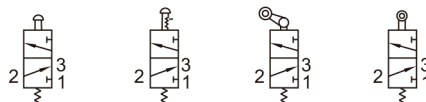




### Symbol



### Product feature

1. Exhaust outlet locates over the (body), which is convenient to install muffler to decrease noise and pollution.
2. The external force required by direction-change of series of VMB3, VMR3 and VML3 is provided by external mechanism, which can be used for position test or [stroke switch] limit switch.
3. VMC3, VMD3, VMY3, VMPF3, VMPP3, VMPL3 and VMHS3 are operated manually, owning control joints with several structure forms and suitable for application under different conditions.
4. It is in sliding column structure that the control force is not influenced by working pressure (that is, there is no back pressure effect); internal circle is sealed with good tightness and the direction-change is sensitive.
5. No need to add oil for lubrication.
6. Multi-mounting makes it convenient to install and apply;
7. The control joints of series of VMC3, VMD3, VMY3, VMR3, and VML3 are made of metal which has long service life and more reliable and steady performance.

### Ordering code

**VM PL 3 0 A 01 - R**

① ② ③ ④ ⑤ ⑥ ⑦

1

Model

VM: Mechanical Valve

2

Actuator

B: Basic Type

C: Long Handle Type

D: Short Handle Type

Y: Lever Type

R: Roller Type

L: Roller With Free Return Type

V: Vertical Type

PL: Latching Type

PP: Protruding Type

PF: Flat Type

PM: Mushroom Type

HS: Selector Type

3

Valve Type

3: 3/2 Way

4

Series Code

0: 0 Serie

1: 1 Serie

5

Directional control

A: 2 Positions

6

Port Size

Actuador	Port size
B, R, L	M5: M5
B, R, L	01: 1/8" G
Others	02: 1/4" G

7

Button Color

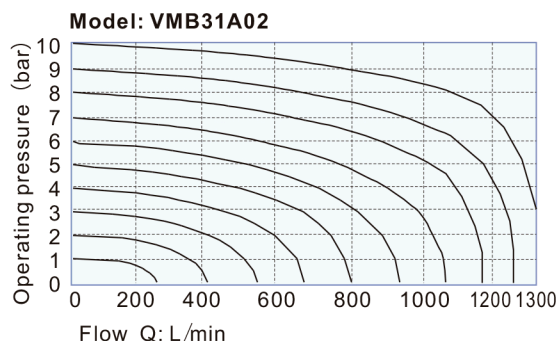
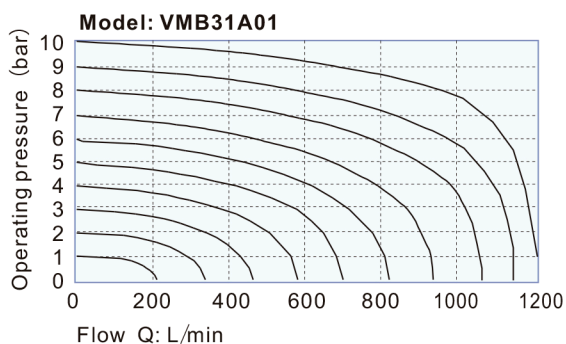
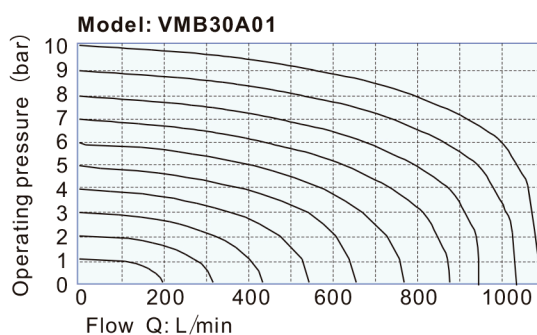
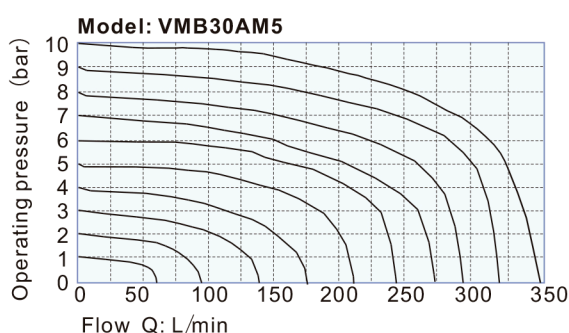
Actuador	Button Color
PL	R: Red
PP, PF PM, HS	R: Red
	G: Green
	B: Black
Others	-

## VM□3 SERIES

## Specification

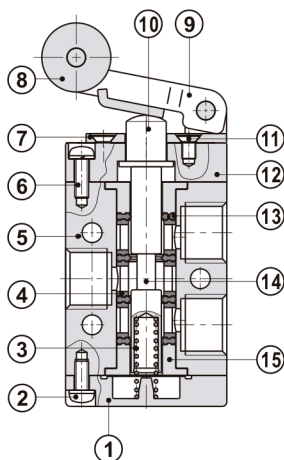
Valve	VMB	VMC	VMD	VMY	VMR	VML	VMV	VMPL	VMPP	VMPF	VMPM	VMHS
Fluid	Air(to be filtered by 40 $\mu$ m filter element)											
Acting	External control direct acting type											
Port size	M5:M5; 01:1/8"G; 02:1/4"G											
Valve type	3 port 2 position											
Lubrication	Not required											
Operating pressure	0~10bar(0~145psi)											
Proof pressure	15bar(215psi)											
Temperature $^{\circ}$ C	-20~70											
Orifice size	30AM5:2.5 mm <sup>2</sup> Cv $\leq$ 0.14); 30A01:8.0 mm <sup>2</sup> Cv $\leq$ 0.45); 31A01:9.0 mm <sup>2</sup> Cv $\leq$ 0.50); 31A02:12.0 mm <sup>2</sup> Cv $\leq$ 0.67)											
Material of body	Aluminum alloy											

## Flow chart



## Inner structure

## VMR31A



No.	Item
(1)	Bottom cover
(2)	Screw
(3)	Spring
(4)	Spacer
(5)	Body
(6)	Screw
(7)	Roller holder
(8)	Roller
(9)	Axle
(10)	Rotating block
(11)	Screw
(12)	Fore cover
(13)	Piston O-ring
(14)	Spool
(15)	Positioning block

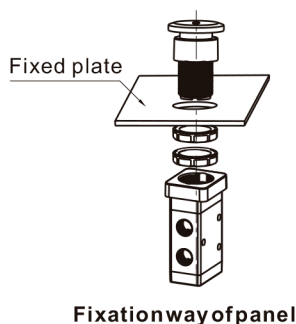
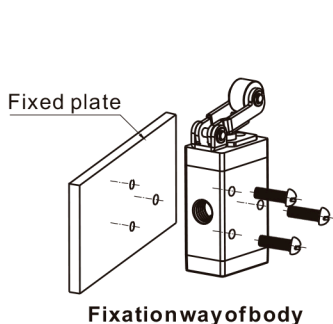
## Reversal stroke

Type	Spool stroke	Button stroke	Type	Spool stroke	Roller(handle) stroke	Type	Spool stroke	Roller stroke
VMB3	2.0~3.3	-	VMR3	2.0~3.0	4.6~6.8	VMB3M5	2.0~3.3	-
VMPF3	2.0~3.3	3.8~5.1	VML3	2.0~3.0	5.0~7.8	VMR3M5	2.0~3.0	6.0~8.5
VMPP3	2.0~3.3	3.8~5.1	VMC3	2.0~3.0	11.0~16.0	VML3M5	2.0~3.0	7.0~10.0
VMPM3	2.0~3.3	3.8~5.1	VMD3	2.0~3.0	5.5~8.0			
VMPL3	2.0~3.3	5.9~7.2						
VMHS3	2.0~3.3	5.1~6.4						

## Assemble chart

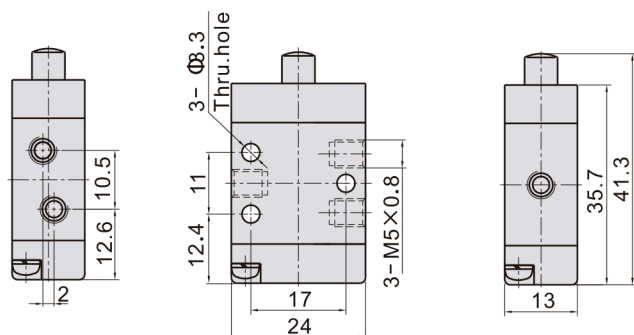
### Attentions

- 1)The control set is made of engineering plastic which only allows manual operation and switching valves through metal impact is forbidden.
- 2)The series of VMB3, VMC3, VMD3, VMPM3, VMPF3 and VMPP3 get the function of automatic restoration. The hand valves of VMY3, VMHS3 and VMPL3 are in the type of manual restoration. VMPL3 will be restored by turning the revolve button after being pressed into orientation.
- 3) Pay attention to the reversing stroke. The reversing stroke can not surpass its stroke stipulated in stroke control table when the direction -change of the valve is forced by any external forces, otherwise it will cause the damage of the valve.
- 4) The VML3 can only switch the valve in single direction (impact from right to left). The impact from the other direction is invalid (from left to right).
- 5) Control joint combination can be ordered individually. Please refer to the table on the right for order details.

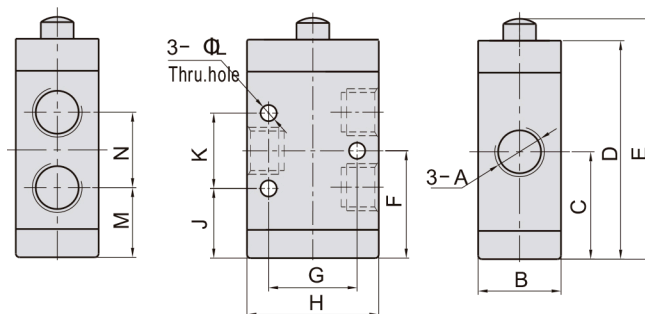


## Dimensions

### VMB30AM5



### VMB30A01\VMB31A01\VMB31A02



Model\Item	A	B	C	D	E	F
VMB30A01	1/8"G	18	23.5	46.5	52	23.5
VMB31A01	1/8"G	22	28.5	58	63.8	28.5
VMB31A02	1/4"G	22	28.5	58	63.8	28.5

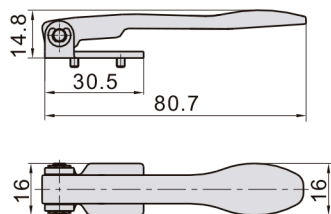
Model\Item	G	H	J	K	L	M	N
VMB30A01	18	27	15.5	16	3.3	15.5	16
VMB31A01	23.5	35	18.5	20	4.3	18.5	20
VMB31A02	23.5	35	18.5	20	4.3	18.5	20

## Control set dimensions

## Model: C(Long Handle Type)

Ordering code	VMC31-P13A
Type	VMC31 Long handle type control set
Applicable products	VMC30, VMC31

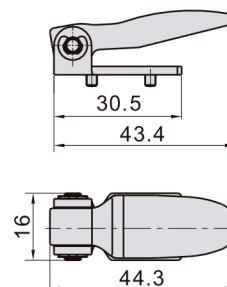
Dimensions



## Model: D(Short Handle Type)

Ordering code	VMD31-P13A
Type	VMD31 Short handle type control set
Applicable products	VMD30, VMD31

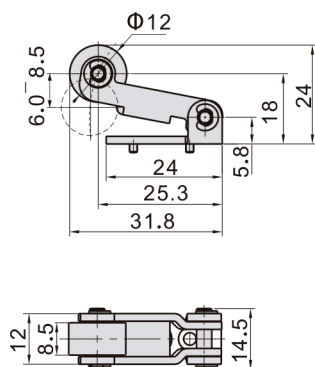
Dimensions



## Model: R(Roller Type for M5)

Ordering code	VMRM5-P14A
Type	VMRM5 Roller type control set
Applicable products	VMR30AM5

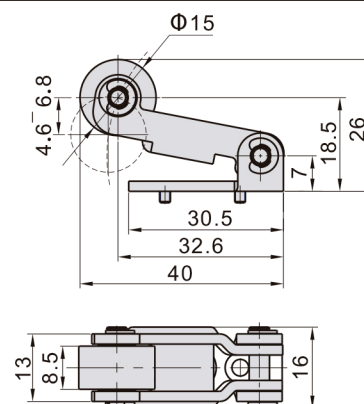
Dimensions



## Model: R(Roller Type for 01, 02)

Ordering code	VMR31-P14A
Type	VMR31 Roller type control set
Applicable products	VMR30A01, VMR31

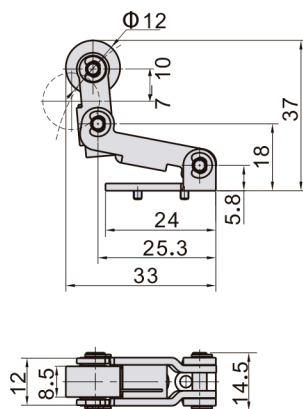
Dimensions



## Model: L(Roller With Free Return Type for M5)

Ordering code	VMLM5-P14A
Type	VMLM5 Roller with free return type control set
Applicable products	VML30M5

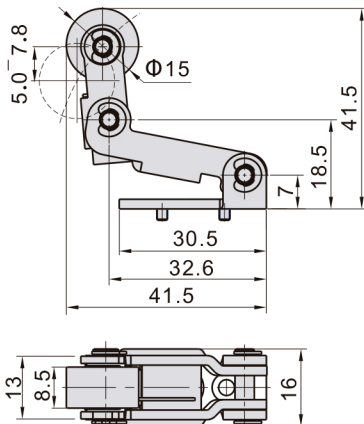
Dimensions



## Model: L(Roller With Free Return Type for 01,02)

Ordering code	VML31-P14A
Type	VML31 Roller with free return type control set
Applicable products	VML30A01, VMD31

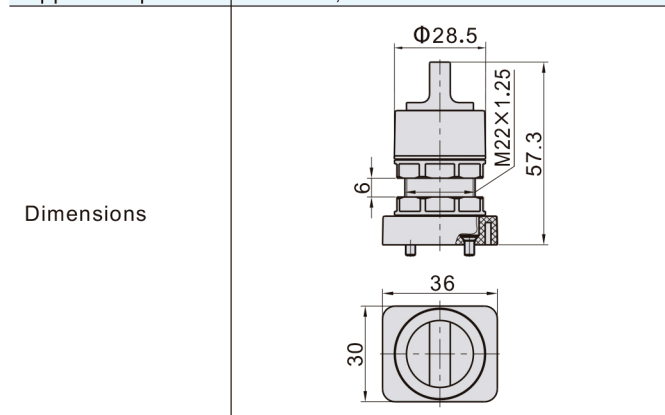
Dimensions





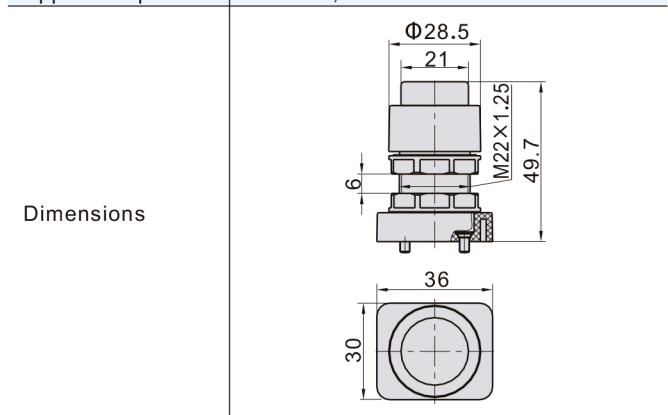
**Model: HS(Selector Type)**

Ordering code	Type
VMHSM5-P11A	VMHS selector type control set (Green)
VMHSM5-P12A	VMHS selector type control set (Red)
VMHSM5-P13A	VMHS selector type control set (Black)
Applicable products	VMHS30, VMHS31



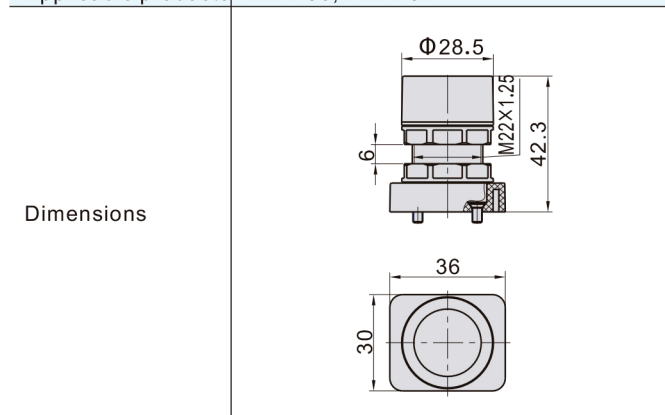
**Model: PP(Protruding Type)**

Ordering code	Type
VMPPM5-P11A	VMPP protruding type control set (Green)
VMPPM5-P12A	VMPP protruding type control set (Red)
VMPPM5-P13A	VMPP protruding type control set (Black)
Applicable products	VMPP30, VMPP31



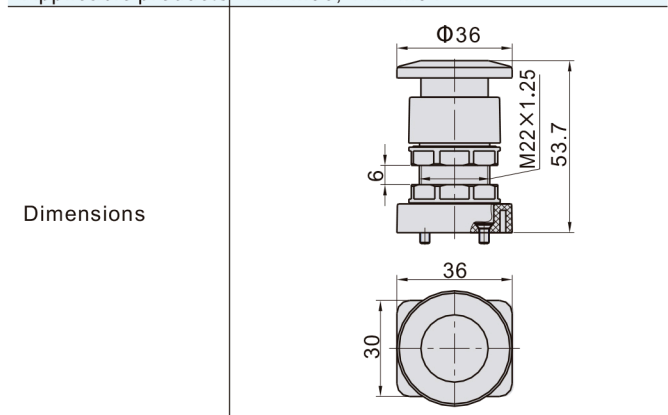
**Model: PF(Flat Type)**

Ordering code	Type
VMPFM5-P11A	VMPF flat type control set (Green)
VMPFM5-P12A	VMPF flat type control set (Red)
VMPFM5-P13A	VMPF flat type control set (Black)
Applicable products	VMPF30, VMPF31



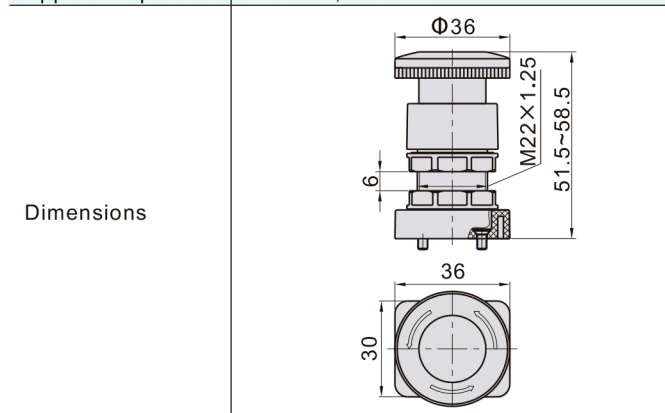
**Model: PM(Mushroom Type)**

Ordering code	Type
VMPMM5-P11A	VMPM mushroom type control set (Green)
VMPMM5-P12A	VMPM mushroom type control set (Red)
VMPMM5-P13A	VMPM mushroom type control set (Black)
Applicable products	VMPM30, VMPM31



**Model: PL(Latching Type)**

Ordering code	Type
VMPLM5-P12A	VMPL Latching type control set (Red)
Applicable products	VMPL30, VMPL31



**Model: Y(Lever Type)**

Ordering code	Type
VMY31-P13A	VMY Lever type control set
Applicable products	VMY30, VMY31

