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Mechanical Valve
Series VM

Model	VM1000	VM100	VM200
Dimensions (mm)	Side piping 11 X 36 X 16 Bottom piping 11 X 28 X 25		





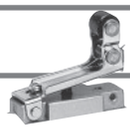
Basic



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)



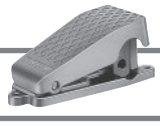
Key Selector (2 position)



Twist Selector (3 position)

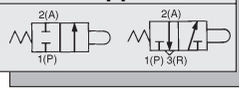


Foot Pedal



Push-Pull



Effective Area (Nl/min)	1 (49.03)	For details about VM100 Series refer to www.smc.eu	For details about VM200 Series refer to www.smc.eu
Number of Ports	2, 3		
Function	Poppet 		

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Mechanical Valve

VM400	VZM500	VZM400	VFM300	VFM200	VM800
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
					

Roller Lever

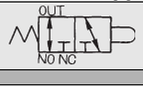
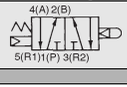
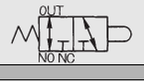


Adjustable Roller Lever



Adjustable Rod Lever

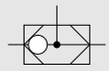
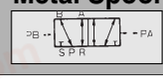


7 (338.77)	10.8 (534.90)	9.9 (490.33)	18 (891.50)	18 (891.50)	6 (294.20)
3	5	5	5	5	3
Balanced Poppet	Rubber Spool	Metal Spool	Rubber Spool	Metal Spool	Balanced Poppet
					

Dual pressure available only on external pilot.

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Related Products

			Effective Area (mm^2) (Nl/min)	No.of Ports	Function
Shuttle Valve Dimensions (mm) VR1210: 17.2 X 38 X 29 VR1220: 21.2 X 50 X 38	**VR1210**		7 (338.77)	3	
	VR1220		15 (722.12)	3	
Shuttle valve With One-Touch Fittings	**VR12□0F**			3	
AND valve With One-Touch Fittings	**VR1211F**			3	
Time Delay Valve Dimensions (mm) 70 X 68 X 66	**VR2110**		2.5 (124.81)	3	
Pneumatic Indicator Dimensions (mm) ø26 X 66	**VR3100**		–	–	
Miniature Pneumatic Indicator Dimensions (mm) ø12 X 17	**VR3110**		–	–	
Relay Valve Dimensions (mm) Side piping: 30 X 53 X 91 Bottom piping: 30 X 48 X 91	**VR4151**		7 (338.77)	5	 Metal Spool 
	VR4152				

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⚠ Precautions

Mounting

⚠ Warning

①Conditions 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.

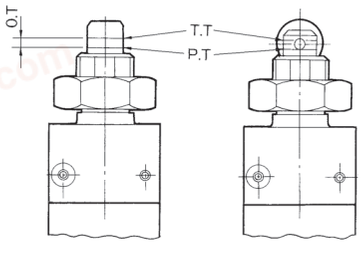
• Actuator Stroke

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

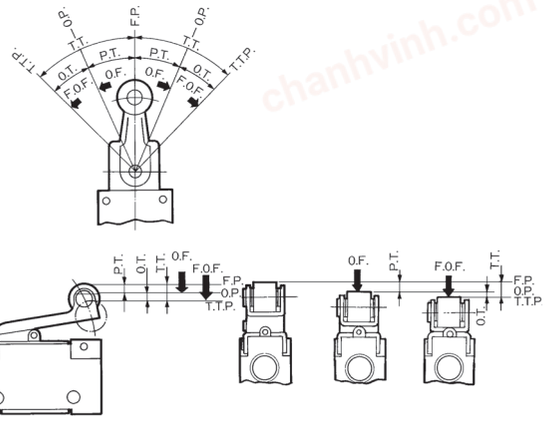
Operating stroke: P.T. + 0.5 X O.T.

Series	Actuator		Actuator Stroke (mm)
VM1000	Basic	T.T.=4.8mm (T.T.=2.5mm)	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
	Cross roller plunger		2.7 to 3.4
VM200	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
	Roller plunger		4.5 to 5.4
	Cross roller plunger		4.5 to 5.4
VM400	Basic		2.5 to 3.4
	Roller lever		6.2 to 8.2
	One way roller lever		6.5 to 8.7
	Straight plunger		4.5 to 5.4
	Roller plunger		4.5 to 5.4
	Cross roller plunger		4.5 to 5.4
VZM500 VZM400 VFM300 VFM200	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 styles, there is a groove indicating P.T. and T.T. for stroke adjustment.



Definition of Symbols



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.

Air Flow Calculation

Refer to the p.0-36 for air flow calculations.

$$Q = 22.2S\sqrt{P_L(P_H - P_L)}\sqrt{\frac{273}{\square + 273}} \quad \cdots\cdots\cdots\cdots(1\ \text{formula})$$

Cautions

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

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⚠ 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.

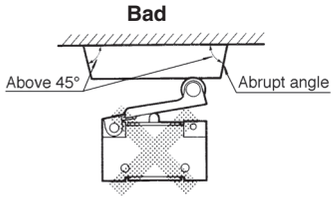
If they are operated beyond the selection range, the cam and the dog could apply impact shocks to the actuator, leading to damage.

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
	Cross 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

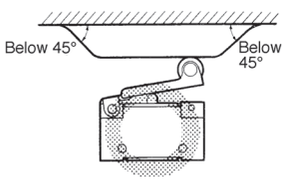
Installation recommendations

1) Avoid abrupt angles on limit switch actuator.

Bad

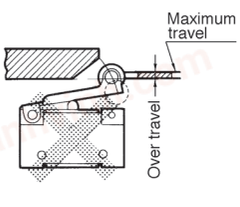


Good

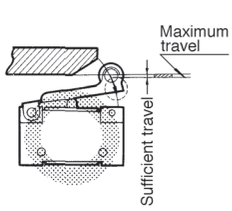


2) Avoid unnecessary travel.

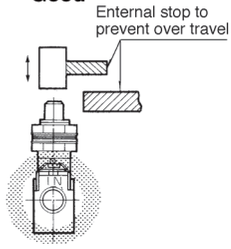
Bad



Good



Good



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 styles, the selector styles, and the flip toggle styles 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.

Environment

⚠ Cautions

①**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 dust proof 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

①**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.**

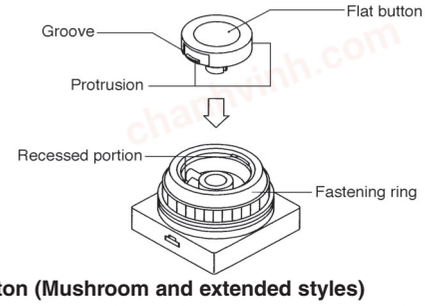
Failure to observe this precaution could lead to unsafe operation, such as unintended operation or malfunction.

How to Change the Button

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

①**Push button (Flush style)**

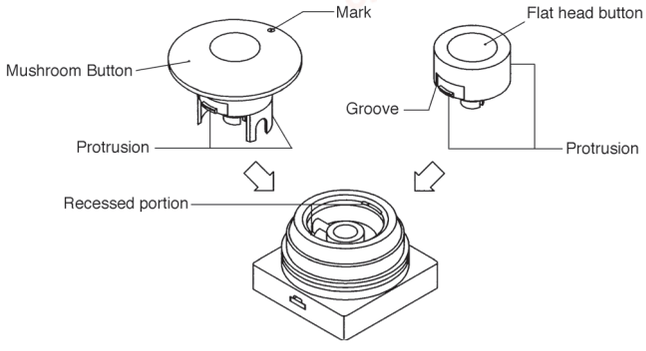
- Installation···· Of the four colors, red, green, black, and yellow, select and align the protruding portion of the button with the recessed portion of the body and push in.
- Removal·····Remove the fastening ring and insert the tip of a small flat screwdriver into the groove of the button to pry it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



②**Push Button (Mushroom and extended styles)**

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

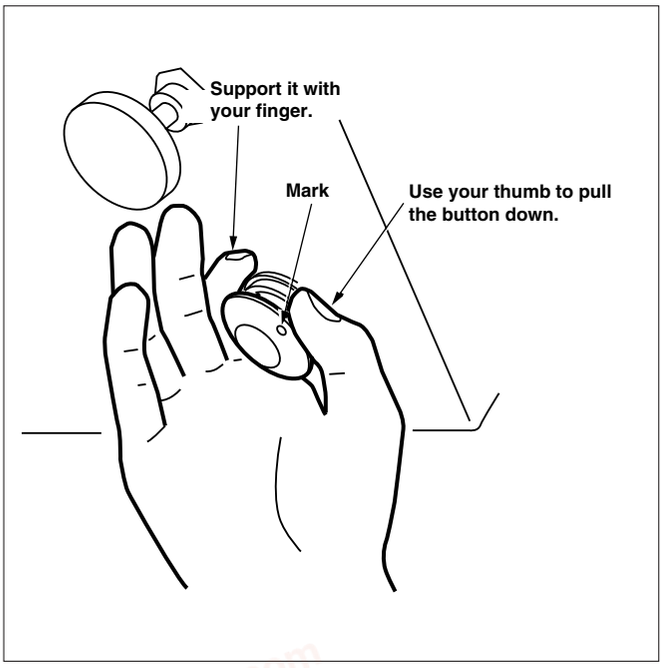
	Mushroom style	Extended style
Mounting	Align the protruding portion of the button with the recessed portion of the body and push in. (Use the mark on the button as a reference to align the protruding part.)	Align the protruding portion of the button with the recessed portion of the button and push in.
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.



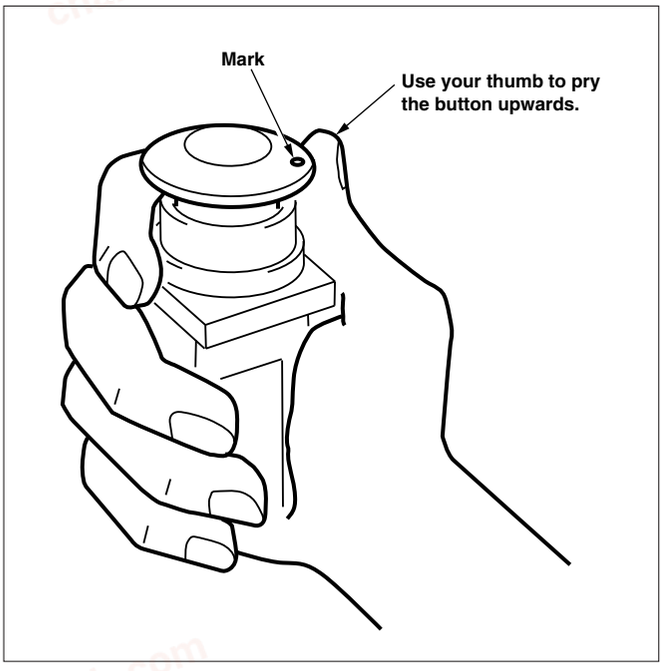
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How to Remove a Mushroom Button

How to remove at panel mount



Removing the valve as a unit.



Replacement Parts

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

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Micro Mechanical Valve

Series VM1000

Miniature stucture requires little mounting space.
Built-in hose nipple connection.
Porting options: Side Porting Bottom Porting
Over Travel after actuation (mechanical operated styles).



Specifications

Style of valve	N.C. poppet
Number of ports	2 or 3
Total travel	4.8mm (Basic)
Piping	Side or bottom
Fluid	Air
Operating pressure	0 to 0.8MPa
Ambient and fluid temperature	–5 to 60°C (No freezing)
Effective area (Nℓ/min)	1mm^2 (49.03)
Lubrication	Not required/Turbine oil #1 (ISO VG32)
Fitting	With hose nipple
Weight (Basic)	6g

Options

Total travel (T.T.)	2.5mm (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. styles.
• T.T. 2.5mm is available for basic style only.

Model

	Actuator	Piping	No. of ports	Applicable tube		Notes
				T0425	TU0425/T0403	
Mechanical operation	Basic	Side	3	**VM1000-4N-00**	**VM1000-4NU-00**	
			2	**VM1100-4N-00**	**VM1100-4NU-00**	
		Bottom	3	**VM1010-4N-00**	**VM1010-4NU-00**	
			2	**VM1110-4N-00**	**VM1110-4NU-00**	
	Roller lever	Side	3	**VM1000-4N-01**	**VM1000-4NU-01**	
			2	**VM1100-4N-01**	**VM1100-4NU-01**	
		Bottom	3	**VM1010-4N-01**	**VM1010-4NU-01**	
			2	**VM1110-4N-01**	**VM1110-4NU-01**	
	One way roller lever	Side	3	**VM1000-4N-02**	**VM1000-4NU-02**	
			2	**VM1100-4N-02**	**VM1100-4NU-02**	
		Bottom	3	**VM1010-4N-02**	**VM1010-4NU-02**	
			2	**VM1110-4N-02**	**VM1110-4NU-02**	
Manual operation	Toggle lever	Side	3	**VM1000-4N-08**	**VM1000-4NU-08**	
			2	**VM1100-4N-08**	**VM1100-4NU-08**	
		Bottom	3	**VM1010-4N-08**	**VM1010-4NU-08**	
			2	**VM1110-4N-08**	**VM1110-4NU-08**	
	Push button	Side	3	**VM1000-4N-32R**	**VM1000-4NU-32R**	Red
			2	**VM1100-4N-32R**	**VM1100-4NU-32R**	Red
		Bottom	3	**VM1010-4N-32R**	**VM1010-4NU-32R**	Red
			2	**VM1110-4N-32R**	**VM1110-4NU-32R**	Red
		Side	3	**VM1000-4N-32B**	**VM1000-4NU-32B**	Black
			2	**VM1100-4N-32B**	**VM1100-4NU-32B**	Black
		Bottom	3	**VM1010-4N-32B**	**VM1010-4NU-32B**	Black
			2	**VM1110-4N-32B**	**VM1110-4NU-32B**	Black
		Side	3	**VM1000-4N-32G**	**VM1000-4NU-32G**	Green
			2	**VM1100-4N-32G**	**VM1100-4NU-32G**	Green
		Bottom	3	**VM1010-4N-32G**	**VM1010-4NU-32G**	Green
			2	**VM1110-4N-32G**	**VM1110-4NU-32G**	Green

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How To Order

VM1 [0] [0] [0] – [4N] – [00] [R]

Number of ports

0	3 ports
1	2 ports

Piping

0	Side
1	Bottom

Total travel/Basic (T.T.)

0	4.8mm
1	2.5mm (Option)*

*Basic only.

Applicable tube (Meterial/Size)

4N	Nylon ø4/2.5 (T0425)
4NU	Nylon ø4/3 (T0403)
	Soft Nylon ø4/2.5 (TS0425)
	Polyurethane ø/2.5 (TU0425)

Actuator

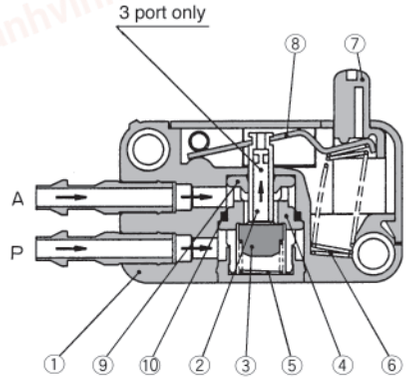
00	Basic
01	Roller lever
02	One way roller lever
08	Toggle lever
32	Push button

Colour of push button

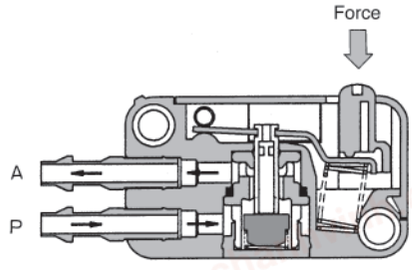
R	Red
G	Green
B	Black

Construction

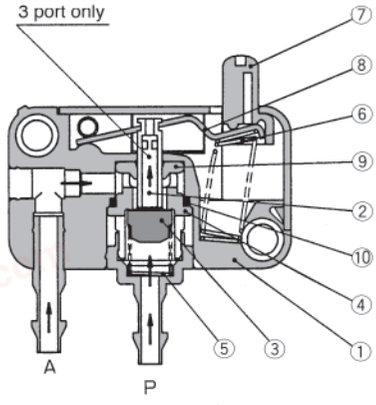
Side Piping/Non-actuated



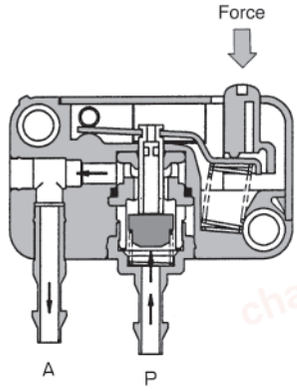
Side Piping/Actuated



Bottom Piping



Bottom Piping/Actuated



Component Parts

No.	Description	Material	Notes
①	Body	PBT	
②	Valve rod	Polyacetal	
③	Valve	NBR	
④	Retainer	Polyacetal	
⑤	Spring	Stainless steel	

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

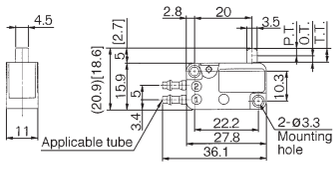
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VM1000

Series VM1000/Side Piping

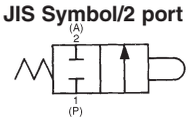
Basic/VM1000-4N-00, VM1000-4NU-00
VM1100-4N-00, VM1100-4NU-00



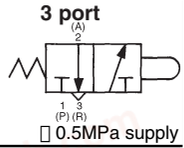


[ ]: T.T.=2.5mm

JIS Symbol/2 port



3 port

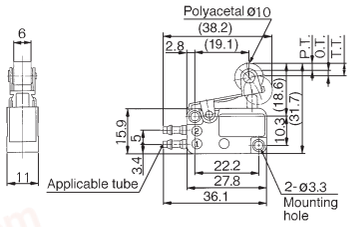


0.5MPa supply

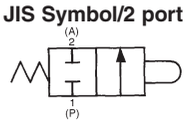
		Applicable tube	
		T0425	TU0425, T0403, TS0425
Side piping	3 ports	**VM1000-4N-00**	**VM1000-4NU-00**
	2 ports	**VM1100-4N-00**	**VM1100-4NU-00**
F.O.F.		6N	
P.T.		2.5mm[2mm]	
O.T.		2.3mm[0.5mm]	
T.T.		4.8mm[2.5mm]	

Roller Lever/VM1000-4N-01, VM1000-4NU-01
VM1100-4N-01, VM1100-4NU-01

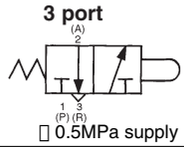




JIS Symbol/2 port



3 port

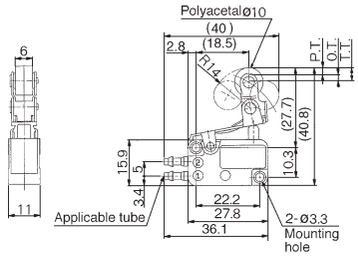


0.5MPa supply

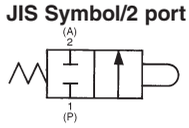
		Applicable tube	
		T0425	TU0425, T0403, TS0425
Side piping	3 ports	**VM1000-4N-01**	**VM1000-4NU-01**
	2 ports	**VM1100-4N-01**	**VM1100-4NU-01**
F.O.F.		6N	
P.T.		2.5mm	
O.T.		2mm	
T.T.		4.5mm	

One Way Roller Lever/VM1000-4N-02, VM1000-4NU-02
VM1100-4N-02, VM1100-4NU-02

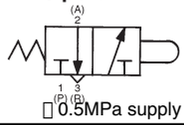




JIS Symbol/2 port



3 port

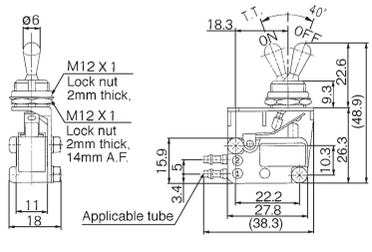


0.5MPa supply

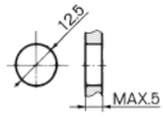
		Applicable tube	
		T0425	TU0425, T0403, TS0425
Side piping	3 ports	**VM1000-4N-02**	**VM1000-4NU-02**
	2 ports	**VM1100-4N-02**	**VM1100-4NU-02**
F.O.F.		6N	
P.T.		2.5mm	
O.T.		2mm	
T.T.		4.5mm	

Toggle Lever/VM1000-4N-08, VM1000-4NU-08
VM1100-4N-08, VM1100-4NU-08

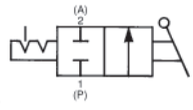




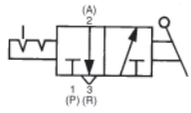
Panel mounted hole



JIS Symbol/2 port



3 port

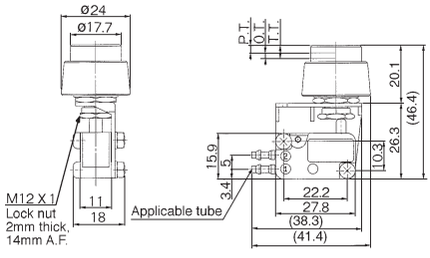


0.5MPa supply

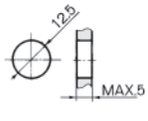
		Applicable tube	
		T0425	TU0425, T0403, TS0425
Side piping	3 ports	**VM1000-4N-08**	**VM1000-4NU-08**
	2 ports	**VM1100-4N-08**	**VM1100-4NU-08**
F.O.F.		4N	
P.T.		40°	

Push Button/VM1000-4N-32, VM1000-4NU-32
VM1100-4N-32, VM1100-4NU-32

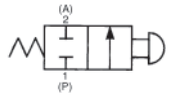




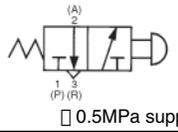
Panel mounted hole



JIS Symbol/2 port



3 port



0.5MPa supply

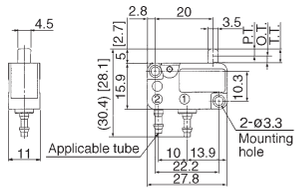
		Applicable tube	
		T0425	TU0425, T0403, TS0425
Side piping	3 ports	**VM1000-4N-32**	**VM1000-4NU-32**
	2 ports	**VM1100-4N-32**	**VM1100-4NU-32**
F.O.F.		6N	
P.T.		2.5mm	
O.T.		2mm	
T.T.		4.5mm	

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Series VM1000/Bottom Piping

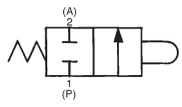
Basic/VM1010-4N-00, VM1010-4NU-00 VM1110-4N-00, VM1110-4NU-00



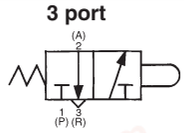


[ ]: T.T.=2.5mm

JIS Symbol/2 port



3 port

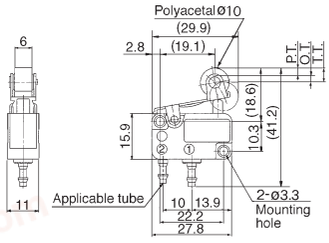


0.5MPa supply

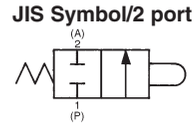
		Applicable tube	
		T0425	TU0425, T0403, TS0425
Bottom piping	3 ports	**VM1010-4N-00**	**VM1010-4NU-00**
	2 ports	**VM1110-4N-00**	**VM1110-4NU-00**
F.O.F.		6N	
P.T.		2.5mm	
O.T.		2.3mm[0.5mm]	
T.T.		4.8mm[2.5mm]	

Roller Lever/VM1010-4N-01, VM1010-4NU-01 VM1110-4N-01, VM1110-4NU-01

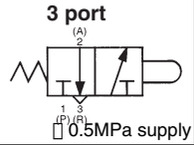




JIS Symbol/2 port



3 port

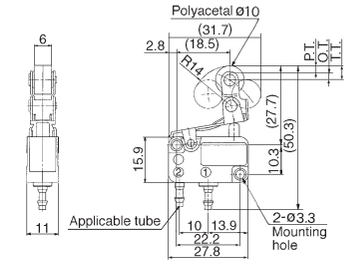


0.5MPa supply

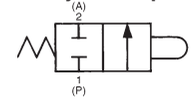
		Applicable tube	
		T0425	TU0425, T0403, TS0425
Bottom piping	3 ports	**VM1010-4N-01**	**VM1010-4NU-01**
	2 ports	**VM1110-4N-01**	**VM1110-4NU-01**
F.O.F.		6N	
P.T.		2.5mm	
O.T.		2mm	
T.T.		4.5mm	

One Way Roller Lever/VM1010-4N-02, VM1010-4NU-02 VM1110-4N-02, VM1110-4NU-02

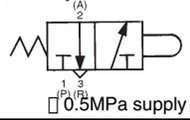




JIS Symbol/2 port



3 port

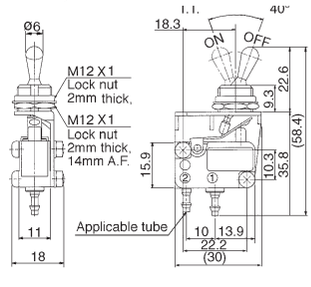


0.5MPa supply

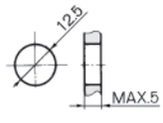
		Applicable tube	
		T0425	TU0425, T0403, TS0425
Bottom piping	3 ports	**VM1010-4N-02**	**VM1010-4NU-02**
	2 ports	**VM1110-4N-02**	**VM1110-4NU-02**
F.O.F.		6N	
P.T.		2.5mm	
O.T.		2mm	
T.T.		4.5mm	

Toggle Lever/VM1010-4N-08, VM1010-4NU-08 VM1110-4N-08, VM1110-4NU-08

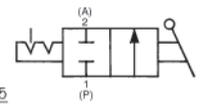




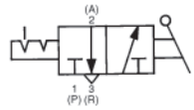
Panel mounted hole



JIS Symbol/2 port



3 port

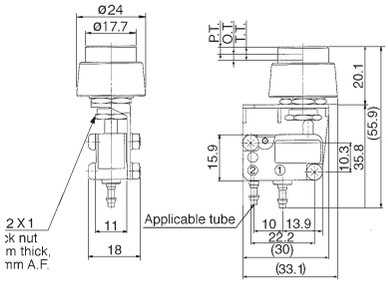


0.5MPa supply

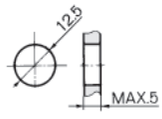
		Applicable tube	
		T0425	TU0425, T0403, TS0425
Bottom piping	3 ports	**VM1010-4N-08**	**VM1010-4NU-08**
	2 ports	**VM1110-4N-08**	**VM1110-4NU-08**
F.O.F.		4N	
T.T.		40°	

Push Button/VM1010-4N-32, VM1010-4NU-32 VM1110-4N-32, VM1110-4NU-32

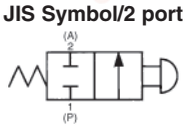




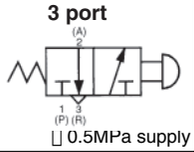
Panel mounted hole



JIS Symbol/2 port



3 port



0.5MPa supply

		Applicable tube	
		T0425	TU0425, T0403, TS0425
Bottom piping	3 ports	**VM1010-4N-32**	**VM1010-4NU-32**
	2 ports	**VM1110-4N-32**	**VM1110-4NU-32**
F.O.F.		6N	
P.T.		2.5mm	
O.T.		2mm	
T.T.		4.5mm	

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3 Port Mechanical Valve

Series VM400

NC or NO models 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
Operating pressure	–100kPa to 1.0MPa
Ambient and fluid temperature	–5 to 60°C (No freezing)
Effective area (Nℓ/min)	7mm² (338.77)
Lubrication	Not required/Turbine oil #1 (ISO VG32)
Port size	1/8
Weight (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) Actuator replacement is available for all styles.

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How To Order

E VM4 3 0 – ☐ 01 – 01 S

Area code

-	Japan, Asia, Australia, England
E	Europe
N	North America

Number of ports

3	3 ports

Thread

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

Port size

01	1/8

Actuator

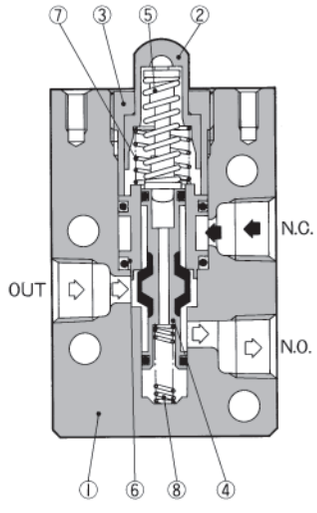
00	Basic
01	Roller lever
02	One way roller lever
05	Straight plunger
06	Roller plunger
07	Cross roller plunger
08	Toggle lever
30	Push button (Mushroom)
32	Push button (Extended)
33	Push button (Flush)
34	Twist selector (2 position)
36	Key selector (2 position)

Suffix of actuator

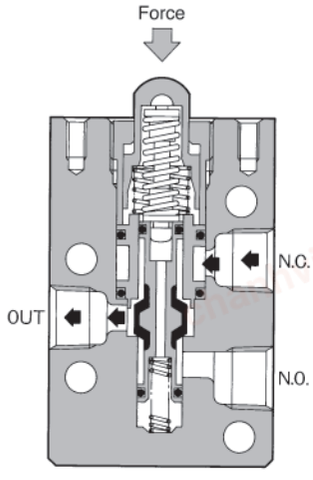
S	Hard steel roller	
R	Red	Colour of push button
B	Black	
G	Green	
Y	Yellow	

Construction

Non-actuated



Actuated



Component Parts

No.	Description	Material	Notes
①	Body	Aluminum alloy	Metallic plated
②	Plunger	Polyacetal	
③	Plunger retainer	Brass	Black zinc chromate treated
④	Spool valve	Aluminum alloy	Rubber lined

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

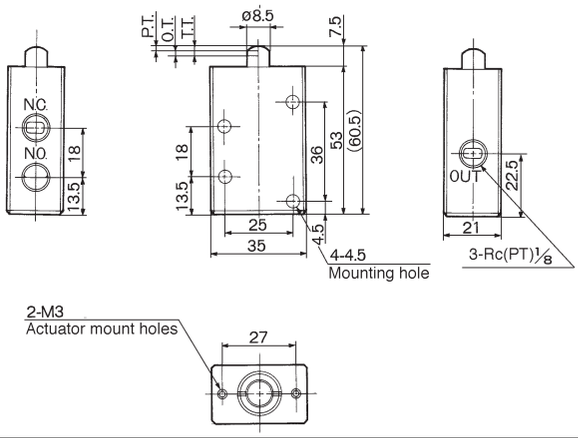
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VM400

Series VM400

Basic/VM430-01-00





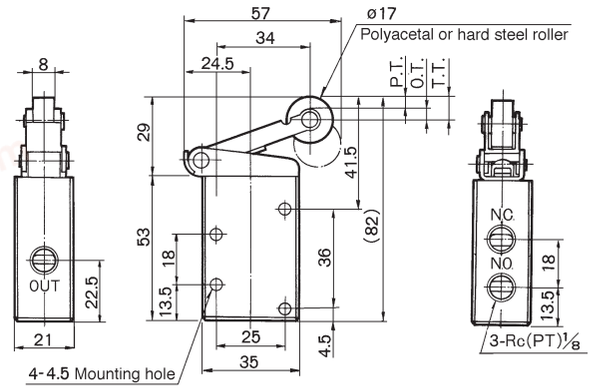
JIS Symbol



F.O.F.	26N
P.T.	1.5mm
O.T.	2mm
T.T.	3.5mm

Roller Lever/VM430-01-01, VM430-01-01S





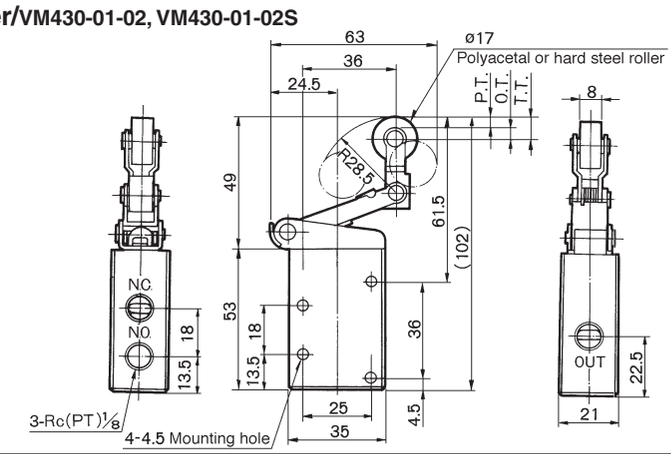
JIS Symbol



F.O.F.	12N
P.T.	4mm
O.T.	4.5mm
T.T.	8.5mm

One Way Roller Lever/VM430-01-02, VM430-01-02S





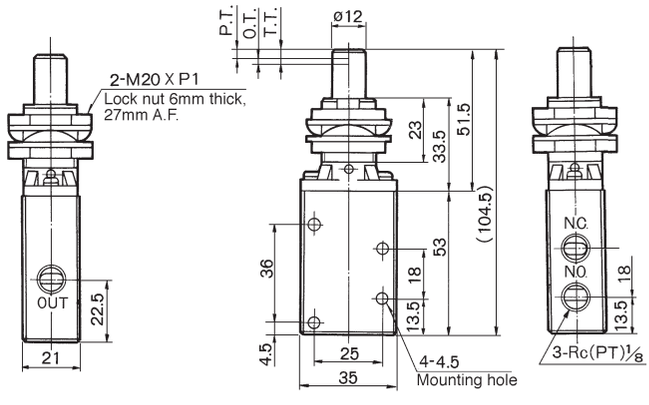
JIS Symbol



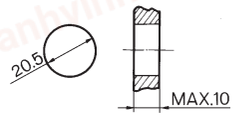
F.O.F.	11N
P.T.	4mm
O.T.	5mm
T.T.	9mm

Straight Plunger/VM430-01-05





Panel mounted hole



JIS Symbol



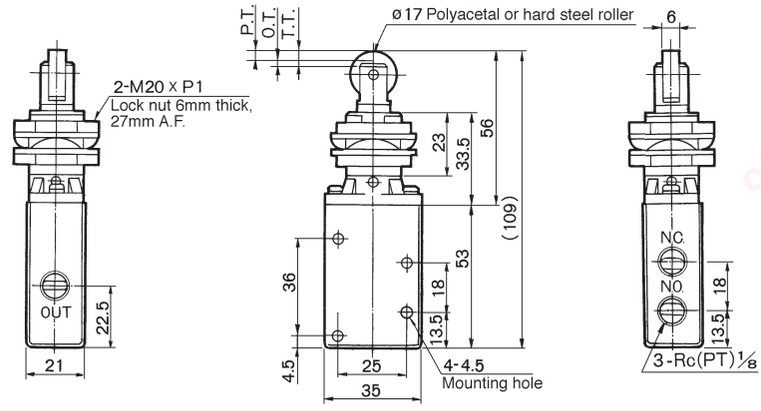
F.O.F.	30N
P.T.	3.5mm
O.T.	2mm
T.T.	5.5mm

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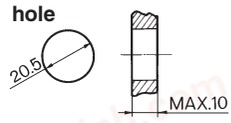
Series VM400

Roller Plunger/VM430-01-06, VM430-01-06S

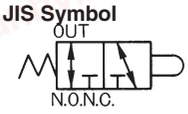




Panel mounted hole



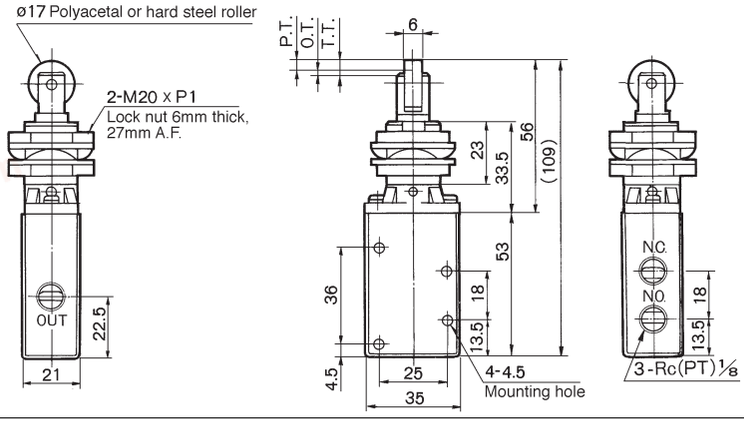
JIS Symbol



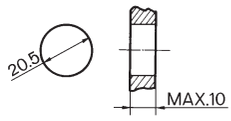
F.O.F.	30N
P.T.	3.5mm
O.T.	2mm
T.T.	5.5mm

Cross Roller Plunger/VM430-01-07, VM430-01-07S





Panel mounted hole



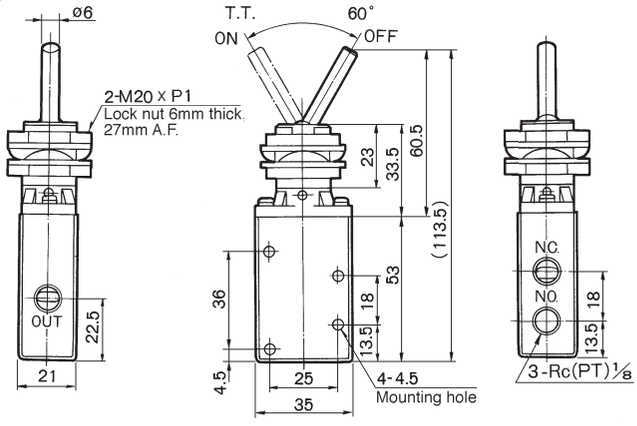
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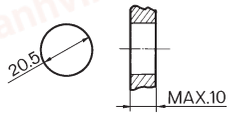
F.O.F.	30N
P.T.	3.5mm
O.T.	2mm
T.T.	5.5mm

Toggle Lever/VM430-01-08

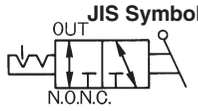




Panel mounted hole



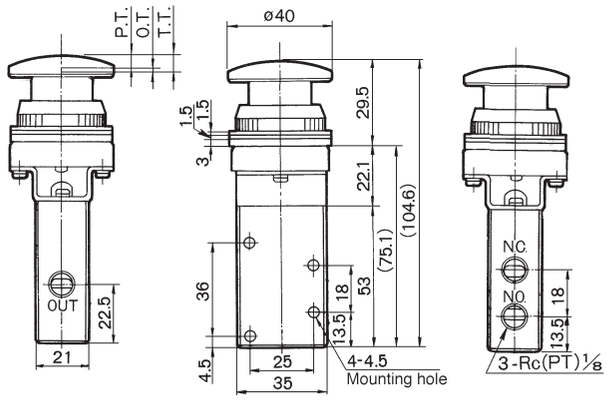
JIS Symbol



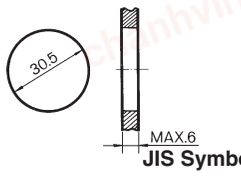
F.O.F.	7N
T.T.	60°

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





Panel mounted hole



JIS Symbol



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

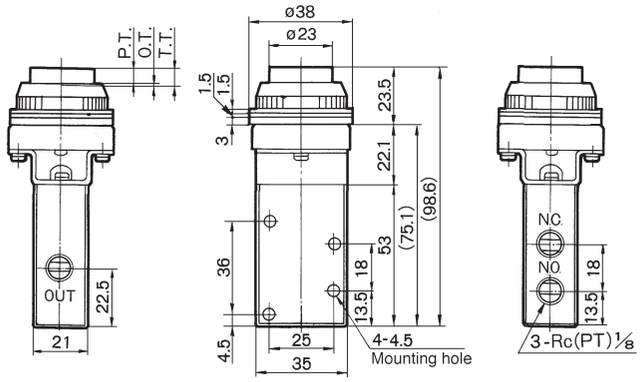
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VM400

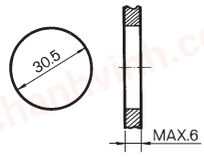
Series VM400

Push Button (Extended)/VM430-01-32R, B, G, Y





Panel mounted hole



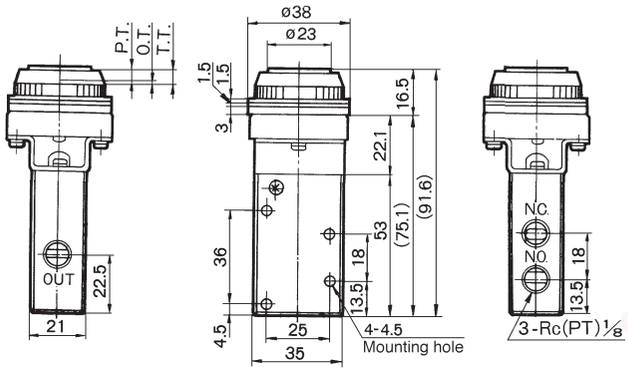
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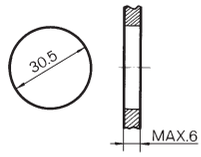
F.O.F.	26N
P.T.	5.4mm
O.T.	1.6mm
T.T.	6.5mm

Push Button (Flush)/VM430-01-33





Panel mounted hole



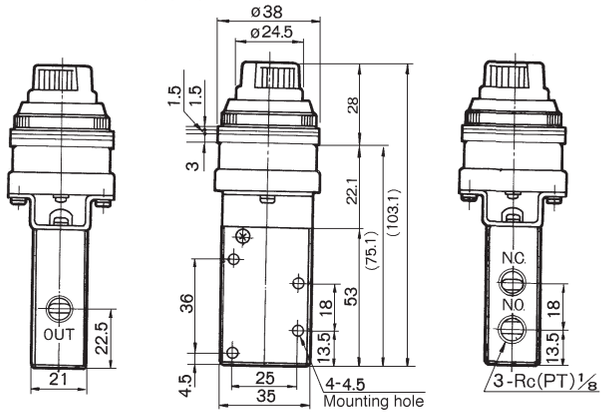
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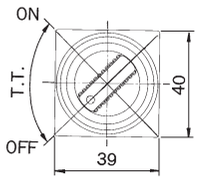


F.O.F.	26N
P.T.	4.9mm
O.T.	1.6mm
T.T.	6.5mm

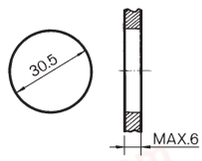
Twist Selector (2 position)/VM430-01-34R, B, G, Y



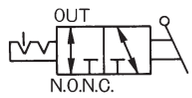




Panel mounted hole



JIS Symbol



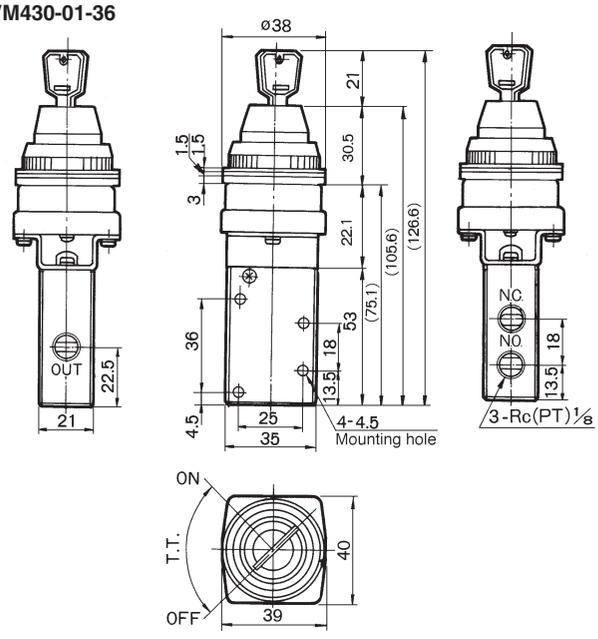
F.O.F.	20N
T.T.	90°

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Series VM400

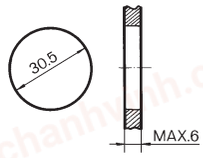
Key Selector (2 position)/VM430-01-36





Key can be removed in “on” and “off” positions.

Panel mounted hole



JIS Symbol



F.O.F.	20N
T.T.	90°

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3 Port Mechanical Valve/Heavy Duty Style

Series VM800

Sturdy Construction.

NC and NO models available.

Piping possible to any port.

Many actuator positions and orientation options.



Specifications

Fluid	Air
Operating pressure	–100kPa to 1.0MPa
Ambient and fluid temperature	–5 to 60°C (No freezing)
Effective area (Nℓ/min)	6mm² (294.20)
Lubrication	Not required/Turbine oil #1 (ISO VG32)
Port size	1/8
Weight (Basic)	180g

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

E VM8 3 0 – □ 01 – 01

Area code

-	Japan, Asia, Australia, England
E	Europe
N	North America

Number of ports

3	3 ports

Thread

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

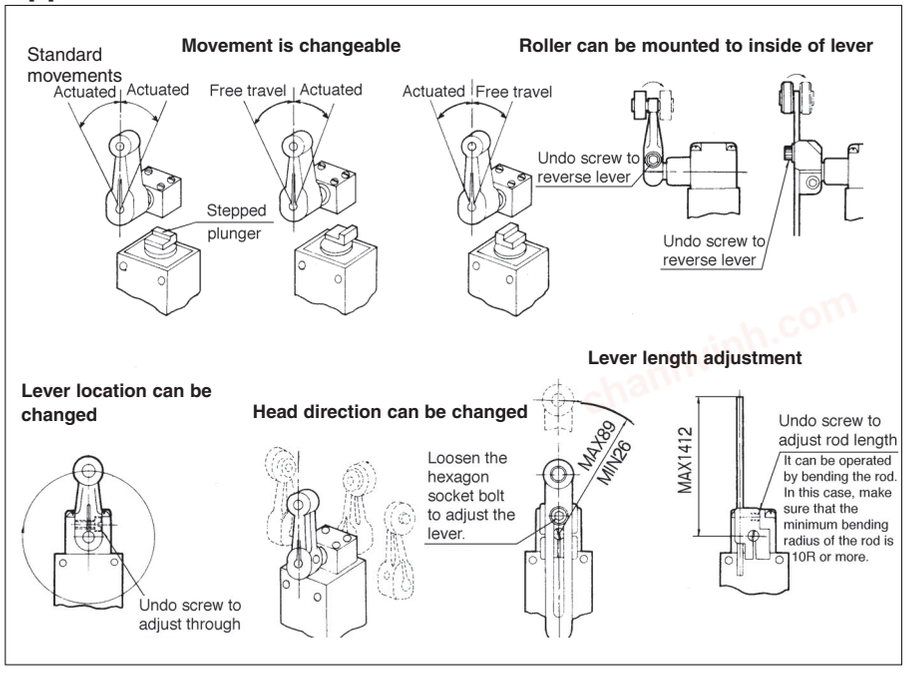
Port size

01	1/8

Actuator

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

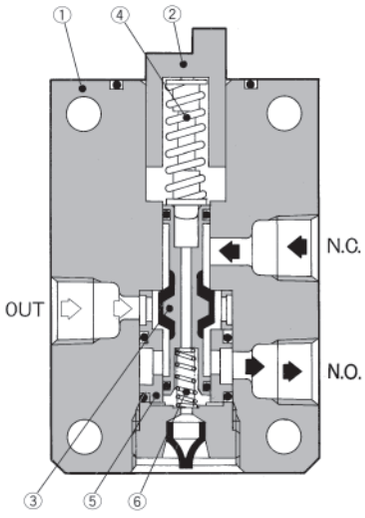
Applications



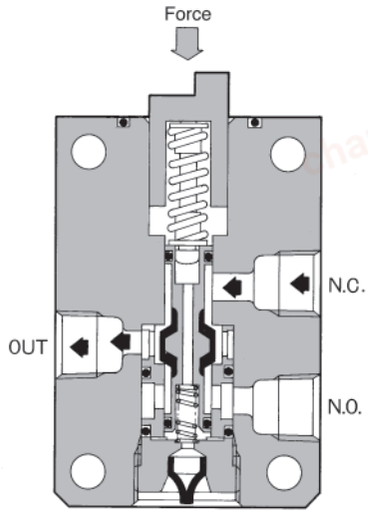
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Construction

Non-actuated



Actuated



Component Parts

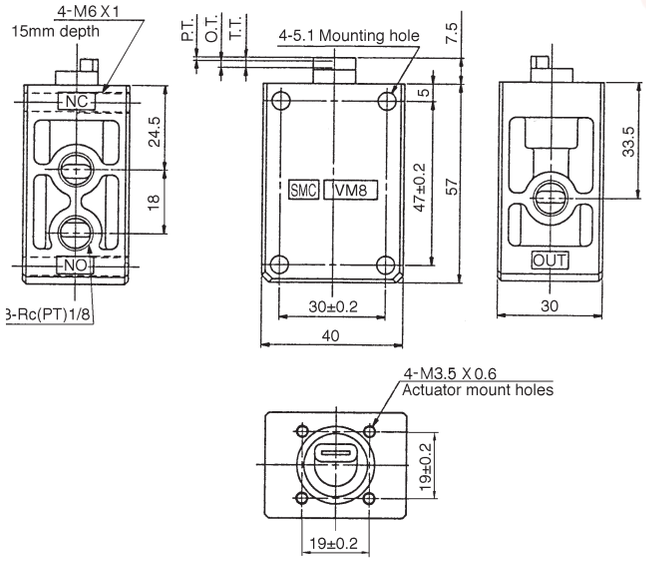
No.	Description	Material	Notes
①	Body	Aluminum alloy	Metallic plated
②	Plunger	Polyacetal	
③	Spool valve	Aluminum alloy, NBR	Rubber lined

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

Series VM800

Basic/VM830-01-00





JIS Symbol



F.O.F.	23N
P.T.	1mm
O.T.	2mm
T.T.	3mm

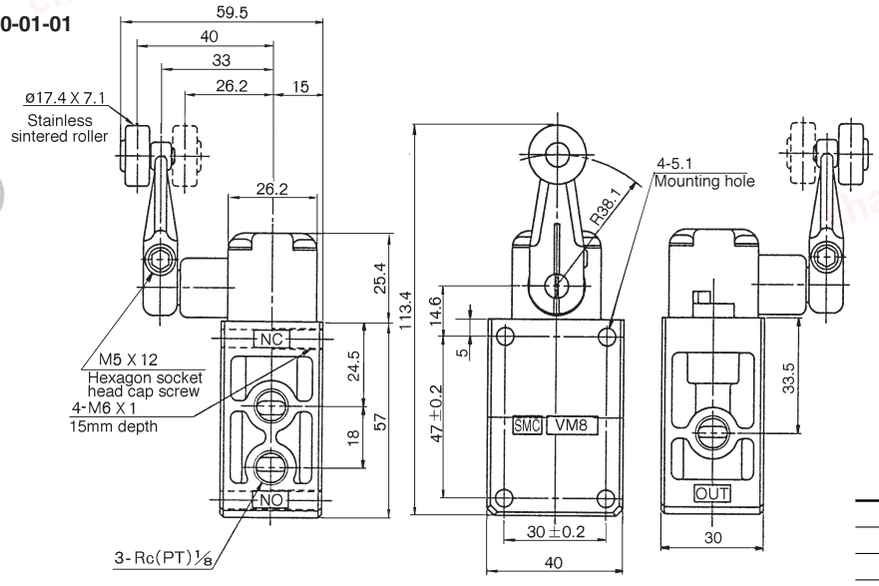
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VM800

Series VM800

Roller Lever/VM830-01-01





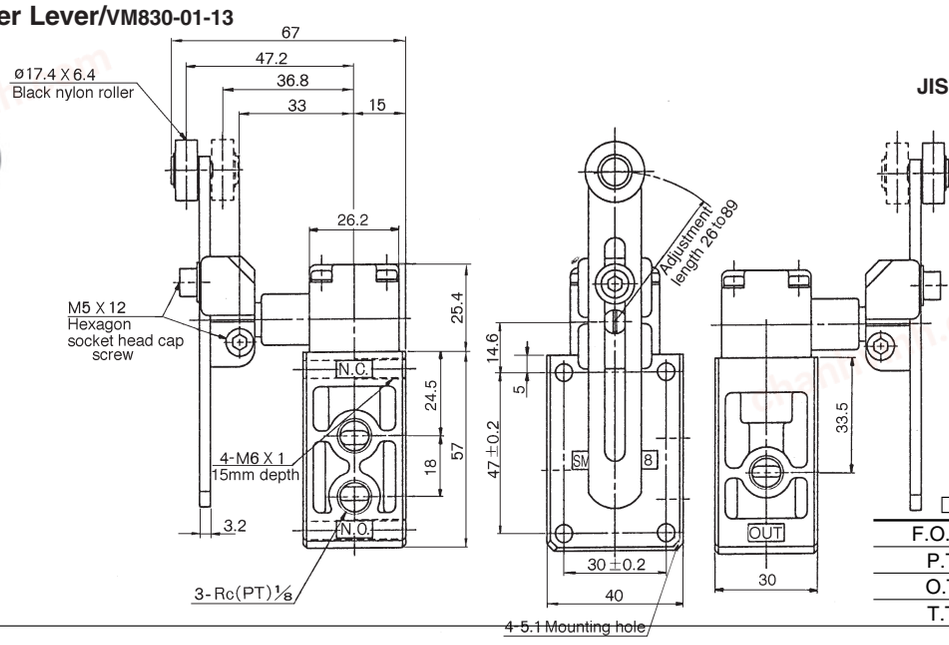
JIS Symbol



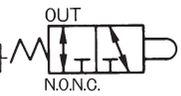
F.O.F.	20N
P.T.	20°
O.T.	30°
T.T.	50°

Adjustable Roller Lever/VM830-01-13





JIS Symbol

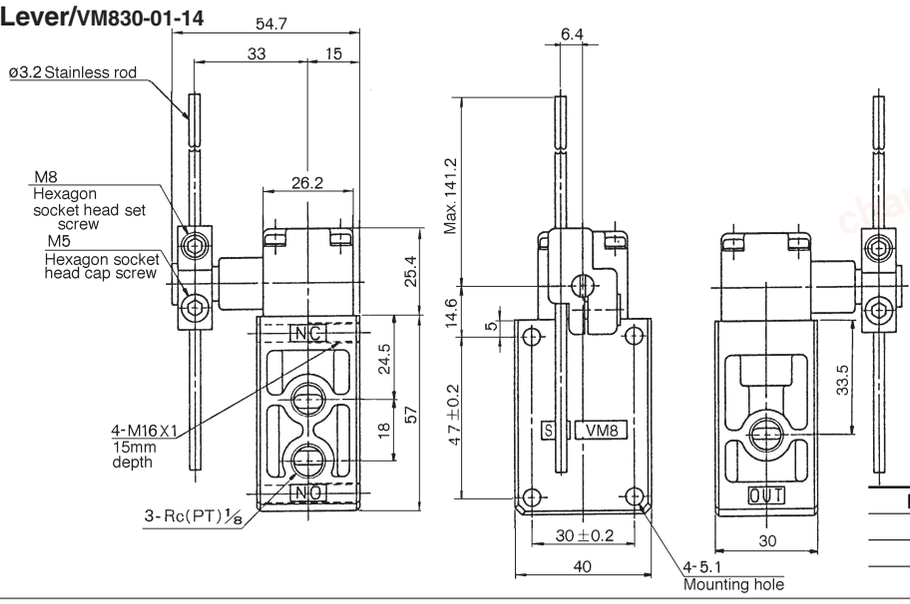


□ At lever length 38.1mm

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

Adjustable Rod Lever/VM830-01-14





JIS Symbol



□ At lever length 141.2mm

F.O.F.□	2.3N
P.T.	20°
O.T.	30°
T.T.	50°

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5 Port Mechanical Valve/Metal Seal

Series VZM400

Compact design, Large flow capacity High cycle rate, Long life/300c.p.m.

Piping possible to any EXH port.

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

External pilot model available. (Option)

Foot bracket and manifold mounting possible.



Specifications

Fluid	Air, Inert gas
Operating pressure	0.15 to 1.0MPa (1)
Ambient and fluid temperature	–5 to 60°C (No freezing)
Effective area (Nℓ/min)	9.9mm² (490.33)
Maximum frequency (Mechanical operation style)	300 c.p.m or less
Lubrication	Not required/Turbine oil #1 (ISO VG32)
Port size	Main valve 1/8
	Pilot valve (EXH)/M5
Option	Foot bracket (2)
Weight (Basic)	150g

□ Contact SMC for manifold mounting style.
Note 1) External pilot Main valve: 0 to 1.0MPa
Pilot valve: 0.15 to 1.0MPa
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	–
	Roller plunger	**VZM450-01-06**	VM-06C	Polyacetal roller
		VZM450-01-06S	VM-06CS	Hard steel roller
Manual operation	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) Actuator replacement is available for all styles.

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VZM400

How to Order

E VZM45 0 - [ ] 01 - 01 S - [ ]

Area code

-	Japan, Asia, Australia, England
E	Europe
N	North America

Thread

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

Port size

01	1/8

Body option

0	Internal pilot style
1	External pilot style

Actuator

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)

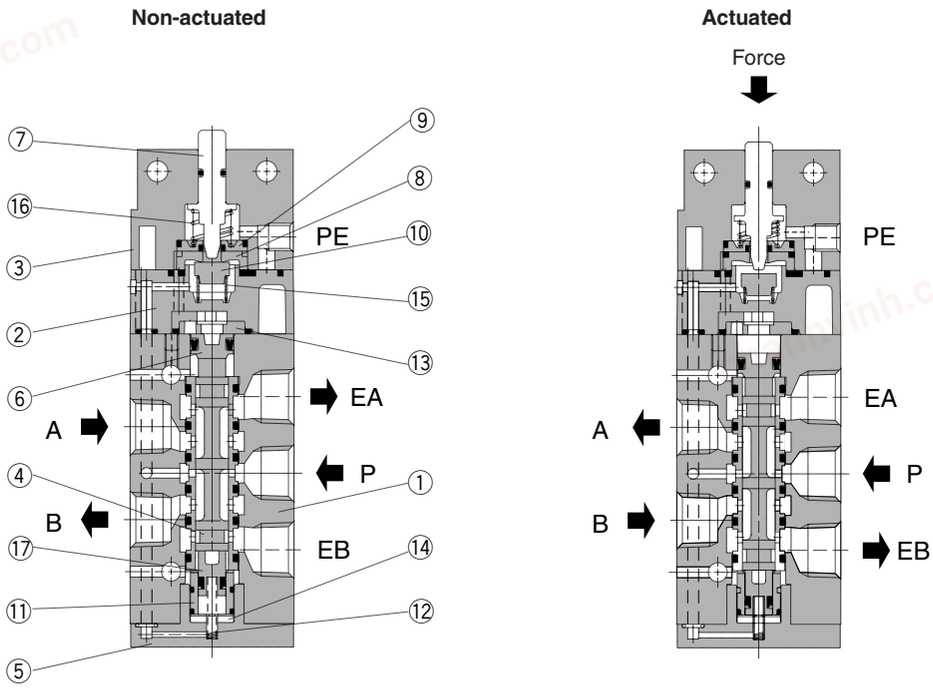
Suffix of actuator

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

Option

F	Foot bracket (Only internal pilot)

Construction



Componet Parts

No.	Description	Material	Notes
①	Body	ADC	Metallic plated
②	Pilot body	PBT	Only external pilot style: ZDC
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	

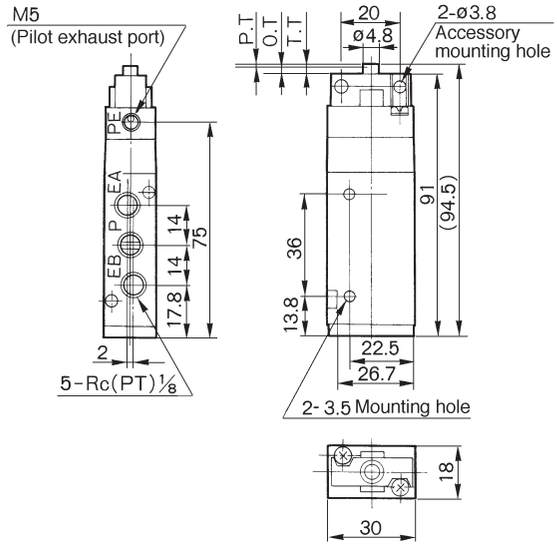
No.	Description	Material	Notes
⑩	Valve	NBR	
⑪	Piston guide B	Aluminum alloy	
⑫	Return spring	Stainless steel	
⑬	Cushion	Rubber	
⑭	Cushion	Rubber	
⑮	Valve spring	Stainless steel	
⑯	Return spring	Stainless steel	
⑰	Piston B	POM	

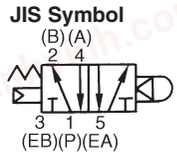
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Series VZM400

Basic/VZM450-01-00





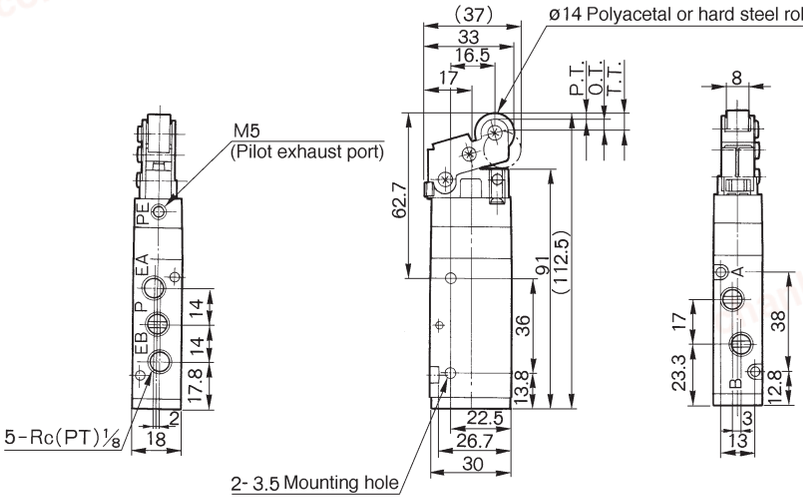


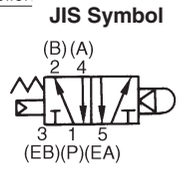
□ 0.5MPa supply

F.O.F.□	16N
P.T.	1mm
O.T.	2mm
T.T.	3mm

Roller Lever/VZM450-01-01, VZM450-01-01S



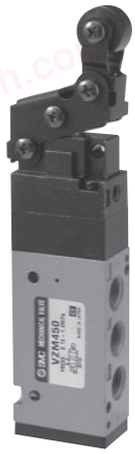


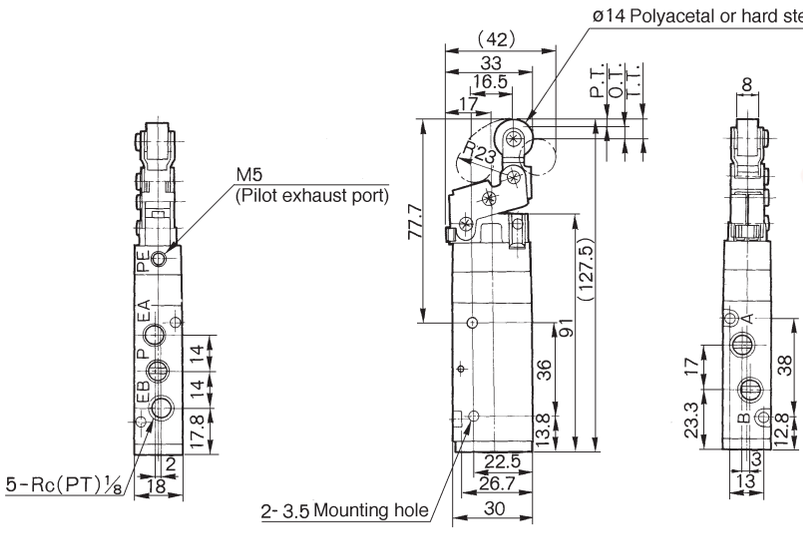


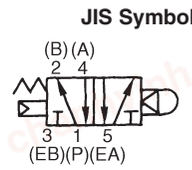
□ 0.5MPa supply

F.O.F.□	8N
P.T.	2.2mm
O.T.	4mm
T.T.	6.2mm

One Way Roller Lever/VZM450-01-02, VZM450-01-02S







□ 0.5MPa supply

F.O.F.□	7N
P.T.	2.4mm
O.T.	4.6mm
T.T.	7mm

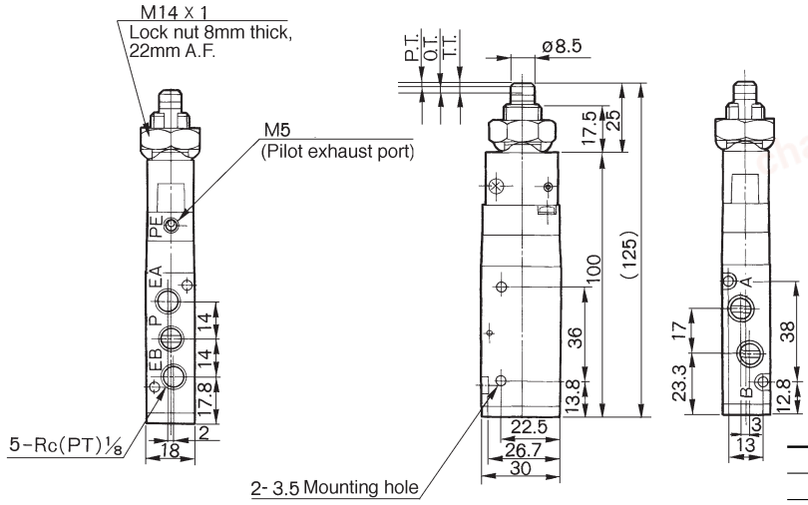
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VZM400

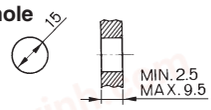
Series VZM400

Straight Plunger/VZM450-01-05

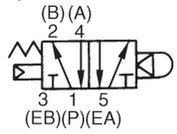




Panel mounted hole



JIS Symbol

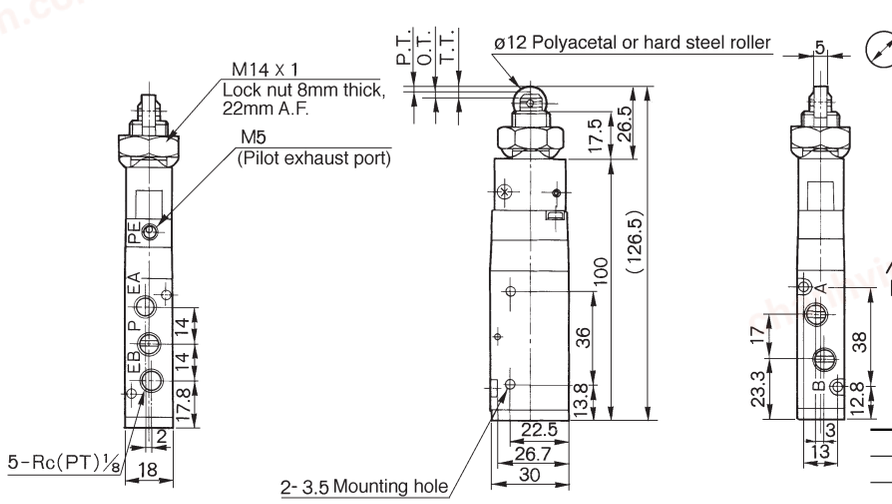


0.5MPa supply

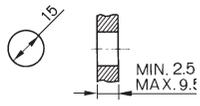
F.O.F.	18N
P.T.	1.5mm
O.T.	2mm
T.T.	3.5mm

Roller Plunger/VZM450-01-06, VZM450-01-06S

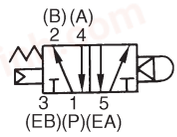




Panel mounted hole



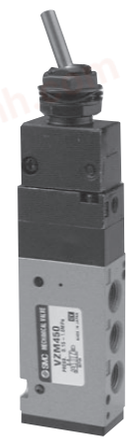
JIS Symbol

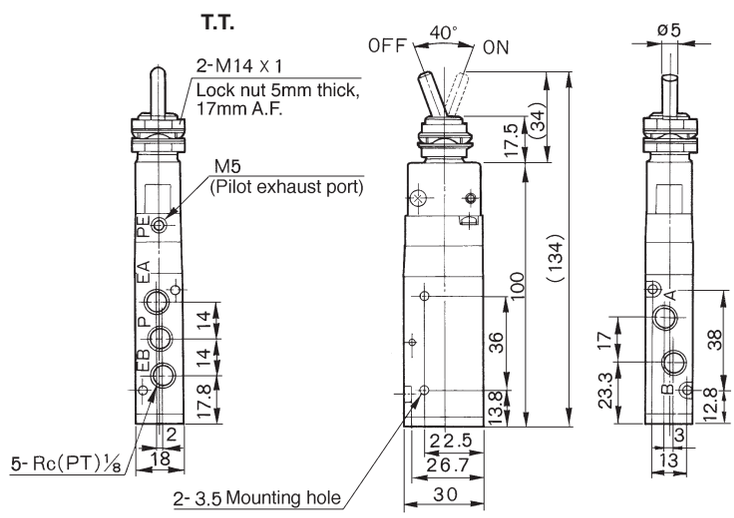


0.5MPa supply

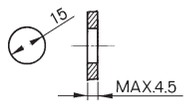
F.O.F.	18N
P.T.	1.5mm
O.T.	2mm
T.T.	3.5mm

Toggle Lever/VZM450-01-08

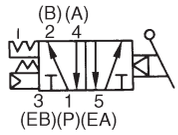




Panel mounted hole



JIS Symbol



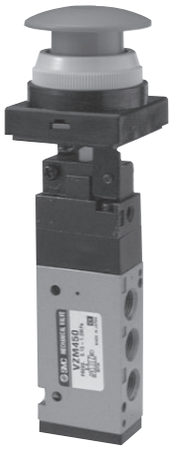
0.5MPa supply

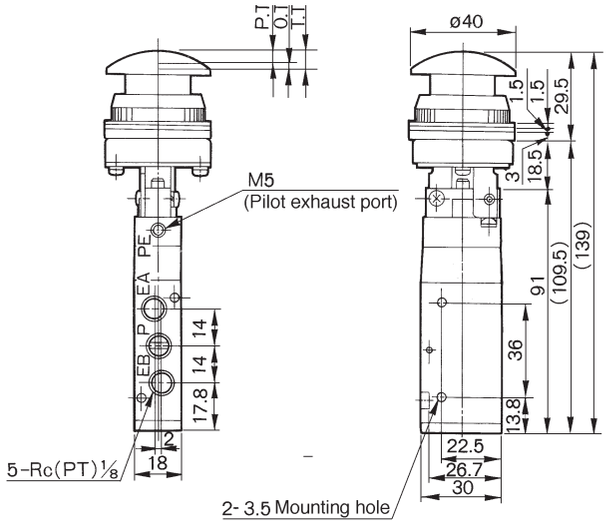
F.O.F.	15N
T.T.	40°

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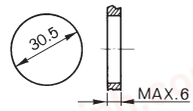
Series VZM400

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

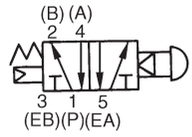




Panel mounted hole



JIS Symbol

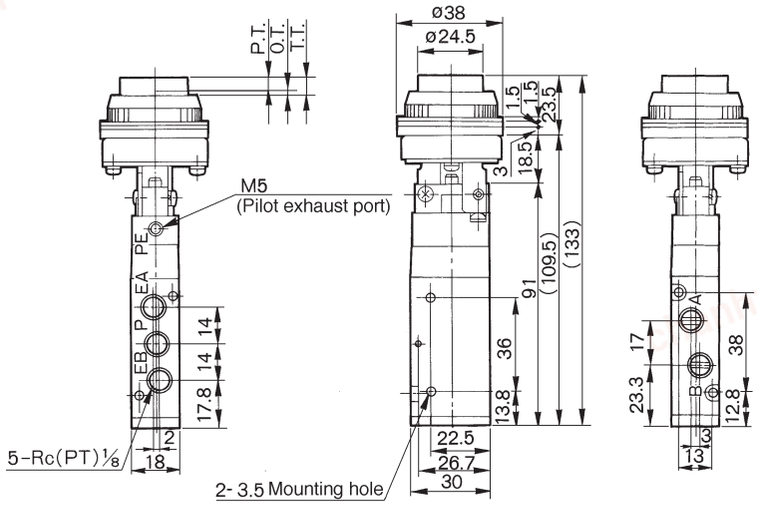


0.5MPa supply

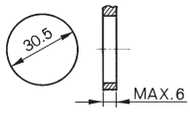
F.O.F.	21N
P.T.	4.8mm
O.T.	1.7mm
T.T.	6.5mm

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

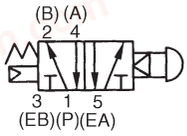




Panel mounted hole



JIS Symbol

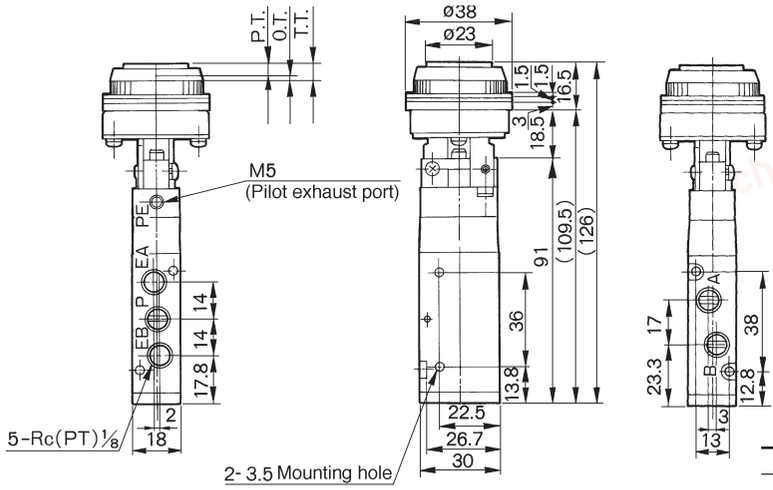


0.5MPa supply

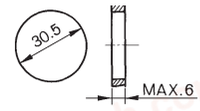
F.O.F.	21N
P.T.	4.8mm
O.T.	1.7mm
T.T.	6.5mm

Push Button (Flush)/VZM450-01-33

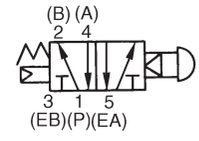




Panel mounted hole



JIS Symbol



0.5MPa supply

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

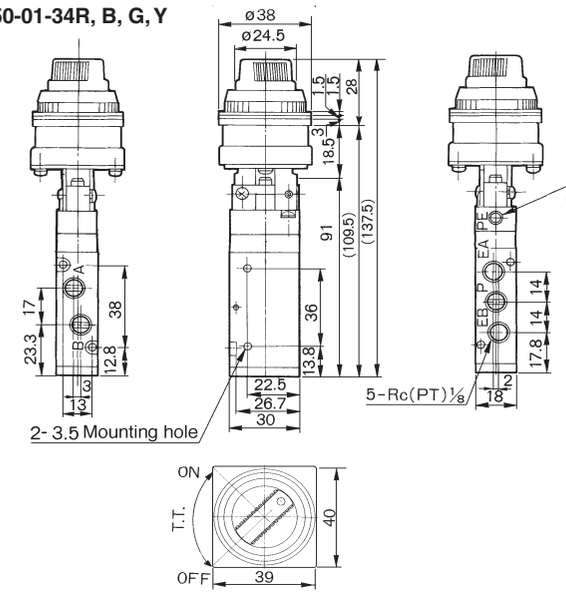
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VZM400

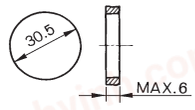
Series VZM400

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

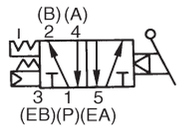




Panel mounted hole



JIS Symbol

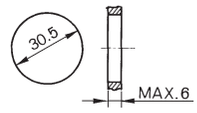


□ 0.5MPa supply

F.O.F.□	23N
T.T.	90°

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

Panel mounted hole





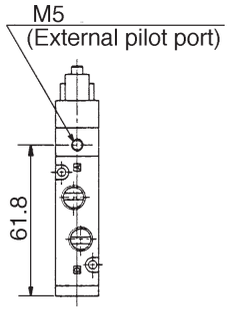
JIS Symbol

Key can be removed in “on” and “off” positions.

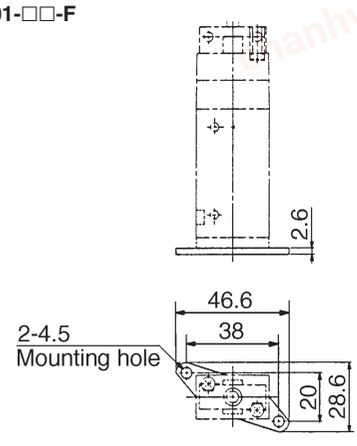
□ 0.5MPa supply

F.O.F.□	26N
T.T.	90°

External Pilot Style
VZM451 Type



With Foot Bracket
VZM450-01-□□-F



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5 Port Mechanical Valve

Series VZM500

Compact design, Large flow capacity/Nℓ/min: 589

High cycle rate, Long life/300c.p.m.

Piping possible to any EXH port.

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

External pilot model available. (Option)

Foot bracket and manifold mounting possible.



PAT. PEND.

Specifications

Fluid	Air, Inert gas
Operating pressure	0.15 to 0.7MPa (1)
Ambient and fluid temperature	–5 to 60°C (No freezing)
Effective area (Nℓ/min)	10.8mm² (534.90)
Maximum frequency (Mechanical operation style)	300 c.p.m or less
Lubrication	Not required/Turbine oil #1 (ISO VG32)
Port size	Main valve 1/8
	Pilot valve (EXH)/M5
Option	Foot bracket (2)
Weight (Basic)	130g

□ Contact SMC for manifold mounting style.
Note 1) External pilot style Main valve: 0 to 0.7MPa
Pilot valve: 0.15 to 0.7MPa
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	–
	Roller plunger	**VZM550-01-06**	VM-06C	Polyacetal roller
		VZM550-01-06S	VM-06CS	Hard steel roller
Manual operation	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) Actuator replacement is available for all styles. (Except for push-pull)

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VZM500

How to Order

E VZM55 [0] [ ] [01] [01] [S] [ ]

Area code

-	Japan, Asia, Australia, England
E	Europe
N	North America

Body option

0	Standard
1*	External pilot style

* Except for VZM550-01-37

Thread

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

Port size

01	1/8

Actuator

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 (Flash)
34	Twist selector (2 position)
36	Key selector (2 position)
37	Push-pull

Suffix of actuator

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

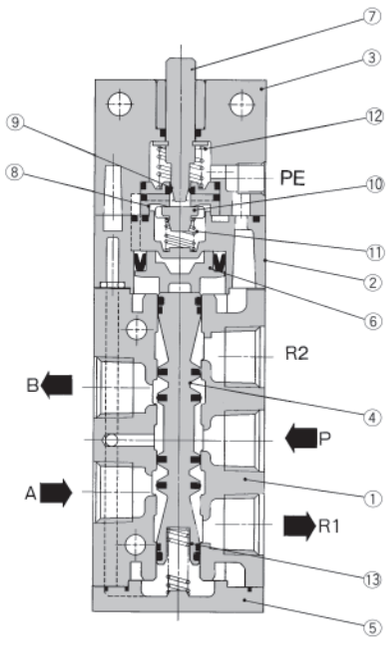
Colour of push button

Option

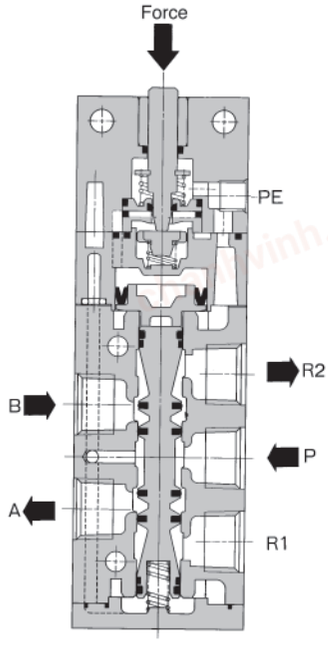
F	Foot bracket

Construction

Non-actuated



Actuated



Component Parts

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

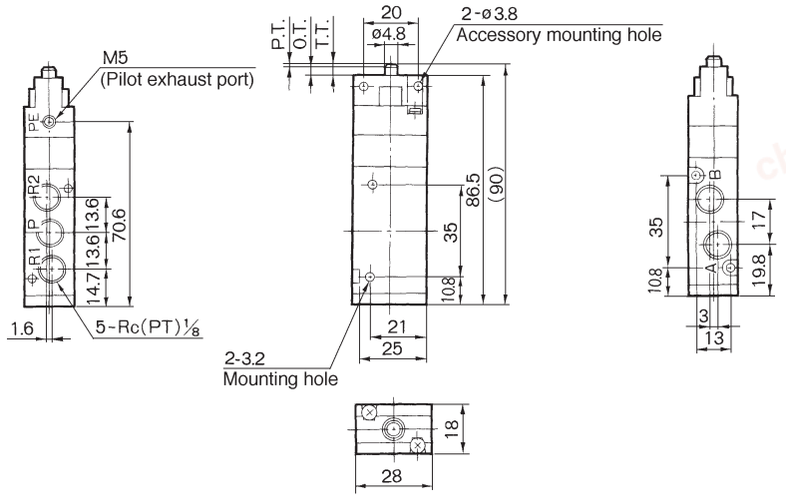
No.	Description	Material	Notes
⑧	Valve seat (A)	POM	
⑨	Valve seat (B)	POM	
⑩	Valve assembly	NBR	
⑪	Valve spring	Stainless steel	
⑫	Return spring	Stainless steel	
⑬	Spool spring	Stainless steel	

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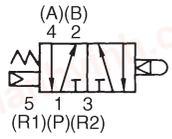
Series VZM500

Basic/VZM550-01-00





JIS Symbol

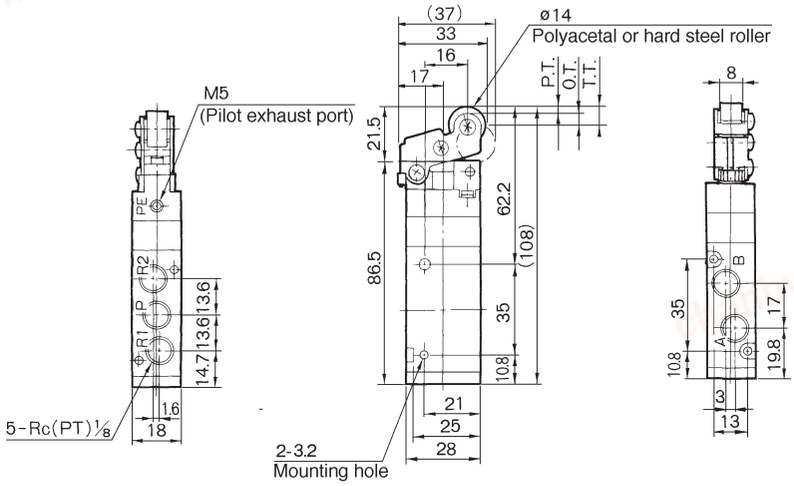


0.5MPa supply

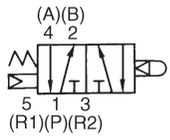
F.O.F.	16N
P.T.	1mm
O.T.	2mm
T.T.	3mm

Roller Lever/VZM550-01-01, VZM550-01-01S





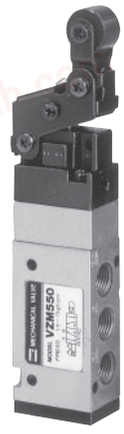
JIS Symbol

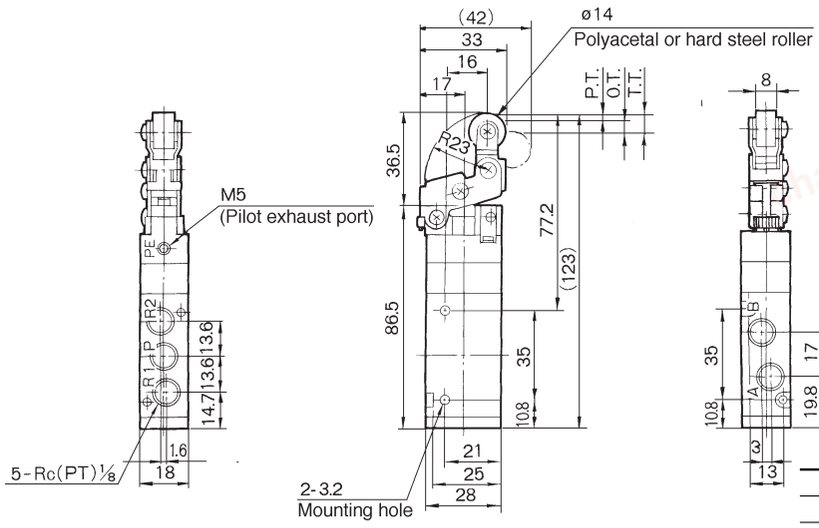


0.5MPa supply

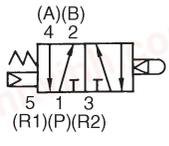
F.O.F.	8N
P.T.	2.2mm
O.T.	4mm
T.T.	6.2mm

One Way Roller Lever/VZM550-01-02, VZM550-01-02S





JIS Symbol



0.5MPa supply

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

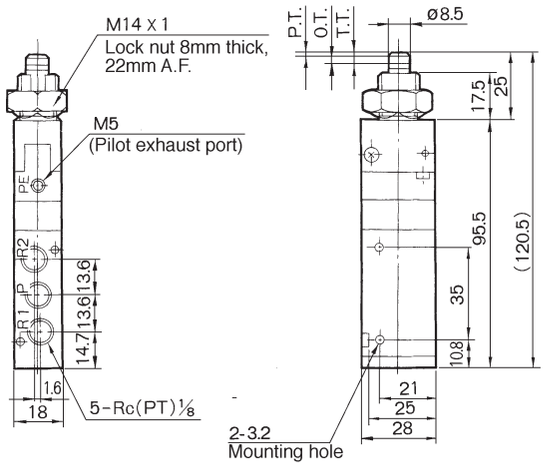
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VZM500

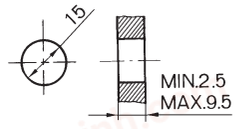
Series VZM500

Straight Plunger/VZM550-01-05

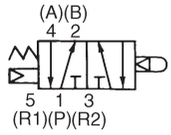




Panel mounted hole



JIS Symbol

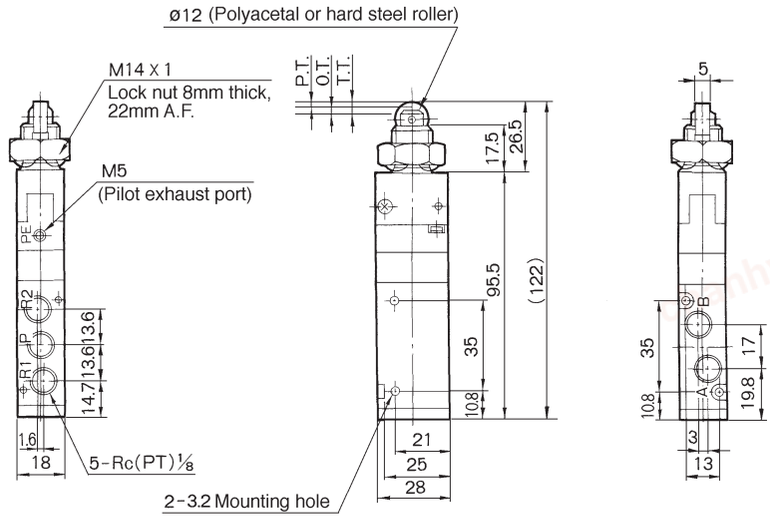


▯ 0.5MPa supply

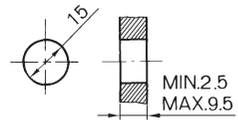
F.O.F.▯	18N
P.T.	1.5mm
O.T.	2mm
T.T.	3.5mm

Roller Plunger/VZM550-01-06, VZM550-01-06S

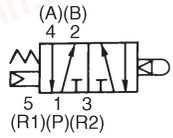




Panel mounted hole



JIS Symbol

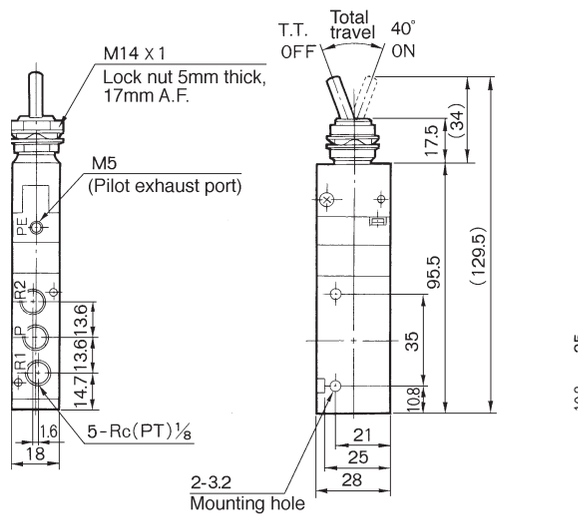


▯ 0.5MPa supply

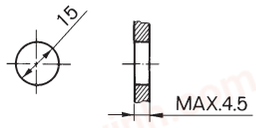
F.O.F.▯	18N
P.T.	1.5mm
O.T.	2mm
T.T.	3.5mm

Toggle Lever/VZM550-01-08

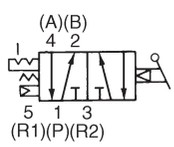




Panel mounted hole



JIS Symbol



▯ 0.5MPa supply

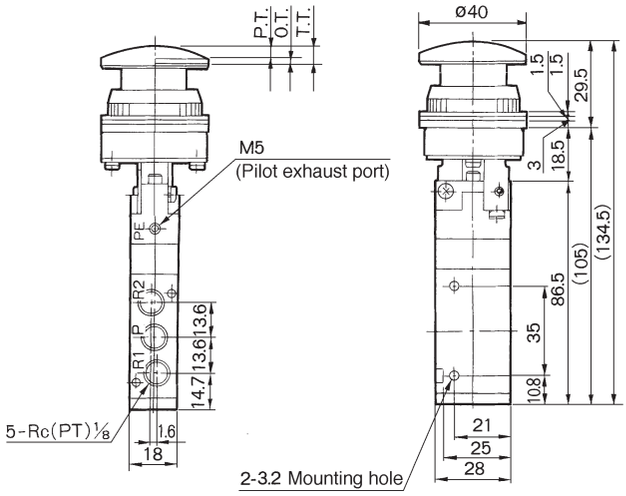
F.O.F.▯	15N
T.T.	40°

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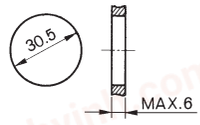
Series VZM500

Push Button (Mushroom)/VZM550-01-30R, B, G, Y

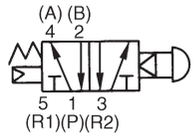




Panel mounted hole



JIS Symbol

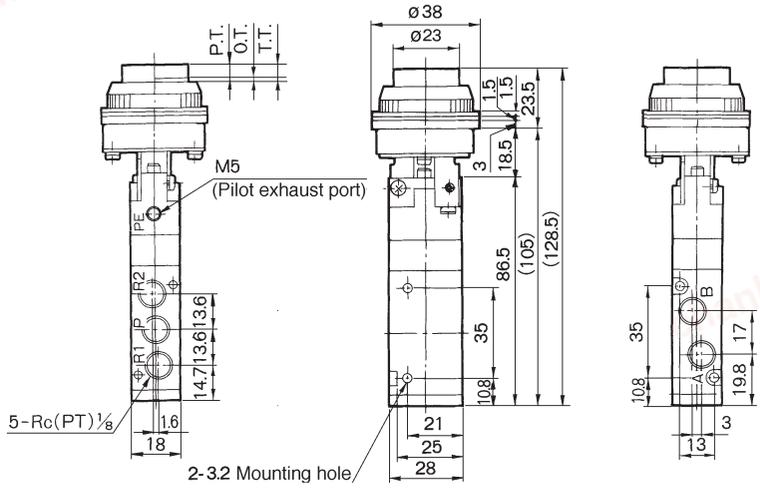


0.5MPa supply

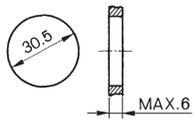
F.O.F.	21N
P.T.	4.8mm
O.T.	1.7mm
T.T.	6.5mm

Push Button (Extended)/VZM550-01-32R, B, G, Y

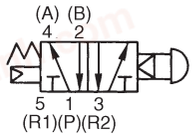




Panel mounted hole



JIS Symbol

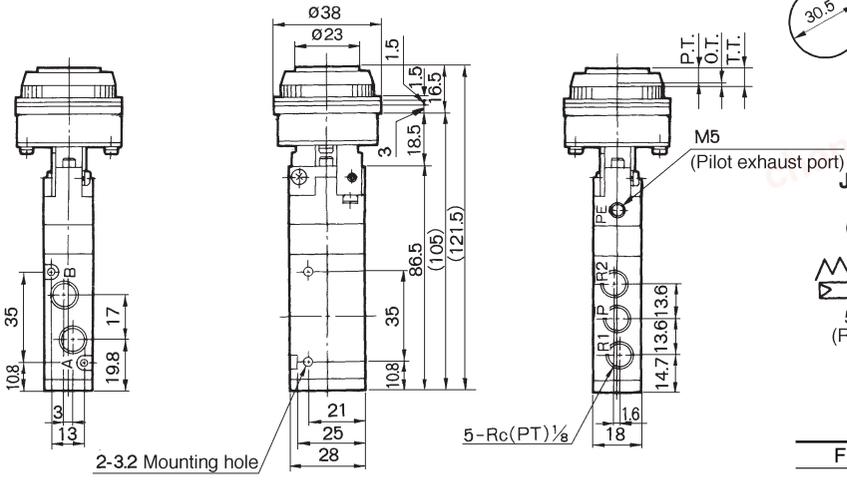


0.5MPa supply

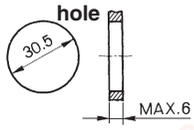
F.O.F.	21N
P.T.	4.8mm
O.T.	1.7mm
T.T.	6.5mm

Push Button (Flush)/VZM550-01-33

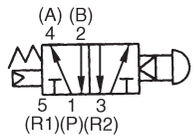




Panel mounted hole



JIS Symbol



0.5MPa supply

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

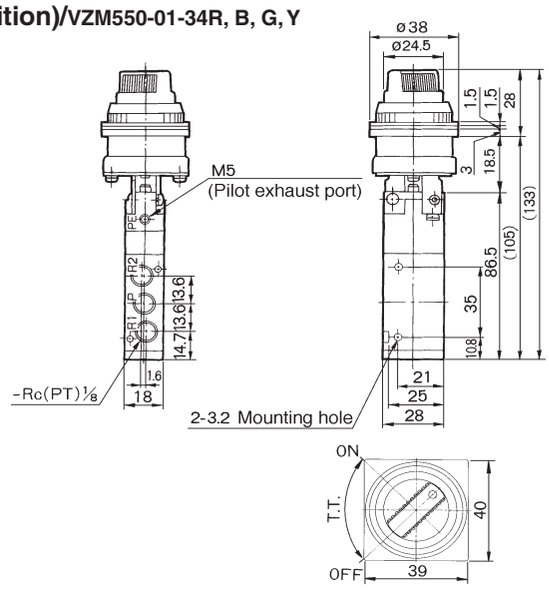
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VZM500

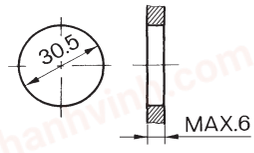
Series VZM500

Twist Selector (2 position)/VZM550-01-34R, B, G, Y

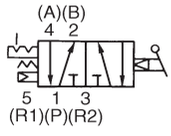




Panel mounted hole



JIS Symbol



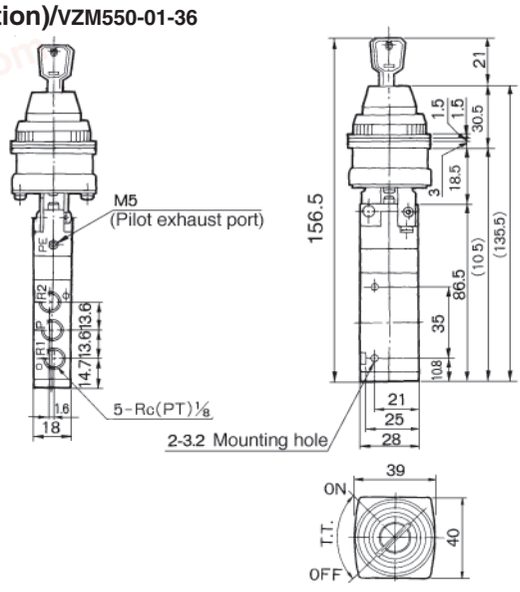
0.5MPa supply

F.O.F.	23N
T.T.	90°

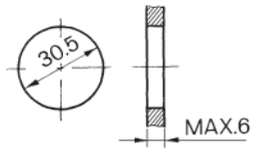
Key Selector (2 position)/VZM550-01-36



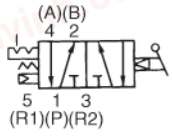
Key can be removed in “on” and “off” positions.



Panel mounted hole



JIS Symbol

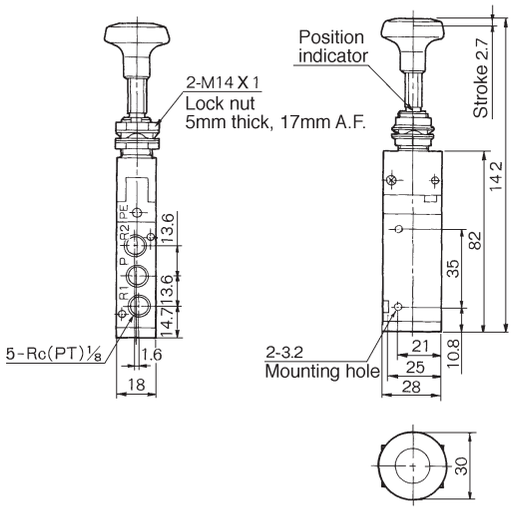


0.5MPa supply

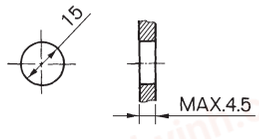
F.O.F.	26N
T.T.	90°

Push-pull/VZM550-01-37

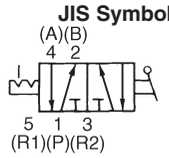




Panel mounted hole



JIS Symbol

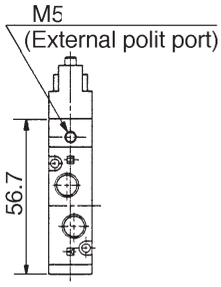


F.O.F.	20N
T.T.	2.7mm

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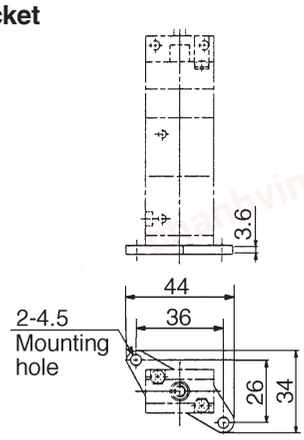
External Pilot Style

VZM551 Type



With Foot Bracket

VZM55□-01-□□-F



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5 Port Mechanical Valve/Rubber Seal

Series VFM300

RoHS

Compact design, large flow capacity 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)



Specifications

Fluid		Air/Inert gas			
Operating pressure		0.15 to 0.9 MPa (1)			
Ambient and fluid temperature		–5 to 60°C (No freezing)			
Flow characteristics		C[dm³/(s·bar)]	b	Cv	Q [l/min] (ANR) (2)
	1(P)→2(C2)/4(C1)	4.0	0.36	1.0	1058
	2(C2)/4(C1)→3(E2)/5(E1)	3.1	0.32	0.75	798
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/1P, 4A, 2B port 1/4, 5EA/3EB port 1/8			
		Pilot valve (EXH)/M5 x 0.8			
Option		Foot bracket (3)			

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

Note 2) These values have been calculated according to ISO 6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.

Note 3) The standard body can not be retrofitted with a foot bracket.

Model

	Actuator	Model	Actuator part no.	Application	Weight (g)
Mechanical operation	Basic	VFM350-02-00	—	—	190
	Roller lever	VFM350-02-01	VM-01C	Polyacetal roller	270
		VFM350-02-01S	VM-01CS	Hard steel roller	280
	One way roller lever	VFM350-02-02	VM-02C	Polyacetal roller	280
		VFM350-02-02S	VM-02CS	Hard steel roller	290
	Straight plunger	VFM350-02-05	VM-05D	—	380
	Roller plunger	VFM350-02-06	VM-06D	Polyacetal roller	370
		VFM350-02-06S	VM-06DS	Hard steel roller	380
Manual operation	Toggle lever	VFM350-02-08	VM-08D	—	360
	Push button (Mushroom)	VFM350-02-30R	VM-30CR	Red	309
		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	302
		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	307
	Twist selector (2 position)	VFM350-02-34R	VM-34CR	Red	308
		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	—	327

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 2347 and 2348. The other parts are not replaceable.

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

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How to Order

VFM35 [0] – [02] – [01] [S] – [ ]

Body option

0	Internal pilot type
1	External pilot type

Port size

02	Rc 1/4
N02	NPT 1/4
F02	G 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) Note 1)
34	Twist selector (2 position)
36	Key selector (2 position)

Suffix for actuator

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

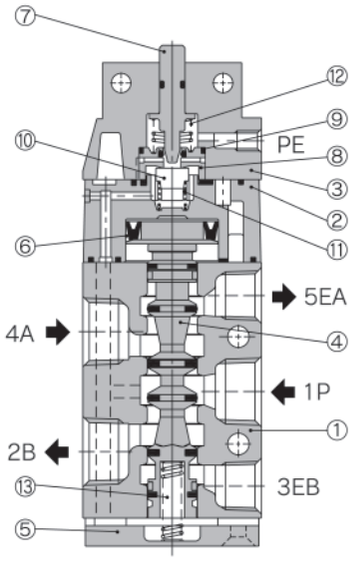
Option

F	Foot bracket (Only internal pilot)

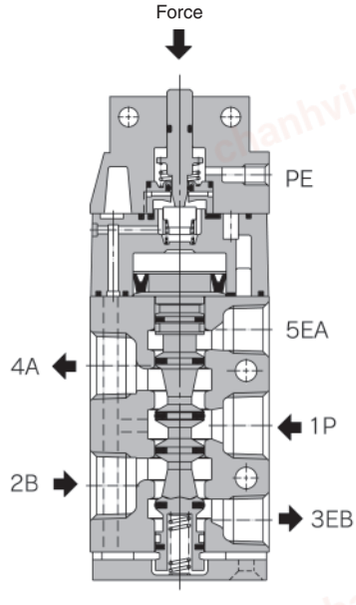
Note 1) When selecting the flush type, it is not necessary to select the suffix for the actuator.

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.	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	

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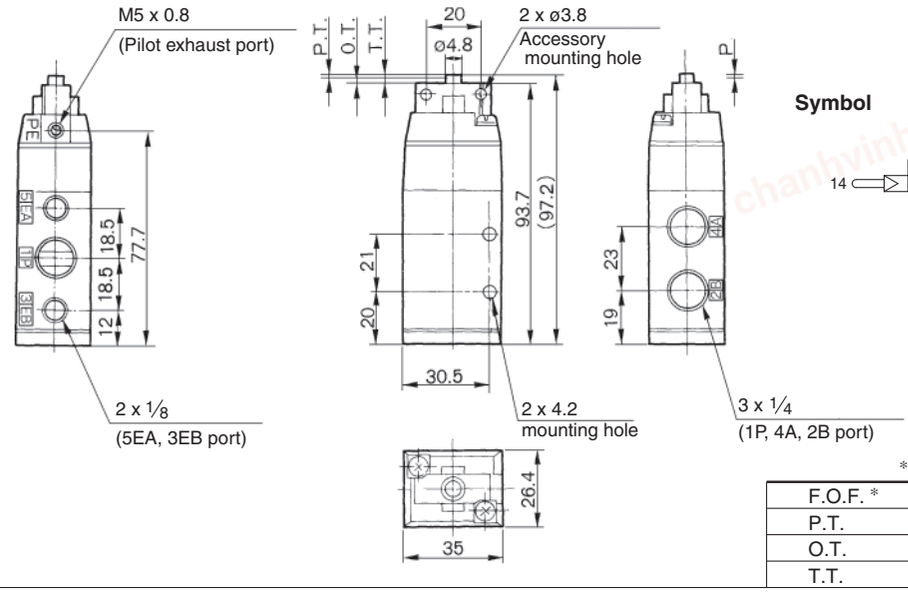
VFM300

Series VFM300

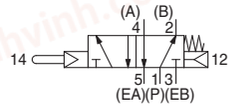
Basic

VFM350-02-00





Symbol



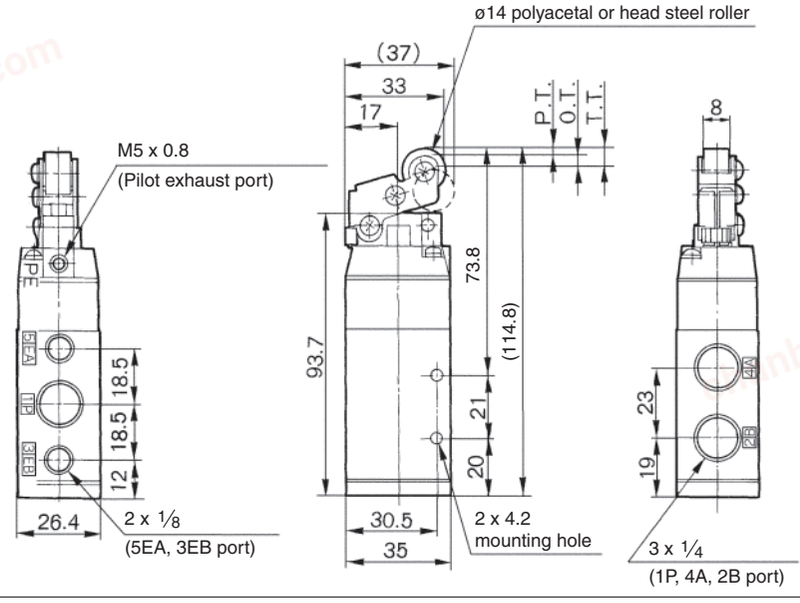
∗ 0.5 MPa supply

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

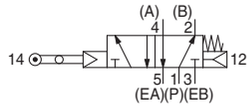
Roller lever

VFM350-02-01
VFM350-02-01S





Symbol

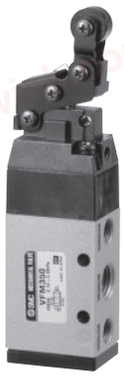


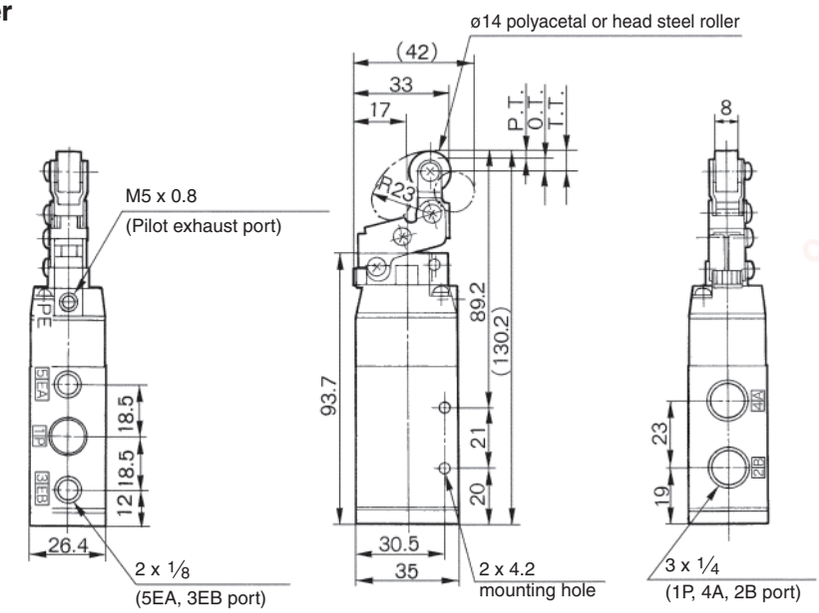
∗ 0.5 MPa supply

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

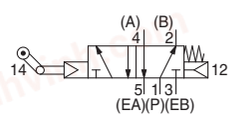
One way roller lever

VFM350-02-02
VFM350-02-02S





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

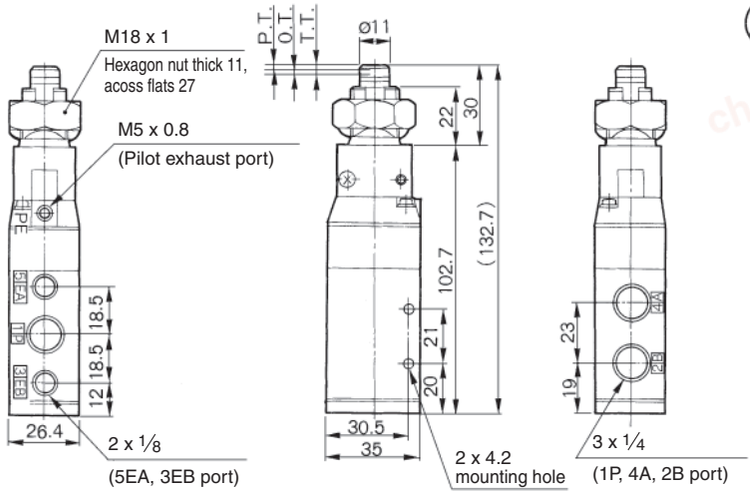
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Series VFM300

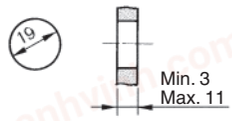
Straight plunger

VFM350-02-05

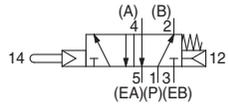




Panel mounting hole



Symbol



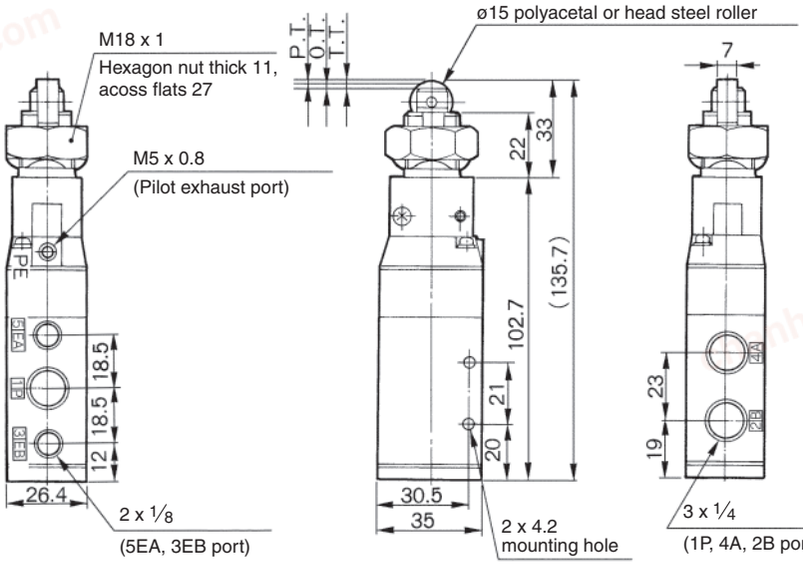
∗ 0.5 MPa supply

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

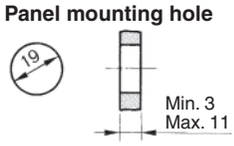
Roller plunger

VFM350-02-06
VFM350-02-06S

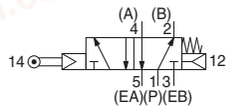




Panel mounting hole



Symbol

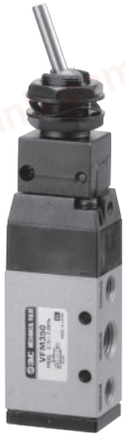


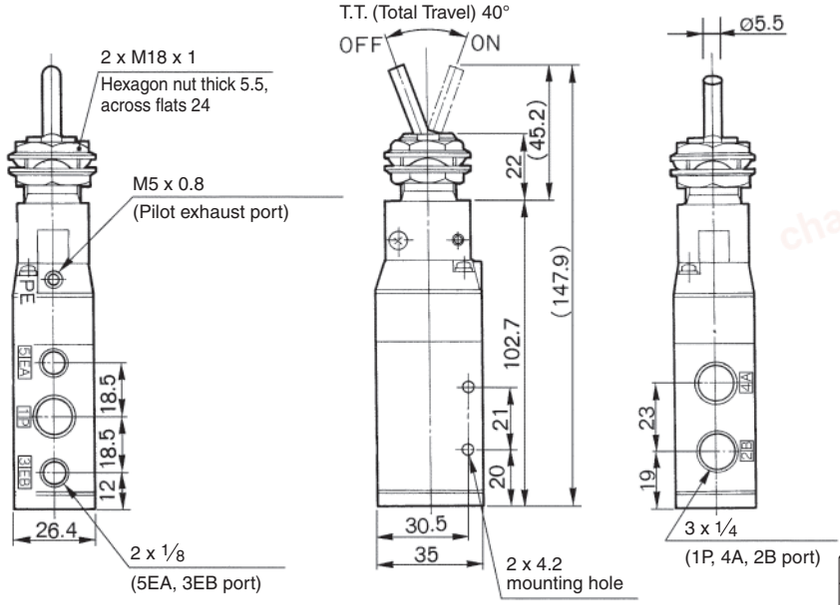
∗ 0.5 MPa supply

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

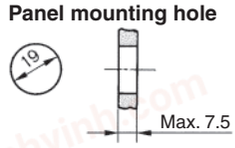
Toggle lever

VFM350-02-08

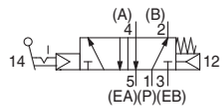




Panel mounting hole



Symbol



∗ 0.5 MPa supply

F.O.F. ∗	15 N
T.T.	40°

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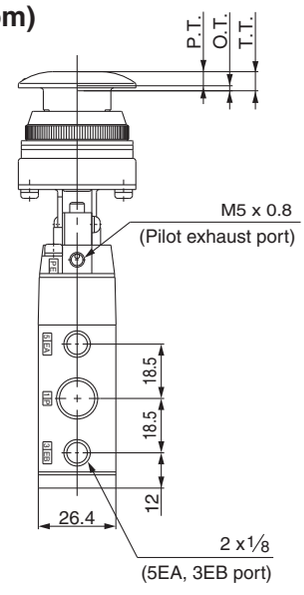
VFM300

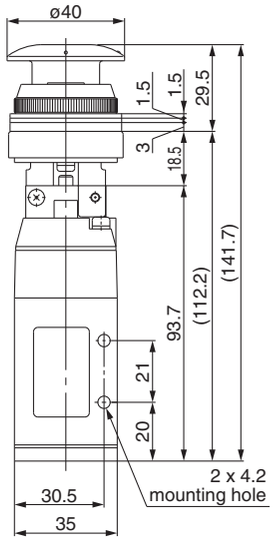
Series VFM300

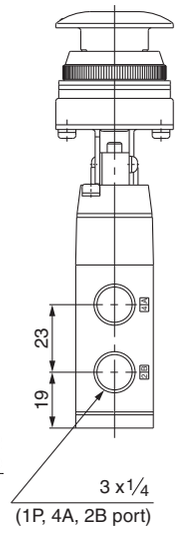
Push button (Mushroom)

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

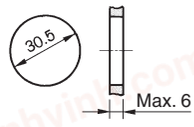




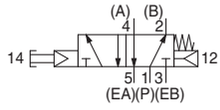




Panel mounting hole



Symbol



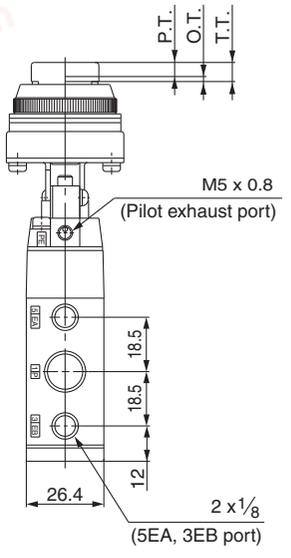
∗ 0.5 MPa supply

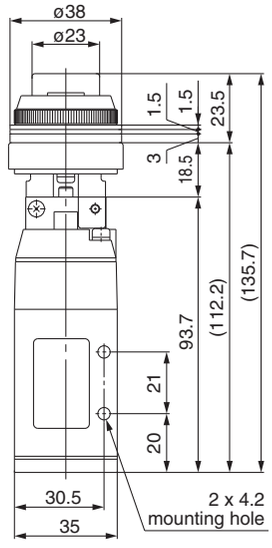
F.O.F. ∗	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

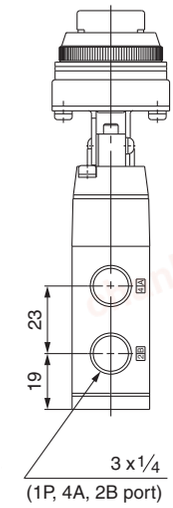
Push button (Extended)

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

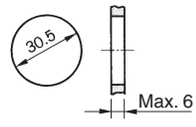




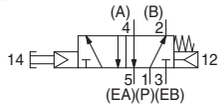




Panel mounting hole



Symbol



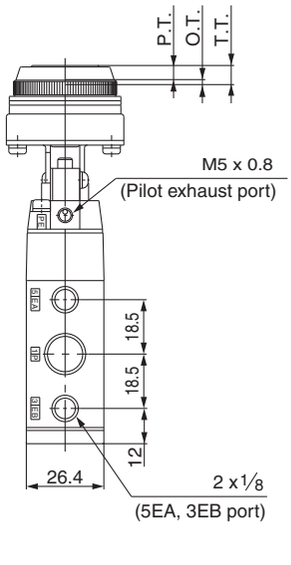
∗ 0.5 MPa supply

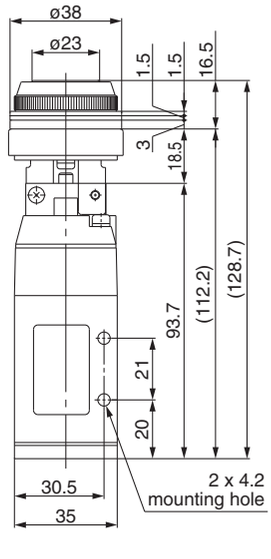
F.O.F. ∗	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

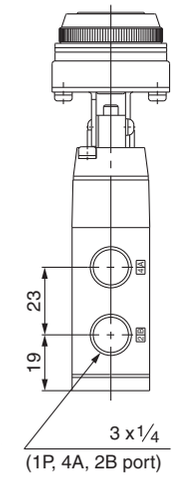
Push button (Flush)

VFM350-02-33

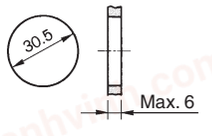




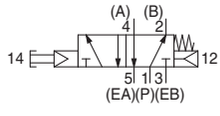




Panel mounting hole



Symbol



∗ 0.5 MPa supply

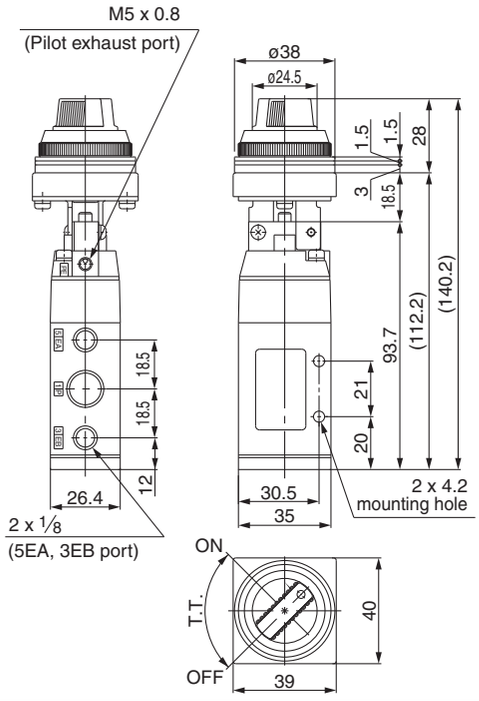
F.O.F. ∗	21 N
P.T.	4.8 mm
O.T.	1.7 mm
T.T.	6.5 mm

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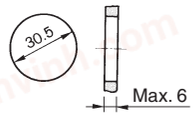
Series VFM300

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

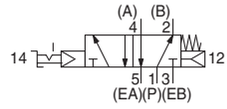




Panel mounting hole



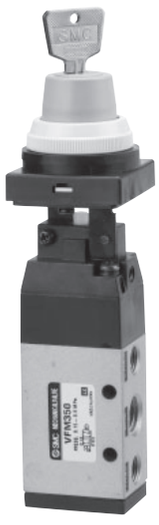
Symbol

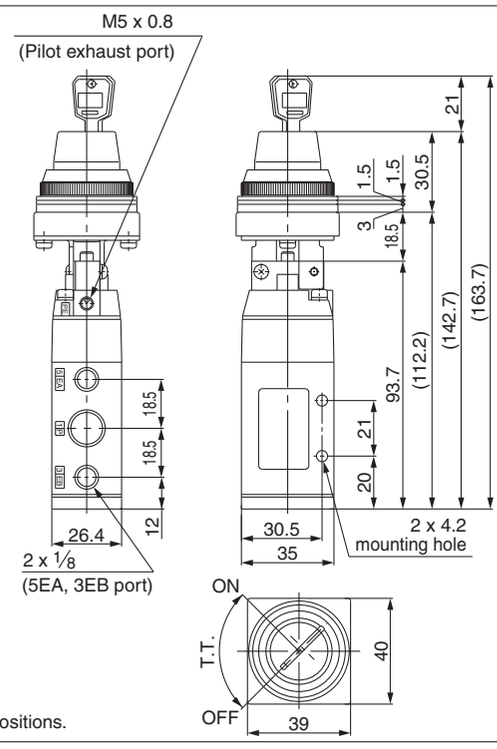


∗ 0.5 MPa supply

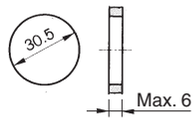
F.O.F. ∗	23 N
T.T.	90°

Key selector (2 position)
VFM350-02-36

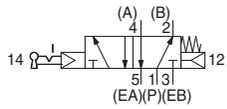




Panel mounting hole



Symbol

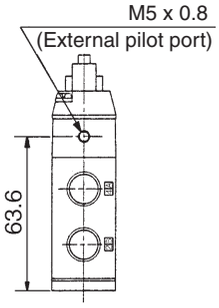


∗ 0.5 MPa supply

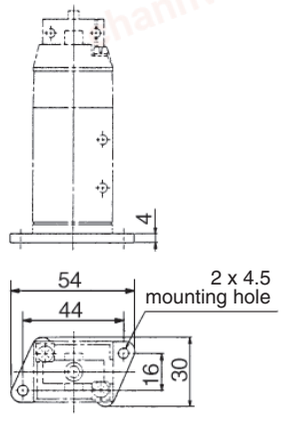
F.O.F. ∗	26 N
T.T.	90°

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

External pilot type
VFM351 type



With foot bracket
VFM350-02-□□-F



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5 Port Mechanical Valve/Metal Seal

Series VFM200

Compact design, Large flow capacity/ Nℓ/min: 982

High cycle rate, Long life/300c.p.m.

Piping possible to any EXH port.

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

External pilot model available. (Option)

Foot bracket and manifold mounting possible.



Specifications

Fluid	Air, Inert gas
Operating pressure	0.1 to 1.0MPa (1)
Ambient and fluid temperature	–5 to 60°C (No freezing)
Effective area (Nℓ/min)	18mm²(891.50)
Maximum frequency (Mechanical operation style)	300 c.p.m or less
Lubrication	Not required/Turbine oil #1 (ISO VG32)
Port size	Main valve 1/4
	Pilot valve (EXH)/M5
Option	Foot bracket (2)
Weight (Basic)	300g

□ Contact SMC for manifold mounting style.
Note 1) External pilot style Main valve: 0 to 1.0MPa
Pilot valve: 0.1 to 1.0MPa
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	–
	Roller plunger	**VFM250-02-06**	VM-06D	Polyacetal roller
		VFM250-02-06S	VM-06DS	Hard steel roller
Manual operation	Toggle lever	**VFM250-02-08**	VM-08D	–
	Push button (Mushroom)	**VFM250-02-30R**	VM-30CR	Red
		VFM250-02-30B	VM-30CB	Black
		VFM250-02-30G	VM-30CG	Green
		VFM250-02-30Y	VM-30CY	Yellow
	Push button (Extended)	**VFM250-02-32R**	VM-32CR	Red
		VFM250-02-32B	VM-32CB	Black
		VFM250-02-32G	VM-32CG	Green
		VFM250-02-32Y	VM-32CY	Yellow
	Push button (Flush)	**VFM250-02-33**	VM-33C	With a set of red, black, green, yellow
	Twist selector (2 position)	**VFM250-02-34R**	VM-34CR	Red
		VFM250-02-34B	VM-34CB	Black
		VFM250-02-34G	VM-34CG	Green
		VFM250-02-34Y	VM-34CY	Yellow
	Key selector (2 position)	**VFM250-02-36**	VM-36C	–

Note) Actuator replacement is available for all styles.

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How to Order

E VFM25 0 □ 02 01 S □

Area code

-	Japan, Asia, Australia, England
E	Europe
N	North America

Body option

0	Internal pilot style
1	External pilot style

Thread

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

Port size

02	1/4

Actuator

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 of actuator

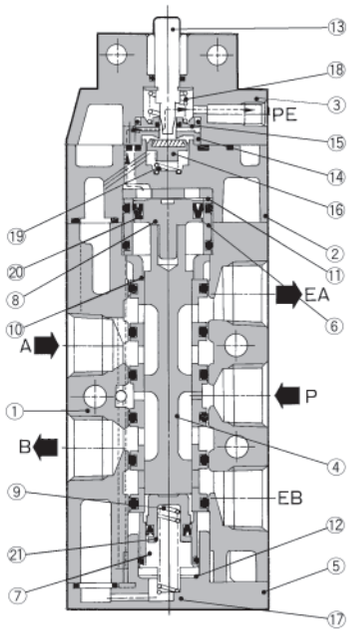
S	Hard steel roller	
R	Red	Colour of push button
B	Black	
G	Green	
Y	Yellow	

Option

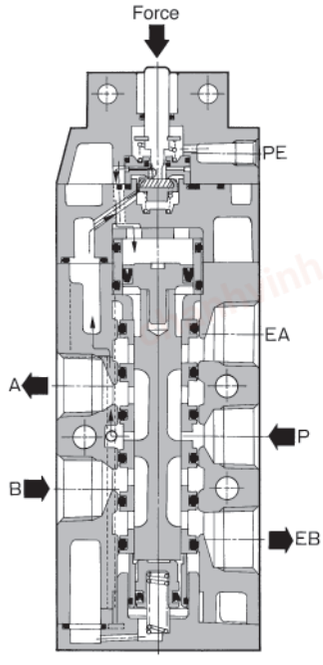
F	Foot bracket (Only internal pilot)

Construction

Non-actuated



Actuated



Component Parts

No.	Description	Material	Notes
①	Body	Aluminum alloy	Metallic plated
②	Pilot body	Zinc alloy	Metallic plated
③	Head cover	Zinc alloy	Black zinc chromate
④	Spool/sleeve	Stainless steel	
⑤	End cover	Polyacetal	
⑥	Piston guide	Brass	
⑦	Piston guide for end cover	Brass	
⑧	Piston	Polyacetal	
⑨	Piston for end cover	Polyacetal	
⑩	Guide bushing	Polyacetal	
⑪	Cushion	Urethane rubber	

No.	Description	Material	Notes
⑫	Cushion for end cover	Urethane rubber	
⑬	Plunger	Stainless steel	
⑭	Valve seat (A)	Brass	
⑮	Valve seat (B)	Brass	
⑯	Valve	NBR, Brass	
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	

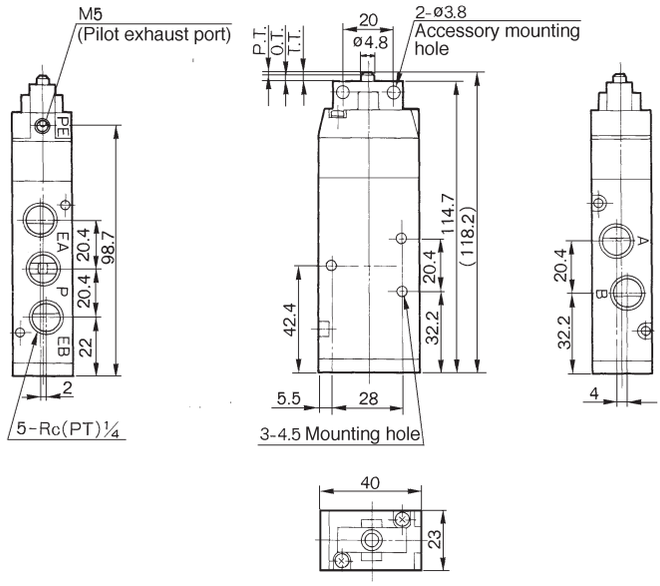
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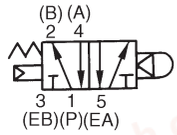
VFM200

Series VFM200

Basic/VFM250-02-00







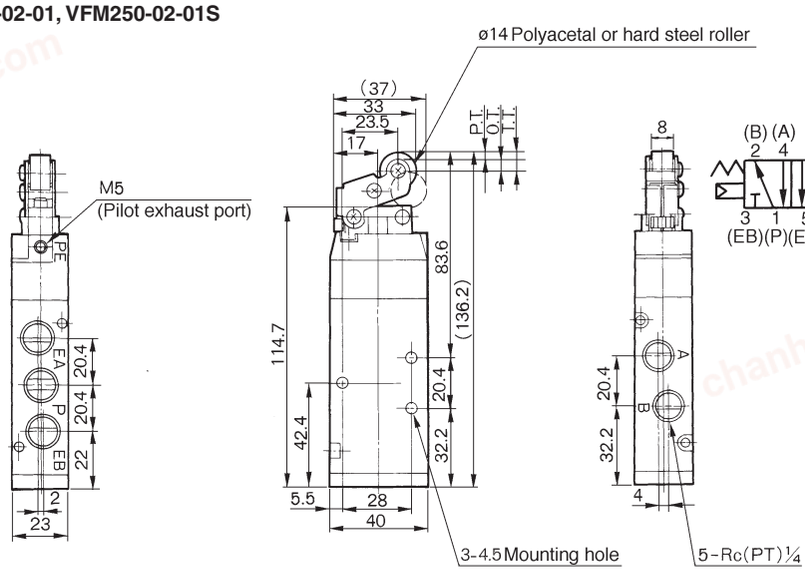
JIS Symbol

□ 0.5MPa supply

F.O.F.□	16N
P.T.	1mm
O.T.	2mm
T.T.	3mm

Roller Lever/VFM250-02-01, VFM250-02-01S





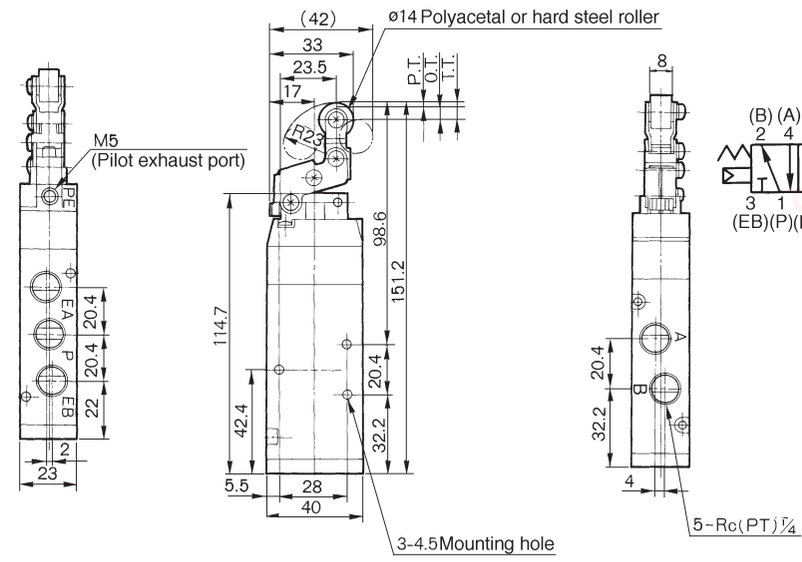
JIS Symbol

□ 0.5MPa supply

F.O.F.□	8N
P.T.	2.2mm
O.T.	4mm
T.T.	6.2mm

One Way Roller Lever/VFM250-02-02, VFM250-02-02S





JIS Symbol

□ 0.5MPa supply

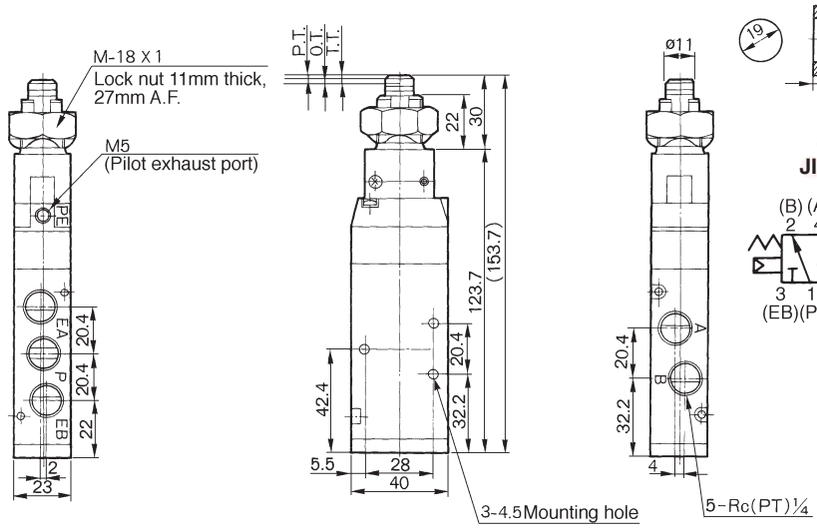
F.O.F.□	7N
P.T.	2.4mm
O.T.	4.6mm
T.T.	7mm

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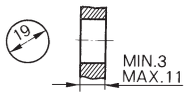
Series VFM200

Straight Plunger/VFM250-02-05

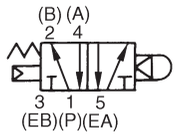




Panel mounted hole



JIS Symbol

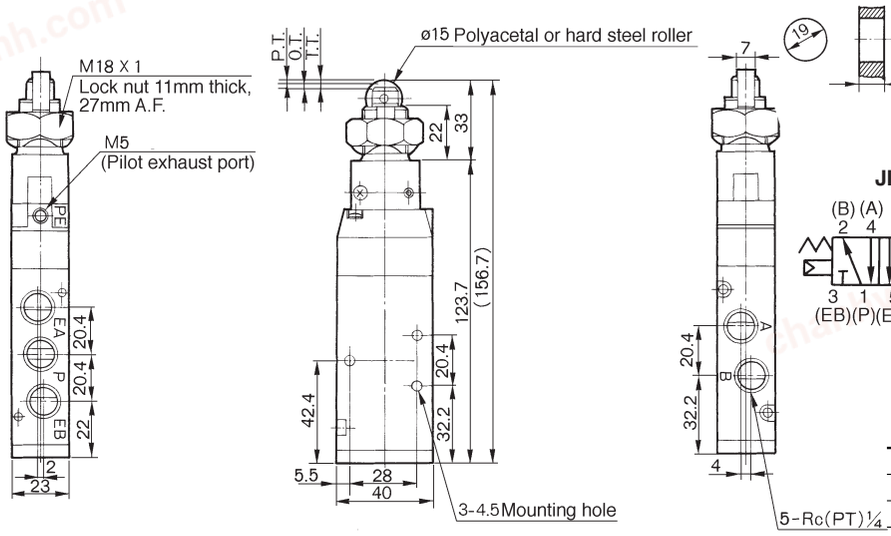


0.5MPa supply

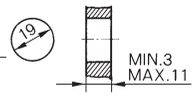
F.O.F.	20N
P.T.	1.5mm
O.T.	2mm
T.T.	3.5mm

Roller Plunger/VFM250-02-06, VFM250-02-06S





Panel mounted hole



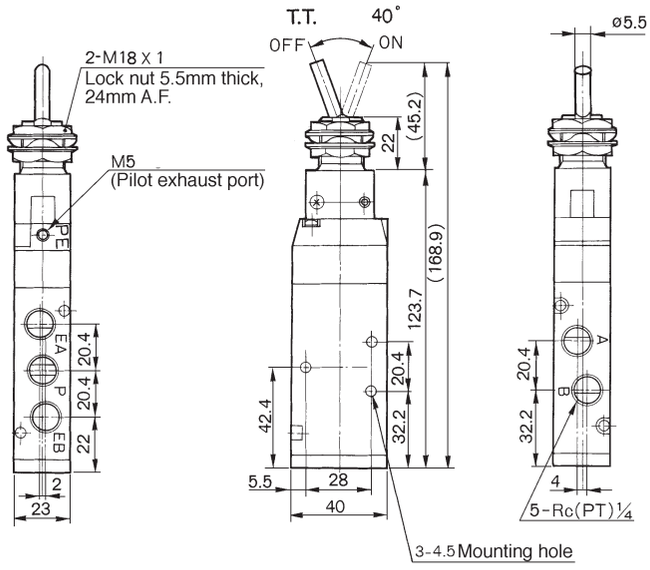
JIS Symbol

0.5MPa supply

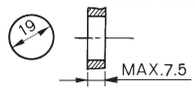
F.O.F.	20N
P.T.	1.5mm
O.T.	2mm
T.T.	3.5mm

Toggle Lever/VFM250-02-08

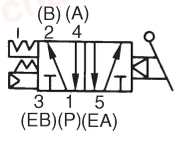




Panel mounted hole



JIS Symbol



0.5MPa supply

F.O.F.	15N
T.T.	40°

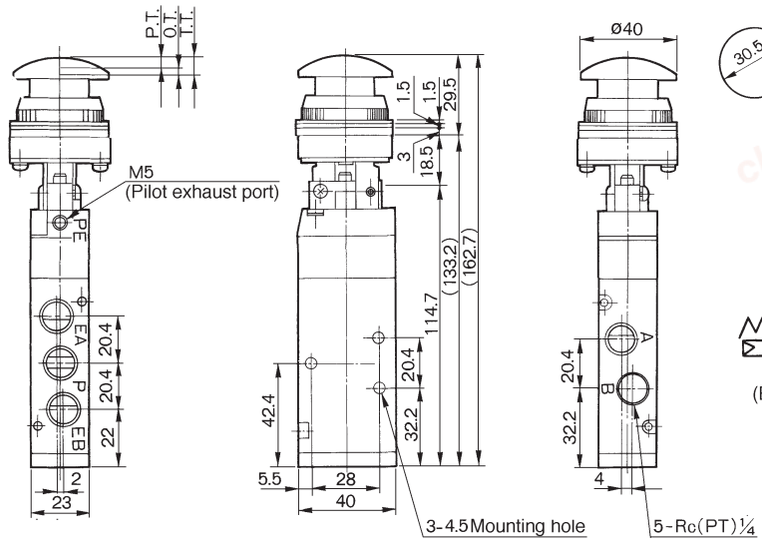
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VFM200

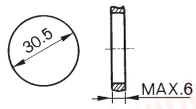
Series VFM200

Push Button (Mushroom)/VFM250-02-30R, B, G, Y

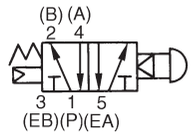




Panel mounted hole



JIS Symbol

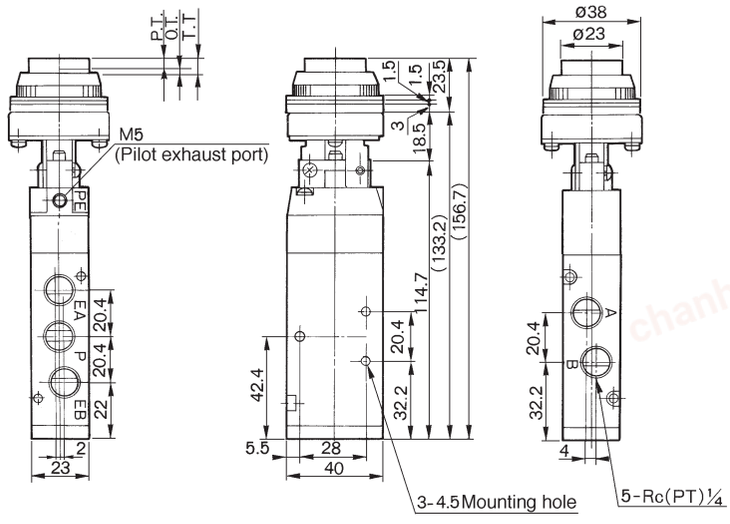


0.5MPa supply

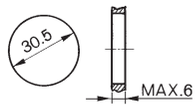
F.O.F.	21N
P.T.	4.8mm
O.T.	1.7mm
T.T.	6.5mm

Push Button (Extended)/VFM250-02-32R, B, G, Y

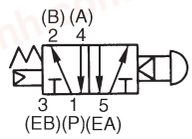




Panel mounted hole



JIS Symbol

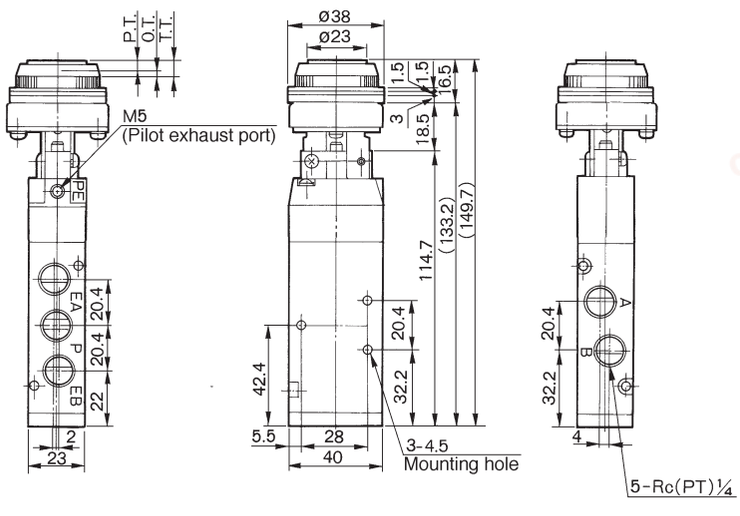


0.5MPa supply

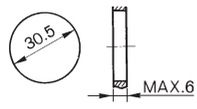
F.O.F.	21N
P.T.	4.8mm
O.T.	1.7mm
T.T.	6.5mm

Push Button (Flush)/VFM250-02-33

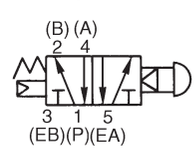




Panel mounted hole



JIS Symbol



0.5MPa supply

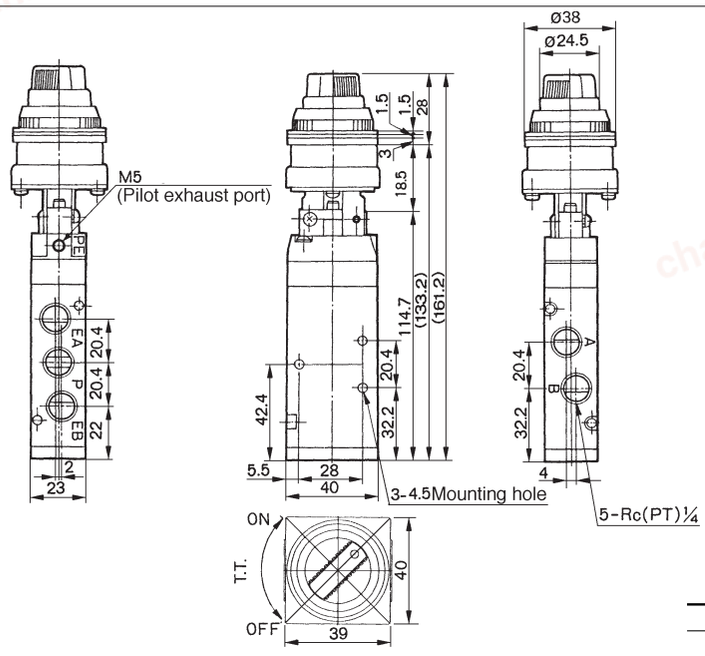
F.O.F.	21N
P.T.	4.8mm
O.T.	1.7mm
T.T.	6.5mm

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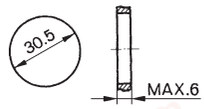
Series VFM200

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

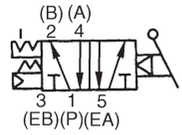




Panel mounted hole



JIS Symbol

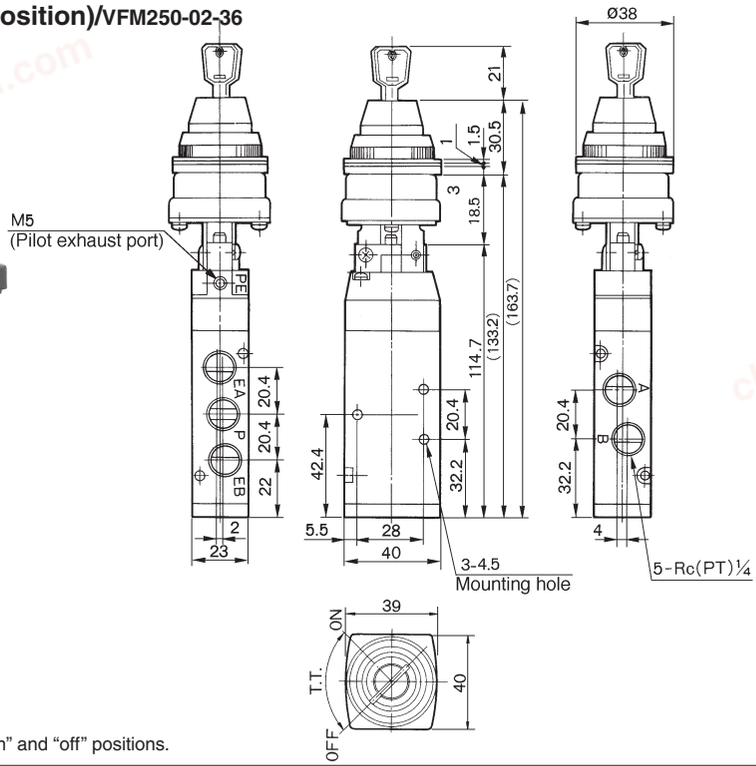


0.5MPa supply

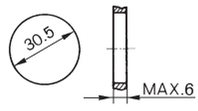
F.O.F.	23N
T.T.	90°

Key Selector (2 position)/VFM250-02-36

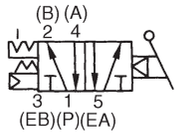




Panel mounted hole



JIS Symbol

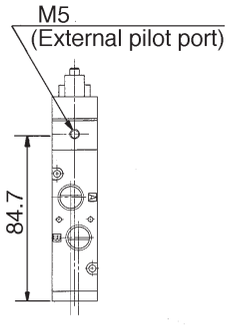


0.5MPa supply

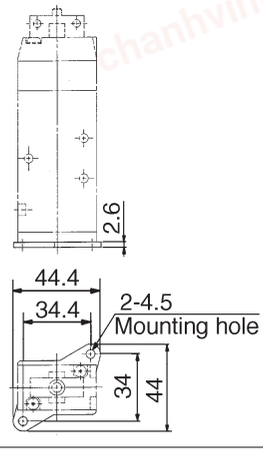
F.O.F.	26N
T.T.	90°

Key can be removed in “on” and “off” positions.

External Pilot Style
VFM251 Type



With Foot Bracket
VFM250-02-□□-F



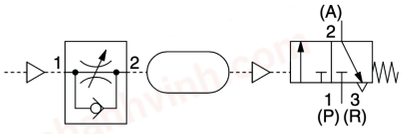
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Related Products *VR2110*
Time Delay Valve

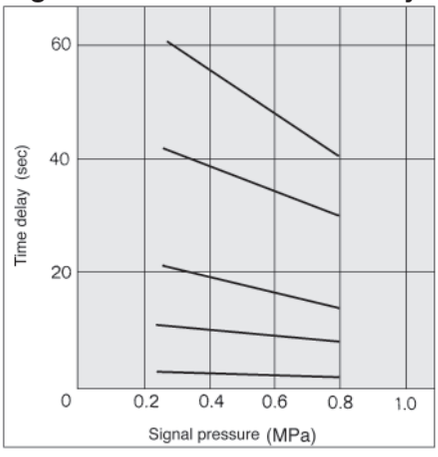
Combination of adjustable orifice and fixed flow allows transmission of a pneumatic signal after a fixed time period.



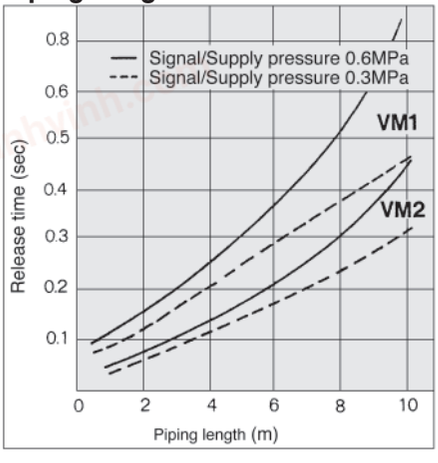
Symbol



Signal Pressure vs. Time Delay



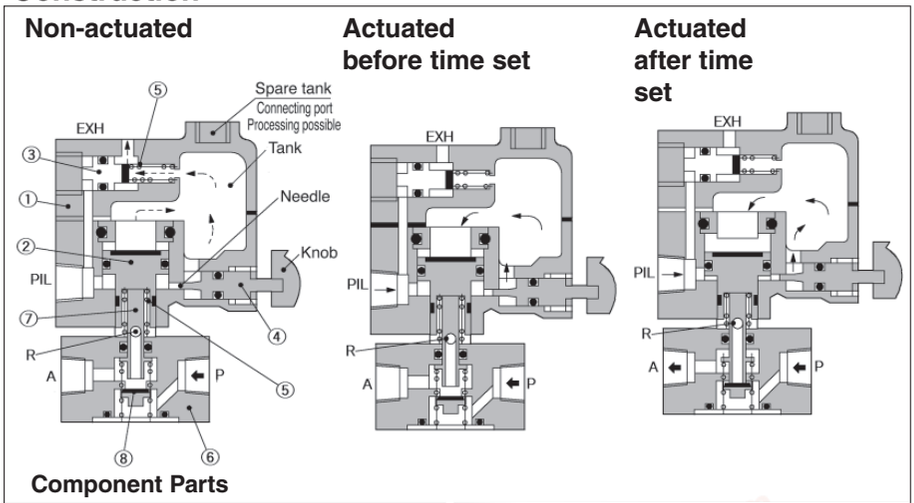
Piping Length vs. Release Time



Model/Specifications

	VR2110-01
Supply pressure	0 to 1.0MPa
Signal pressure	0.25 to 0.8MPa
Time delay	0.5 to 60s
Repeatability	10% F.S.
Operating and fluid temperature	–5 to 60°C (No freezing)
Effective area(Nl/min)	2.5mm^2 (124.81)
Port size	1/8
Weight	480g

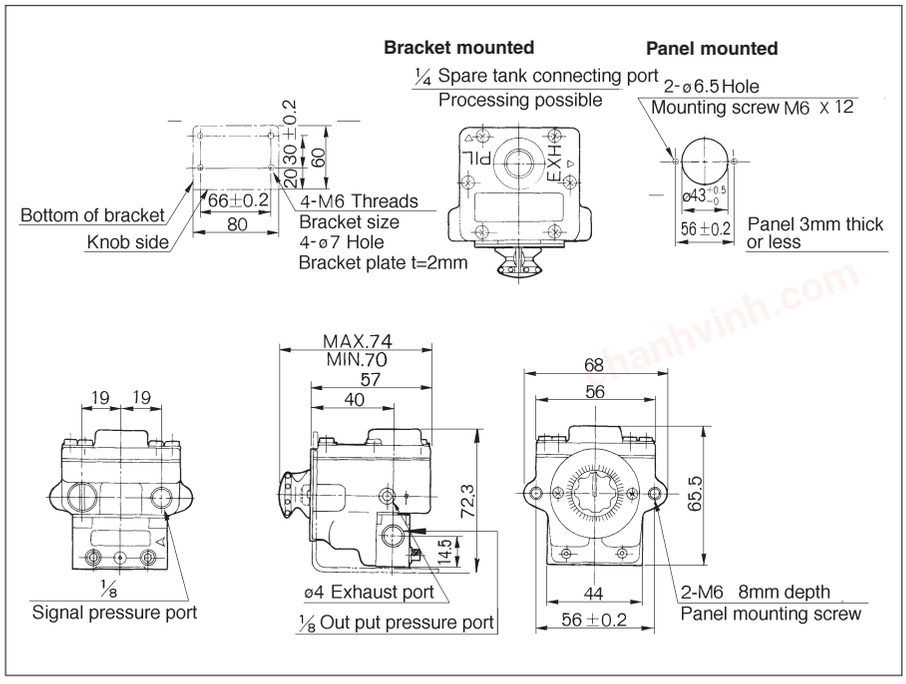
Construction



Component Parts

No.	Description	Material	Notes	No.	Description	Material	Notes
①	Body	Aluminum alloy	Metallic plated	⑤	Spring	Steel	
②	Piston	Brass, NBR	Rubber lined	⑥	Body	Zinc alloy	Metallic plated
③	Piston	Brass, NBR	Rubber lined	⑦	Plunger	Stainless steel	
④	Needle	Brass		⑧	Valve	Brass, NBR	Rubber lined

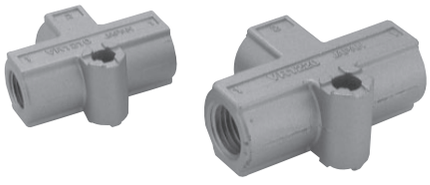
Dimensions



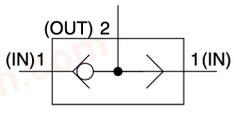
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Related Products *VR1210/1220*
Shuttle Valve

3 ported check valve with one output and 2 pneumatic signal input ports. Output always supplied by high pressure inlet.



Symbol



Model/Specifications

	VR1210-01	VR1220-02
Max. operating pressure	1.0MPa	
Min. operating pressure	0.05MPa	
Min. pressure differential	0.05MPa	
Ambient and fluid temperature	–5 to 60°C (No freezing)	
Effective area(N*l*/min)	7mm² (338.77)	15mm² (722.12)
Port size	1/8	1/4
Weight	48g	95g

How to Order

VR12 [1] 0 – [ ] – [01]

Port size

		Applicable model
01	1/8	VR 1210
02	1/4	VR 1220

Thread

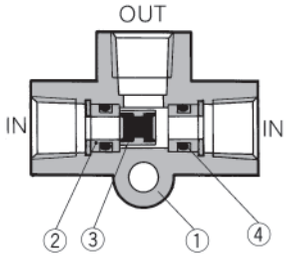
-	Rc
N	NPT
F	G

Body size

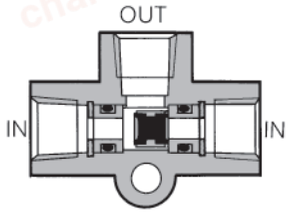
1	1/8 standard
2	1/4 standard

Construction

When right port has higher pressure



When left port has higher pressure

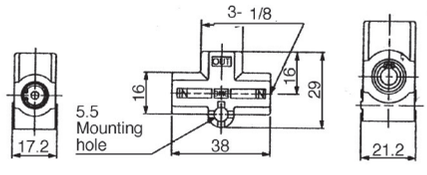


Component Parts

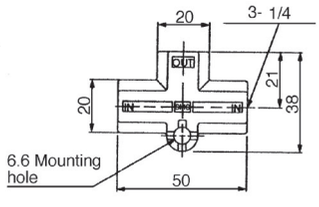
No.	Description	Material	Notes	No.	Description	Material	Notes
①	Body	Aluminum alloy	Metallic alloy	③	Valve	Brass, NBR	
②	Valve seat	Brass		④	O ring	NBR	

Dimensions

VR1210



VR1220



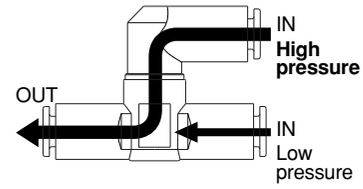
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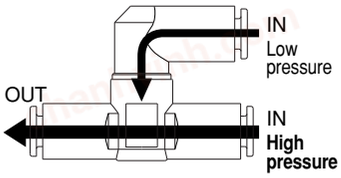
Shuttle Valve with One-Touch Fittings
Series VR1210F, VR1220F



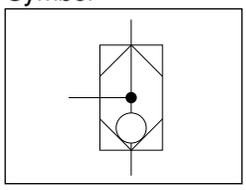
Shuttle valve/VR12□0F

The high pressure air is always output to the OUT side.





Symbol



Models

Model	Applicable tubing outside diameter									
	Metric size					Inch size				
	3.2	4	6	8	10	1/8"	5/32"	1/4"	5/16"	3/8"
VR1210F	●	●	●	●		●	●	●	●	
VR1220F			●	●	●			●	●	●

Specifications

Proof pressure	1.5MPa
Maximum operating pressure	1MPa
Minimum operating pressure	0.05MPa
Ambient and fluid temperature	–5 to 60°C (with no freezing)
Applicable tubing material Note 1)	Nylon, Soft nylon, Polyurethane

Note 1) Use caution regarding the maximum operating pressure with soft nylon and polyurethane.

Note 2) On standard products all brass parts are electroless nickel plated.
(Suitable for copper free applications.)

Flow Rate and Effective Area

Model		VR1210F				VR1220F		
Applicable tubing O.D.	Metric size	ø3.2	ø4	ø6	ø8	ø6	ø8	ø10
	Inch size	ø1/8"	ø5/32"	ø1/4"	ø5/16"	ø1/4"	ø5/16"	ø3/8"
IN□OUT	Flow rate Nℓ/min	150	210	420	480	440	680	1000
	Effective area mm²	2.3	3.2	6.4	7.3	6.7	10.4	15.2

Note 1) Flow rate values are at a pressure of 0.5MPa and temperature of 20°C.

How to Order

VR 12 [1] 0 F — [06]

Body size

1	1/8 standard
2	1/4 standard

With One-touch fitting

Applicable tubing outside diameter

Metric sizes		Inch sizes	
23	ø3.2 □	**01**	ø1/8"
04	ø4	**03**	ø5/32"
06	ø6	**07**	ø1/4"
08	ø8	**09**	ø5/16"
10	ø10	**11**	ø3/8"

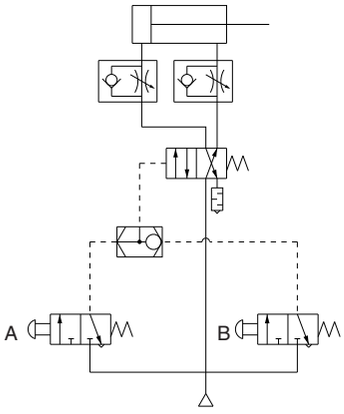
□ Use ø1/8" tubing for ø3.2.

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Application Circuit Examples

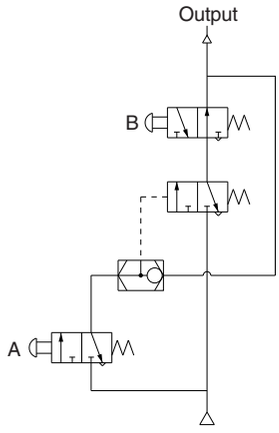
OR circuit

- The cylinder operates if either "A" or "B" is ON.



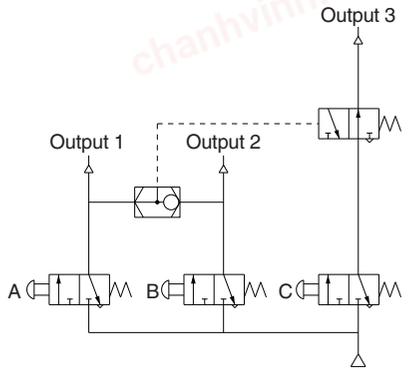
Self holding circuit

1. When "A" is turned ON, output goes ON.
2. The output ON state is maintained even if "A" is turned OFF.
3. The output goes OFF when "B" is turned ON in condition 2.

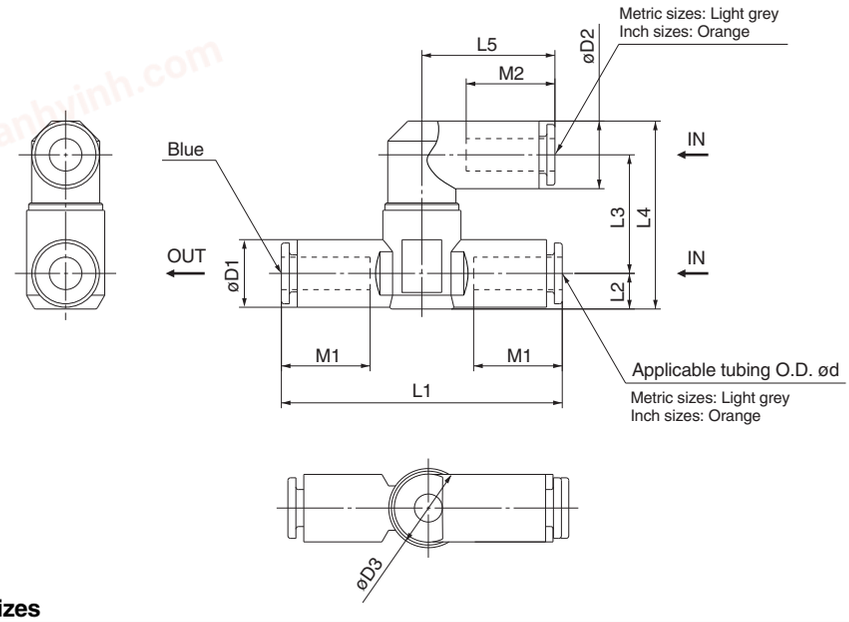


Interlock circuit

- When either "A" or "B" are ON, output 3 does not go ON even if "C" is turned ON.
- Output 3 goes ON if "C" is turned ON, only when both "A" and "B" are OFF.



Dimensions



Metric sizes

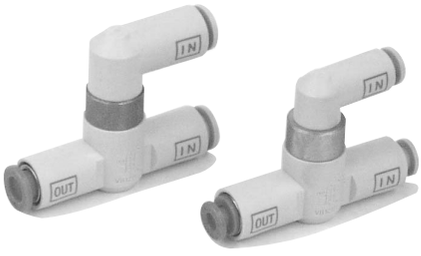
Model	d	D1	D2	D3	L1	L2	L3	L4	L5	M1	M2	Weight g
VR1210F-23	3.2	11.4	8.4	14.8	52	6.2	19.4	29.8	17.5	12.7	12.9	21.4
VR1210F-04	4	11	10.4		53	6.8	20.3	31.5	21.9	15.7	15.8	15.6
VR1210F-06	6	12.8	12.8		53.2		22.5	35.6	25.2	16.8	16.8	23.0
VR1210F-08	8	15.2	15.2		60.4	8.1		38.2	28.2	18.7	18.7	24.0
VR1220F-06	6	12.8	12.8	19.8	59	7.4	23.9	37.7	25.2	16.8	16.8	27.2
VR1220F-08	8	15.2	15.2		65	8.2		39.7	28.2	18.7	18.7	31.9
VR1220F-10	10	18.5	18.5		71.6	9.8	25.8	44.8	31	20.8	20.8	43.2

Inch sizes

Model	d	D1	D2	D3	L1	L2	L3	L4	L5	M1	M2	Weight g
VR1210F-01	1/8"	11.4	8.4	14.8	52	6.2	19.4	29.8	17.5	12.7	12.9	21.4
VR1210F-03	5/32"	11	10.4		53	6.8	20.3	31.5	21.9	15.7	15.8	15.6
VR1210F-07	1/4"	13.2	13.2		54.4	7.1	22.5	36.2	25.6	16.8	16.8	23.5
VR1210F-09	5/16"	15.2	15.2		60.4	8.1		38.2	28.2	18.7	18.7	24.0
VR1220F-07	1/4"	13.2	13.2	19.8	59	7.4	23.9	37.9	25.6	16.8	16.8	31.4
VR1220F-09	5/16"	15.2	15.2		65	8.2		39.7	28.2	18.7	18.7	31.9
VR1220F-11	3/8"	17.9	18.5		69.8	9.5	25.8	44.5	31	20.8	20.8	53.0

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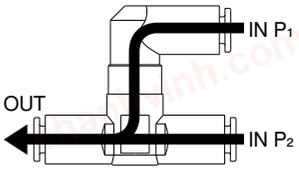
AND Valve with One-Touch Fittings
Series VR1211F



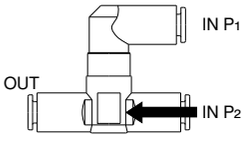
AND valve/VR1211F

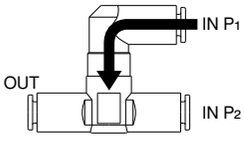
There is output to the OUT side only when air is supplied to both P_1 and P_2.

In case of different pressures, the lower pressure is output to the OUT side.

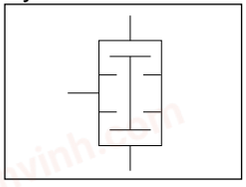


There is no output to the OUT side if air is supplied to only one of P_1 and P_2.





Symbol



Models

Model	Applicable tubing outside diameter					
	Metric size			Inch size		
	3.2	4	6	1/8"	5/32"	1/4"
VR1211F	●	●	●	●	●	●

Specifications

Proof pressure	1.5MPa
Maximum operating pressure	1MPa
Minimum operating pressure	0.05MPa
Ambient and fluid temperature	–5 to 60°C (with no freezing)
Applicable tubing material Note 1)	Nylon, Soft nylon, Polyurethane

Note 1) Use caution regarding the maximum operating pressure with soft nylon and polyurethane.
Note 2) On standard products all brass parts are electroless nickel plated.
(Suitable for copper free applications.)

Flow Rate and Effective Area

Model		VR1211F			
Applicable tubing O.D.	Metric size	ø3.2	ø4	ø6	–
	Inch size	ø1/8"	ø5/32"	–	ø1/4"
IN□OUT	Flow rate N ℓ/min	100	120	150	170
	Effective area mm²	1.5	1.8	2.3	2.6

Note 1) Flow rate values are at a pressure of 0.5MPa and temperature of 20°C.

How to Order

VR 12 1 1 F — 06

Body size

1	1/8 standard

With One-touch fitting

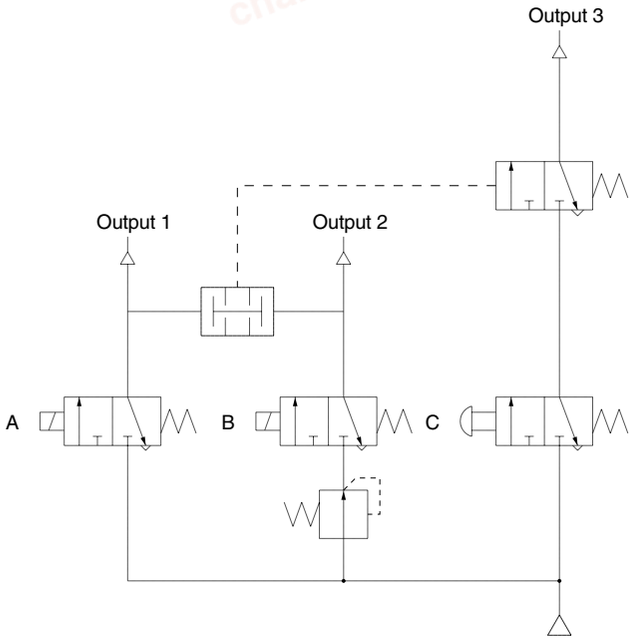
Applicable tubing outside diameter

Metric sizes		Inch sizes	
23	ø3.2□	**01**	ø1/8"
04	ø4	**03**	ø5/32"
06	ø6	**07**	ø1/4"

□ Use ø1/8" tubing for ø3.2.

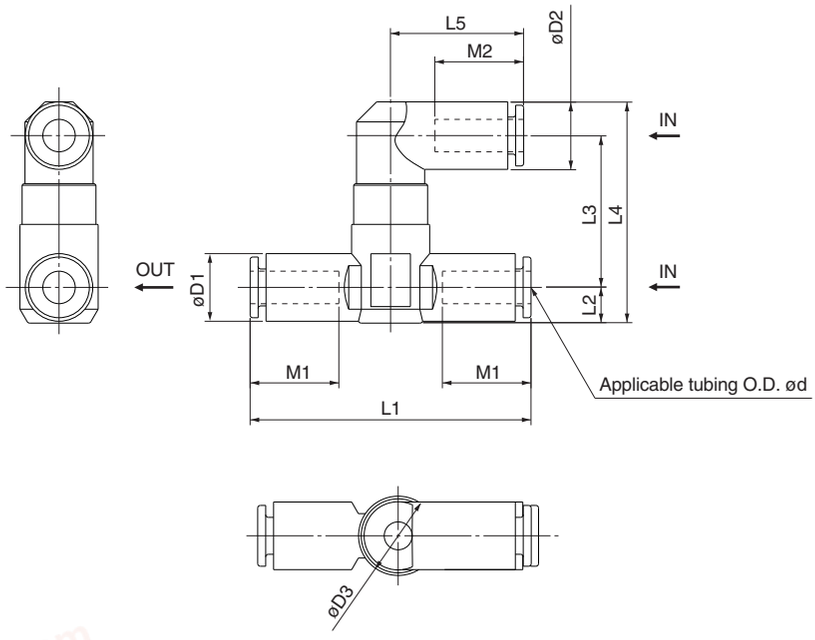
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Application Circuit Example



- When "A" and "B" having different pressure conditions are turned ON, output 1 and output 2 go ON.
- Output 3 goes ON if "C" is turned ON, only when output 1 and output 2 are in an ON state.
- If either "A" or "B" is OFF, output 3 does not go ON even if "C" is turned ON.

Dimensions



Metric sizes

Model	d	D1	D2	D3	L1	L2	L3	L4	L5	M1	M2	Weight g
VR1211F-23	3.2	11.4	8.4	14.8	52	6.2	25.7	36.1	17.5	12.7	12.9	26.4
VR1211F-04	4	11	10.4		53	6.8	26.6	37.8	21.9	15.7	15.8	20.8
VR1211F-06	6	12.8	12.8		53.2		28.8	41.9	25.2	16.8	16.8	25.0

Inch sizes

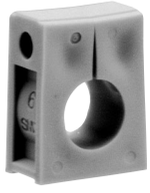
Model	d	D1	D2	D3	L1	L2	L3	L4	L5	M1	M2	Weight g
VR1211F-01	1/8"	11.4	8.4	14.8	52	6.2	25.7	36.1	17.5	12.7	12.9	26.4
VR1211F-03	5/32"	11	10.4		53	6.8	26.6	37.8	21.9	15.7	15.8	20.8
VR1211F-07	1/4"	13.2	13.2		54.4	7.1	28.8	42.5	25.6	16.8	16.8	27.0

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Related Products
Holder
Series TMH

This holder is used to secure the AND valve and shuttle valve with One-touch fittings.

Allows highly flexible mounting.



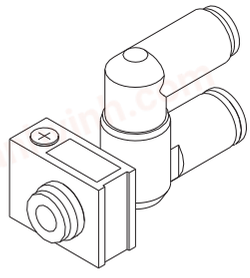
Specifications

Ambient temperature	–20 to 60°C
Material	Polypropylene
Color	White

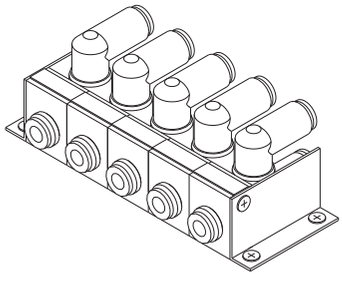
Accessories/Round head Phillips mounting screw (black zinc chromated)

Model		Size (nominal size x length)	Qty.
Metric size	Inch size		
—	**TMH-05**	M3 x 20	1
TMH-06	**TMH-07**	M4 x 25	
TMH-08	**TMH-09**		
TMH-10	**TMH-11**	M4 x 35	

Single unit secured using holder



Manifolding is possible



Note) Mounting brackets are not available. This is an application example only.

Shuttle Valve/AND Valve and Holder Compatibility

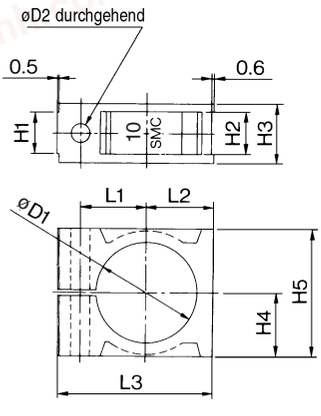
Metric sizes

Model		Applicable tubing outside diameter				
Shuttle valve	AND valve	ø3.2	ø4	ø6	ø8	ø10
VR1210F	**VR1211F**	**TMH–05**	**TMH–06J**	**TMH–06**	**TMH–08**	—
VR1220F	—	—	—			**TMH–10**

Inch sizes

Model		Applicable tubing outside diameter				
Shuttle valve	AND valve	ø1/8"	ø5/32"	ø1/4"	ø5/16"	ø3/8"
VR1210F	**VR1211F**	**TMH–05**	**TMH–06**	**TMH–07**	—	—
VR1220F	—	—	—		**TMH–09**	**TMH–11**

Dimensions



Model		D1	D2	H1	H2	H3	H4	H5	L1	L2	L3
Metric size	Inch size										
TMH-06J	**TMH-05**	11.7	3.3	6.3	6.4	9.3	7.7	15.4	8.5	8.3	21
TMH-06	—	13.1	4.3	7.1	7.2	11	10	20	11	10.6	26.5
	TMH-07	13.5									
TMH-08	**TMH-09**	15.5									
TMH-10	—	18.5	4.3	9.5	9.6	14	14	28	14.2	14.6	34
—	**TMH-11**	18.8									

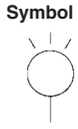
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Related Products *VR3100*
Pneumatic Indicator

Indicates the presence of pneumatic pressure. It is equivalent to the pilot lamp of an electrical system.



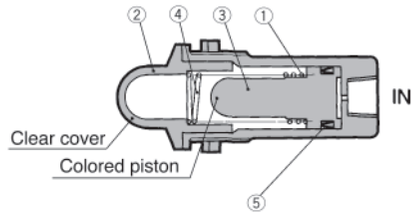
Symbol



Model/Specifications

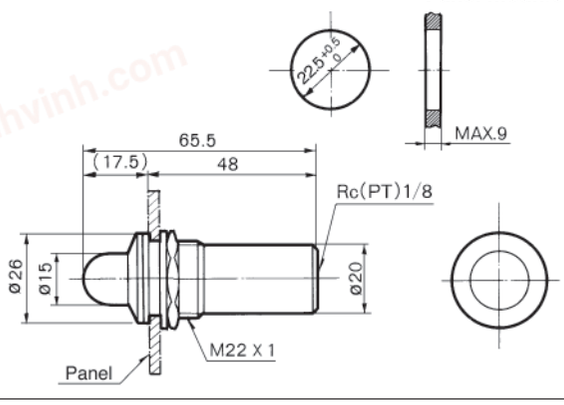
	VR3100-01R	VR3100-01G	VR3100-01O
Operating pressure	0.1 to 0.8MPa		
Ambient and fluid temp.	–5 to 60°C (No freezing)		
Frequency	100 c.p.m or less		
Color of indicator	Red	Green	Orange
Port size (Nominal size)	Rc(PT)1/8 (6A)		
Weight	40g		

Construction/Component Parts



No.	Description	Material	Notes
①	Body	Aluminum alloy	
②	Indicator window	Acrylic	
③	Piston	Polyacetal	
④	Spring	Stainless steel	
⑤	Packing	NBR	

Dimensions

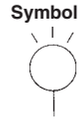


Related Products *VR3110*
Miniature Pneumatic Indicator

This is an ultra-compact air indicator light to monitor the presence of air pressure. It is equivalent to the pilot lamp of an electrical system.



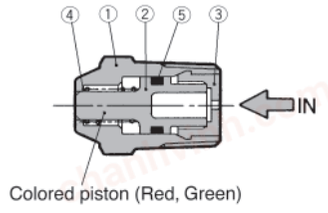
Symbol



Model/Specifications

	VR3110-01R	VR3110-01G
Color of indicator	Red	Green
Operation	Piston style	
Operating pressure	0.15 to 1.0MPa	
Ambient and fluid temp.	–5 to 60°C (No freezing)	
Frequency	300 c.p.m or less	
Port size (Nominal size)	R(PT)1/8 (6A)	
Weight	6g	

Construction/Component Parts



No.	Description	Material	Notes
①	Body	Brass	
②	Piston A	Polyacetal	
③	Plug	Polyethelene	
④	Spring	Stainless steel	
⑤	O ring	NBR	

Dimensions

