

2/3 Port Mechanical Valve VM200 Series

RoHS

- Large flow capacity
- Possible to choose mounting method:
Side mounting, bottom mounting using screws, or mounting with special bracket
- A variety of actuator types



Specifications

Fluid	Air	
Operating pressure range	0 to 1 MPa	
Ambient and fluid temperature	-5 to 60°C (No freezing)	
Flow rate characteristics	1 (P) ⇒ 2 (A)	2 (A) ⇒ 3 (R)
C [dm ³ /(s·bar)]	4	3.5
b	0.4	0.1
Cv	0.87	0.69
Lubrication ^{Note 1)}	Not required	
Port size	1/4	
Weight (Basic)	90 g	
Bracket part number ^{Note 2)}	VM2-B	

Note 1) Use turbine oil Class 1 ISO VG32, if lubricated.

Note 2) The bracket can only be used for side mounting.

Model

Piping direction		Side ported				Actuator		
Body option		Standard		With bottom mounting thread		Actuator part number	Additional weight for actuator	
Number of ports		2 port	3 port	2 port	3 port			
Mechanical operation	Basic	VM220-02-00A	VM230-02-00A	VM220U-02-00A	VM230U-02-00A	—	—	
	Roller lever	Polycetal roller	VM220-02-01A	VM230-02-01A	VM220U-02-01A	VM230U-02-01A	VM-01A	50 g
		Hard steel roller	VM220-02-01SA	VM230-02-01SA	VM220U-02-01SA	VM230U-02-01SA	VM-01AS	60 g
	One way roller lever	Polycetal roller	VM220-02-02A	VM230-02-02A	VM220U-02-02A	VM230U-02-02A	VM-02A	60 g
		Hard steel roller	VM220-02-02SA	VM230-02-02SA	VM220U-02-02SA	VM230U-02-02SA	VM-02AS	70 g
	Straight plunger	Polycetal roller	VM220-02-05A	VM230-02-05A	VM220U-02-05A	VM230U-02-05A	VM-05A	130 g
		Hard steel roller	VM220-02-06A	VM230-02-06A	VM220U-02-06A	VM230U-02-06A	VM-06A	120 g
	Roller plunger	Polycetal roller	VM220-02-06SA	VM230-02-06SA	VM220U-02-06SA	VM230U-02-06SA	VM-06AS	130 g
		Hard steel roller	VM220-02-07A	VM230-02-07A	VM220U-02-07A	VM230U-02-07A	VM-07A	120 g
	Cross roller plunger	Polycetal roller	VM220-02-07SA	VM230-02-07SA	VM220U-02-07SA	VM230U-02-07SA	VM-07AS	130 g
		Hard steel roller	VM220-02-08A	VM230-02-08A	VM220U-02-08A	VM230U-02-08A	VM-08A	110 g
Toggle lever		VM220-02-08A	VM230-02-08A	VM220U-02-08A	VM230U-02-08A	VM-08A		
	Push button (Mushroom)	Red	VM220-02-30RA	VM230-02-30RA	VM220U-02-30RA	VM230U-02-30RA	VM-30AR	58 g
		Black	VM220-02-30BA	VM230-02-30BA	VM220U-02-30BA	VM230U-02-30BA	VM-30AB	
		Green	VM220-02-30GA	VM230-02-30GA	VM220U-02-30GA	VM230U-02-30GA	VM-30AG	
Push button (Extended)	Yellow	VM220-02-30YA	VM230-02-30YA	VM220U-02-30YA	VM230U-02-30YA	VM-30AY		
	Red	VM220-02-32RA	VM230-02-32RA	VM220U-02-32RA	VM230U-02-32RA	VM-32AR	52 g	
	Black	VM220-02-32BA	VM230-02-32BA	VM220U-02-32BA	VM230U-02-32BA	VM-32AB		
	Green	VM220-02-32GA	VM230-02-32GA	VM220U-02-32GA	VM230U-02-32GA	VM-32AG		
Push button (Flush)	Yellow	VM220-02-32YA	VM230-02-32YA	VM220U-02-32YA	VM230U-02-32YA	VM-32AY		
	Twist selector (2 position)	With a set of red, black, green, yellow	VM220-02-33A	VM230-02-33A	VM220U-02-33A	VM230U-02-33A	VM-33A	50 g
		Red	VM220-02-34RA	VM230-02-34RA	VM220U-02-34RA	VM230U-02-34RA	VM-34AR	56 g
		Black	VM220-02-34BA	VM230-02-34BA	VM220U-02-34BA	VM230U-02-34BA	VM-34AB	
Key selector (2 position)	Green	VM220-02-34GA	VM230-02-34GA	VM220U-02-34GA	VM230U-02-34GA	VM-34AG		
	Yellow	VM220-02-34YA	VM230-02-34YA	VM220U-02-34YA	VM230U-02-34YA	VM-34AY		
	Twist selector (3 position)	VM220-02-36A	VM230-02-36A	VM220U-02-36A	VM230U-02-36A	VM-36A	78 g	
	Foot pedal	3 port	5 port	3 port	5 port			
Red		VM230-02-35RA	VM250-02-35RA	VM230U-02-35RA	VM250U-02-35RA	—	230 g (Add to 2 basic units.)	
Black		VM230-02-35BA	VM250-02-35BA	VM230U-02-35BA	VM250U-02-35BA			
Green		VM230-02-35GA	VM250-02-35GA	VM230U-02-35GA	VM250U-02-35GA			
Foot pedal	Yellow	VM230-02-35YA	VM250-02-35YA	VM230U-02-35YA	VM250U-02-35YA			
	2 port	3 port	—	—	—	—	340 g	
		VM220-02-40A	VM230-02-40A	—	—			

Note 1) It is possible to change the actuator assembly and mount to basic type when an actuator part number is specified in the column.

Note 2) For push button (mushroom), push button (flush), push button (extended) and individual fastening ring, refer to page 1437.

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

Note 4) Color of plunger: Gray (2 port), White (3 port)

How to Order

Number of ports

2	2 port
3	3 port
5	5 port (Twist selector 3 position only)

Body option

Nil	Side mounting
U	With bottom mounting thread

Port size

02	Rc1/4
N02	NPT1/4
F02	G1/4

Actuator type*

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

Bracket option

Nil	None
B	With bracket

Note) Applicable only to side mounting type.
However, not applicable to twist selector (3 position) and foot pedal.
Bracket is shipped together, but not assembled.

Suffix for actuator*

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

Color of push button, selector

Made to Order (Pages 1433, 1434)

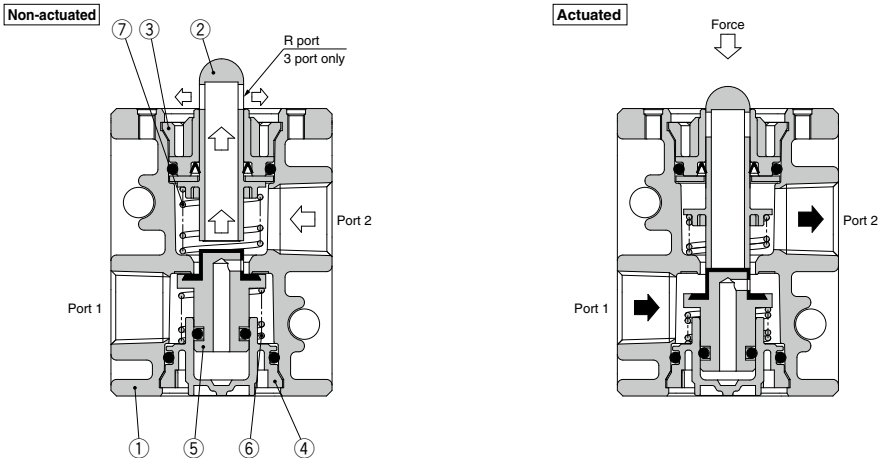
X207A	Alternate type, Mushroom push button
X219A	Push-lock turn-reset type, Mushroom push button

Note) Applicable only to push button (mushroom)

VM2 3 0 - 02 - 01 S A - B -

* Refer to the table on page 1425 for combinations of actuator type and suffix.

Construction



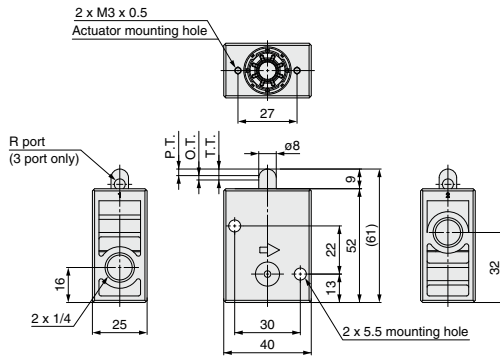
Component Parts

No.	Description	Material	Note
1	Valve	ADC	White coated
2	Plunger	Polyacetal	2 port Gray 3 port White
3	Plunger retainer	PBT	
4	Cover	PBT	
5	Inner valve	NBR, Brass	
6	Spring	Stainless steel	
7	Spring	Spring steel	

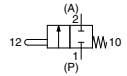
VM200 Series

Basic

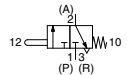
VM220-02-00A
VM230-02-00A



Symbol
2 port



3 port

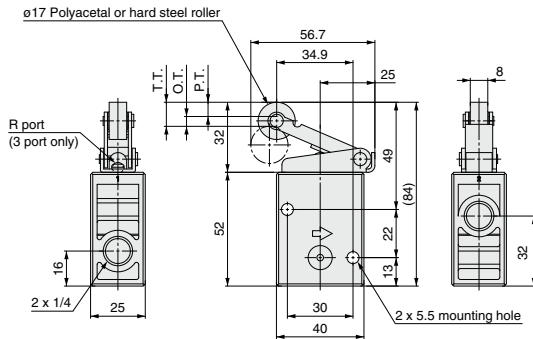


* 0.5 MPa supply

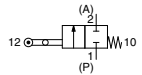
F.O.F.*	52 N
P.T.	3 mm
O.T.	2 mm
T.T.	5 mm

Roller lever

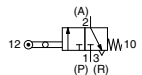
VM220-02-01A
VM230-02-01A
VM220-02-01SA
VM230-02-01SA



Symbol
2 port



3 port

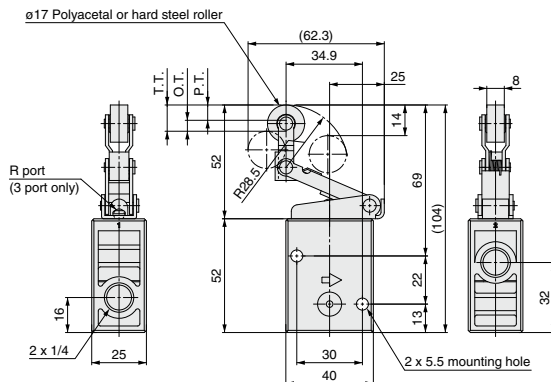


* 0.5 MPa supply

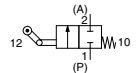
F.O.F.*	24 N
P.T.	6.5 mm
O.T.	4.5 mm
T.T.	11 mm

One way roller lever

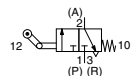
VM220-02-02A
VM230-02-02A
VM220-02-02SA
VM230-02-02SA



Symbol
2 port



3 port



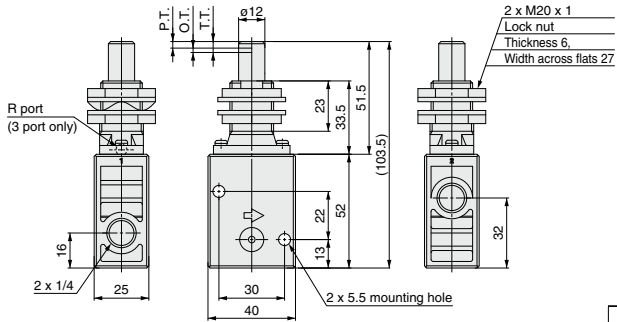
* 0.5 MPa supply

F.O.F.*	22 N
P.T.	7 mm
O.T.	5 mm
T.T.	12 mm

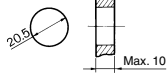
VM200 Series

VM200 Series

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

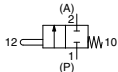


Panel mounting hole

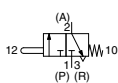


Symbol

2 port



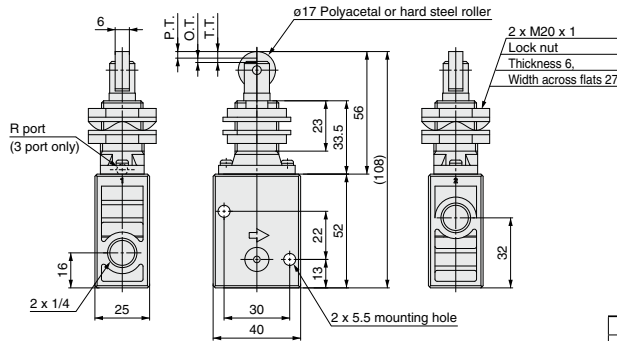
3 port



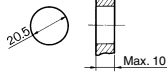
* 0.5 MPa supply

F.O.F.*	56 N
P.T.	3.5 mm
O.T.	2 mm
T.T.	5.5 mm

Roller plunger
VM220-02-06A
VM230-02-06A
VM220-02-06SA
VM230-02-06SA

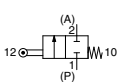


Panel mounting hole

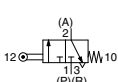


Symbol

2 port



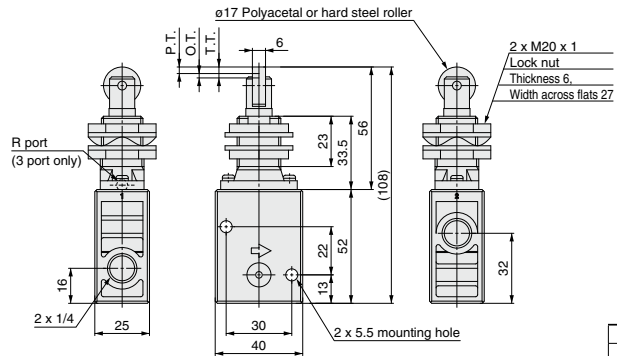
3 port



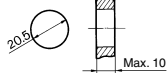
* 0.5 MPa supply

F.O.F.*	56 N
P.T.	3.5 mm
O.T.	2 mm
T.T.	5.5 mm

Cross roller plunger
VM220-02-07A
VM230-02-07A
VM220-02-07SA
VM230-02-07SA

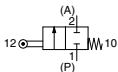


Panel mounting hole

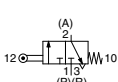


Symbol

2 port



3 port

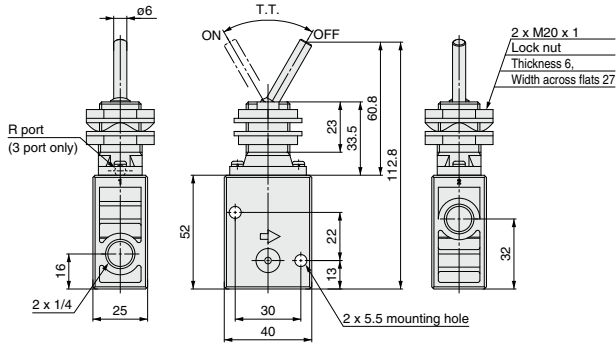


* 0.5 MPa supply

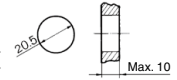
F.O.F.*	56 N
P.T.	3.5 mm
O.T.	2 mm
T.T.	5.5 mm

VM200 Series

Toggle lever
VM220-02-08A
VM230-02-08A

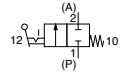


Panel mounting hole



Symbol

2 port



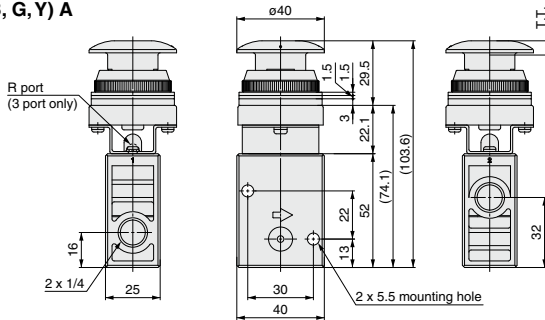
3 port



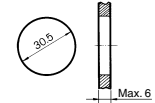
* 0.5 MPa supply

F.O.F.*	12 N
T.T.	60°

Push button (Mushroom)
VM220-02-30 (R, B, G, Y) A
VM230-02-30 (R, B, G, Y) A

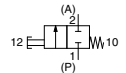


Panel mounting hole

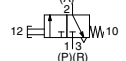


Symbol

2 port



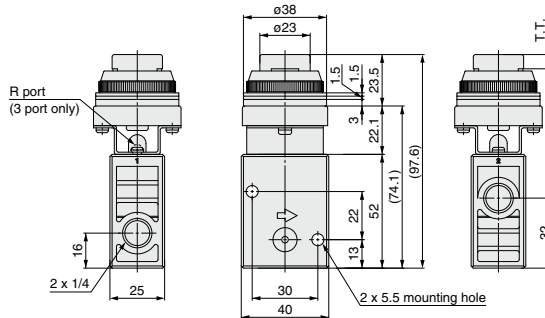
3 port



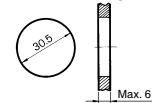
* 0.5 MPa supply

F.O.F.*	52 N
T.T.	6.5 mm

Push button (Extended)
VM220-02-32 (R, B, G, Y) A
VM230-02-32 (R, B, G, Y) A

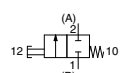


Panel mounting hole

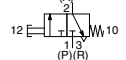


Symbol

2 port



3 port



* 0.5 MPa supply

F.O.F.*	52 N
T.T.	6.5 mm

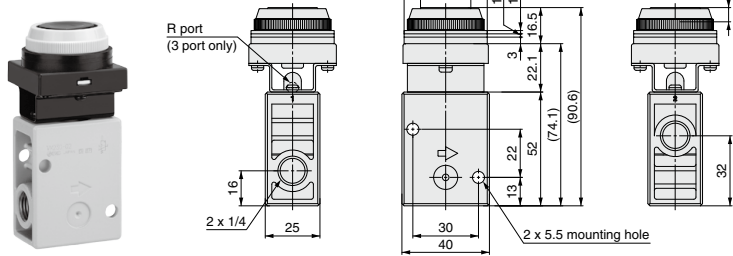
VM200 Series

VM200 Series

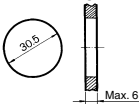
Push button (Flush)

VM220-02-33A

VM230-02-33A

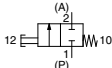


Panel mounting hole

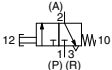


Symbol

2 port



3 port



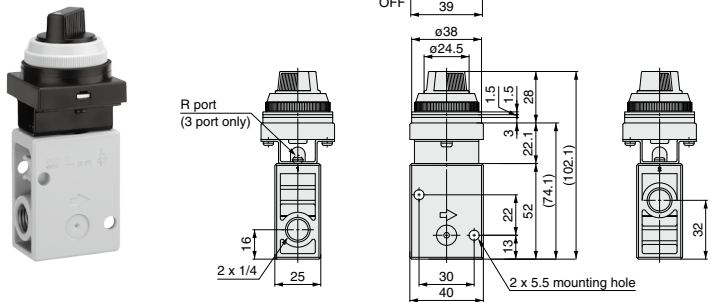
* 0.5 MPa supply

F.O.F.*	52 N
T.T.	6.5 mm

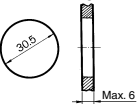
Twist selector (2 position)

VM220-02-34 (R, B, G, Y) A

VM230-02-34 (R, B, G, Y) A

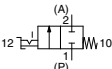


Panel mounting hole

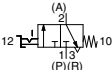


Symbol

2 port



3 port



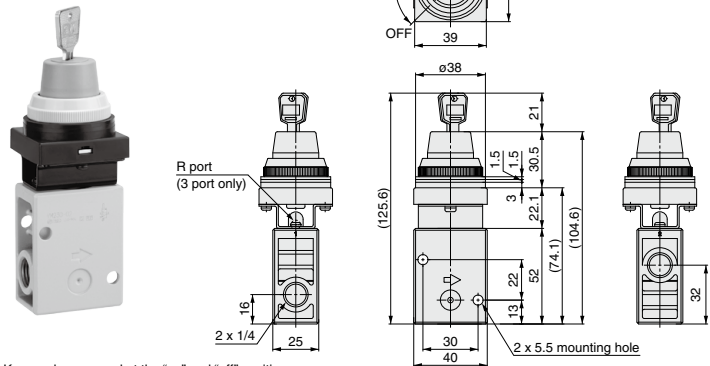
* 0.5 MPa supply

F.O.F.*	32 N
T.T.	90°

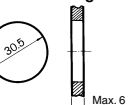
Key selector (2 position)

VM220-02-36A

VM230-02-36A

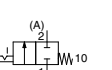


Panel mounting hole

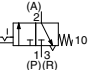


Symbol

2 port



3 port



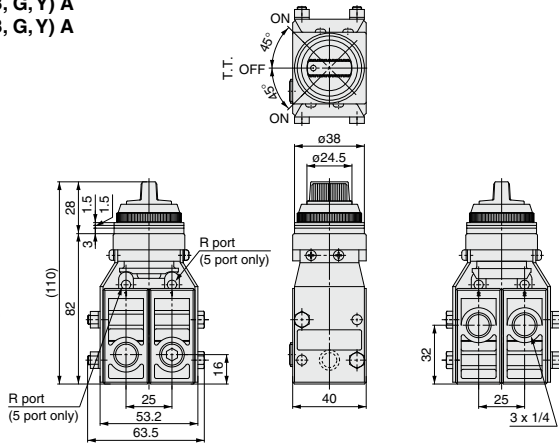
* 0.5 MPa supply

F.O.F.*	32 N
T.T.	90°

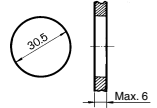
Key can be removed at the "on" and "off" positions.
One spare key is included.

VM200 Series

Twist selector (3 position)
VM230-02-35 (R, B, G, Y) A
VM250-02-35 (R, B, G, Y) A

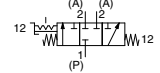


Panel mounting hole

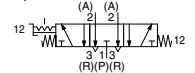


Symbol

3 port



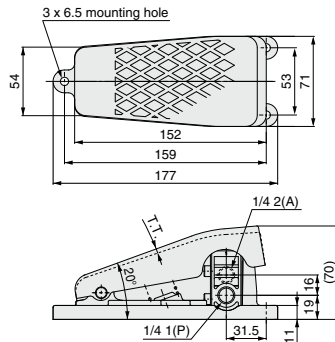
5 port



* 0.5 MPa supply

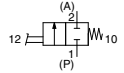
F.O.F.*	40 N
T.T.	45°

Foot pedal
VM220-02-40A
VM230-02-40A

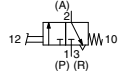


Symbol

2 port



3 port



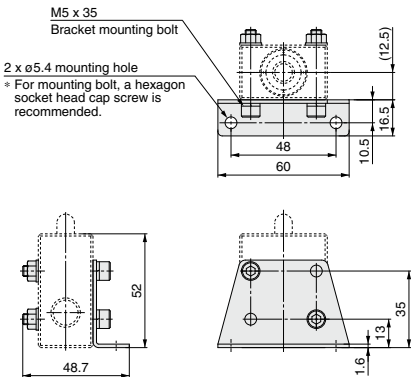
* 0.5 MPa supply

F.O.F.*	65 N
T.T.	1.2°

VM200 Series

VM200 Series

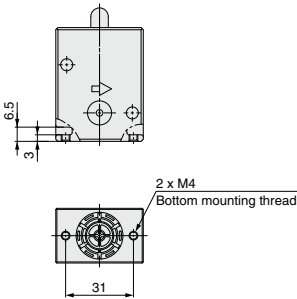
With bracket
VM220-02-□A-B
VM230-02-□A-B



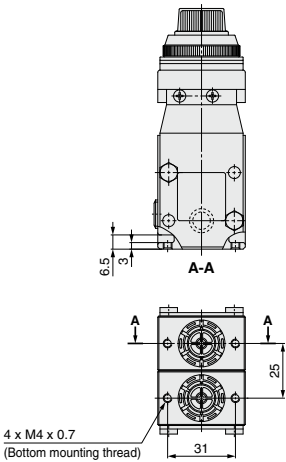
VM2-B

Component parts	Q'ty
Bracket	1
Hexagon socket head cap screw M5 x 35	2
Hexagon nut M5	2

With bottom mounting thread
VM220U-02-□A
VM230U-02-□A



VM230U-02-35□A
VM250U-02-35□A



VM100/200 Series Made to Order

Please contact SMC for detailed specifications, dimensions and lead times.



1 Alternate type, Mushroom push button

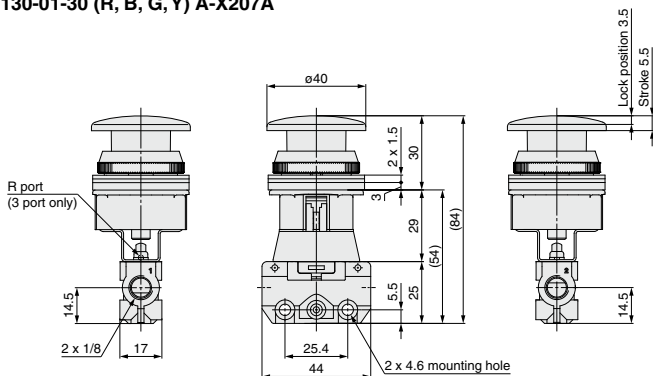
Symbol

-X207A

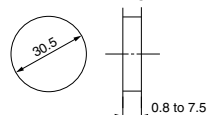
Alternate type: When pressing the push button, the valve actuates and its status is self-retained even after your hand has been released. Pressing the button again will restore the valve to its previous status.

VM120-01-30 (R, B, G, Y) A-X207A

VM130-01-30 (R, B, G, Y) A-X207A

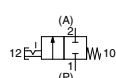


Panel mounting hole

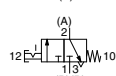


Symbol

2 port



3 port

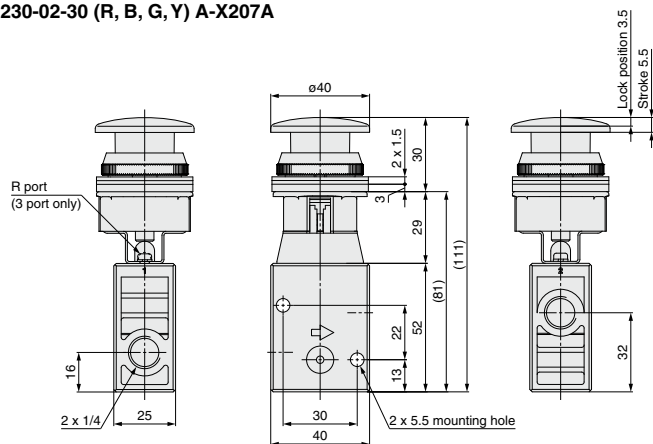


* 0.5 MPa supply

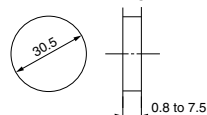
F.O.F.*	27 N
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VM220-02-30 (R, B, G, Y) A-X207A

VM230-02-30 (R, B, G, Y) A-X207A

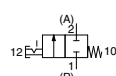


Panel mounting hole

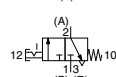


Symbol

2 port



3 port



* 0.5 MPa supply

F.O.F.*	52 N
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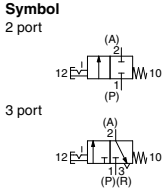
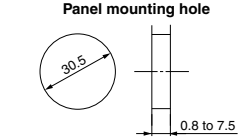
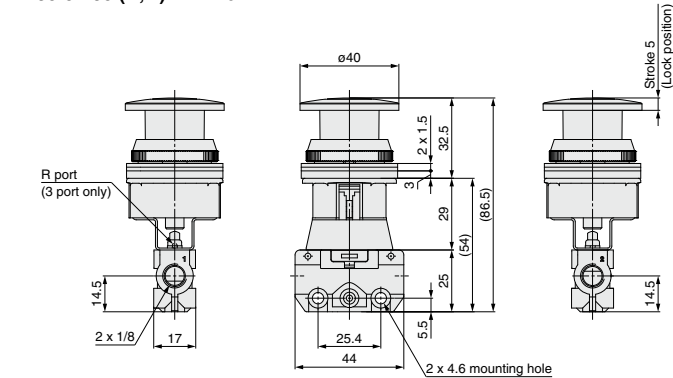
2 Push-lock turn-reset type, Mushroom push button

Symbol
-X219A

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

VM120-01-30 (R, Y) A-X219A

VM130-01-30 (R, Y) A-X219A

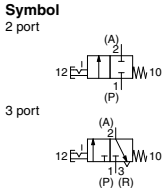
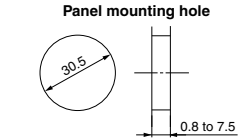
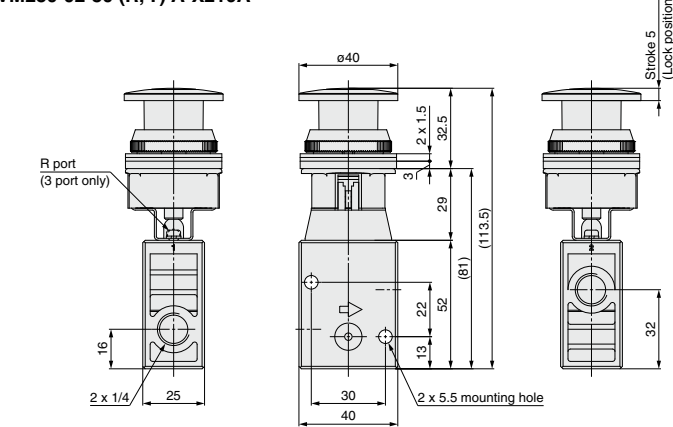


* 0.5 MPa supply

F.O.F.*	27 N
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VM220-02-30 (R, Y) A-X219A

VM230-02-30 (R, Y) A-X219A



* 0.5 MPa supply

F.O.F.*	52 N
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