

The MS3-Series In-line 3/2 Mechanically operated poppet-type valves provide an extensive range of control options, that may be easily interchanged. The range may be used Lubrication free and have M5, G1/8 or G1/4 ports.



## Specification

Model	S3B	S3C	S3D	S3V	S3R	S3L	S3Y	S3PM	S3PP	S3PF	S3PL	S3HS
Fluid	Air (to be filtered by 40µm filter element)											
Operating	External control direct acting type											
Port size ①	05: M5; 06: 1/8" ; 08: 1/4"											
Orifice size	05: 2.5 mm <sup>2</sup> (Cv=0.14); 06: 8.0mm <sup>2</sup> (Cv=0.45); 08: 12.0mm <sup>2</sup> (Cv=0.67)											
Valve type	3 port 2 position											
Lubrication ②	Not required											
Pressure range	0 - 0.8MPa(0-114Psi)											
Proof pressure	1.5 MPa(215Psi)											
Temperature °C	-20-70											
Material of body	Aluminum alloy											

- G (BSP) and M5 threads are standard (NPT threads are available as an option on request)
- If lubrication is preferred, lubricants similar to ISO VG32 or equivalent are recommended.

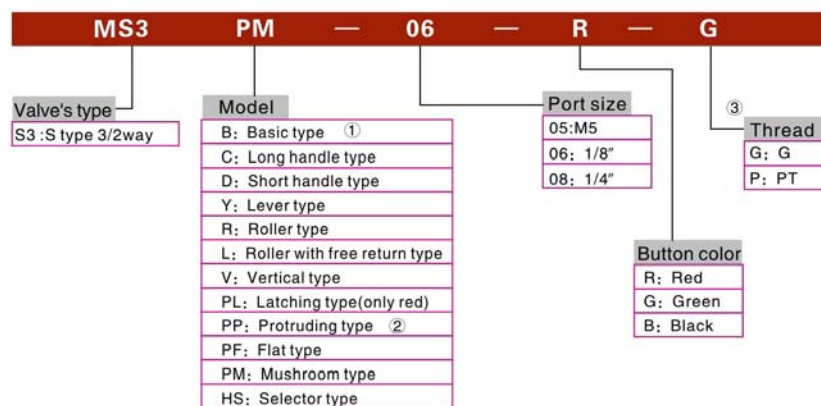
## Symbols



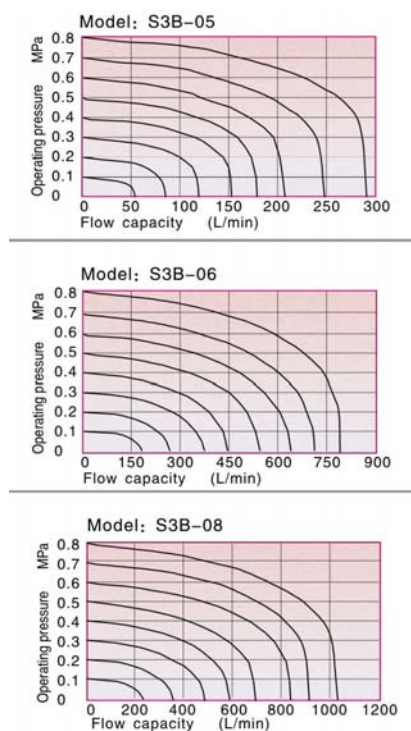
## Product Features

- Poppet type construction.
- Low leakage and low friction action.
- Pressure assist together with spring return.
- Exhaust through operator pin.
- Maybe used lubrication free.
- Compact 13mm, 18mm and 22 valve widths.

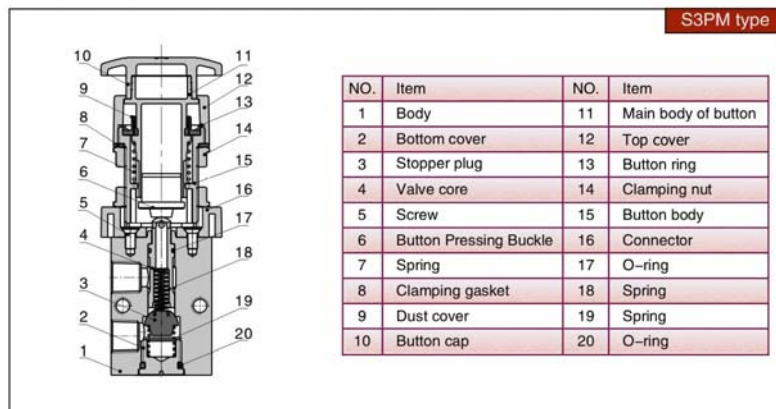
## Model/Ordering Codes



## Flow Charts



## Inner Structure

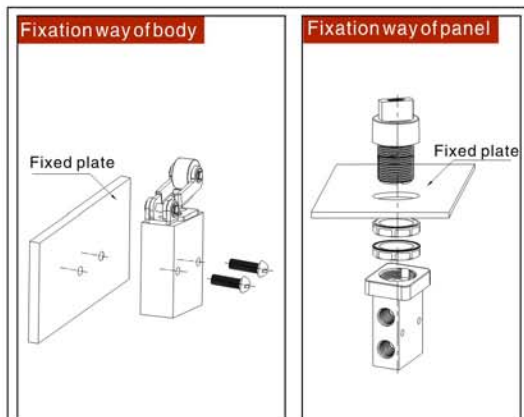


## Operator Stroke

Unit: mm

Type	Spool stroke	Button stroke	type	Spool stroke	Roller(handle)stroke
S3B	2.4-4.0	-	S3R	2.4-3.4	5.5-7.8
S3PF	2.4-4.0	3.8-5.4	S3L	2.4-3.4	6.0-8.6
S3PP	2.4-4.0	3.8-5.4	S3V	2.4-3.8	3.4-4.8
S3PM	2.4-4.0	3.8-5.4	S3C	2.4-3.8	14.4-18.4
S3PL	2.4-4.0	5.9-7.5	S3D	2.4-3.8	7.4-9.4
S3HS	2.4-4.0	5.1-6.7			

Assembly Details



General Information

1. Where engineering plastics are used, the operator is designed for hand use only. Avoid mechanical impacts to prevent damage.
2. Control operators may be ordered separately. Please refer to the Model/Ordering Codes for the operator type letter.
3. Operator codes B, C, D, PF, PM and PP have automatic spring return.
4. Operator codes Y, HS and PL require a reversing action to change the valve state.
5. Do not over-stroke the valves and refer to the Operator Stroke chart for the permitted range for each model.
6. Operator code L is a one-way roller trip mechanism and will operate the valve when the cam is moved from right to left for the picture illustration (see right).

Dimensions

Model	C Long handle type		D Short handle type		Y Lever type	
How to order	Ordering code	Type	Ordering code	Type	Ordering code	Type
	M3C210-P13A	M3C210 Long handle type control set	M3D210-P13A	M3D210 Short handle type control set	M3Y210-P13A	M3Y210 Lever type control set
Applicable products	S3C05, S3C06, S3C08		S3D05, S3D06, S3D08		S3Y05, S3Y06, S3Y08	
Dimensions						

Model	R Roller type		L Roller with free return type		V Vertical type													
How to order	Ordering code	Type	Ordering code	Type	Ordering code	Type												
	M3R210-P14A	M3R210 Roller type control set	M3L210-P14A	M3L210 Roller with free return type control set	S3V05(06, 08)-P14	S3V05(06, 08) Vertical type control set												
Applicable products	S3R05, S3R06, S3R08		S3L05, S3L06, S3L08		S3V05, S3V06, S3V08													
Dimensions																		
					<table border="1"> <thead> <tr> <th>Item Mode</th> <th>A</th> <th>B</th> </tr> </thead> <tbody> <tr> <td>05 type</td> <td>26</td> <td>16.5</td> </tr> <tr> <td>06 type</td> <td>30</td> <td>16.5</td> </tr> <tr> <td>08 type</td> <td>34</td> <td>17.5</td> </tr> </tbody> </table>		Item Mode	A	B	05 type	26	16.5	06 type	30	16.5	08 type	34	17.5
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Dimensions of body (S3B)

Type/Item	A	B	C	D	E	F	G	H	I	J
05 Model	16	26	15	30	36	M5 x 0.8	16.5	9	13	M5 x 0.8
06 Model	23	30	20.5	41	47	M5 x 0.8	16.5	11.5	17.5	1/8"
08 Model	24	34	22.5	46	52	M5 x 0.8	17.5	12	21	1/4"

Model	PP Protruding type		PM Mushroom type		PL Latching type (only red)	
How to order	Ordering code	Type	Ordering code	Type	Ordering code	Type
	S3PP05-P11A	S3PP protruding type control set (Green)	S3PM05-P11A	S3PM mushroom type control set (Green)	S3PL05-P12A	S3PL Latching type control set (Red)
	S3PP05-P12A	S3PP protruding type control set (Red)	S3PM05-P12A	S3PM mushroom type control set (Red)		
	S3PP05-P13A	S3PP protruding type control set (Black)	S3PM05-P13A	S3PM mushroom type control set (Black)		
Applicable products	S3PP05, S3PP06, S3PP08		S3PM05, S3PM06, S3PM08		S3PL05, S3PL06, S3PL08	
Dimensions						

Model	PF Flat type		HS Selector type	
How to order	Ordering code	Type	Ordering code	Type
	S3PF05-P11A	S3PF flat type control set (Green)	S3HS05-P11A	S3HS selector type control set (Green)
	S3PF05-P12A	S3PF flat type control set (Red)	S3HS05-P12A	S3HS selector type control set (Red)
	S3PF05-P13A	S3PF flat type control set (Black)	S3HS05-P13A	S3HS selector type control set (Black)
Applicable products	S3PF05, S3PF06, S3PF08		S3HS05, S3HS06, S3HS08	
Dimensions				