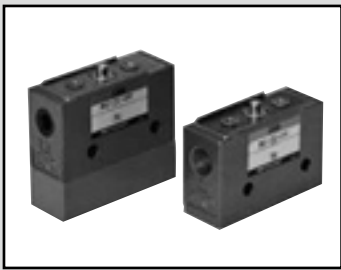


F.R.L.
 F.R.
 F (Filtr)
 R (Reg)
 L (Lub)
 Drain
 Separ
 Mech
 Press SW
 Res press
 exh valve
 SlowStart
 Anti-bac/Bac-
 remove Filtr
 Film
 Resist FR
 Oil-Prohr
 Med
 Press FR
 No Cu/
 PTFE FRL
 Outdrs FRL
 Adapter
 Joiner
 Press
 Gauge
 CompFRL
 LgFRL
 PrecsR
 VacF/R
 Clean FR
 ElecPneR
 AirBoost
 Speed Ctrl
 Silncr
 CheckV/
 other
 Fit/Tube
 Nozzle
 Air Unit
 PrecsCompn
 Electro
 Press SW
 ContactSW
 AirSens
 PresSW
 Cool
 Air Flo
 Sens/Ctrl
 WaterRiSens
 TotAirSys
 (Total Air)
 TotAirSys
 (Gamma)
 Gas
 generator
 RefrDry
 DesicDry
 HiPolymDry
 MainFiltr
 Dischrg
 etc
 Ending



Compact mechanical valve

MS Series

This compact 3-way valve for pneumatic control is equivalent to a micro switch for electric devices and operates with mechanical detection or manual operation.

● Port size: Rc1/8, ø4

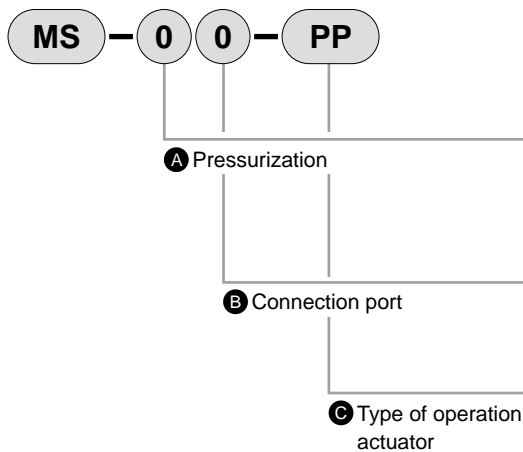


Common specifications

Item	MS-00	MS-01	MS-10	MS-11
	Normally closed	Normally closed	Normally open	Normally open
Working fluid	Compressed air			
Valve structure	Poppet valve			
Min. working pressure MPa	0 (≈0 psi, 0 bar)			
Max. working pressure MPa	0.8 (≈120 psi, 8 bar)			
Proof pressure MPa	1.2 (≈170 psi, 12 bar)			
Port size	Rc1/8	ø4	Rc1/8	ø4
Effective cross-sectional area mm ²	2.5	1.6	2.5	1.6
Ambient temperature °C	5 (41°F) to 60 (140°F)			
Fluid temperature °C	5 (41°F) to 60 (140°F)			

Note: A normally open valve is a made-to-order product.

How to order

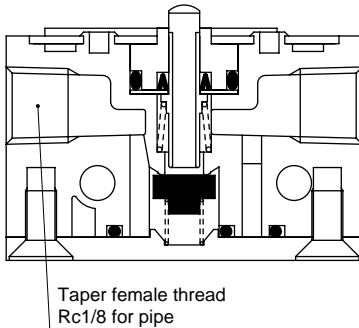


Code	Description
A Pressurization	
0	Normally closed valve
1	Normally open valve (made-to-order product)
4	4-way valve
B Connection port	
0	Rc1/8 thread
1	Push-in fitting ø4
C Type of operation actuator	
PP	Pin plunger
RL	Roller lever
RLOW	One way roller lever
RP	Roller plunger
SP	Straight plunger
TG	Toggle switch
PB1-*1	Pushbutton valve
ESP-*2	Mushroom valve
SE1	Select valve
SE2	Select valve (2-station type)
*1 For push button type color code (PB1)	
Blank	Black, green, and red are contained. Make a selection depending on the color to be used.
Y	Yellow
*2 For mushroom color code (ESP)	
B	Black
G	Green
R	Red
Y	Yellow

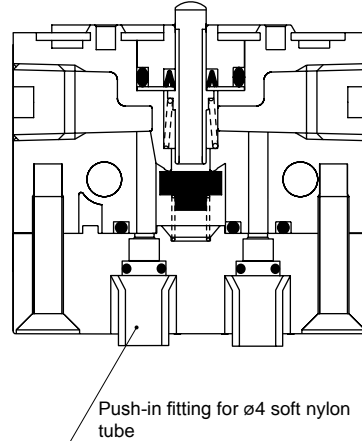
Piping connection method

For piping connection, either taper female thread Rc1/8 connection for a pipe or quick connection for an O.D. $\phi 4$ tube is selected based on the application.

● MS-00-□ taper female thread Rc1/8 for pipe



● MS-01-□ push-in fitting for O.D. $\phi 4$ soft nylon



MS-00 is a taper female pipe thread Rc1/8 connection.

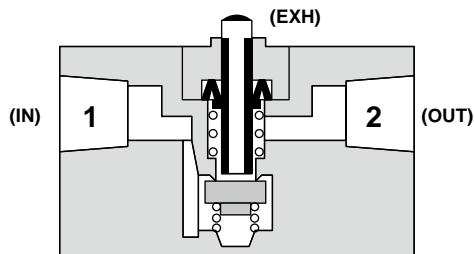
- General purpose connection is possible.
- Larger flow rate than MS-01.

MS-01 is a push-in fitting for O.D. $\phi 4$ soft nylon.

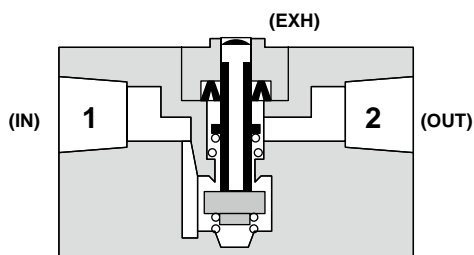
- Connection is made by simply inserting a soft nylon tube, so plumbing time is reduced significantly.
- Connecting bracket is not required. Therefore, there is no need to consider the extra space for a bracket.

Operational explanation drawing

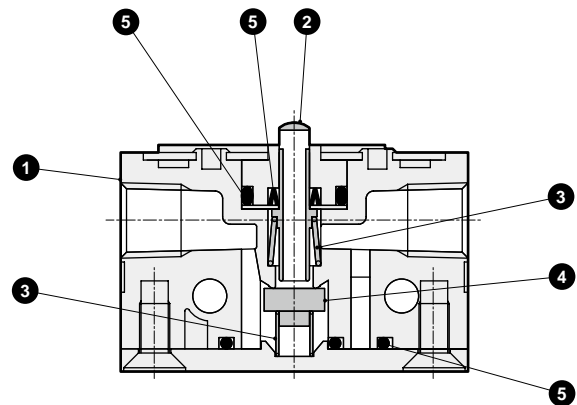
Not operating



Operating



Internal structure and parts list



No.	Part	Material
1	Body	Zinc alloy
2	Spool	Stainless steel
3	Spring	Stainless steel
4	Valve	Nitrile rubber
5	Gasket	Nitrile rubber

Note) Pressurization in the reverse direction (pressurized from Port 2) is not possible.

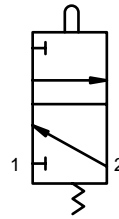
- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/ PTFE FRL
- Outdrs FRL
- Adapter Joiner Press Gauge
- CompFRL
- LgFRL
- PreCsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PreCsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRISens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending



F.R.L. Dimensions: Pin plunger (normally closed valve)

- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRiSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

JIS symbol



Specifications

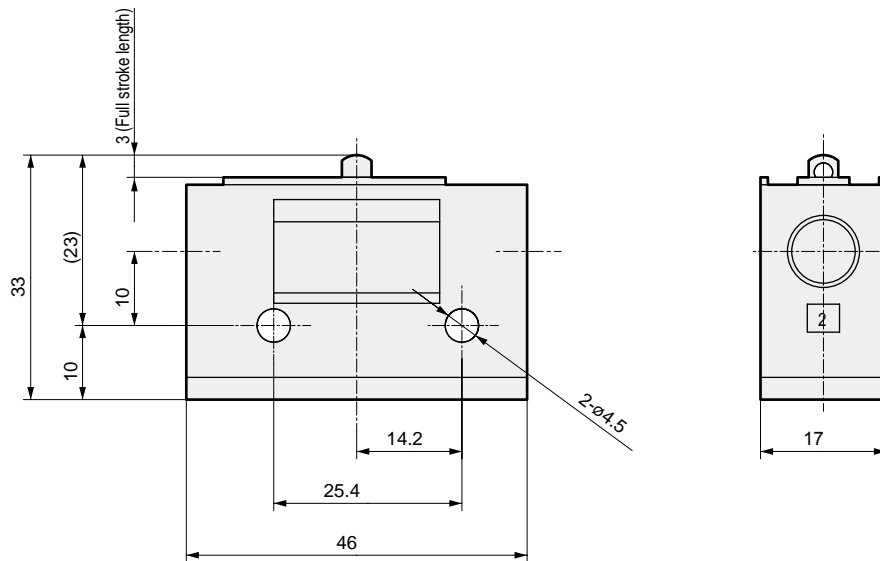
Operation code	MS-00-PP,MS-01-PP
O.F	10.8 N (when pressurized at 0.49 MPa)
P.T	1.2 mm
O.T	1.8 mm
T.T	3 mm

Note: Use within 3 mm operation.

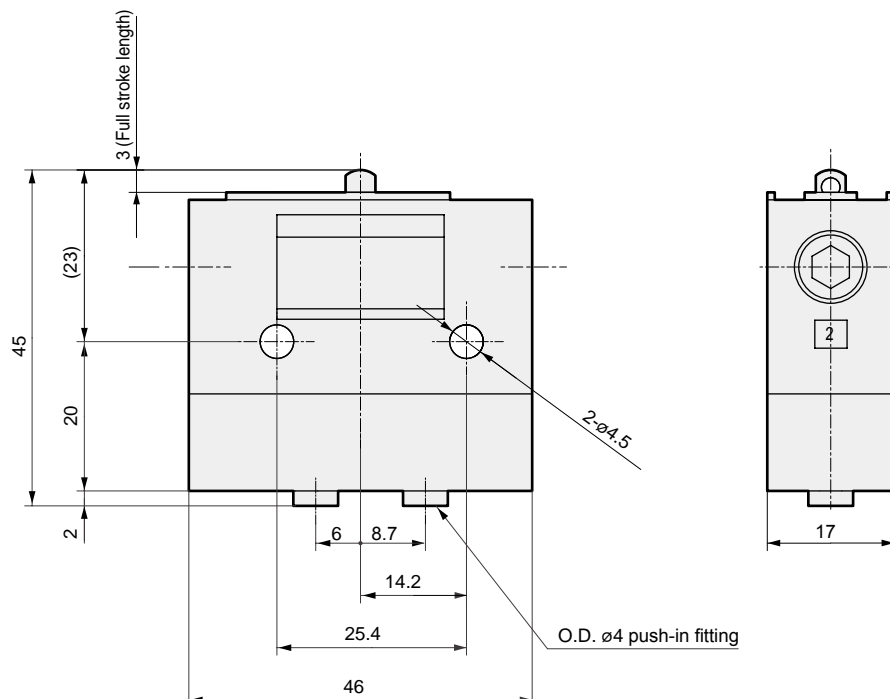
(If operated 3 mm and over repeatedly, the product may be damaged.)

Refer to page 1648 for the actuator operation code.

● MS-00-PP Rc1/8 connection (Weight: 110 g)



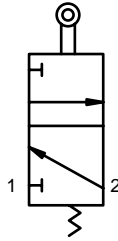
● MS-01-PP Push-in connection (Weight: 160 g)



Dimensions: Roller lever (normally closed valve)



JIS symbol

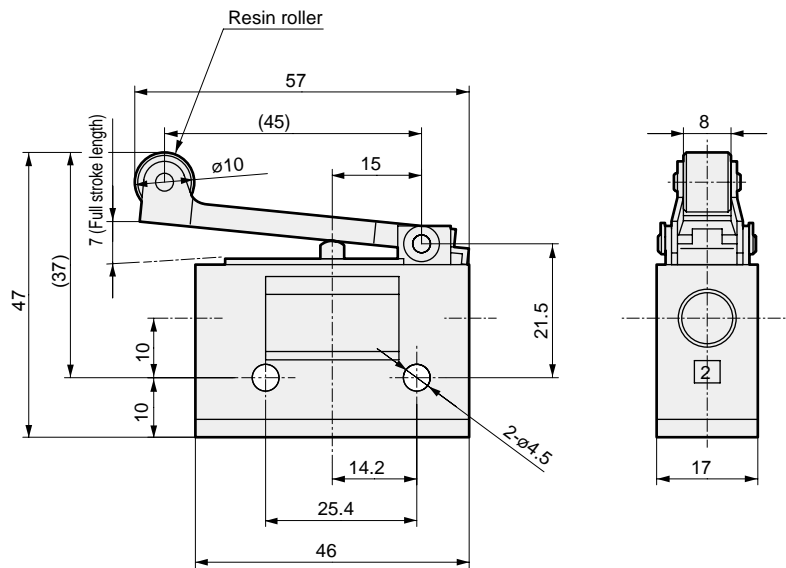


Specifications

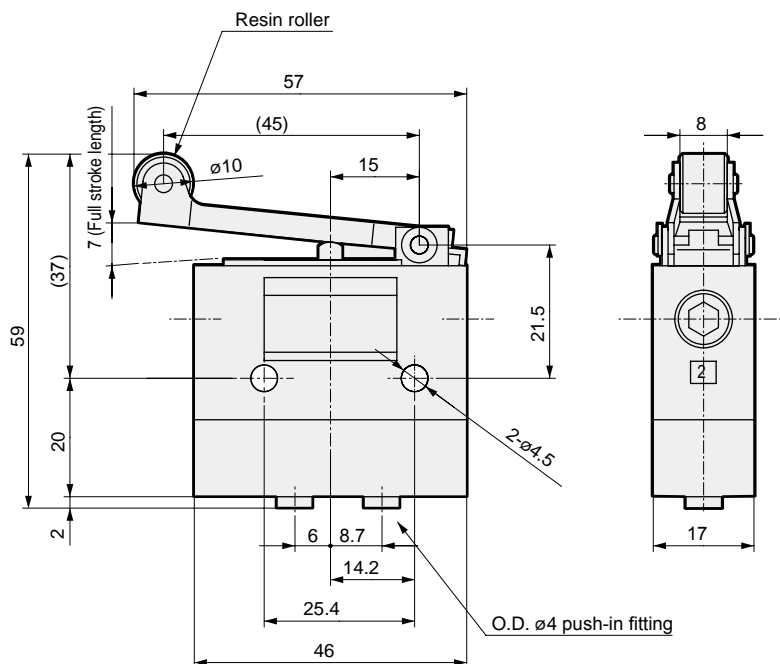
Operation code	MS-00-RL,MS-01-RL
O.F	3.5 N (when pressurized at 0.49 MPa)
P.T	4.1 mm
O.T	2.9 mm
T.T	7 mm

Refer to page 1648 for the actuator operation code.

- MS-00-RL Rc1/8 connection (Weight: 120 g)



- MS-01-RL Push-in connection (Weight: 170 g)



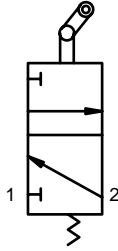
F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner
Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending



F.R.L. Dimensions: One way roller lever (normally closed valve)

- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/ PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRiSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

JIS symbol

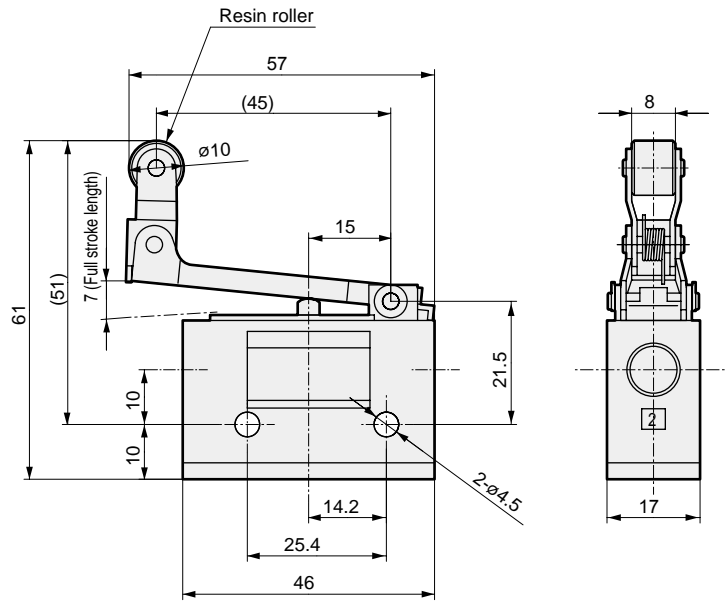


Specifications

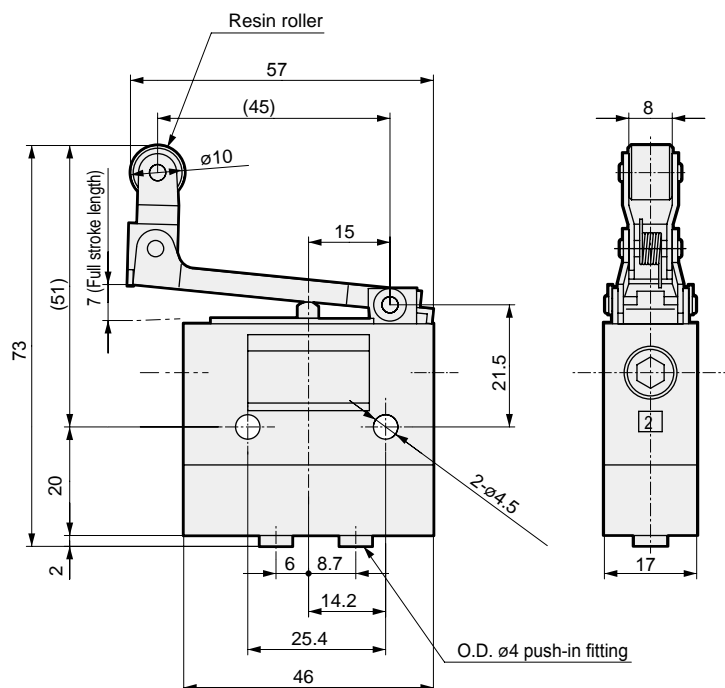
Operation code	MS-00-RLOW,MS-01-RLOW
O.F	3.5 N (when pressurized at 0.49 MPa)
P.T	4.1 mm
O.T	2.9 mm
T.T	7 mm

Refer to page 1648 for the actuator operation code.

● MS-00-RLOW Rc1/8 connection (Weight: 130 g)



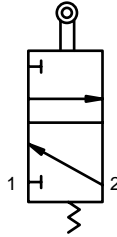
● MS-01-RLOW Push-in connection (Weight: 180 g)



Dimensions: Roller plunger (normally closed valve)



JIS symbol



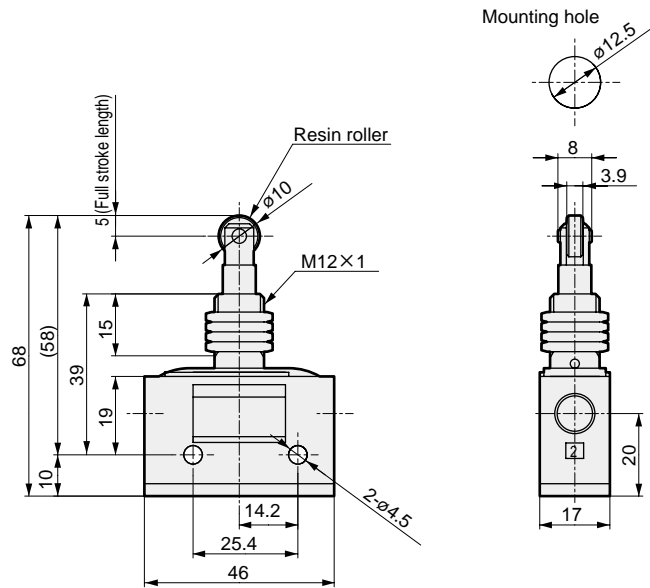
Specifications

Operation code	MS-00-RP,MS-01-RP
O.F	10.8 N (when pressurized at 0.49 MPa)
P.T	1.3 mm
O.T	3.7 mm
T.T	5 mm

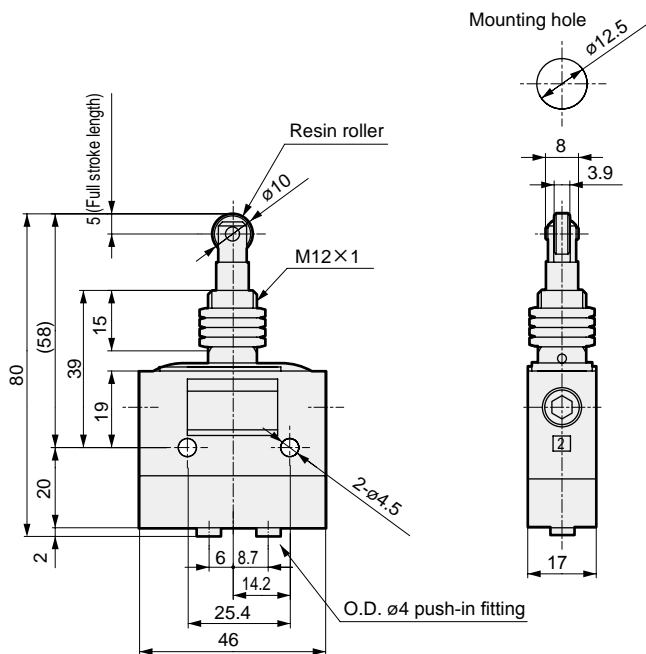
Refer to page 1648 for the actuator operation code.

* If a roller is used while pushed and rotated, the roller section is worn away quickly, and the product may malfunction.

- MS-00-RP Rc1/8 connection (Weight: 140 g)



- MS-01-RP Push-in connection (Weight: 190 g)



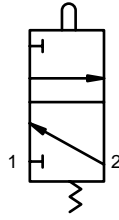
F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner
Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending



F.R.L. Dimensions: Straight plunger (normally closed valve)

- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRiSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

JIS symbol

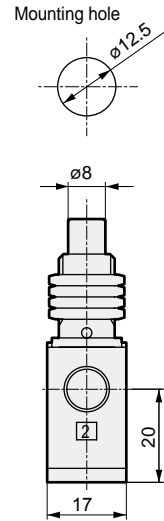
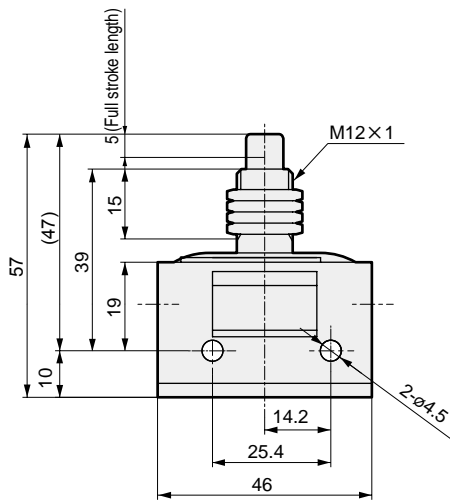


Specifications

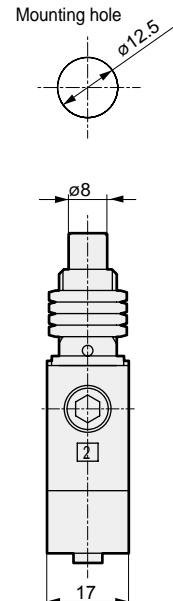
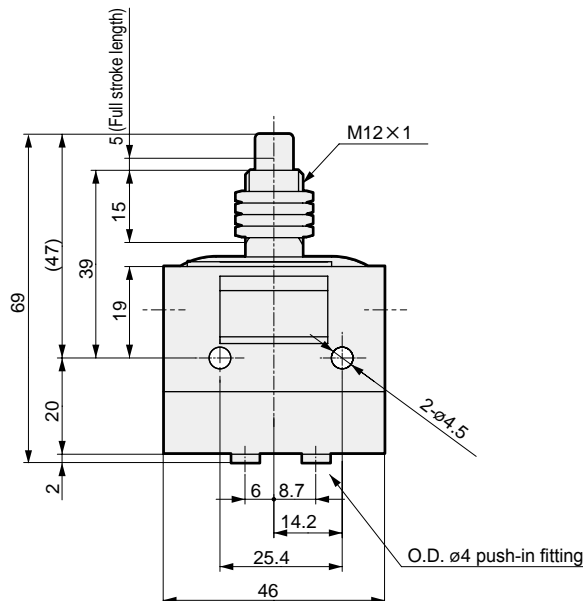
Operation code	MS-00-SP,MS-01-SP
O.F	10.8 N (when pressurized at 0.49 MPa)
P.T	1.3 mm
O.T	3.7 mm
T.T	5 mm

Refer to page 1648 for the actuator operation code.

● MS-00-SP Rc1/8 connection (Weight: 140 g)



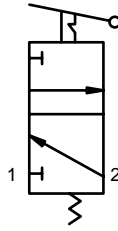
● MS-01-SP Push-in connection (Weight: 190 g)



Dimensions: Toggle switch (normally closed valve)



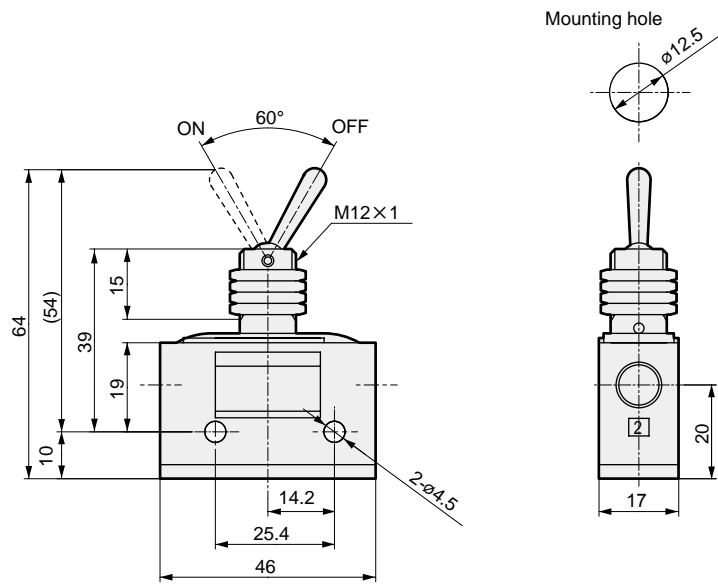
JIS symbol



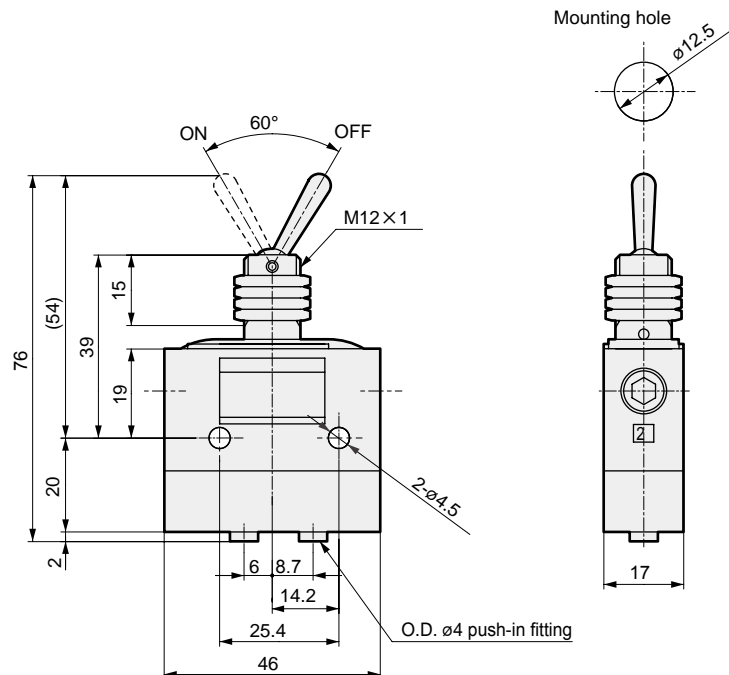
Specifications

Item	MS-00-TG,MS-01-TG
Operating angle	60°

- MS-00-TG Rc1/8 connection (Weight: 140 g)



- MS-01-TG Push-in connection (Weight: 190 g)



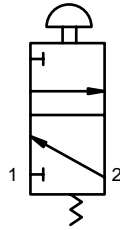
F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

F.R.L. Dimensions: Pushbutton valve (normally closed valve)



- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-Prohr
- Med Press FR
- No Cu/PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

JIS symbol



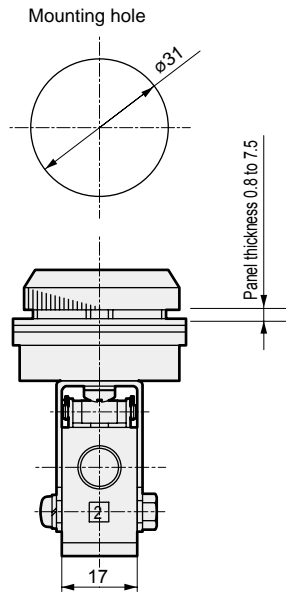
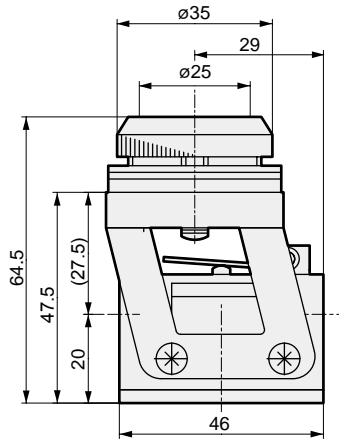
Pushbutton color

Code	Color
Blank	Red
	Green
	Black
Y	Yellow

(Note) 3 types of color chips (R: red, G: green, B: black) are contained. Make a selection depending on the color to be used.

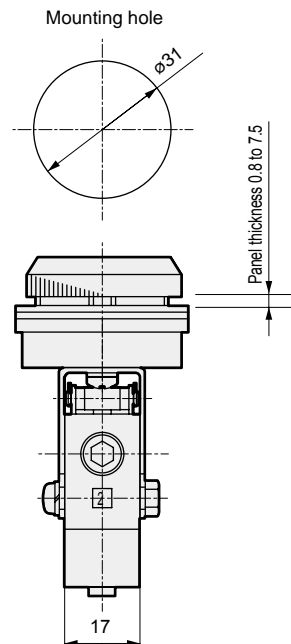
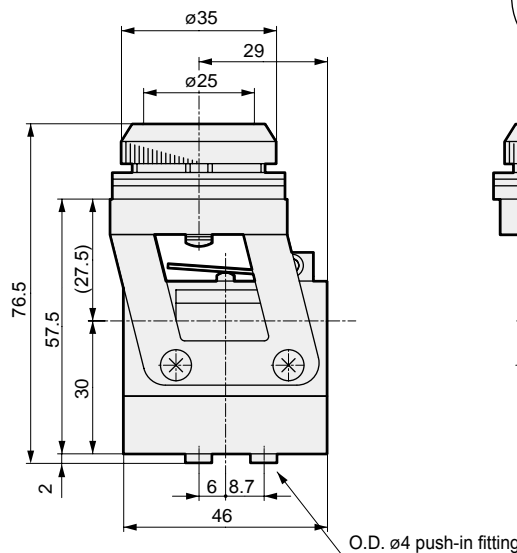
● MS-00-PB1-* Rc1/8 connection (Weight: 180 g)

(* mark indicates pushbutton color.)



● MS-01-PB1-* Push-in connection (Weight: 230 g)

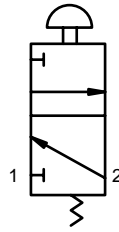
(* mark indicates pushbutton color.)



Dimensions: Mushroom valve (normally closed valve)



JIS symbol

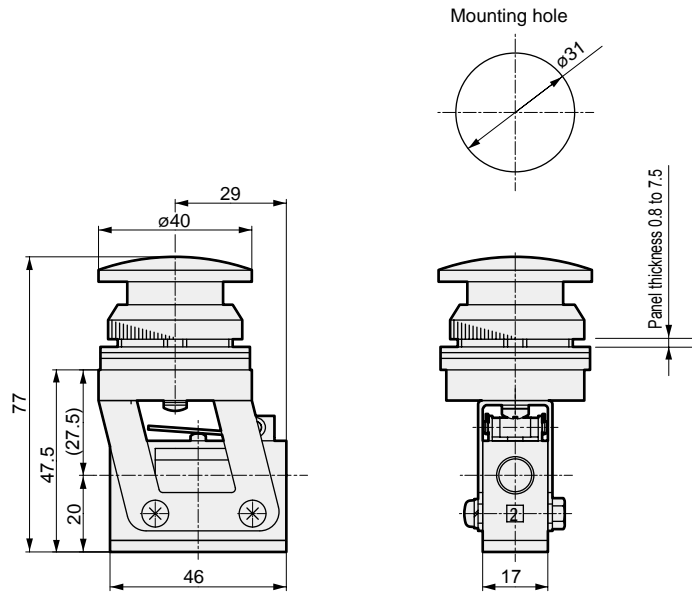


Pushbutton color

Code	Color
R	Red
G	Green
B	Black
Y	Yellow

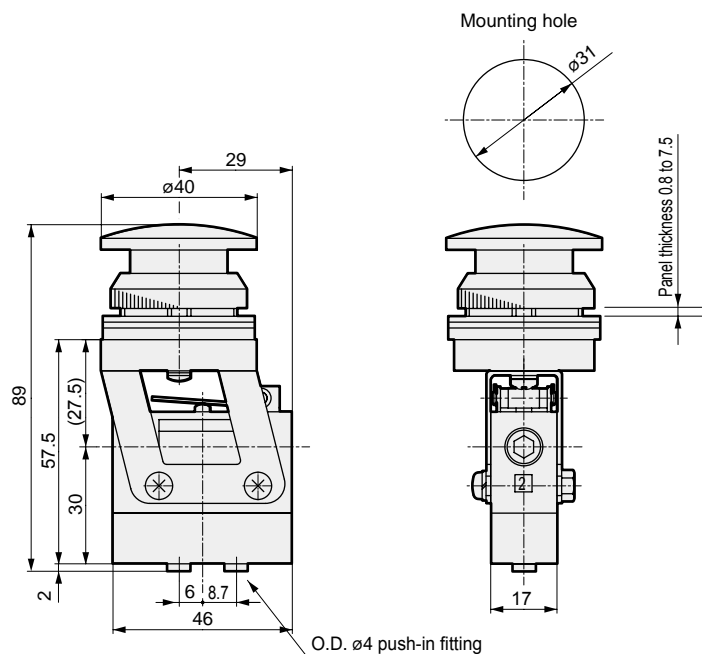
- MS-00-ESP-* Rc1/8 connection (Weight: 180 g)

(* mark indicates pushbutton color.)



- MS-01-ESP-* Push-in connection (Weight: 230 g)

(* mark indicates pushbutton color.)

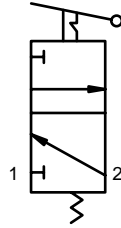


- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/ PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PresCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRISens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

F.R.L. Dimensions: Select valve (normally closed valve)



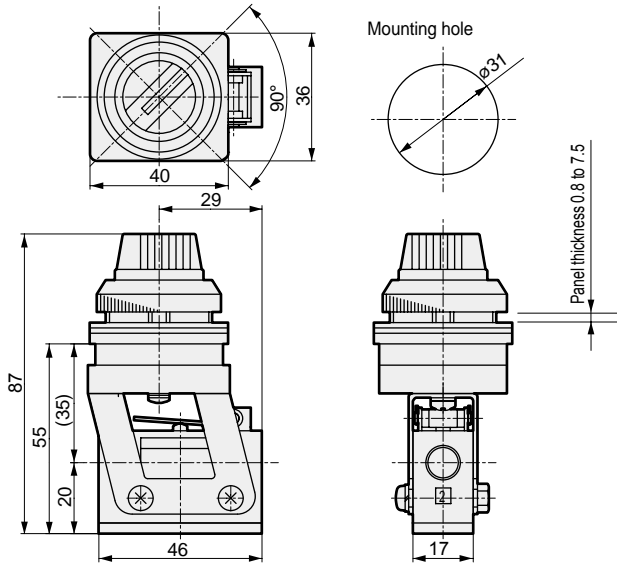
JIS symbol



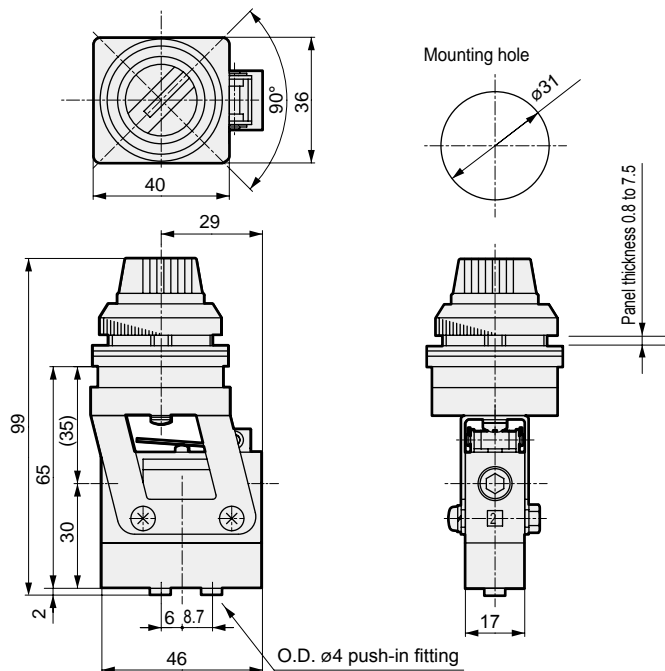
Specifications

Item	MS-00-SE1, MS-01-SE1
Operating angle	90°
Knob color	Black

● MS-00-SE1 Rc1/8 connection (Weight: 190 g)



● MS-01-SE1 Push-in connection (Weight: 240 g)

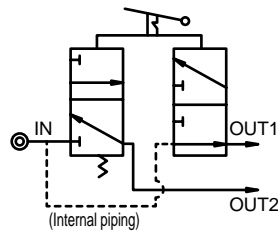


- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/PTFE FRL
- Outdrs FRL
- Adapter Joiner Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

Dimensions: Select valve (2 stations) 4-way valve



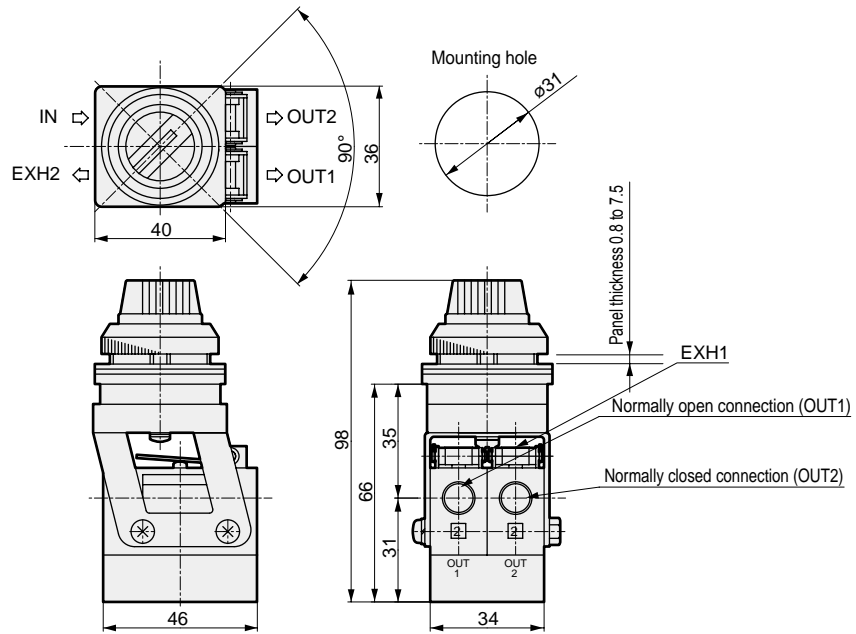
JIS symbol



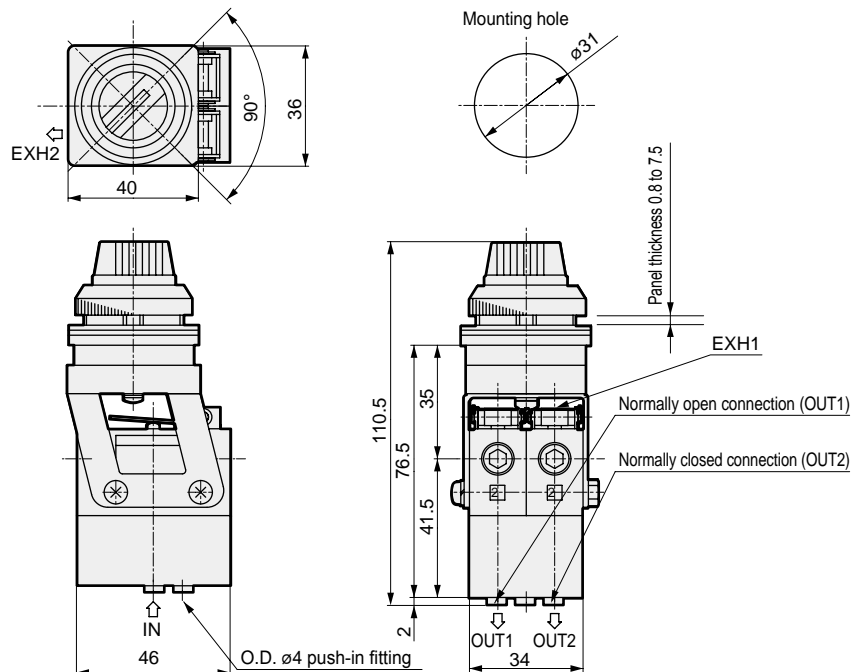
Specifications

Item	MS-40-SE2, MS-41-SE2
Operating angle	90°
Knob color	Black

- MS-40-SE2 Rc1/8 connection (Weight: 350 g)



- MS-41-SE2 Push-in connection (Weight: 430 g)



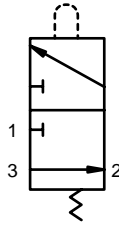
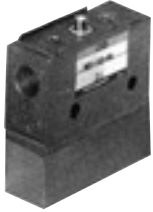
- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/ PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRISens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

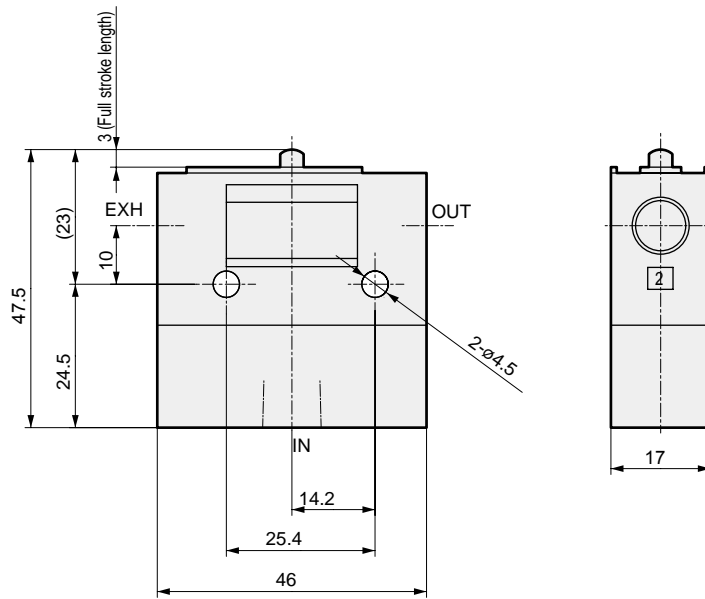
Dimensions: Normally open valve



JIS symbol



● MS-10- □ Rc1/8 connection
This drawing shows the MS-10-PP.



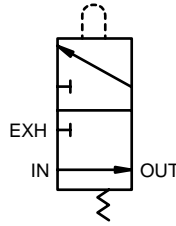
Weight

Model No.	Weight g
MS-10-PP	140
MS-10-RL	150
MS-10-RLOW	160
MS-10-RP	170
MS-10-SP	170
MS-10-TG	170
MS-10-PB1	210
MS-10-ESP	210
MS-10-SE1	220

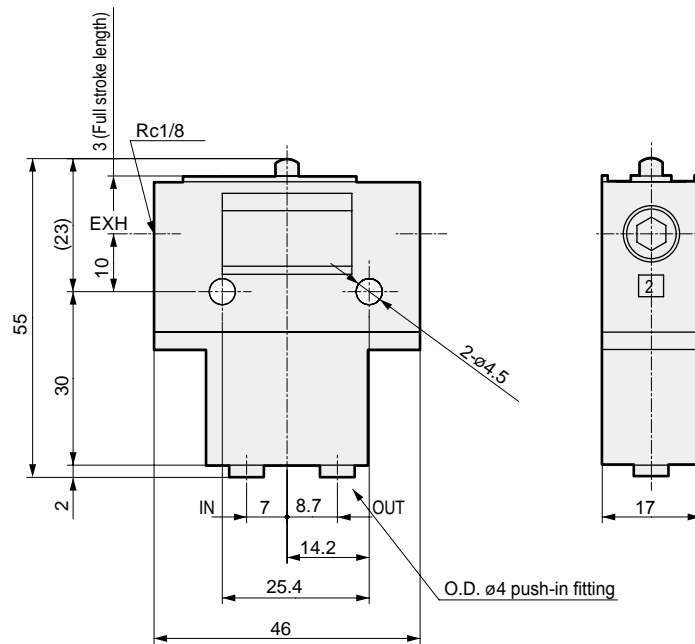
Dimensions: Normally open valve



JIS symbol



- MS-11- □ Quick connection
This drawing shows the MS-11-PP.

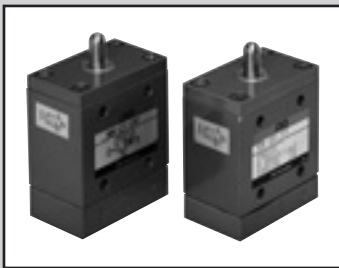


Weight

Model No.	Weight g
MS-11-PP	140
MS-11-RL	150
MS-11-RLOW	160
MS-11-RP	170
MS-11-SP	170
MS-11-TG	170
MS-11-PB1	210
MS-11-ESP	210
MS-11-SE1	220

F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

F.R.L.
 F.R.
 F (Filtr)
 R (Reg)
 L (Lub)
 Drain
 Separ
 Mech
 Press SW
 Res press
 exh valve
 SlowStart
 Anti-bac/Bac-
 remove Filtr
 Film
 Resist FR
 Oil-Prohr
 Med
 Press FR
 No Cu/
 PTFE FRL
 Outdrs FRL
 Adapter
 Joiner
 Press
 Gauge
 CompFRL
 LgFRL
 PrecsR
 VacF/R
 Clean FR
 ElecPneR
 AirBoost
 Speed Ctrl
 Silncr
 CheckV/
 other
 Fit/Tube
 Nozzle
 Air Unit
 PrecsCompn
 Electro
 Press SW
 ContactSW
 AirSens
 PresSW
 Cool
 Air Flo
 Sens/Ctrl
 WaterRtSens
 TotAirSys
 (Total Air)
 TotAirSys
 (Gamma)
 Gas
 generator
 RefrDry
 DesicDry
 HiPolymDry
 MainFiltr
 Dischrg
 etc
 Ending



Medium mechanical valve

MM Series

This medium size 3-way valve for pneumatic control is equivalent to a compact limit switch for electric devices and operates with mechanical detection.

● Port size: Rc1/8, ø4

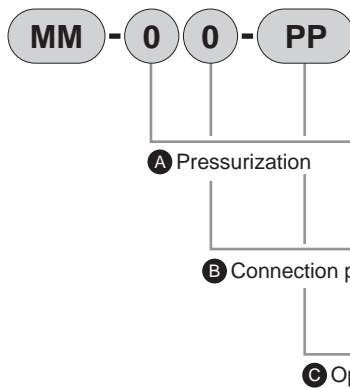


Specifications

Item	MM-00	MM-01	MM-10	MM-11
	Normally closed	Normally closed	Normally open	Normally open
Working fluid	Compressed air			
Valve structure	Poppet valve			
Min. working pressure MPa	0 (≈0 psi, 0 bar)			
Max. working pressure MPa	0.8 (≈120 psi, 8 bar)			
Proof pressure MPa	1.2 (≈170 psi, 12 bar)			
Port size	Rc1/8	ø4	Rc1/8	ø4
Effective cross-sectional area mm ²	2.5	1.6	2.5	1.6
Ambient temperature °C	5 (41°F) to 60 (140°F)			
Fluid temperature °C	5 (41°F) to 60 (140°F)			

Note: A normally open valve is a made-to-order product.

How to order



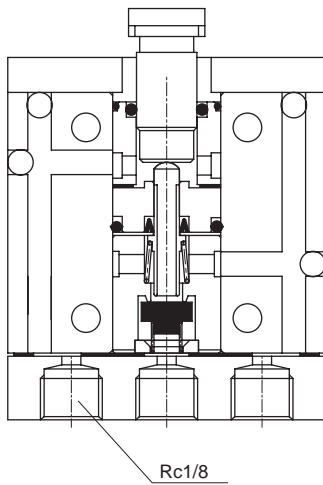
Code	Description
A Pressurization	
0	Normally closed valve
1	Normally open valve (made-to-order product)
B Connection port	
0	Rc1/8 thread
1	Push-in fitting ø4
C Operation actuator	
PP	Pin plunger
RA	Roller arm
RAA	Adjusting roller lever
RAB	Roller lever
RAC	Roller lever
RAD	Rod lever
RAE	Wire lever
RAF	Spring rod

Piping connection method

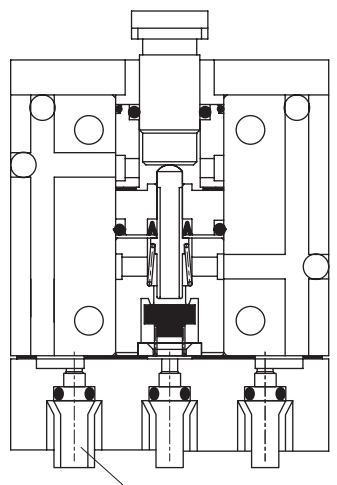
For piping connection, either taper female thread Rc1/8 for a pipe or quick connection for an O.D. $\phi 4$ tube is selected based on the application.

● MM-00

● MM-01



Rc1/8



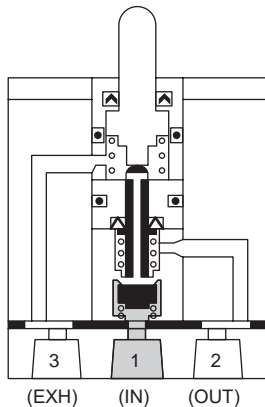
Push-in fitting
for $\phi 4$ soft nylon tube

MM-00 is a taper female pipe thread Rc1/8 connection.
· General purpose connection is possible. · Larger flow rate than MM-01.

MM-01 is a push-in fitting for O.D. $\phi 4$ soft nylon.
· Connection is made by simply inserting a soft nylon tube, so plumbing time is reduced significantly.
· Connecting bracket is not required. Therefore, there is no need to consider the extra space for a bracket.

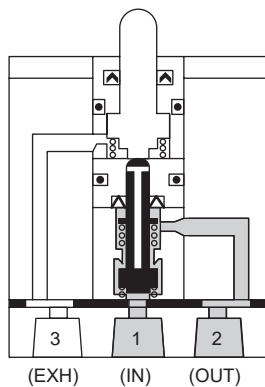
Operational explanation drawing

Not operating



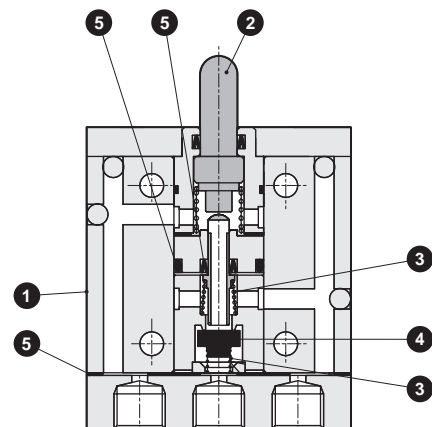
(EXH) (IN) (OUT)

Operating



(EXH) (IN) (OUT)

Internal structure and parts list



No.	Part	Material
1	Body	Aluminum alloy
2	Spool	Stainless steel
3	Spring	Stainless steel
4	Valve	Nitrile rubber
5	Gasket	Nitrile rubber

Note) Pressurization from ports other than the IN (1) port is not possible.

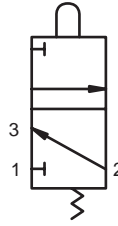
F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner Press Gauge
CompFRL
LgFRL
PreCsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRiSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

Dimensions: Pin plunger (normally closed valve)



JIS symbol

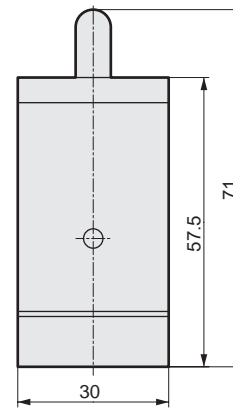
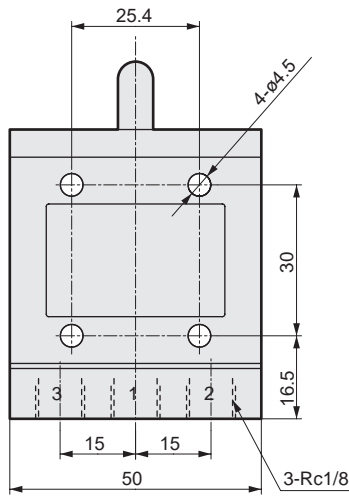


Specifications

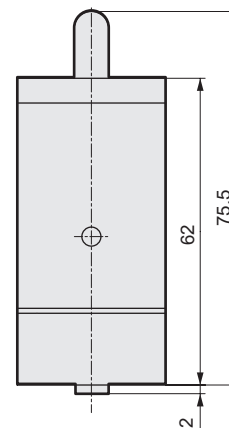
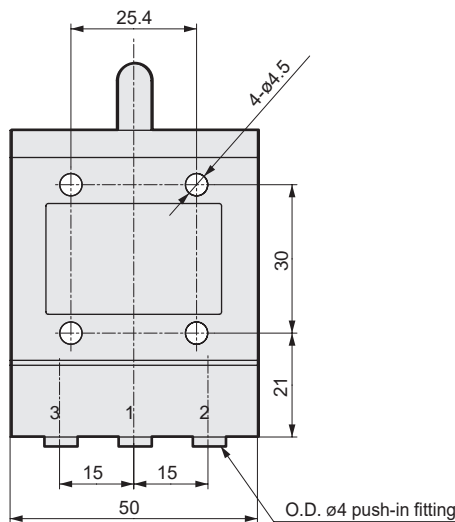
Operation code	MM-00-PP,MM-01-PP
O.F	25.5 N (when pressurized at 0.49 MPa)
P.T	1.2 mm
O.T	1.8 mm
T.T	3 mm

Refer to page 1648 for the actuator operation code.

● MM-00-PP Rc1/8 connection (Weight: 230 g)



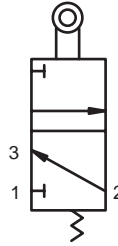
● MM-01-PP Push-in connection (Weight: 260 g)



Dimensions: Roller arm (normally closed valve)



JIS symbol

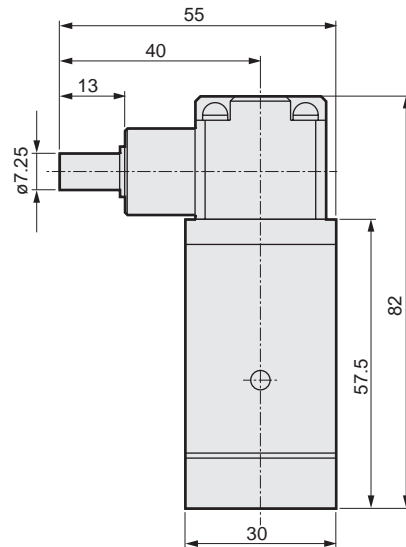
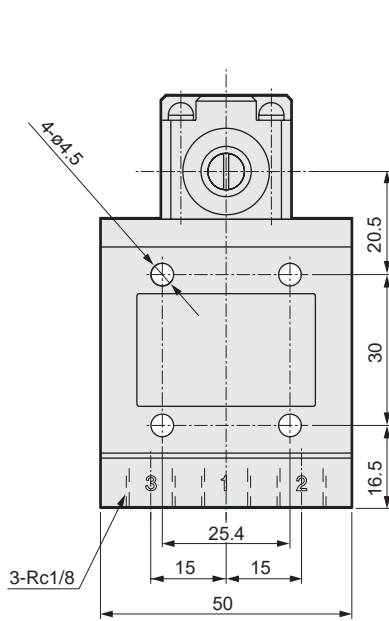


Specifications

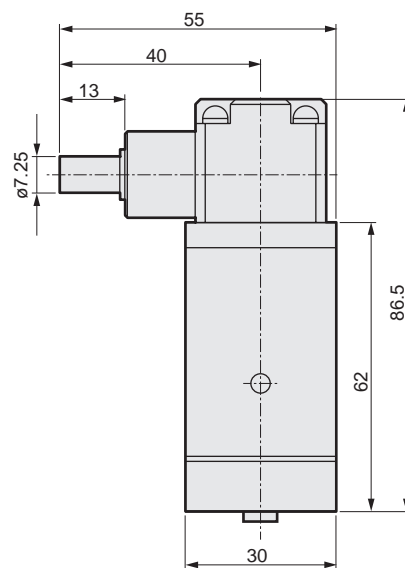
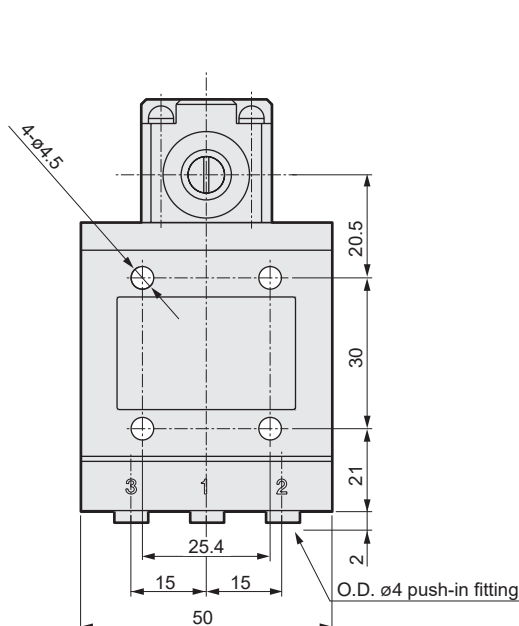
Operation code	MM-00-RA,MM-01-RA
O.F	39.2 N·cm (when pressurized at 0.49 MPa)
P.T	20°
O.T	30°
T.T	50°

Refer to page 1648 for the actuator operation code.

- MM-00-RA Rc1/8 connection (Weight: 290 g)



- MM-01-RA Push-in connection (Weight: 330 g)



F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner
Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr Dischrg etc
Ending

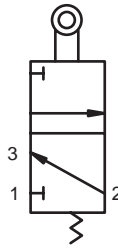


F.R.L. Dimensions: Adjusting roller lever (normally closed valve)

- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/ PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending



JIS symbol

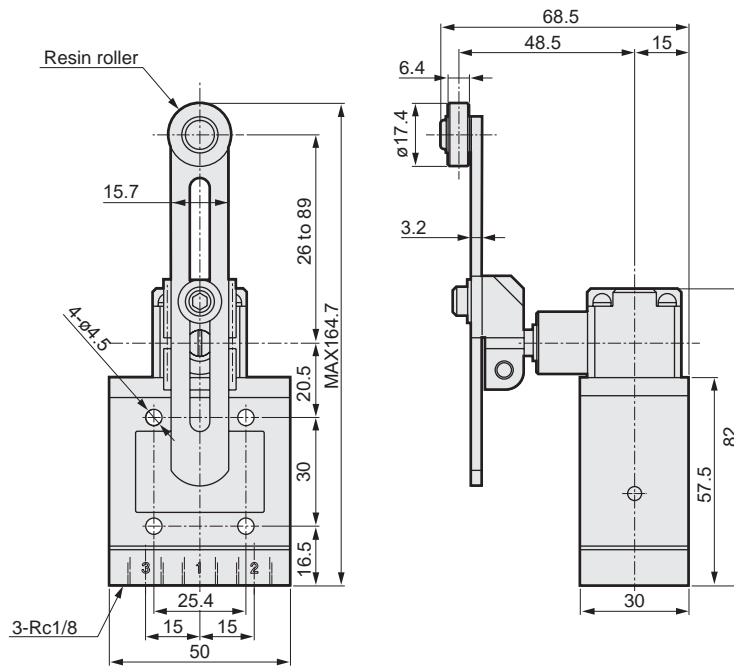


Specifications

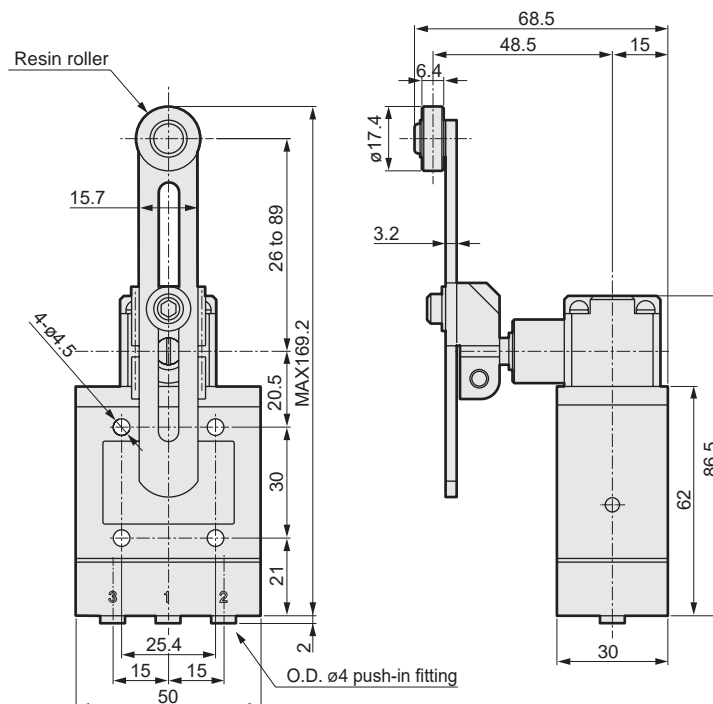
Operation code	MM-00-RAA,MM-01-RAA
O.F	4.5 N (when pressurized at 0.49 MPa)
P.T	20°
O.T	30°
T.T	50°

Refer to page 1648 for the actuator operation code.

● MM-00-RAA Rc1/8 connection (Weight: 350 g)



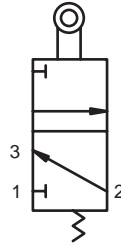
● MM-01-RAA Push-in connection (Weight: 380 g)



Dimensions: Roller lever (normally closed valve)



JIS symbol



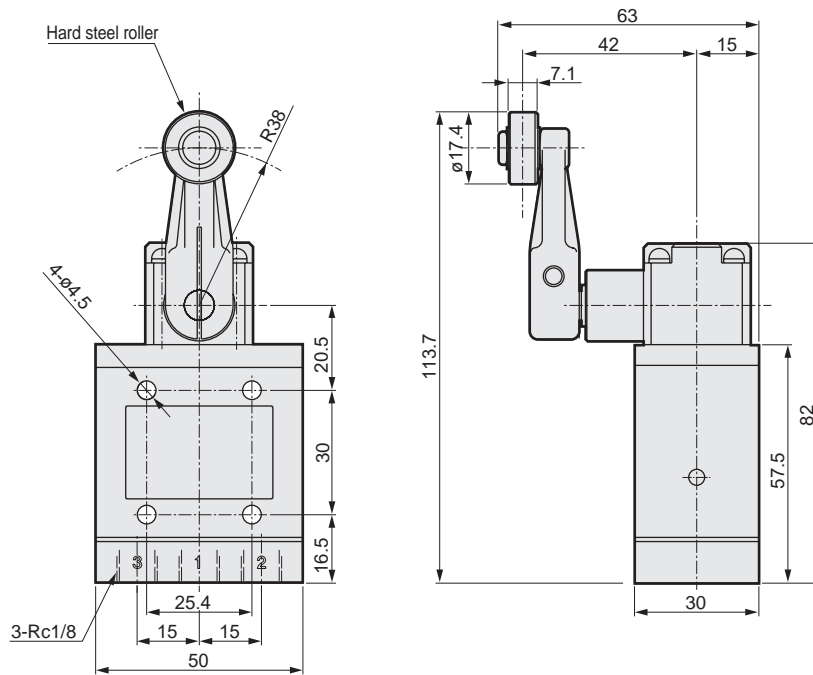
Specifications

Operation code	MM-00-RAB,MM-01-RAB
O.F	9.8 N (when pressurized at 0.49 MPa)
P.T	20°
O.T	30°
T.T	50°

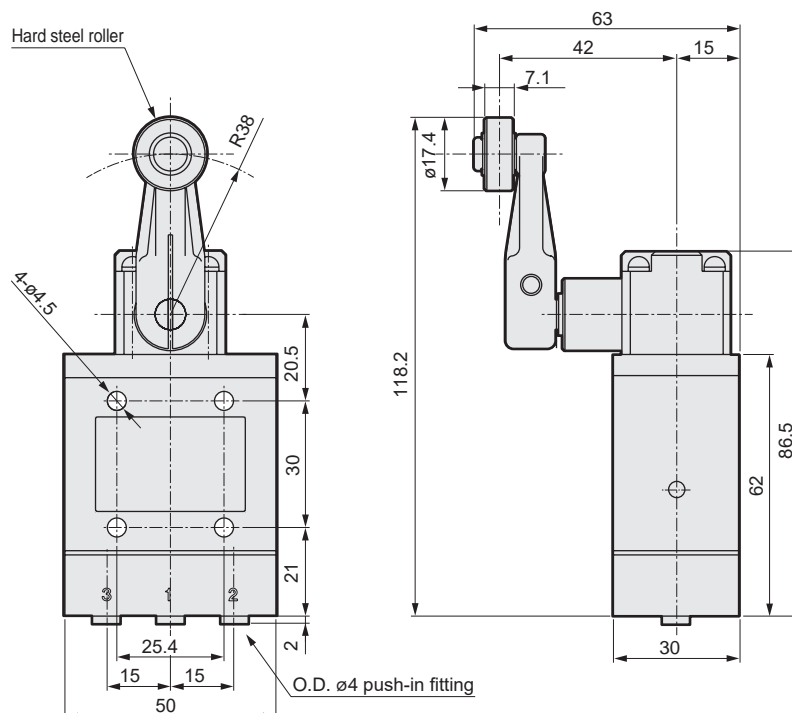
Refer to page 1648 for the actuator operation code.

* The arm fixing method differs from the RAC.

- MM-00-RAB Rc1/8 connection (Weight: 320 g)



- MM-01-RAB Push-in connection (Weight: 350 g)



F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner
Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

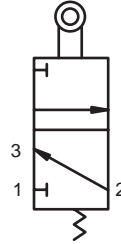


F.R.L. Dimensions: Roller lever (normally closed valve)

- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/ PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending



JIS symbol



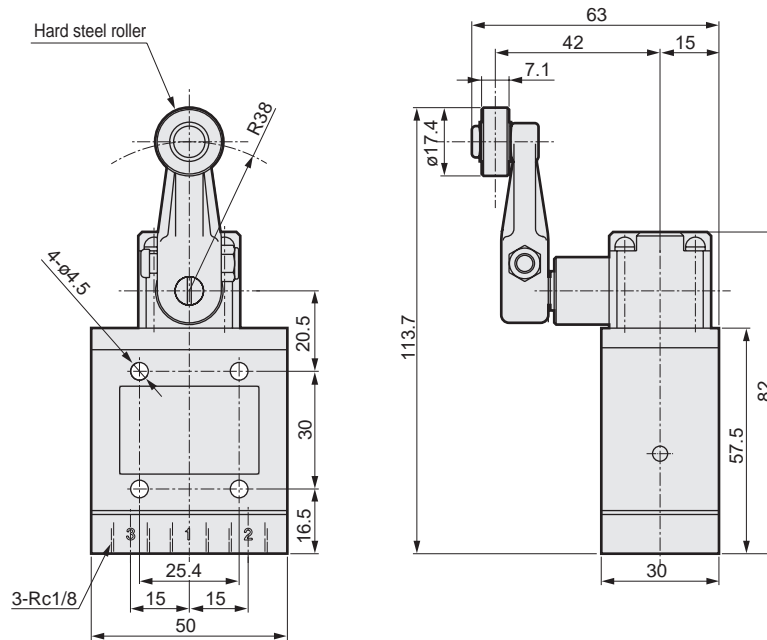
Specifications

Operation code	MM-00-RAC, MM-01-RAC
O.F	9.8 N (when pressurized at 0.49 MPa)
P.T	20°
O.T	30°
T.T	50°

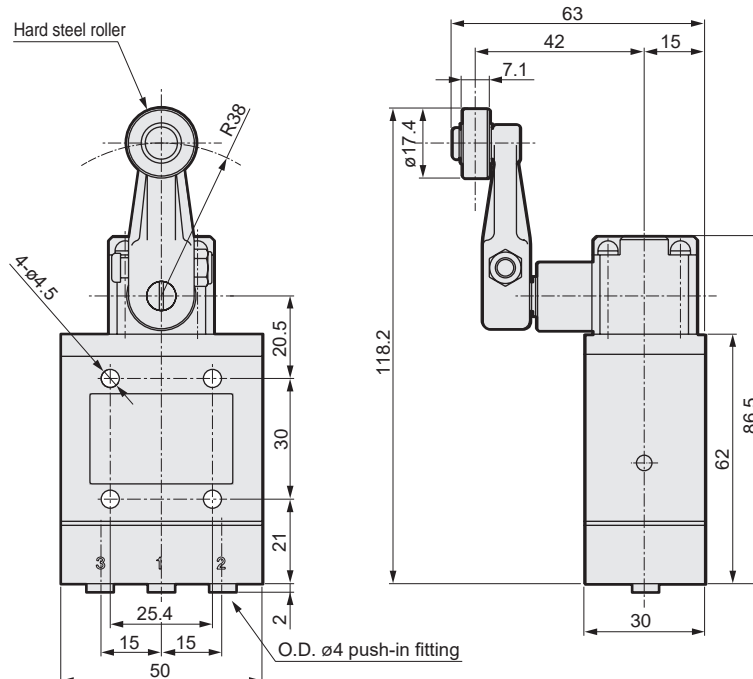
Refer to page 1648 for the actuator operation code.

* The arm fixing method differs from the RAB.

● MM-00-RAC Rc1/8 connection (Weight: 320 g)



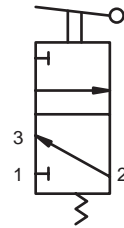
● MM-01-RAC Push-in connection (Weight: 350 g)



Dimensions: Rod lever (normally closed valve)



JIS symbol

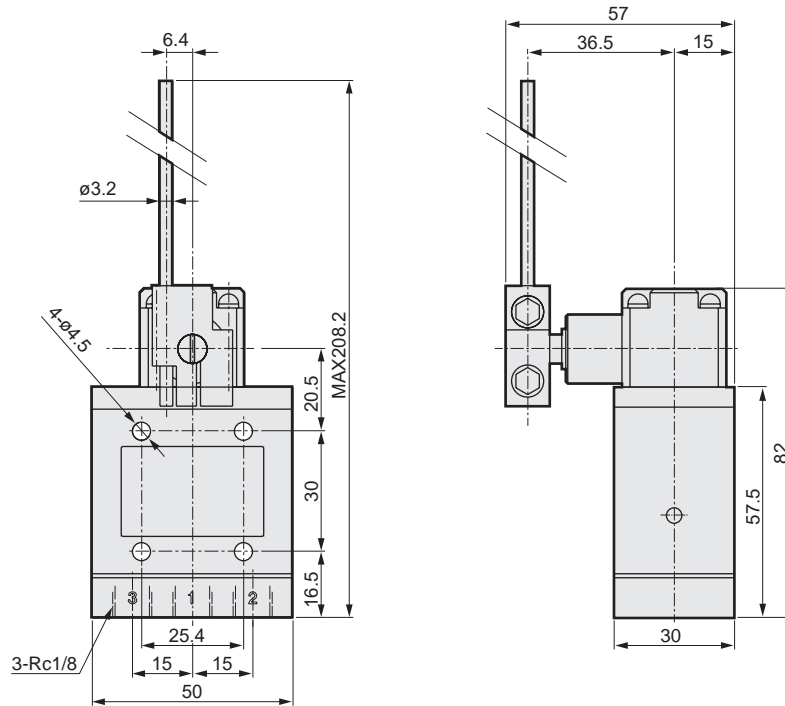


Specifications

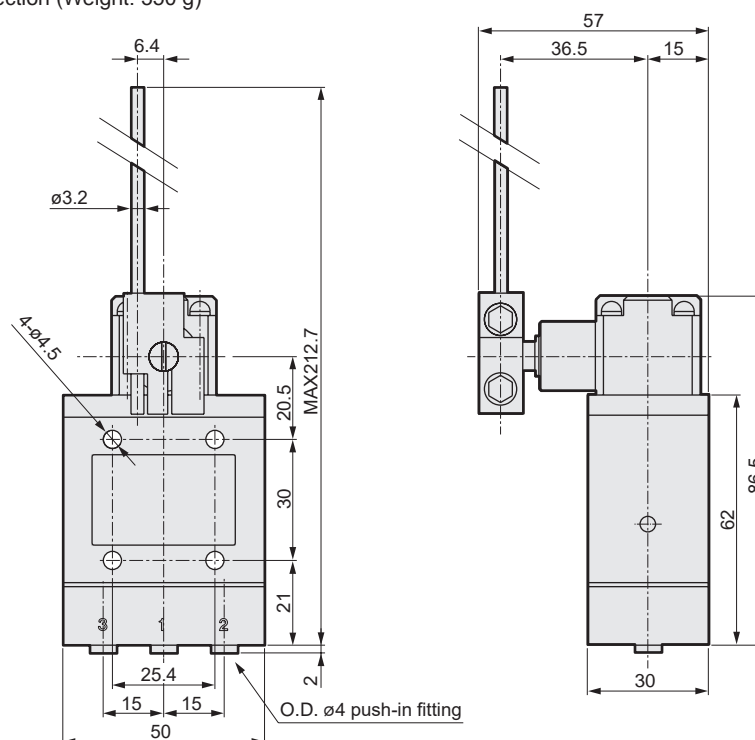
Operation code	MM-00-RAD,MM-01-RAD
O.F	2.8 N (when pressurized at 0.49 MPa)
P.T	20°
O.T	30°
T.T	50°

Refer to page 1648 for the actuator operation code.

- MM-00-RAD Rc1/8 connection (Weight: 320 g)



- MM-01-RAD Push-in connection (Weight: 350 g)

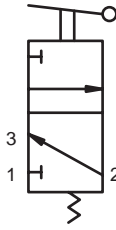


F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner
Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

F.R.L. Dimensions: Wire lever (normally closed valve)



JIS symbol

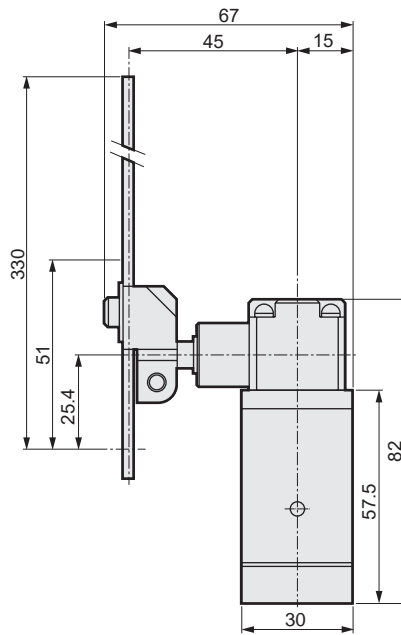
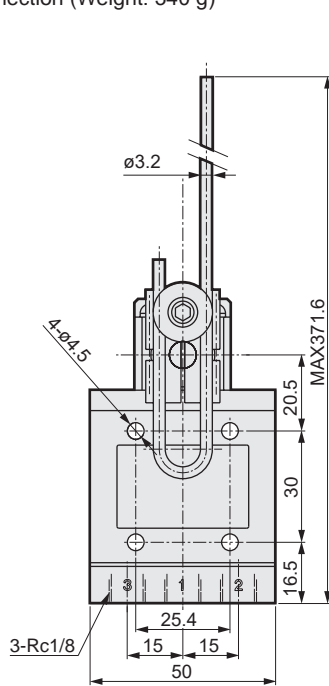


Specifications

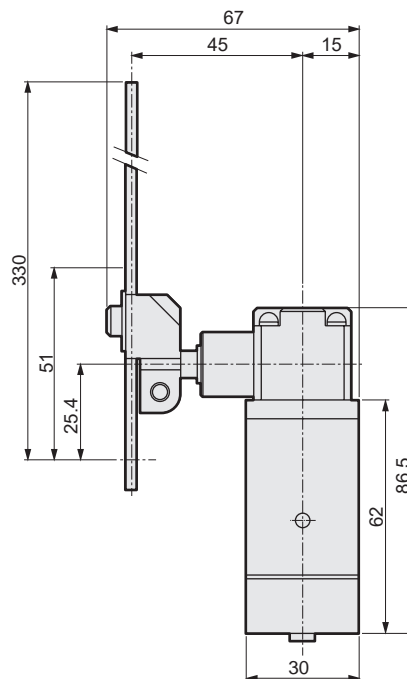
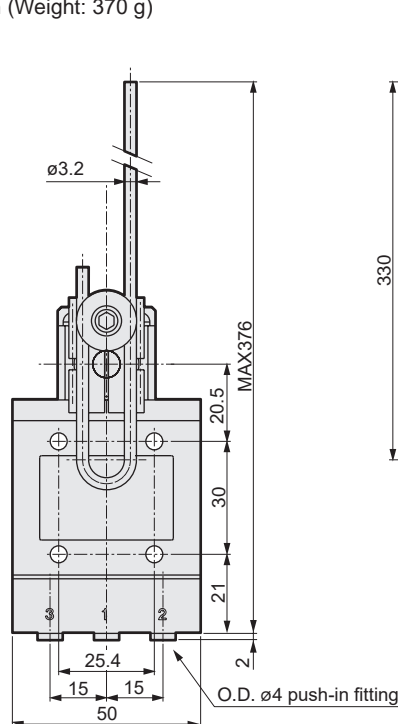
Operation code	MM-00-RAE,MM-01-RAE
O.F	1.3 N (when pressurized at 0.49 MPa)
P.T	20°
O.T	30°
T.T	50°

Refer to page 1648 for the actuator operation code.

● MM-00-RAE Rc1/8 connection (Weight: 340 g)



● MM-01-RAE Push-in connection (Weight: 370 g)

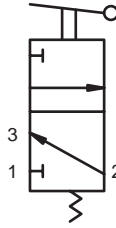


- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRiSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

Dimensions: Spring rod (normally closed valve)



JIS symbol

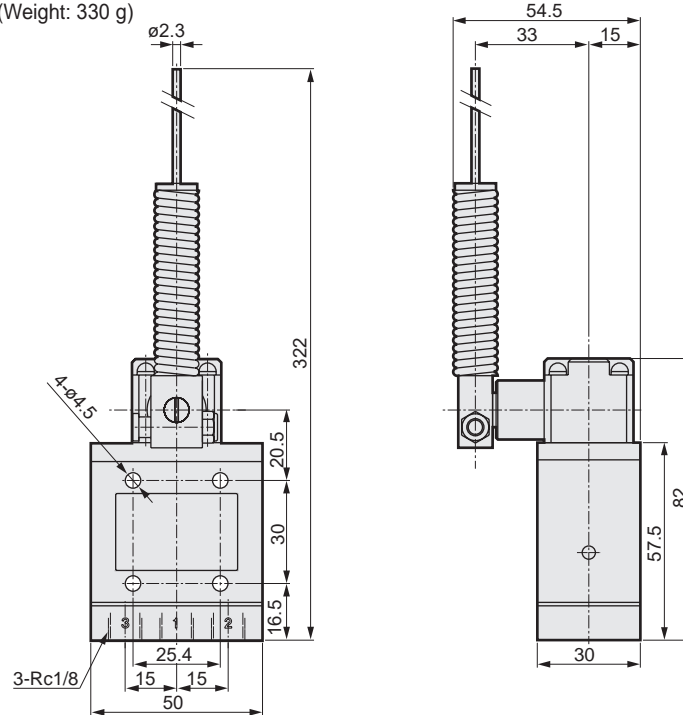


Specifications

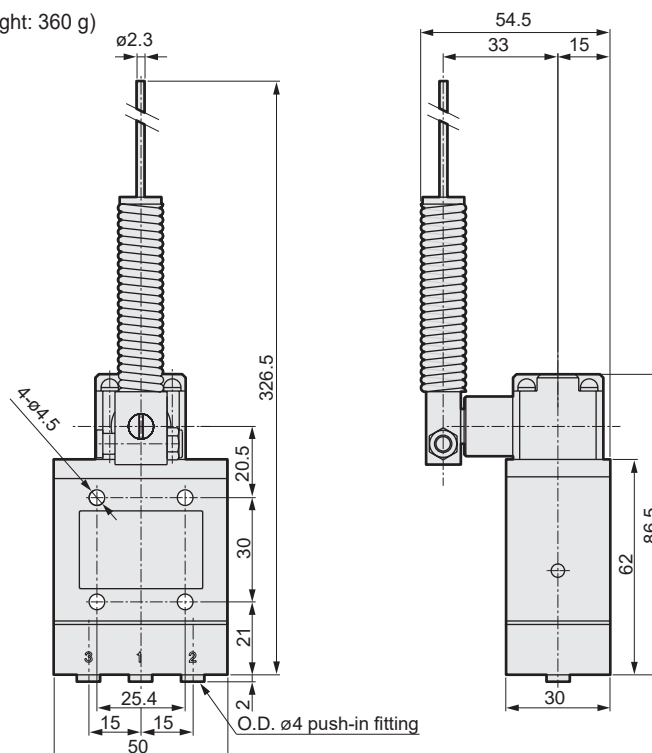
Operation code	MM-00-RAF,MM-01-RAF
O.F	1.5 N (when pressurized at 0.49 MPa)
P.T	30°
O.T	20°
T.T	50°

Refer to page 1648 for the actuator operation code.

- MM-00-RAF Rc1/8 connection (Weight: 330 g)



- MM-01-RAF Push-in connection (Weight: 360 g)



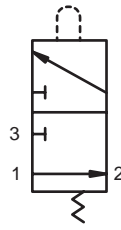
F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr Dischrq etc
Ending

- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRiSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

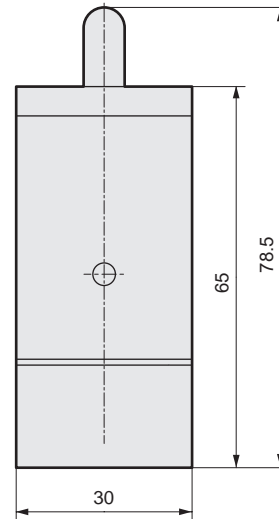
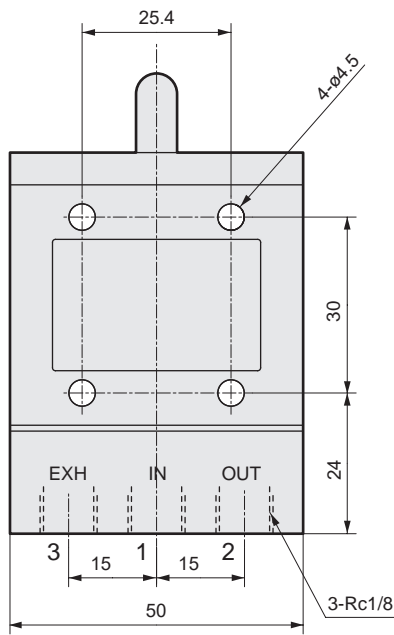
Dimensions: Normally open valve



JIS symbol



● MM-10-□ Rc1/8 connection
This drawing shows the MM-10-PP



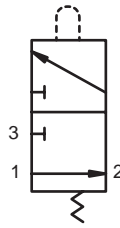
Weight

Model No.	Weight g
MM-10-PP	270
MM-10-RA	330
MM-10-RAA	390
MM-10-RAB	360
MM-10-RAC	360
MM-10-RAD	360
MM-10-RAE	380
MM-10-RAF	370

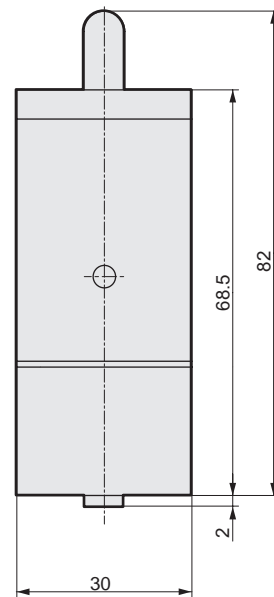
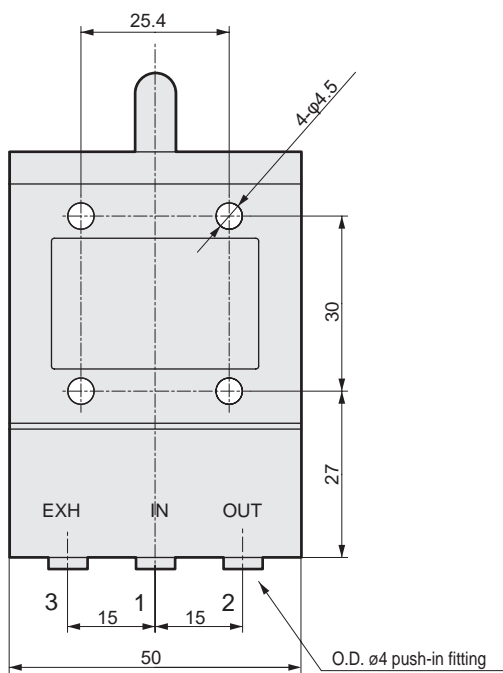
Dimensions: Normally open valve



JIS symbol



- MM-11-□ Push-in connection
This figure shows the MM-11-PP.



Weight

Model No.	Weight g
MM-11-PP	300
MM-11-RA	360
MM-11-RAA	420
MM-11-RAB	390
MM-11-RAC	390
MM-11-RAD	390
MM-11-RAE	410
MM-11-RAF	400

F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner
Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending



Large mechanical valve

MAVL Series

This medium size 3-way valve for pneumatic control is equivalent to a vertical limit switch for electric devices and operates with mechanical detection.

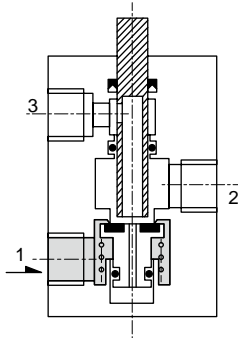
● Port size: Rc1/4

Specifications

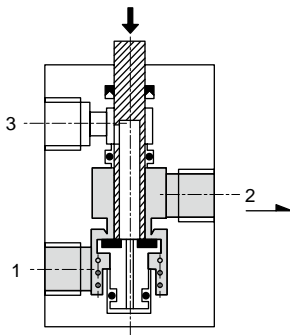
Item	MAVL Universal
Working fluid	Compressed air
Valve structure	Poppet valve
Min. working pressure MPa	0 (≈0 psi, 0 bar)
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)
Proof pressure MPa	1.5 (≈220 psi, 15 bar)
Port size	Rc1/4
Effective cross-sectional area mm ²	31
Ambient temperature °C	5 (41°F) to 60 (140°F)
Fluid temperature °C	5 (41°F) to 60 (140°F)

Operational explanation drawing

Not operating



Operating

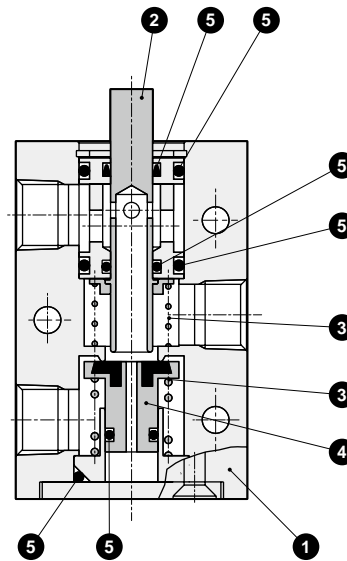


(Content of 3 directions pressurization)

(Applications)

- Normally closed valve
Port 1 IN Port 2 OUT Port 3 EXH
- Normally open valve
Port 1 EXH Port 2 OUT Port 3 IN
- Distribution valve
Port 1 OUT Port 2 IN Port 3 OUT

Internal structure and parts list



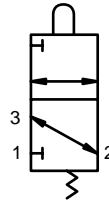
No.	Part	Material
1	Body	Aluminum alloy
2	Spool	Stainless steel
3	Spring	Stainless steel
4	Valve	Nitrile rubber + copper alloy
5	Gasket	Nitrile rubber

- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-Prohr
- Med Press FR
- No Cu/ PTFE FRL
- Outdrs FRL
- Adapter Joiner Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

Dimensions: Pin plunger (normally closed/normally open)



JIS symbol

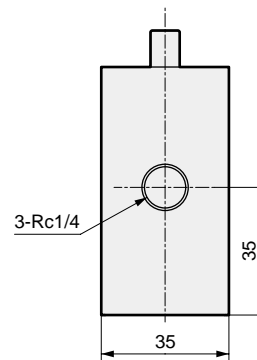
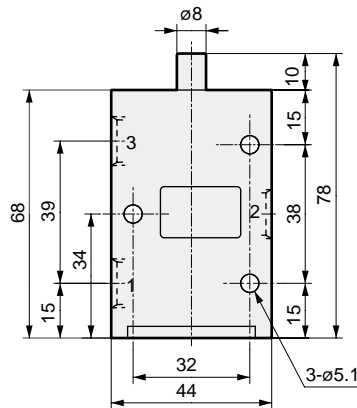


Specifications

Operation code	MAVL-PP
O.F	51.0 N (when NC is pressurized at 0.49 MPa) 37.3 N (when NO is pressurized at 0.49 MPa)
P.T	3 mm
O.T	2 mm
T.T	5 mm

Refer to page 1648 for the actuator operation code.

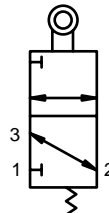
● MAVL-PP (weight: 390 g)



Dimensions: Roller arm (normally closed/normally open)



JIS symbol

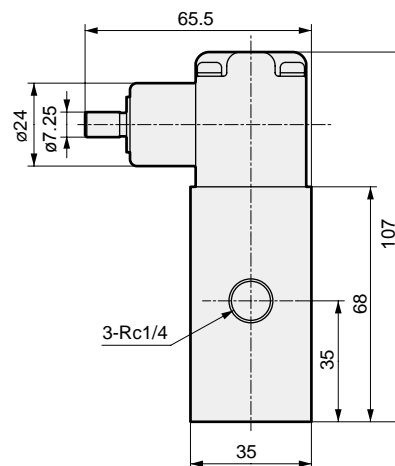
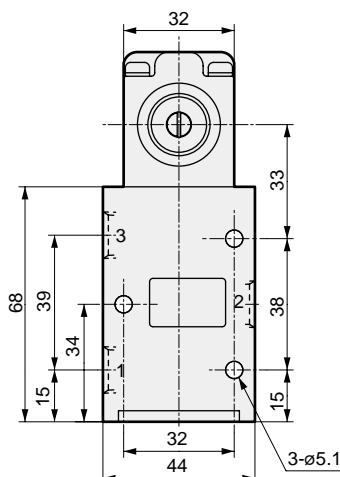


Specifications

Operation code	MAVL-RA
O.F	82.4 N·cm (when NC is pressurized at 0.49 MPa) 66.7 N·cm (when NO is pressurized at 0.49 MPa)
P.T	25°
O.T	30°
T.T	55°

Refer to page 1648 for the actuator operation code.

● MAVL-RA (weight: 450 g)



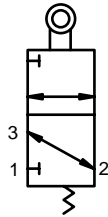
F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PresCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr Dischrg etc
Ending

- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneUR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRiSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

Dimensions: Adjusting roller arm (normally closed/normally open)



JIS symbol

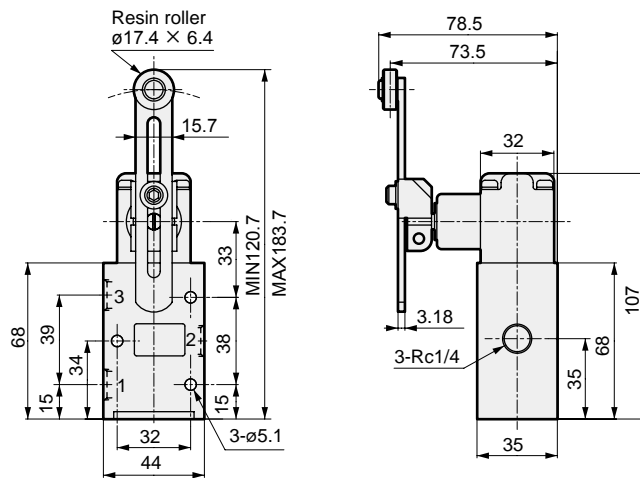


Specifications

Operation code	MAVL-RAA
O.F	9.8 N (when NC is pressurized at 0.49 MPa, arm is at MAX) 7.9 N (when NO is pressurized at 0.49 MPa, arm is at MAX)
P.T	25°
O.T	30°
T.T	55°
Operation body	Straight cam, low speed cam Rotors

Refer to page 1648 for the actuator operation code.

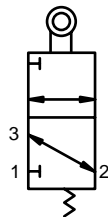
● MAVL-RAA (weight: 510 g)



Dimensions: Roller lever (normally closed/normally open)



JIS symbol



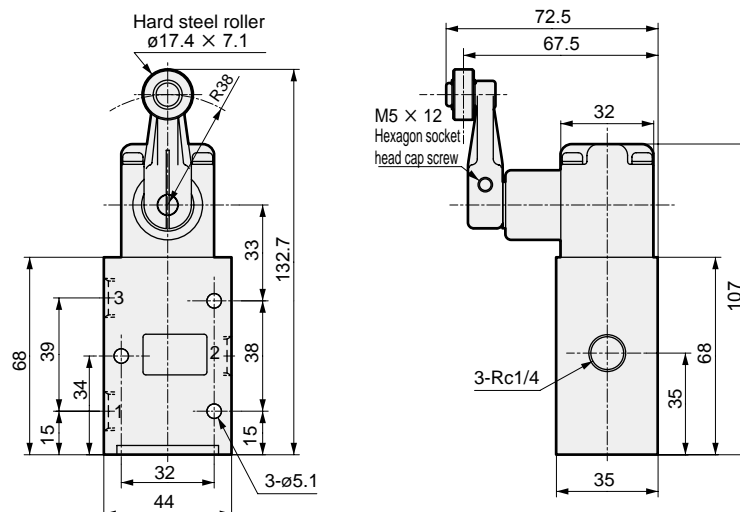
Specifications

Operation code	MAVL-RAB
O.F	21.6 N (when NC is pressurized at 0.49 MPa) 20.0 N (when NO is pressurized at 0.49 MPa)
P.T	25°
O.T	30°
T.T	55°

* The arm fixing method differs from the RAC.

Refer to page 1648 for the actuator operation code.

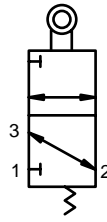
● MAVL-RAB (weight: 480 g)



Dimensions: Roller lever (normally closed/normally open)



JIS symbol



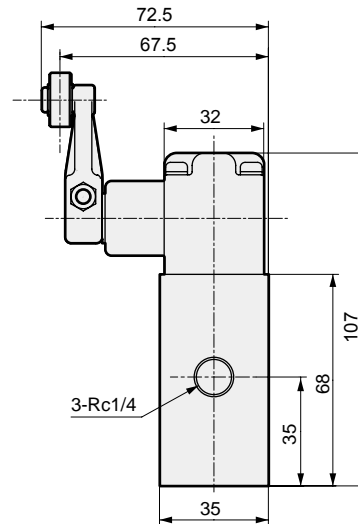
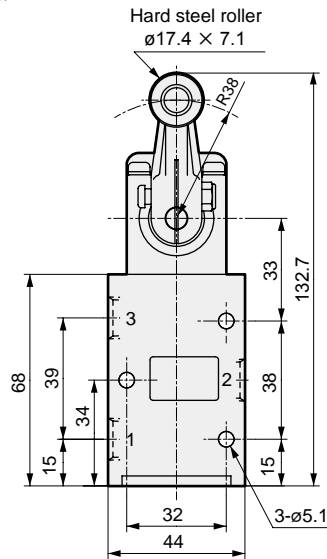
Specifications

Operation code	MAVL-RAC
O.F	21.6 N (when NC is pressurized at 0.49 MPa) 20.0 N (when NO is pressurized at 0.49 MPa)
P.T	25°
O.T	30°
T.T	55°

* The arm fixing method differs from RAB.

Refer to page 1648 for the actuator operation code.

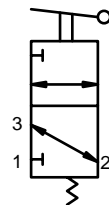
● MAVL-RAC (weight: 480 g)



Dimensions: Rod lever (normally closed/normally open)



JIS symbol



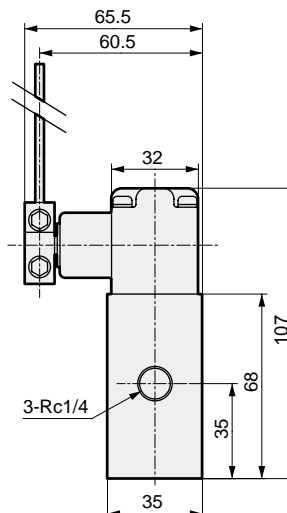
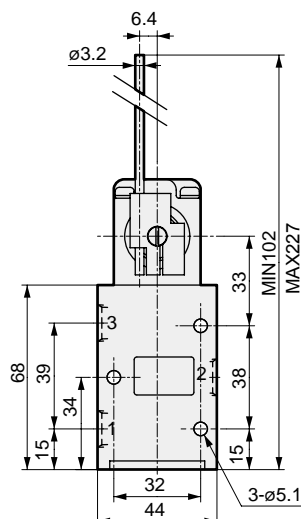
Specifications

Operation code	MAVL-RAD
O.F	4.9 N (when NC is pressurized at 0.49 MPa, arm is at MAX) 4.0 N (when NO is pressurized at 0.49 MPa, arm is at MAX)
P.T	25°
O.T	30°
T.T	55°

The hard aluminum rod lever can be cut or formed as needed.

Refer to page 1648 for the actuator operation code.

● MAVL-RAD (weight: 480 g)



- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/ PTFE FRL
- Outdrs FRL
- Adapter Joiner Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PresCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRISens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

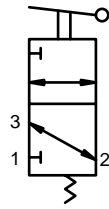
F.R.L. Dimensions: Wire lever (normally closed/normally open)



- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneur
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending



JIS symbol

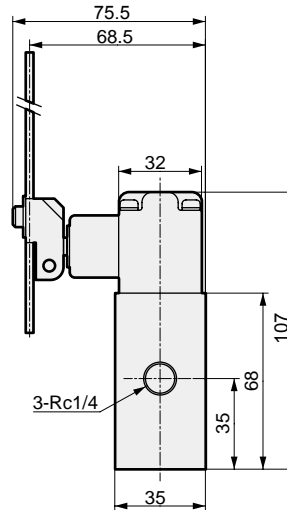
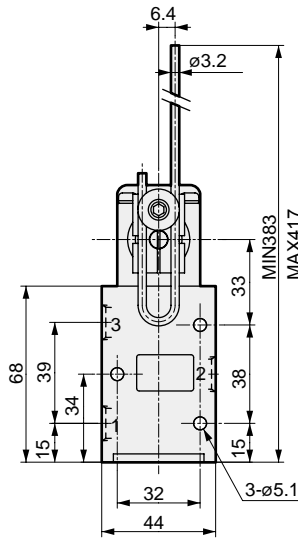


Specifications

Operation code	MAVL-RAE
O.F	1.8 N (when NC is pressurized at 0.49 MPa, arm is at MAX)
	1.2 N (when NO is pressurized at 0.49 MPa, arm is at MAX)
P.T	25°
O.T	30°
T.T	55°

Refer to page 1648 for the actuator operation code.

● MAVL-RAE (weight: 500 g)



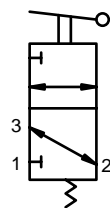
Dimensions: Spring rod (normally closed/normally open)



- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending



JIS symbol



Specifications

Operation code	MAVL-RAF
O.F	3.0 N (when NC is pressurized at 0.49 MPa)
	1.6 N (when NO is pressurized at 0.49 MPa)
P.T	45°
O.T	10°
T.T	55°

Refer to page 1648 for the actuator operation code.

● MAVL-RAF (weight: 490 g)

