



Air valve(3/2、5/2、 5/3 way)

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 μm filter element. Be aware of the flow direction and port size.
- 3、 Please notice whether the installation condition accords with technical requirements (such as “actuation frequency” , “working pressure” and “scope of application temperature”), then the equipment can be installed and used.
- 4、 Notice the flow direction of air during installation, P is the air intake, A (B) is the work port and R (S) is the exhaust outlet.
- 5、 Take measure to avoid vibration and frozen.
- 6、 Firstly press the base gasket into the base, and then connect the base with the valve body by the affiliated screws. The base gasket can be pressed into the installation places that are not used temporarily, and then seal them with affiliated blank cap. When the system expands, take the blank cap off and install relative air valves;
- 7、 To keep the dust away, please use the silencer for the exhaust ports. Never forget to install dirt-proof boot in air intake and outlet during dismounting.



Air valve

Product series

<p>Air valve: 3A100 Series</p>  <p>I -22</p>	<p>Air valve: 3A200 Series</p>  <p>I -23</p>	<p>Air valve: 3A300 Series</p>  <p>I -24</p>
<p>Air valve: 4A100 Series</p>  <p>I -25</p>	<p>Air valve: 4A200 Series</p>  <p>I -27</p>	<p>Air valve: 4A300 Series</p>  <p>I -29</p>
<p>Air valve: 4A400 Series</p>  <p>I -31</p>	<p>Manifold series</p>  <p>I -33</p>	



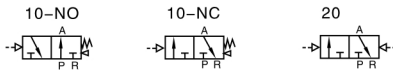
Air valve (3/2 way)

3A100 Series

3A100



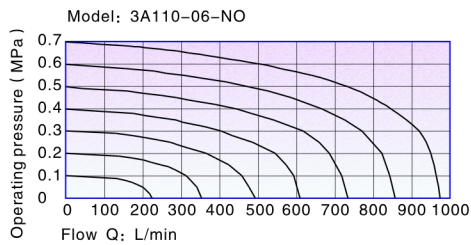
Symbol



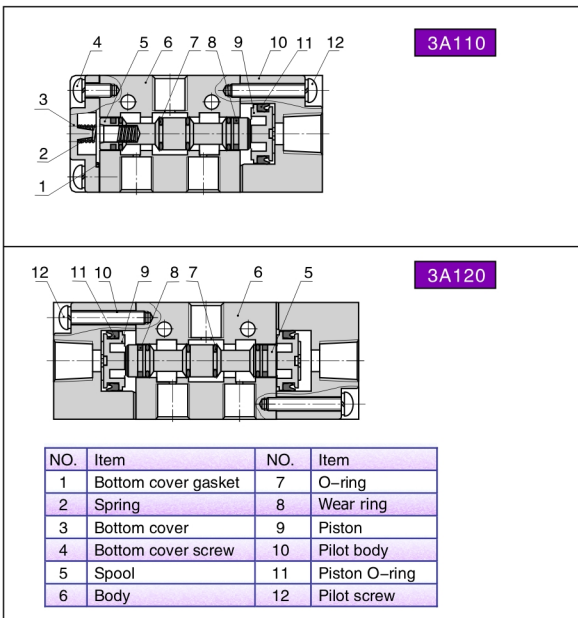
Product feature

- 1、Structure in sliding column mode: good tightness and sensitive reaction;
- 2、Double air control valves have memory function;
- 3、Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life;
- 4、No need to add oil for lubrication;
- 5、Multi-mounting helps to install and apply.

Flow chart



Inner structure

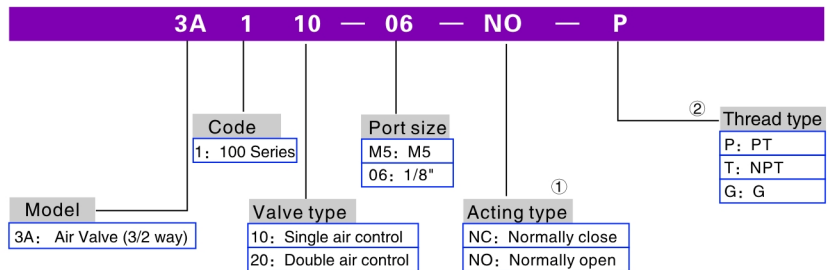


Specification

Model	3A110-M5	3A120-M5	3A110-06	3A120-06
Fluid	Air(to be filtered by 40um filter element)			
Acting	Exterior control			
Port size ①	M5		1/8"	
Orifice size	5.5mm ² (Cv=0.31)		12.0mm ² (Cv=0.67)	
Valve type	3 port 2 position			
Lubrication ②	Not required			
Operating pressure	0.15-0.8MPa(21-114Psi)			
Proof pressure	1.5MPa(215Psi)			
Temperature °C	-20-70			
Material of body	Aluminum alloy			
Max. frequency ③	5 cycle/sec			

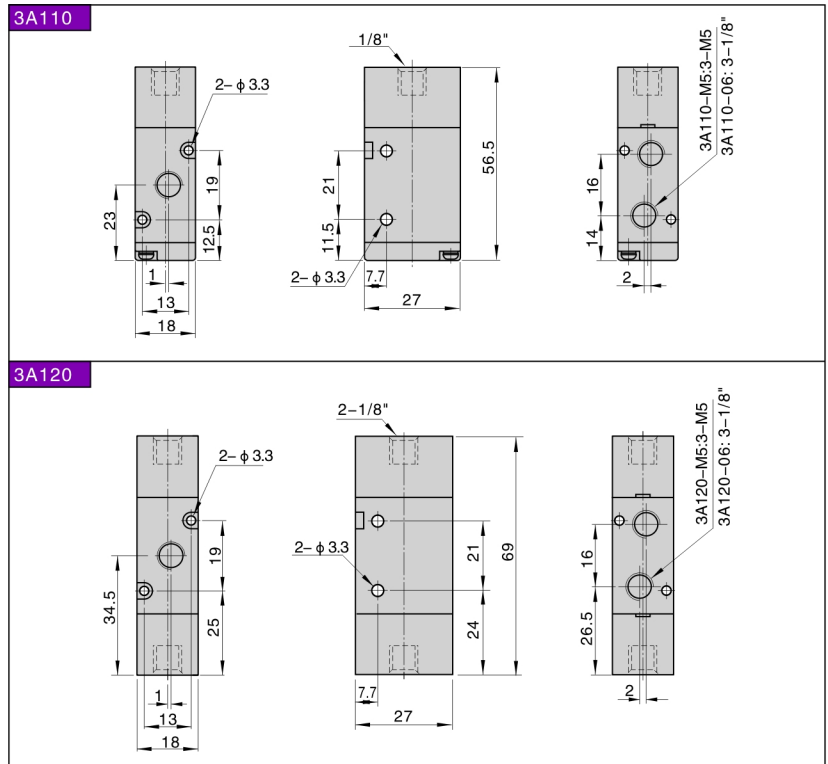
- ① PT thread, NPT thread and G thread are available;
- ② It can not stop in the midway of lubricating. Lubricants like ISO VG32 or equivalent are recommended;
- ③ The maximum actuation frequency is in the no-load state.

Ordering code



- ① Remark: 2 position double control air valve have no differences between normally opened and normally closed state, thus this code is blank.
- ② When the thread is M5, the code is blank.

Dimensions



Air valve (3/2 way)

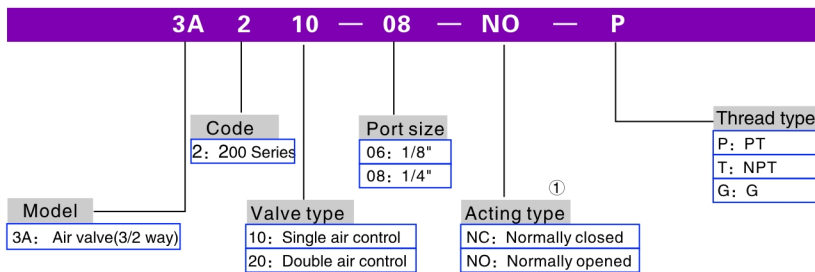
3A200 Series

Specification

Model	3A210-06	3A220-06	3A210-08	3A220-08
Fluid	Air(to be filtered by 40um filter element)			
Acting	Exterior control			
Port size ①	In=Out=1/8"		In=Out=1/4"	
Orifice size	14.0mm ² (Cv=0.78)		16.0mm ² (Cv=0.89)	
Valve type	3 port 2 position			
Lubrication ②	Not required			
Operating pressure	0.15~0.8MPa(21~114Psi)			
Proof pressure	1.5MPa(215Psi)			
Temperature °C	-20~70			
Material of body	Aluminum alloy			
Max. frequency ③	5 cycle/sec			

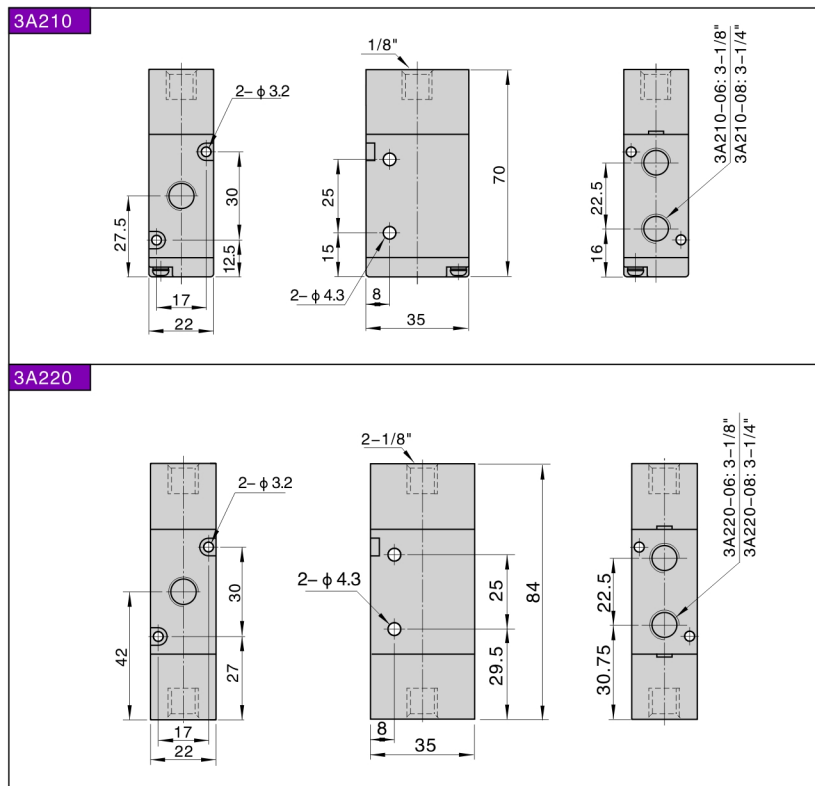
- ① PT thread, NPT thread and G thread are available;
 ② It can not stop in the midway of lubricating. Lubricants like ISO VG32 or equivalent are recommended.
 ③ The maximum actuation frequency is in the no-load state.

Ordering code



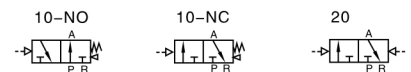
①Remark: 2 position double control air valve has no differences between normally opened and normally closed state, thus this code is blank.

Dimensions



3A200

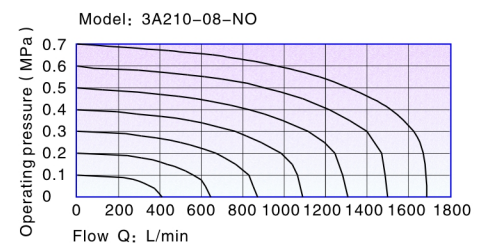
Symbol



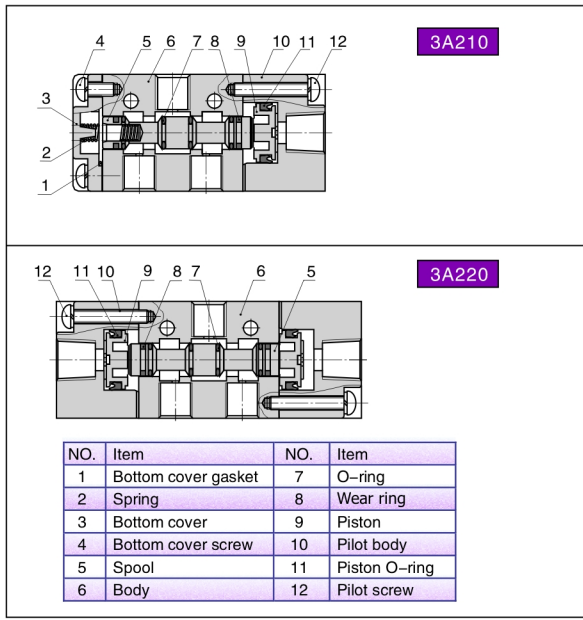
Product feature

- 1、Structure in sliding column mode: good tightness and sensitive reaction;
- 2、Double air control valves have memory function;
- 3、Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life;
- 4、No need to add oil for lubrication;
- 5、Multi-mounting helps to install and apply.

Flow chart



Inner structure



Air valve (3/2 way)

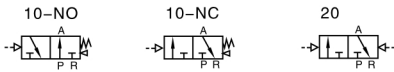
3A300 Series



3A300



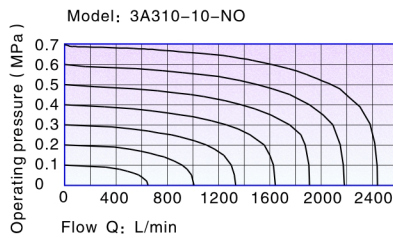
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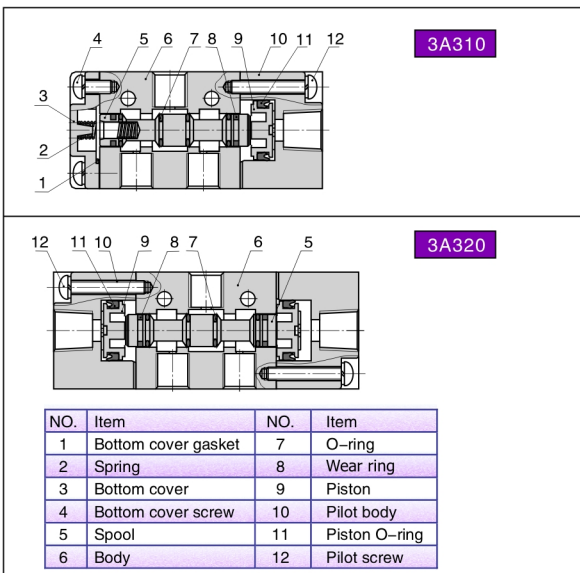
Product feature

- 1、Structure in sliding column mode: good tightness and sensitive reaction;
- 2、Double air control valves have memory function;
- 3、Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life;
- 4、No need to add oil for lubrication;
- 5、Multi-mounting helps to install and apply.

Flow chart



Inner structure

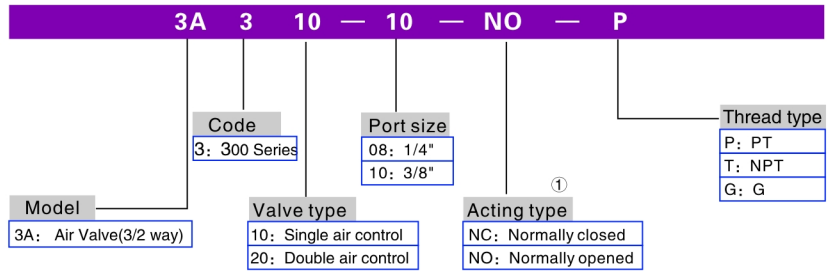


Specification

Model	3A310-08	3A320-08	3A310-10	3A320-10
Fluid	Air (to be filtered by 40um filter element)			
Acting	Exterior control			
Port size ①	In=Out=1/4"		In=Out=3/8"	
Orifice size	254.0mm ² (Cv=1.39)		30.0mm ² (Cv=1.67)	
Valve type	3 port 2 position			
Lubrication ②	Not required			
Operating pressure	0.15-0.8MPa(21-114Psi)			
Proof pressure	1.5MPa(215Psi)			
Temperature °C	-20-70			
Material of body	Aluminum alloy			
Max. frequency ③	5 cycle/sec			

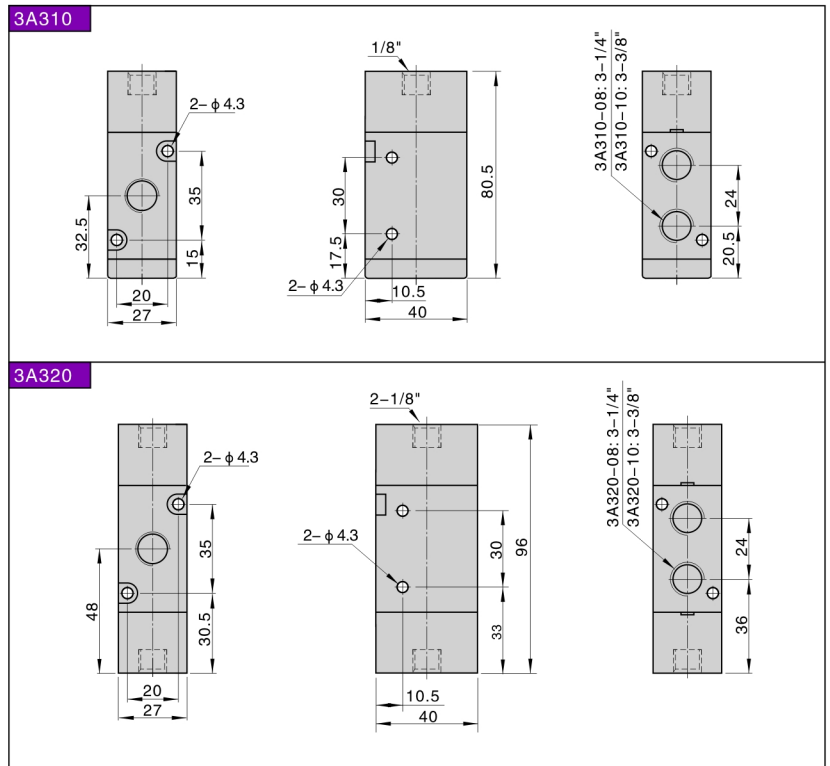
- ① PT thread, NPT thread and G thread are available;
- ② It can not stop in the midway of lubricating. Lubricants like ISO VG32 or equivalent are recommended;
- ③ The maximum actuation frequency of no-load state.

Ordering code



- ① Remark: 2 position double control air valve has no differences between normally opened and normally closed state, thus this code is blank.

Dimensions



Air valve (5/2 5/3 way)

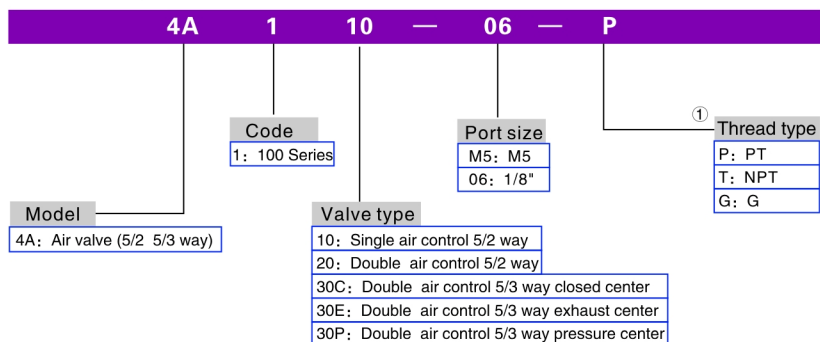
4A100 Series

Specification

Model	4A110-M5 4A120-M5	4A130C-M5 4A130E-M5 4A130P-M5	4A110-06 4A120-06	4A130C-06 4A130E-06 4A130P-06
Fluid	Air(to be filtered by 40um filter element)			
Acting	Exterior control			
Port size ①	In=Out=M5		In=Out =1/8"	
Orifice size	5.5mm ² (Cv=0.31)	5.0mm ² (Cv=0.28)	12.0mm ² (Cv=0.67)	9.0mm ² (Cv=0.50)
Valve type	5 port 2 position	5 port 3 position	5 port 2 position	5 port 3 position
Operating pressure	0.15-0.8MPa(21~114Psi)			
Proof pressure	1.5MPa(215Psi)			
Temperature ℃	-20-70			
Material of body	Aluminum alloy			
Lubrication ②	Not required			
Max. frequency ③	5 cycle/sec	3 cycle/sec	5 cycle/sec	3 cycle/sec
Weight	4A110-M5:85g 4A120-M5:140g	165g	4A110-06:85g 4A120-06:140g	165g

- ① PT thread, NPT thread and G thread are available;
 ② It can not stop in the midway of lubricating. Lubricants like ISO VG32 or equivalent are recommended;
 ③ The maximum actuation frequency is in the no-load state.

Ordering code

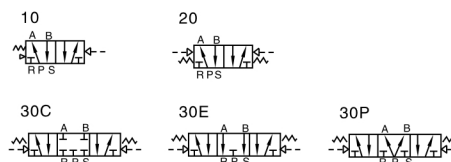


① When the thread is M5 type, the code is blank.
 Please refer to PI-33 for manifold specification and the order way.



4A100

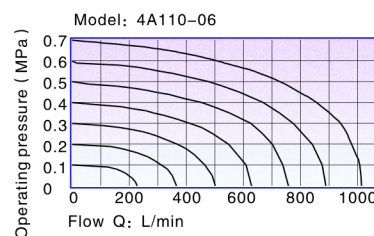
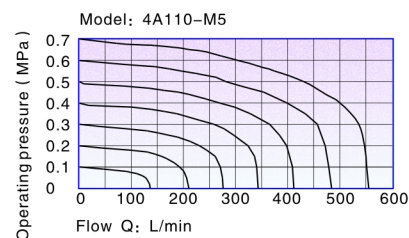
Symbol



Product feature

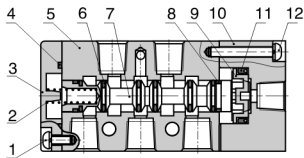
- Structure in sliding column mode: good tightness and sensitive reaction
- There are three medium functions of three-position air valves for your choice;
- Two-position air control valve with two heads has memory function;
- Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life;
- No need to add oil for lubrication;
- Integrate with the manifold to save installation space.

Flow chart

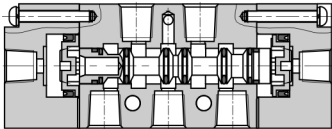


Inner structure

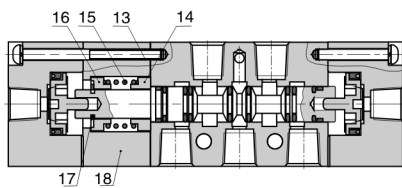
4A110



4A120



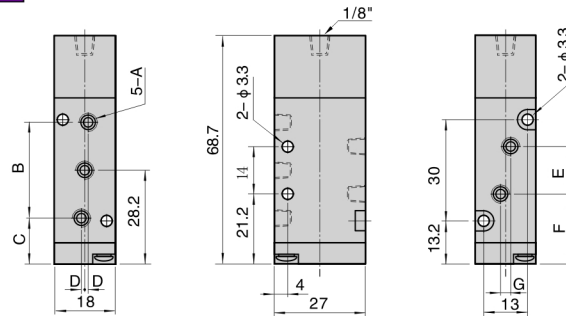
4A130C



NO.	Item	NO.	Item
1	Bottom cover screw	10	Pilot body
2	Spool spring	11	Piston O-ring
3	Bottom cover	12	Pilot screw
4	Bottom cover gasket	13	Pilot screw
5	Body	14	Return seat
6	Spool O-ring	15	Return spring
7	Spool	16	Return seat
8	Wear ring	17	E clip
9	Piston	18	Side cover

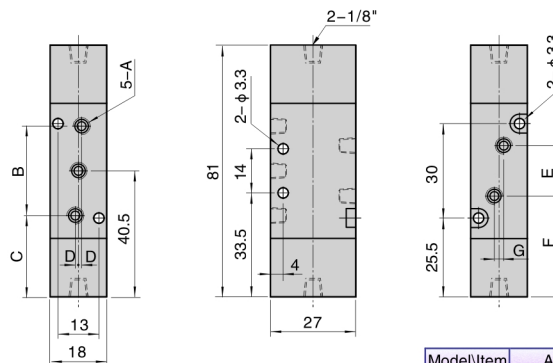
Dimensions

4A110



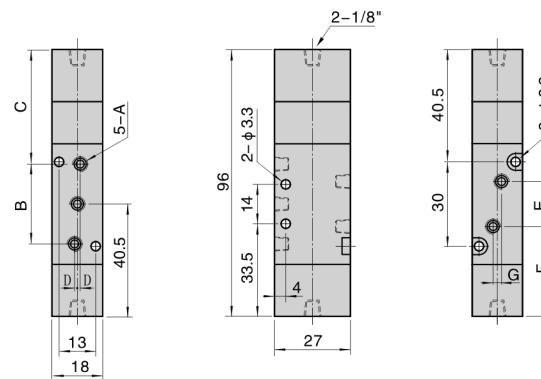
Model\Item	A	B	C	D	E	F	G
4A110-M5	M5 × 0.8	27	14.7	0	14	21.2	0
4A110-06	1/8"	28	14.2	1	16	20.2	3

4A120



Model\Item	A	B	C	D	E	F	G
4A120-M5	M5 × 0.8	27	27	0	14	33.5	0
4A120-06	1/8"	28	26.5	1	16	32.5	3

4A130



Model\Item	A	B	C	D	E	F	G
4A130-M5	M5 × 0.8	27	42.5	0	14	33.5	0
4A130-06	1/8"	28	41.5	1	16	32.5	3

Air valve (5/2 5/3 way)

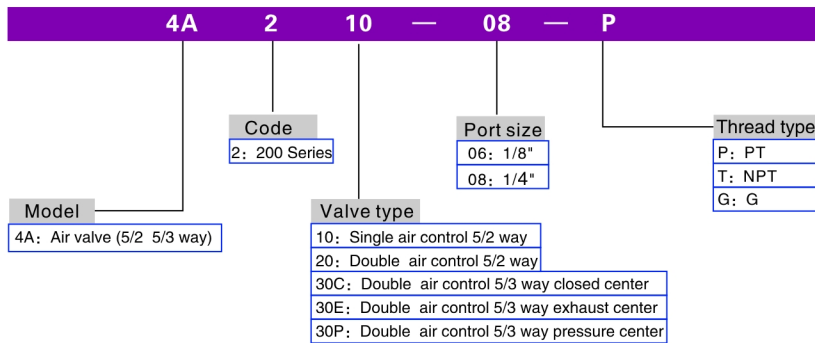
4A200 Series

Specification

Model	4A210-06 4A220-06	4A230C-06 4A230E-06 4A230P-06	4A210-08 4A220-08	4A230C-08 4A230E-08 4A230P-08
Fluid	Air (to be filtered by 40um filter element)			
Acting	Exterior control			
Port size ①	In=Out=Exhaust=1/8"		In=Out =1/4"	Exhaust=1/8"
Orifice size	14.0mm ² (Cv=0.78)	12.0mm ² (Cv=0.67)	16.0mm ² (Cv=0.89)	12.0mm ² (Cv=0.67)
Valve type	5 port 2 position	5 port 3 position	5 port 2 position	5 port 3 position
Operating pressure	0.15-0.8MPa(21~114Psi)			
Proof pressure	1.5MPa(215Psi)			
Temperature °C	-20~70			
Material of body	Aluminum alloy			
Lubrication ②	Not required			
Max. frequency ③	5 cycle/sec	3 cycle/sec	5 cycle/sec	3 cycle/sec
Weight	4A210-06:185g 4A220-06:285g	365g	4A210-08:185g 4A220-08:285g	365g

- ① PT thread, NPT thread and G thread are available;
 ② It can not stop in the midway of lubricating. Lubricants like ISO VG32 or equivalent are recommended;
 ③ The maximum actuation frequency is in the no-load state.

Ordering code

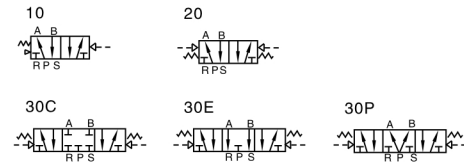


Please refer to PI-33 for manifold specification and the order way.



4A200

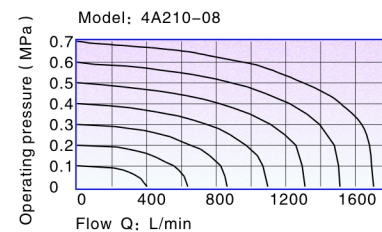
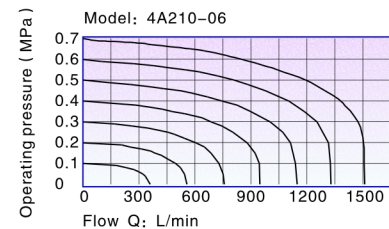
Symbol



Product feature

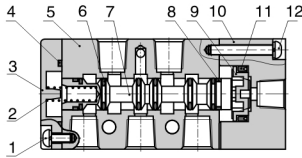
- Structure in sliding column mode: good tightness and sensitive reaction.
- There are three medium functions of three-position air valves for your choice;
- Two-position air control valve with two heads has memory function;
- Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life;
- No need to add oil for lubrication;
- Integrate with the manifold to save installation space.

Flow chart

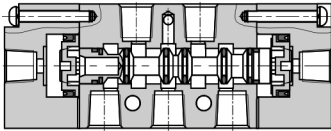


Inner structure

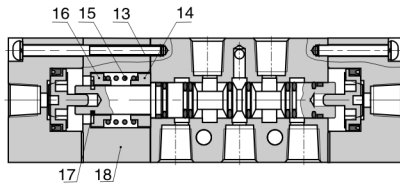
4A210



4A220



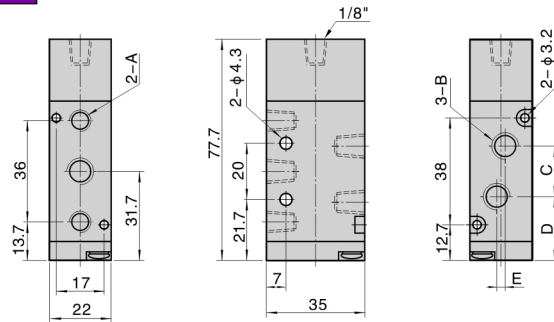
4A230C



NO.	Item	NO.	Item
1	Bottom cover screw	10	Pilot body
2	Spool spring	11	Piston O-ring
3	Bottom cover	12	Pilot screw
4	Bottom cover gasket	13	Pilot screw
5	Body	14	Return seat
6	Spool O-ring	15	Return spring
7	Spool	16	Return seat
8	Wear ring	17	E clip
9	Piston	18	Side cover

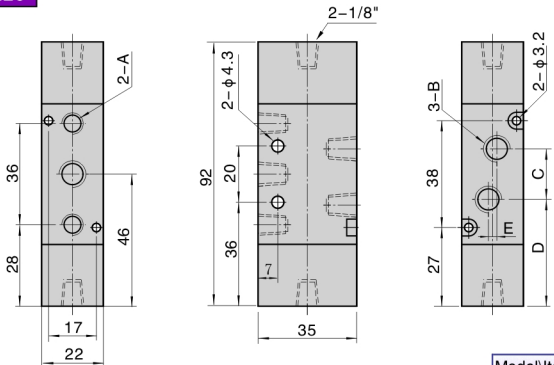
Dimensions

4A210



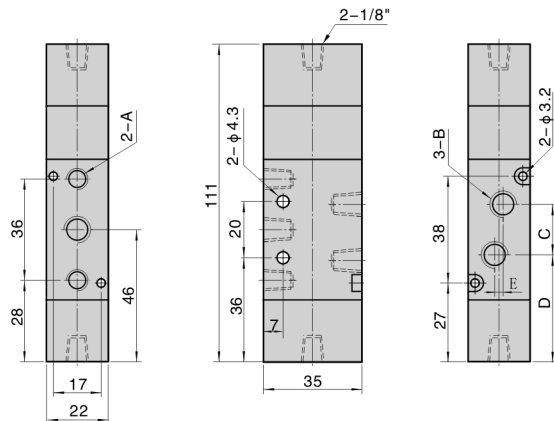
Model/Item	A	B	C	D	E
4A210-06	1/8"	1/8"	18	22.7	0
4A210-08	1/8"	1/4"	21	21.2	3

4A220



Model/Item	A	B	C	D	E
4A220-06	1/8"	1/8"	18	37	0
4A220-08	1/8"	1/4"	21	35.5	3

4A230



Model/Item	A	B	C	D	E
4A230-06	1/8"	1/8"	18	37	0
4A230-08	1/8"	1/4"	21	35.5	3



Air valve (5/2 5/3 way)

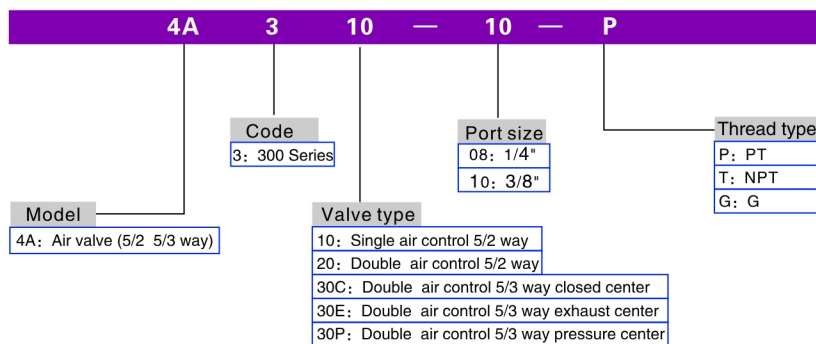
4A300 Series

Specification

Model	4A310-08 4A320-08	4A330C-08 4A330E-08 4A330P-08	4A310-10 4A320-10	4A330C-10 4A330E-10 4A330P-10
Fluid	Air(to be filtered by 40um filter element)			
Acting	Exterior control			
Port size ①	In=Out=Exhaust=1/4"		In=Out =3/8"	Exhaust=1/4"
Orifice size	25.0mm ² (Cv=1.40)	18.0mm ² (Cv=1.00)	30.0mm ² (Cv=1.68)	18.0mm ² (Cv=1.00)
Valve type	5 port 2 position	5 port 3 position	5 port 2 position	5 port 3 position
Operating pressure	0.15-0.8MPa(21~114Psi)			
Proof pressure	1.5MPa(215Psi)			
Temperature ℃	-20-70			
Material of body	Aluminum alloy			
Lubrication	Not required			
Max. frequency ②	4 cycle/sec	3 cycle/sec	4 cycle/sec	3 cycle/sec
Weight	4A310-08:275g 4A320-08:365g	505g	4A310-10:275g 4A320-10:365g	505g

- ① PT thread, NPT thread and G thread are available;
② The maximum actuation frequency of no-load state.

Ordering code

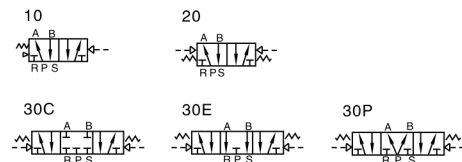


Please refer to PI-33 for manifold specification and the order way.



4A300

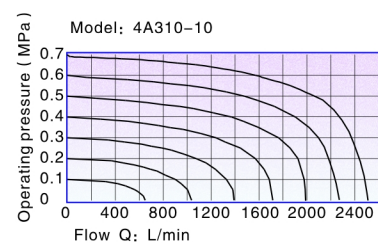
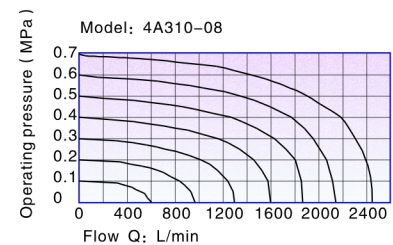
Symbol



Product feature

- Structure in sliding column mode: good tightness and sensitive reaction;
- There are three medium functions of three-position air valves for your choice;
- Two-position air control valve with two heads has memory function;
- Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life;
- No need to add oil for lubrication;
- Integrate with the manifold to save installation space.

Flow chart

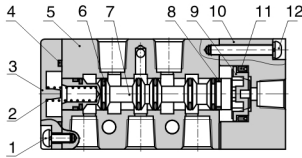


Air valve (5/2 5/3 way)

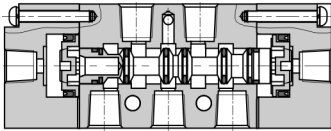
4A300 Series

Inner structure

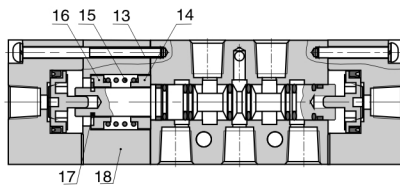
4A310



4A320



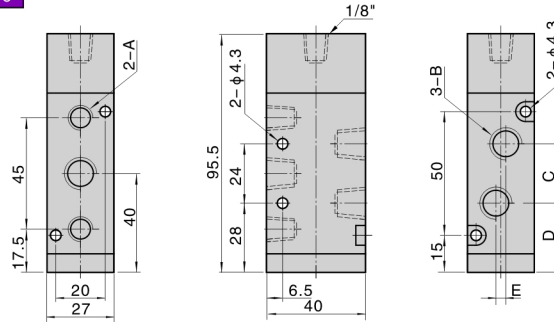
4A330C



NO.	Item	NO.	Item
1	Bottom cover screw	10	Pilot body
2	Spool spring	11	Piston O-ring
3	Bottom cover	12	Pilot screw
4	Bottom cover gasket	13	Pilot screw
5	Body	14	Return seat
6	Spool O-ring	15	Return spring
7	Spool	16	Return seat
8	Wear ring	17	E clip
9	Piston	18	Side cover

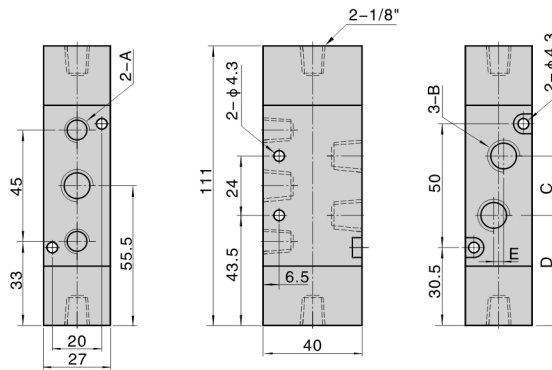
Dimensions

4A310



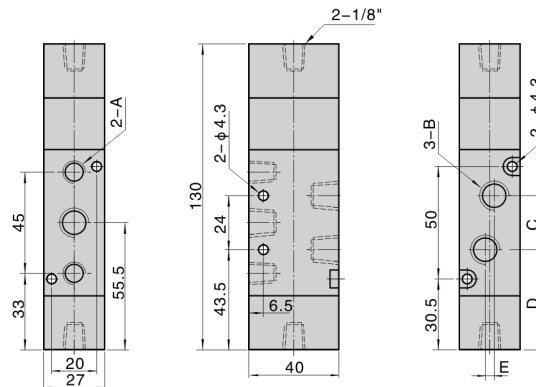
Model/Item	A	B	C	D	E
4A310-08	1/4"	1/4"	22	29	0
4A310-10	1/4"	3/8"	24	28	4

4A320



Model/Item	A	B	C	D	E
4A320-08	1/4"	1/4"	22	44.5	0
4A320-10	1/4"	3/8"	24	43.5	4

4A330



Model/Item	A	B	C	D	E
4A330-08	1/4"	1/4"	22	44.5	0
4A330-10	1/4"	3/8"	24	43.5	4



Air valve (5/2 5/3 way)

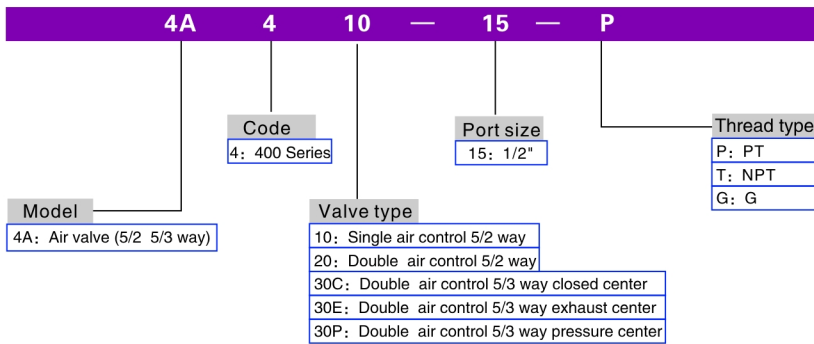
4A400 Series

Specification

Model	4A410-15	4A420-15	4A430C-15	4A430E-15	4A430P-15
Fluid	Air(to be filtered by 40um filter element)				
Acting	Exterior control				
Port size ①	In=Out=Exhaust=1/2"				
Orifice size	50.0mm ² (Cv=2.79)		30.0mm ² (Cv=1.68)		
Valve type	5 port 2 position		5 port 3 position		
Operating pressure	0.15-0.8MPa(21~114Psi)				
Proof pressure	1.5MPa(215Psi)				
Temperature ℃	-20~70				
Material of body	Aluminum alloy				
Lubrication ②	Not required				
Max. frequency ③	3 cycle/sec				
Weight	550g	685g			735g

- ① PT thread, NPT thread and G thread are available;
 ② It can not stop in the midway of lubricating. Lubricants like ISO VG32 or equivalent are recommended;
 ③ The maximum actuation frequency is in the no-load state.

Ordering code

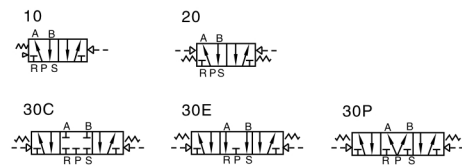


Please refer to PI-33 for manifold specification and the order way.



4A400

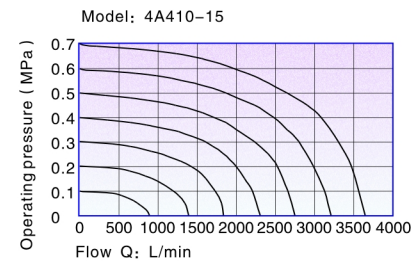
Symbol



Product feature

- Structure in sliding column mode: good tightness and sensitive reaction;
- There are three medium functions of three-position air valves for your choice;
- Two-position air control valve with two heads has memory function;
- Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life;
- No need to add oil for lubrication;
- Integrate with the manifold to save installation space.

Flow chart

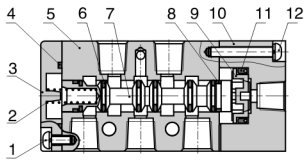


Air valve (5/2 5/3 way)

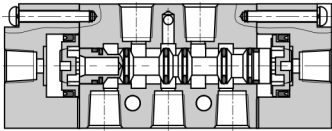
4A400 Series

Inner structure

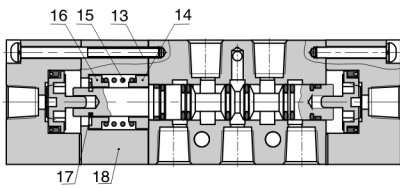
4A410



4A420



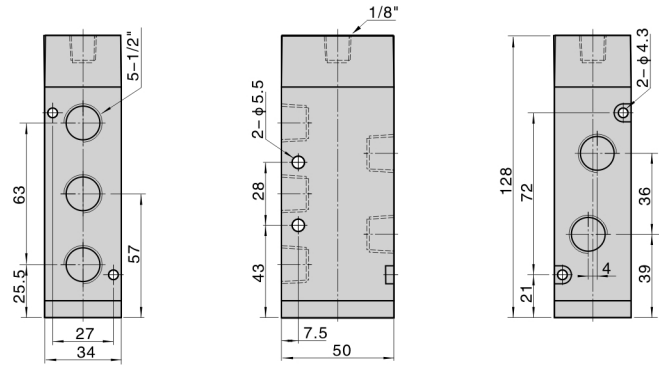
4A430C



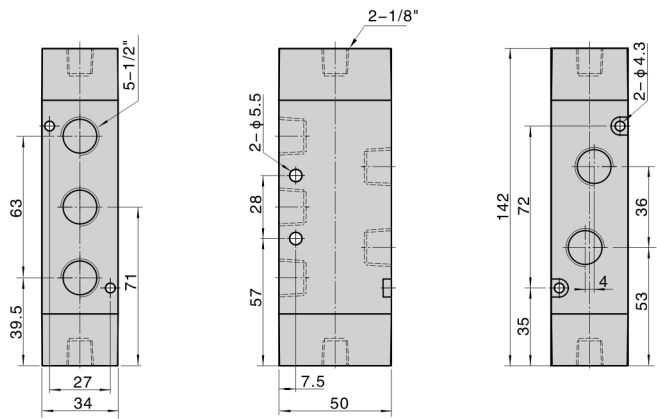
NO.	Item	NO.	Item
1	Bottom cover screw	10	Pilot body
2	Spool spring	11	Piston O-ring
3	Bottom cover	12	Pilot screw
4	Bottom cover gasket	13	Pilot screw
5	Body	14	Return seat
6	Spool O-ring	15	Return spring
7	Spool	16	Return seat
8	Wearing ring	17	E clip
9	Piston	18	Side cover

Dimensions

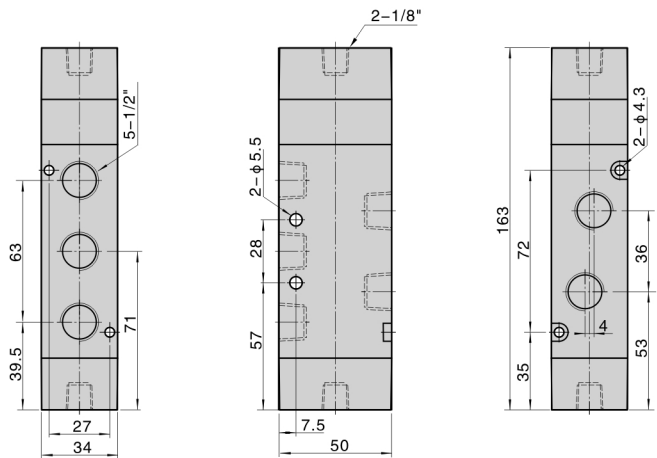
4A410



4A420



4A430



Manifold

Specification

Item\Manifold Model	100M	200M	300M	400M
Fluid	Air(to be filtered by 40um filter element)			
Temperature °C	-20~70			
Adaptable valve' s series	4V100、4A100 Series	4V200、4A200 Series	4V300、4A300 Series	4V400、4A400 Series

Ordering code

Ordering code contains the two parts of the manifold' s and the blank plate' s.

1 Ordering code for manifold

100M — 5F

Model	Number of stations
100M: 100 Series Manifold	1F: 1 Stations
200M: 200 Series Manifold	2F: 2 Stations
300M: 300 Series Manifold
400M: 400 Series Manifold	16F: 16 Stations

2 Ordering code for blank plate

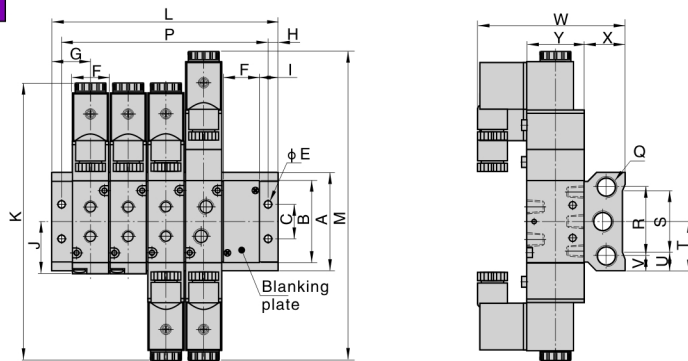
100M — B

Model	Code
100M: 100 Series	B: Blank plate for manifold
200M: 200 Series	
300M: 300 Series	
400M: 400 Series	

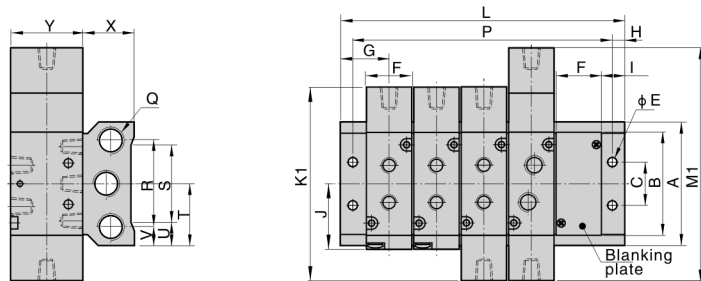
① 100M, 200M series have a maximum of 16 stations ; 300M series have a maximum of 12 stations; 400M series have a maximum of 8 stations.

Dimensions

With 4V solenoid valve



With 4A air valve



Model/Item	L										L									
	A	B	C	E	F	G	H	I	J		1F	2F	3F	4F	5F	6F	7F	8F	9F	10F
100M□F	58	43.2	20	4.5	18.3	19	5	10	28.2		38	57	76	95	114	133	152	171	190	209
200M□F	61	50.7	21	4.5	22.4	23	6	12	31.7		46	69	92	115	138	161	184	207	230	253
300M□F	75	64.8	26	4.5	27.3	27	6	13.5	40		54	82	110	138	166	194	222	250	278	306
400M□F	104	94.5	32	5.5	34.3	31.5	7	14.5	57		63	98	133	168	203	238	273	308	-	-

Model/Item	L															
	11F	12F	13F	14F	15F	16F	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F
100M□F	228	247	266	285	304	323	28	47	66	85	104	123	142	161	180	199
200M□F	276	299	322	345	368	391	34	57	80	103	126	149	172	195	218	241
300M□F	334	362	-	-	-	-	42	70	98	126	154	182	210	238	266	294
400M□F	-	-	-	-	-	-	49	84	119	154	189	224	259	294	-	-

Model/Item	K	K1	M1	M1	Q	R	S	T	U	V	W	X	Y
100M□F	139.4	81	154.5	96	1/4"	40	30	29	14	9	79	25	27
200M□F	170	92	189	111	1/4"	43	32	30.5	14.5	9	93	26	35
300M□F	188.8	111	208	130	3/8"	53	48	37.5	13.5	11	99.5	30	40
400M□F	221.8	142	243	163	1/2"	68	67	52	18.5	18	112.5	38	50



Manifold

Product feature

- 1、 It is available to integrate the direction control valves of the same series to form value group to save space and cost;
- 2、 It is easy to examine when there are faults owing to the unified air intake and exhaust and unified wiring;
- 3、 Flexible combination and strong expansion capability can make any combination or expansion of the numbers of direction control valves that are connected.

Note



A large, empty rectangular area with horizontal lines, serving as a writing space for notes.

