



Compendium of Manual, mechanical and other valve

P125	Product feature	Photo	127	Product feature	Photo
4H Series Hand lever valve	<ul style="list-style-type: none"> ● Sliding column structure ● Manual operation ● Panel-mounting ● 5/2way □ 5/3 way 		3L Series Push-pull valve	<ul style="list-style-type: none"> ● Sliding column structure ● Manual operation ● Panel-mounting ● 3/2 way 	
P128	Product feature	Photo	P129	Product feature	Photo
4L Series Push-pull valve	<ul style="list-style-type: none"> ● Sliding column structure ● Manual operation ● Panel-mounting ● 5/2 way 		HSV Series Hand slide valve	<ul style="list-style-type: none"> ● There are several ways of internal and external thread connection ● Hand slide operation ● 3/2 way 	
P130	Product feature	Photo	P132	Product feature	Photo
4HV Series Hand lever valve	<ul style="list-style-type: none"> ● Body installation and Panel installation ● Manual operation ● With lock and without lock are optional ● 4/2 way □ 4/3 way 		S3 Series Control valve	<ul style="list-style-type: none"> ● Shut-off structure ● Manual control or mechanical control ● Several control set are optional ● Multi-mounting ● 3/2 way 	
P135	Product feature	Photo	P138	Product feature	Photo
M3 Series Control valve	<ul style="list-style-type: none"> ● Sliding column structure ● Manual control or mechanical control ● Several control set are optional ● Multi-mounting ● 3/2 way 		M5 Series Control valve	<ul style="list-style-type: none"> ● Sliding column structure ● Manual control or mechanical control ● Several control set are optional ● Multi-mounting ● 5/2 way 	
P141	Product feature	Photo	P146	Product feature	Photo
CM3 Series Control valve	<ul style="list-style-type: none"> ● Shut-off structure ● Manual control or mechanical control ● Several control set are optional ● Multi-mounting ● 3/2 way、5/3 way 		ZM3 Series Control valve	<ul style="list-style-type: none"> ● Sliding column structure ● Mechanical control ● Several control set are optional ● Multi-mounting ● 3/2 way 	
P148	Product feature	Photo	P150	Product feature	Photo
3F Series 3FM Series 4F Series Foot pedal valve	<ul style="list-style-type: none"> ● 3F,3FM: Direct acting (NC) ● 4F: Direct acting ● Foot pedal control ● With lock and without lock are optional ● 3F □ 3FM: 3/2 way ● 4F: 5/2way 		ASC Series Flow control valve	<ul style="list-style-type: none"> ● Allows air to exhaust and cut off air flow ● Multi-mounting ● 100 □ 200 □ 300 Series 	
P151	Product feature	Photo	P152	Product feature	Photo
NRV Series Non-return valve	<ul style="list-style-type: none"> ● Large valid area of section ● Compact structure ● Excellence hermetical capability 		PCV Series Pilot non-return valve	<ul style="list-style-type: none"> ● Fitting joint and thread are optional for pilot port 	

Installation and Application



1. Before installing, be sure the valve hasn't been damaged via transportation.
2. It's suggested to use the medium lubricated by 40 μ m filter element. Be aware of the flow direction and port size.
3. Please notice whether the installation condition accords with technical requirements (such as "working pressure" and "scope of application temperature"), then the equipment can be installed and used.
4. Take measure to avoid vibration and frozen.
5. Before using the fittings and tubes make sure they are clean. When connecting to fittings, be sure the PTFE Thread seal tape is used correctly.
6. To keep the dust away, Never forget to install dirt-proof boot in air intake and outlet during dismounting.



Hand lever valve (5/2 way, 5/3 way)

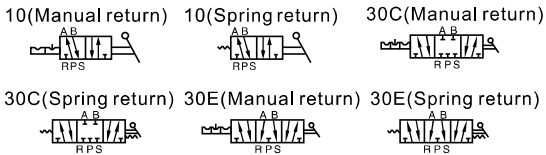
4H Series



Specification

Model	210-06	230-06	210-08	230-08	310-08	330-08	310-10	330-10
Fluid	Air (to be filtered by 40 μm filter element)							
Operating	Manual control direct acting type							
Port size[Note1]	In=Out =Exhaust=1/8"		In=Out=1/4"; Exhaust=1/8"		In=Out =Exhaust=1/4"		In=Out=3/8"; Exhaust=1/4"	
Orifice size(Cv) [Note3]	4H210-08:17.0mm ² (Cv=1.0) 4H230C-08:13.6mm ² (Cv=0.8)		4H310-10:28.0mm ² (Cv=1.65) 4H330C-10:21.3mm ² (Cv=1.25)					
Valve type	5/2 way	5/3 way	5/2 way	5/3 way	5/2 way	5/3 way	5/2 way	5/3 way
Lubrication [Note2]	Not required							
Pressure range	0~1.0MPa(0~145psi)							
Proof pressure	1.5MPa(215psi)							
Temperature	-20~70°C							
Material body	Aluminum alloy							
Operating angle	±15°	±8.5°	±15°	±8.5°	±18°	±10°	±18°	±10°

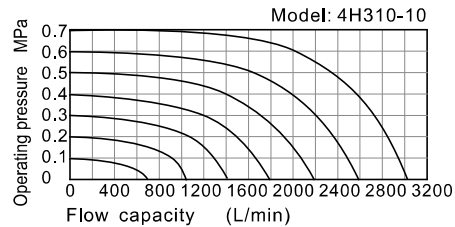
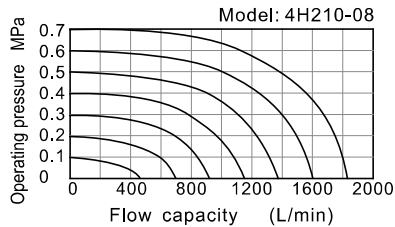
Symbol



Product feature

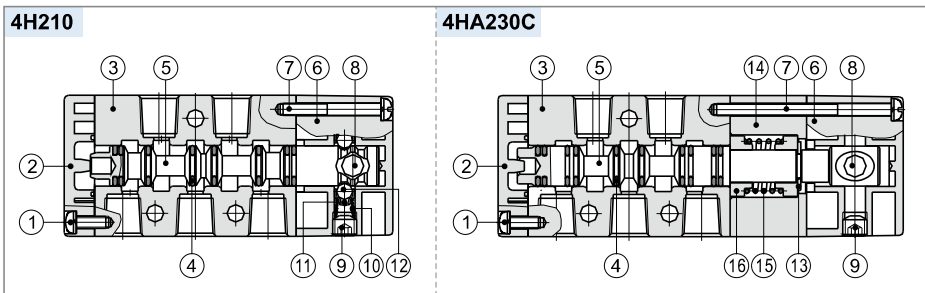
1. Manual operation, smooth actuation, and exact and reliable orientation.
2. Sliding column structure has good tightness and light weight and is easy to install and dismount.
3. Internal hole adopts special processing technology which has little attrition friction, long service life.
4. No need to add oil for lubrication.
5. Panel-mounting makes it convenient to install and apply.

Flow chart



The data in flow rate chart are obtained from AirTAC lab.

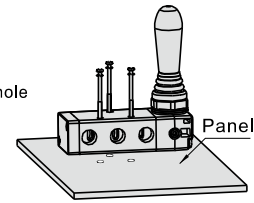
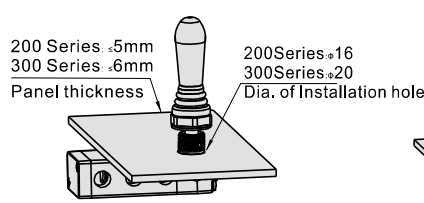
Inner structure



No.	Item	No.	Item
1	Round head screw	9	Stop screw
2	Bottom cover	10	Spring
3	Body	11	Steel ball jacket
4	O-ring	12	Steel ball
5	Spool	13	E clip
6	Top cover	14	Side cover
7	Round head cover	15	Spring
8	Axle	16	Spring holder

Installation

1. 5/3 way manual return hand lever valve is positioned by steel ball, which is convenient to switch. Please apply the proper force to avoid the position mismatch and misoperation.
2. When installed by panel, disassemble the gasket according to the practical requirement.
3. Below is the installation method for reference.
Note: Please give your attention on the panel thickness and hole dimension when installed by panel.



Panel Installation

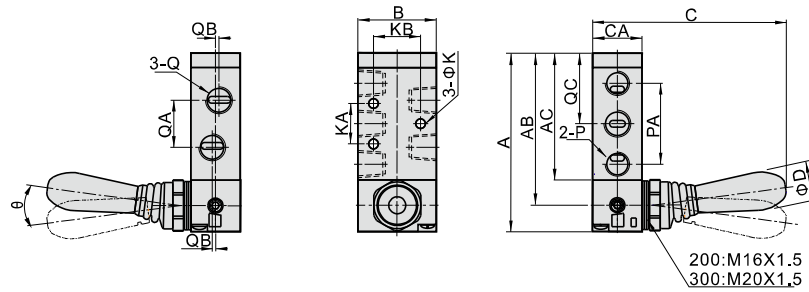
Body Installation

Hand lever valve (5/2 way, 5/3 way)

4H Series

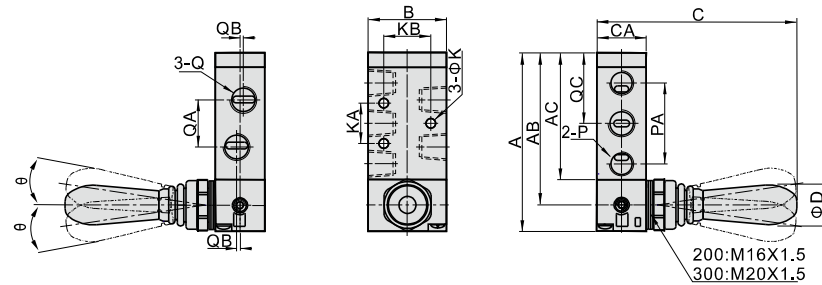
Dimensions

4H210\310 □ 4HA210\310



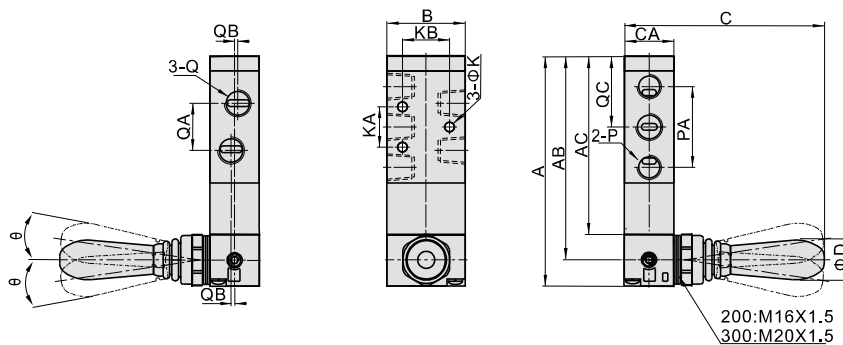
Model\Item	A	AB	AC	B	C	CA	D	K	KA	KB	P	PA	Q	QA	QB	QC	Ø
4H210-06 4HA210-06	81.5	69.5	57.5	35	90	22	18	4.3	20	23.5	1/8"	36	1/8"	18	-	32.5	15
4H210-08 4HA210-08	81.5	69.5	57.5	35	90	22	18	4.3	20	23.5	1/8"	36	1/4"	21	1.5	32.5	15
4H310-08 4HA310-08	101	87	73	40	93.5	27	18	4.3	24	27.5	1/4"	45	1/4"	22	-	40.5	18
4H310-10 4HA310-10	101	87	73	40	93.5	27	18	4.3	24	27.5	1/4"	45	3/8"	24	2	40.5	18

4H230 □ 4H330



Model\Item	A	AB	AC	B	C	CA	D	K	KA	KB	P	PA	Q	QA	QB	QC	Ø
4H230C-06 4H230E-06	81.5	69.5	57.5	35	90.5	22	18	4.3	20	23.5	1/8"	36	1/8"	18	-	32.5	8.5
4H230C-08 4H230E-08	81.5	69.5	57.5	35	90.5	22	18	4.3	20	23.5	1/8"	36	1/4"	21	1.5	32.5	8.5
4H330C-08 4H330E-08	101	87	73	40	94	27	18	4.3	24	27.5	1/4"	45	1/4"	22	-	40.5	10
4H330C-10 4H330E-10	101	87	73	40	94	27	18	4.3	24	27.5	1/4"	45	3/8"	24	2	40.5	10

4HA230 □ 4HA330



Model\Item	A	AB	AC	B	C	CA	D	K	KA	KB	P	PA	Q	QA	QB	QC	Ø
4HA230C-06 4HA230E-06	100.5	88.5	76.5	35	90.5	22	18	4.3	20	23.5	1/8"	36	1/8"	18	-	32.5	8.5
4HA230C-08 4HA230E-08	100.5	88.5	76.5	35	90.5	22	18	4.3	20	23.5	1/8"	36	1/4"	21	1.5	32.5	8.5
4HA330C-08 4HA330E-08	120	106	92	40	94	27	18	4.3	24	27.5	1/4"	45	1/4"	22	-	40.5	10
4HA330C-10 4HA330E-10	120	106	92	40	94	27	18	4.3	24	27.5	1/4"	45	3/8"	24	2	40.5	10

Push-pull valve(3/2way)

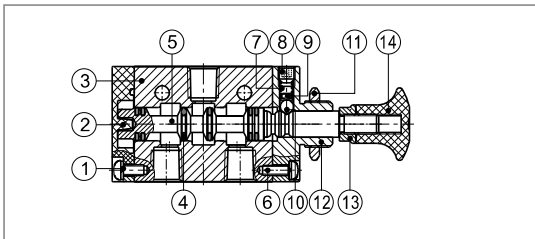
3L Series



Symbol



Inner structure



No.	Item	No.	Item	No.	Item
1	Round head screw	6	Round head screw	11	Hexagon nut
2	Bottom cover	7	Spring	12	Top cover
3	Body	8	Stop screw	13	Safety nut
4	O-ring	9	Spring base	14	Hand grip
5	Spool	10	Steel ball		

Specification

Model	3L110-06	3L210-06	3L210-08	3L310-08	3L310-10
Fluid	Air (to be filtered by 40 μm filter element)				
Operating	Manual control direct acting type				
Port size[Note1]	1/8"		1/4"		3/8"
Orifice size(Cv) [Note3]	10.2mm ² (Cv=0.6)	3L210-08:17.0mm ² (Cv=1.0)		3L310-10:28.0mm ² (Cv=1.65)	
Valve type	3/2 Way				
Lubrication [Note2]	Not required				
Pressure range	0~1.0MPa(0~145psi)				
Proof pressure	1.5MPa(215psi)				
Temperature	-20~70°C				
Material body	Aluminum alloy				

[Note1] PT thread, G thread and NPT thread are available;

[Note2] Once lubricated air is used, continue with same medium to optimise valve life span.

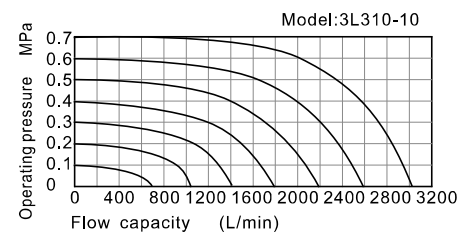
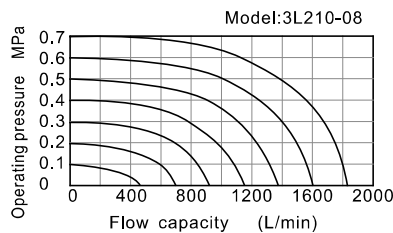
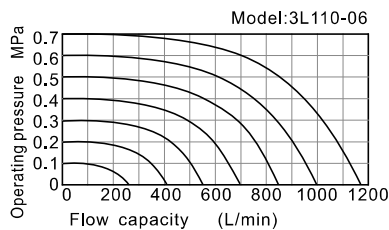
It is suggested to use ISO VG32 lubricant or the oil with the same grade.

[Note3] Equivalent orifice S and Cv are all calculated from the flow rate data.

Ordering code

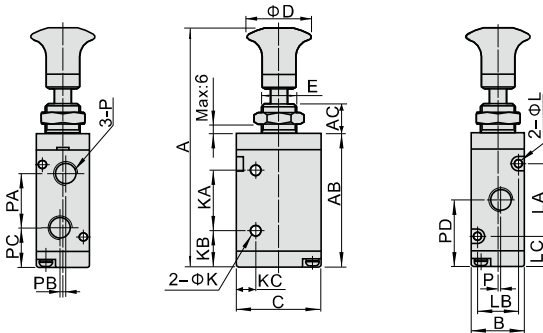
① Model	② Code	③ Valve type	④ Port size	⑤ Thread type
3L: 3 port 2 position push-pull valve	1: 100 Series	10: 2 position	06: 1/8"	Blank: PT G: G T: NPT
	2: 200 Series		06: 1/8" 08: 1/4"	
	3: 300 Series		08: 1/4" 10: 3/8"	

Flow chart



The data in flow rate chart are obtained from AirTAC lab.

Dimensions



Item\Model	3L11006	3L21006	3L21008	3L31008	3L31010
A	87	98	98	106.5	106.5
AB	47.8	57.8	57.8	66.5	66.5
AC	10	10	10	10	10
B	18	22	22	27	27
C	27	35	35	40	40
D	25	25	25	25	25
E	M12×0.75	M14×1.0	M14×1.0	M16×1.0	M16×1.0
K	3.1	4.3	4.3	4.3	4.3
KA	21	25	25	30	30
KB	13	16	16	18	18
KC	7.7	8	8	10	10
L	3.3	3.3	3.3	4.3	4.3
LA	19	30	30	35	35
LB	13	17	17	20	20
LC	14	13.5	13.5	15.5	15.5
P	1/8"	1/8"	1/4"	1/4"	3/8"
PA	16	22.5	22.5	24	24
PB	2	0	0	0	0
PC	15.5	17.5	17.5	21	21
PD	24.5	28.5	28.5	33	33
PE	1	0	1.5	0	2

Push-pull valve(5/2way)

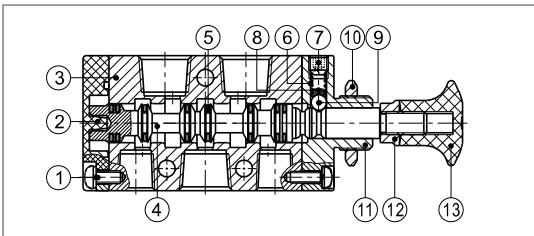
4L Series



Symbol



Inner structure



No.	Item	No.	Item	No.	Item
1	Round head screw	6	Spring	11	Top cover
2	Bottom cover	7	Stop screw	12	Safety nut
3	Body	8	Spring base	13	Hand grip
4	Spool	9	Steel ball		
5	O-ring	10	Hexagon nut		

Specification

Model	4L110-06	4L210-06	4L210-08	4L310-08	4L310-10
Fluid	Air (to be filtered by 40 μm filter element)				
Operating	Manual control direct acting type				
Port size[Note1]	1/8"		1/4"		3/8"
Orifice size(Cv) [Note3]	10.2mm ² (Cv=0.6)	4L210-08:17.0mm ² (Cv=1.0)		4L310-10:28.0mm ² (Cv=1.65)	
Valve type	5/2 Way				
Lubrication [Note2]	Not required				
Pressure range	0~1.0MPa(0~145psi)				
Proof pressure	1.5MPa(215psi)				
Temperature	-20~70°C				
Material body	Aluminum alloy				

[Note1] PT thread, G thread and NPT thread are available;

[Note2] Once lubricated air is used, continue with same medium to optimise valve life span.

It is suggested to use ISO VG32 lubricant or the oil with the same grade.

[Note3] Equivalent orifice S and Cv are all calculated from the flow rate data.

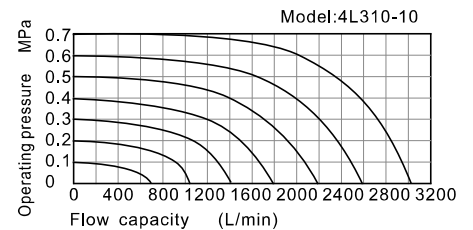
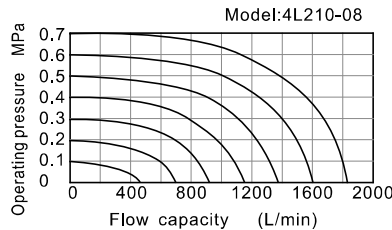
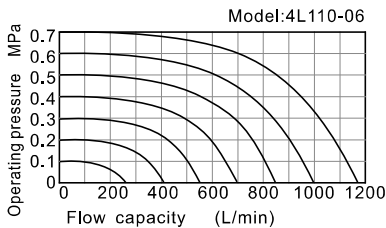
Ordering code

4L 2 10 08 □



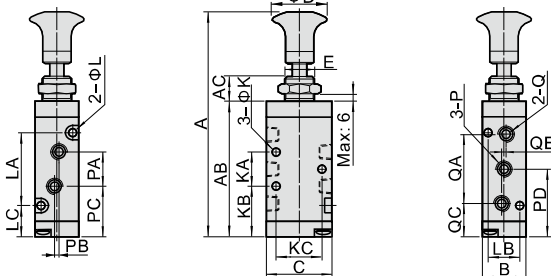
① Model	② Code	③ Valve type	④ Port size	⑤ Thread type
4L: 5 port 2 position push-pull valve	1: 100 Series	10: 2 position	06: 1/8"	Blank: PT G: G T: NPT
	2: 200 Series		06: 1/8" 08: 1/4"	
	3: 300 Series		08: 1/4" 10: 3/8"	

Flow chart



The data in flow rate chart are obtained from AirTAC lab.

Dimensions



Item\Model	4L11006	4L21006	4L21008	4L31008	4L31010
A	98	106	106	121.5	121.5
AB	58.8	65.8	65.8	81	81
AC	10	10	10	10	10
B	18	22	22	27	27
C	27	35	35	40	40
D	25	25	25	25	25
E	M12×0.75	M14×1.0	M14×1.0	M16×1.0	M16×1.0
K	3.3	4.3	4.3	4.3	4.3
KA	14	20	20	24	24
KB	22	22.5	22.5	28.5	28.5
KC	19	23.5	23.5	27.5	27.5
L	3.3	3.3	3.3	4.3	4.3
LA	30	38	38	50	50
LB	13	17	17	20	20
LC	14	13.5	13.5	15.5	15.5
P	1/8"	1/8"	1/4"	1/4"	1/4"
PA	16	18	21	22	24
PB	3	0	3	0	4
PC	21	23.5	22	29.5	28.5
PD	29	32.5	32.5	40.5	40.5
Q	1/8"	1/8"	1/8"	1/4"	3/8"
QA	28	36	36	45	45
QB	2	0	0	0	0
QC	15	14.5	14.5	18	18

Hand slide valve(3/2 way)

HSV Series



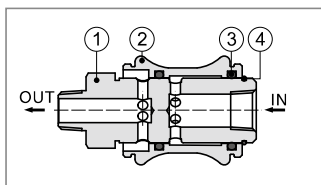
Symbol



Product feature

1. There are several ways of internal and external thread connection, suitable for the application in different pipeline systems.
2. The direction-change slides smoothly and has good hand feeling.
3. There is large effective circulating area.
4. The valve spool surface is treated with acid washing passivation, and the surface of valve body is oxidized to keep the color for a long time.

Inner structure



No.	Item
1	Valve plug
2	Body
3	O-ring
4	Clip

Specification

Model	HSV06	HSV08	HSV10	HSV15	HSV20	HSV25
Fluid	Air (to be filtered by 40 μm filter element)					
Operating	Manual control direct acting type					
Port size [Note1]	1/8"	1/4"	3/8"	1/2"	3/4"	1"
Orifice size	23.0mm ² (Cv=1.28)	40.0mm ² (Cv=2.20)	62.0mm ² (Cv=3.50)	140.0mm ² (Cv=7.80)	250.0mm ² (Cv=13.80)	392.0mm ² (Cv=21.78)
Valve type	3/2 Way					
Lubrication	Not required					
Pressure range	0~1.0MPa(0~145psi)					
Proof pressure	1.5MPa(215psi)					
Temperature	-20~70℃					
Material body	Aluminum alloy					

[Note1] PT thread, G thread and NPT thread are available.

Ordering code

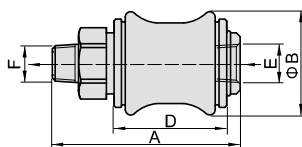
HSV 08 SS □



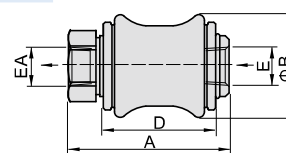
① Model	② Port size	③ Dovt thread	④ Thread type
HSV: Hand slide valve	06: 1/8" 08: 1/4" 10: 3/8" 15: 1/2" 20: 3/4" 25: 1"	Blank: Standard SS: Double male thread FF: Double female thread SF: Male and female thread	Blank: PT G: G T: NPT

Dimensions

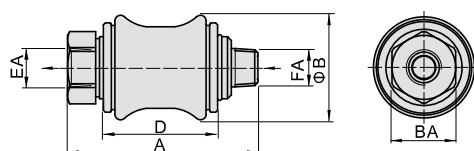
Standard



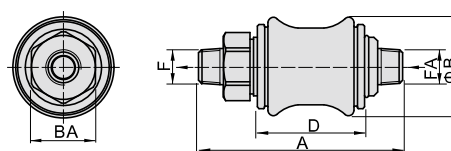
Double female thread(FF)



Male and female thread(SF)



Double male thread(SS)



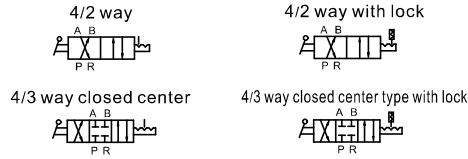
Model\Item	A				B	BA	D	E	EA	F	FA
	Standard	Doublefemalethread	Maleandfemalethread	Doublemalethread							
HSV06	50	43	50	57	27.5	17	30	1/8"	1/8"	1/8"	1/8"
HSV08	58	47	58	69	30	19	32.5	1/4"	1/4"	1/4"	1/4"
HSV10	68.5	55.5	68.5	81.5	35.5	22	39	3/8"	3/8"	3/8"	3/8"
HSV15	85.5	70.5	85.5	100.5	44	30	50	1/2"	1/2"	1/2"	1/2"
HSV20	96.5	79.5	96.5	113.5	53.5	36	58	3/4"	3/4"	3/4"	3/4"
HSV25	114.5	96.5	114.5	132.5	65.5	44	70	1"	1"	1"	1"

Hand lever valve (4/2 way, 4/3 way)

4HV, 4HVL Series



Symbol



Specification

Model	4HV2□□ -06(L)	4HV2□□ -08(L)	4HV3□□ -08(L)	4HV3□□ -10(L)	4HV4□□ -15(L)	4HV4□□ -20(L)
Fluid	Air (to be filtered by 40 μm filter element)					
Operating	Manual control direct acting type					
Port size [Note1]	1/8"	1/4"	1/4"	3/8"	1/2"	3/4"
Orifice size	14.0mm ² (Cv=0.78)	16.0mm ² (Cv=0.89)	30.0mm ² (Cv=1.67)	33.0mm ² (Cv=1.83)	88.0mm ² (Cv=4.89)	95.0mm ² (Cv=5.27)
Valve type	4/2 Way、4/3 Way					
Lubrication	Not required					
Pressure range	0~1.0MPa(0~145psi)					
Proof pressure	1.5MPa(215psi)					
Temperature	-20~70℃					
Operating angle	90°(4/3 Way: 45°)					

[Note1] PT thread, G thread and NPT thread are available.

Product feature

1. The direction-change turns lightly with good hand feeling and exact orientation.
2. Large effective circulating area leads to little pressure loss.
3. Panel and body installation are optional. The panel installation can be attached with installing nut.

Ordering code

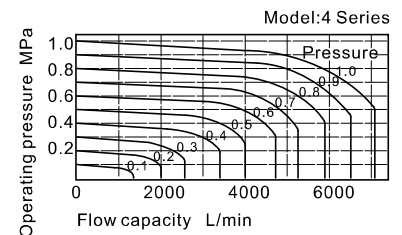
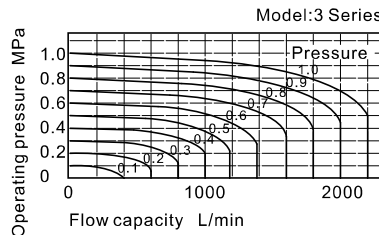
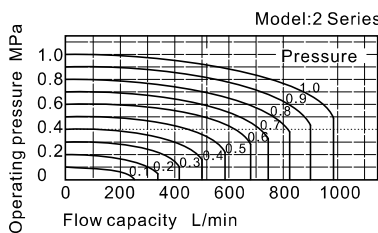
4HV 2 30 06 S L □



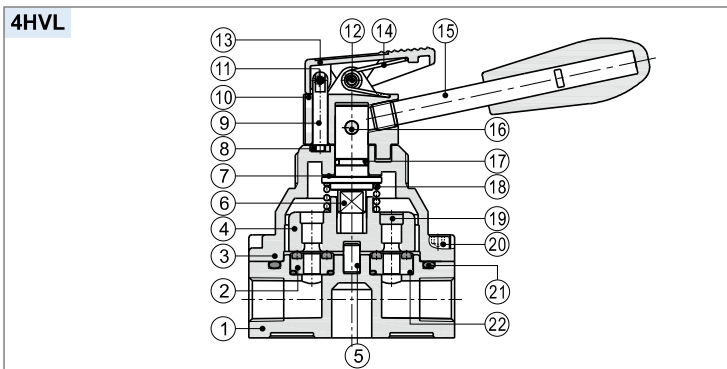
① Model	② Code	③ Valve type	④ Port size	⑤ Installation	⑥ Note	⑦ Thread type
4HV: Hand lever valve	2: 2 Series	10: 4 port 2 position 30: 4 port 3 position [Note1]	06: 1/8" 08: 1/4"	Blank: Body installation S: Panel installation [Note2]	Blank: Without lock L: With lock	Blank: PT G: G T: NPT
	3: 3 Series		08: 1/4" 10: 3/8"			
	4: 4 Series		15: 1/2" 20: 3/4"			

[Note1] 4 port 3 position only has closed center type. [Note2] The panel installation can be attached with installing nut.

Flow chart



Inner structure



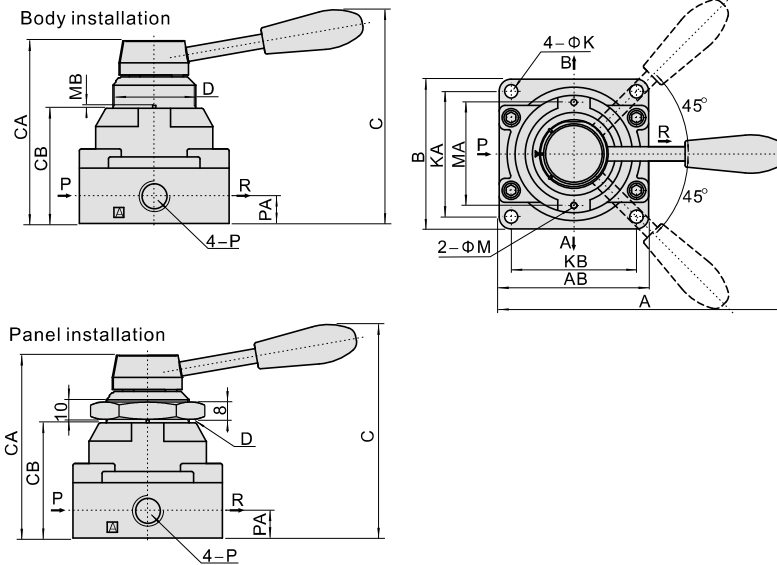
No.	Item	No.	Item
1	Body	12	Pin one
2	Seal base	13	Front cover
3	Valve cover	14	Spring
4	Valve plug	15	Handle
5	Column pin	16	Pin two
6	Shaft	17	Shaft O-ring
7	Washer	18	Spring
8	Fixing plate	19	Iron plate
9	Lock pin	20	Fixing screw
10	Valve cap	21	Body O-ring
11	Spring pin	22	Seal base O-ring

Hand lever valve (4/2 way, 4/3 way)

4HV, 4HVL Series

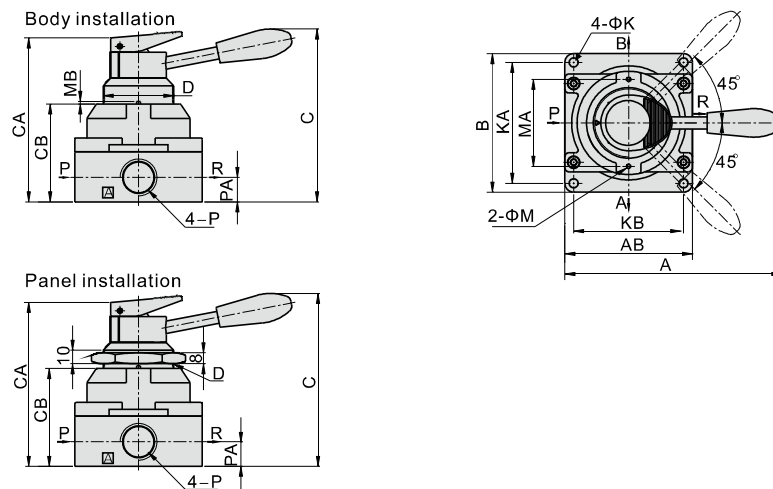
Dimensions

4HV



Model\Item	A	AB	B	C	CA	CB	D	K	KA	KB	M	MA	MB	P	PA
4HV2□-06	120	62	62	92.5	73	45	M34×1.5	5.5	49	49	3	40	1.5	1/8"	11.5
4HV2□-08	120	62	62	92.5	73	45	M34×1.5	5.5	49	49	3	40	1.5	1/4"	11.5
4HV3□-08	140	74	74	104	88.5	56	M40×1.5	6.5	62	62	3	51	1.5	1/4"	13.5
4HV3□-10	140	74	74	104	88.5	56	M40×1.5	6.5	62	62	3	51	1.5	3/8"	13.5
4HV4□-15	160	94	102	128	110	72	M52×1.5	6.5	89	81	3	64	2	1/2"	18
4HV4□-20	160	94	102	128	110	72	M52×1.5	6.5	89	81	3	64	2	3/4"	18

4HVL



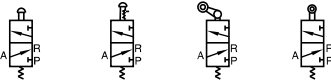
Model\Item	A	AB	B	C	CA	CB	D	K	KA	KB	M	MA	MB	P	PA
4HV2□-06L	120	62	62	92.5	84	45	M34×1.5	5.5	49	49	3	40	1.5	1/8"	11.5
4HV2□-08L	120	62	62	92.5	84	45	M34×1.5	5.5	49	49	3	40	1.5	1/4"	11.5
4HV3□-08L	140	74	74	104	99	56	M40×1.5	6.5	62	62	3	51	1.5	1/4"	13.5
4HV3□-10L	140	74	74	104	99	56	M40×1.5	6.5	62	62	3	51	1.5	3/8"	13.5
4HV4□-15L	160	94	102	128	121	72	M52×1.5	6.5	89	81	3	64	2	1/2"	18
4HV4□-20L	160	94	102	128	121	72	M52×1.5	6.5	89	81	3	64	2	3/4"	18

Control valve(3/2way)

M3 Series



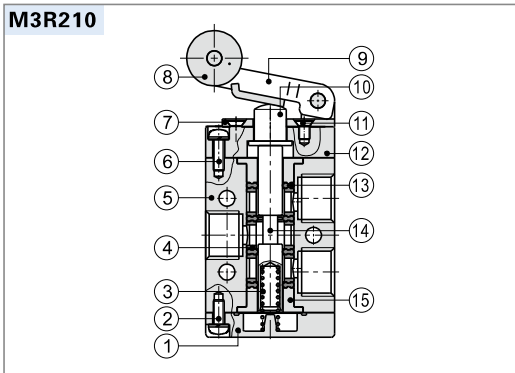
Symbol



Product feature

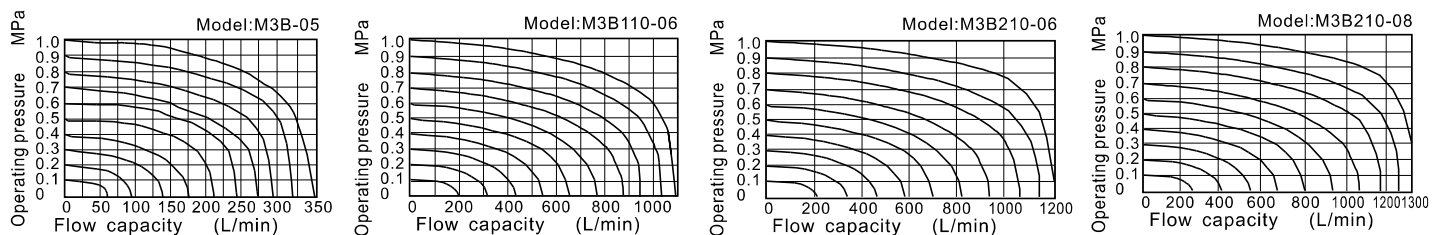
1. Exhaust outlet locates over the (body), which is convenient to install muffler to decrease noise and pollution.
2. The external force required by direction-change of series of M3B, M3R and M3L is provided by external mechanism, which can be used for position test or stroke switch] limit switch.
3. M3C, M3D, M3Y, M3PF, M3PM, M3PP, M3PL and M3HS 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 M3C, M3D, M3Y, M3R, and M3L are made of metal which has long service life and more reliable and steady performance.

Inner structure



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

Flow chart



Specification

Model	M3B	M3C	M3D	M3R	M3L	M3Y	M3PM	M3PP	M3PF	M3PL	M3HS
Fluid	Air (to be filtered by 40 μm filter element)										
Operating	External control direct acting type										
Port size [Note1]	05: M5 06: 1/8" 08: 1/4"										
Orifice size	Mini type		05: 2.5mm ² (Cv=0.14)								
	110		06: 8.0mm ² (Cv=0.45)								
	210		06: 9.0mm ² (Cv=0.50) 08: 12.0mm ² (Cv=0.67)								
Valve type	3/2 Way										
Lubrication [Note2]	Not required										
Pressure range	0~1.0MPa(0~145psi)										
Proof pressure	1.5MPa(215psi)										
Temperature °C	-20~70										
Material body	Aluminum alloy										

[Note1] PT thread, G thread and NPT thread are available.

[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. It is suggested to use ISO VG32 lubricant or the oil with the same grade.

Reversal stroke

Common type									Mini type		
Type	Spool stroke	Button stroke	Type	Spool stroke	Roller(handle) stroke	Type	Spool stroke	Roller stroke			
M3B	2.0~3.3	-	M3R	2.0~3.0	4.6~6.8	M3B05	2.0~3.3	-			
M3PF	2.0~3.3	3.8~5.1	M3L	2.0~3.0	5.0~7.8	M3R05	2.0~3.0	6.0~8.5			
M3PP	2.0~3.3	3.8~5.1	M3C	2.0~3.0	11.0~16.0	M3L05	2.0~3.0	7.0~10.0			
M3PM	2.0~3.3	3.8~5.1	M3D	2.0~3.0	5.5~8.0						
M3PL	2.0~3.3	5.9~7.2									
M3HS	2.0~3.3	5.1~6.4									

Ordering code

Common type **M3 PM 210 06 R**

① ② ③ ④ ⑤ ⑥

① Valve's type	② Model	③ Code	④ Port size	⑤ Button color	⑥ Thread type
M3: M type 3/2 Way	B: Basic type	110: 100 Series single control	06: 1/8"	No this code	Blank: PT G: G T: NPT
	C: Long handle type				
	D: Short handle type				
	Y: Lever type				
	R: Roller type	210: 200 Series single control	06: 1/8" 08: 1/4"	R: Red	
	L: Roller with free return type			R: Red G: Green B: Black	
	PL: Latching type				
	PP: Protruding type				
	PF: Flat type				
	PM: Mushroom type				
HS: Selector type					

Mini type

M3 R 05

① ② ③

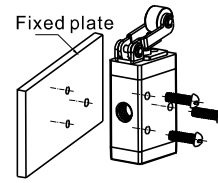
① Valve's type	② Model	③ Port size
M3: M type 3/2 Way	B: Basic type R: Roller type L: Roller with free return type	05: M5

M3 Series

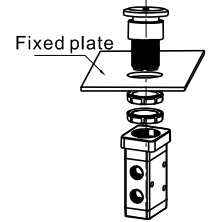
Installation and Application

- 1) Body and panel installation (picture at right) :
- 2) The control set is made of engineering plastic which only allows manual operation and switching valves through metal impact is forbidden.
- 3) The series of M3B, M3C, M3D, M3PM, M3PF and M3PP get the function of automatic restoration. The hand valves of M3Y, M3HS and M3PL are in the type of manual restoration. M3PL will be restored by turning the revolve button after being pressed into orientation.
- 4) 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.
- 5) The M3L 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).
- 6) Control joint combination can be ordered individually. Please refer to the table on the right for order details.

Fixation way of body

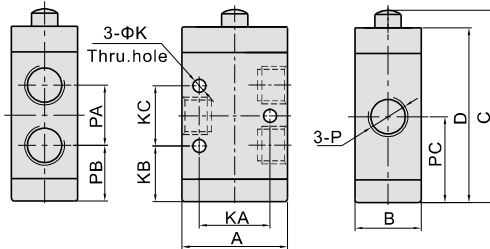


Fixation way of panel



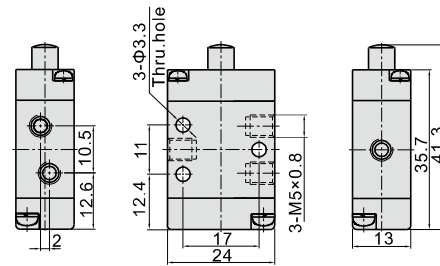
Dimensions

Common type



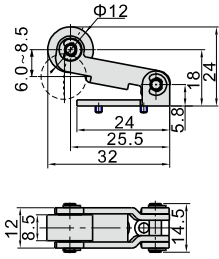
Model\Item	A	B	C	D	K	KA	KB	KC	P	PA	PB	PC
M3B11006	27	18	52	46.5	3.3	18	15.5	16	1/8"	16	15.5	23.5
M3B21006	35	22	64	58	4.3	23.5	18.5	20	1/8"	20	18.5	28.5
M3B21008									1/4"			

Mini type

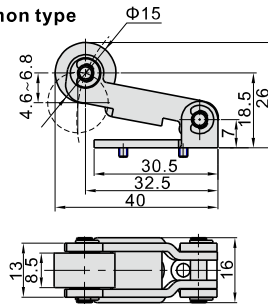


Roller type(R)

Mini type



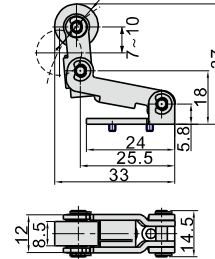
Common type



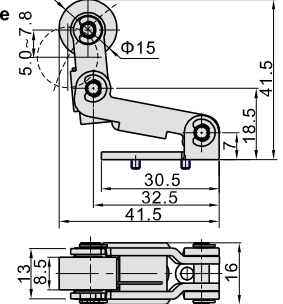
Model	Roller type(R)	
How to order	Ordering code M3R05-P14A	M3R210-P14A
Type	M3R05 Roller type control set	M3R210 Roller type control set
Applicable products	M3R05 M3R110, M3R210	

Roller with free return type(L)

Mini type

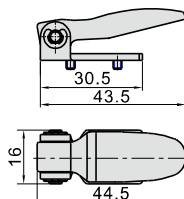


Common type



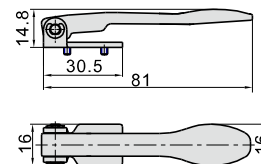
Model	Roller with free return type(L)	
How to order	Ordering code M3L05-P14A	M3L210-P14A
Type	M3L05 Roller with free return type control set	M3L210 Roller with free return type control set
Applicable products	M3L05 M3L110, M3L210	

Short handle type(D)



Model	Short handle type(D)	
How to order	Ordering code M3D210-P13A	
Type	M3D210 Short handle type control set	
Applicable products	M3D110, M3D210	

Long handle type(C)

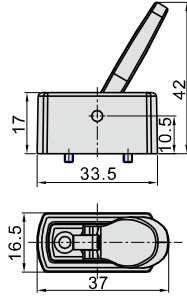


Model	Long handle type(C)	
How to order	Ordering code M3C210-P13A	
Type	M3C210 Long handle type control set	
Applicable products	M3C110, M3C210	

Control valve(3/2way)

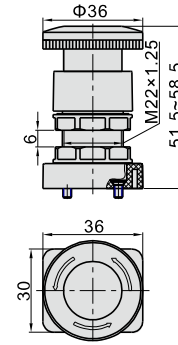
M3 Series

Lever type(Y)



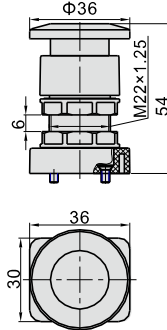
Model		Lever type(Y)
How to order	Ordering code	M3Y210-P13A
	Type	M3Y210 Lever type control set
Applicable products		M3Y110, M3Y210

Latching type(PL)



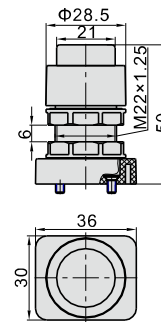
Model		Latching type (only red)(PL)
How to order	Ordering code	S3PL05-P12A
	Type	S3PL Latching type control set (Red)
Applicable products		M3PL110, M3PL210

Mushroom type(PM)



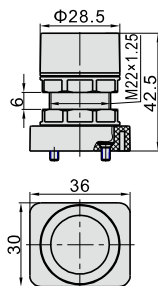
Model		Mushroom type(PM)
How to order	Ordering code	S3PM05-P11A
	Type	S3PM mushroom type control set (Green)
	Ordering code	S3PM05-P12A
	Type	S3PM mushroom type control set (Red)
	Ordering code	S3PM05-P13A
	Type	S3PM mushroom type control set (Black)
Applicable products		M3PM110, M3PM210

Protruding type(PP)



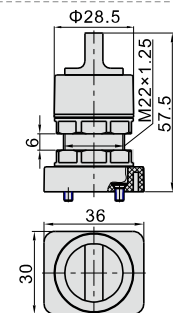
Model		Protruding type(PP)
How to order	Ordering code	S3PP05-P11A
	Type	S3PP protruding type control set (Green)
	Ordering code	S3PP05-P12A
	Type	S3PP protruding type control set (Red)
	Ordering code	S3PP05-P13A
	Type	S3PP protruding type control set (Black)
Applicable products		M3PP110, M3PP210

Flat type(PF)



Model		Flat type(PF)
How to order	Ordering code	S3PF05-P11A
	Type	S3PF flat type control set (Green)
	Ordering code	S3PF05-P12A
	Type	S3PF flat type control set (Red)
	Ordering code	S3PF05-P13A
	Type	S3PF flat type control set (Black)
Applicable products		M3PF110, M3PF210

Selector type(HS)



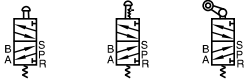
Model		Selector type(HS)
How to order	Ordering code	S3HS05-P11A
	Type	S3HS selector type control set (Green)
	Ordering code	S3HS05-P12A
	Type	S3HS selector type control set (Red)
	Ordering code	S3HS05-P13A
	Type	S3HS selector type control set (Black)
Applicable products		M3HS110, M3HS210

Control valve(5/2way)

M5 Series



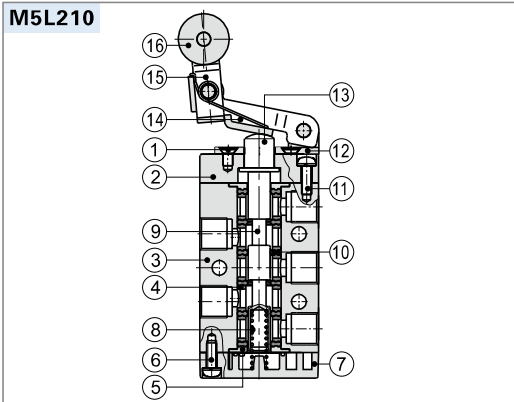
Symbol



Product feature

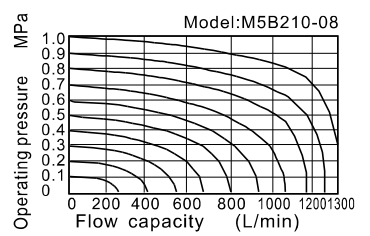
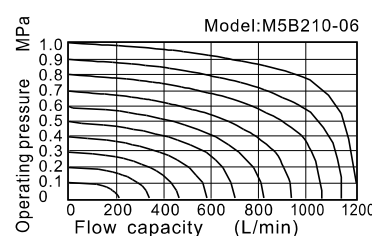
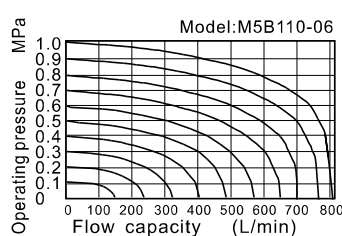
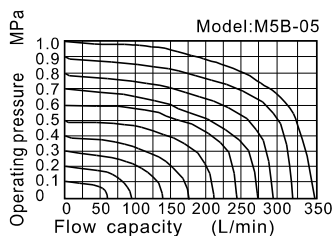
- Exhaust outlet locates over the body, which is convenient to install muffler to decrease noise and pollution.
- The external force required by direction-change of series of M5B, M5R and M5L is provided by external mechanism, which can be used for position test or [stroke switch] limit switch.
- M5C, M5D, M5Y, M5PF, M5PM, M5PP, M5PL and M5HS are operated manually, owning control joints with several structure forms and suitable for application under different conditions.
- 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.
- Lubricant is not necessary.
- Multi-mounting makes it convenient to install and apply.
- The control joints of series of M5C, M5D, M5Y, M5R and M5L are made of metal which has longer service life and more reliable and steady performance.

Inner structure



No.	Item	No.	Item	No.	Item
1	Screw	7	Bottom cover	13	Axle
2	Fore cover	8	Spring	14	Rotating block
3	Body	9	Spool	15	Rocker
4	Spacer	10	Piston O-ring	16	Roller
5	Positioning block	11	Screw		
6	Screw	12	Roller holder		

Flow chart



Specification

Model	M5B	M5C	M5D	M5R	M5L	M5Y	M5PM	M5PP	M5PF	M5PL	M5HS
Fluid	Air (to be filtered by 40 μm filter element)										
Operating	External control direct acting type										
Port size [Note1]	05: M5 06: 1/8" 08: 1/4"										
Orifice size	Mini type		05: 2.5mm ² (Cv=0.14)								
	110		06: 8.0mm ² (Cv=0.45)								
	210		06: 9.0mm ² (Cv=0.50) 08: 12.0mm ² (Cv=0.67)								
Valve type	5/2 Way										
Lubrication [Note2]	Not required										
Pressure range	0~1.0MPa(0~145psi)										
Proof pressure	1.5MPa(215psi)										
Temperature °C	-20~70										
Material body	Aluminum alloy										

[Note1] PT thread, G thread and NPT thread are available.

[Note2] Once lubricated air is used, continue with same medium to optimise valve life span. It is suggested to use ISO VG32 lubricant or the oil with the same grade.

Reversal stroke

Common type						Mini type		
Type	Spool stroke	Button stroke	Type	Spool stroke	Roller(handle) stroke	Type	Spool stroke	Roller stroke
M5B	2.0~3.3	-	M5R	2.0~3.0	4.6~6.8	M5B05	2.0~3.3	-
M5PF	2.0~3.3	3.8~5.1	M5L	2.0~3.0	5.0~7.8	M5R05	2.0~3.0	6.0~8.5
M5PP	2.0~3.3	3.8~5.1	M5C	2.0~3.0	11.0~16.0	M5L05	2.0~3.0	7.0~10.0
M5PM	2.0~3.3	3.8~5.1	M5D	2.0~3.0	5.5~8.0			
M5PL	2.0~3.3	5.9~7.2						
M5HS	2.0~3.3	5.1~6.4						

Ordering code

Common type M5 PM 210 06 R □

① ② ③ ④ ⑤ ⑥

① Valve's type	② Model	③ Code	④ Port size	⑤ Button color	⑥ Thread type
M5: M type 5/2 Way	B: Basic type	110: 100 Series single control	06: 1/8"	No this code	Blank: PT G: G T: NPT
	C: Long handle type				
	D: Short handle type				
	Y: Lever typer				
	R: Roller type				
	L: Roller with free return type	210: 200 Series single control	06: 1/8" 08: 1/4"	R: Red	
	PL: Latching type			R: Red G: Green B: Black	
	PP: Protruding type				
	PF: Flat type				
	PM: Mushroom type				
HS: Selector type					

Mini type

M5 R 05

① ② ③

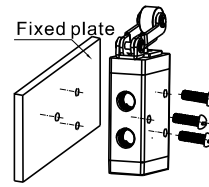
① Valve's type	② Model	③ Port size
M5: M type 5/2 Way	B: Basic type R: Roller type L: Roller with free return type	05: M5

M5 Series

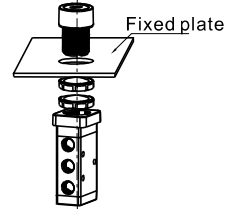
Installation and Application

- 1) Body and panel installation (picture at right) :
- 2) The control set is made of engineering plastic which only allows manual operation and switching valves through metal impact is forbidden.
- 3) The series of M5B, M5C, M5D, M5PM, M5PF and M5PP get the function of automatic restoration. The hand valves of M5Y, M5HS and M5PL are in the type of manual restoration. M5PL will be restored by turning the revolve button after being pressed into orientation.
- 4) 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.
- 5) The M5L 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).
- 6) Control joint combination can be ordered individually. Please refer to the table on the right for order details.

Fixation way of body

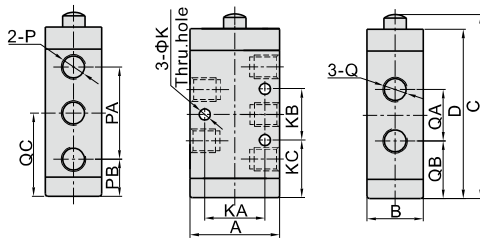


Fixation way of panel



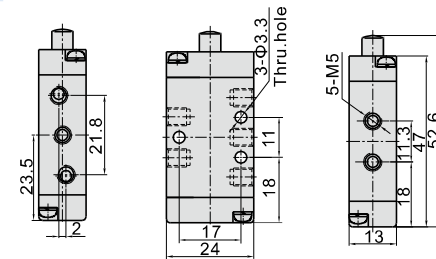
Dimensions

Common type



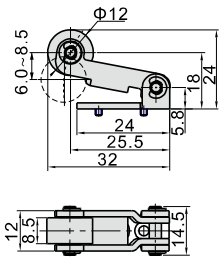
Model/Item	A	B	C	D	K	KA	KB	KC	P	PA	PB	Q	QA	QB	QC
M5B11006	27	18	63	57.5	3.3	18	14	22	1/8"	28	15	1/8"	16	21	29
M5B21006	35	22	72	66	4.3	23.5	20	22.5	1/8"	36	14.5	1/8"	20	22.5	32.5
M5B21008									1/8"			1/4"			

Mini type

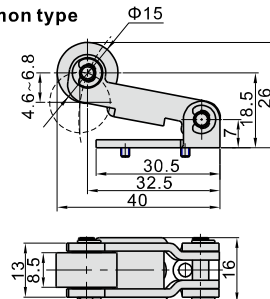


Roller type(R)

Mini type



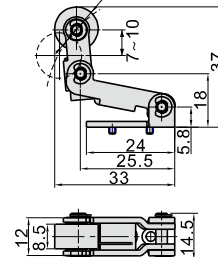
Common type



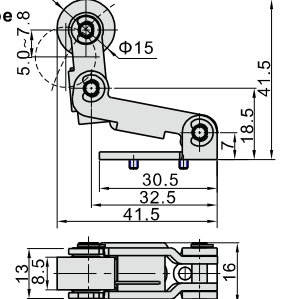
Model	Roller type(R)		
How to order	Ordering code	M3R05-P14A	M3R210-P14A
	Type	M3R05 Roller type control set	M3R210 Roller type control set
Applicable products		M5R05	M5R110, M5R210

Roller with free return type(L)

Mini type

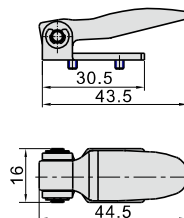


Common type



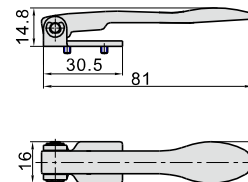
Model	Roller with free return type(L)		
How to order	Ordering code	M3L05-P14A	M3L210-P14A
	Type	M3L05 Roller with free return type control set	M3L210 Roller with free return type control set
Applicable products		M5L05	M5L110, M5L210

Short handle type(D)



Model	Short handle type(D)	
How to order	Ordering code	M3D210-P13A
	Type	M3D210 Short handle type control set
Applicable products		M5D110, M5D210

Long handle type(C)

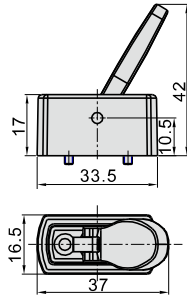


Model	Long handle type(C)	
How to order	Ordering code	M3C210-P13A
	Type	M3C210 Long handle type control set
Applicable products		M5C110, M5C210

Control valve(5/2way)

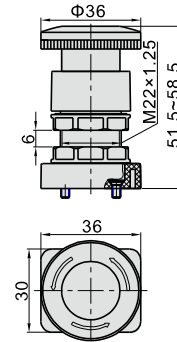
M5 Series

Lever type(Y)



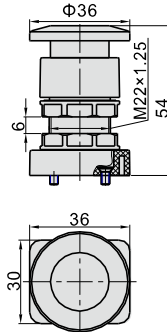
Model		Lever type(Y)
How to order	Ordering code	M3Y210-P13A
	Type	M3Y210 Lever type control set
Applicable products		M5Y110, M5Y210

Latching type(PL)



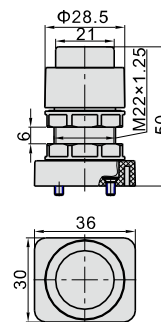
Model		Latching type (only red)(PL)
How to order	Ordering code	S3PL05-P12A
	Type	S3PL Latching type control set (Red)
Applicable products		M5PL110, M5PL210

Mushroom type(PM)



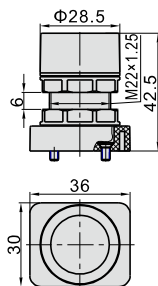
Model		Mushroom type(PM)
How to order	Ordering code	S3PM05-P11A
	Type	S3PM mushroom type control set (Green)
	Ordering code	S3PM05-P12A
	Type	S3PM mushroom type control set (Red)
	Ordering code	S3PM05-P13A
Applicable products		M5PM110, M5PM210

Protruding type(PP)



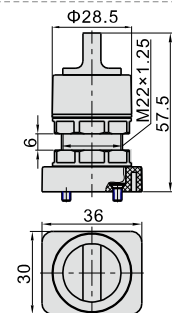
Model		Protruding type(PP)
How to order	Ordering code	S3PP05-P11A
	Type	S3PP protruding type control set (Green)
	Ordering code	S3PP05-P12A
	Type	S3PP protruding type control set (Red)
	Ordering code	S3PP05-P13A
Applicable products		M5PP110, M5PP210

Flat type(PF)



Model		Flat type(PF)
How to order	Ordering code	S3PF05-P11A
	Type	S3PF flat type control set (Green)
	Ordering code	S3PF05-P12A
	Type	S3PF flat type control set (Red)
	Ordering code	S3PF05-P13A
Applicable products		M5PF110, M5PF210

Selector type(HS)



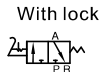
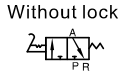
Model		Selector type(HS)
How to order	Ordering code	S3HS05-P11A
	Type	S3HS selector type control set (Green)
	Ordering code	S3HS05-P12A
	Type	S3HS selector type control set (Red)
	Ordering code	S3HS05-P13A
Applicable products		M5HS110, M5HS210

Foot pedal valve(3/2way)

3F, 3FM Series



Symbol



Product feature

1. Direct acting and normally closed type.
2. The 3F series has aluminum foot pedal and 3FM series has plastic foot pedal, in direct acting type, horizontal and compact structure.
3. If the duration of direction-change is long, the valves with lock may be selected.
4. The clamping framework is steady and reliable that it is easy and quick to unlock. However, with the limitation of the dimension of structure, it can not bear frequent strong impact.

Specification

Model	3FM210-M5	3F210-06	3FM210-06	3F210-08	3FM210-08
Fluid	Air (to be filtered by 40 μm filter element)				
Operating	Acting type controlled by foot normally closed				
Port size[Note1]	M5	1/8"	1/8"	1/4"	1/4"
Valve type	3/2 Way				
Pressure range	0~1.0MPa(0~145psi)				
Proof pressure	1.5MPa(215psi)				
Temperature	-20~70℃				
Material body	3FM:Plastic; 3F:Aluminum alloy				
Lubrication	Not required				

[Note1] PT thread, G thread and NPT thread are available.

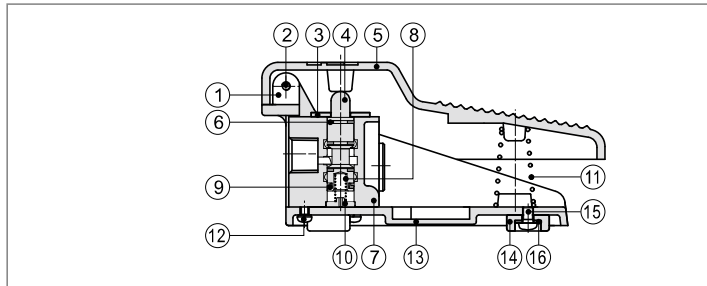
Ordering code

3F210 08 L □

① ② ③ ④

① Model	② Port size	③ Note	④ Thread type	
3FM210: 3/2 way foot pedal valve (mini type)	M5: M5 06: 1/8" 08: 1/4"	No this code	M5	1/8" 1/4"
3F210: 3/2 way foot pedal valve	06: 1/8" 08: 1/4"	Blank: Without lock L: With lock	No this code	Blank: PT G: G T: NPT

Inner structure

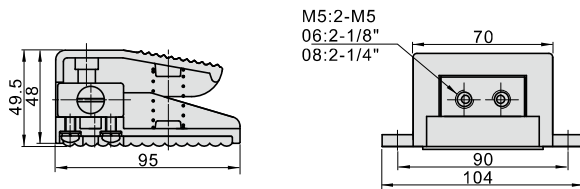


No.	Item	No.	Item	No.	Item
1	Bushing	7	Body	13	Base
2	Fixed screw	8	Spring	14	Base pad
3	Fixed plate	9	E clip	15	Fixed screw
4	Spool	10	Spring bolder	16	Clip
5	Pedal	11	Override spring		
6	O-ring	12	Fixed screw		

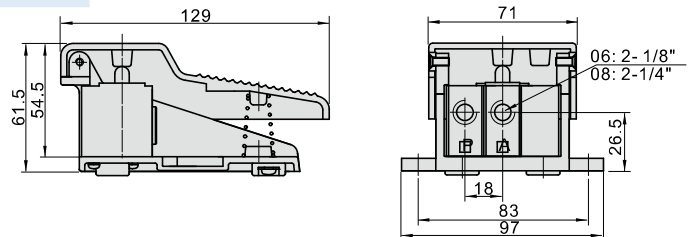
Note ⚠ Lockable type should be added grease periodically to ensure the machine can work regularly

Dimensions

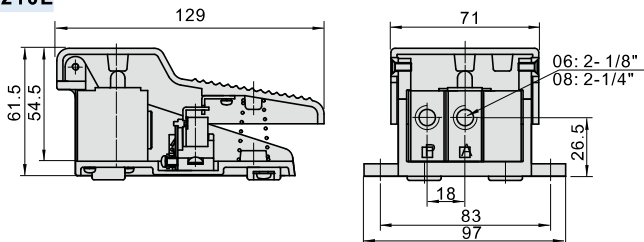
3FM210



3F210



3F210L

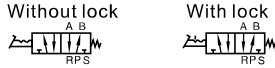


Foot pedal valve(5/2way)

4F Series



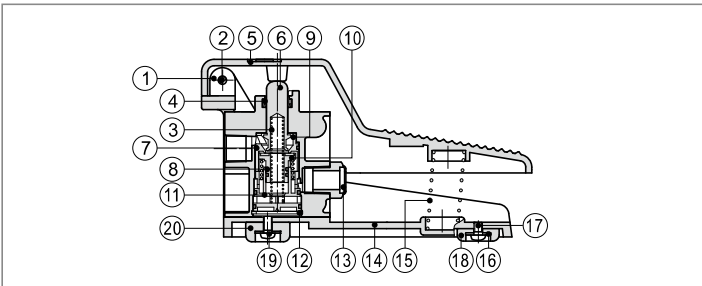
Symbol



Product feature

1. The aluminum foot pedal is designed with direct acting, which is steady and reliable.
2. If the duration of direction-change is long, the valves with lock may be selected.
3. The clamping framework is steady and reliable that it is easy and quick to unlock. However, with the limitation of the dimension of structure, it can not bear frequent strong impact.
4. Plastic guard with high strength may be selected.

Inner structure



Specification

Model	4F210-08	4F210-08L	4F210-08F	4F210-08LF
Fluid	Air (to be filtered by 40 μm filter element)			
Operating	Acting type controlled by foot			
Port size [Note1]	1/4"			
Valve type	5/2 Way			
Pressure range	0~1.0MPa(0~145psi)			
Proof pressure	1.5MPa(215psi)			
Temperature	-20~70°C			
Material body	Aluminum alloy			
Lubrication	Not required			

[Note1] PT thread, G thread and NPT thread are available.

Ordering code

4F210 08 L □

① ② ③ ④

① Model	② Port size	③ Note	④ Thread type
4F210: 5/2 way foot pedal valve	08: 1/4"	Blank: Without lock L: With lock F: With guard LF: With lock and guard	Blank: PT G: G T: NPT

No.	Item	No.	Item	No.	Item	No.	Item
1	Pin	6	Spool	11	Bottom cover	16	Washer
2	Screw	7	O-ring	12	C clip	17	Screw
3	Spring	8	O-ring	13	Silencer	18	Base pad
4	E clip	9	Front cover	14	Base	19	Screw
5	Pedal	10	Piston	15	Pedal spring	20	Base pad

Note ⚠ Lockable type should be added grease periodically to ensure the machine can work regularly.

Dimensions

