

# 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)	
Effective area	2.5 mm <sup>2</sup>	
Lubrication	Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)	
Port size	1/8	M5 x 0.8
Weight (Basic)	95 g	110 g

### Model

	Side ported		Bottom ported		Actuator part no.	Application	
	2 port	3 port	2 port	3 port			
Mechanical operation	Basic	VM120-01-00	VM130-01-00	VM122-M5-00	VM132-M5-00	—	
		VM121-01-00	VM131-01-00	VM123-M5-00	VM133-M5-00	—	
	Roller lever	VM121-01-01	VM131-01-01	VM123-M5-01	VM133-M5-01	—	Polyacetal roller
		VM121-01-01S	VM131-01-01S	VM123-M5-01S	VM133-M5-01S	—	Hard steel roller
	One way roller lever	VM121-01-02	VM131-01-02	VM123-M5-02	VM133-M5-02	—	Polyacetal roller
		VM121-01-02S	VM131-01-02S	VM123-M5-02S	VM133-M5-02S	—	Hard steel roller
	Straight plunger	VM120-01-05	VM130-01-05	VM122-M5-05	VM132-M5-05	VM-05B	—
	Roller plunger	VM120-01-06	VM130-01-06	VM122-M5-06	VM132-M5-06	VM-06B	Polyacetal roller
		VM120-01-06S	VM130-01-06S	VM122-M5-06S	VM132-M5-06S	VM-06BS	Hard steel roller
	Cross roller plunger	VM120-01-07	VM130-01-07	VM122-M5-07	VM132-M5-07	VM-07B	Polyacetal roller
VM120-01-07S		VM130-01-07S	VM122-M5-07S	VM132-M5-07S	VM-07BS	Hard steel roller	
Manual operation	Toggle lever	VM120-01-08	VM130-01-08	VM122-M5-08	VM132-M5-08	VM-08B	—
	Push button (Mushroom)	VM120-01-30R	VM130-01-30R	VM122-M5-30R	VM132-M5-30R	VM-30AR	Red
		VM120-01-30B	VM130-01-30B	VM122-M5-30B	VM132-M5-30B	VM-30AB	Black
		VM120-01-30G	VM130-01-30G	VM122-M5-30G	VM132-M5-30G	VM-30AG	Green
		VM120-01-30Y	VM130-01-30Y	VM122-M5-30Y	VM132-M5-30Y	VM-30AY	Yellow
	Push button (Extended)	VM120-01-32R	VM130-01-32R	VM122-M5-32R	VM132-M5-32R	VM-32AR	Red
		VM120-01-32B	VM130-01-32B	VM122-M5-32B	VM132-M5-32B	VM-32AB	Black
		VM120-01-32G	VM130-01-32G	VM122-M5-32G	VM132-M5-32G	VM-32AG	Green
	Push button (Flush)	VM120-01-32Y	VM130-01-32Y	VM122-M5-32Y	VM132-M5-32Y	VM-32AY	Yellow
		VM120-01-33	VM130-01-33	VM122-M5-33	VM132-M5-33	VM-33A	With a set of red, black, green, yellow
	Twist selector (2 position)	VM120-01-34R	VM130-01-34R	VM122-M5-34R	VM132-M5-34R	VM-34AR	Red
		VM120-01-34B	VM130-01-34B	VM122-M5-34B	VM132-M5-34B	VM-34AB	Black
		VM120-01-34G	VM130-01-34G	VM122-M5-34G	VM132-M5-34G	VM-34AG	Green
		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	—
	Twist selector (3 position)	VM131-01-35R	VM151-01-35R	VM133-M5-35R	VM153-M5-35R	—	Red
		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	
	(3 port)	(5 port)	(3 port)	(5 port)	—	—	



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

Note 2) For push button (mushroom), push button (extended), push button (flush) and a single unit of fastening ring, refer to pages 5-6-6 to 5-6-7. 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**

**Port size**

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

**Actuator type**

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

**Suffix for actuator**

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

Color of push button selector

**Suffix for indicator light**

Z	With miniature indicator light (Bottom piping type only)
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**Piping direction and the length of push rod**

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

**Number of ports**

2	2 port
3	3 port

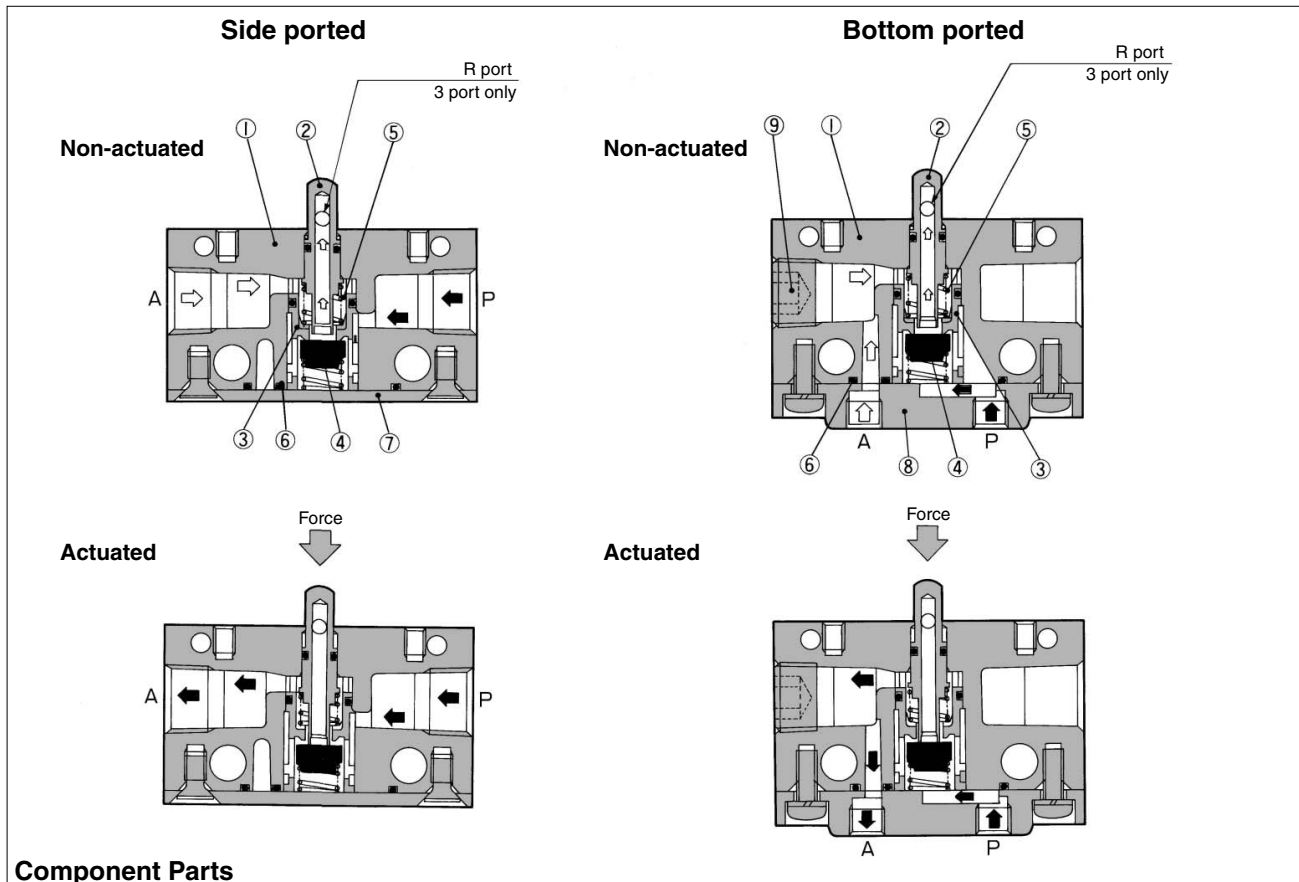
**Actuator Selection Table**

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

- A
- A
- A
- VM
- VR
- VH
- VHS

Combination possible: ○, Combination impossible: x

## Construction



### Component Parts

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

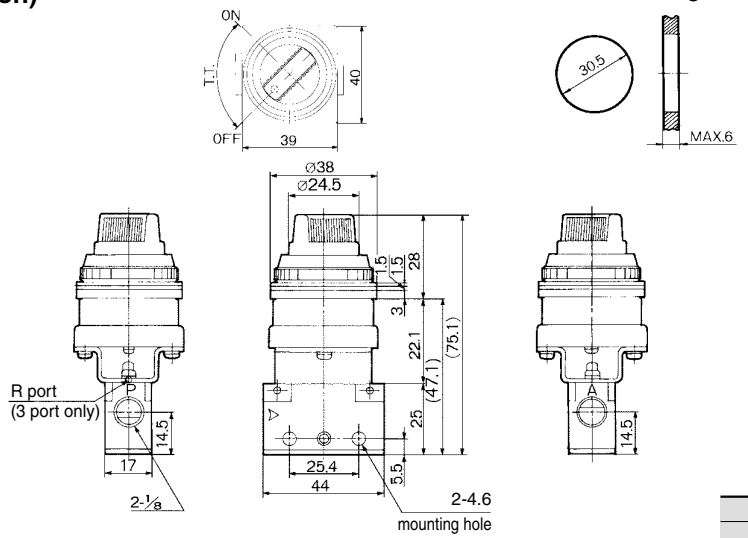
No.	Description	Material	Note
⑥	Gasket	NBR	
⑦	Cover	Rolled steel	
⑧	Sub-plate	ZDC	Metallic plated
⑨	Hexagon socket head plug	Rolled steel	

# Series VM100

## Series VM100/Side Ported

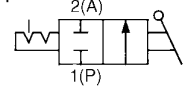
### Twist selector (2 position)

VM120-01-34R/B/G/Y  
VM130-01-34R/B/G/Y

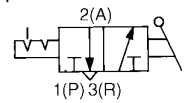


#### JIS Symbol

2 port



3 port

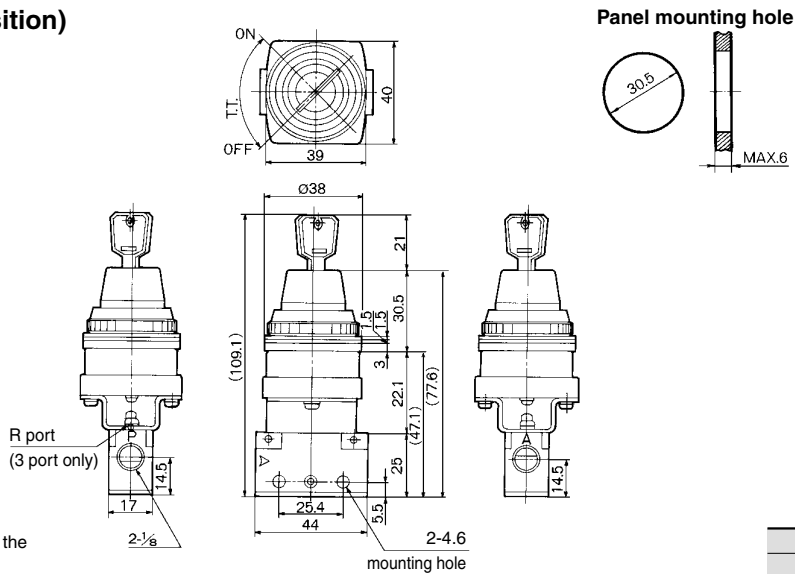


\* 0.5 MPa supply

F.O.F. *	15 N
T.T.	90°

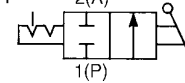
### Key selector (2 position)

VM120-01-36  
VM130-01-36

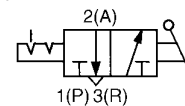


#### JIS Symbol

2 port



3 port

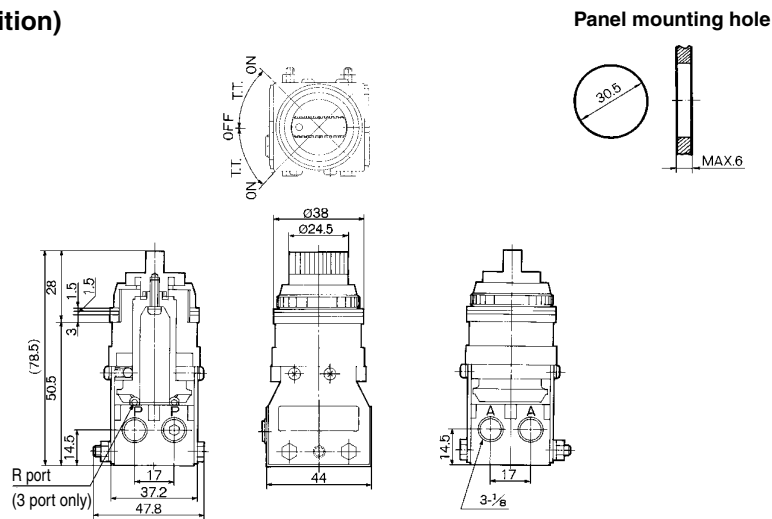


\* 0.5 MPa supply

F.O.F. *	15 N
T.T.	90°

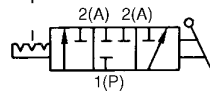
### Twist selector (3 position)

VM131-01-35R/B/G/Y  
VM151-01-35R/B/G/Y

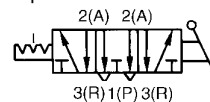


#### JIS Symbol

3 port



5 port



\* 0.5 MPa supply

F.O.F. *	15 N
T.T.	45°