

2/3 Port Mechanical Valve Series VM100



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



Specifications

Piping	Side ported	Bottom ported			
Fluid	Air/Inert gas				
Operating pressure	-100 kPa to 1.0 MPa				
Ambient and fluid temperature	-5 to 60°C (No freezing)				
Flow characteristics	C (dm ³ /(s·bar))		Cv		
	Side ported	1(P)→2(A)	0.5	0.2	0.11
		2(A)→3(R)	0.4	0.15	0.10
	Bottom ported	1(P)→2(A)	0.5	0.2	0.11
2(A)→3(R)		0.4	0.15	0.10	
Lubrication	Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)				
Port size	1/8	M5 x 0.8			

Model

	Side ported		Bottom ported		Actuator part no.	Application	Weight(g) <small>(Side ported)</small> <small>(Bottom ported)</small>	
	2 port	3 port	2 port	3 port				
Mechanical operation	Basic	VM120-01-00	VM130-01-00	VM122-M5-00	VM132-M5-00	—	95	
		VM121-01-00	VM131-01-00	VM123-M5-00	VM133-M5-00	—	110	
	Roller lever	VM121-01-01	VM131-01-01	VM123-M5-01	VM133-M5-01	—	Polycetal roller	101
		VM121-01-01S	VM131-01-01S	VM123-M5-01S	VM133-M5-01S	—	Hard steel roller	102
	One way roller lever	VM121-01-02	VM131-01-02	VM123-M5-02	VM133-M5-02	—	Polycetal roller	107
		VM121-01-02S	VM131-01-02S	VM123-M5-02S	VM133-M5-02S	—	Hard steel roller	117
	Straight plunger	VM120-01-05	VM130-01-05	VM122-M5-05	VM132-M5-05	VM-05B	—	138
		VM120-01-06	VM130-01-06	VM122-M5-06	VM132-M5-06	VM-06B	Polycetal roller	139
	Roller plunger	VM120-01-06S	VM130-01-06S	VM122-M5-06S	VM132-M5-06S	VM-06BS	Hard steel roller	140
		VM120-01-07	VM130-01-07	VM122-M5-07	VM132-M5-07	VM-07B	Polycetal roller	139
	Cross roller plunger	VM120-01-07S	VM130-01-07S	VM122-M5-07S	VM132-M5-07S	VM-07BS	Hard steel roller	140
		VM120-01-08	VM130-01-08	VM122-M5-08	VM132-M5-08	VM-08B	—	136
Manual operation	Toggle lever	VM120-01-30R	VM130-01-30R	VM122-M5-30R	VM132-M5-30R	VM-30AR	Red	153
	Push button (Mushroom)	VM120-01-30B	VM130-01-30B	VM122-M5-30B	VM132-M5-30B	VM-30AB	Black	
		VM120-01-30G	VM130-01-30G	VM122-M5-30G	VM132-M5-30G	VM-30AG	Green	
		VM120-01-30Y	VM130-01-30Y	VM122-M5-30Y	VM132-M5-30Y	VM-30AY	Yellow	
	Push button (Extended)	VM120-01-32R	VM130-01-32R	VM122-M5-32R	VM132-M5-32R	VM-32AR	Red	147
		VM120-01-32B	VM130-01-32B	VM122-M5-32B	VM132-M5-32B	VM-32AB	Black	
		VM120-01-32G	VM130-01-32G	VM122-M5-32G	VM132-M5-32G	VM-32AG	Green	
	Push button (Flush)	VM120-01-32Y	VM130-01-32Y	VM122-M5-32Y	VM132-M5-32Y	VM-32AY	Yellow	152
		VM120-01-33	VM130-01-33	VM122-M5-33	VM132-M5-33	VM-33A	<small>With a set of red, black, green, yellow</small>	
	Twist selector (2 position)	VM120-01-34R	VM130-01-34R	VM122-M5-34R	VM132-M5-34R	VM-34AR	Red	153
		VM120-01-34B	VM130-01-34B	VM122-M5-34B	VM132-M5-34B	VM-34AB	Black	
		VM120-01-34G	VM130-01-34G	VM122-M5-34G	VM132-M5-34G	VM-34AG	Green	
		VM120-01-34Y	VM130-01-34Y	VM122-M5-34Y	VM132-M5-34Y	VM-34AY	Yellow	
	Key selector (2 position)	VM120-01-36	VM130-01-36	VM122-M5-36	VM132-M5-36	VM-36A	—	173
		(3 port)	(5 port)	(3 port)	(5 port)	—	—	—
	Twist selector (3 position)	VM131-01-35R	VM151-01-35R	VM133-M5-35R	VM153-M5-35R	—	Red	301
		VM131-01-35B	VM151-01-35B	VM133-M5-35B	VM153-M5-35B	—	Black	
		VM131-01-35G	VM151-01-35G	VM133-M5-35G	VM153-M5-35G	—	Green	
VM131-01-35Y		VM151-01-35Y	VM133-M5-35Y	VM153-M5-35Y	—	Yellow		

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

Note 2) For push button (mushroom), push button (extended), push button (flush) and a single unit of fastening ring, refer to pages 2347 and 2348. The other parts are not replaceable.

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

How to Order

VM1 **3** **1** - **01** - **01** **S** - [] - []

- Made to Order**
(Refer to pages 2342 to 2345 for details.)
X207 Alternate type, Mushroom push button
X219 Push-lock turn-reset type, Mushroom push button
- Port size**

01	Rc 1/8
M5	M5 x 0.8 (Female thread)
N01	NPT 1/8
F01	G 1/8
- Piping direction and the length of push rod**

0	Long	Side ported
1	Short	Side ported
2	Long	Bottom ported
3	Short	Bottom ported
- Number of ports**

2	2 port
3	3 port
- Actuator type**

00	Basic
01	Roller lever
02	One way roller lever
05	Straight plunger
06	Roller plunger
07	Cross roller plunger
08	Toggle lever
30	Push button (Mushroom)
32	Push button (Extended)
33	Push button (Flush) <small>Note 1)</small>
34	Twist selector (2 position)
36	Key selector (2 position)
35	Twist selector (3 position)

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

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

Color of push button selector
- Suffix for indicator light**

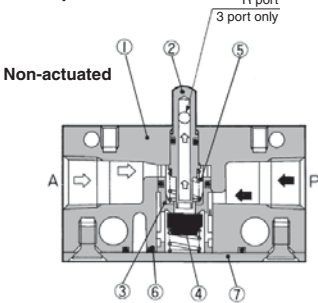
Z	With miniature indicator light (Green) (Bottom piping type only)
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Combination possible: ○, Combination impossible: ×

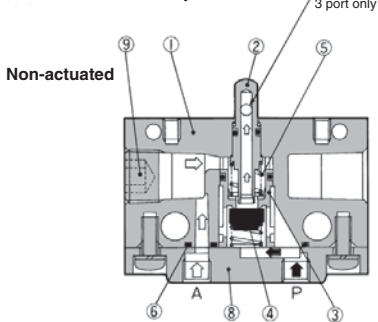
Actuator	Height of rod push		Side ported		Bottom ported	
	Long	Short	Long	Short	Long	Short
Basic	00	○	○	○	○	○
Roller lever	01	×	○	×	×	○
One way roller lever	02	×	○	×	×	○
Straight plunger	05	○	×	○	×	×
Roller plunger	06	○	×	○	×	×
Cross roller plunger	07	○	×	○	×	×
Toggle lever	08	○	×	○	×	×
Push button (Mushroom)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

Construction

Side ported



Bottom ported



Component Parts

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

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

VM

VMG

VR

VR51

VHK

VH

VHS □

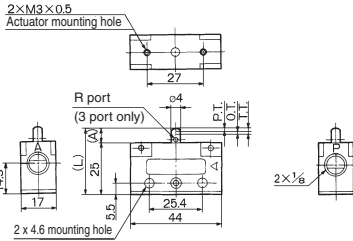
VHS

Series VM100

Series VM100/Side Ported

Basic

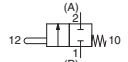
VM120-01-00
VM130-01-00
VM121-01-00
VM131-01-00



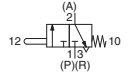
Model	L	A
VM120-01-00 VM130-01-00	32.5	7.5
VM121-01-00 VM131-01-00	28.5	3.5

Symbol

2 port



3 port

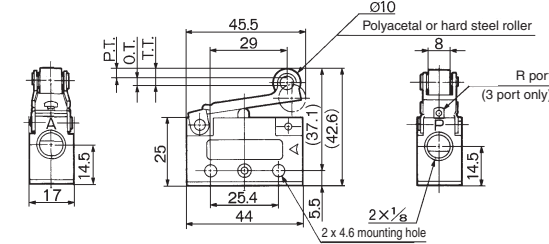


* 0.5 MPa supply

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

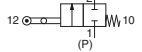
Roller lever

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

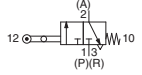


Symbol

2 port



3 port

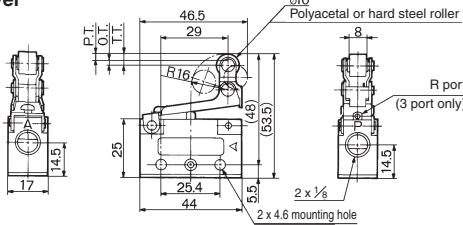


* 0.5 MPa supply

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

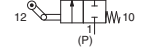
One way roller lever

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

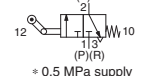


Symbol

2 port



3 port

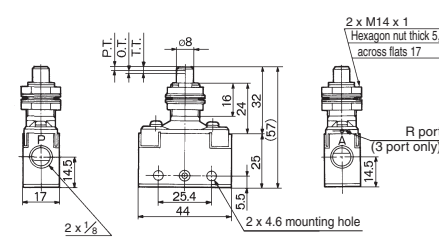


* 0.5 MPa supply

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

Straight plunger

VM120-01-05
VM130-01-05



Panel mounting hole

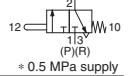


Symbol

2 port



3 port

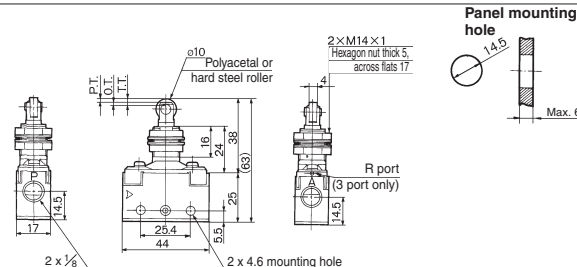


* 0.5 MPa supply

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

Roller plunger

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

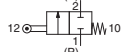


Panel mounting hole

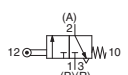


Symbol

2 port



3 port

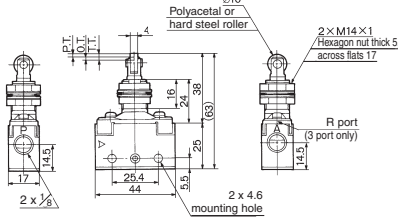


* 0.5 MPa supply

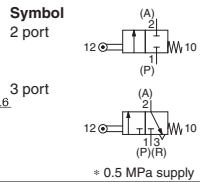
F.O.F.*	23 N
P.T.	2.0 mm
O.T.	1.5 mm
T.T.	3.5 mm

Series VM100/Side Ported

Cross roller plunger
 VM120-01-07
 VM130-01-07
 VM120-01-07S
 VM130-01-07S

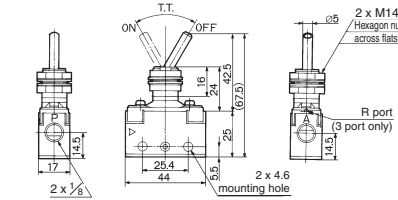


Panel mounting hole Symbol

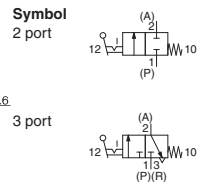


F.O.F.*	23 N
P.T.	2.0 mm
O.T.	1.5 mm
T.T.	3.5 mm

Toggle lever
 VM120-01-08
 VM130-01-08

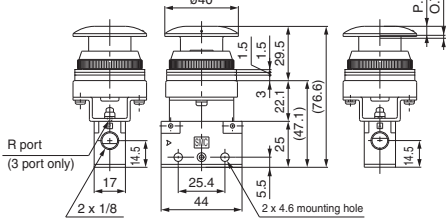


Panel mounting hole Symbol

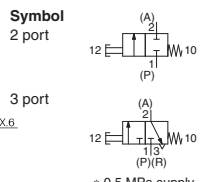
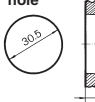


F.O.F.*	10N
T.T.	60°

Push button (Mushroom) VM120-01-30R/B/G/Y VM130-01-30R/B/G/Y

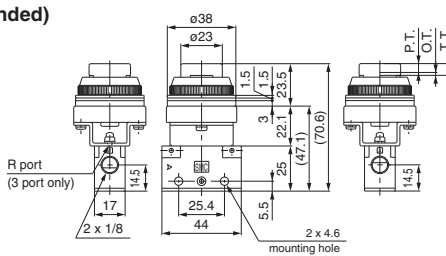


Panel mounting hole Symbol

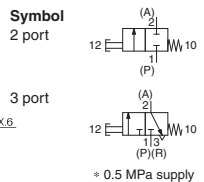
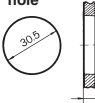


F.O.F.*	21 N
P.T.	4.9 mm
O.T.	1.6 mm
T.T.	6.5 mm

Push button (Extended) VM120-01-32R/B/G/Y VM130-01-32R/B/G/Y

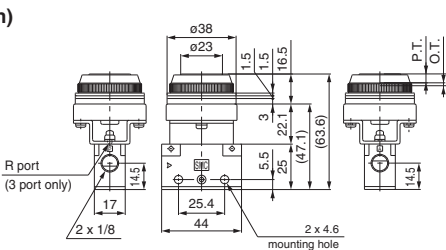


Panel mounting hole Symbol

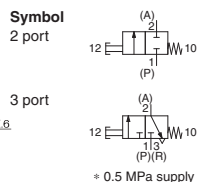
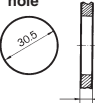


F.O.F.*	21 N
P.T.	4.9 mm
O.T.	1.6 mm
T.T.	6.5 mm

Push button (Flush) VM120-01-33 VM130-01-33



Panel mounting hole Symbol



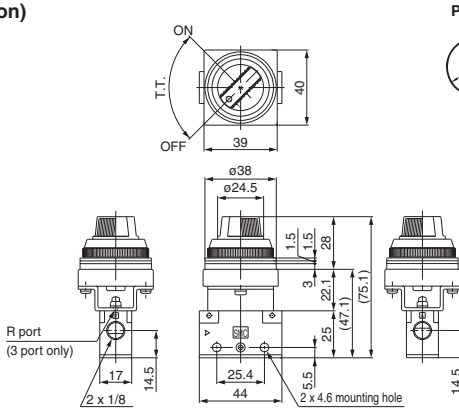
F.O.F.*	21 N
P.T.	4.9 mm
O.T.	1.6 mm
T.T.	6.5 mm

VM
 VMG
 VR
 VR51
 VHK
 VH
 VHS
 VHS

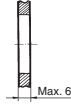
Series VM100

Series VM100/Side Ported

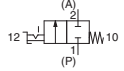
Twist selector (2 position)
 VM120-01-34R/B/G/Y
 VM130-01-34R/B/G/Y



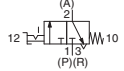
Panel mounting hole



Symbol
2 port



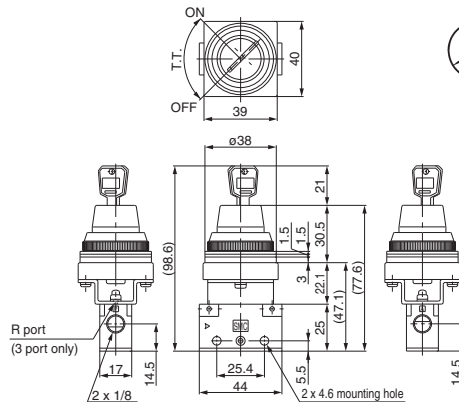
3 port



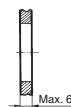
* 0.5 MPa supply

F.O.F.*	15 N
T.T.	90°

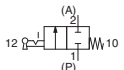
Key selector (2 position)
 VM120-01-36
 VM130-01-36



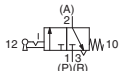
Panel mounting hole



Symbol
2 port



3 port

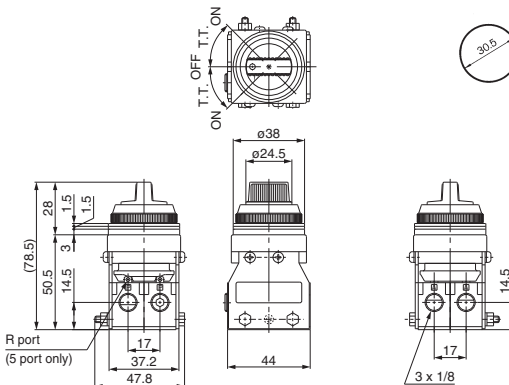


* 0.5 MPa supply

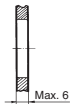
F.O.F.*	15 N
T.T.	90°

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

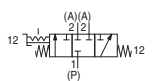
Twist selector (3 position)
 VM131-01-35R/B/G/Y
 VM151-01-35R/B/G/Y



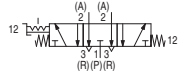
Panel mounting hole



Symbol
3 port



5 port



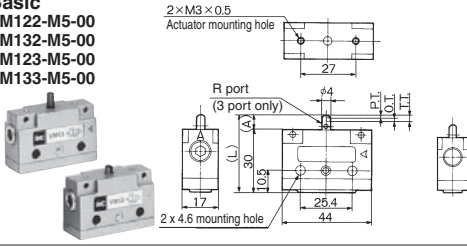
* 0.5 MPa supply

F.O.F.*	15 N
T.T.	45°

Series VM100/Bottom Ported

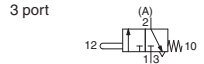
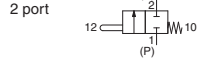
Basic

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



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

Symbol

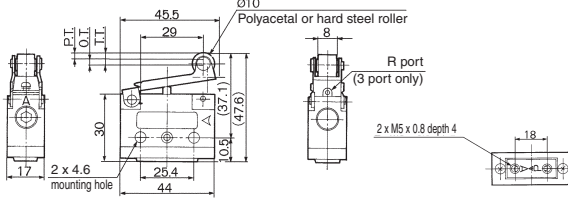


* 0.5 MPa supply

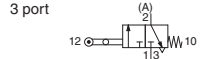
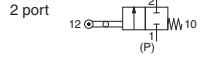
F.O.F.*	20 N
P.T.	1.5 mm
O.T.	1.5 mm
T.T.	3.0 mm

Roller lever

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



Symbol

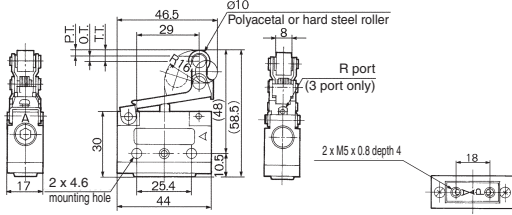


* 0.5 MPa supply

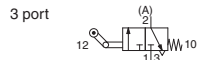
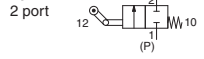
F.O.F.*	10 N
P.T.	3.2 mm
O.T.	2.3 mm
T.T.	5.5 mm

One way roller lever

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



Symbol

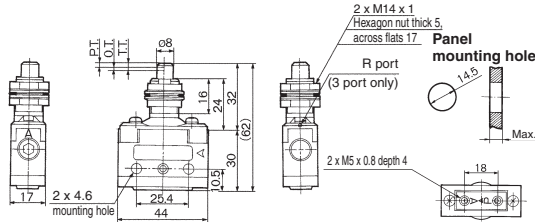


* 0.5 MPa supply

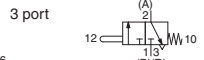
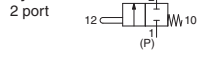
F.O.F.*	10 N
P.T.	3.2 mm
O.T.	2.3 mm
T.T.	5.5 mm

Straight plunger

VM122-M5-05
VM132-M5-05



Symbol

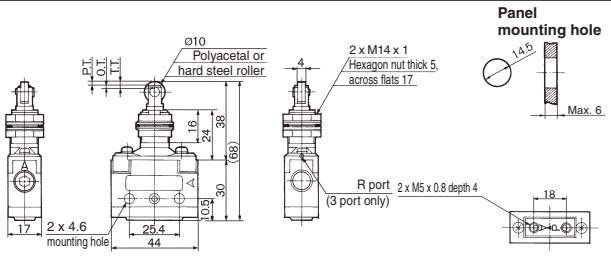


* 0.5 MPa supply

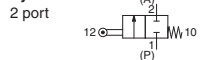
F.O.F.*	23 N
P.T.	2.0 mm
O.T.	1.5 mm
T.T.	3.5 mm

Roller plunger

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



Symbol



* 0.5 MPa supply

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

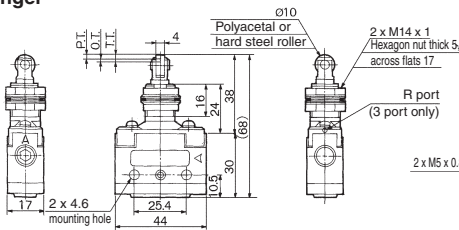
- VM
- VMG
- VR
- VR51
- VHK
- VH
- VHS
- VHS

Series VM100

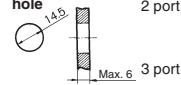
Series VM100/Bottom Ported

Cross roller plunger

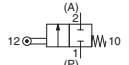
VM122-M5-07
VM132-M5-07
VM122-M5-07S
VM132-M5-07S



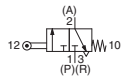
Panel mounting hole



Symbol
2 port



3 port

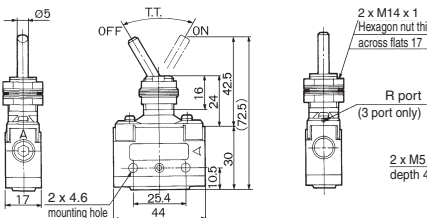


* 0.5 MPa supply

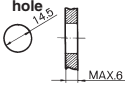
F.O.F.*	23 N
P.T.	2.0 mm
O.T.	1.5 mm
T.T.	3.5 mm

Toggle lever

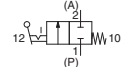
VM122-M5-08
VM132-M5-08



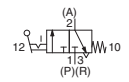
Panel mounting hole



Symbol
2 port



3 port

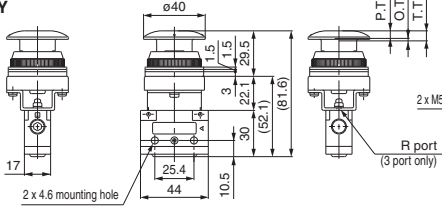


* 0.5 MPa supply

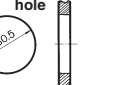
F.O.F.*	10 N
P.T.	60°

Push button (Mushroom)

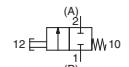
VM122-M5-30R/B/G/Y
VM132-M5-30R/B/G/Y



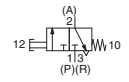
Panel mounting hole



Symbol
2 port



3 port

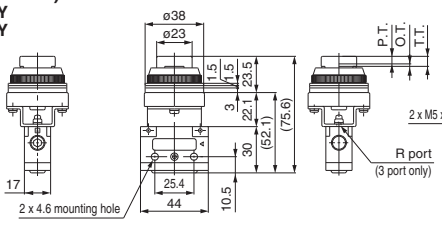


* 0.5 MPa supply

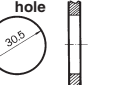
F.O.F.*	21 N
P.T.	4.9 mm
O.T.	1.6 mm
T.T.	6.5 mm

Push button (Extended)

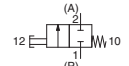
VM122-M5-32R/B/G/Y
VM132-M5-32R/B/G/Y



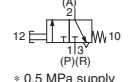
Panel mounting hole



Symbol
2 port



3 port

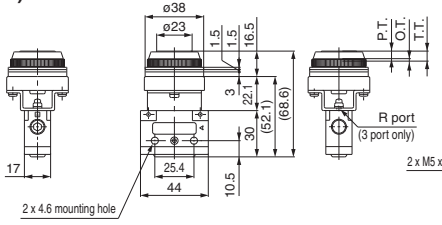


* 0.5 MPa supply

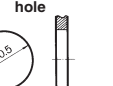
F.O.F.*	21 N
P.T.	4.9 mm
O.T.	1.6 mm
T.T.	6.5 mm

Push button (Flush)

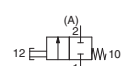
VM122-M5-33
VM132-M5-33



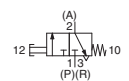
Panel mounting hole



Symbol
2 port



3 port

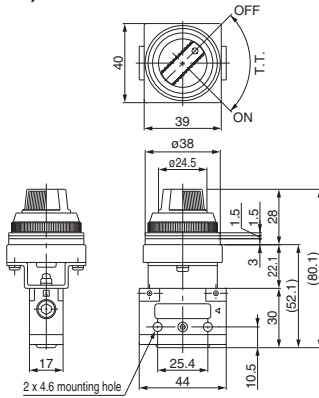


* 0.5 MPa supply

F.O.F.*	21 N
P.T.	4.9 mm
O.T.	1.6 mm
T.T.	6.5 mm

Series VM100/Bottom Ported

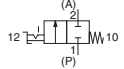
Twist selector (2 position)
 VM122-M5-34R/B/G/Y
 VM132-M5-34R/B/G/Y



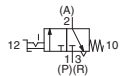
Panel mounting hole



Symbol
2 port



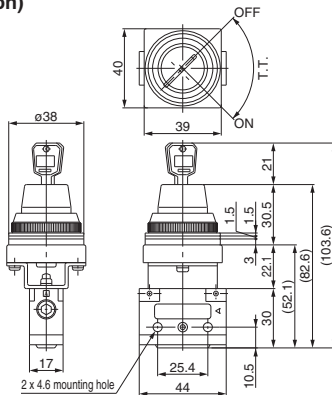
3 port



* 0.5 MPa supply

F.O.F.*	15 N
T.T.	90°

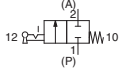
Key selector (2 position)
 VM122-M5-36
 VM132-M5-36



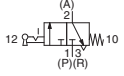
Panel mounting hole



Symbol
2 port



3 port

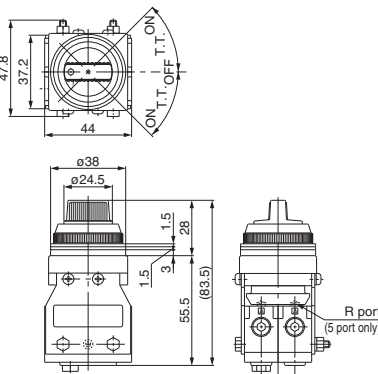


* 0.5 MPa supply

F.O.F.*	15 N
T.T.	90°

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

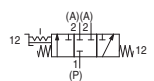
Twist selector (3 position)
 VM133-M5-35R/B/G/Y
 VM153-M5-35R/B/G/Y



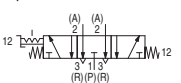
Panel mounting hole



Symbol
3 port



5 port



* 0.5 MPa supply

F.O.F.*	20 N
T.T.	45°

VM

VMG

VR

VR51

VHK

VH

VHS

VHS

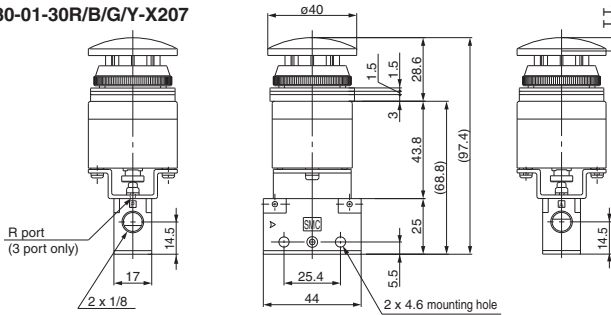


Alternate Type, Mushroom Push Button

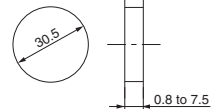
X207

Alternate type: When pushing the push button, the valve actuates and will hold its position even after the button is released. Pushing the button again will return the button and valve to their previous position.

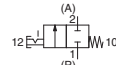
VM120-01-30R/B/G/Y-X207
VM130-01-30R/B/G/Y-X207



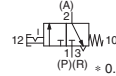
Panel mounting hole



Symbol
2 port



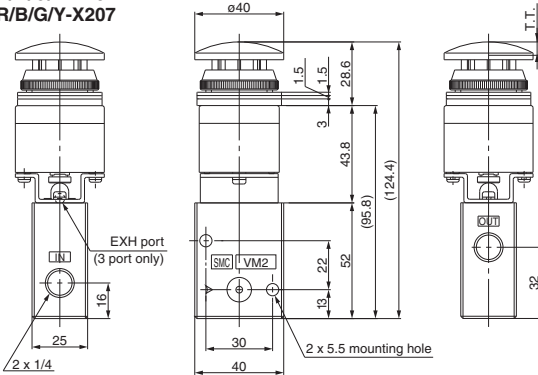
3 port



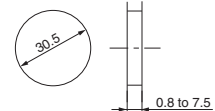
(P)(R) = 0.5 MPa supply

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

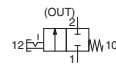
VM220-02-30R/B/G/Y-X207
VM230-02-30R/B/G/Y-X207



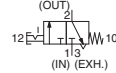
Panel mounting hole



Symbol
2 port



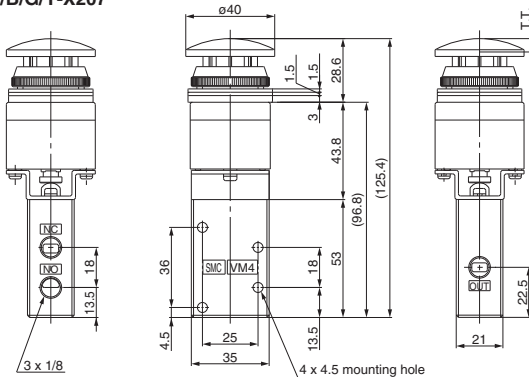
3 port



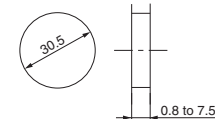
= 0.5 MPa supply

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

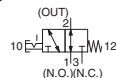
VM430-01-30R/B/G/Y-X207



Panel mounting hole



Symbol



* 0.5 MPa supply

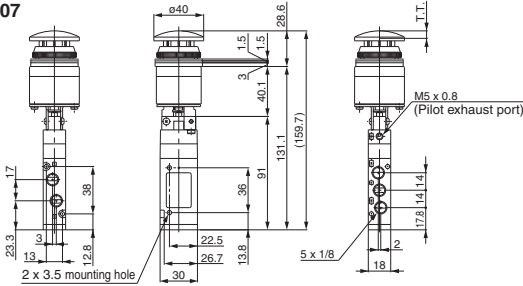
F.O.F.*	26 N
T.T.	6.7 mm



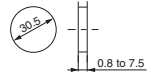
Alternate Type, Mushroom Push Button

X207

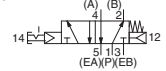
VZM450-01-30R/B/G/Y-X207



Panel mounting hole



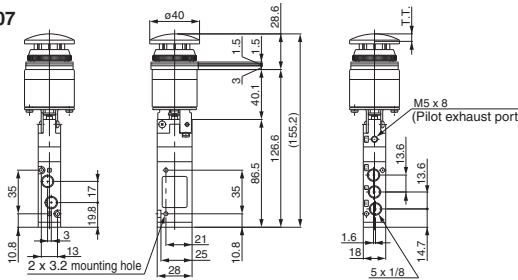
Symbol



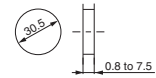
* 0.5 MPa supply

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

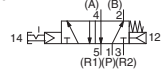
VZM550-01-30R/B/G/Y-X207



Panel mounting hole



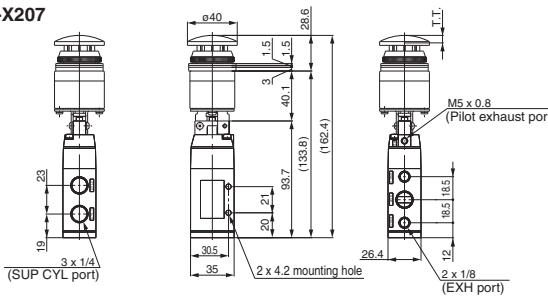
Symbol



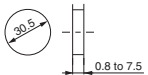
* 0.5 MPa supply

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

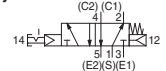
VFM350-02-30R/B/G/Y-X207



Panel mounting hole



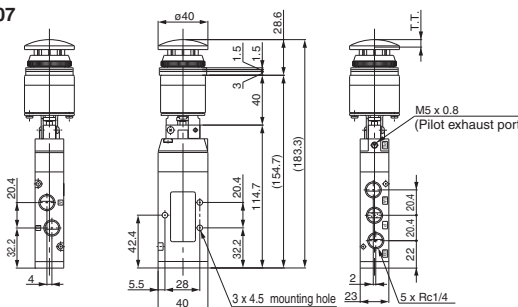
Symbol



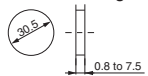
* 0.5 MPa supply

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

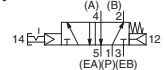
VFM250-02-30R/B/G/Y-X207



Panel mounting hole



Symbol



* 0.5 MPa supply

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

VM

VMG

VR

VR51

VHK

VH

VHS

VHS

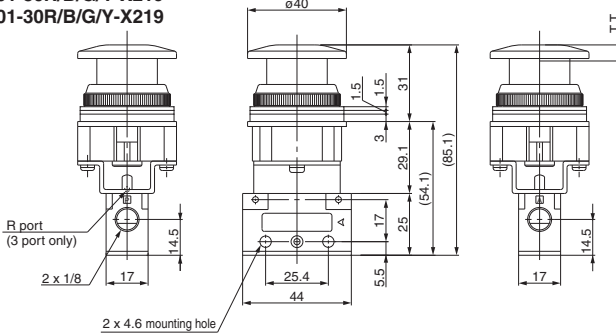


Push-lock Turn-reset Type, Mushroom Push Button

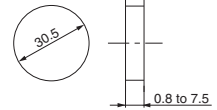
X219

Push-lock turn-reset type: When pressing the push button, it is locked in this status. Turning the button clockwise will reset it.

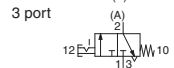
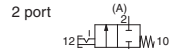
VM120-01-30R/B/G/Y-X219
VM130-01-30R/B/G/Y-X219



Panel mounting hole



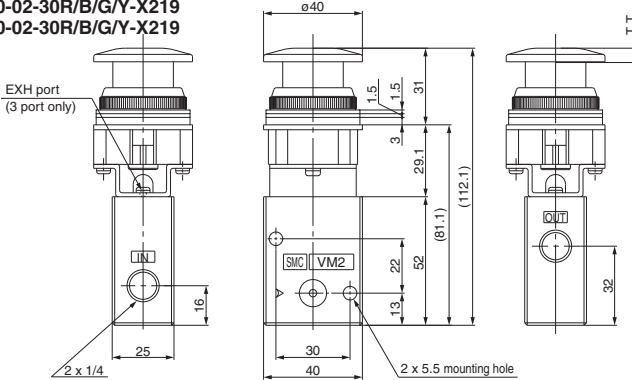
Symbol



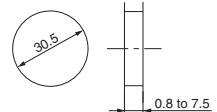
* 0.5 MPa supply

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

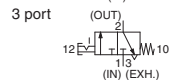
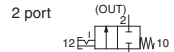
VM220-02-30R/B/G/Y-X219
VM230-02-30R/B/G/Y-X219



Panel mounting hole



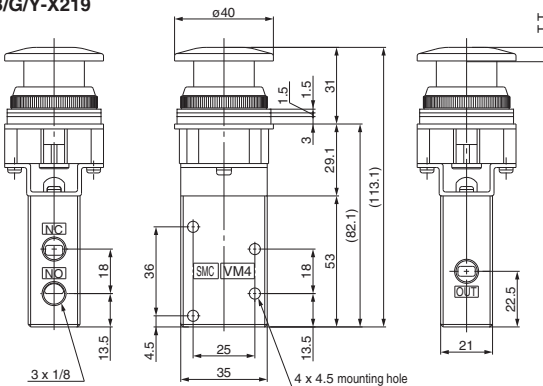
Symbol



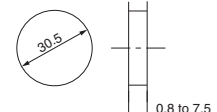
* 0.5 MPa supply

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

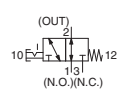
VM430-01-30R/B/G/Y-X219



Panel mounting hole



Symbol



* 0.5 MPa supply

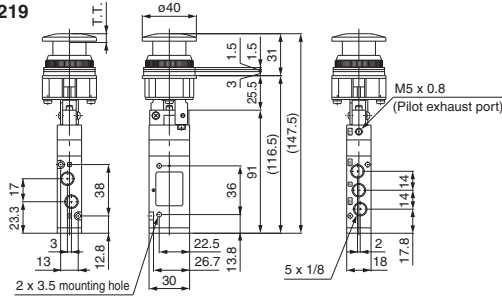
F.O.F. *	26 N
T.T.	5.8 mm



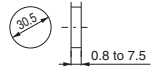
Push-lock Turn-reset Type, Mushroom Push Button

X219

VZM450-01-30R/B/G/Y-X219



Panel mounting hole



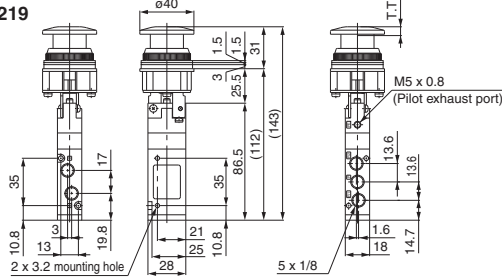
Symbol



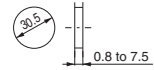
* 0.5 MPa supply

F.O.F.*	21 N
T.T.	5.8 mm

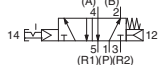
VZM550-01-30R/B/G/Y-X219



Panel mounting hole



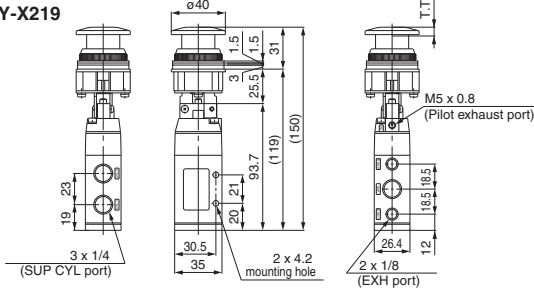
Symbol



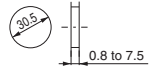
* 0.5 MPa supply

F.O.F.*	21 N
T.T.	5.8 mm

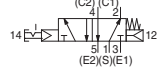
VFM350-02-30R/B/G/Y-X219



Panel mounting hole



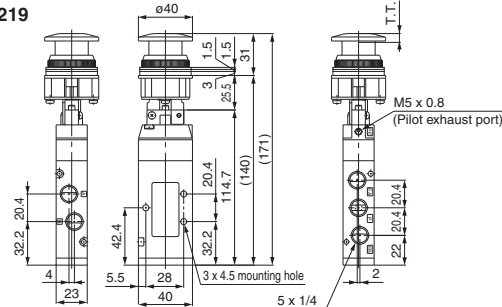
Symbol



* 0.5 MPa supply

F.O.F.*	21 N
T.T.	5.8 mm

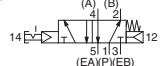
VFM250-02-30R/B/G/Y-X219



Panel mounting hole



Symbol



* 0.5 MPa supply

F.O.F.*	21 N
T.T.	5.8 mm

- VM**
- VMG**
- VR**
- VR51**
- VHK**
- VH**
- VHS**
- VHS**