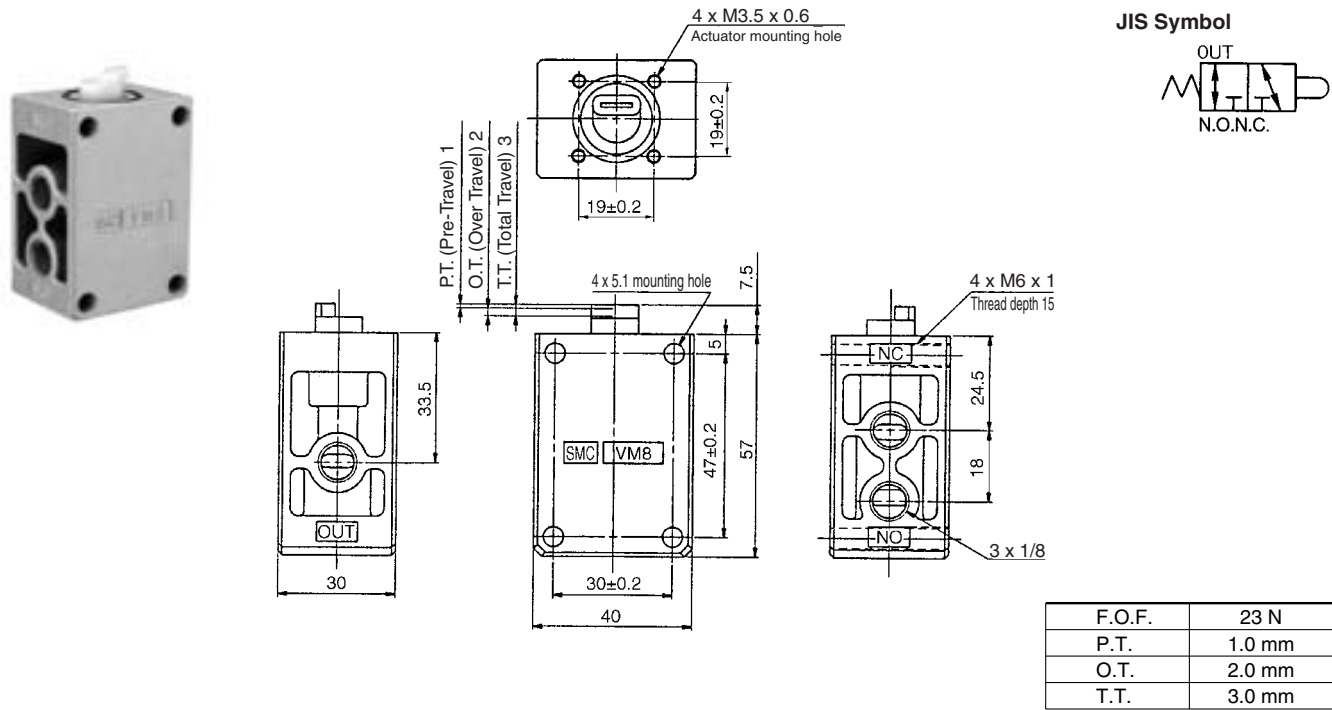
Component Parts

No.	Description	Material	Note
1	Body	ADC	Platinum silver
2	Plunger	POM	
3	Spool valve	Aluminum alloy, NBR	Rubber lined

No.	Description	Material	Note
4	Over travel spring	Stainless steel	
5	Retainer	Brass	
6	Spring	Steel	Zinc chromated

Series VM800

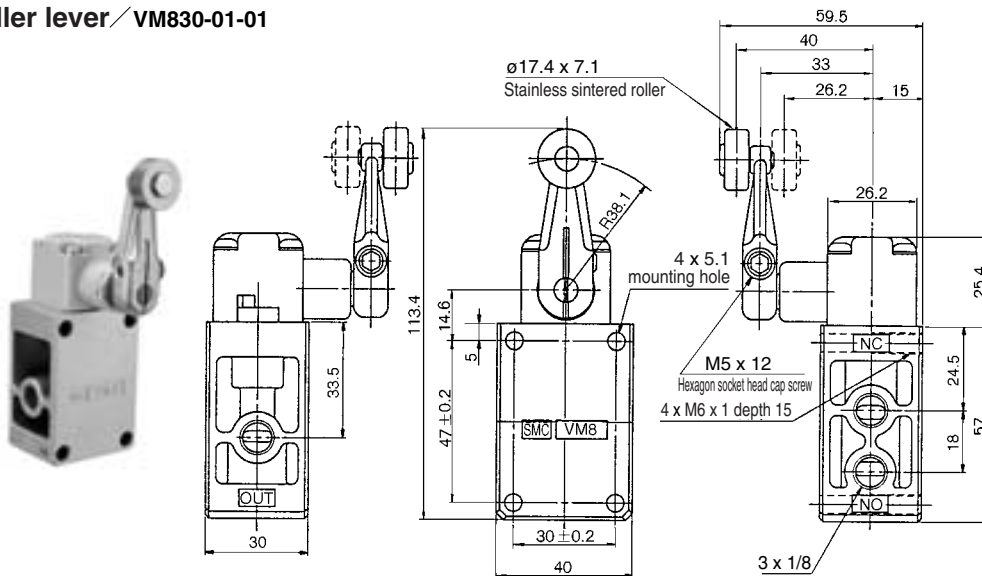
Basic / VM830-01-00



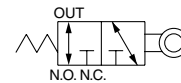
Series VM800

Series VM800

Roller lever / VM830-01-01

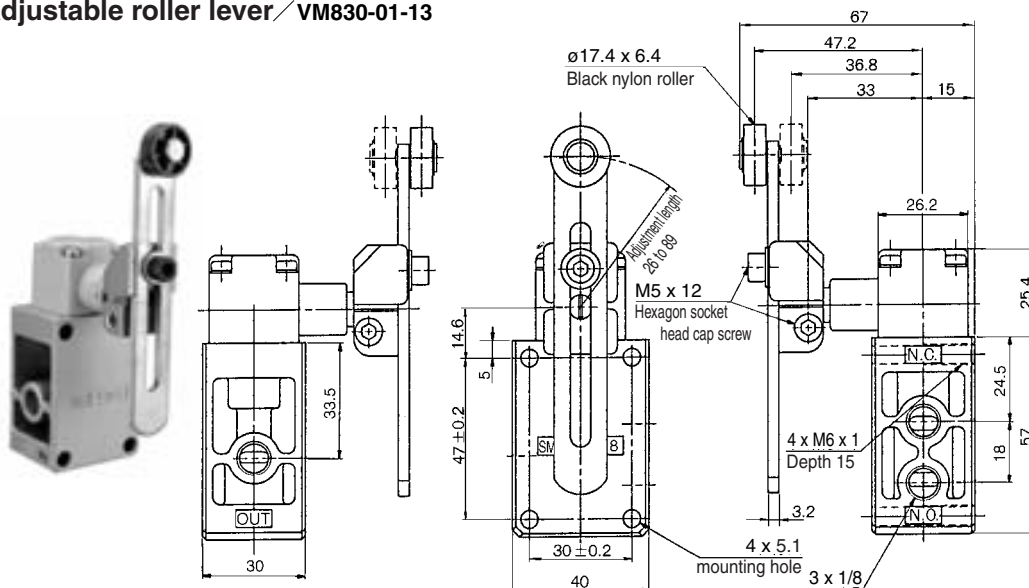


JIS Symbol

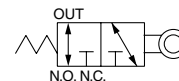


F.O.F.	20 N
P.T.	20°
O.T.	30°
T.T.	50°

Adjustable roller lever / VM830-01-13

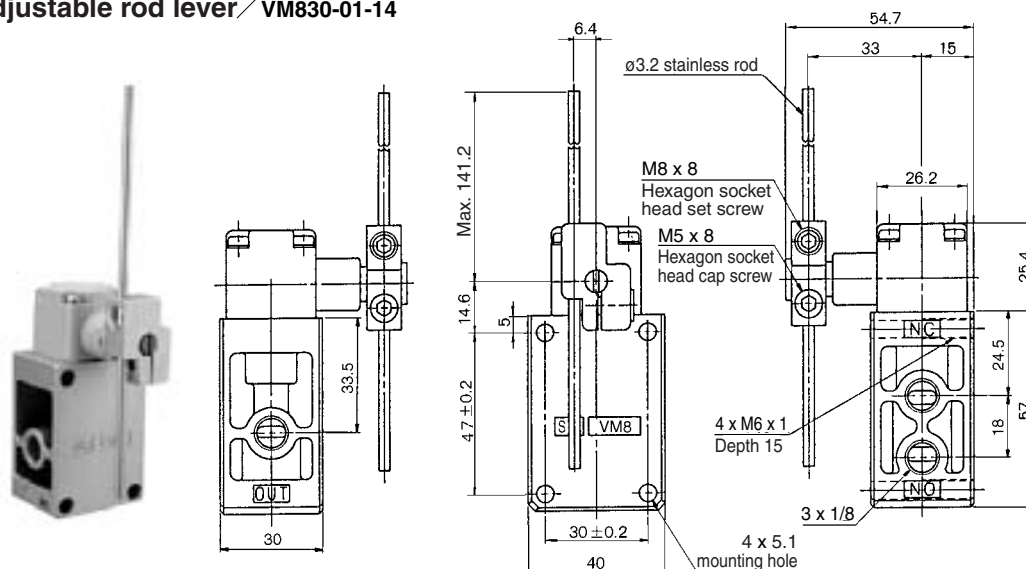


JIS Symbol



* At lever length 38.1 mm	
F.O.F. *	20 N
P.T.	20°
O.T.	30°
T.T.	50°

Adjustable rod lever / VM830-01-14



JIS Symbol



* At lever length 141.2 mm	
F.O.F. *	2.3 N
P.T.	20°
O.T.	30°
T.T.	50°

5 Port Mechanical Valve Metal Seal

Series *VZM400*

RoHS

**Compact design,
large flow capacity 9.9 mm²**

**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.

**Pilot type is selectable.
(Internal pilot and external pilot)**

**Foot bracket and manifold
mounting possible.**



Specifications

Fluid	Air/Inert gas
Operating pressure	0.15 to 1.0 MPa ⁽¹⁾
Ambient and fluid temperature	-5 to 60°C (No freezing)
Effective area	9.9 mm ²
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/1/8 Pilot valve (EXH)/M5 x 0.8
Option	Foot bracket ⁽²⁾
Mass (Basic)	120 g



* Please contact SMC for manifold mounting style.

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

Pilot valve: 0.15 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	VZM450-01-00	—	—
	Roller lever	VZM450-01-01	VM-01C	Polyacetal roller
		VZM450-01-01S	VM-01CS	Hard steel roller
	One way roller lever	VZM450-01-02	VM-02C	Polyacetal roller
		VZM450-01-02S	VM-02CS	Hard steel roller
	Straight plunger	VZM450-01-05	VM-05C	—
Manual operation	Roller plunger	VZM450-01-06	VM-06C	Polyacetal roller
		VZM450-01-06S	VM-06CS	Hard steel roller
	Toggle lever	VZM450-01-08	VM-08C	—
	Push button (Mushroom)	VZM450-01-30R	VM-30CR	Red
		VZM450-01-30B	VM-30CB	Black
		VZM450-01-30G	VM-30CG	Green
		VZM450-01-30Y	VM-30CY	Yellow
	Push button (Extended)	VZM450-01-32R	VM-32CR	Red
		VZM450-01-32B	VM-32CB	Black
		VZM450-01-32G	VM-32CG	Green
		VZM450-01-32Y	VM-32CY	Yellow
	Push button (Flush)	VZM450-01-33	VM-33C	With a set of red, black, green, yellow
	Twist selector (2 position)	VZM450-01-34R	VM-34CR	Red
		VZM450-01-34B	VM-34CB	Black
		VZM450-01-34G	VM-34CG	Green
		VZM450-01-34Y	VM-34CY	Yellow
	Key selector (2 position)	VZM450-01-36	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 1887 and 1888. The other parts are not replaceable.

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

VM□

VMG

VR□

VH□

How to Order

VZM45

0

01

01

S

●Made to Order

(Refer to pages 1882 to 1885 for details.)

X207

Alternate type, Mushroom push button

X219

Push-lock turn-reset type, Mushroom push button

●Option

F

Foot bracket
(Only internal pilot)

●Port size

01

Rc 1/8

N01

NPT 1/8

F01

G 1/8

●Body option

0

Internal pilot type

1

External pilot type

●Actuator 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)

●Suffix for actuator

S

Hard steel roller

R

Red

Color of push button selector

B

Black

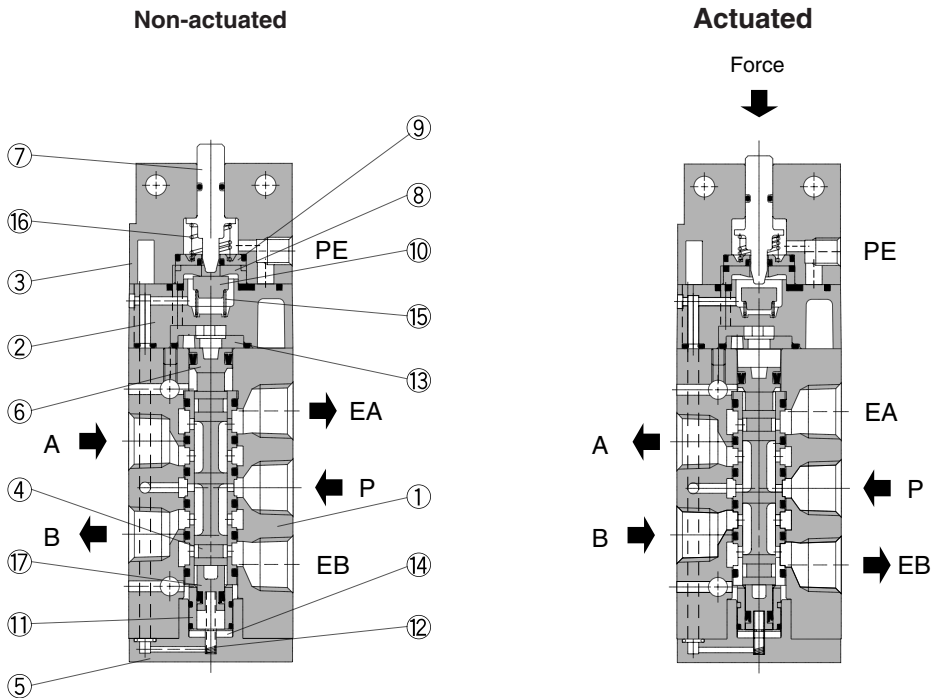
G

Green

Y

Yellow

Construction



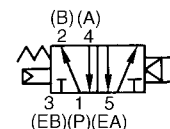
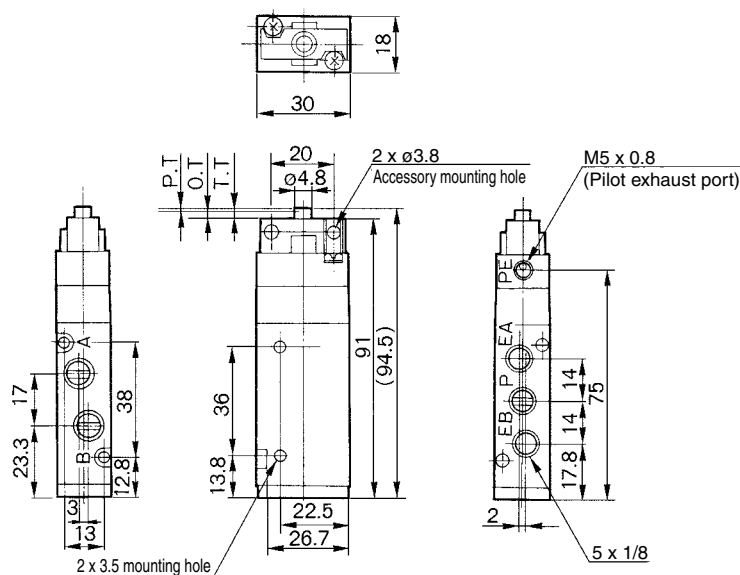
Component Parts

No.	Description	Material	Note
1	Body	ADC	Platinum silver
2	Pilot body	PBT	ZDC only for external pilot type
3	Head cover	ZDC	Black zinc chromated
4	Spool/sleeve	Stainless steel	
5	End cover	POM	
6	Piston A	POM	
7	Plunger	POM	
8	Valve seat (A)	POM	
9	Valve seat (B)	POM	

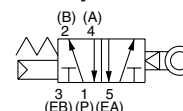
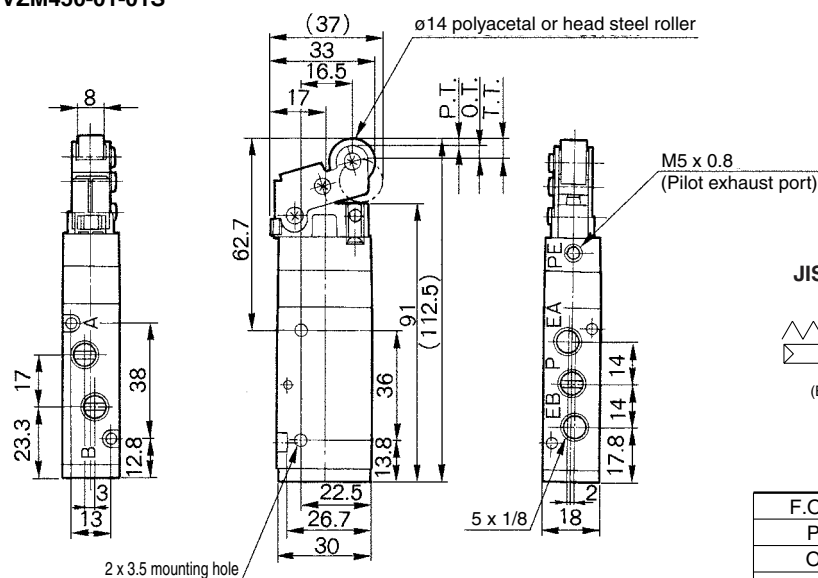
No.	Description	Material	Note
10	Valve	NBR	
11	Piston guide B	Aluminum alloy	
12	Return spring	Stainless steel	
13	Cushion	Rubber	
14	Cushion	Rubber	
15	Valve spring	Stainless steel	
16	Return spring	Stainless steel	
17	Piston B	POM	

Clinical Valve Metal Seal

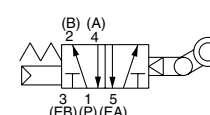
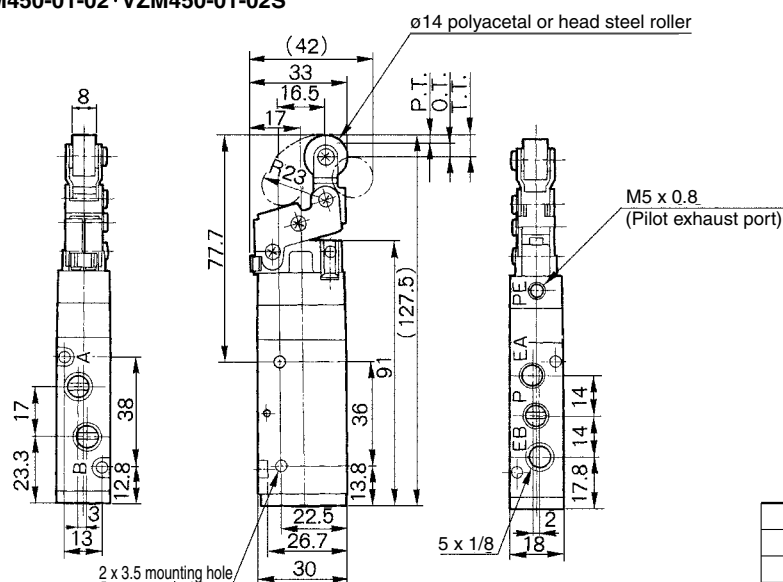
Basic/VZM450-01-00



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

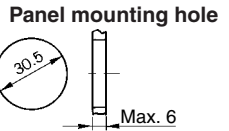


F.O.F. *	8 N
P.T.	2.2 mm
O.T.	4.0 mm
T.T.	6.2 mm



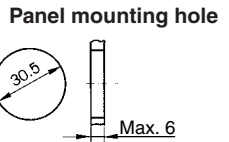
F.O.F. *	7 N
P.T.	2.4 mm
O.T.	4.6 mm
T.T.	7.0 mm

Push button (Mushroom) / VZM450-01-30R/B/G/Y



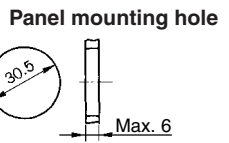
* 0.5 MPa supply	
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

Push button (Extended) / VZM450-01-32R/B/G/Y



* 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) / VZM450-01-33

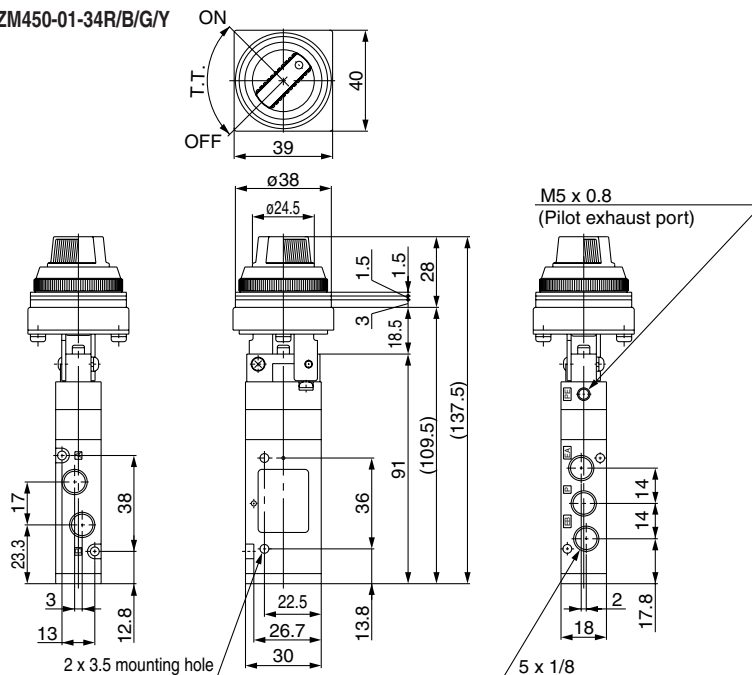


* 0.5 MPa supply	
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

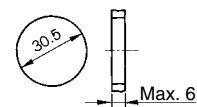
Series VZM400

Series VZM400

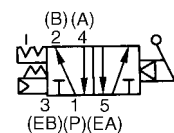
Twist selector (2 position) / VZM450-01-34R/B/G/Y



Panel mounting hole



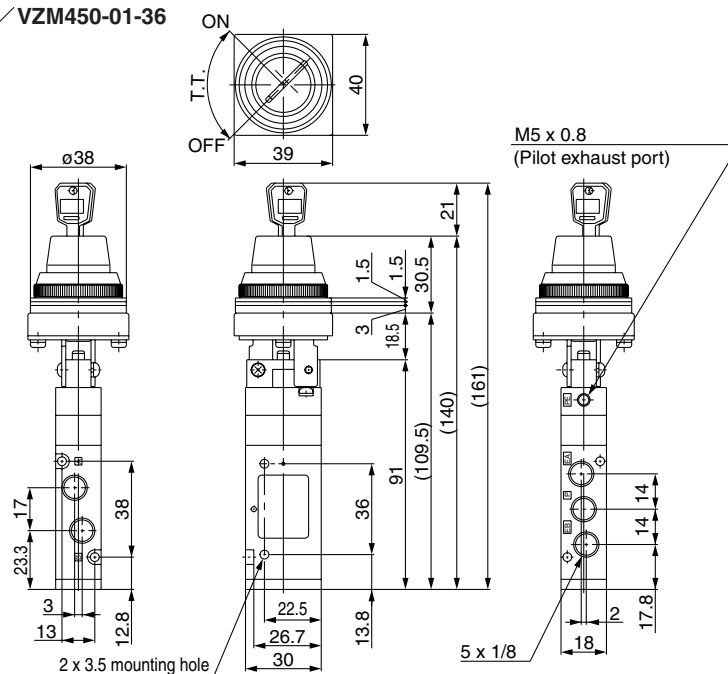
JIS Symbol



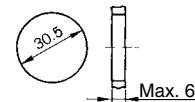
* 0.5 MPa supply

F.O.F. *	23 N
T.T.	90°

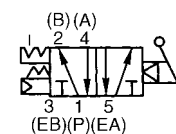
Key selector (2 position) / VZM450-01-36



Panel mounting hole



JIS Symbol



* 0.5 MPa supply

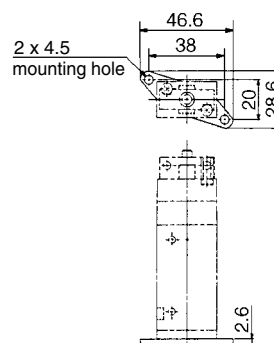
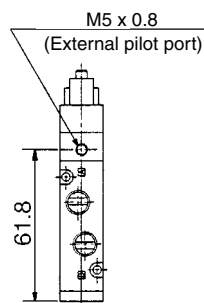
F.O.F. *	26 N
T.T.	90°



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

External pilot type
VZM451 type

With foot bracket
VZM450-01-□□-F



5 Port Mechanical Valve

Series *VZM500*

RoHS

**Compact design,
large flow capacity 10.8 mm²
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.

**Pilot type is selectable.
(Internal pilot and external pilot)**

**Foot bracket and manifold
mounting possible.**



PAT.PEND.

Specifications

Fluid	Air/Inert gas
Operating pressure	0.15 to 0.7 MPa ⁽¹⁾
Ambient and fluid temperature	-5 to 60°C (No freezing)
Effective area	10.8 mm ²
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/1/8 Pilot valve (EXH)/M5 x 0.8
Option	Foot bracket ⁽²⁾
Mass (Basic)	110 g



* Please contact SMC for manifold mounting style.

Note 1) External pilot type Main valve: 0 to 0.7 MPa

Pilot valve: 0.15 to 0.7 MPa

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

Model

	Actuator	Model	Actuator part no.	Application
Mechanical operation	Basic	VZM550-01-00	—	—
	Roller lever	VZM550-01-01	VM-01C	Polyacetal roller
		VZM550-01-01S	VM-01CS	Hard steel roller
	One way roller lever	VZM550-01-02	VM-02C	Polyacetal roller
		VZM550-01-02S	VM-02CS	Hard steel roller
	Straight plunger	VZM550-01-05	VM-05C	—
Manual operation	Roller plunger	VZM550-01-06	VM-06C	Polyacetal roller
		VZM550-01-06S	VM-06CS	Hard steel roller
	Toggle lever	VZM550-01-08	VM-08C	—
	Push button (Mushroom)	VZM550-01-30R	VM-30CR	Red
		VZM550-01-30B	VM-30CB	Black
		VZM550-01-30G	VM-30CG	Green
		VZM550-01-30Y	VM-30CY	Yellow
	Push button (Extended)	VZM550-01-32R	VM-32CR	Red
		VZM550-01-32B	VM-32CB	Black
		VZM550-01-32G	VM-32CG	Green
		VZM550-01-32Y	VM-32CY	Yellow
	Push button (Flush)	VZM550-01-33	VM-33C	With a set of red, black, green, yellow
	Twist selector (2 position)	VZM550-01-34R	VM-34CR	Red
		VZM550-01-34B	VM-34CB	Black
		VZM550-01-34G	VM-34CG	Green
		VZM550-01-34Y	VM-34CY	Yellow
	Key selector (2 position)	VZM550-01-36	VM-36C	—
	Push-pull	VZM550-01-37	—	Black



Note 1) Actuator replacement is available for all types. (Except push-pull)

Note 2) For push button (mushroom), push button (extended), push button (flush) and a single unit of fastening ring, refer to pages 1887 and 1888. The other parts are not replaceable.

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

VM□

VMG

VR□

VH□

How to Order

VZM55

0

01

01

S

●Made to Order

(Refer to pages 1882 to 1885 for details.)

X207

Alternate type, Mushroom push button

X219

Push-lock turn-reset type, Mushroom push button

●Option

F

Foot bracket

●Port size

01

Rc 1/8

N01

NPT 1/8

F01

G 1/8

●Body option

0

Standard

1 *

External pilot type

* Except

VZM550-01-37

●Actuator 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)

37

Push-pull

●Suffix for actuator

S

Hard steel roller

R

Red

B

Black

G

Green

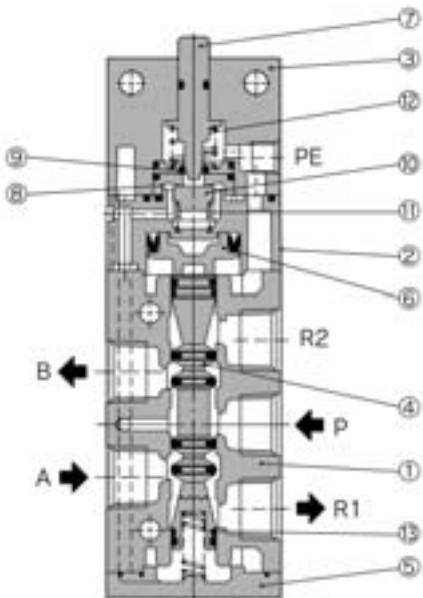
Y

Yellow

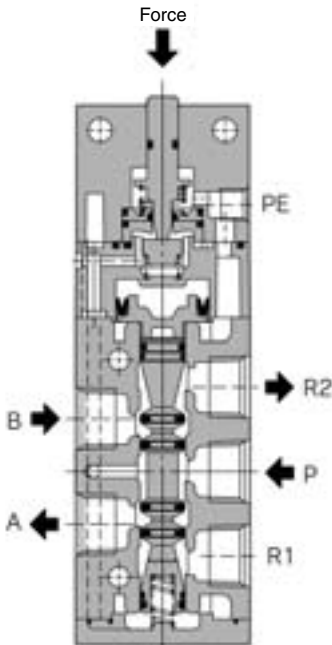
Color of push button selector

Construction

Non-actuated



Actuated



Component Parts

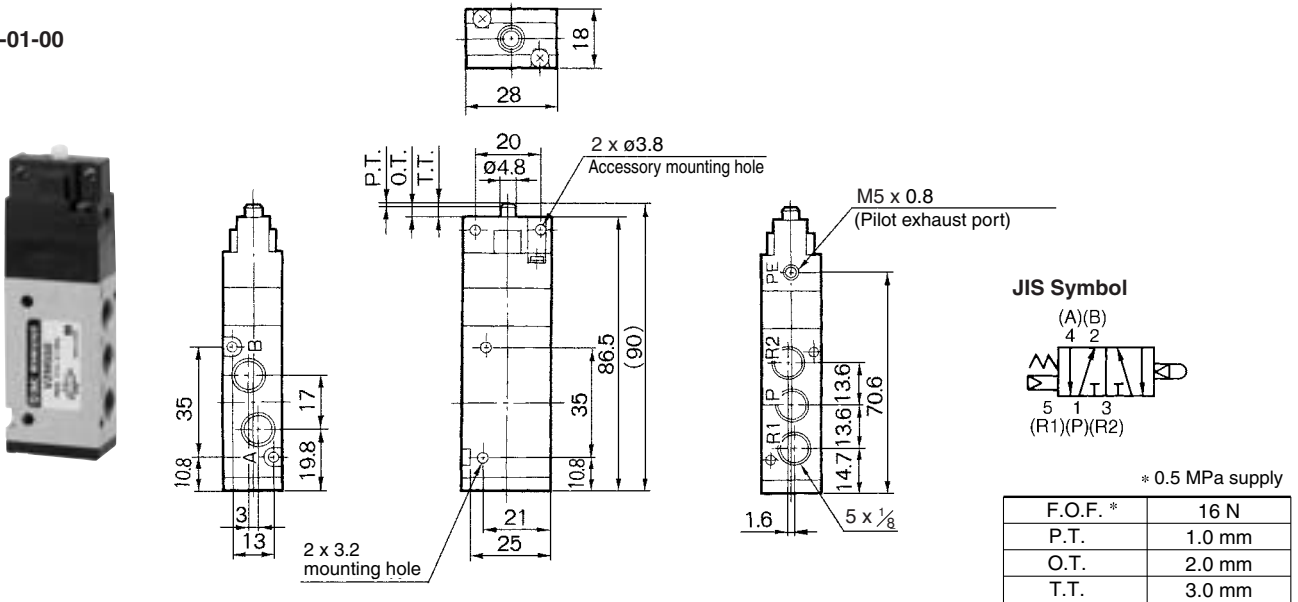
No.	Description	Material	Note
1	Body	ADC	Platinum silver
2	Pilot body	PBT	ZDC only for external pilot type
3	Head cover	ZDC	Black zinc chromated
4	Spool valve assembly		
5	End cover	ZDC	Matt-black
6	Piston	POM	
7	Plunger	POM	

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

Series VZM500

Basic

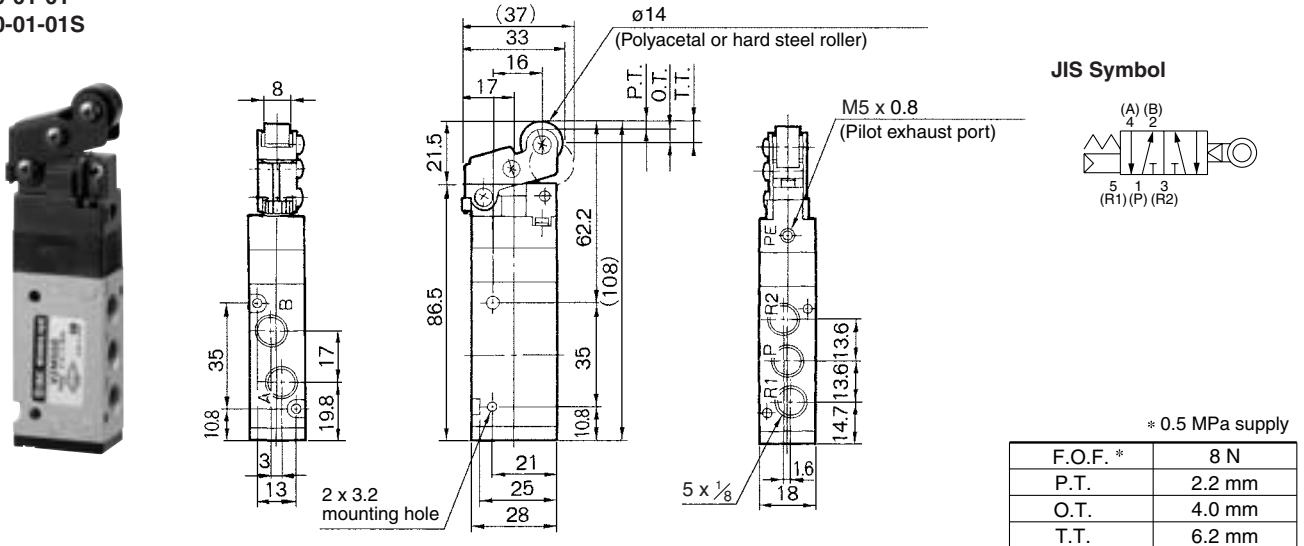
VZM550-01-00



Roller lever

VZM550-01-01

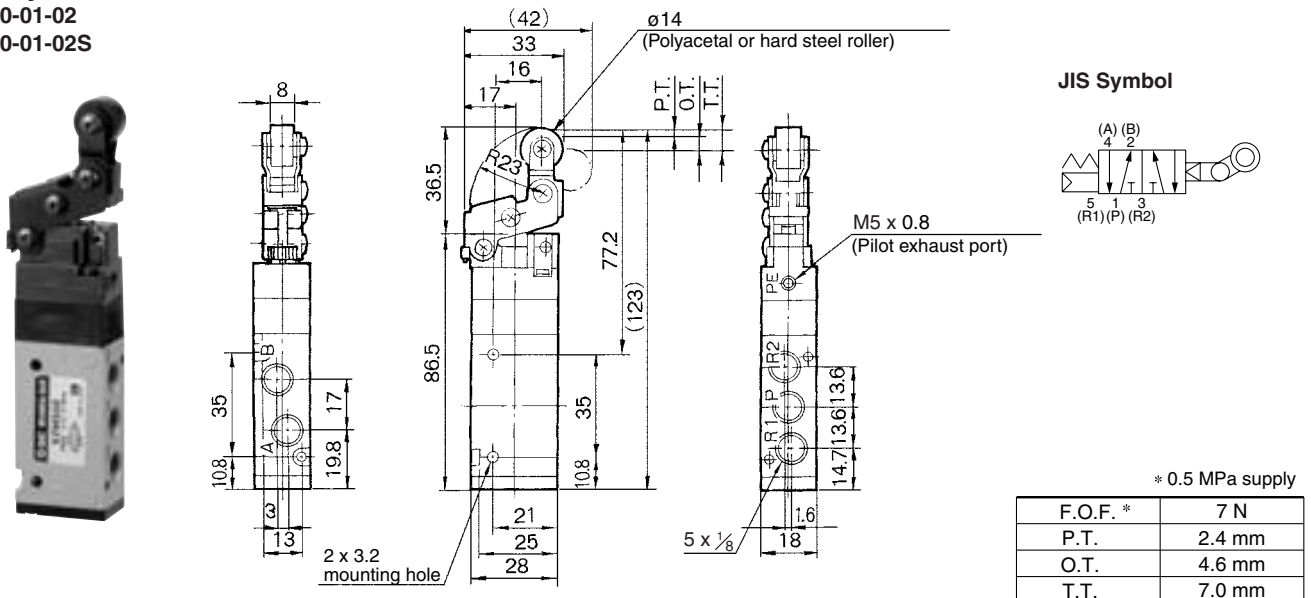
VZM550-01-01S



One way roller lever

VZM550-01-02

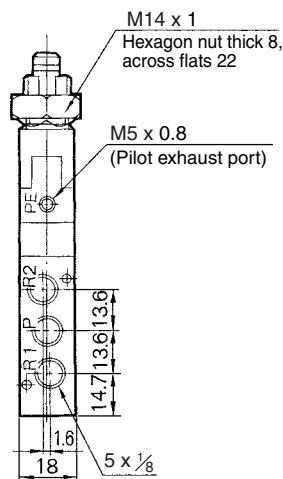
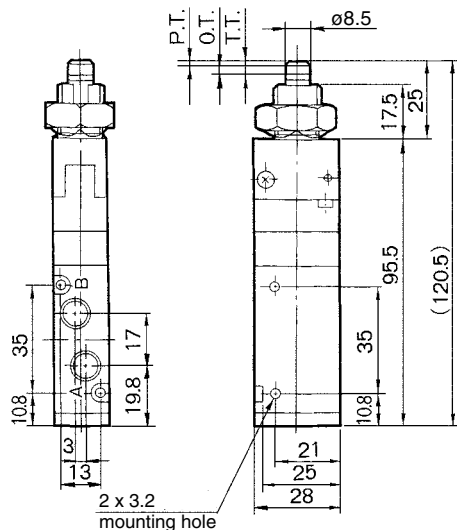
VZM550-01-02S



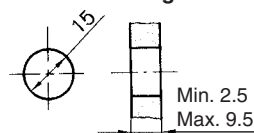
Series VZM500

Series VZM500

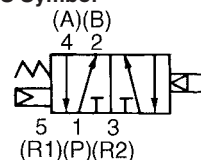
Straight plunger VZM550-01-05



Panel mounting hole



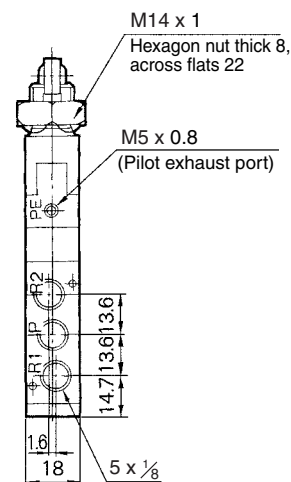
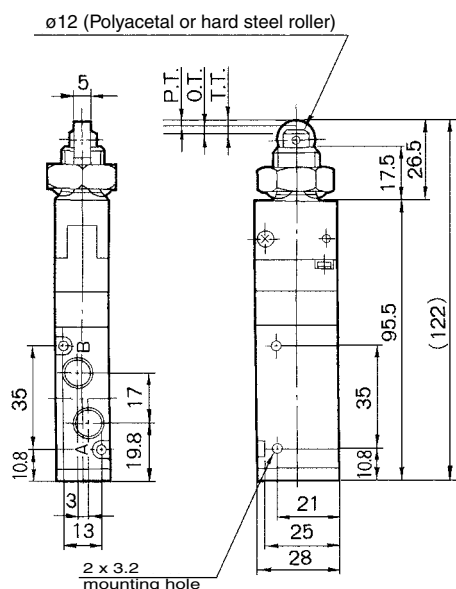
JIS Symbol



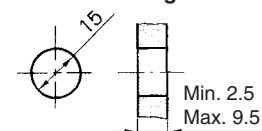
* 0.5 MPa supply

F.O.F. *	18 N
P.T.	1.5 mm
O.T.	2.0 mm
T.T.	3.5 mm

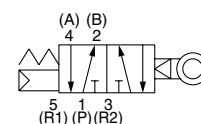
Roller plunger VZM550-01-06 VZM550-01-06S



Panel mounting hole



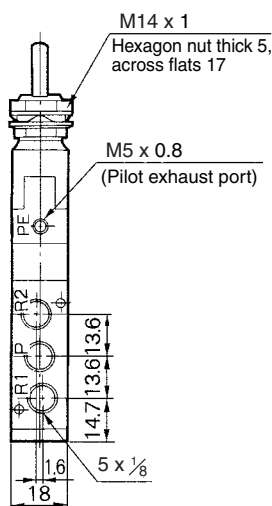
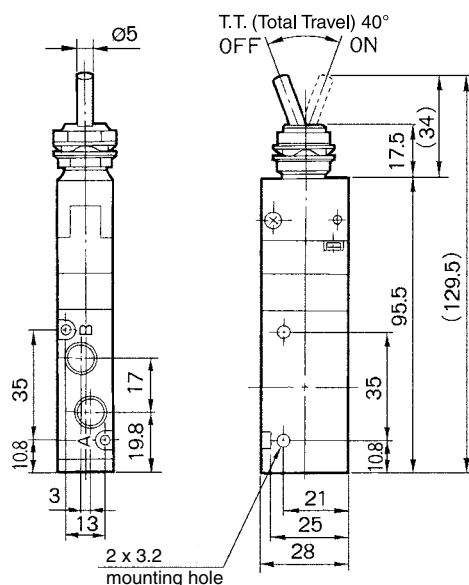
JIS Symbol



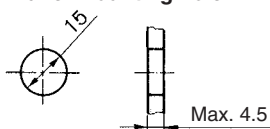
* 0.5 MPa supply

F.O.F. *	18 N
P.T.	1.5 mm
O.T.	2.0 mm
T.T.	3.5 mm

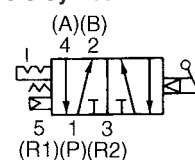
Toggle lever VZM550-01-08



Panel mounting hole



JIS Symbol



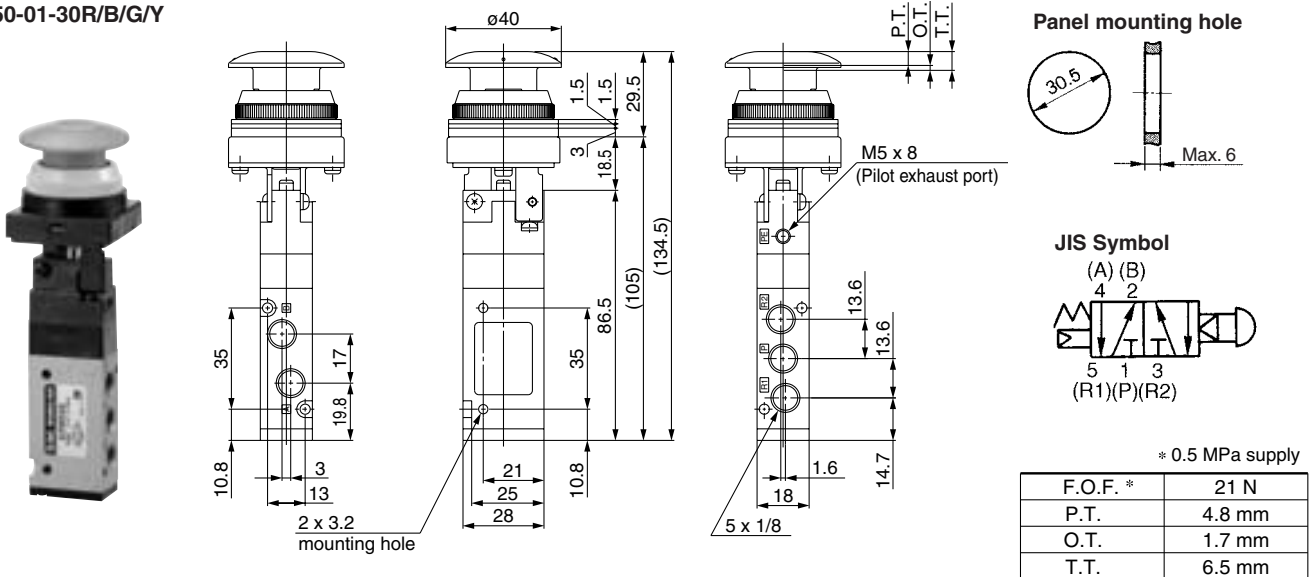
* 0.5 MPa supply

F.O.F. *	15 N
T.T.	40°

Series VZM500

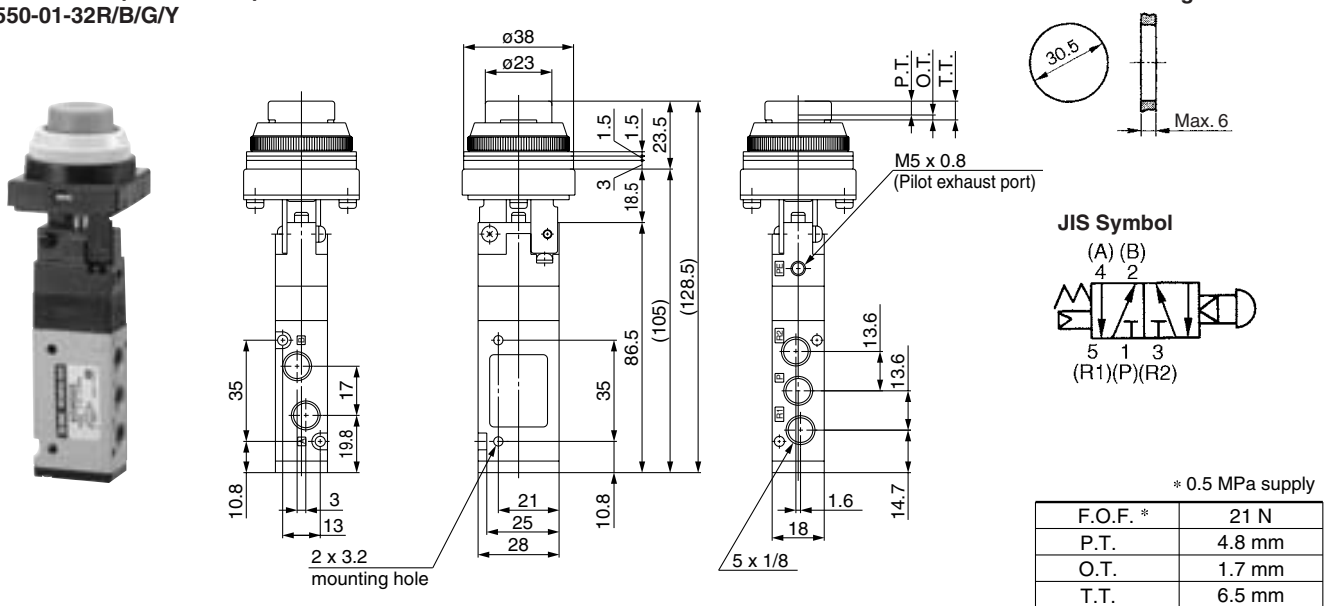
Push button (Mushroom)

VZM550-01-30R/B/G/Y



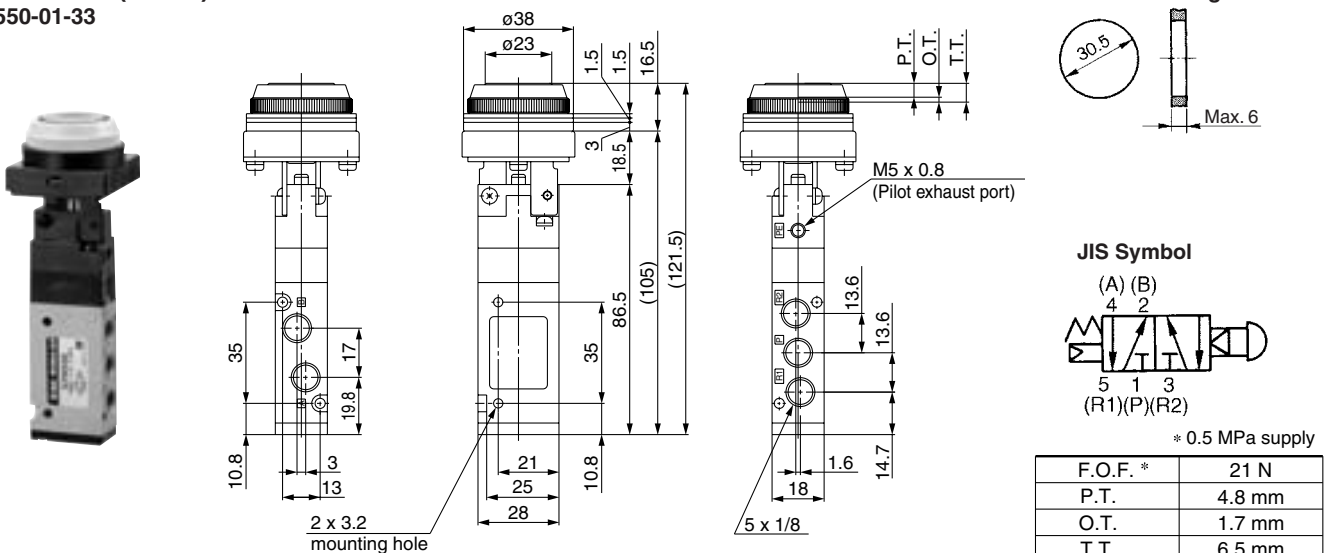
Push button (Extended)

VZM550-01-32R/B/G/Y



Push button (Flush)

VZM550-01-33



VM□

VMG

VR□

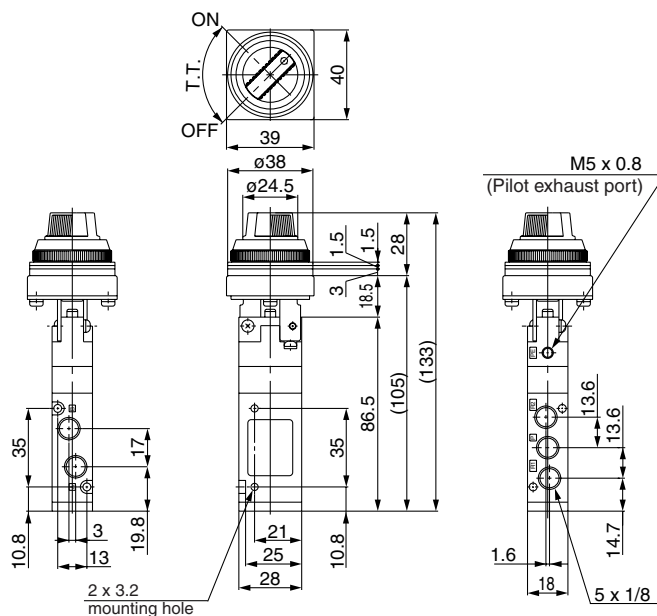
VH□

Series VZM500

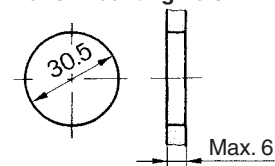
Series VZM500

Selector (2 position)

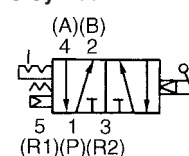
VZM550-01-34R/B/G/Y



Panel mounting hole



JIS Symbol

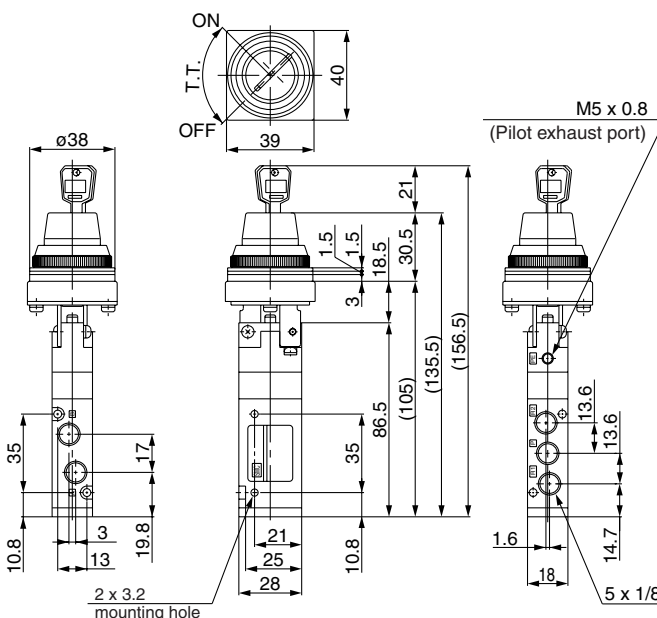


* 0.5 MPa supply

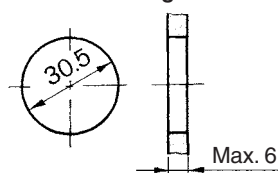
F.O.F. *	23 N
T.T.	90°

Key selector (2 position)

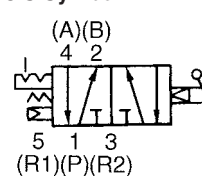
VZM550-01-36



Panel mounting hole



JIS Symbol



* 0.5 MPa supply

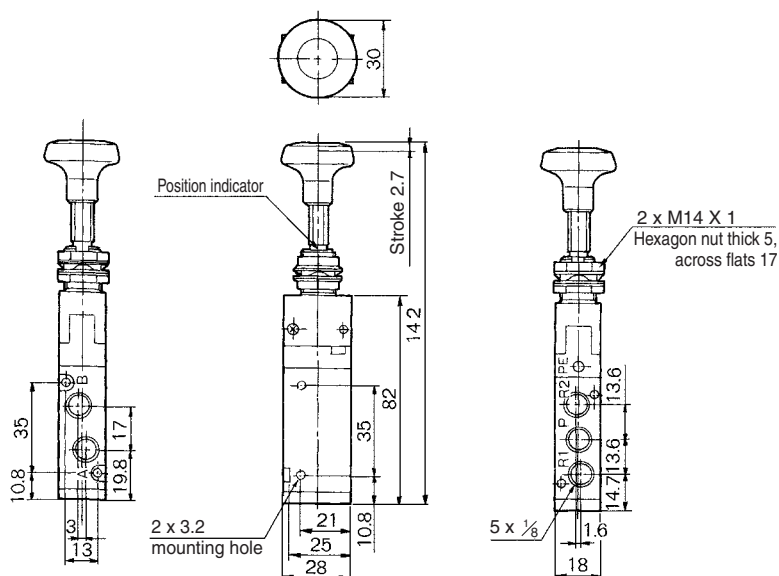
F.O.F. *	26 N
T.T.	90°



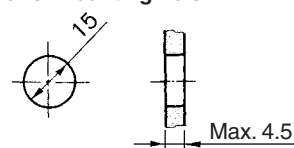
Key can be removed at the "on" and "off" positions.

Push pull

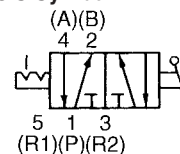
VZM550-01-37



Panel mounting hole

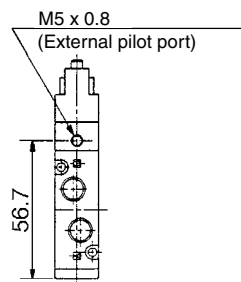


JIS Symbol

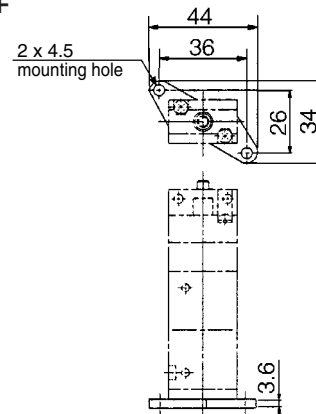


F.O.F.	20 N
T.T.	2.7 mm

External pilot type VZM551 type



With foot bracket VZM55□-01-□□-F



VM□

VMG

VR□

VH□

5 Port Mechanical Valve Rubber Seal

Series VFM300

RoHS

**Compact design,
large flow capacity 18 mm²
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.

**Pilot type is selectable.
(Internal pilot and external pilot)**

**Foot bracket and manifold
mounting possible.**



Specifications

Fluid	Air/Inert gas
Operating pressure	0.15 to 0.9 MPa ⁽¹⁾
Ambient and fluid temperature	−5 to 60°C(No freezing)
Effective area	18 mm ²
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 ⁽²⁾
Mass (Basic)	190g



* 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	—
Manual operation	Roller plunger	VFM350-02-06	VM-06D	Polyacetal roller
		VFM350-02-06S	VM-06DS	Hard steel roller
	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
		VFM350-02-32Y	VM-32CY	Yellow
	Push button (Flush)	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 1887 and 1888. 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 - -

• **Made to Order**
(Refer to pages 1882 to 1885 for details.)

X207	Alternate type, Mushroom push button
X219	Push-lock turn-reset type, Mushroom push button

• **Option**

F	Foot bracket (Only internal pilot)
----------	---------------------------------------

• **Port size**

02	Rc 1/4
N02	NPT 1/4
F02	G 1/4

• **Body option**

0	Internal pilot type
1	External pilot type

• **Actuator 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)

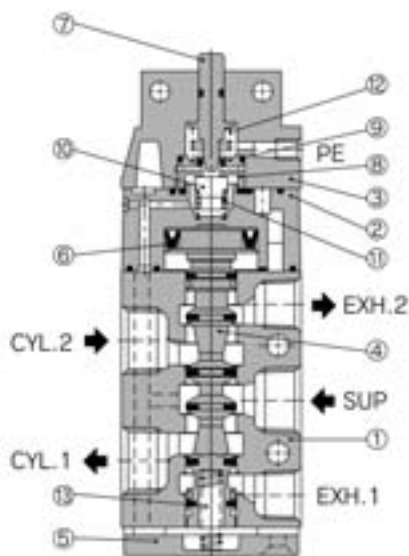
• **Suffix for actuator**

S	Hard steel roller
R	Red
B	Black
G	Green
Y	Yellow

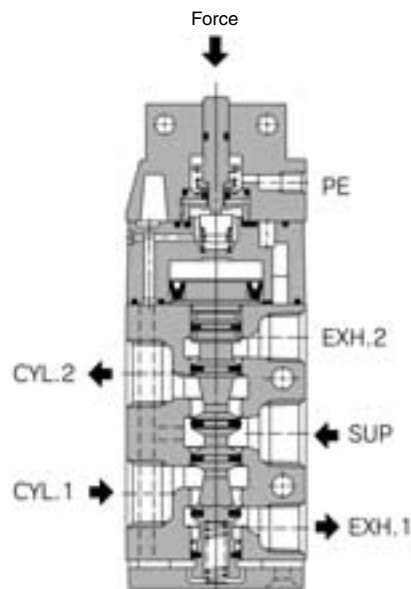
Color of push button selector

Construction

Non-actuated



Actuated



Component Parts

No.	Description	Material	Note
1	Body	ADC	Platinum silver
2	Pilot body	PBT	ZDC only for external pilot type
3	Head cover	ZDC	Black zinc chromated
4	Spool valve assembly		
5	End cover	ADC	Matt-black
6	Piston	POM	
7	Plunger	POM	

No.

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	

VM□

VMG

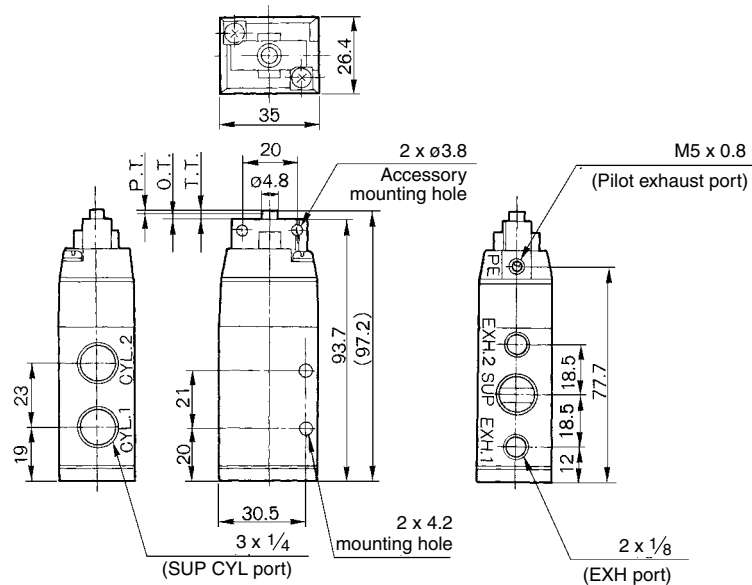
VR□

VH□

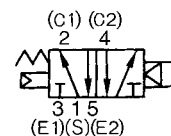
Series VFM300

Series VFM300

Basic VFM350-02-00



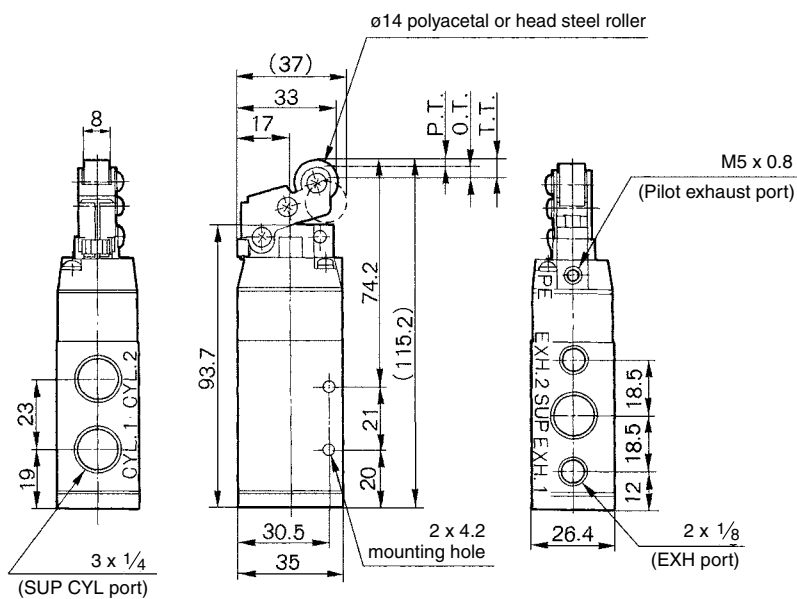
JIS Symbol



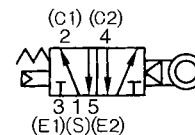
* 0.5 MPa supply

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



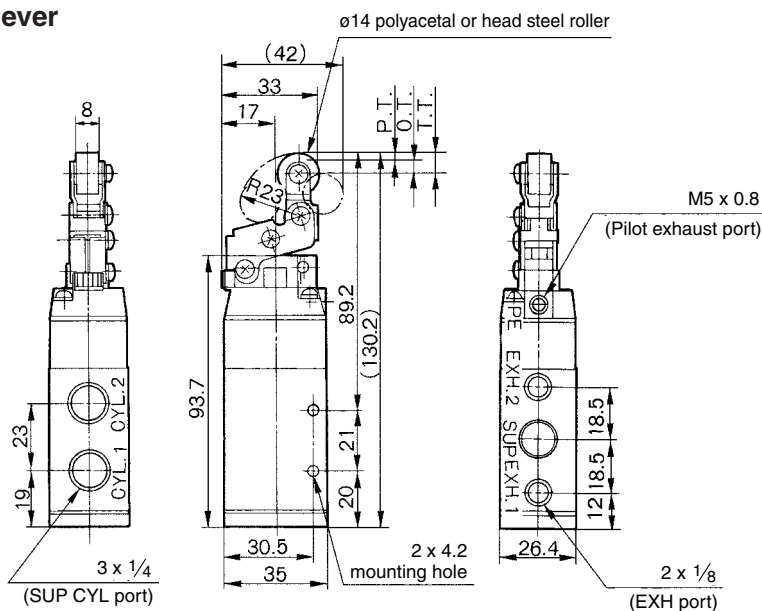
JIS Symbol



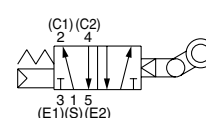
* 0.5 MPa supply

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

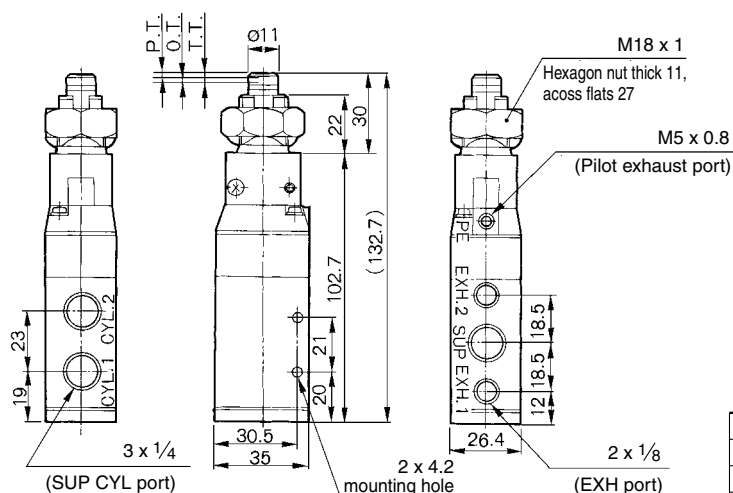


* 0.5 MPa supply

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

Series VFM300

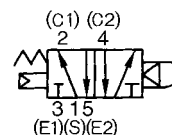
Straight plunger VFM350-02-05



Panel mounting hole



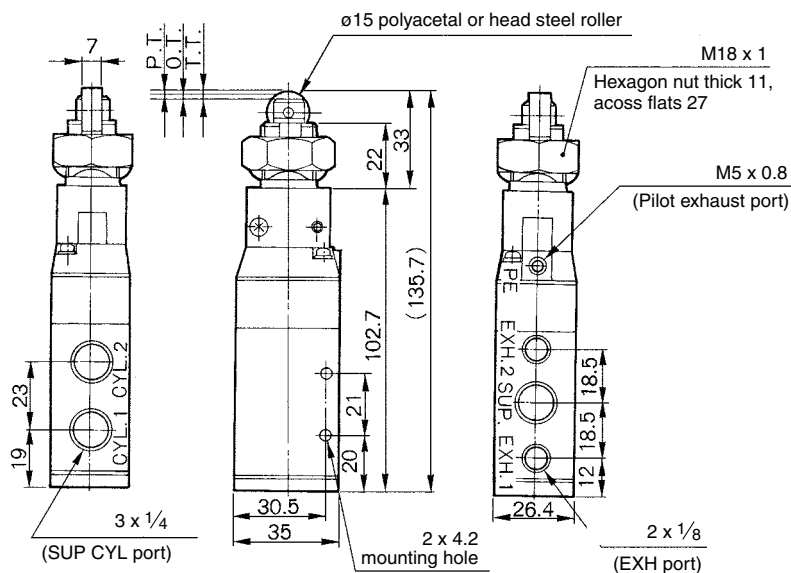
JIS symbol



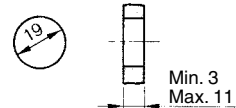
* 0.5 MPa supply

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

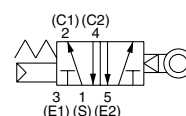
Roller plunger VFM350-02-06 VFM350-02-06S



Panel mounting hole



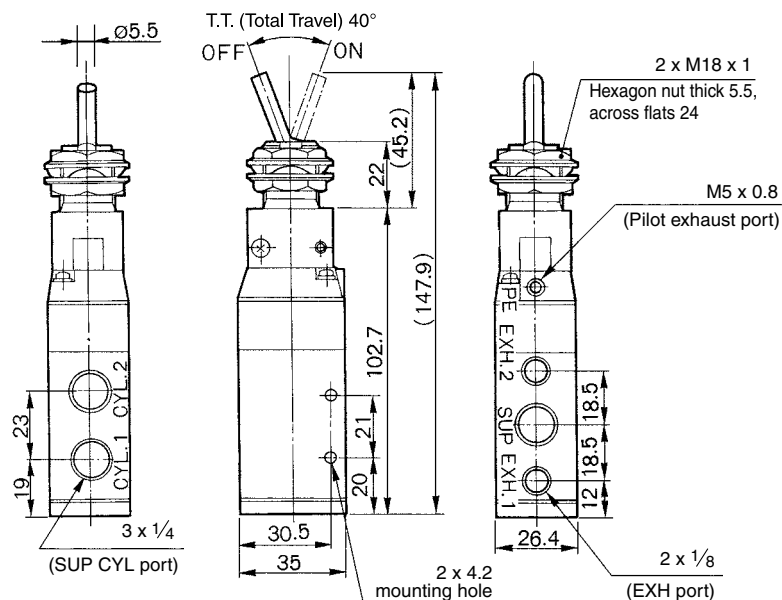
JIS symbol



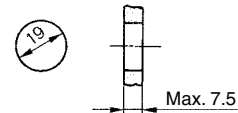
* 0.5 MPa supply

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

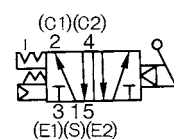
Toggle lever VFM350-02-08



Panel mounting hole



JIS Symbol



* 0.5 MPa supply

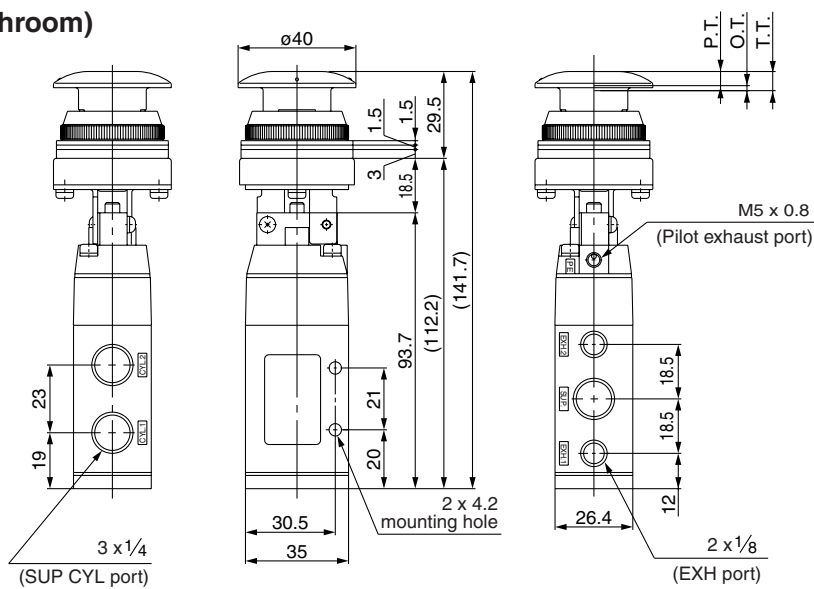
F.O.F. *	15 N
T.T.	40°

Series VFM300

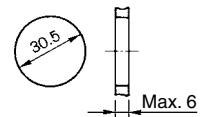
Series VFM300

Push button (Mushroom)

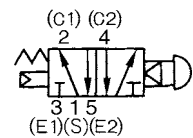
VFM350-02-30R/B/G/Y



Panel mounting hole



JIS Symbol

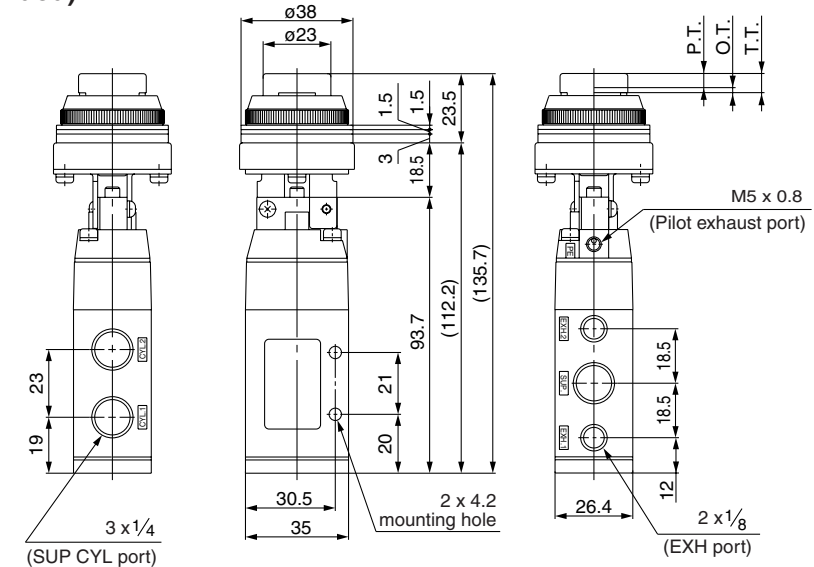


* 0.5 MPa supply

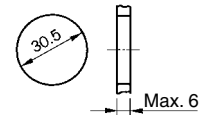
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

Push button (Extended)

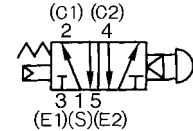
VFM350-02-32R/B/G/Y



Panel mounting hole



JIS Symbol

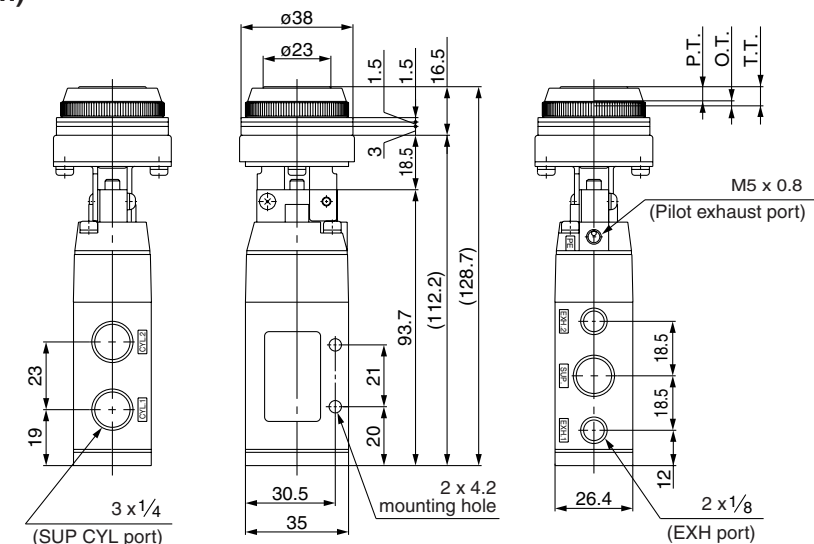


* 0.5 MPa supply

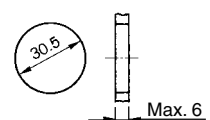
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

Push button (Flush)

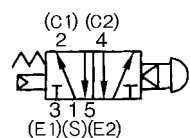
VFM350-02-33



Panel mounting hole



JIS Symbol

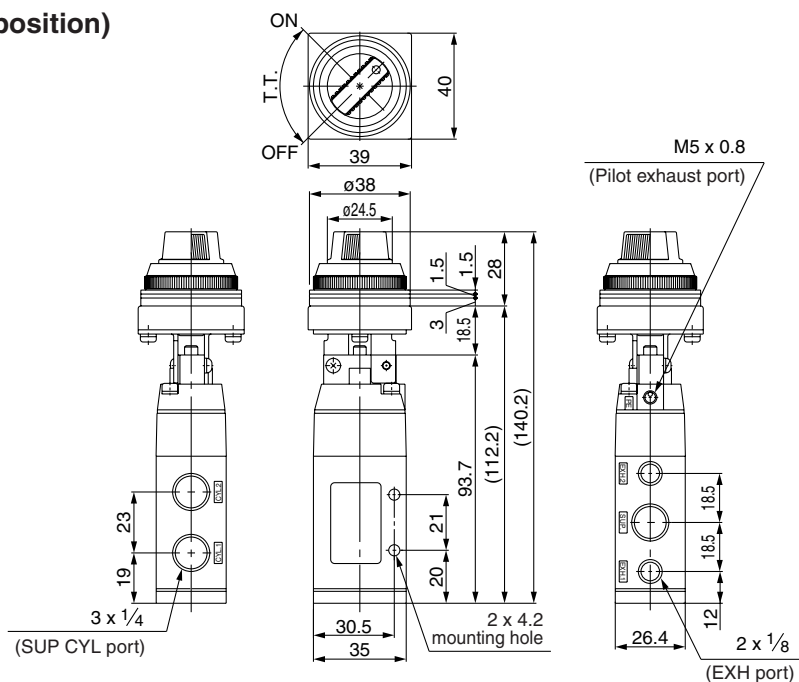


* 0.5 MPa supply

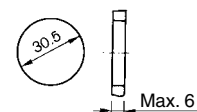
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

Series VFM300

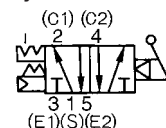
Twist selector (2 position) VFM350-02-34R/B/G/Y



Panel mounting hole

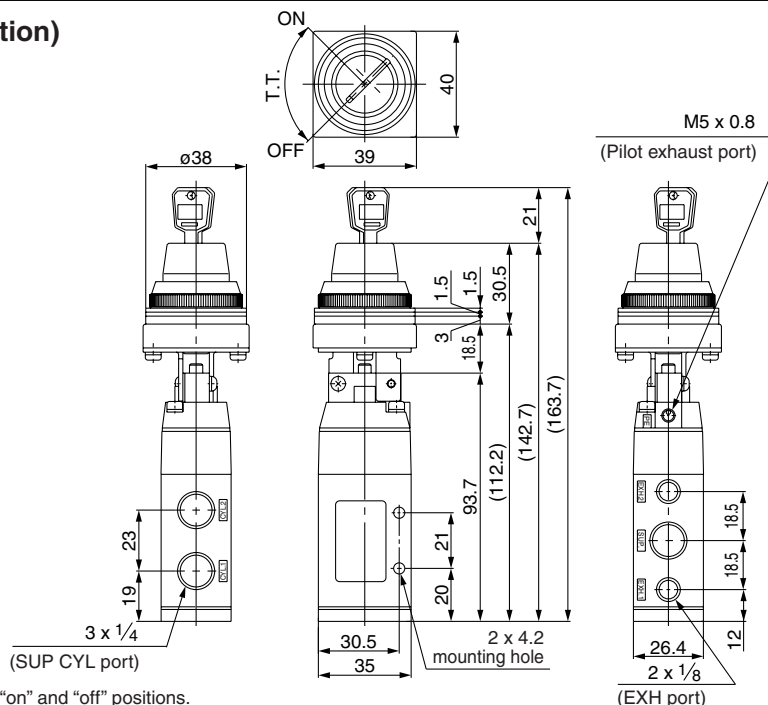


JIS Symbol

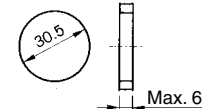


* 0.5 MPa supply	
F.O.F. *	23 N
T.T.	90°

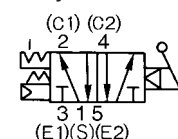
Key selector (2 position) VFM350-02-36



Panel mounting hole



JIS Symbol

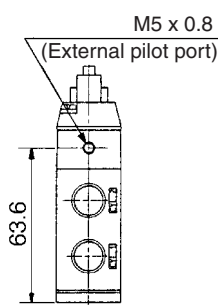


* 0.5 MPa supply	
F.O.F. *	26 N
T.T.	90°

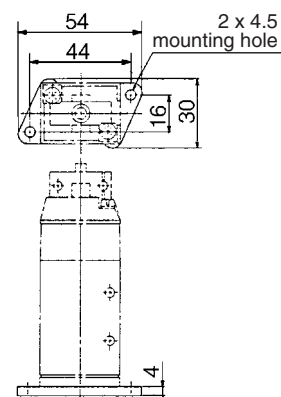


Key can be removed at the "on" and "off" positions.

External pilot type VFM351 type



With foot bracket VFM350-02-□□-F



VM□

VMG

VR□

VH□

5 Port Mechanical Valve Metal Seal

Series VFM200

RoHS

**Compact design,
large flow capacity 18 mm²
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.

**Pilot type is selectable.
(Internal pilot and external pilot)**

**Foot bracket and manifold
mounting possible.**



Specifications

Fluid	Air/Inert gas
Operating pressure	0.1 to 1.0 MPa ⁽¹⁾
Ambient and fluid temperature	−5 to 60°C(No freezing)
Effective area	18 mm ²
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 ⁽²⁾
Mass (Basic)	300g



* 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	VFM250-02-00	—	—
	Roller lever	VFM250-02-01	VM-01C	Polyacetal roller
		VFM250-02-01S	VM-01CS	Hard steel roller
	One way roller lever	VFM250-02-02	VM-02C	Polyacetal roller
		VFM250-02-02S	VM-02CS	Hard steel roller
	Straight plunger	VFM250-02-05	VM-05D	—
Manual operation	Push button (Mushroom)	VFM250-02-06	VM-06D	Polyacetal roller
		VFM250-02-06S	VM-06DS	Hard steel roller
		VFM250-02-08	VM-08D	—
		VFM250-02-30R	VM-30CR	Red
	Push button (Extended)	VFM250-02-30B	VM-30CB	Black
		VFM250-02-30G	VM-30CG	Green
		VFM250-02-30Y	VM-30CY	Yellow
		VFM250-02-32R	VM-32CR	Red
	Push button (Flush)	VFM250-02-32B	VM-32CB	Black
		VFM250-02-32G	VM-32CG	Green
		VFM250-02-32Y	VM-32CY	Yellow
	Twist selector (2 position)	VFM250-02-33	VM-33C	With a set of red, black, green, yellow
		VFM250-02-34R	VM-34CR	Red
		VFM250-02-34B	VM-34CB	Black
		VFM250-02-34G	VM-34CG	Green
	Key selector (2 position)	VFM250-02-34Y	VM-34CY	Yellow
		VFM250-02-36	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 1887 and 1888. 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** - **□** - **□**

● **Made to Order**
(Refer to pages 1882 to 1885 for details.)

X207	Alternate type, Mushroom push button
X219	Push-lock turn-reset type, Mushroom push button

● **Option**

F	Foot bracket (Only internal pilot)
----------	---------------------------------------

● **Port size**

02	Rc 1/4
-----------	--------

● **Actuator 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)

● **Suffix for actuator**

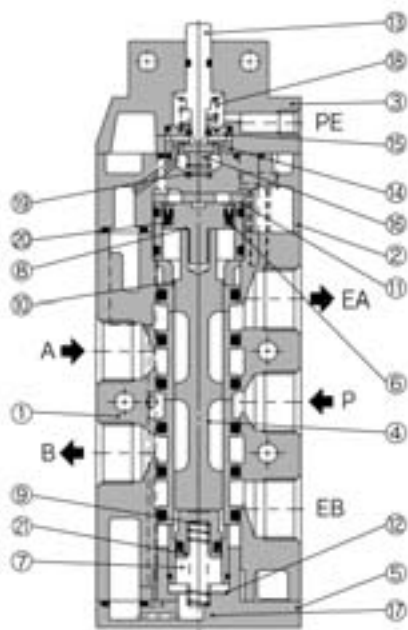
S	Hard steel roller	Color of push button selector
R	Red	
B	Black	
G	Green	
Y	Yellow	

● **Body option**

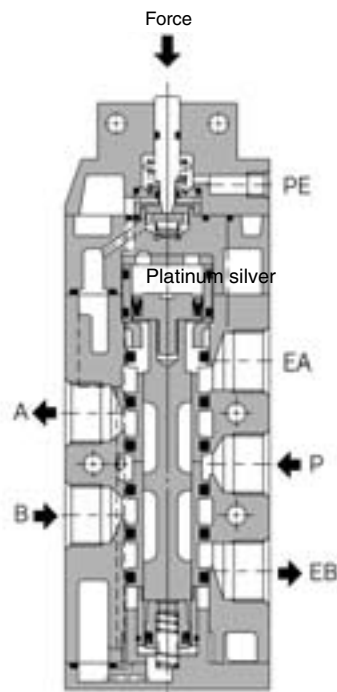
0	Internal pilot type
1	External pilot type

Construction

Non-actuated



Actuated



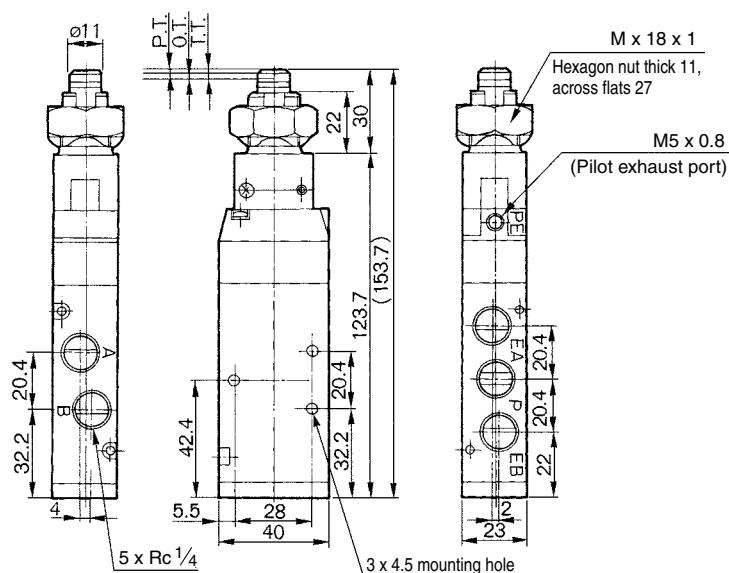
Component Parts

No.	Description	Material	Note
1	Body	ADC	Platinum silver
2	Pilot body	ZDC	Platinum silver
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	

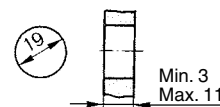
No.	Description	Material	Note
12	Cushion for end cover	Urethane rubber	
13	Plunger	POM	
14	Valve seat (A)	POM	
15	Valve seat (B)	POM	
16	Valve	NBR	
17	Return spring	Stainless steel	
18	Return spring	Stainless steel	
19	Valve spring	Stainless steel	
20	Mini Y packing	NBR	
21	Mini Y packing	NBR	

Series VFM200

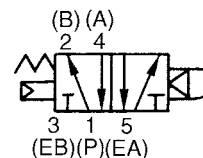
Straight plunger VFM250-02-05



Panel mounting hole



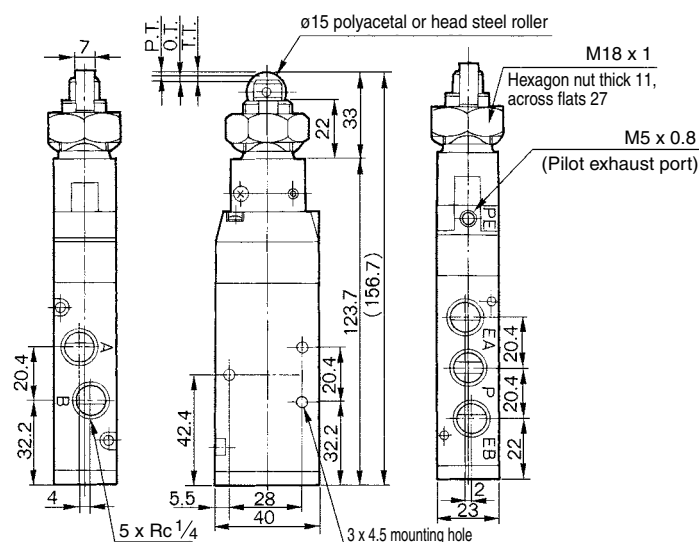
JIS Symbol



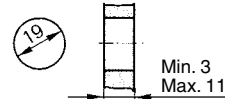
* 0.5 MPa supply

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

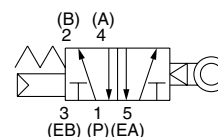
Roller plunger VFM250-02-06 VFM250-02-06S



Panel mounting hole



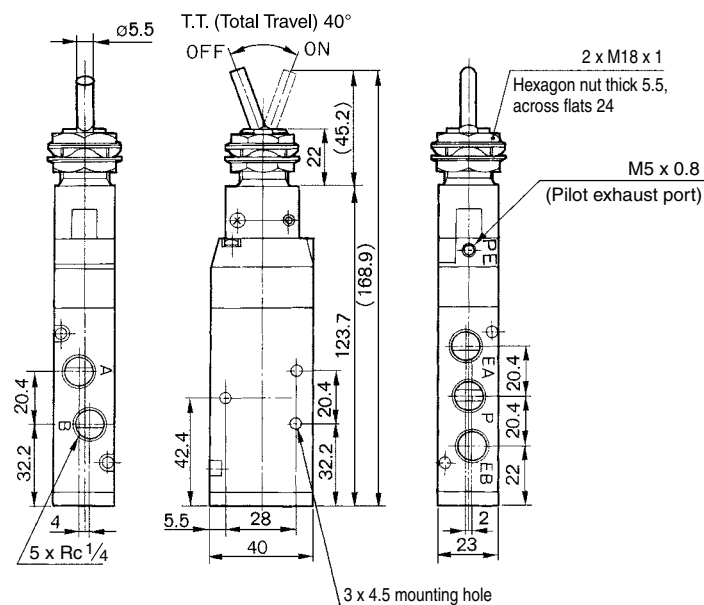
JIS symbol



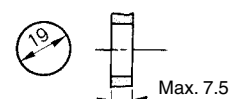
* 0.5 MPa supply

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

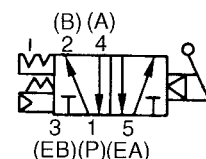
Toggle lever VFM250-02-08



Panel mounting hole



JIS symbol



* 0.5 MPa supply

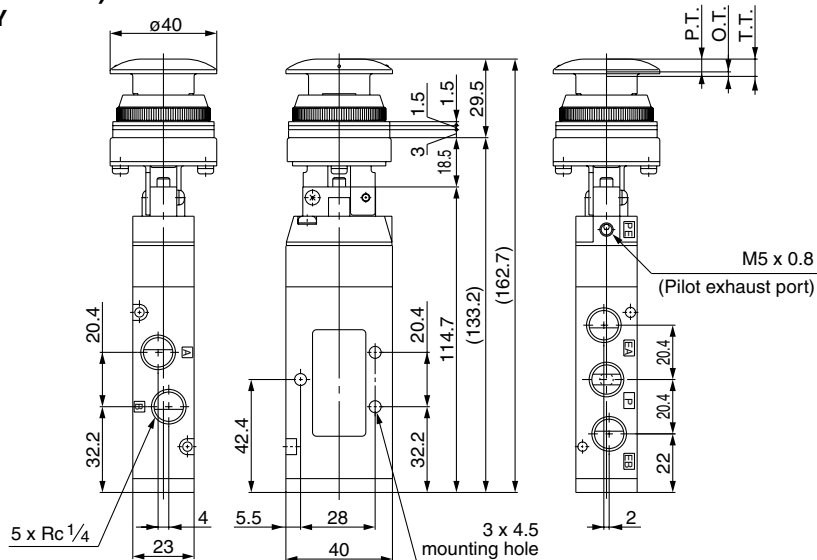
F.O.F. *	15 N
T.T.	40°

Series VFM200

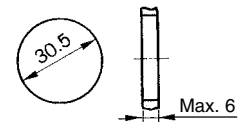
Series VFM200

Push button (Mushroom)

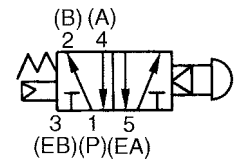
VFM250-02-30R/B/G/Y



Panel mounting hole



JIS Symbol

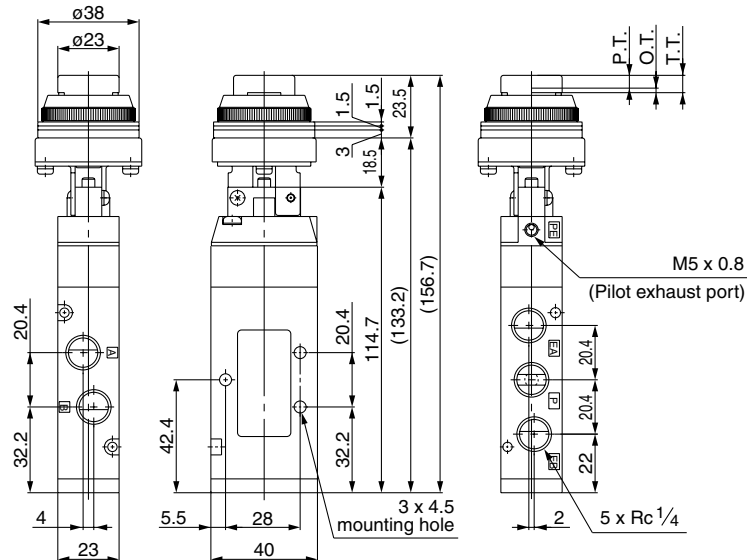


* 0.5 MPa supply

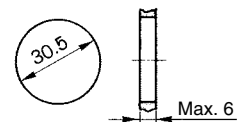
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

Push button (Extended)

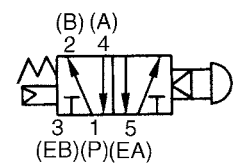
VFM250-02-32R/B/G/Y



Panel mounting hole



JIS Symbol

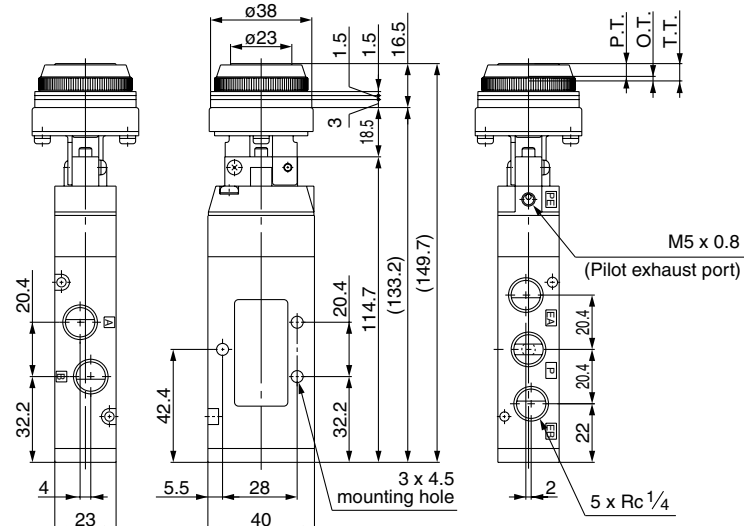


* 0.5 MPa supply

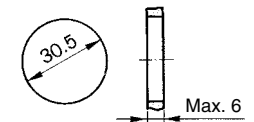
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

Push button (Flush)

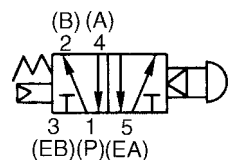
VFM250-02-33



Panel mounting hole



JIS Symbol

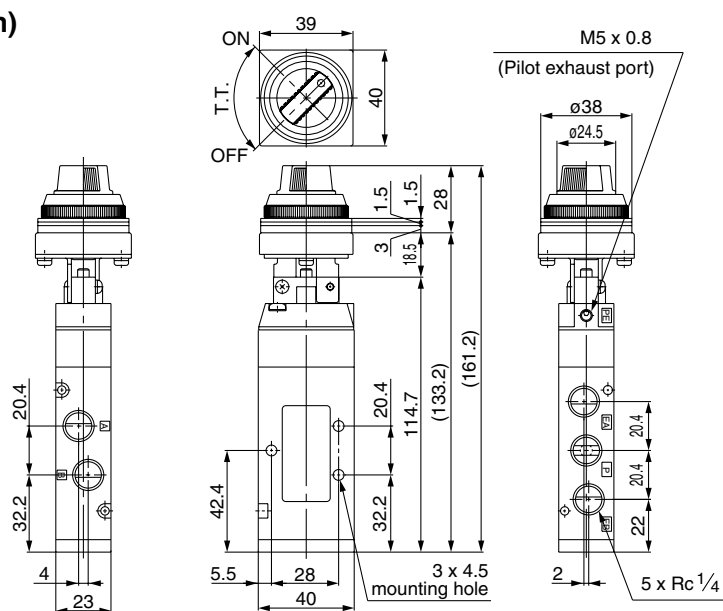


* 0.5 MPa supply

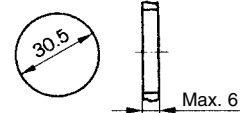
F.O.F. *	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

Series VFM200

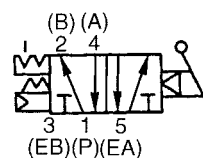
Twist selector (2 position) VFM250-02-34R/B/G/Y



Panel mounting hole



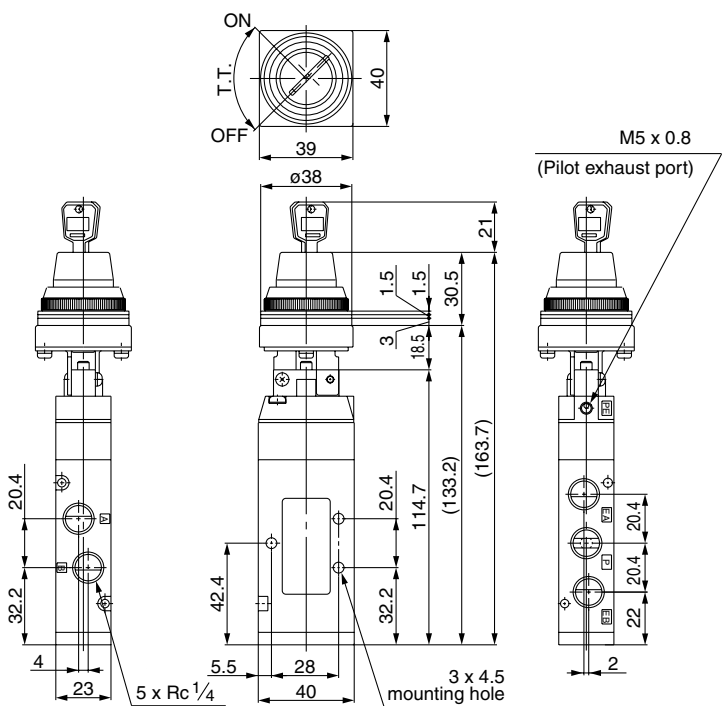
JIS Symbol



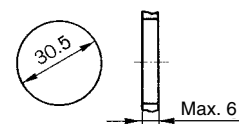
* 0.5 MPa supply

F.O.F. *	23 N
T.T.	90°

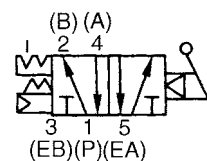
Key selector (2 position) VFM250-02-36



Panel mounting hole



JIS Symbol



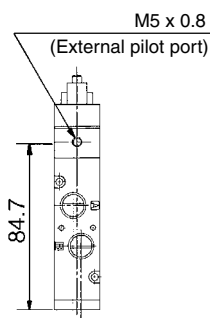
* 0.5 MPa supply

F.O.F. *	26 N
T.T.	90°

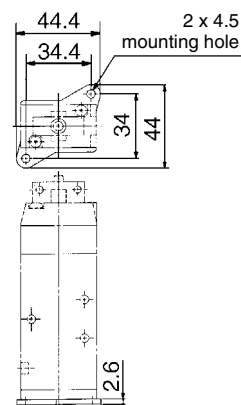


Key can be removed at the "on" and "off" positions.

External pilot type VFM251 type



With foot bracket VFM250-02-□□-F



VM□

VMG

VR□

VH□

Please contact SMC for detailed specifications, dimensions and delivery.

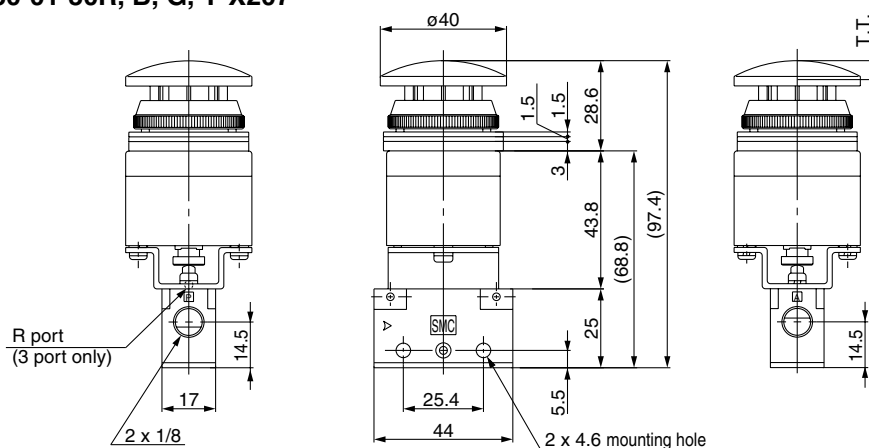


Alternate type, Mushroom push button

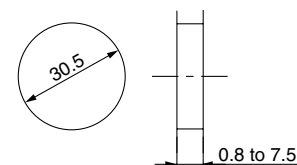
X207

VM120-01-30R, B, G, Y-X207

VM130-01-30R, B, G, Y-X207

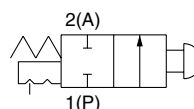


Panel mounting hole

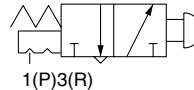


JIS Symbol

2 port



3 port

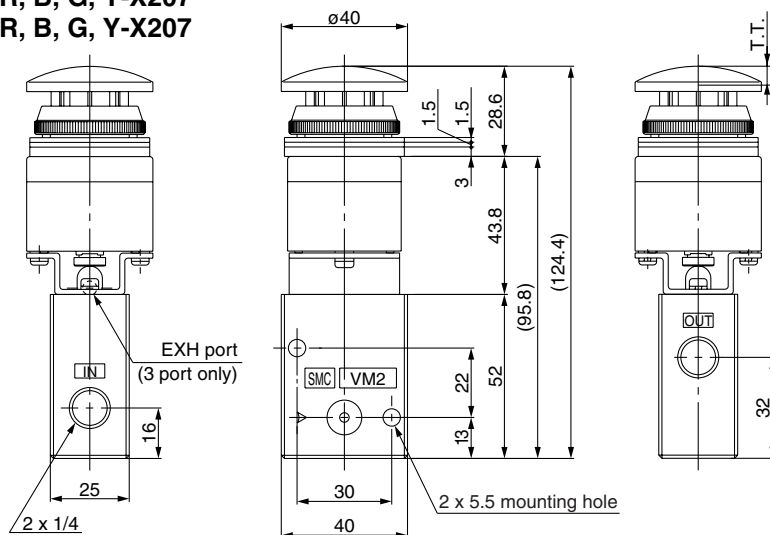


* 0.5 MPa supply

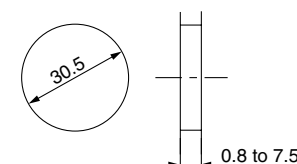
F.O.F. *	21 N
TT	6.7 mm

VM220-02-30R, B. G. Y-X207

VM230-02-30R, B, G, Y-X207

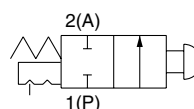


Panel mounting hole

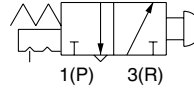


JIS Symbol

2 port



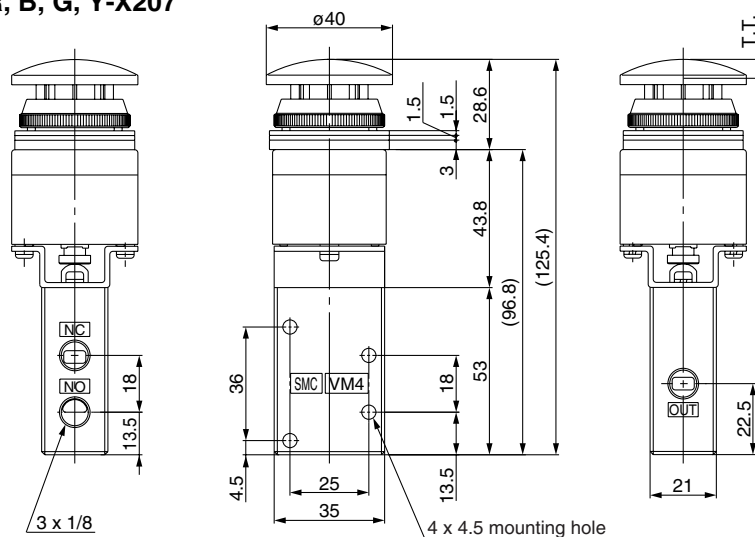
3 port



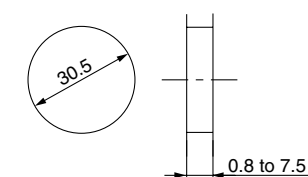
* 0.5 MPa supply

F.O.F. *	52 N
T.T.	6.7 mm

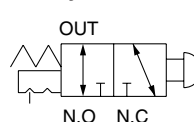
VM430-01-30R, B, G, Y-X207



Panel mounting hole



JIS Symbol



* 0.5 MPa supply

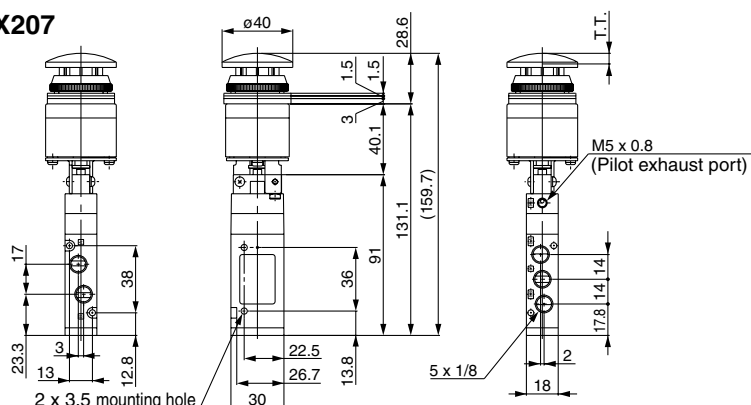
F.O.F. *	26 N
T.T.	6.7 mm



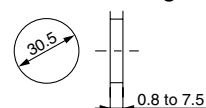
Alternate type, Mushroom push button

X207

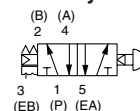
VZM450-01-30R, B, G, Y-X207



Panel mounting hole



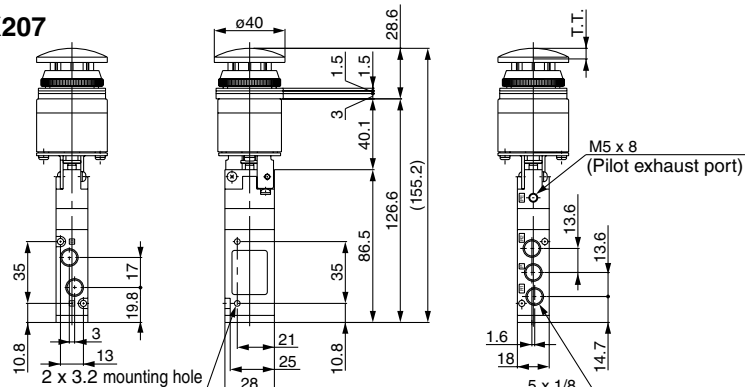
JIS Symbol



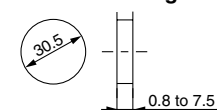
* 0.5 MPa supply

F.O.F. *	16 N
T.T.	6.7 mm

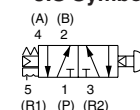
VZM550-01-30R, B, G, Y-X207



Panel mounting hole



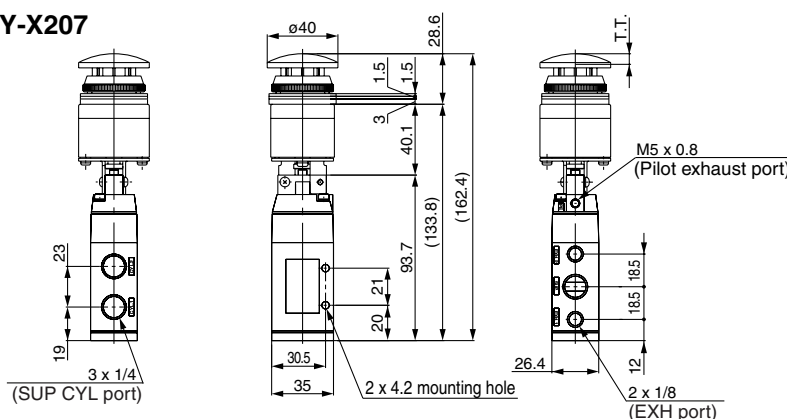
JIS Symbol



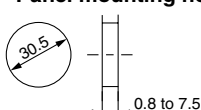
* 0.5 MPa supply

F.O.F. *	21 N
T.T.	6.7 mm

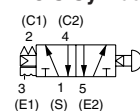
VFM350-02-30R, B, G, Y-X207



Panel mounting hole



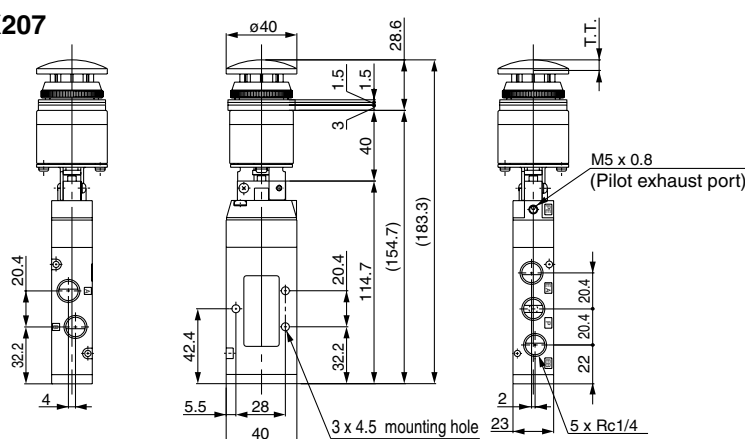
JIS Symbol



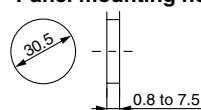
* 0.5 MPa supply

F.O.F. *	21 N
T.T.	6.7 mm

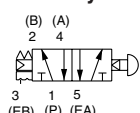
VFM250-02-30R, B, G, Y-X207



Panel mounting hole



JIS Symbol



* 0.5 MPa supply

F.O.F. *	21 N
T.T.	6.7 mm

VM

VMG

VR

VH

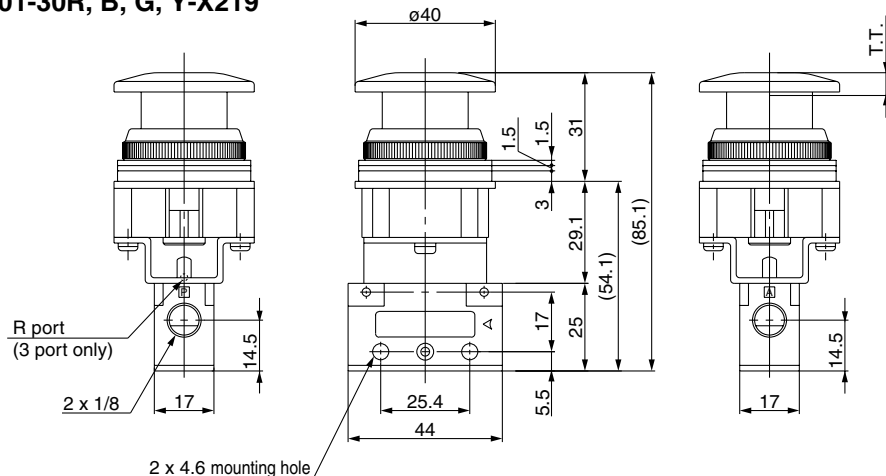


Push-lock turn-reset type, Mushroom push button

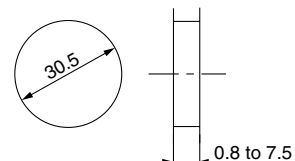
X219

VM120-01-30R, B, G, Y-X219

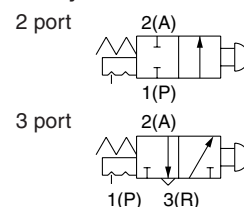
VM130-01-30R, B, G, Y-X219



Panel mounting hole



JIS Symbol

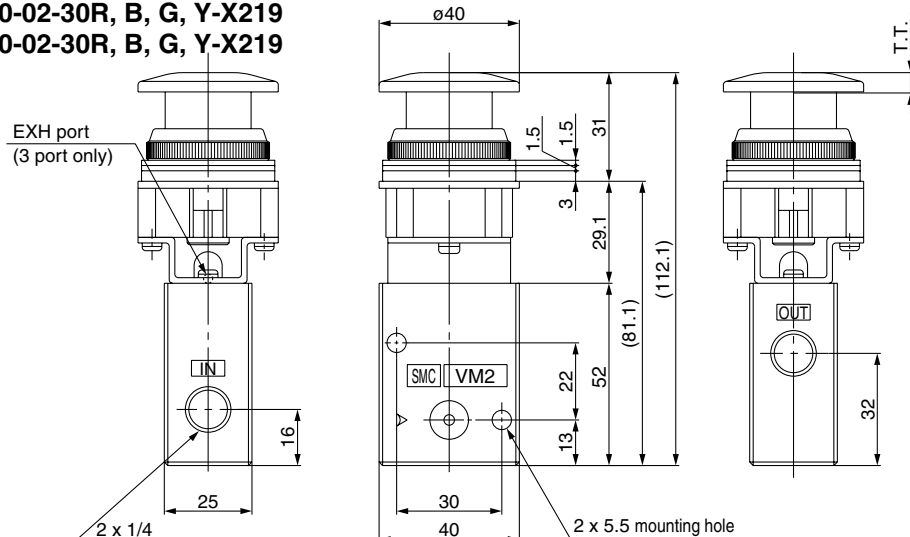


* 0.5 MPa supply

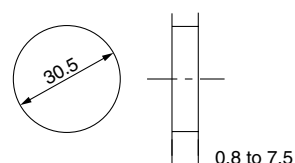
F.O.F. *	52 N
T.T.	5.8 mm

VM220-02-30R, B, G, Y-X219

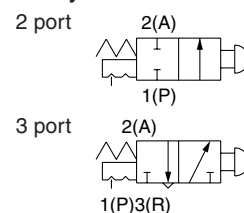
VM230-02-30R, B, G, Y-X219



Panel mounting hole



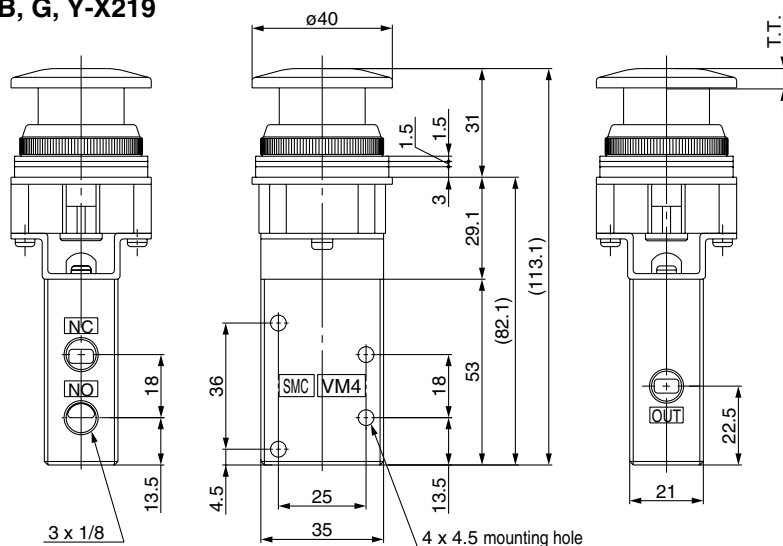
JIS Symbol



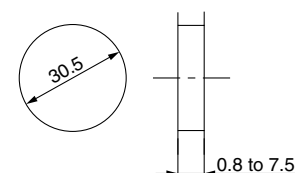
* 0.5 MPa supply

F.O.F. *	52 N
T.T.	5.8 mm

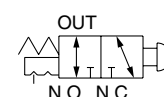
VM430-01-30R, B, G, Y-X219



Panel mounting hole



JIS Symbol



* 0.5 MPa supply

F.O.F. *	26 N
T.T.	5.8 mm



Series VM

Specific Product Precautions 1

Be sure to read before handling.

Refer to front matters 58 and 59 for Safety Instructions and pages 3 to 7 for 3/4/5 Port Solenoid Valve Precautions.

Mounting

Warning

1. Conditions for mechanical operation

Do not move the mechanical operation beyond the operating limit position, as this could damage the mechanical valve itself and lead to equipment malfunction.

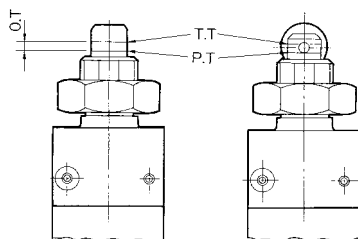
• Actuator stroke

Operate the mechanism within the stroke range that has been obtained through the formula given below. (Do not move beyond the operating limit position.)

Operating stroke: $(P.T. + 0.5 \times O.T.)$ to $(P.T. + O.T. - 0.1)$

Series	Actuator	Actuator stroke (mm)
VM1000	Basic T.T. = 4.8 mm (T.T. = 2.5 mm)	3.7 to 4.7 (2.2 to 2.4)
	Roller lever	3.5 to 4.4
	One way roller lever	3.5 to 4.4
VM100	Basic	2.2 to 2.9
	Roller lever	4.3 to 5.3
	One way roller lever	4.3 to 5.3
	Straight plunger	2.7 to 3.4
	Roller plunger	2.7 to 3.4
VM200	Cross roller plunger	2.7 to 3.4
	Basic	4.0 to 4.9
	Roller lever	8.7 to 10.7
	One way roller lever	9.5 to 11.7
	Straight plunger	4.5 to 5.4
VM400	Roller plunger	4.5 to 5.4
	Cross roller plunger	4.5 to 5.4
	Basic	2.5 to 3.4
	Roller lever	6.2 to 8.2
	One way roller lever	6.5 to 8.7
VZM500 VZM400 VFM300 VFM200	Straight plunger	4.5 to 5.4
	Roller plunger	4.5 to 5.4
	Cross roller plunger	4.5 to 5.4
	Basic	2.0 to 2.9
	Roller lever	4.2 to 6.0
	One way roller lever	4.7 to 6.7
	Straight plunger	2.5 to 3.4
	Roller plunger	2.5 to 3.4

For straight and roller plunger types, there is a groove indicating P.T. and T.T. for stroke adjustment.



Pressure Source

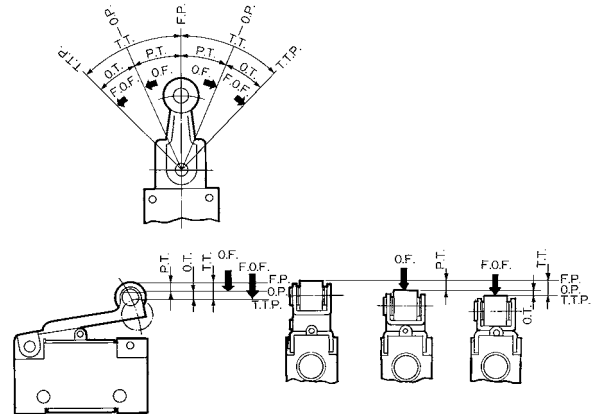
Warning

Operable fluid is either air or inert gas only. It cannot be used for corrosive gas and fluid.

Caution

When using vacuum pressure for VM100, supply vacuum pressure to P port.

Definition of Symbol



- F.P. (Free Position) No external force applied.
 O.P. (Operating Position) Internal valve opening position.
 T.T.P. (Total Travel Position).... Includes over travel.
 O.F. (Operating Force)..... Operating force required to initial valve opening position.
 F.O.F. (Full Operating Force) .. Required force to total travel position.
 P.T. (Pre-travel) From free position to initial valve operating position.
 O.T. (Over Travel)..... From initial valve operating position to total travel position.
 T.T. (Total Travel)..... From free position to total travel position.

Caution

This product cannot be used for applications in which the pressure must be sealed because there will be a slight leakage. Please consult with SMC for this type of application.



Series VM

Specific Product Precautions 2

Be sure to read before handling.

Refer to front matters 58 and 59 for Safety Instructions and pages 3 to 7 for 3/4/5 Port Solenoid Valve Precautions.

Mounting

⚠ Warning

2. Conditions for mechanical operation

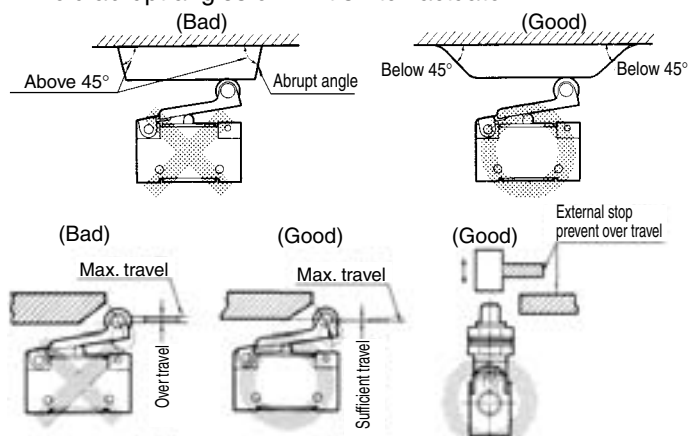
- Cam and dog angle and maximum speed

Select the angle and the maximum speed of the operating cam and the dog of the mechanism from within the selection range given in the table below.

If they are operated beyond the selection range, the cam and the dog could apply impact shocks to the actuator, leading to damage.

Series	Actuator	Angle limit switch actuator	Max. speed limit switch actuator (m/s)
VM1000	Roller lever	30°	0.7
		45°	0.3
	One way roller lever	30°	0.7
		45°	0.3
VM100 VM200 VM400	Roller lever	30°	0.7
		45°	0.3
	One way roller lever	30°	0.7
		45°	0.3
	Straight plunger	—	0.2
	Roller plunger	30°	0.3
VZM500 VZM400 VFM300 VFM200	Roller lever	30°	1.5
		45°	0.7
	One way roller lever	30°	0.7
		45°	0.3
	Straight plunger	—	0.4
	Roller plunger	30°	0.7
VM800	Roller lever	30°	0.5
		45°	0.2
	Adjustable roller lever	30°	0.2
		45°	0.1
	Adjustable rod lever	—	0.2

Avoid abrupt angles on limit switch actuator.



Cam and Dog Material

Roller material	Plunger material	Plunger surface finish
Polyacetal	Steel	▽▽▽
Steel	Steel, Resin	▽▽

3. Never perform additional machining such as enlarging the body mounting holes.

As doing so could lead to abnormal conditions such as air leakage.

4. Operate all manual valves such as the push pin types, the selector types, and the flip toggle types with your finger.

If a hammer or other tools are used, or it is operated mechanically through the use of a cylinder or the like, damage could result.

Environments

⚠ Caution

- Do not operate it in an area in which fluids such as oil, coolant, or water splash on it or dust comes in contact with it. Because it does not have a waterproof or dustproof construction, fluids or dust could enter the valve, leading to malfunction. Therefore, take measures such as providing a protective cover to prevent direct exposure.

Maintenance

⚠ Warning

- Perform inspections on a regular basis as necessary, such as at the beginning of an operation, to make sure that the mechanical valve operates properly.

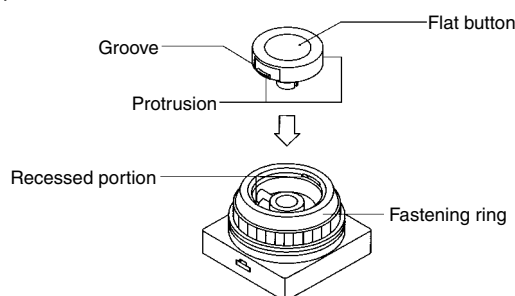
Failure to observe this precaution could lead to unsafe operation, such as unintended operation or malfunction.

How to Change the Buttons

Replace the button in the following manner to change color of the button.

1. Push button (Flush type)

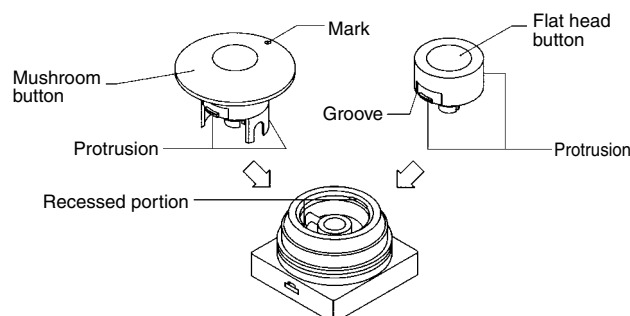
- Installation Of the four colors, red, green, black, and yellow, select and align the protruding portion of the button with the recessed portion of the body and push in.
- Removal Remove the fastening ring and insert the tip of a small flat screwdriver into the groove of the button to pry it up.



2. Push button (Mushroom and extended types)

At the time of shipment, only 1 button of the color that you specified is attached to the body.

	Mushroom type	Extended type
Mounting	Align the protruding portion of the button with the recessed portion of the body and push in. (Use the mark on the button as a reference to align the protruding part.)	Align the protruding portion of the button with the recessed portion of the body and push in.
Removal	Placing your finger under the collar of the button on the side of the mark, tilt it upward.	Remove the fastening ring and insert the tip of a small flat screwdriver into the groove of the button to pry it up.



VM□

VMG

VR□

VH□



Series VM

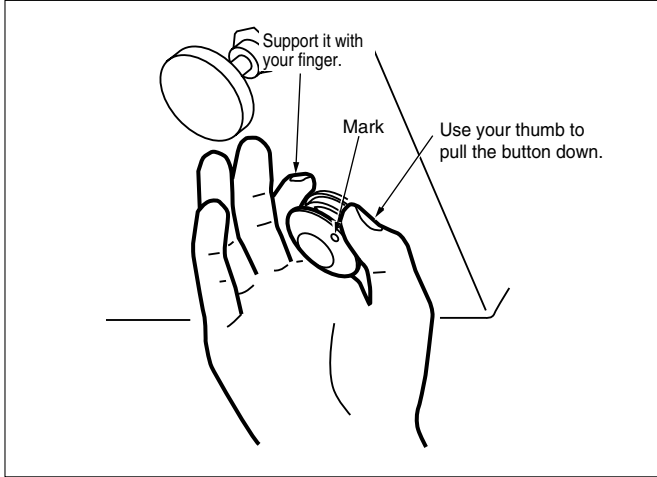
Specific Product Precautions 3

Be sure to read before handling.

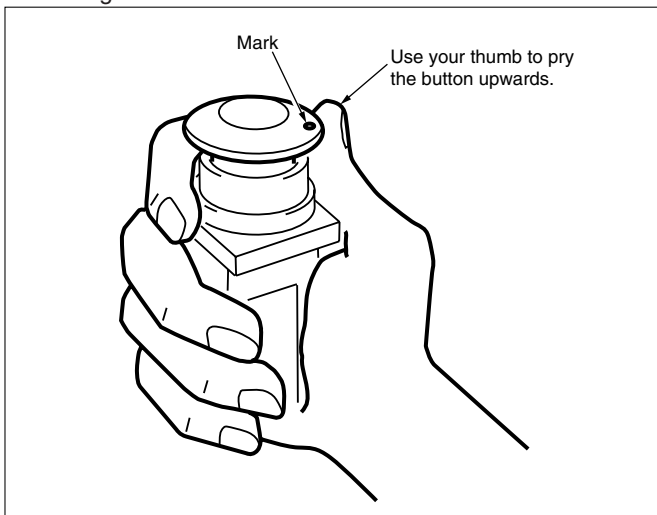
Refer to front matters 58 and 59 for Safety Instructions and pages 3 to 7 for 3/4/5 Port Solenoid Valve Precautions.

How to remove a mushroom button

How to remove at panel mount



Removing the valve as a unit



Replacement parts

1. Use the part numbers listed below to order individual mushroom head or flat head buttons.

Color	Mushroom button	Extended button
Red	3402186R	3402187R
Black	3402186B	3402187B
Green	3402186G	3402187G
Yellow	3402186Y	3402187Y

Color	Push button (Flush)
Red	3402188R
Black	3402188B
Green	3402188G
Yellow	3402188Y

2. To order single fastening ring, use the part number below.
Fastening ring: 3402184

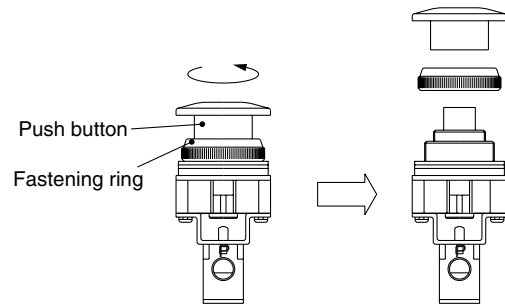
3. To order a single push button for series VM1000 and a single cover use the part number below.

Color	Push button	Cover for push button
Red	3410701-R	3410703 (White only)
Black	3410701-B	
Green	3410701-G	

Series VM-X219, VZM-X219, VFM-X219 How to Mount Panel

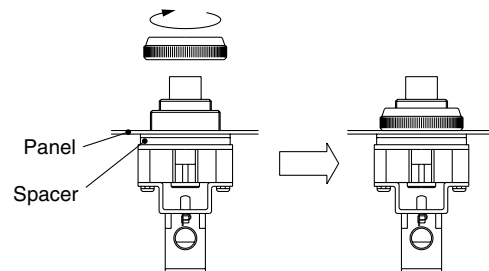
[Task 1] Removal of the push button and fastening ring

Remove them from the body turning them counterclockwise in the order of the push button and fastening ring.



[Task 2] Mounting the valve to the panel

Insert the valve to the panel and fix it with a fastening ring. Remove three spacers attached to the valve depending on the panel thickness.



[Task 3] Mounting the push button

Tighten the push button clockwise by hand and further tighten it until load is applied.

Note) When the push button is not tightened enough, the valve may not output correctly after operating the push button. In other cases, the valve outputs temporally, but when it is in the holding state, the valve may stop outputting. In this situation, please tighten the push button again.

