

About Us

BITEBI is one of the leading cylinders manufactures and suppliers in China. Welcome to buy our high-quality with high competitive price products from cylinders, pneumatic cylinders OEM service and ODM from your factory or company.

Our production capacity, comprehensive services as well as abundant experience enable us to be your best choice. We look forward to your reply and to establish mutually beneficial trading relations with you.

Working Process

● Mold Design and Manufacturing

Able to design and produce Die Casting Mold.
Software: Pro

● Die Casting

Fully equipped with high pressure cold chamber die casting machines
All the die casting machines are with automatic feed, spraying, fetch robot arms.

● CNC Machining

We tailor our machining approach for either low-volume or higher-volume production runs. Secondary machining such as tapping, milling, boring, surfacing, drilling, and threading are performed to your specifications.

● Assembling End Product

Able to assemble various cylinders.
Able to assembly big bore cylinder up to 320mm.
Own testing equipment for cylinders.

BITEBI®

Booster cylinder & F.R.L. & Valves &
Accessories & MGP cylinder



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无锡比特比机械科技有限公司
WUXI BITEBI MACHINERY TECHNOLOGY CO.,LTD

Energy Saving, Exhaust-Recovery Booster Regulator

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Preparation unit

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Compact Guide Cylinder



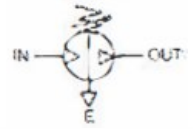
MPG Series	P135
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Energy Saving, Exhaust-Recovery Booster Regulator **BITEBI®**

——VBAE Series



■ Symbol



Ordering code

VBAE 40A - □ 04 □ - □

① ② ③ ④ ⑤

③ Port size

Symbol	Port size	Applicable model
02	1/4	VBAE10
03	3/8	VBAE20
04	1/2	VBAE40

④ Option

Symbol	Option
Nil	No
G	Pressure gauge
N	Silencer
S	Efficient silencer ^{*Note}
GN	Pressure gauge+Silencer
GS	Pressure gauge+Efficient silencer ^{*Note}
LN	Elbow silencer
LS	Elbow efficient silencer ^{*Note}
GLN	Pressure gauge+Elbow silencer ^{*Note}
GLS	Pressure gauge+Elbow efficient silencer ^{*Note}

*Note: Please refer to the combination table of thread types and optional components

① Body size

10A	1/4 Basic, Manual operation type	Pressure increase ratio 2 times
20A	3/8 Basic, Manual operation type	
40A	1/2 Basic, Manual operation type	
22A	3/8 Basic, Air control type	
42A	1/2 Basic, Air control type	Pressure increase ratio 2~4 times
43A	1/2 Basic, High operating pressure : 1.6MPa	
11A	1/4 Basic, Manual operation type	

② Thread type^{*1}

Nil	Rc
F	G
N	NPT
T	NPTF

*1 Thread types apply to the IN and OUT ports. The gauge ports are Rc thread type regardless of the thread type indication.

⑤ Semi-standard

Symbol	Semi-standard
Nil	Standard product
Z	Pressure unit on the product name label : psi Pressure unit on the pressure gauge : psi

Note: The thread type is NPT, NPTF.

Combination table of thread types and optional components

Body size	Port size	Option										Semi-standard	
		Nil	G	N	S	GN	GS	LN	LS	GLN	GLS	Nil	Z
10A 11A	Nil	●	●	●	●	●	●	●	●	●	●	●	-
	F	●	●	●	●	●	●	●	●	●	●	●	-
	N	●	●	●	-	●	-	●	-	●	-	●	●
	T	●	●	●	-	●	-	●	-	●	-	●	●
20A 22A	Nil	●	●	●	●	●	●					●	-
	F	●	●	●	●	●	●					●	-
	N	●	●	●	●	●	●					●	●
	T	●	●	●	●	●	●					●	●
40A 42A 43A	Nil	●	●	●	●	●	●					●	-
	F	●	●	●	●	●	●					●	-
	N	●	●	●	●	●	●					●	●
	T	●	●	●	●	●	●					●	●

Air Tank Compatibility Chart

Booster regulator	Option		
	Air tank	VBAE1□	VBAE2□ VBAE4□
VBAT05A	●	-	-
VBAT05S			
VBAT10A	●	●	-
VBAT10S			
VBAT20A	-	●	●
VBAT20S			
VBAT38A	-	●	●
VBAT38S			

Energy Saving, Exhaust-Recovery Booster Regulator **BITEBI®**

——VBAE Series

Standard Specifications

Model	VBAE10A-02	VBAE20A-03	VBAE40A-04	VBAE22A-03	VBAE42A-04	VBAE43A-04	VBAE11A-02
Fluid	Compressed air						
Pressure increase ratio	2 times						2~4 times
Pressure adjustment mechanism	With overflow function Manual operation type ^{Note1)}			Air control type		With overflow function Manual operation type ^{Note1)}	
Max. flow rate ^{Note2)} [L/min (ANR)]	230	1000	1900	1000	1900	1600	70
Outlet pressure range [MPa]	0.2~2.0	0.2~1.0		0.2~1.0		0.2~1.6	0.2~2.0
Inlet pressure range [[MPa]	0.1~1.0						
Proof pressure [MPa]	3	1.5				2.4	3
Port size (IN, OUT) [Rc]	1/4	3/8	1/2	3/8	1/2	1/4	
OUT side gauge port [Rc]	1/8						
Ambient and fluid temperatures [°C]	2 to 50 (No freezing)						
Installation	Horizontal						
Lubrication	Grease (Non-lube)						
Weight [kg]	0.84	0.39	8.6	3.9	8.6	8.6	0.89

Note1) When the pressure at the OUT port is higher than the set pressure of the handle, the remaining pressure is discharged from the back of the handle.

Note2) Flow rate at IN = OUT = 0.5MPa. The pressure varies depending on the operating conditions.

Options /Part No.

Pressure gauge\Silencer(Thread type:Rc, G)

Name\Model		VBAE10A-02 VBAE10A-F02	VBAE20A-03 VBAE20A-F03	VBAE40A-04 VBAE40A-F04	VBAE22A-03 VBAE22A-F03	VBAE42A-04 VBAE42A-F04	VBAE43A-04 VBAE43A-F04	VBAE11A-02 VBAE11A-F02
Gauge	G	G27-20-01	G36-10-01		KT-VBA22A-7	G36-10-01	G27-20-01	G27-20-01
Silencer	N	AN20-02	AN30-03	AN40-04	AN30-03	AN40-04	AN40-04	AN20-02
Efficient silencer	S	ANA1-02	ANA1-03	ANA1-04	ANA1-03	ANA1-04	ANA1-04	ANA1-02
Elbow(For silencer)	L	KT-VBA10A-18	-	-	-	-	-	KT-VBA10A-18

Note 1) When the option is GN, 2 pressure gauges and 1 silencer can be packaged and shipped together as accessories.

Note 2) KT-VBA22A · 7 is a pressure gauge with a connector. For occasions where both IN and OUT are used, please order 2.

Pressure gauge\Silencer(Thread type:NPT, NPTF)

Name\Model		VBAE10A-N02 VBAE10A-T02	VBAE20A-N03 VBAE20A-T03	VBAE40A-N04 VBAE40A-T04	VBAE22A-N03 VBAE22A-T03	VBAE42A-N04 VBAE42A-T04	VBAE43A-N04 VBAE43A-T04	VBAE11A-N02 VBAE11A-T02
Gauge *Nil	G	G27-20-01	G36-10-N01		KT-VBA22A-7N	G36-10-N01	G27-20-N01	G27-20-01
Gauge *Nil-Z		G27-P20-01	G36-10-N01		KT-VBA22A-8N	G36-10-N01	G27-20-N01	G27-20-01
Silencer	N	AN20-N02	AN30-N03	AN40-N04	AN30-N03	AN40-N04	AN40-N04	AN20-N02
Efficient silencer	S	-	ANA1-N03	ANA1-N04	ANA1-N03	ANA1-N04	ANA1-N04	-
Elbow(For silencer)	L	KT-VBA10A-18N	-	-	-	-	-	KT-VBA10A-18N

Note 1) When the option is GN, 2 pressure gauges and 1 silencer can be packaged and shipped together as accessories.

Note 2) The pressure gauge uses psi pressure units.

Related products and component models

Oil mist separator, exhaust cleaner

Name\Model	For VBAE10A-02 For VBAE11A-02	For VBAE20A-03 For VBAE22A-03	For VBAE40A-04 For VBAE42A-04 For VBAE43A-04
Oil mist separator	XAM250C-02	XAM450C-04,06	XAM550C-06,10
Exhaust cleaner	XAMC310-03	XAMC510C-06	XAMC610C-10

Design considerations

1) System configuration

● Although a metal mesh is installed at the IN port (intake port) of the booster valve to prevent impurities from entering, it cannot completely remove impurities and condensed water. Please make sure to install an oil mist separator (AM series) at the inlet of the booster valve.

● There are movable components inside the booster valve, which may cause wear and dust. Therefore, it is also necessary to install corresponding models of air purification components such as filters and oil mist separators at the exhaust outlet according to the specific situation.

● Please install the oil mist device at the exhaust port. Otherwise, the accumulated lubricating oil in the booster valve will cause poor operation.

2) Exhaust treatment

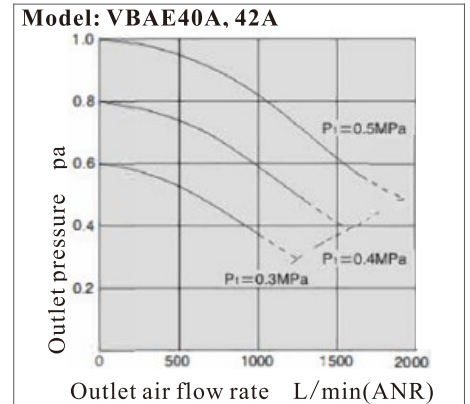
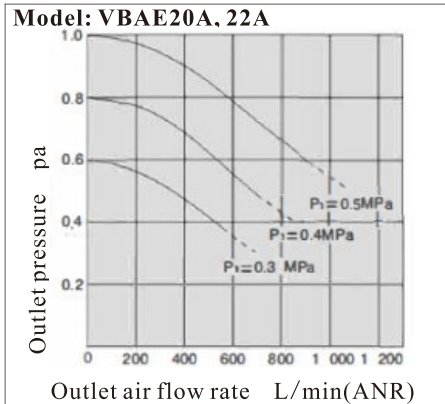
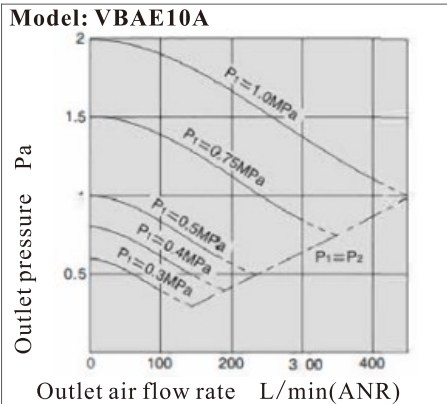
● The exhaust pipe of the booster valve must be configured separately. If the exhaust pipes of the booster valve are connected together, it may cause misoperation due to the influence of back pressure.

● If necessary, a muffler and exhaust cleaner can be installed at the exhaust port of the booster valve to reduce exhaust noise.

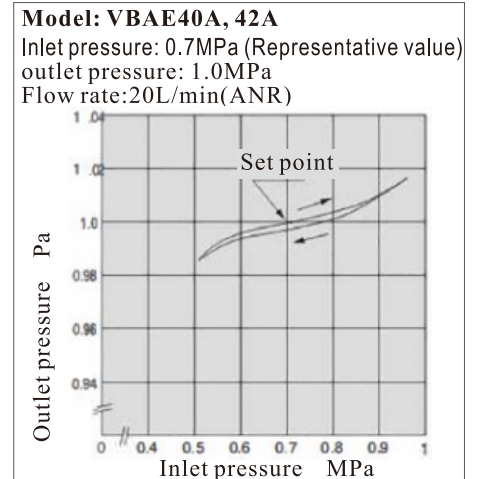
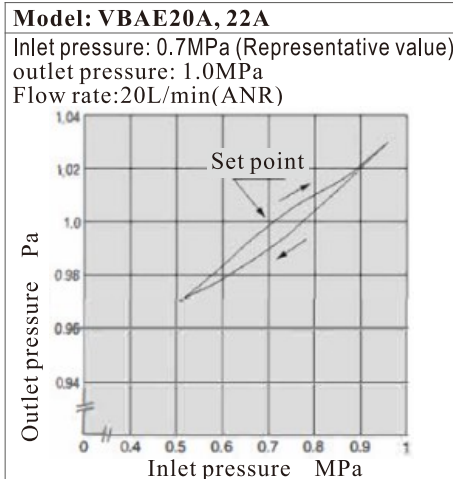
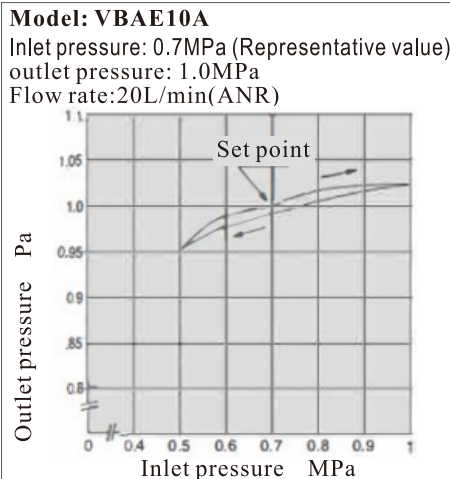
3) Reserved maintenance space

● Please reserve the necessary space for maintenance work.

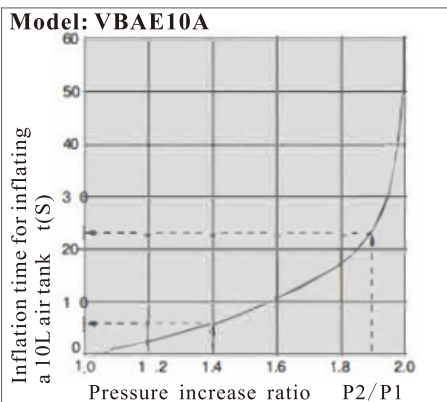
Flow Rate Characteristics



Pressure characteristics



Inflatable characteristics



VBAE10A

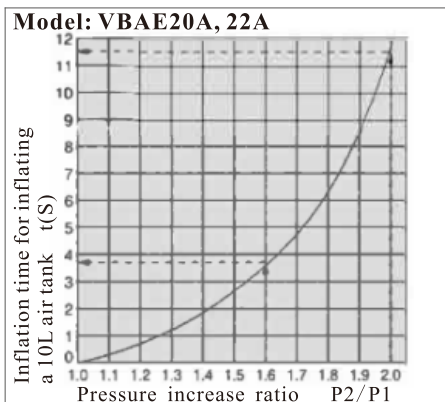
The time required to charge pressure in the tank from 0.7 MPa to 0.95 MPa at 0.5 MPa supply pressure:

$$\frac{P_2}{P_1} = \frac{0.7}{0.5} = 1.4 \quad \frac{P_2}{P_1} = \frac{0.95}{0.5} = 1.9$$

With the pressure increase ratio from 1.4 to 1.9, the charge time of 23 - 6 = 17 s (t) is given by the graph.

Then, the charge time (T) for a 10 L tank:

$$T = t * \frac{V}{10} = 17 * \frac{10}{10} = 17(s)$$



VBAE20A,22A

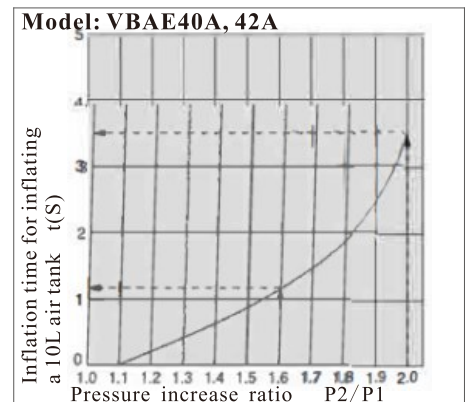
The time required to charge pressure in the tank from 0.8 MPa to 1.0 MPa at 0.5 MPa supply pressure:

$$\frac{P_2}{P_1} = \frac{0.8}{0.5} = 1.6 \quad \frac{P_2}{P_1} = \frac{1.0}{0.5} = 2.0$$

With the pressure increase ratio from 1.6 to 2.0, the charge time of 11.5 - 3.8 = 7.7 s (t) is given by the graph.

Then, the charge time (T) for a 100 L tank:

$$T = t * \frac{V}{10} = 7.7 * \frac{100}{10} = 77(s)$$



VBAE40A,42A

The time required to charge pressure in the tank from 0.8 MPa to 1.0 MPa at 0.5 MPa supply pressure:

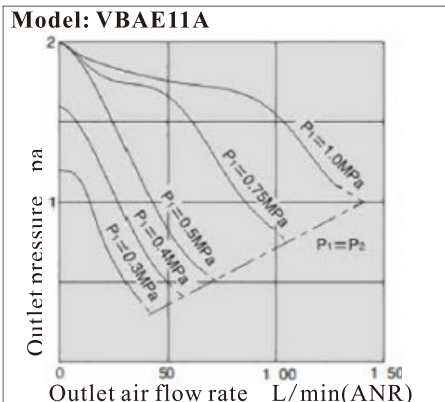
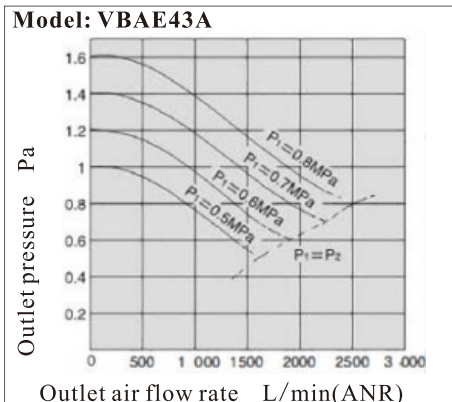
$$\frac{P_2}{P_1} = \frac{0.8}{0.5} = 1.6 \quad \frac{P_2}{P_1} = \frac{1.0}{0.5} = 2.0$$

With the pressure increase ratio from 1.6 to 2.0, the charge time of 3.5 - 1.1 = 2.4 s (t) is given by the graph.

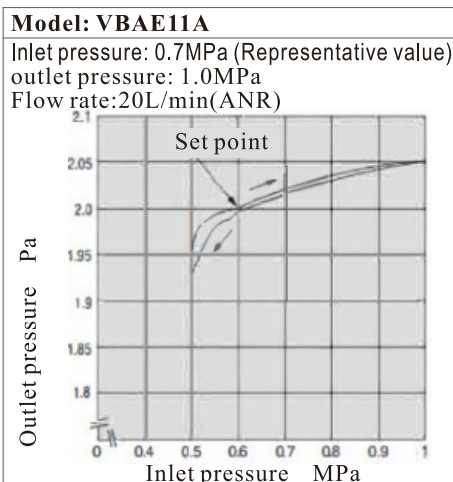
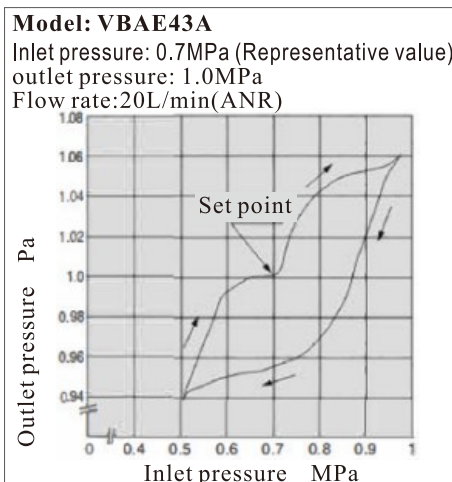
Then, the charge time (T) for a 100 L tank:

$$T = t * \frac{V}{10} = 2.4 * \frac{100}{10} = 24(s)$$

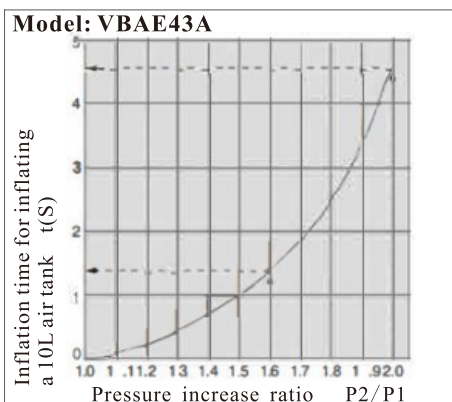
Flow Rate Characteristics



Pressure characteristics



Inflatable characteristics



VBAE43A

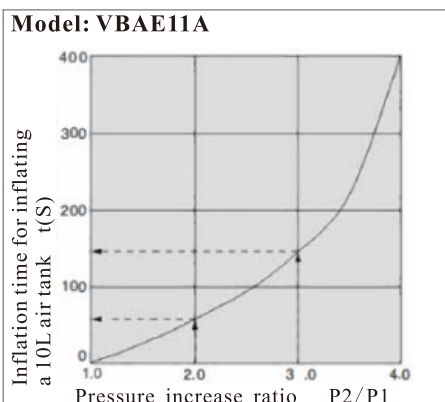
The time required to charge pressure in the tank from 0.8 MPa to 1.0 MPa at 0.5 MPa supply pressure:

$$\frac{P_2}{P_1} = \frac{0.8}{0.5} = 1.6 \quad \frac{P_2}{P_1} = \frac{1.0}{0.5} = 2.0$$

With the pressure increase ratio from 1.6 to 2.0, the charge time of 4.5–1.3=3.2s (t) is given by the graph.

Then, the charge time (T) for a 100 L tank:

$$T = t * \frac{V}{10} = 3.2 * \frac{100}{10} = 32(s)$$



VBAE11A

The time required to charge pressure in the tank from 1.0 MPa to 1.5 MPa at 0.5 MPa supply pressure:

$$\frac{P_2}{P_1} = \frac{1.0}{0.5} = 2.0 \quad \frac{P_2}{P_1} = \frac{1.5}{0.5} = 3.0$$

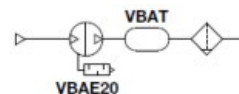
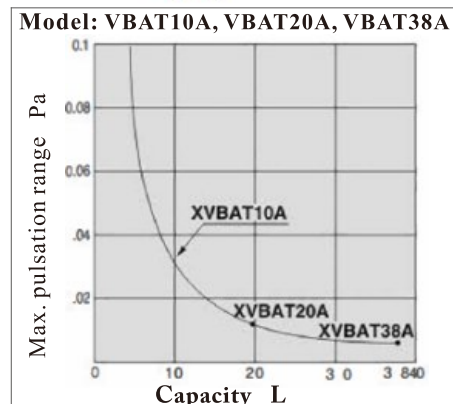
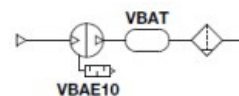
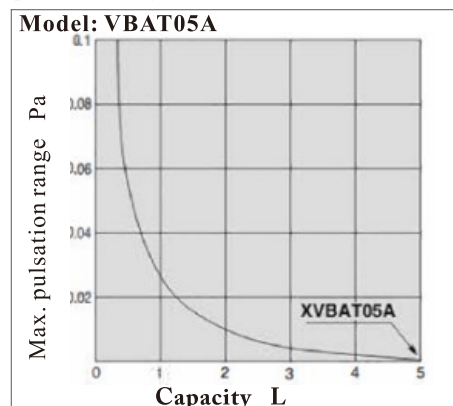
With the pressure increase ratio from 2.0 to 3.0, the charge time of 147–58=89s (t) is given by the graph.

Then, the charge time (T) for a 10 L tank:

$$T = t * \frac{V}{10} = 89 * \frac{10}{10} = 77(s)$$

Pulsation/Pulsation is decreased with a tank

If the outlet capacity is undersized, pulsation may occur.



Conditions: Inlet pressure: 0.5 MPa
Outlet pressure: 1.0 MPa
Flow rate: Between 0 and max. flow rate

●Performance of air tank

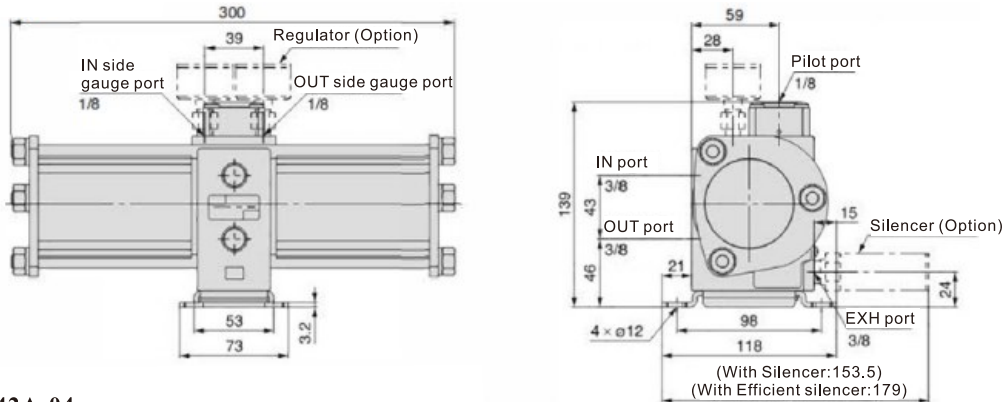
- 1)Alleviates the pulsation generated on the outlet side.
- 2)When air consumption exceeds air supply during intermittent operation, required air will be accumulated in the tank for use.

This does not apply for continuous operation.

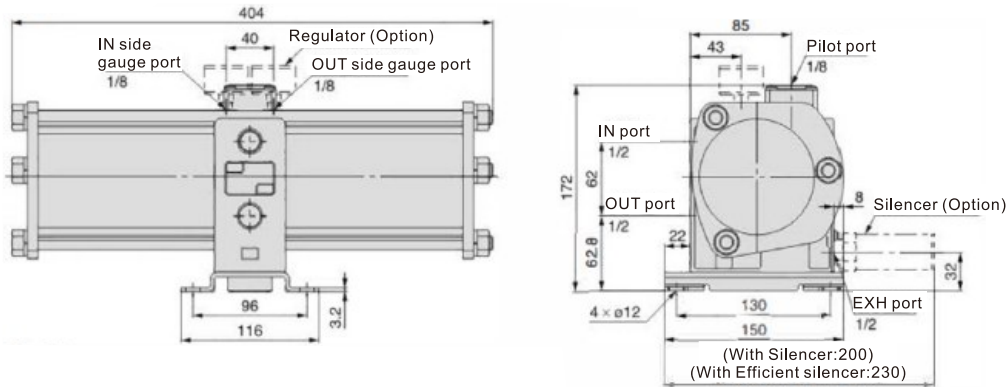
——VBAE Series

——VBAE Series

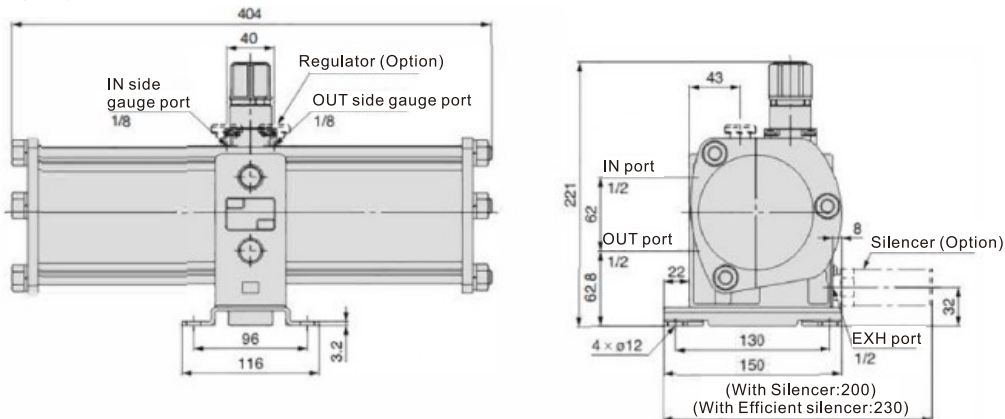
Model: VBAE22A-03



Model: VBAE42A-04



Model: VBAE43A-04



Customer product specifications

● Prohibited copper without krypton specifications

External and internal copper parts have been changed to stainless steel. Fluororesin parts are changed to general resin.

20 - Standard Model

- Customer specifications

20: Prohibited copper without krypton specifications

*Please contact our company for situations where the booster valve is equipped with a pressure gauge.
*Air Tank with safety valves cannot be selected.

● CE Explosion proof Directive (ATEX) Corresponding Products

External and internal copper parts have been changed to stainless steel. Fluororesin parts are changed to general resin.

56 - Standard Model

- Customer specifications

56: CE Explosion proof Directive (ATEX) Corresponding Products

● Ozone resistant specifications

Rubber components such as sealing rings use fluororubber (diaphragm) and hydrogenated nitrile rubber (valve core, rod sealing ring) to enhance ozone resistance.

80 - Standard Model

- Customer specifications

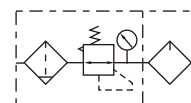
80: Ozone resistant specifications

*The rubber parts of the standard product use weather resistant NBR (membrane).
*Hydrogenated nitrile rubber NBR (valve core).

XFC200~600 Series FR.L. combination



Symbol



Product feature

1. The XFC consisted of XFR and XL, each unit can be ordered separately.
2. The XF with water separator cleans the compressed air of fluid oil, condensation and dirt particles. For special application, 20um filter element can be replaced by 5um filter element.
3. The XR maintain inputting constant operating pressure despite fluctuation in line pressure and the amount of consumed.
4. The proportional lubricator adds a regulated quantity of oil to the filtered air. The oil mist content proportional to the flow and oil can be added during operation. The oil drip rate is controlled by the adjustable bolt. Normally, 1 to 12 drops/1000L of the air is sufficient.

Specification

Model		XFC200-06	XFC200-08	XFC400-08	XFC400-10	XFC400-15	XFC600-20	XFC600-25
Working medium		Air						
Joint pipe bore		PS1/8"	PS1/4"	PS1/4"	PS3/8"	PS1/2"	PS3/4"	PS1"
Filtering grade		20 μ m or 5 μ m						
Pressure range		0.15~1.2MPa(20~145psi)						
Max. pressure		1.2MPa(145psi)						
Proof pressure		1.6MPa(230psi)						
Operating temperature		5~60°C(Unfreeze)						
Drain bowl capacity		15CC		80CC			230CC	
Oil bowl capacity		30CC		160CC			380CC	
Recommended lubricant		ISO VG 32 or equivalent						
Constitute	Filter regulator unit	XFR200-06	XFR200-08	XFR400-08	XFR400-10	XFR400-15	XFR600-20	XFR600-25
	Lubricator unit	XL200-06	XL200-08	XL400-08	XL400-10	XL400-15	XL600-20	XL600-25

Ordering code

XFC200- 08 - M - □ - 20 - PS

① ② ③ ④ ⑤ ⑥

① Model

XFC200: XFC200 series FR.L Unit

XFC400: XFC400 series FR.L Unit

XFC600: XFC600 series FR.L Unit

② Joint pipe bore

Model	Joint pipe bore
XFC200	06: PS1/8"
	08: PS1/4"
	08: PS1/4"
XFC400	10: PS3/8"
	15: PS1/2"
	20: PS3/4"
XFC600	25: PS1"

③ Drop type

Blank: Semi-auto drain

M: Manual drain

A: Automatic drain

④ Pressure gauge

Blank: Pressure gauge

N: No pressure gauge

⑤ Filtering grade

Blank: 20μm

5: 5μm

⑥ Thread type

Blank: PS thread

PT: PT thread

NPT: NPT thread

[Note]

1. Maximum pressure for X series auto drain is 0.8MPa.

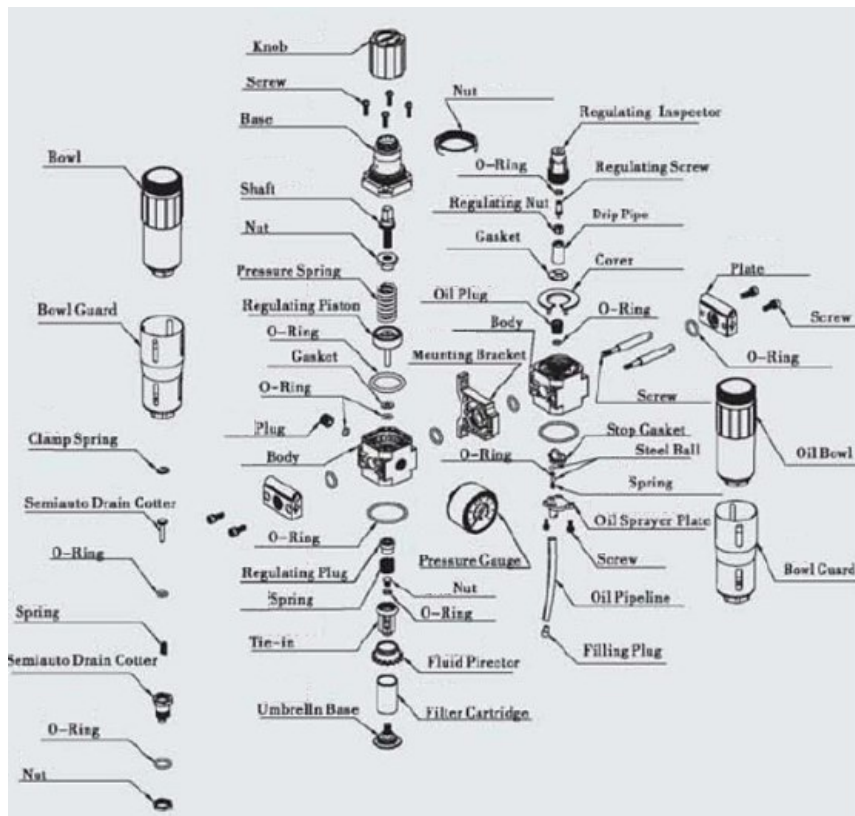
2. Maximum pressure for lower pressure type is 0.4MPa.

Preparation unit——X Series

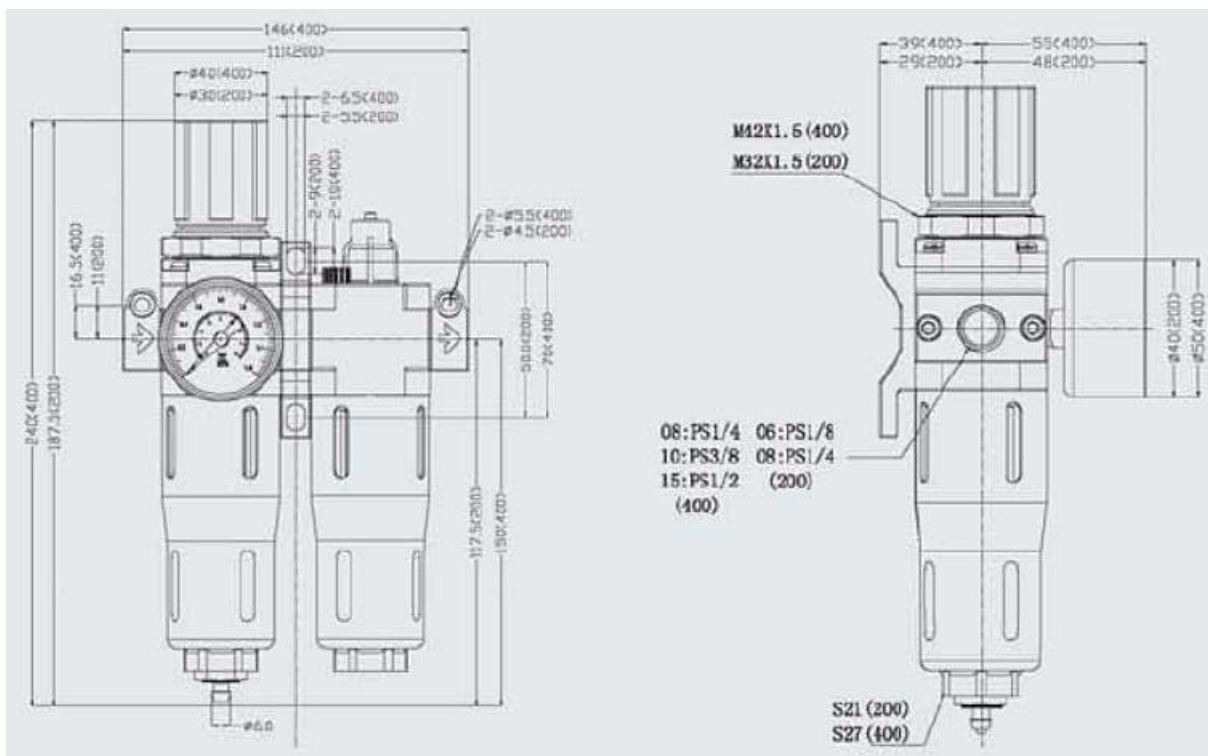
BITEBI®

XFC200~600 Series FR.L. combination

Exploded view



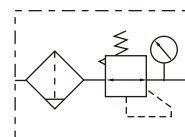
Dimensions



XFR200~600 Series Filter & Regulator Unit



Symbol



Product feature

1. Filter and pressure regulator combine a single unit, and cleans the compressed air of fluid oil, condensation and dirt particles.
For special application , 20um filter element can be replaced by a 5um filter element.
2. The XR maintain inputting constant operating pressure despite fluctuation in line pressure and the amount of air consumed.

Specification

Model	XFC200-06	XFC200-08	XFC400-08	XFC400-10	XFC400-15	XFC600-20	XFC600-25
Working medium	Air						
Joint pipe bore	PS1/8"	PS1/4"	PS1/4"	PS3/8"	PS1/2"	PS3/4"	PS1"
Filtering grade	20 μ m or 5 μ m						
Pressure range	0.15~1.2MPa(20~145psi)						
Max. pressure	1.2MPa(145psi)						
Proof pressure	1.6MPa(230psi)						
Operating temperature	5~60°C(Unfreeze)						
Drain bowl capacity	15CC		80CC			230CC	

Ordering code

XFR200- 08 - M - □ - 20 - PS

① ② ③ ④ ⑤ ⑥

① Model

XFR200: XFR200 series Filter Regulator Unit

XFR400: XFR400 series Filter Regulator Unit

XFR600: XFR600 series Filter Regulator Unit

② Joint pipe bore

Model	Joint pipe bore
XFR200	06: PS1/8"
	08: PS1/4"
XFR400	08: PS1/4"
	10: PS3/8"
	15: PS1/2"
XFR600	20: PS3/4"
	25: PS1"

③ Drop type

Blank: Semi-auto drain

M: Manual drain

A: Automatic drain

④ Pressure gauge

Blank: Pressure gauge

N: No pressure gauge

⑤ Filtering grade

Blank: 20μm

5: 5μm

⑥ Thread type

Blank: PS thread

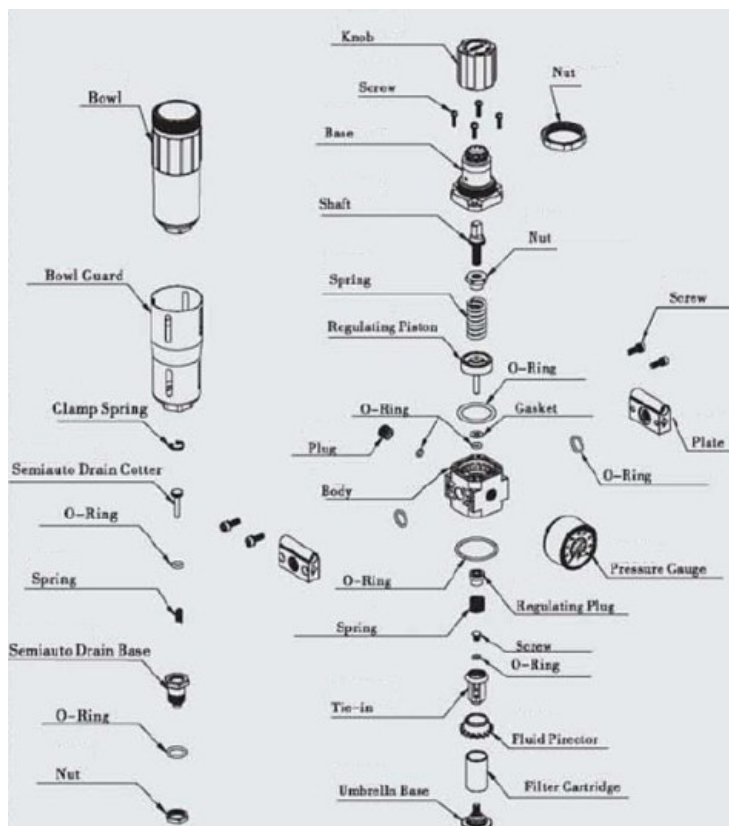
PT: PT thread

NPT: NPT thread

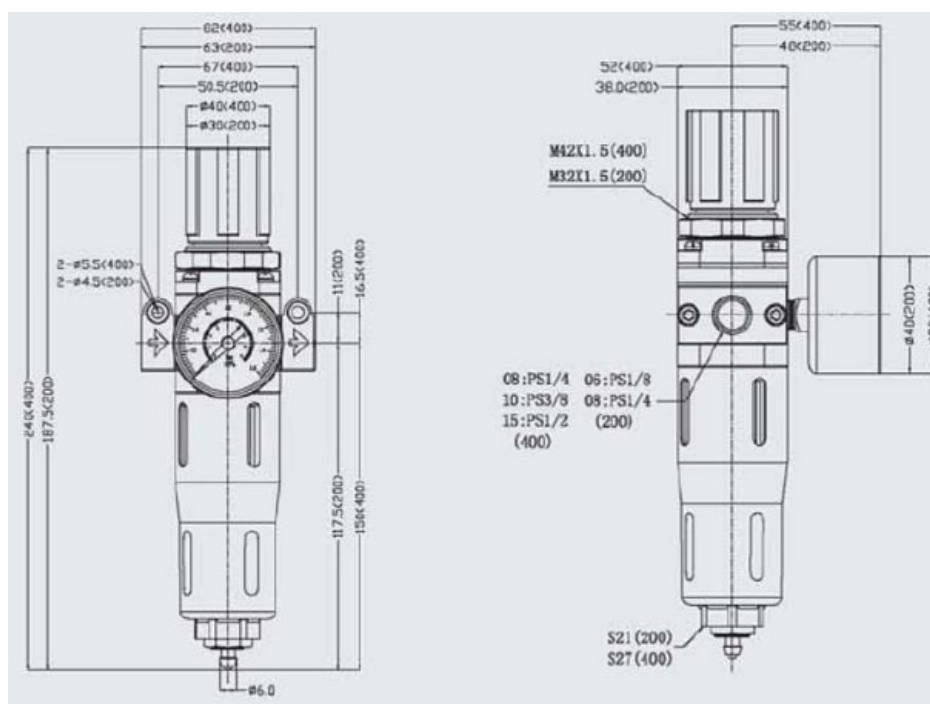
[Note]

1. Maximum pressure for X series auto drain is 0.8MPa.
2. Maximum pressure for lower pressure type is 0.4MPa.

Exploded view



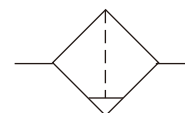
Dimensions



XF200~600 Series Filter Unit



Symbol



Product feature

1. The XF with water separator cleans the compressed air of fluid oil, condensation and drit particles, for special application , 20um filter element can be replaced by a 5um filter element.

Specification

Model	XF200-06	XF200-08	XF400-08	XF400-10	XF400-15	XF600-20	XF600-25
Working medium	Air						
Joint pipe bore	PS1/8"	PS1/4"	PS1/4"	PS3/8"	PS1/2"	PS3/4"	PS1"
Filtering grade	20 μ m or 5 μ m						
Pressure range	0.15~1.2MPa(20~145psi)						
Proof pressure	1.2MPa(145psi)						
Operating temperature	5~60°C(Unfreeze)						
Drain bowl capacity	15CC		80CC			230CC	

Ordering code

XF200- 08 - M - □ - 20 - PS

①

②

③

④

⑤

⑥

① Model

XF200: XF200 series Filter Unit
 XF400: XF400 series Filter Unit
 XF600: XF600 series Filter Unit

② Joint pipe bore

Model	Joint pipe bore
XF200	06: PS1/8"
	08: PS1/4"
XF400	08: PS1/4"
	10: PS3/8"
	15: PS1/2"
XF600	20: PS3/4"
	25: PS1"

③ Drop type

Blank: Semi-auto drain
 M: Manual drain
 A: Automatic drain

④ Pressure gauge

Blank: Pressure gauge
 N: No pressure gauge

⑤ Filtering grade

Blank: 20μm
 5: 5μm

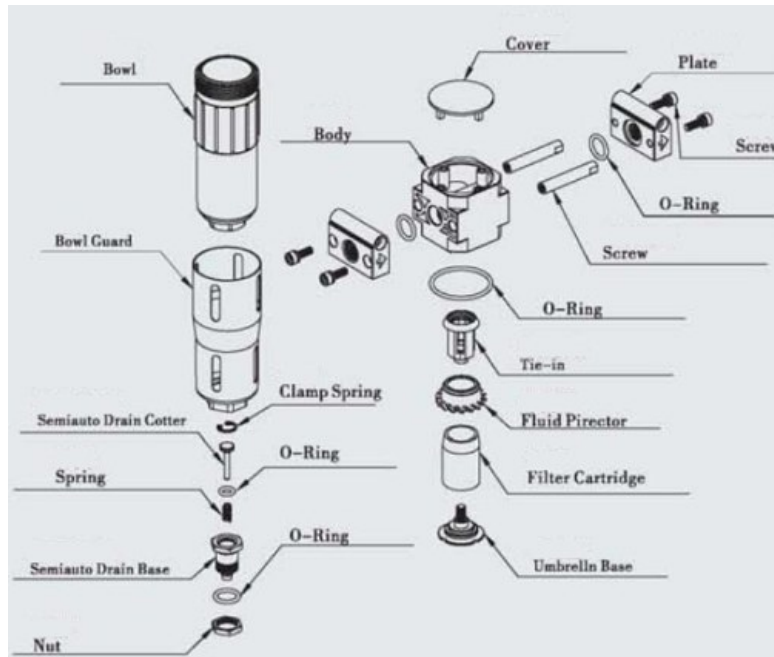
⑥ Thread type

Blank: PS thread
 PT: PT thread
 NPT: NPT thread

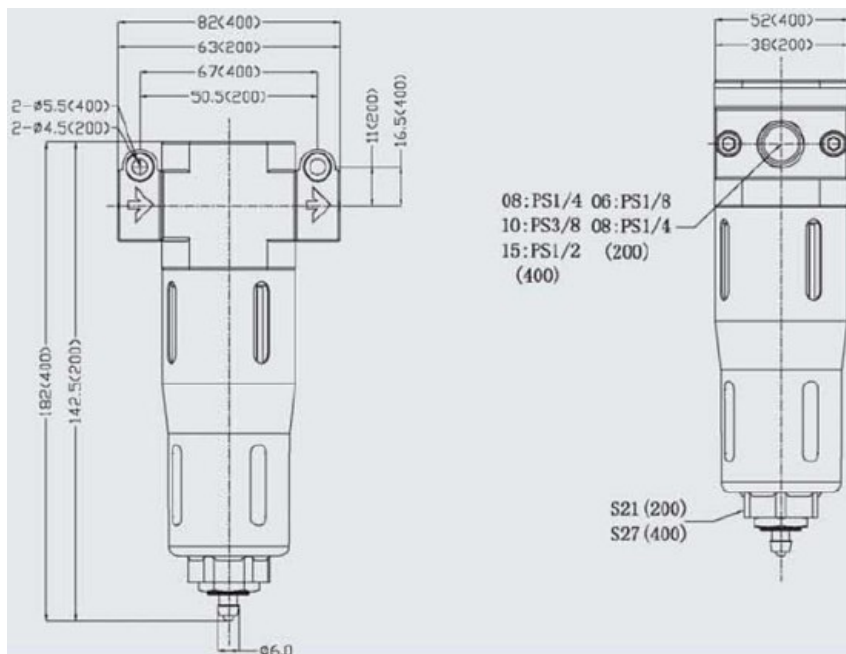
[Note]

1. Maximum pressure for X series auto drain is 0.8MPa.
2. Maximum pressure for lower pressure type is 0.4MPa.

Exploded view



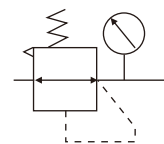
Dimensions



XR200~600 Series Regulator Unit



Symbol



Product feature

1. The XR maintain inputting constant operating pressure despite fluctuation in line pressure and the amount of air consumed.

Specification

Model	XR200-06	XR200-08	XR400-08	XR400-10	XR400-15	XR600-20	XR600-25
Working medium	Air						
Joint pipe bore	PS1/8"	PS1/4"	PS1/4"	PS3/8"	PS1/2"	PS3/4"	PS1"
Pressure range	0.15~1.2MPa(20~145psi)						
Max. pressure	1.2MPa(145psi)						
Proof pressure	1.6MPa(230psi)						
Operating temperature	5~60°C(Unfreeze)						
Weight	170g		570g			1320g	

Ordering code

XR200-08-□-L-□-□-PS

① ② ③ ④ ⑤ ⑥ ⑦

① Model

XR200: XR200 series Regulator Unit

XR400: XR400 series Regulator Unit

XR600: XR600 series Regulator Unit

③ Type code

Blank: Standard

VC: Over flow type

② Joint pipe bore

Model	Joint pipe bore
XR200	06: PS1/8"
	08: PS1/4"
	08: PS1/4"
XR400	10: PS3/8"
	15: PS1/2"
	20: PS3/4"
XR600	25: PS1"

④ Pressure type

Blank: Standard type

L: Low pressure

⑥ Pressure gauge

Blank: Pressure gauge

N: No pressure gauge

⑤ Accessories

Blank: No bracket

J: With bracket

⑦ Thread type

Blank: PS thread

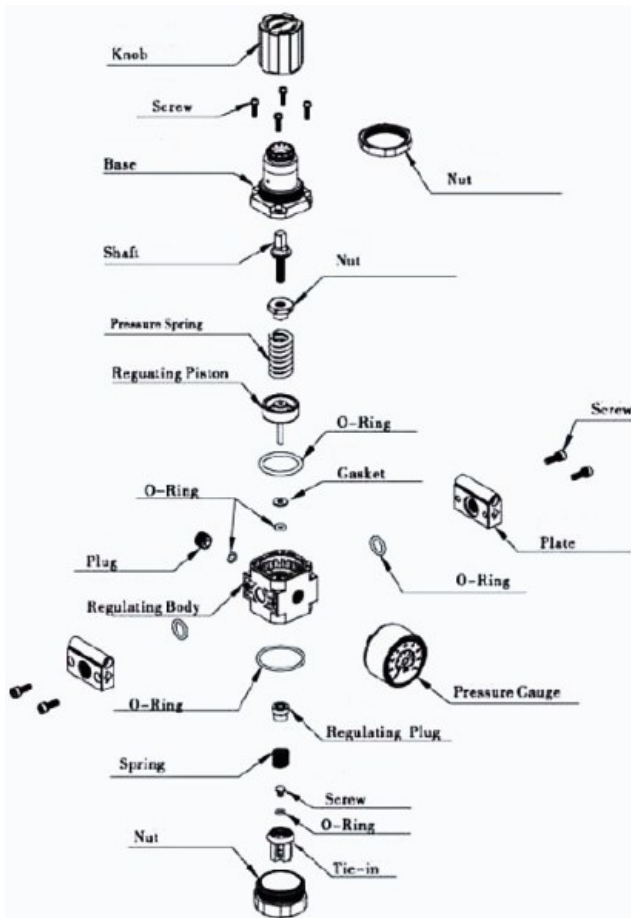
PT: PT thread

NPT: NPT thread

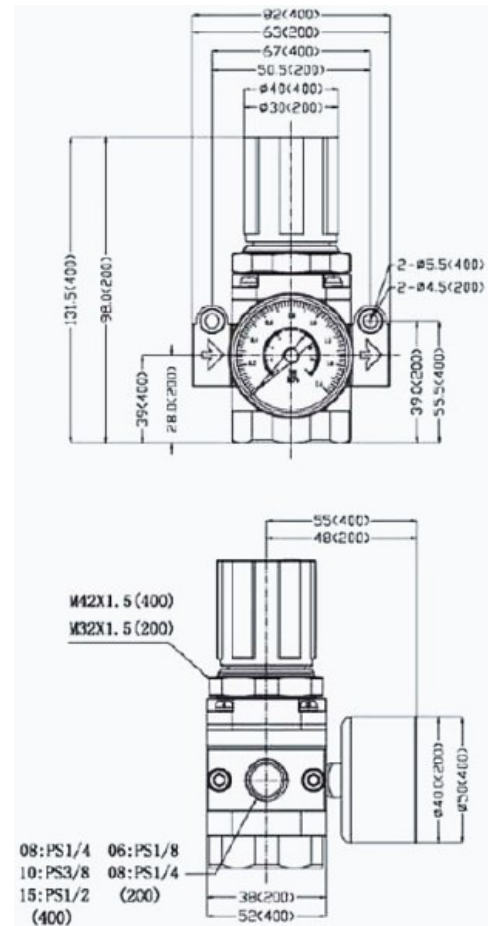
[Note]

1. Maximum pressure for lower pressure type is 0.4MPa.

Exploded view

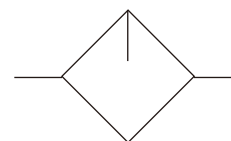


Dimensions





Symbol



Product feature

1. The direct constant-density lubricator add regulated quantity oil to the compressed air. A valve maintains oil mist content proportional to the compressed oil flow.
2. The pressure drop that occurs when the air flow through a sight feed oil cup delivers oil from the bowl to the sight oil indicator. The drop of the oil flows into the air channel when it is atomized.
3. The oil drip rate is controlled by means of the regulating screw. Normally, 1 to 12 drops/1000L of the air is sufficient.

Specification

Model	XL200-06	XL200-08	XL400-08	XL400-10	XL400-15	XL600-20	XL600-25
Working medium	Air						
Joint pipe bore	PS1/8"	PS1/4"	PS1/4"	PS3/8"	PS1/2"	PS3/4"	PS1"
Pressure range	0.15~1.2MPa(20~145psi)						
Proof pressure	1.6MPa(230psi)						
Operating temperature	5~60°C(Unfreeze)						
Recommended lubricant	ISO VG 32 or equivalent						
Oil bowl capacity	15CC		80CC			230CC	

Ordering code

XL200- 08 - PS

① ② ③

① Model

XL200: XL200 series Lubricator Unit

XL400: XL400 series Lubricator Unit

XL600: XL600 series Lubricator Unit

③ Thread type

Blank: PS thread

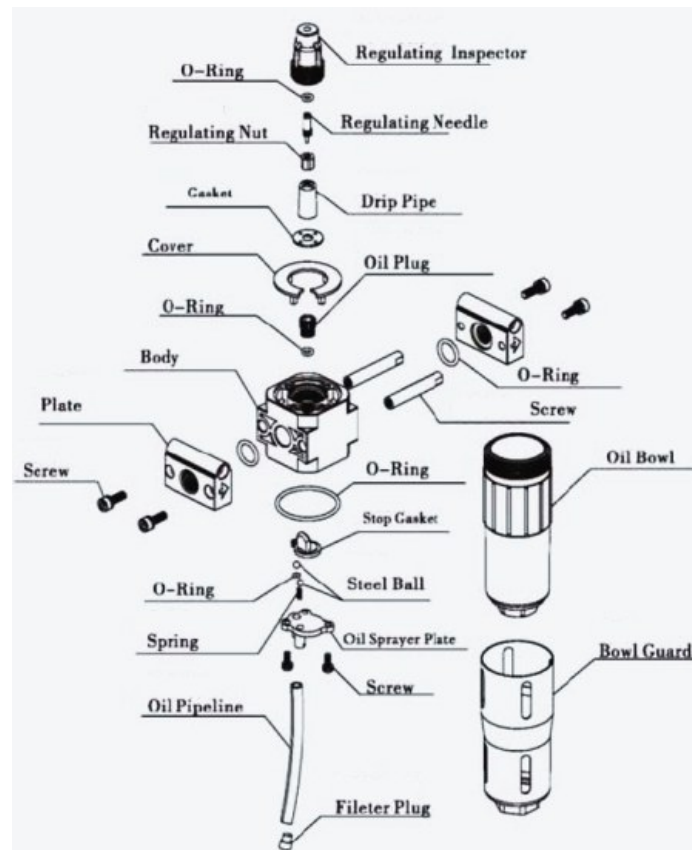
PT: PT thread

NPT: NPT thread

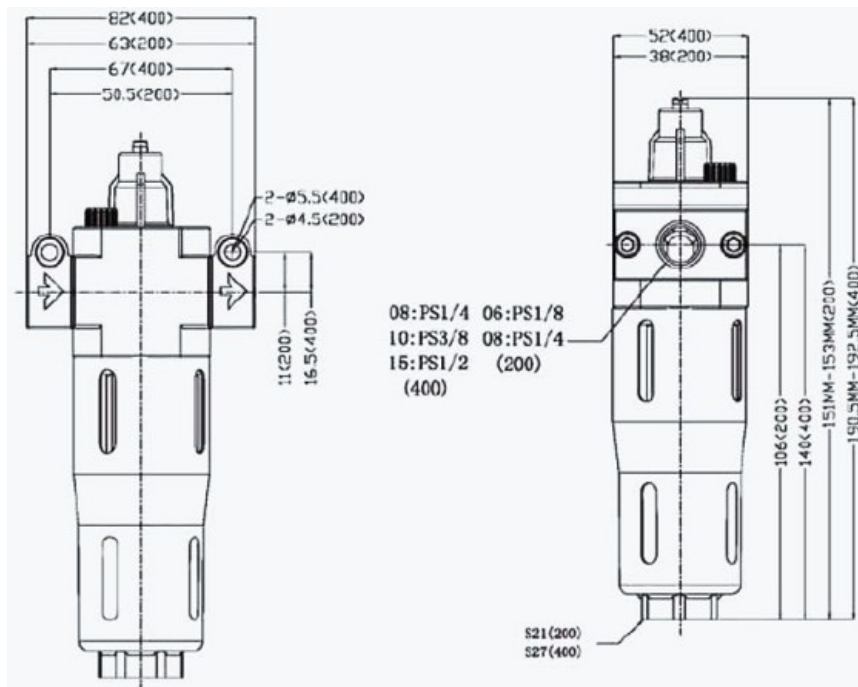
② Joint pipe bore

Model	Joint pipe bore
XL200	06: PS1/8"
	08: PS1/4"
	08: PS1/4"
XL400	10: PS3/8"
	15: PS1/2"
	20: PS3/4"
XL600	25: PS1"

Exploded view



Dimensions

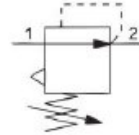


——AR Series

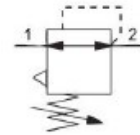


■ Symbol

Relief valve



Relief valve with countercurrent function



■ Ordering code

AR 20 □ □ 02 E

① ② ③ ④ ⑤ ⑥

① Series No.

② Shell Size

10
20
30
40
50
60

③ With Overflow

Nil	No overflow
K	With overflow

④ Thread type

Nil	Rc thread
N	NPT thread
F	G thread

⑤ Thread Size

M5
01/02
02/03
03/04
06/10

⑥ Pressure gauge specifications

E	Square embedded type pressure gauge
G	Round type pressure gauge

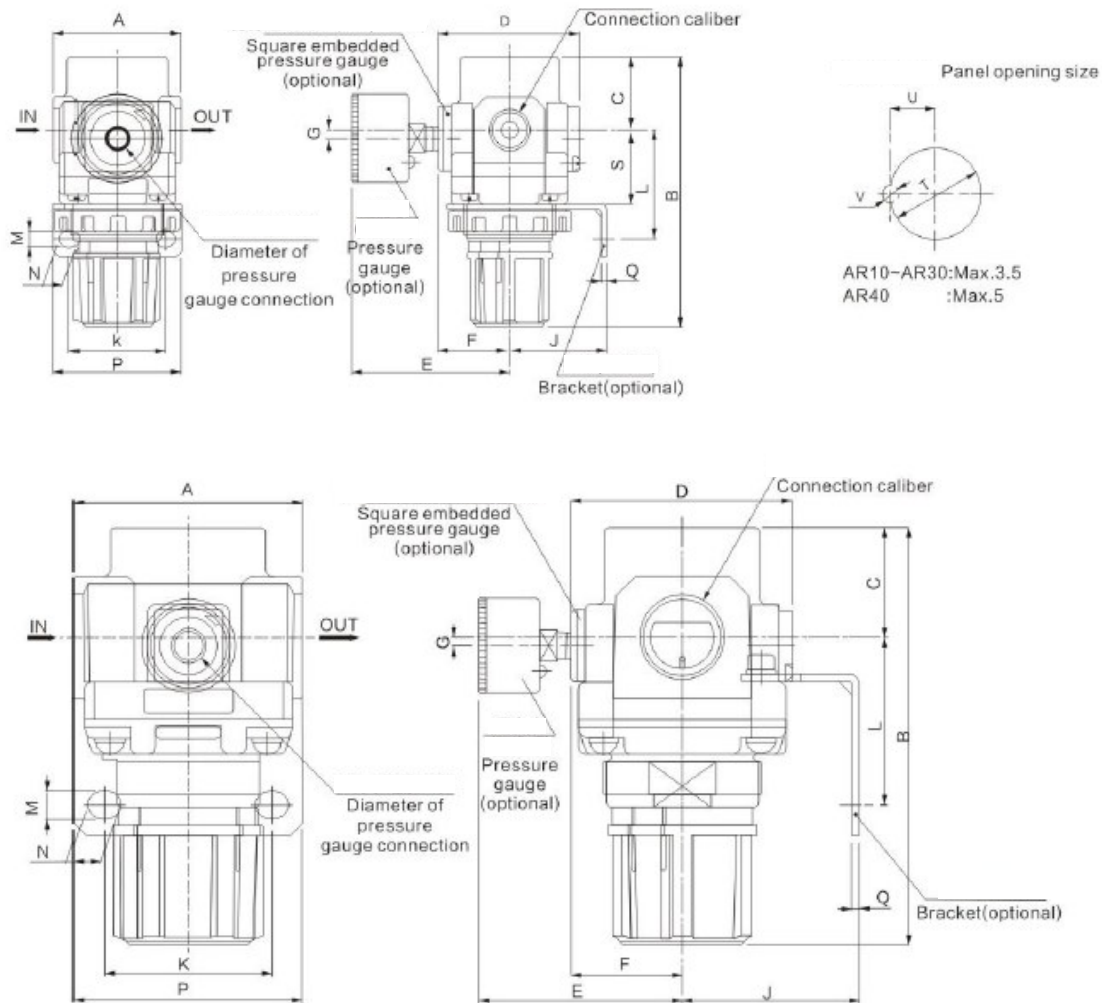
■ Standard Specifications

Model	The rate flow(L/min)	Take over caliber(Rc/PT)	Pressure gauge(Rc/PT)	Weight(kg)
AR10-M5	100	M5	1/16	0.06
AR20-01	800	1/8	1/8	0.26
AR20-02	800	1/4	1/8	0.26
AR30-02	1500	1/4	1/8	0.29
AR30-03	1500	3/8	1/8	0.29
AR40-03	3000	3/8	1/8	0.44
AR40-04	3000	1/2	1/8	0.44
AR50-06	10000	3/4	1/8	1.22
AR50-10	10000	1	1/8	1.22
AR60-06	13000	3/4	1/8	1.22
AR60-10	13000	1	1/8	1.22

Model	Proof pressure	Max. working pressure	Environment and fluid temp.	Pressure regulating range
AR10-M5	1.5MPa(15.3kgf/cm ²)	1.0MPa(10.2kgf/cm ²)	1~60°C(No frozen)	0.05~0.85MPa
AR20-01				
AR20-02				
AR30-02				
AR30-03				
AR40-03				
AR40-04				
AR50-06				
AR50-10				
AR60-06				
AR60-10				

—AR Series

■ Dimensions



Model	Pipe size	With pressure gauge				Bracket mounting dimensions			
		A	B	C	D	E	F	G	J
AR10	M5X0.8	25	11	58	25	26	-	0	25
AR20	1/8, 1/4	40	26.5	94	57	65	29.5	2	30
AR30	1/4, 3/8	53	31	116	59	66	30.5	3.5	41
AR40	1/4, 3/8, 1/2	70	36	128	68	74	35	3.5	50
AR50	1	95	46	176	87	84	44.5	3.3	70
AR60	1	95	46	176	87	84	44.5	3.3	70

Model	Bracket mounting dimensions					Panel mounting dimensions				
	K	L	M	N	P	Q	S	T	U	V
AR10	28	30	4.5	6.5	40	2	18	18.5	-	-
AR20	34	44	5.4	15.4	55	2.3	25	28.5	14	6
AR30	40	46	6.5	8	53	2.3	31	38.5	19	7
AR40	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7
AR50	66	65.8	11	13	90	2.3	37	-	-	-
AR60	66	65.8	11	13	90	2.3	-	-	-	-

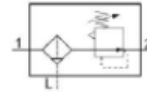
Filter With Relief Valve With Countercurrent Function **BITEBI®**

—AW Series

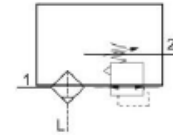


■ Symbol

Filter with Relief valve



Filter with Relief valve with countercurrent function



Ordering code

AW 20 □ □ 02 D E X

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

⑤ Thread Size

M5
01/02
02/03
03/04
06/10

⑥ Drainage pattern

Nil	Manual drain
D	N.O. Automatic drain
C	N.C. Automatic drain

① Series No.

② Shell Size

10
20
30
40
50
60

③ With Overflow

Nil	No overflow
K	With overflow

④ Thread type

Nil	Rc thread
N	NPT thread
F	G thread

⑦ Pressure gauge specifications

E	Square embedded type pressure gauge
G	Round type pressure gauge

⑧ Cup type

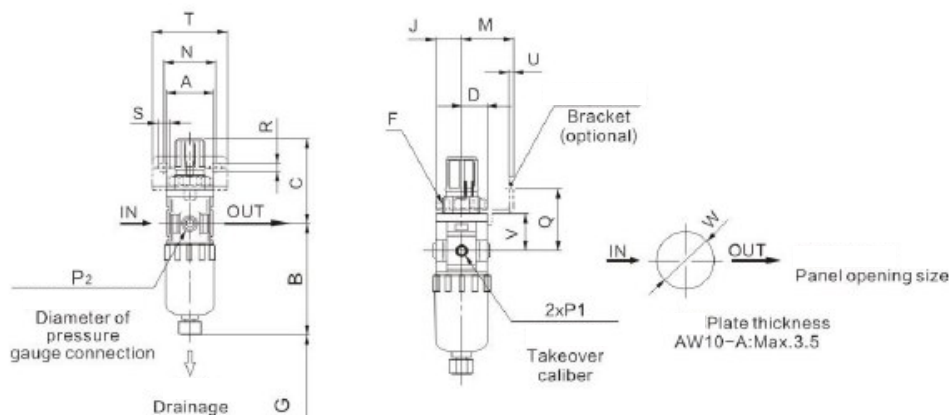
X	Full transparent cup body
2	Metal cup
8	Metal bowl with level gauge

Standard Specifications

Model	AW10-A	AW20-B	AW30-B	AW40/60-B
Max. working pressure	1.5MPa(15.3kgf/cm ²)			
Theory of working pressure	1.0MPa(10.2kgf/cm ²)			
Environment and fluid temp.	1~60°C(No frozen)			
Filter aperture	5 μm			
Cup material	Poly carbonate			
Cup hood	AW10, AW20: Without AW30~60: With			
Storage capacity	2.5L	8L	25L	45L
Pressure regulating range	0.05~0.85MPa			

Dimensions

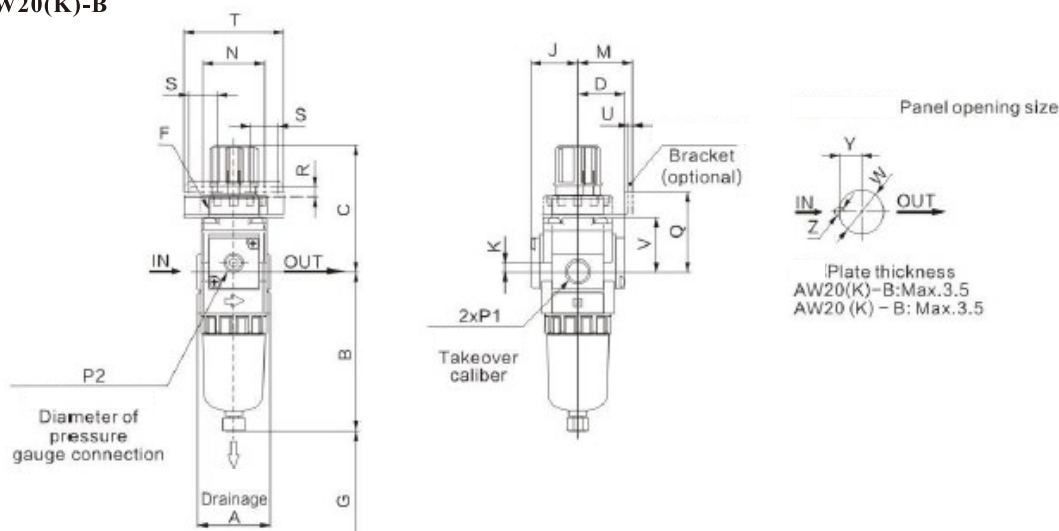
Model: AW10-A



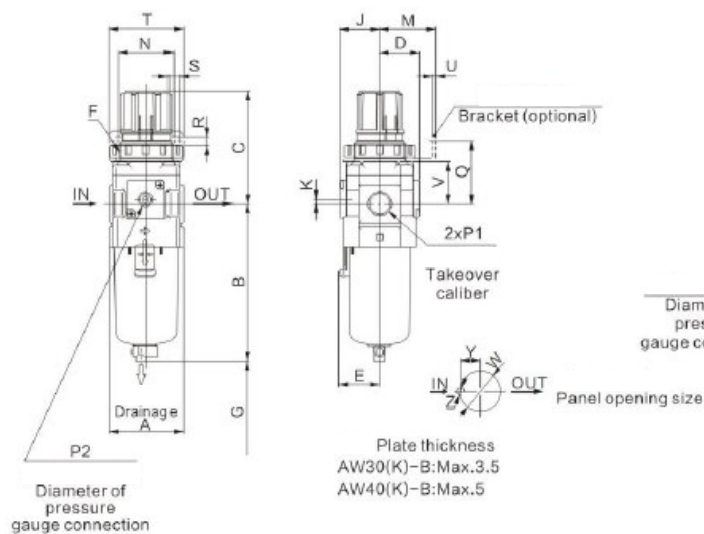
Filter With Relief Valve With Countercurrent Function **BITEBI®**

—AW Series

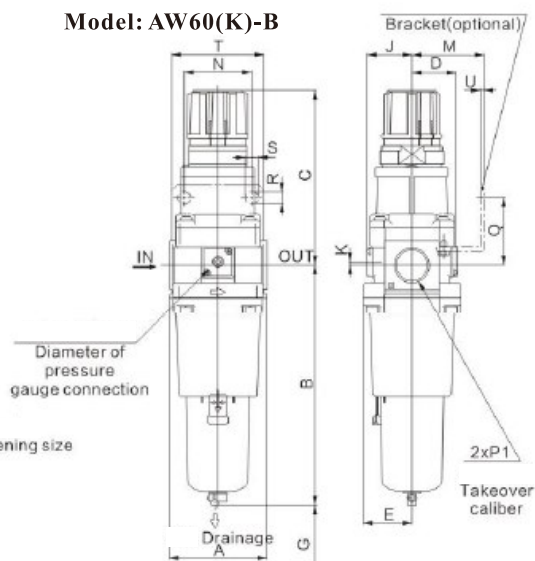
Model: AW20(K)-B



Model: AW30(K)-B~Model: AW50(K)-B



Model: AW60(K)-B



Model	P1	P2	A	B	C	E	F	G	J	K
AW10-A	M5X0.8	1/16	25	59.9	47.5	-	M18X1	25	12.5	-
AW20(K)-B	1/8, 1/4	1/8	40	87.6	72.4	-	M28X1	40	26	5
AW30(K)-B	1/4, 3/8	1/8	53	115.1	85.6	30	M38X1.5	55	29.4	3.5
AW40(K)-B	1/4, 3/8, 1/2	1/8	70	147.1	91.7	38.4	M42X1.5	80	37.0	1.5
AW50(K)-B	3/4, 1	1/8	95	234.1	175.5	47.5	-	20	43.3	3.2
AW60(K)-B	3/4, 1	1/8	95	234.1	175.5	47.5	-	20	43.3	3.2

Model	With automatic drain	Meter cup	Metal bowl with level gauge	Square recessed pressure gauge		Digital pressure switch		Circular pressure gauge		Circular pressure gauge(With color ring)	
	B	B	B	B	C	E	F	G	J	K	K
AW10-A	77.9	59.3	-	59.9	47.5	-	M18X1	25	12.5	-	-
AW20(K)-B	104.9	87.4	-	87.6	72.4	-	M28X1	40	26	5	5
AW30(K)-B	156.8	117.6	137.6	115.1	85.6	30	M38X1.5	55	29.4	3.5	3.5
AW40(K)-B	186.9	149.6	169.6	147.1	91.7	38.4	M42X1.5	80	37.0	1.5	1.5
AW50(K)-B	273.9	236.6	256.6	234.1	175.5	47.5	-	20	43.3	3.2	3.2
AW60(K)-B	273.9	236.6	256.6	234.1	175.5	47.5	-	20	43.3	3.2	3.2

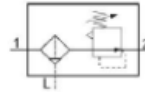
Filter With Relief Valve High Precision With Countercurrent Function **BITEBI®**

—AWM Series

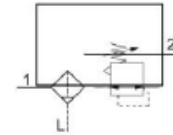


■ Symbol

Filter with Relief valve



Filter with Relief valve with countercurrent function



■ Ordering code

AW(M)D 20 □ □ 02 D E X

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

⑤ Thread Size

01/02
02/03
03/04

⑥ Drainage pattern

Nil	Manual drain
D	N.O. Automatic drain
C	N.C. Automatic drain

① Series No.

② Shell Size

20
30
40

③ With Overflow

Nil	No overflow
K	With overflow

④ Thread type

Nil	Rc thread
N	NPT thread
F	G thread

⑦ Pressure gauge specifications

E	Square embedded type pressure gauge
G	Round type pressure gauge

⑧ Cup type

X	Full transparent cup body
2	Metal cup
8	Metal bowl with level gauge

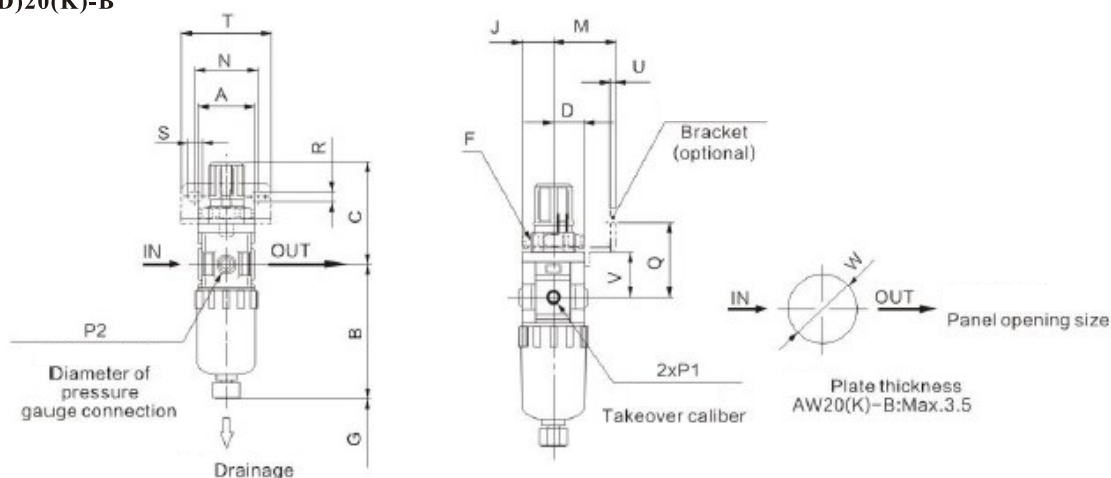
■ Standard Specifications

Model	AWM(D)20	AWM(D)30	AWM(D)40
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2
Applicable fluid	Air		
Max. working pressure	1.5MPa(15.3kgf/cm ²)		
Theory of working pressure	1.0MPa(10.2kgf/cm ²)		
Environment and fluid temp.	1~60°C(No frozen)		
Filter aperture	AWM: 0.3 μm AWD: 0.1 μm		
Oil mist concentration automatic side	AWM: Max. 1.0mg/ml ³ (ANR) AWD: Max. 1.0mg/m ³ (ANR)		
Rated flow rate	160	320	780
Cup material	Poly carbonate		
Cup hood	AWM/AWD10, AWM/AWD20: Without AWM/AWD30~60: With		

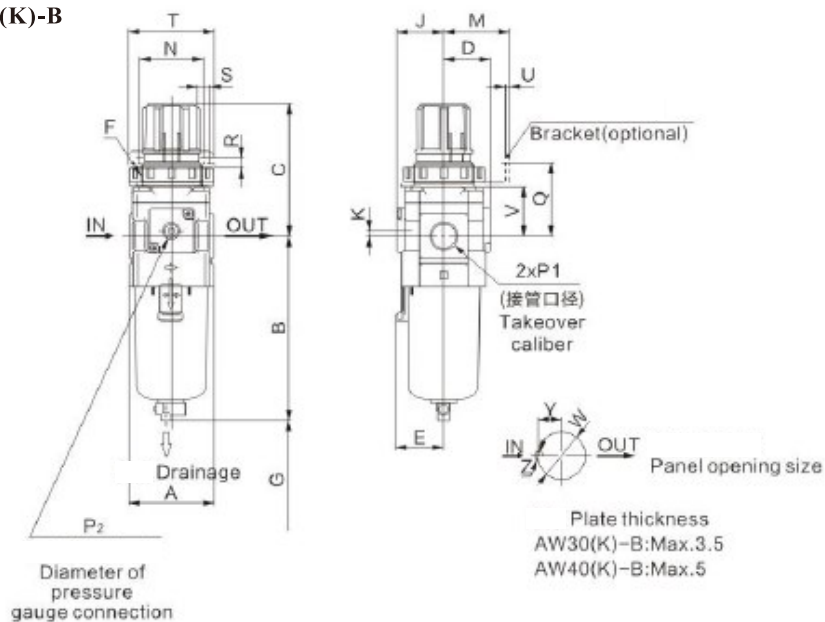
—AWM Series

Dimensions

Model: AWM(D)20(K)-B



Model: AWM(D)30/40(K)-B



Model	P1	P2	A	B	C	E	F	G	J	K
AWM(D)20(K)	1/8, 1/4	1/8	40	87.6	72.4	-	M28X1	40	26	5
AWM(D)30(K)	1/4, 3/8	1/8	53	115.1	85.6	30	M38X1.5	55	29.4	3.5
AWM(D)40(K)	1/4, 3/8, 1/2	1/8	70	147.1	91.7	38.4	M42X1.5	80	37.0	1.5

Model	With automatic drain	Meter cup	Metal bowl with level gauge	Square recessed pressure gauge		Digital pressure switch		Circular pressure gauge		Circular pressure gauge(With color ring)	
	B	B	B	H	J	H	J	H	J	H	J
AWM(D)20(K)	104.9	87.4	-	□28	27	□27.8	37.5	Φ37.5	62.5	Φ37.5	63.5
AWM(D)30(K)	156.8	117.6	137.6	□28	30.4	□27.8	40.9	Φ37.5	65.9	Φ37.5	66.9
AWM(D)40(K)	186.9	149.6	169.6	□28	38.3	□27.8	48.8	Φ37.5	74.8	Φ37.5	74.8



Symbol



Ordering code

AL-A 20 □ 02 X

① ② ③ ④ ⑤

⑤ Cup type

X	Full transparent cup body
2	Metal cup
8	Metal bowl with level gauge

① Series No.

② Shell Size

10
20
30
40
50
60

③ Thread type

Nil	Rc thread
N	NPT thread
F	G thread

④ Thread Size

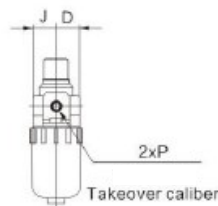
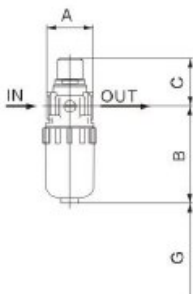
M5
01/02
02/03
03/04
06/10

Standard Specifications

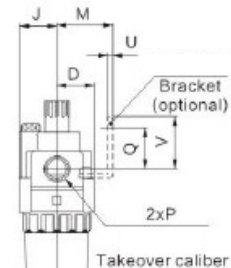
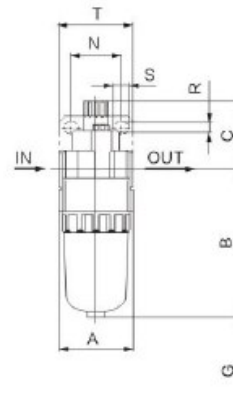
Model	AL10-A	AL20-A	AL30-A	AL40-60-A
Max. working pressure	1.5MPa(15.3kgf/cm ²)			
Theory of working pressure	1.0MPa(10.2kgf/cm ²)			
Environment and fluid temp.	1~60°C(No frozen)			
Filter aperture	5 μm			
Cup material	Poly carbonate			
Cup hood	AL10, AL20: Without		AL30~60: With	
Storage capacity	7L	25L	55L	135L

Dimensions

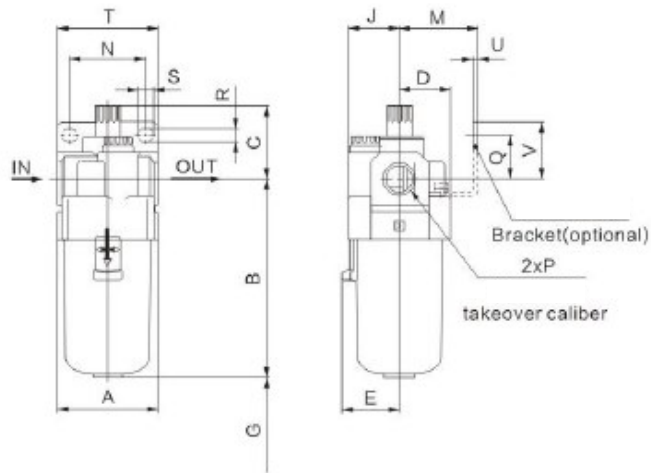
Model: AL10-A



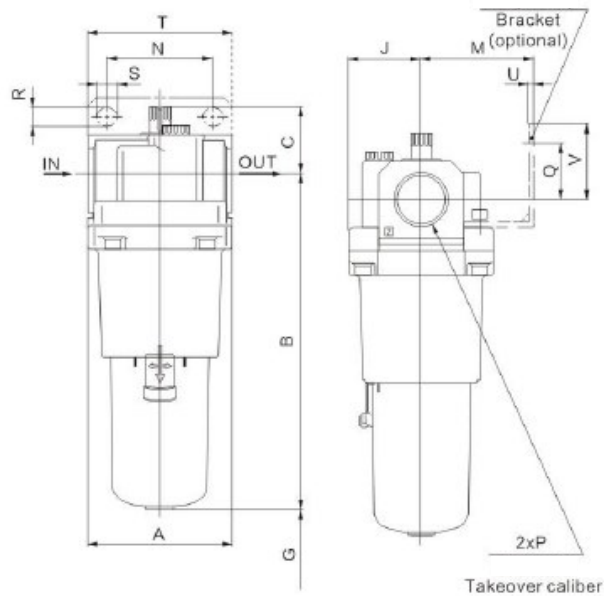
Model: AL20-A



Model: AL30-A~AL40-06-A



Model: AL50-A/AL60-A



Model	P1	A	B	C	D	E	G	J
AL10-A	M5X0.8	25	51.5	25.5	12.5	-	35	12.5
AL20-A	1/8, 1/4	40	79.3	35.9	20	-	60	20
AL30-A	1/4, 3/8	53	104.1	38.1	26.7	30	80	26.7
AL40-A	1/4, 3/8, 1/2	70	136.1	39.8	35.5	38.4	110	35.5
AL50-A	1	95	223.1	44.7	47.5	-	110	47.5
AL60-A	1	95	223.1	44.7	47.5	-	110	47.5

Model	With automatic drain	Meter cup	Metal bowl with level gauge	Bracket installation dimension							
	B	B		M	N	Q	R	S	T	U	V
AL10-A	59.3	56.3	-	-	-	-	-	-	-	-	-
AL20-A	87.4	84.5	-	30	27	22	5.4	8.4	40	2.3	28
AL30-A	115.1	104.1	124.1	41	40	23	6.5	8	53	2.3	30
AL40-A	147.1	136.1	156.1	50	54	26	8.5	10.5	70	2.3	35
AL50-A	234.1	223.1	243.1	70	66	35	11	13	90	3.2	47
AL60-A	234.1	223.1	243.1	70	66	35	11	13	90	3.2	47

—AF Series



Symbol



Ordering code

AF-A 20 □ 02 D X

① ② ③ ④ ⑤ ⑥

⑤ Drainage pattern

Nil	Manual drain
D	N.O. Automatic drain
C	N.C. Automatic drain

⑥ Cup type

X	Full transparent cup body
2	Metal cup
8	Metal bowl with level gauge

① Series No.

② Shell Size

10
20
30
40
50
60

③ Thread type

Nil	Rc thread
N	NPT thread
F	G thread

④ Thread Size

M5
01/02
02/03
03/04
06/10

Standard Specifications

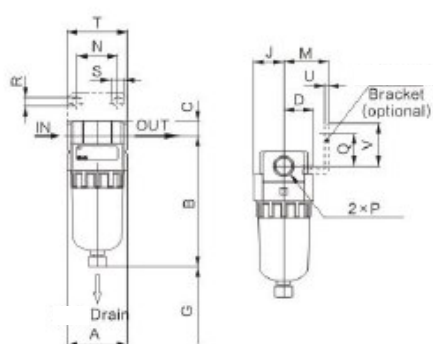
Model	AF10-A	AF20-A	AF30-A	AF40-60-A
Max. working pressure	1.5MPa(15.3kgf/cm ²)			
Theory of working pressure	1.0MPa(10.2kgf/cm ²)			
Environment and fluid temp.	1~60°C(No frozen)			
Filter aperture	5 μm			
Cup material	Poly carbonate			
Cup hood	AF10, AF20: Without		AF30~60: With	
Storage capacity	2.5L	8L	25L	45L

Main components and consumables

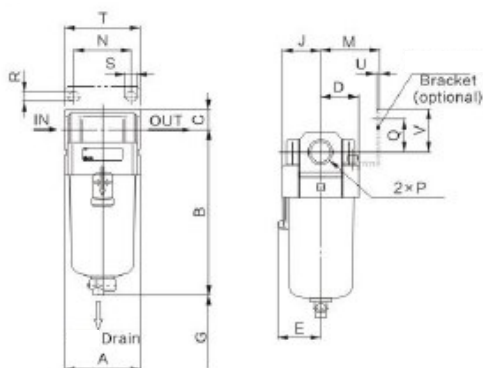
Model	AF10-A	AF20-60	Note
Filter body	Zinc die casting	Aluminum die casting	-
Spool	Non woven fabrics		Consumable
O-ring	NBR		-
Gasket	NBR		-

Dimensions

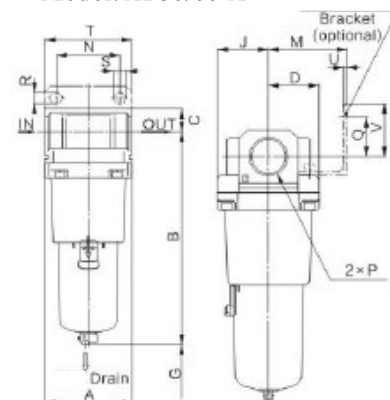
Model: AF10/20-A



Model: AF30/40-A



Model: AF50/60-A



Model	Standard specifications																With automatic drain	Meter cup	Metal bowl with level gauge
	P1	A	B	C	D	E	G	J	M	N	Q1	R	S	T	U	V	B	B	B
AF10-A	M5X0.8	25	59.9	7	12.5	-	25	12.5	-	-	-	-	-	-	-	-	77.9	59.3	-
AF20-A	1/8, 1/4	40	87.6	9.8	20	-	25	20	30	27	22	5.4	8.4	40	2.3	28	104.9	87.4	-
AF30-A	1/4, 3/8	53	115.1	14	26.7	30	38	26.7	41	40	23	6.5	8	53	2.3	30	156.8	117.6	137.6
AF40-A	1/4, 3/8, 1/2	70	147.1	18	35.5	38.4	40	35.5	50	54	26	8.5	10.5	70	2.3	35	186.9	149.6	169.6
AF50-A	1	95	234.1	24	47.5	-	30	47.5	70	66	35	11	13	90	3.2	47	273.9	236.6	256.6
AF60-A	1	95	234.5	24	47.5	-	30	47.5	70	66	35	11	13	90	3.2	47	273.9	236.6	256.6

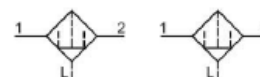
Oil Mist Separator/Mist Separator

BITEBI®

—AFM(D)-A Series



■ Symbol



Ordering code

AFM(D)-A 20 □ 02 D X

① ② ③ ④ ⑤ ⑥

⑤ Drainage pattern

Nil	Manual drain
D	N.O. Automatic drain
C	N.C. Automatic drain

⑥ Cup type

X	Full transparent cup body
2	Metal cup
8	Metal bowl with level gauge

① Series No.

② Shell Size

20
30
40

③ Thread type

Nil	Rc thread
N	NPT thread
F	G thread

④ Thread Size

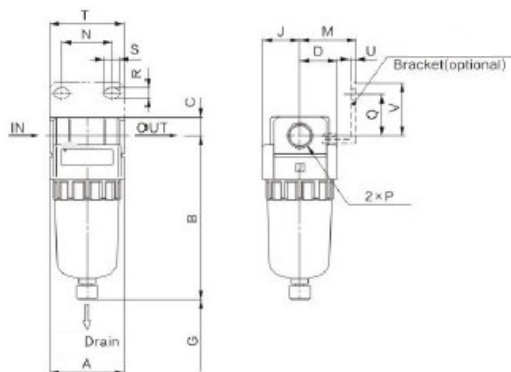
01/02
02/03
03/04

Standard Specifications

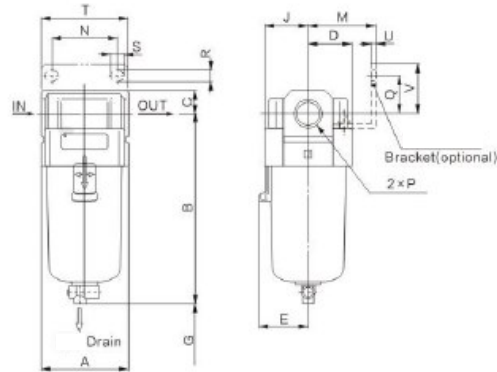
Model	AFM(D)20-A	AFM(D)30-A	AFM(D)40-A
Max. working pressure	1.5MPa(15.3kgf/cm ²)		
Theory of working pressure	1.0MPa(10.2kgf/cm ²)		
Environment and fluid temp.	1~60°C(No frozen)		
Filter aperture	AFM: 0.3 μm AFD: 0.1 μm		
Oil mist concentration at outlet side	AFM:Max. 1.0mg/ml ³ (ANR) AFD:Max. 1.0mg/m ³ (ANR)		
Rated flow rate	160	320	780
Cup material	Poly carbonate		
Cup hood	AFM(D)20: Without	AFM(D)30~40: With	

Dimensions

Model: AFM(D)20-A



Model: AFM(D)30/40-A



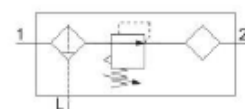
Model	P1	P2	A	B	C	D	E	G	J
AF20-A	1/8, 1/4	1/8	40	87.6	9.8	20	-	25	20
AF30-A	1/4, 3/8	1/8	53	115.1	14	26.7	30	38	26.7
AF40-A	1/4, 3/8, 1/2	1/8	70	147.1	18	35.5	38.4	40	35.5

Model	With automatic drain	Meter cup	Metal bowl with level gauge	Bracket installation dimension							
	B	B	B	M	N	Q	R	S	T	U	V
AF20-A	104.9	87.4	-	30	27	22	5.4	8.4	40	2.3	28
AF30-A	156.8	117.6	137.6	41	40	23	6.5	8	53	2.3	30
AF40-A	186.9	149.6	169.6	50	54	26	8.5	10.5	70	2.3	35

—AC Series(AF+AR+AL)



Symbol



Ordering code

AC-B 20 □ 02 D E X □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

⑤ Drainage pattern

Nil	Manual drain
D	N.O. Automatic drain
C	N.C. Automatic drain

⑥ Pressure gauge specifications

E	Square embedded type pressure gauge
G	Round type pressure gauge

⑦ Cup type

X	Full transparent cup body
2	Metal cup
8	Metal bowl with level gauge

① Series No.

② Shell Size

10
20
30
40
50
60

③ Thread type

Nil	Rc thread
N	NPT thread
F	G thread

④ Thread Size

M5
01/02
02/03
03/04
06/10

⑧ Accessory specification

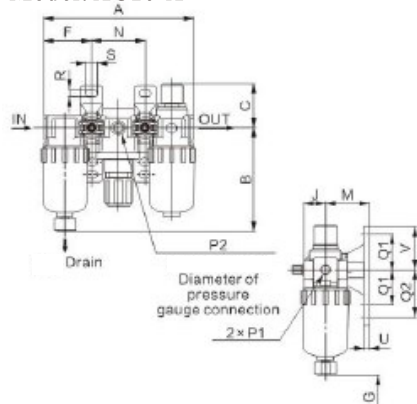
S	Pressure switch
T	T-spacer
V	Pressure relief 3 port valve

Standard Specifications

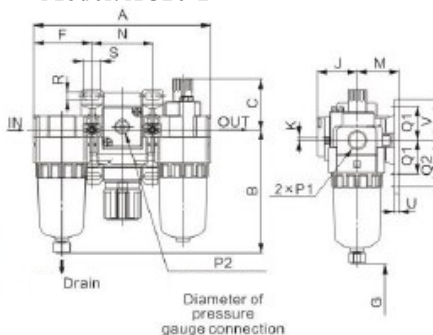
Components	AF+AR+AL
Max. working pressure	1.5MPa(15.3kgf/cm ²)
Theory of working pressure	1.0MPa(10.2kgf/cm ²)
Environment and fluid temp.	1~60°C(No frozen)
Pressure regulating range	0.05~0.85MPa
Filter aperture	5 μm
Suggest oil	ISO VG32

Dimensions

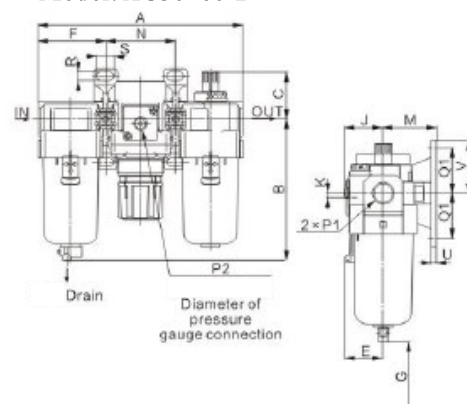
Model: AC10-A



Model: AC20-B



Model: AC30~60-B

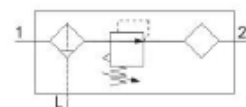


Model	Standard specifications																		With automati c drain	Meter cup	Metal bowl with level gauge
	P1	P2	A	B	C	E	F	G	J	K	Bracket installation dimension										
											M	N	Q1	Q2	R	S	U	V	B	B	B
AC10-A	M5X0.8	1/16	87	59.9	25.5	-	28	35	12.5	-	25	31	20	27	4.5	6.8	3	24.5	77.9	59.3	-
AC20-A	1/8, 1/4	1/8	126.4	87.6	35.9	-	41.6	60	20	2	30	43.2	24	33	5.5	12	3.5	29	104.9	87.4	-
AC30-A	1/4, 3/8	1/8	167.4	115.1	38.1	30	55.1	80	26.7	3.5	41	57.2	35	-	7	14	4	41	156.8	117.6	137.6
AC40-A	1/4, 3/8, 1/2	1/8	220.4	147.1	39.8	38.4	72.6	110	35.5	3.5	50	75.2	40	-	9	18	5	48	186.9	149.6	169.6
AC50-A	3/4, 1	1/8	297.4	234.1	44.7	-	98.1	110	43.3	3.2	70	101.2	50	-	11	20	6	60	273.9	236.6	256.6
AC60-A	3/4, 1	1/8	297.4	234.1	44.7	-	98.1	110	43.3	3.2	70	101.2	50	-	11	20	6	60	273.9	236.6	256.6

—AC Series(AW+AL)



Symbol



Ordering code

AC-B 20A □ 02 D E X □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

⑤ Drainage pattern

Nil	Manual drain
D	N.O. Automatic drain
C	N.C. Automatic drain

⑥ Pressure gauge specifications

E	Square embedded type pressure gauge
G	Round type pressure gauge

⑦ Cup type

X	Full transparent cup body
2	Metal cup
8	Metal bowl with level gauge

① Series No.

② Shell Size

10A
20A
30A
40A

③ Thread type

Nil	Rc thread
N	NPT thread
F	G thread

④ Thread Size

M5
01/02
02/03
03/04
06/10

⑧ Accessory specification

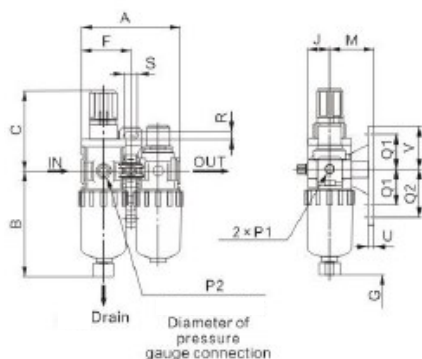
S	Pressure switch
T	T-spacer
V	Pressure relief 3 port valve

Standard Specifications

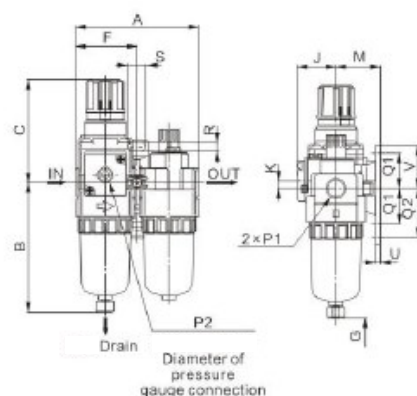
Components	AW+AL
Max. working pressure	1.5MPa(15.3kgf/cm ²)
Theory of working pressure	1.0MPa(10.2kgf/cm ²)
Environment and fluid temp.	1~60℃(No frozen)
Pressure regulating range	0.05~0.85MPa
Filter aperture	5 μm
Suggest oil	ISO VG32

Dimensions

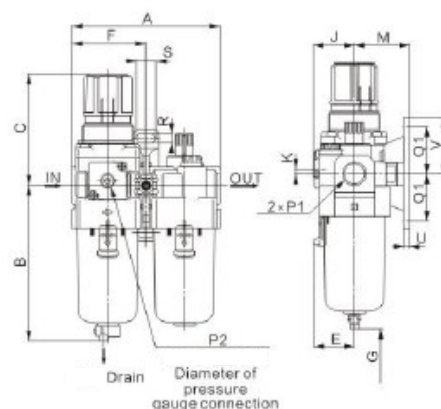
Model: AC10A-A



Model: AC20A-B



Model: AC30A~60A-B

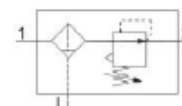


Model	Standard specifications																	With automati c drain	Meter cup	Metal bow with level gauge
	P1	P2	A	B	C	E	F	G	J	K	Bracket installation dimension									
											M	Q1	Q2	R	S	U	V	B	B	B
ACA10-A	M5X0.8	1/16	87	59.9	47.4	-	28	25	12.5	-	25	20	27	4.5	6.8	3	24.5	77.9	59.3	-
ACA20-B	1/8, 1/4	1/8	83.2	87.6	72.4	-	41.6	60	20	2	30	24	33	5.5	12	3.5	29	104.9	87.4	-
ACA30-B	1/4, 3/8	1/8	110.2	115.1	86.6	30	55.1	80	26.7	3.5	41	35	-	7	14	4	41	156.8	117.6	137.6
ACA40-B	1/4, 3/8, 1/2	1/8	145.2	147.1	91.7	38.4	72.6	110	35.5	3.5	50	40	-	9	18	5	48	186.9	149.6	169.6
ACA50-B	3/4, 1	1/8	196.2	234.1	175.5	-	98.1	110	43.3	3.2	70	50	-	11	20	6	60	273.9	236.6	256.6
ACA60-B	3/4, 1	1/8	196.2	234.1	175.5	-	98.1	110	43.3	3.2	70	50	-	11	20	6	60	273.9	236.6	256.6

—AC Series(AF+AR)



Symbol



Ordering code

AC-B 20B □ 02 D E X □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

⑤ Drainage pattern

Nil	Manual drain
D	N.O. Automatic drain
C	N.C. Automatic drain

⑥ Pressure gauge specifications

E	Square embedded type pressure gauge
G	Round type pressure gauge

⑦ Cup type

X	Full transparent cup body
2	Metal cup
8	Metal bowl with level gauge

① Series No.

② Shell Size

10B
20B
30B
40B

③ Thread type

Nil	Rc thread
N	NPT thread
F	G thread

④ Thread Size

M5
01/02
02/03
03/04
06/10

⑧ Accessory specification

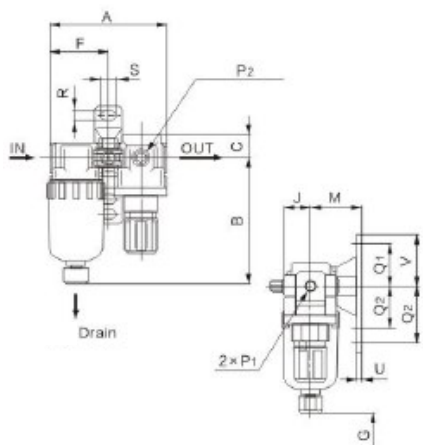
S	Pressure switch
T	T-spacer
V	Pressure relief 3 port valve

Standard Specifications

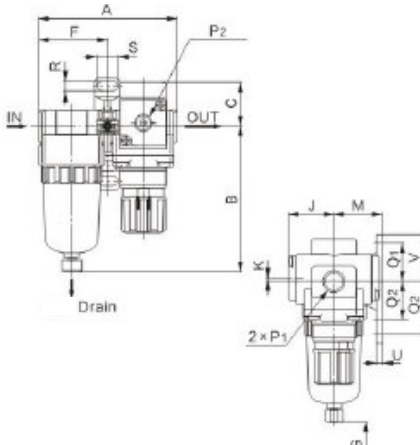
Components	AF+AR
Max. working pressure	1.5MPa(15.3kgf/cm ²)
Theory of working pressure	1.0MPa(10.2kgf/cm ²)
Environment and fluid temp.	1~60°C(No frozen)
Pressure regulating range	0.05~0.85MPa
Filter aperture	5 μm

Dimensions

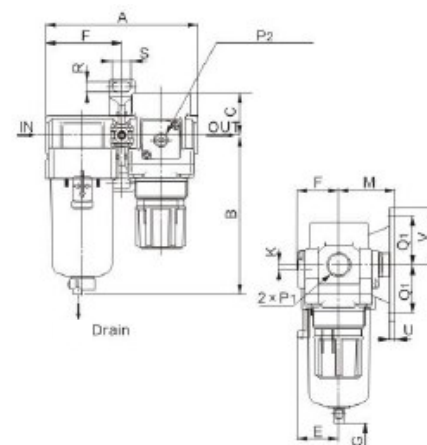
Model: AC10B-A



Model: AC20B-B



Model: AC30B~60B-B

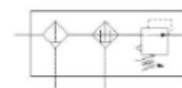


Model	Standard specifications																	With automati c drain	Meter cup	Metal bow with level gauge
	P1	P2	A	B	C	E	F	G	J	K	Bracket installation dimension									
											M	Q1	Q2	R	S	U	V	B	B	B
AC10B-A	M5X0.8	1/16	56	59.9	11	-	28	25	12.5	-	25	20	27	4.5	6.8	3	24.5	77.9	59.3	-
AC20B-B	1/8, 1/4	1/8	87.6	87.6	26.5	-	41.6	25	28.5	2	30	24	33	5.5	12	3.5	29	104.9	87.4	-
AC30B-B	1/4, 3/8	1/8	115.1	115.1	30.7	30	55.1	35	29.4	3.5	41	35	-	7	14	4	41	156.8	117.6	137.6
AC40B-B	1/4, 3/8, 1/2	1/8	147.1	147.1	35.8	38.4	72.6	40	33.8	3.5	50	40	-	9	18	5	48	186.9	149.6	169.6
AC50B-B	3/4, 1	1/8	234.1	234.1	46	-	98.1	30	43.3	3.2	70	50	-	11	20	6	60	273.9	236.6	256.6
AC60B-B	3/4, 1	1/8	234.1	234.1	46	-	98.1	30	43.3	3.2	70	50	-	11	20	6	60	273.9	236.6	256.6

—AC Series(AF+AFM(AFD)+AR)



■ Symbol



Ordering code

AC-B 20C □ 02 D E X □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

⑤ Drainage pattern

Nil	Manual drain
D	N.O. Automatic drain
C	N.C. Automatic drain

⑥ Pressure gauge specifications

E	Square embedded type pressure gauge
G	Round type pressure gauge

⑦ Cup type

X	Full transparent cup body
2	Metal cup
8	Metal bowl with level guage

① Series No.

② Shell Size

10C
20C
30C
40C

③ Thread type

Nil	Rc thread
N	NPT thread
F	G thread

④ Thread Size

M5
01/02
02/03
03/04

⑧ Accessory specification

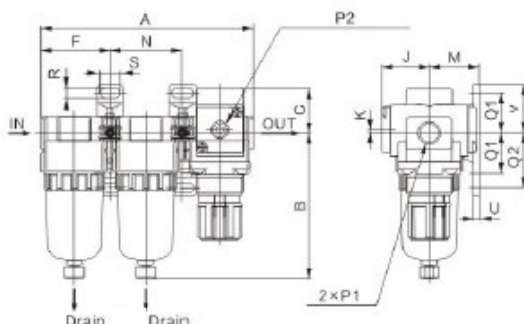
S	Pressure switch
T	T-spacer
V	Pressure relief 3 port valve

Standard Specifications

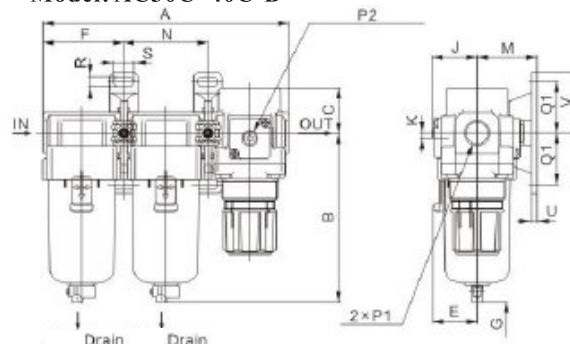
Components	AF+AFM(AFD)+AR
Max. working pressure	1.5MPa(15.3kgf/cm ²)
Theory of working pressure	1.0MPa(10.2kgf/cm ²)
Environment and fluid temp.	1~60℃(No frozen)
Pressure regulating range	0.05~0.85MPa
Filter aperture	AF:5 μm AFM/AFD:0.3 μm/0.01 μm
Cil mist concentration at outlet side	AF:MAX. 1.0mg/m ³ (ANR) AFM/AFD:1.0mg/m ³ (ANR)
Rated flow rate	AC20C-B:200 AC30C-B:450 AC400C-B:1100
Cup material	Ploycarbonate
Cup hood	AC20: Without AC30-40: With

Dimensions

Model: AC20C-B



Model: AC30C~40C-B



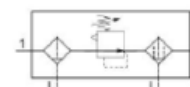
Model	P1	P2	A	B	C	E	F	G	J	K
AC20C-B	1/8, 1/4	1/8	126.4	87.6	26.5	-	41.6	25	28.5	2
AC30C-B	1/4, 3/8	1/8	167.4	115.1	30.7	30	55.1	38	29.4	3.5
AC40C-B	1/4, 3/8, 1/2	1/8	220.4	147.1	35.8	38.4	72.6	40	33.8	3.5

Model	With automatic drain	Meter cup	Metal bowl with level gauge	Bracket installation dimension							
	B	B		M	N	Q1	Q2	R	S	U	V
AC20C-B	104.9	87.4	-	30	43.2	24	33	5.5	12	3.5	29
AC30C-B	156.8	117.6	137.6	41	57.2	35	-	7	14	4	41
AC40C-B	186.9	149.6	169.6	50	75.2	40	-	9	18	5	48

—AC Series(AW+AFM(AFD))



Symbol



Ordering code

AC-B 20D □ 02 D E X □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

⑤ Drainage pattern

Nil	Manual drain
D	N.O. Automatic drain
C	N.C. Automatic drain

⑥ Pressure gauge specifications

E	Square embedded type pressure gauge
G	Round type pressure gauge

⑦ Cup type

X	Full transparent cup body
2	Metal cup
8	Metal bowl with level gauge

① Series No.

② Shell Size

10D
20D
30D
40D

③ Thread type

Nil	Rc thread
N	NPT thread
F	G thread

④ Thread Size

M5
01/02
02/03
03/04

⑧ Accessory specification

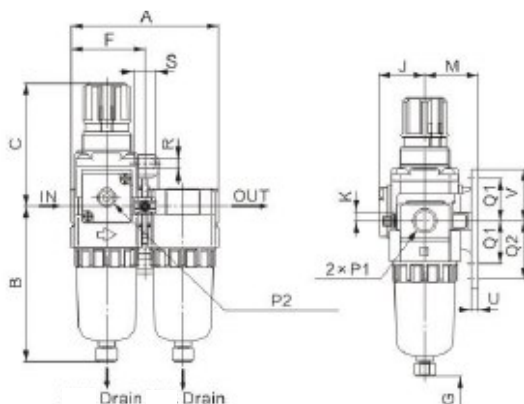
S	Pressure switch
T	T-spacer
V	Pressure relief 3 port valve

Standard Specifications

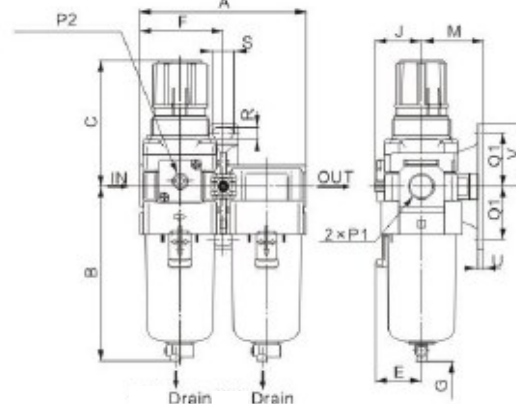
Components	AW+AWM(AWD)
Max. working pressure	1.5MPa(15.3kgf/cm ²)
Theory of working pressure	1.0MPa(10.2kgf/cm ²)
Environment and fluid temp.	1~60°C(No frozen)
Pressure regulating range	0.05~0.85MPa
Filter aperture	AF:5 μm AFM/AFD:0.3 μm/0.01 μm
Cil mist concentration at outlet side	AF:MAX. 1.0mg/m ³ (ANR) AFM/AFD:1.0mg/m ³ (ANR)
Rated flow rate	AC20D-B:200 AC30D-B:450 AD400C-B:1100
Cup material	Ploycarbonate
Cup hood	Ac20: Without AC30-40: With

Dimensions

Model: AC20D-B



Model: AC30D~40D-B



Model	P1	P2	A	B	C	E	F	G	J	K
AC20D-B	1/8, 1/4	1/8	83.2	87.6	72.4	-	41.6	40	28.5	5
AC30D-B	1/4, 3/8	1/8	110.2	115.1	85.6	30	55.1	50	29.4	3.5
AC40D-B	1/4, 3/8, 1/2	1/8	145.2	147.1	91.7	38.4	72.6	75	33.8	1.5

Model	With automatic drain	Meter cup	Metal bowl with level gauge	Bracket installation dimension						
	B	B	B	M	Q1	Q2	R	S	U	V
AC20D-B	104.9	87.4	-	30	24	33	5.5	12	3.5	29
AC30D-B	156.8	117.6	137.6	41	35	-	7	14	4	41
AC40D-B	186.9	149.6	169.6	50	40	-	9	18	5	48

——IR Series(AF+AR)

Standard Specifications

Sensitivity	Less than 0.2% full scale
Repetition accuracy	Less than 0.5% of full scale
Rated flow rate	1100L/min
Air consumption	Maximum 4L/min in under 1.0MPa pressure
Environment and fluid temperatures	-5~+60℃ The largest 3L/min in the 0.7MPa pressure



Model Specifications

Model	Max. working pressure	Min. operation pressure	Set pressure range	Port size	Pressure gauge port size
IR1000-01	1.0MPa	Set pressure +0.05	0.005~0.2	1/8"	1/8"
IR1010-01			0.005~0.4		
IR1020-01			0.005~0.8		
IR2000-02			0.005~0.2	1/4"	
IR2010-02			0.005~0.4		
IR2020-02			0.005~0.8		
IR3000-03			0.01~0.2	3/8"	
IR3010-03			0.01~0.4		
IR3020-03			0.01~0.8		
IR3000-04			0.01~0.2	1/2"	
IR3010-04			0.01~0.4		
IR3020-04			0.01~0.8		



1. Small size and light weight(only 300g).
2. 20% more flow than conventional precision regulator IR200(maximum 1100L/min).
3. Up to 5 times more air volume than traditional precision regulator Ir200.
4. Precise pressure setting(the tooth pitch of adjusting bolt is 0.5mm from the traditional 0.75mm center).
5. Easy installation, independent installation with bracket or direct installation with current modular filter.
6. Standard installation with panel.
7. The pilot exhaust port is separated from the main exhaust port.
8. It can be used in the clean room(special product).



Specifications

Model	RHE-01
Standard	Turbine No.1 oil(ISO VG32)
Performance	1. Lubricate the pneumatic machine to extend the life of equipment. 2. Prevent parts from being rusted. 3. Make sure operation of equipment more stable.
Advise	In 1000L compressed air, it is better to give 1~12 drips of SNS-01 lubrication
Viscosity	32mm/s



—AF Series



■ Symbol



■ Ordering code

AF 2000 02 D

① ② ③ ④

① Series No.

② Shell Size	③ Thread Size		④ Drainage pattern	
1000	M5	M5	Nil	Manual drain
2000	02	1/4"	A	Differential pressure drain
3000	03	3/8"	D	Automatic drain
4000	04	1/2"		
5000	06	3/4"		
	10	1"		

■ Standard Specifications

Proof pressure	1.5MPa(15.3kgf/cm ²)
Max. working pressure	1.0MPa(10.2kgf/cm ²)
Environment and fluid temp.	5~60°C(No frozen)
Filter aperture	5μm
Cup material	Poly carbonate
Cup hood	AF1000~2000: Without AF3000~5000: With(Iron)

Note: There are 2,10,20,40,70,100 μm for choose.

Model		Rated flow (L/min)	Port size (RC(PT))	Pressure gauge diameter (RC(PT))	Weight (kg)	Cup combination	
Manual drain type	Automatic drain type					Manual drain	Automatic drain
AF1000-M5	AF1000-M5D	110	M5X0.8	1/16	0.07	C100F	AD61
AF2000-02	AF2000-02D	750	1/4	1/8	0.19	C200F	AD62
AF3000-02	AF3000-02D	1500	1/4	1/8	0.29	C300F	AD43
AF3000-03	AF3000-03D	1500	3/8	1/8	0.29	C300F	AD43
AF4000-03	AF4000-03D	4000	3/8	1/8	0.55	C400F	AD44
AF4000-04	AF4000-04D	4000	1/2	1/4	0.55	C400F	AD44
AF4000-06	AF4000-06D	6000	3/4	1/4	0.58	C400F	AD44
AF5000-06	AF5000-06D	7000	3/4	1/4	1.08	C400F	AD44
AF5000-10	AF5000-10D	7000	1	1/4	1.08	C400F	AD44

Note: 1. The standard automatic drain for often open(N.O.), AF3000~4000 also have closed(N.C.) for choose, resistance to the lowest pressure; always open-0.1MPa(1kgf/cm²), closed-1.5kgf/cm².

2. Mark: Power supply for 0.7MPa(7.1kgf/cm²).

■ Main Parts

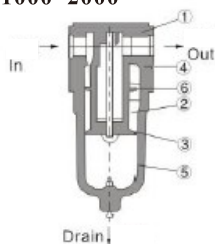
Serial number	Name	AF1000~2000	AF3000~4000/4000-06	AF5000	Note
1	Filter body	Zinc die casting	Aluminium die casting		Plating gold silver
2	Bass			Aluminium die casting	Plating gold silver

■ Parts List

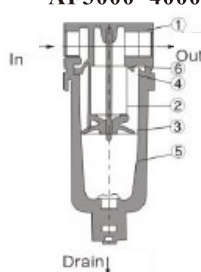
Serial number	Name	Materials	AF1000	AF2000	AF3000	AF4000	AF4000-06	AF5000
2	Spool	Resin						
3	Capboard	Copper						
4	O-ring	ABS						
5	Cup parts	Poly carbonate						
6	Deflection plate	ABS						
7	O-ring	NBR						
8	Gasket	NBR						

Structure maps

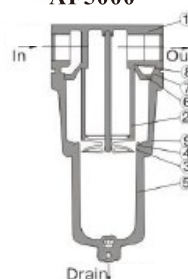
AF1000~2000



AF3000~4000

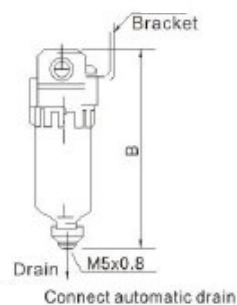
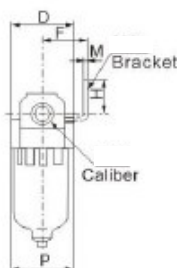
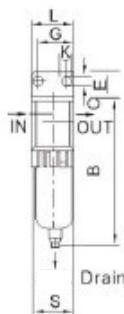


AF5000

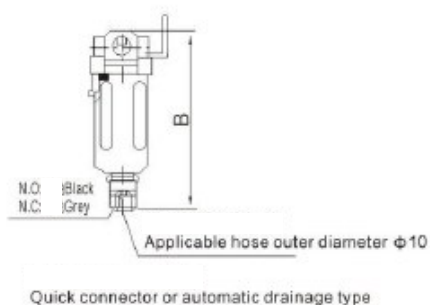
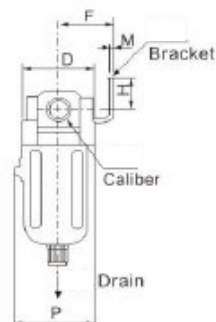
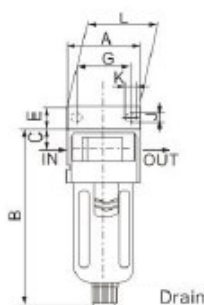


Dimensions

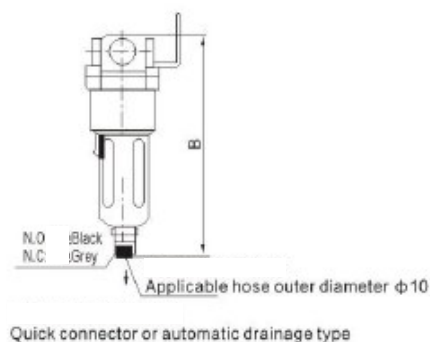
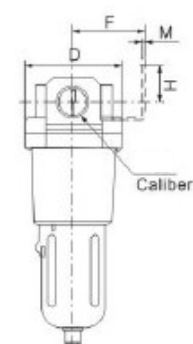
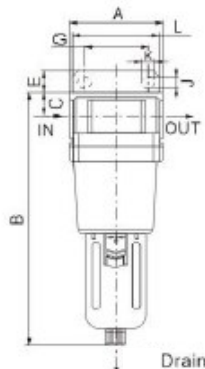
AF1000~2000



AF3000~4000



AF5000



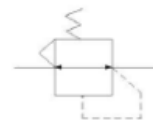
Model	Caliber	A Width	B Length	C Height	D	E	F	G	H	J	K	L	M	P	The automatic drain B
AF1000	M5X0.8	25	66	7	25	-	-	-	-	-	-	-	-	26.5	86.5
AF2000	1/4	40	97	11	40	17	30	27	22	5.4	8.4	40	2.3	40	30
AF3000	1/4, 3/8	53	132.5	14	53	16	41	40	23	6.5	8	53	2.3	56	41
AF4000	3/8, 1/2	70	165	18	70	17	50	54	26	8.5	10.5	70	2.3	73	50
AF4000-06	3/4	75	171	20	69.5	14	50	54	25	8.5	10.5	70	2.3	73	70
AF5000	3/4, 1	90	246	24	90	23	70	66	35	11	13	90	3.2	90	70

The above products parameters and photos are for reference only, please in kind prevail.

——AR Series



■ Symbol



■ Ordering code

AR 2000 02

①

②

③

① Series No.

② Shell Size

1000
2000
3000
4000
5000

③ Thread Size

M5	M5
02	1/4"
03	3/8"
04	1/2"
06	3/4"
10	1"

■ Standard Specifications

Proof pressure	1.5MPa(15.3kgf/cm²)
Max. working pressure	1.0MPa(10.2kgf/cm ²)
Environment and fluid temp.	1~60°C(No frozen)
Cup material	Ploycarbonate
Pressure regulating range	Ar1000: 0.05~0.7MPa(0.51~7.1kgf/cm ²) AR2000-5000: 0.05~0.85MPa(0.51~8.7kgf/cm ²)

Mark: Have the pressure regulating range AR2000~5000.

Model	Rated flow(L/min)	Port size(RC(PT))	Pressure gauge diameter(RC(PT))	Weight(kg)
AR1000-M5	100	M5X0.8	1/16	0.08
AR2000-02	550	1/4	1/8	0.27
AR3000-02	2500	1/4	1/8	0.41
AR3000-03	2500	3/8	1/8	0.41
AR4000-03	6000	3/8	1/8	0.84
AR4000-04	6000	1/2	1/4	0.84
AR4000-06	6000	3/4	1/4	0.94
AR5000-06	8000	3/4	1/4	1.19
AR5000-10	8000	1	1/4	1.19

Note: 1. The Supply pressure is 0.7MPa(7.1kgf/cm²), the two pressure setting for 0.5MPa(5.1kgf/cm²) situation.

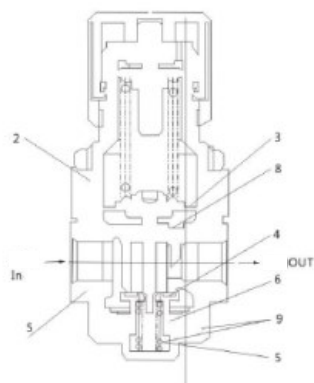
■ Main Parts

Serial number	Name	AR1000~2000	AR3000	AR4000~5000	Note
1	Body	Zinc die casting	Aluminium die casting		Plating gold silver
2	Bonnet	Mataldehyde		Zinc die casting	Plating black

■ Parts List

Serial number	Name	Materials	AR1000	AR2000	AR3000	AR4000	AR4000-	AR5000
3	Diaphragm	NBR						
4	Valve components	Brass+NBR						
5	Valve spring	Stainless steel						
6	Valve O-ring	NBR						
7	Piston Y gasket	NBR						
8	O-ring	NBR						
9	O-ring	NBR						
10	Adjustment of spring	-						
11	Exhaust valve components	-						

Structure maps

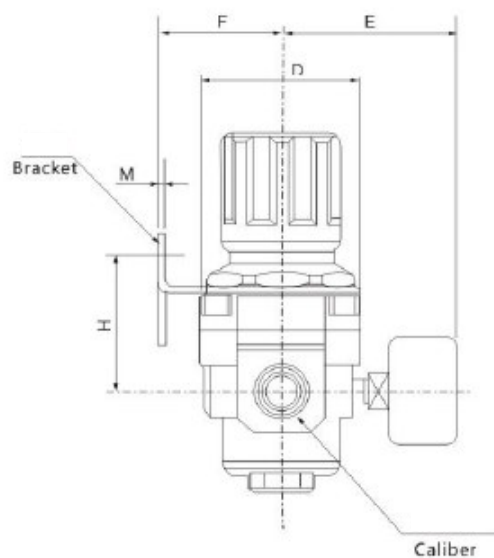
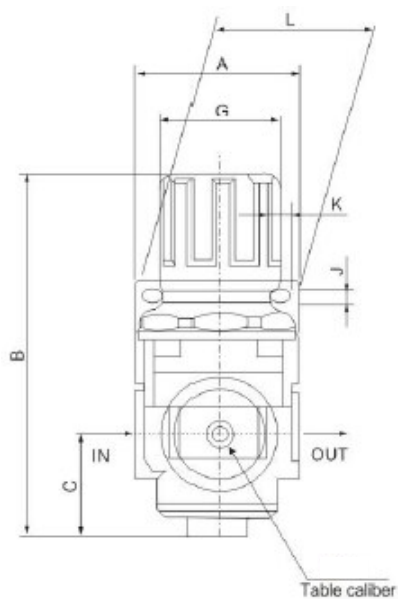


Panel cutting hole



AR1000-3000: Maximum thickness x 3.5
AR4000-5000: maximum thickness x 5

Dimensions



Model	Caliber	A Width	B Length	C Height	D	E	F	G	H	J	K	L	M	N
AR1000	M5X0.8	30	61.5	11	25	26	25	28	30	4.5	6.5	40	2.0	20.5
AR2000	1/4	40	89.5	17	40	56.8	30	30	45	5.4	15.4	55	2.3	33.5
AF3000	1/4, 3/8	53	122.5	35	53	60.8	41	41	46	6.5	8.0	53	2.3	42.5
AF4000	3/8, 1/2	70	143.5	37.5	70	65.5	50	50	54	8.5	10.5	70	2.3	52.5
AR4000-06	3/4	75	148.5	40.5	69.5	69.5	50	50	56	8.5	10.5	70	2.3	52.5
AR5000	3/4, 1	90	165	48	90	75.5	70	70	65.8	11	13	90	3.2	52.5

The above products parameters and photos are for reference only, please in kind prevail.

——AL Series



■ Symbol



■ Ordering code

AL 2000 02

①

②

③

① Series No.

② Shell Size

1000
2000
3000
4000
5000

③ Thread Size

M5	M5
02	1/4"
03	3/8"
04	1/2"
06	3/4"
10	1"

■ Standard Specifications

Proof pressure	1.5MPa(15.3kgf/cm²)
Max. working pressure	1.0MPa(10.2kgf/cm ²)
Environment and fluid temp.	1~60℃(No frozen)
Filter aperture	5μm
Suggest oil	Turbine 1 oil (ISO VG32)
Cup material	Polycarbonate
Cup hood	AL1000~2000: Without AL3000~5000: With(Iron)

Model	Minimum operation flow(L/min)	Rated flow(L/min)	Port size(RC(PT))	Cup aapacity(cm ³)	Weight(kg)
AL1000-M5	4	95	M5X0.8	7	0.07
AL2000-02	15	800	1/4	25	0.22
AL3000-02	30	1700	1/4	50	0.30
AL3000-03	40	5000	3/8	50	0.30
AL4000-03	40	5000	3/8	130	0.56
AL4000-04	50	5000	1/2	130	0.56
AL4000-06	50	6300	3/4	130	0.58
AL5000-06	190	7000	3/4	130	1.08
AL5000-10	190	7000	1	130	1.08

Note: 1. The Supply pressure is 0.5MPa(5.1kgf/cm²), Oil droplets flow for 5 drops per minute, turbine 1 oil(ISO VG32) tepmerature 20℃.
2. Pressure is 0.5MPa(5.1kgf/cm²) , buck for 0.03 Mpa (0.3kgf/cm²).

■ Main Parts

Serial number	Name	AL1000~2000	AL3000~4000/4000-06	AL5000	Note
1	Filter body	Zinc die casting	Aluminium die casting		Plating gold silver
2	Base		Mataldehyde	Zinc die casting	Plating gold silver

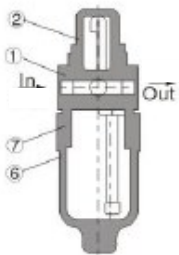
■ Parts List

Serial number	Name	Materials	AL1000	AL2000	AL3000	AL4000	AL4000-06	AL5000
2	Observation dome components	Polycarbonate						
3	Into the oil hole components	-						
4	Damping car hetter components	-						
5	Needle valve components	-						
6	Cup components	-						
7	Cup ring	NBR						
8	Dampet	Synthetic resin						
9	Whole O-ring	NBR						

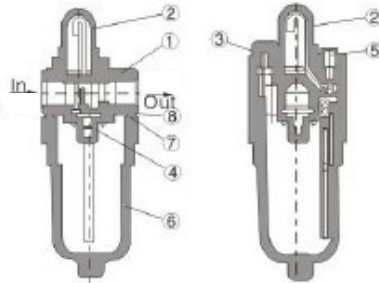
The above products parameters and photos are for reference only, please in kind prevail.

Structure maps

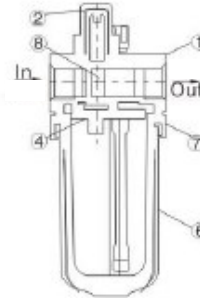
AL1000



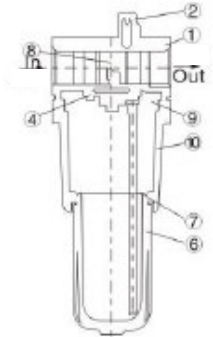
AL2000



AL3000~4000

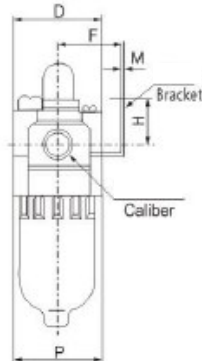
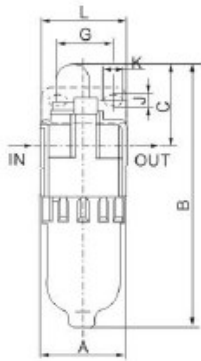


AL5000

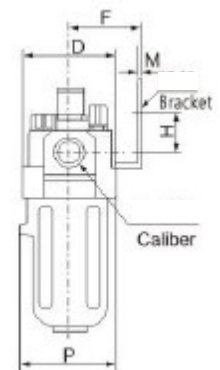
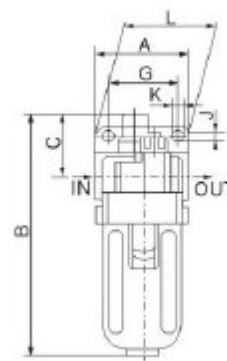


Dimensions

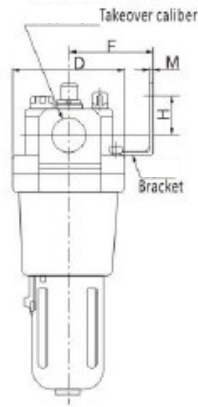
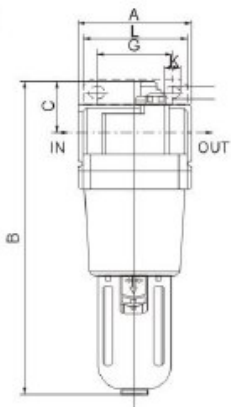
AL1000~2000



AL3000~4000



AL5000



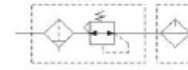
Model	Caliber	A Width	B Length	C Height	D	E	F	G	H	J	K	L	M	P
AL1000	M5X0.8	25	81.5	25.5	25	-	-	-	-	-	-	-	-	27
AL2000	1/4	40	119.5	38	40	30	30	27	22	5.4	8.4	40	2.3	40
AL3000	1/4, 3/8	53	142	38	53	41	41	40	23	6.5	8.0	53	2.3	56
AL4000	3/8, 1/2	70	177	41	70	50	50	54	26	8.5	10.5	70	2.3	73
AL4000-06	3/4	75	177	39	69.5	50	50	54	25	8.5	10.5	70	2.3	73
AL5000	3/4, 1	90	254	45	90	70	70	66	35	11	13	90	3.2	90

The above products parameters and photos are for reference only, please in kind prevail.

——AW Series



■ Symbol



■ Ordering code

AW 2000 02 D

① ② ③ ④

① Series No.

② Shell Size	③ Thread Size
1000	M5 M5
2000	02 1/4"
3000	03 3/8"
4000	04 1/2"
5000	06 3/4"
	10 1"

④ Drainage pattern

Nil	Manual drain
A	Differential pressure drain
D	Automatic drain

■ Standard Specifications

Proof pressure	1.5MPa(15.3kgf/cm ²)
Max. working pressure	1.0MPa(10.2kgf/cm ²)
Environment and fluid temp.	1~60°C(No frozen)
Filter aperture	5um
Cup material	Polycarbonate
Cup hood	AW1000~2000: Without AW3000~5000: With(Iron)
Pressure regulating range	AW1000: 0.05~0.7MPa(0.51~7.1kgf/cm ²) AW2000~5000: 0.05~0.85MPa(0.51~8.7kgf/cm ²)

Note: There are 2,10,20,40,70,100um for choose.

Model		Rated flow (L/min)	Port size (RC(PT))	Pressure gauge diameter (RC(PT))	Weight (kg)
Manual drain type	Automatic drain type				
AW1000-M5	AW1000-M5D	100	M5X0.8	1/16	0.09
AW2000-02	AW2000-02D	550	1/4	1/8	0.36
AW3000-02	AW3000-02D	2000	1/4	1/8	0.56
AW3000-03	AW3000-03D	2000	3/8	1/8	0.56
AW4000-03	AW4000-03D	4000	3/8	1/8	1.15
AW4000-04	AW4000-04D	4000	1/2	1/4	1.15
AW4000-06	AW4000-06D	4500	3/4	1/4	1.21
AW5000-06	AW5000-06D	5000	3/4	1/4	
AW5000-10	AW5000-10D	5000	1	1/4	

Note: 1. The standard automatic drain for often open(N.O.), AW3000~4000 also have closed(N.C) for choose, resistance to the lowest pressure: always open-0.1MPa(1kgf/cm²), closed-0.15MPa(1.5kgf/cm²),
2. Mark: Power supply for 0.7MPa(7.1kgf/cm²).

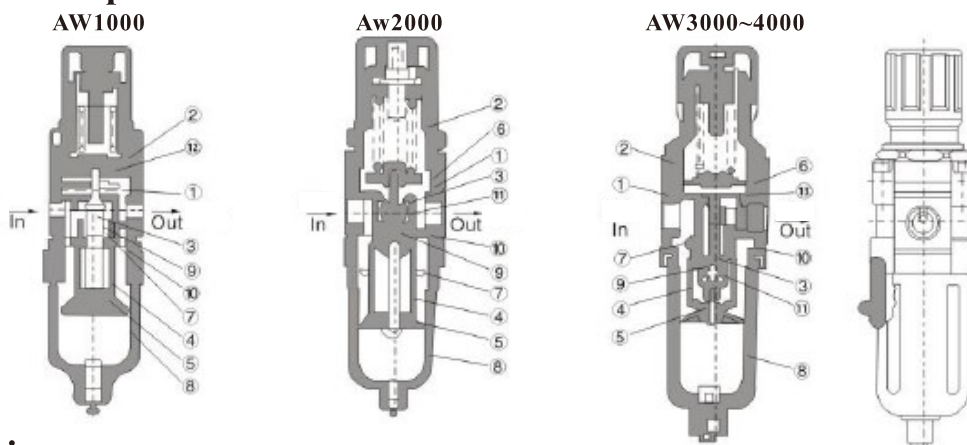
■ Main Parts

Serial number	Name	AW1000~2000	AW3000	AW4000/4000-06	Note
1	Body	Zinc die casting	Aluminium die casting		Plating gold silver
2	Bonnet	Mataldehyde		Aluminium die casting	Plating black

■ Parts List

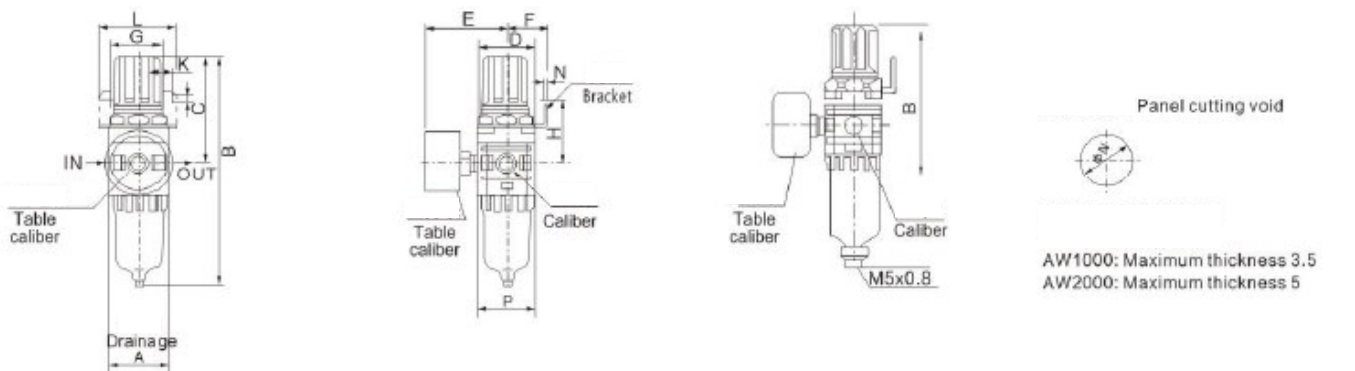
Serial number	Name	Materials	Serial number	Name	Materials	AW1000	AW2000	AW3000	AW4000	AW4000-06
3	Valve components	NBR, Brass	9	Valve spring	Stainless steel					
4	Filter spool	Synthetic resin	10	Shell Oring	NBR					
5	Clapboard	ABS	11	Valve Oring	NBR					
6	Diaphragm	NBR	12	MY sealing	NBR					
7	Ddflection plate	ABS	13	Oring	NBR					
8	Cup part	Poly carbonate								

Structure maps

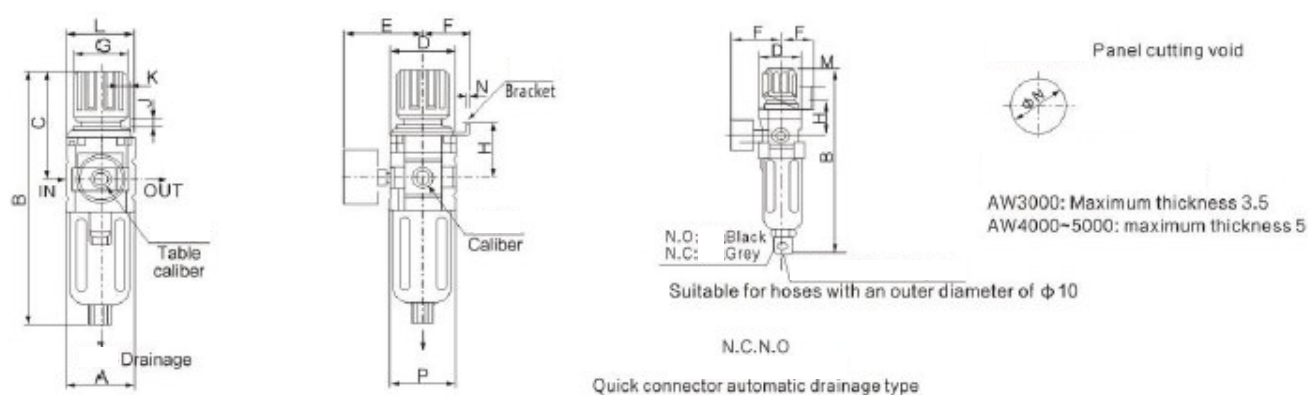


Dimensions

AW1000~2000



AW3000~5000



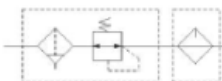
Model	Caliber	Width A	Length B	Height C	D	E	F	G	H	J	K	L	M	N	P	The automatic drain B
AW1000	M5X0.8	25	109.5	50.5	25	26	25	28	30	4.5	6.5	40	2.0	20.5	28	130
AW2000	1/4	40	158	78	40	56.8	30	34	45	5.4	15.4	55	2.3	33.5	40	179.5
AW3000	1/4, 3/8	53	208	92.5	53	60.8	41	40	46	6.5	8.0	53	2.3	42.5	56	240.5
AW4000	3/8, 1/2	70	260	112	70	70.5	50	54	54	8.5	10.5	70	2.3	52.5	73	292.5
AW4000-06	3/4	75	262.5	114	70	70.5	50	54	56	8.5	10.5	70	2.3	52.5	73	295
AW5000	3/4, 1	90	336	117	90	72	70	54	56	9.5	15	90	2.5	52.5	77	367.5

The above products parameters and photos are for reference only, please in kind prevail.

——AC Series(AW+AL)



Symbol



Ordering code

AC 2010 02 D

① ② ③ ④

① Series No.

② Shell Size

1010
2010
3010
4010
5010

③ Thread Size

M5	M5
02	1/4"
03	3/8"
04	1/2"
06	3/4"
10	1"

④ Drainage pattern

Nil	Manual drain
A	Differential pressure drain
D	Automatic drain

Standard Specifications

Proof pressure	1.5MPa(15.3kgf/cm ²)
Max. working pressure	1.0MPa(10.2kgf/cm ²)
Environment and fluid temp.	1~60°C(No frozen)
Filter aperture	5um
Suggest oil	Turbine 1 oil(ISO VG32)
Cup material	Poly carbonate
Cup hood	AC1010~2010: Without AC3010~5010: With(Iron)
Pressure regulating range	AC1010: 0.05~0.7MPa(0.51~7.1kgf/cm ²) AC2010~5010: 0.05~0.85MPa(0.51~8.7kgf/cm ²)

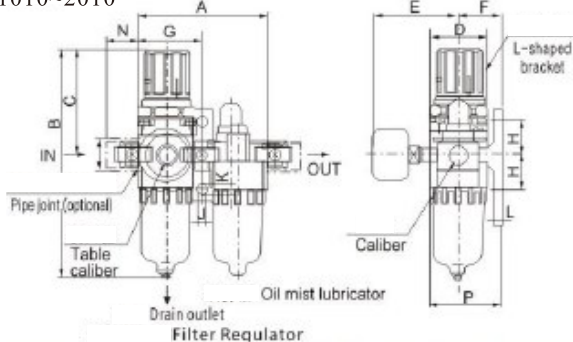
Note: There are 2,10,20,40,70,100um for choose.

Model		Components		Rated flow (L/min)	Port size (Rc(PT))	Pressure gauge diameter(RC(PT))	Weight (kg)
Manual drain type	Automatic drain type	Filter	Lubricators				
AC1010-M5	AC1010-M5D	AW1000	AL1000	90	M5X0.8	1/16	0.22
AC2010-02	AC2010-02D	AW2000	AL2000	500	1/4	1/8	0.66
AC3010-02	AC3010-02D	AW3000	AL3000	1700	1/4	1/8	0.98
AC3010-03	AC3010-03D	AW3000	AL3000	1700	3/8	1/8	0.98
AC4010-03	AC4010-03D	AW4000	AL4000	3000	3/8	1/8	1.93
AC4010-04	AC4010-04D	AW4000	AL4000	3000	1/2	1/4	1.93
AC4010-06	AC4010-06D	AW4000	AL4000	3000	3/4	1/4	1.99
AC5010-06	AC5010-06D	AW5000	AL5000	4000	3/4	1/4	
AC5010-10	AC5010-10D	AW5000	AL5000	4000	1	1/4	

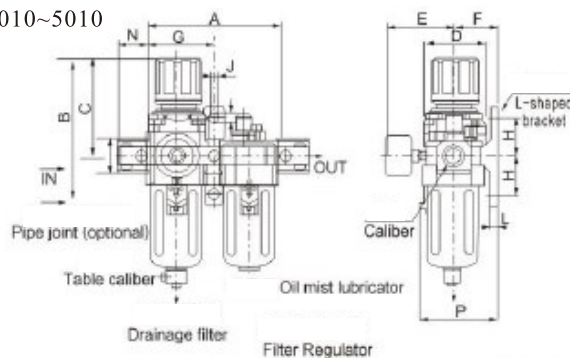
Note: 1. The standard automatic drain for often open(N.O.), AC3000~4000 also have closed(N.C) for choose, resistance to the lowest pressure: always open-0.1MPa(1kgf/cm²), closed-0.15MPa(1.5kgf/cm²),
2. Mark: Power supply for 0.7MPa(7.1kgf/cm²).

Dimensions

AC1010~2010



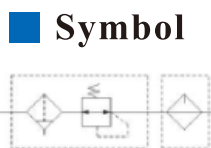
AC3010~5010



Model	Caliber	Width A	Length B	Height C	D	E	F	G	H	J	K	L	M	N	P	The automatic drain B
AW1010	M5X0.8	58	109.5	50.5	25	26	25	29	20	4.5	7.5	5	17.5	16	38.5	130
AW2010	1/4	90	158	78	40	56.8	30	45	24	5.4	8.5	5	22	23	50	187.5
AW3010	1/4, 3/8	117	208	92.5	53	60.8	41	58.5	35	7	11	7	34.2	26	70.5	248.5
AW4010	3/8, 1/2	154	260	112	70	70.5	50	77	40	9	13	7	42.2	33	88	300
AW4010-06	3/4	164	262.5	114	70	70.5	50	82	40	9	13	7	46.2	36	88	304
AW5010	3/4, 1	193	336	117	90	72	70	98	62.5	12	17	10	48	38	116	367

The above products parameters and photos are for reference only, please in kind prevail.

——AC Series(AF+AR+AL)



Ordering code

AC 2000 02 D

① ② ③ ④

① Series No.

② Shell Size	③ Thread Size	④ Drainage pattern
1000	M5 M5	Nil Manual drain
2000	02 1/4"	A Differential pressure drain
3000	03 3/8"	D Automatic drain
4000	04 1/2"	
5000	06 3/4"	
	10 1"	

Standard Specifications

Proof pressure	1.5MPa(15.3kgf/cm²)
Max. working pressure	1.0MPa(10.2kgf/cm ²)
Environment and fluid temp.	1~60°C(No frozen)
Filter aperture	5um
Suggest oil	Turbine 1 oil(ISO VG32)
Cup material	Poly carbonate
Cup hood	AC1000~2000: Without AC3000~5000: With(Iron)
Pressure regulating range	AC1000: 0.05~0.7MPa(0.51~7.1kgf/cm ²) AC2000~5000: 0.05~0.85MPa(0.51~8.7kgf/cm ²)

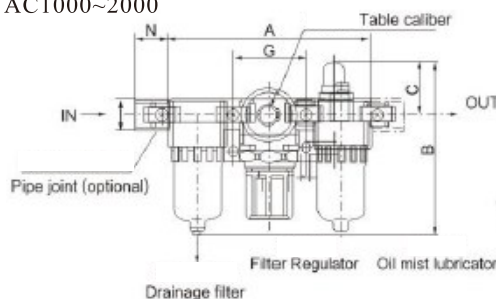
Note: There are 2,10,20,40,70,100um for choose.

Model		Components			Rated flow (L/min)	Port size (Rc(PT))	Pressure gauge diameter(RC(PT))	Weight (kg)
Manual drain type	Automatic drain type	Filter	Regulator	Lubricators				
AC1000-M5	AC1000-M5D	AF1000	AR1000	AL1000	90	M5X0.8	1/16	0.26
AC2000-02	AC2000-02D	AF2000	AR2000	AL2000	500	1/4	1/8	0.74
AC3000-02	AC3000-02D	AF3000	AR2000	AL3000	2000	1/4	1/8	1.18
AC3000-03	AC3000-03D	AF3000	AR3000	AL3000	2000	3/8	1/8	1.18
AC4000-03	AC4000-03D	AF4000	AR4000	AL4000	4000	3/8	1/8	2.14
AC4000-04	AC4000-04D	AF4000	AR4000	AL4000	4000	1/2	1/4	2.14
AC4000-06	AC4000-06D	AF4000	AR4000	AL4000	4500	3/4	1/4	2.47
AC5000-06	AC5000-06D	AF5000	AR5000	AL5000	5000	3/4	1/4	3.82
AC5000-10	AC5000-10D	AF5000	AR5000	AL5000	5000	1	1/4	3.82

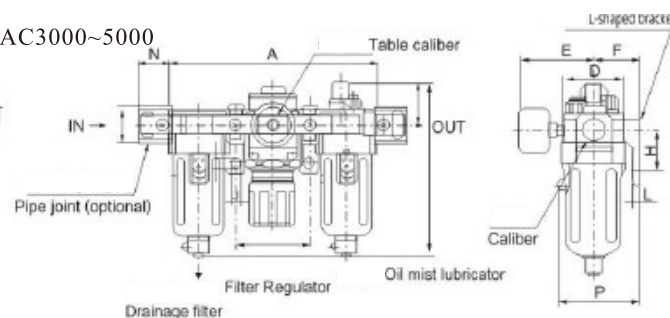
Note: 1. The standard automatic drain for often open(N.O.), AC3000~4000 also have closed(N.C) for choose, resistance to the lowest pressure: always open-0.1MPa(1kgf/cm²), closed-0.15MPa(1.5kgf/cm²),
2. Mark: Power supply for 0.7MPa(7.1kgf/cm²).

Dimensions

AC1000~2000



AC3000~5000



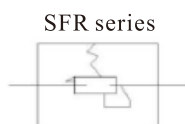
Model	Caliber	Width A	Length B	Height C	D	E	F	G	H	J	K	L	M	N	P	The automatic drain B
AC1000	M5X0.8	91	84.5	25.5	25	26	25	33	20	4.5	7.5	5	17.5	16	38.5	105
AC2000	1/4	140	125	38	40	56.8	30	50	24	5.5	8.5	5	22	23	50	147.5
AC3000	1/4, 3/8	181	156.5	38	53	60.8	41	64	35	7	11	7	34.2	26	70.5	194
AC4000	3/8, 1/2	238	191.5	41	70	65.5	50	84	40	9	13	7	42.2	33	88	229
AC4000-06	3/4	253	193	40.5	70	69.5	50	89	40	9	13	7	46.2	36	88	230.5
AC5010	3/4, 1	300	271.5	48	90	75.5	70	105	50	12	16	10	55.2	40	115	309.5

The above products parameters and photos are for reference only, please in kind prevail.

——SFR Series & ——SL Series



Symbol



SFR series

Ordering code

SFR 200

①

②

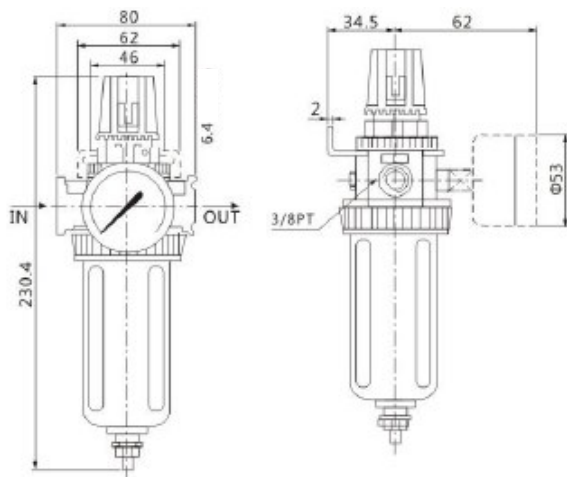
① Series No.

SFR Pressure filter

② Thread interface

200	1/4"
300	3/8"
400	1/2"

Dimensions



Standard Specifications

Model	SFR-200	SFR-300	SFR-400
Port size	1/4"	3/8"	1/2"
Working medium	Air		
Proof pressure	1.5MPa(15.3kgf/cm ²)		
Max. working pressure	1.0MPa(10.2kgf/cm ²)		
Environment and fluid temp.	5~60℃		
Filter aperture	40um		
Main parts material	Body	Aluminum alloy	
	Cup	PC	
	Cup hood	Plastic	



Symbol

SL series



Ordering code

SL 200

①

②

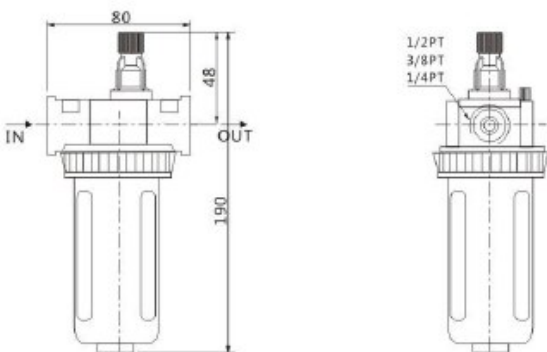
① Series No.

SL Oil sprayer

② Thread interface

200	1/4"
300	3/8"
400	1/2"

Dimensions



Standard Specifications

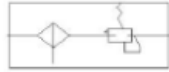
Model	SL-200	SL-300	SL-400
Port size	1/4"	3/8"	1/2"
Working medium	Air		
Proof pressure	1.5MPa(15.3kgf/cm ²)		
Max. working pressure	1.0MPa(10.2kgf/cm ²)		
Environment and fluid temp.	5~60℃		
Filter aperture	40um		
Main parts material	Body	Aluminum alloy	
	Cup	PC	
	Cup hood	Plastic	

The above products parameters and photos are for reference only, please in kind prevail.

——SFC Series(AW+AL)



Symbol



Ordering code

SFC 200 D		
①	②	③

①Series No.

② Thread interface

200	1/4"
300	3/8"
400	1/2"

③ Drainage pattern

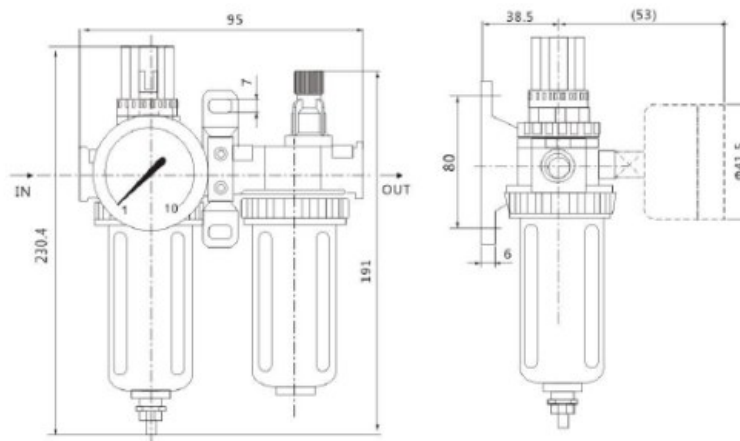
Nil	Manual drain
A	Differential pressure drain
D	Automatic drain

Standard Specifications

Model		SFC-200	SFC-300	SFC-400
Port size		1/4"	3/8"	1/2"
Working medium		Air		
Proof pressure		1.5MPa(15.3kgf/cm ²)		
Max. working pressure		1.0MPa(10.2kgf/cm ²)		
Environment and fluid temp.		5~60℃		
Filter aperture		40um		
Suggest lubrication oil		Turbine 1 oil(ISO VG32)		
Main parts material	Body	Aluminum alloy		
	Cup	PC		
	Cup hood	Plastic		

This product with filter, reduced pressure, oil mist with a body, the structure is compact, large flow, output pressure stable, and easy to install. Components with pressure gauge, mounting bracket, oil mist implement have kept the function of the air refueling, and with a cup of shields, safe, reliable, and beautiful shape.

Dimensions

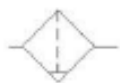


The above products parameters and photos are for reference only, please in kind prevail.

——AF/BF Series



Symbol



Ordering code

AF 2000 M

① ② ③

① Series No.

② Thread interface

1500	1/8"
2000	1/4"
3000	3/8"
4000	1/2"

③ Drainage pattern

Nil	Manual drain
A	Differential pressure drain
D	Automatic drain

Standard Specifications

Model		AF1500	AF2000	BF2000	BF3000	BF4000
Port size		1/8"	1/4"		3/8"	1/2"
Working medium		Air				
Proof pressure		1.5MPa(15.3kgf/cm ²)				
Max. working pressure		1.0MPa(10.2kfg/cm ²)				
Environment and fluid temp.		5~60℃				
Filter aperture		40um				
Filter water cup capacity		15CC		60CC		
Weight		0.14kg		0.33kg		
Main parts material	Body	Aluminum alloy				
	Cup	PC				
	Cup hood	AF series: Without		BF series: With(Plastic)		

Product characteristics

AF series:

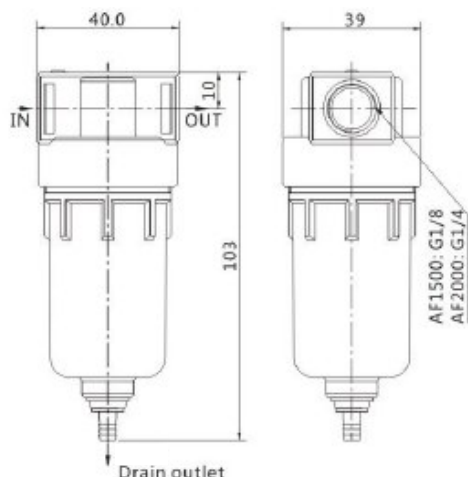
1. Structure with light and compact, easy to installation.
2. The pressure with smalllossing, the water with high efficiency.
3. Filtration precision have 5um, 40um for choose.

BF series:

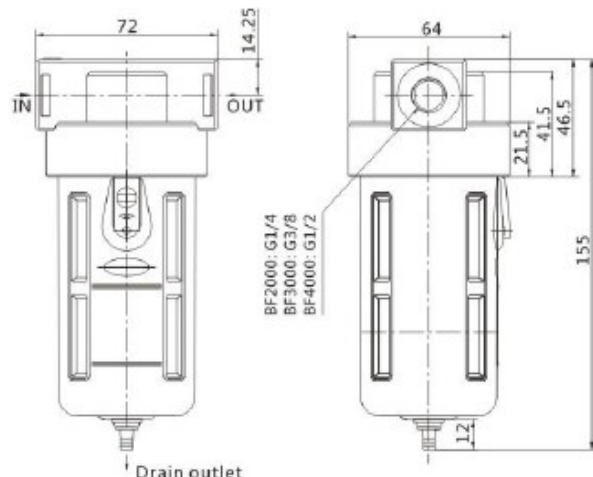
1. The pressure with smalllossing, the water with high efficiency.
2. The water glass with high strength plastic protection, the use of safe and reliable.
3. Filtration precision have 5um, 40um for choose.

Dimensions

AF1000/2000

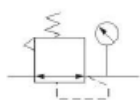


BF2000~4000



The above products parameters and photos are for reference only, please in kind prevail.

——AR/BR Series



Symbol

Ordering code

AR 2000 L

① ② ③

① Series No.

AR	Small model
BR	Middle model

② Thread interface

1500	1/8"
2000	1/4"
3000	3/8"
4000	1/2"

③ Pressure regulating way

Nil	Standard manual type
L	Low pressure type(4kgf/cm ²)

Standard Specifications

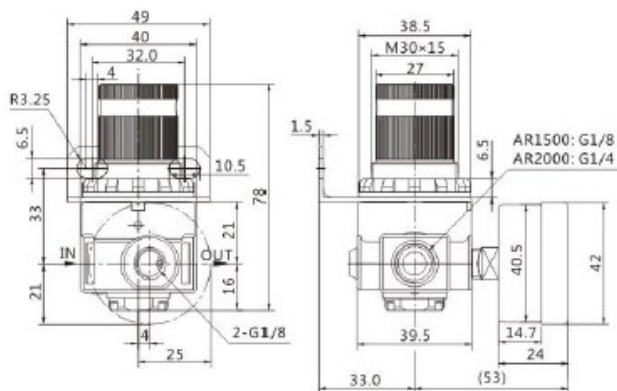
Model	AR1500	AR2000	BR2000	BR3000	BR4000
Port size	1/8"	1/4"		3/8"	1/2"
Working medium	Air				
Proof pressure	1.5MPa(15.3kgf/cm ²)				
Pressure regulating range	0.05~0.85MPa(0.5~8.5kgf/cm ²)				
Max. working pressure	0.95MPa(9.7kgf/cm ²)				
Environment and fluid temp.	5~60℃				
Body material	Aluminum alloy				

Product characteristics

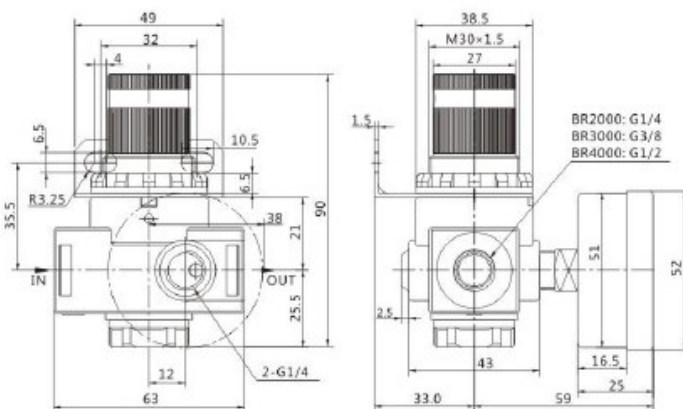
1. Structure with light and compact, easy to installation.
2. The pressure of self-lock institution, can prevent the pressure, the interference and produce reshuffled.
3. Except the standard forms, have another low pressure type for selection(Max. adjustable pressure is 0.4MPa).

Dimensions

AR1000/2000



BR2000~4000

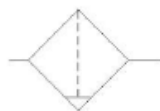


The above products parameters and photos are for reference only, please in kind prevail.

——AL/BL Series



■ Symbol



■ Ordering code

AL 2000

① ②

① Series No.

AL	Small model
BL	Middle model

② Thread interface

1500	1/8"
2000	1/4"
3000	3/8"
4000	1/2"

■ Standard Specifications

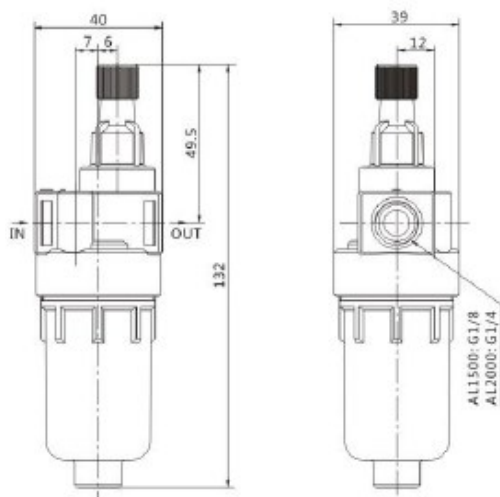
Model	AL1500	AL2000	BL2000	BL3000	BL4000
Port size	1/8"	1/4"	3/8"	1/2"	
Working medium	Air				
Proof pressure	1.5MPa(15.3kgf/cm ²)				
Environment temperature	5~60℃				
Suggest lubrication oil	Turbine 1 oil(ISO VG32)				
Filter water cup capacity	15CC	90CC			
Weight	0.14kg	0.23kg			
Main parts material	Body	Aluminum alloy			
	Cup	PC			
	Cup hood	AL series: Without BL series: With(Plastic)			

■ Product characteristics

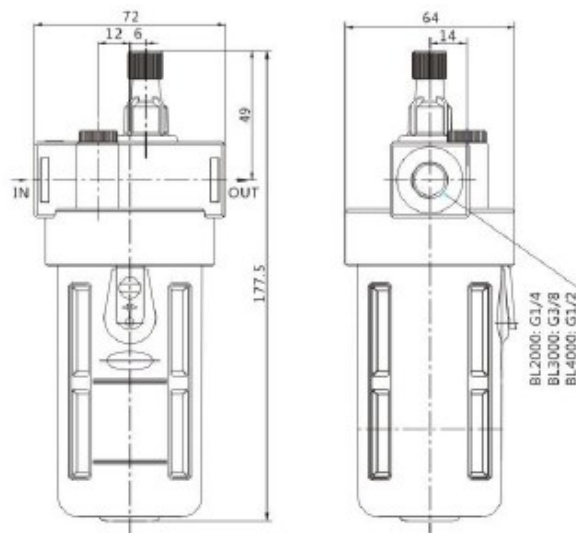
1. Structure with light and compact, easy to installation.
2. BL series with high strength plastic protection, the use of safe and reliable.
3. Transparent inspection cover, can observed drops of oil quantity size.
4. The pressure with small loss, the fog oil is low.

■ Dimensions

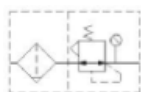
AL1000/2000



BL2000~4000



The above products parameters and photos are for reference only, please in kind prevail.

BITEBI®

AFR 2000 M

①

②

③

AFR	Small model
BFR	Middle model

1500	1/8"
------	------

2000	1/4"
------	------

3000	3/8"
------	------

4000	1/2"
------	------

Nil	Differential pressure drain
-----	-----------------------------

M	Manual drain
---	--------------

A	Automatic drain
---	-----------------

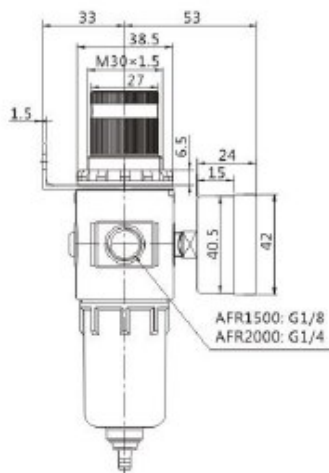
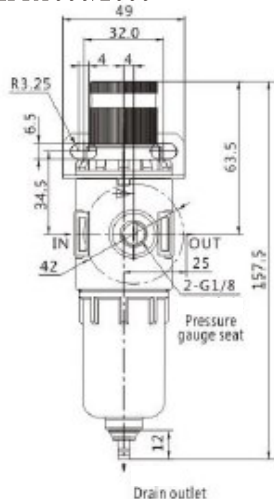
*: A series of automati

Standard Specifications

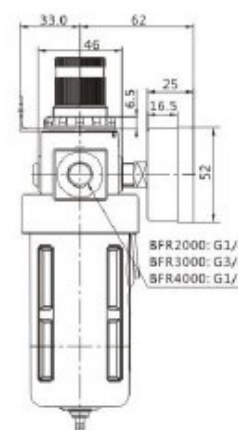
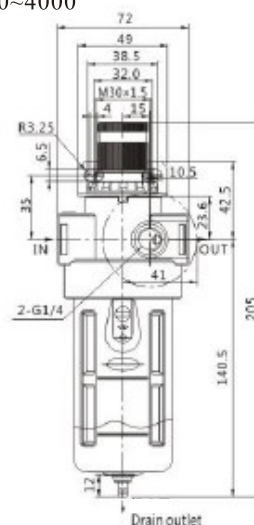
Model		AFR1500	AFR2000	BFR2000	BFR3000	BFR4000
Port size		1/8"	1/4"		3/8"	1/2"
Working medium		Air				
Proof pressure		1.5MPa(15.3kgf/cm ²)				
Pressure regulating range		0.05~0.85MPa(0.5~8.5kgf/cm ²)				
Max. working pressure		0.95MPa(9.7kgf/cm ²)				
Environment and fluid temp.		5~60℃				
Filter water cup capacity		15CC		60CC		
Weight		0.26kg		0.4kg		
Main parts material	Body	Aluminum alloy				
	Cup	PC				
	Cup hood	AFR series: Without		BFR series: With(Plastic)		

1. Structure with light and compact, easy to installation.
2. The pressure of self-lock institution, can prevent the pressure, the interference and produce reshuffled.
3. The pressure with small lossing, the water with high efficiency.
4. Transparent inspection cover, can observed drops of oil quantity size.
5. Except the standard forms, have another low pressure type for selection(Max. adjustable pressure is 0.4MPa).

AFR1000/2000



BFR2000~4000

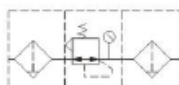


The above products parameters and photos are for reference only, please in kind prevail.

——AFC/BFC Series(AFR+AL/BFR+BL)



■ Symbol



■ Ordering code

AFC 2000 M

① ② ③

① Series No.

AFC	Small model
BFC	Middle model

② Thread interface

1500	1/8"
2000	1/4"
3000	3/8"
4000	1/2"

③ Drainage pattern

Nil	Differential pressure drain
M	Manual drain
A	Automatic drain *

*: A series of automatic drain type.

■ Standard Specifications

Model	AFC1500	AFC2000	BFC2000	BFC3000	BFC4000
Componemts	AFR1500+AL1500	AFR2000+AL2000	BFR2000+BL2000	BFR3000+BL3000	BFR4000+BL4000
Port size	1/8"	1/4"	3/8"	1/2"	
Working medium	Air				
Proof pressure	1.5MPa(15.3kgf/cm ²)				
Max. working pressure	0.95MPa(9.7kgf/cm ²)				
Environment and fluid temp.	5~60°C				
Suggest lubrication oil	Turbine 1 oil(ISO VG32)				
Filter water cup capacity	15CC			60CC	
Water cup capacity	25CC			90CC	
Weight	0.7kg			0.8kg	
Main parts material	Body	Aluminum alloy			
	Cup	PC			
	Cup hood	AFC series: Without BFC series: With(Plastic)			

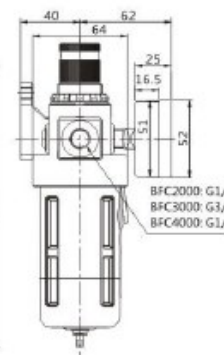
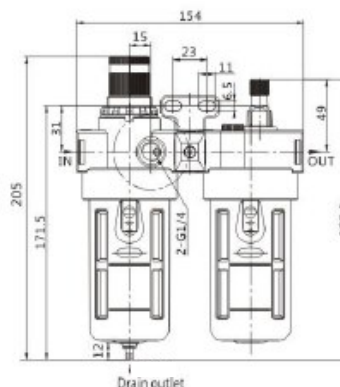
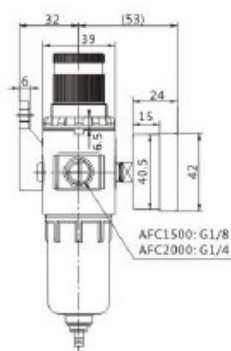
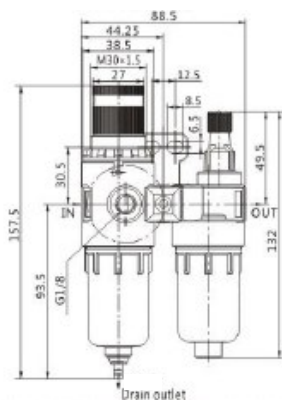
■ Product characteristics

1. Structure with light and compact, easy to installation.
2. The pressure of self-lock institution, can prevent the pressure, the interference and produce reshuffled.
3. The pressure with small lossing, the water with high efficiency.
4. Transparentinspection cover, can observed drops of oil quantity size.
5. Except the standard forms, have another low pressure type for selection(Max. adjustable pressure is 0.4MPa).

■ Dimensions

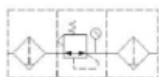
AFC1000/2000

BFC2000~4000



The above products parameters and photos are for reference only, please in kind prevail.

——AC/BC Series(AF+AR+AL/BF+BR+BL)



Symbol

Ordering code

AC 2000 M

① **Series No.**

AC	Small model
BC	Middle model

② **Thread interface**

1500	1/8"
2000	1/4"
3000	3/8"
4000	1/2"

③ **Drainage pattern**

Nil	Differential pressure drain
M	Manual drain
A	Automatic drain *

*: A series of automatic drain type.

Standard Specifications

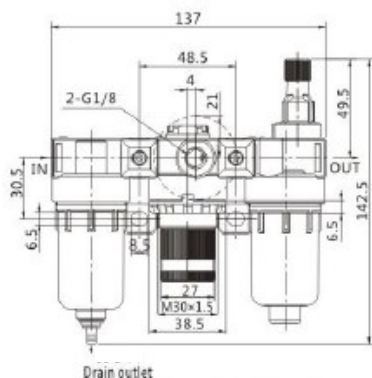
Model		AC1500	AC2000	BC2000	BC3000	BC4000
Componemnts		AF1500+AR1500 +AL1500	AF2000+AR2000 +AL2000	BF2000+BR2000 +BL2000	BF3000+BR3000 +BL3000	BF4000+BR4000 +BL4000
Port size		1/8"	1/4"		3/8"	1/2"
Working medium		Air				
Proof pressure		1.5MPa(15.3kgf/cm ²)				
Max. working pressure		0.95MPa(9.7kgf/cm ²)				
Pressure regulating range		0.05~0.85MPa(0.5~8.5kgf/cm ²)				
Environment and fluid temp.		5~60℃				
Suggest lubrication oil		Turbine 1 oil(ISO VG32)				
Filter water cup capacity		15CC		60CC		
Water cup capacity		25CC		90CC		
Weight		0.7kg		0.9kg		
Main parts material	Body	Aluminum alloy				
	Cup	PC				
	Cup hood	AC series: Without		BC series: With(Plastic)		

Product characteristics

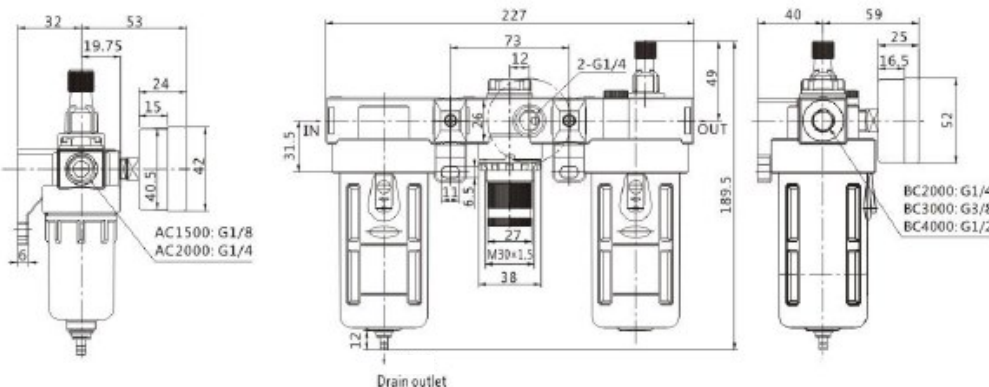
1. Structure with light and compact, easy to installation.
2. The pressure of self-lock institution, can prevent the pressure, the interference and produce reshuffled.
3. The pressure with small lossing, the water with high efficiency.
4. Transparent inspection cover, can observed drops of oil quantity size.
5. Except the standard forms, have another low pressure type for selection (Max. adjustable pressure is 0.4MPa).

Dimensions

AC1000/2000



BC2000~4000

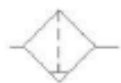


The above products parameters and photos are for reference only, please in kind prevail.

—GF Series



Symbol



Ordering code

GF200 08 M □ W G					
①	②	③	④	⑤	⑥
① Series No.		② Port size		③ Drainage pattern	
GF200	GF200 Series	06	1/8"	Nil	Differential pressure drain
GF300	GF300 Series	08	1/4"	M	Manual drain
GF400	GF400 Series	10	3/8"	A	Automatic drain
GF600	GF600 Series	15	1/2"	*: A series of automatic drain type.	
		20	3/4"		
□ Bracket code		□ Filtration accuracy		⑥ Thread type	
Nil	With bracket	Nil	40um	Nil	PT thread
J	Without bracket	W	5um	T	NPT thread
				G	G thread

Standard Specifications

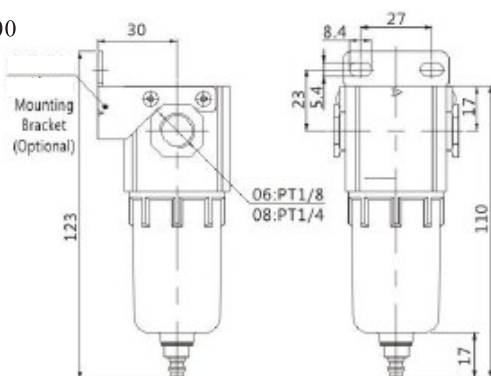
Model	GF200-06	GF200-08	GF300-08	GF300-10	GF300-15	GF400-10	GF400-15
Working medium	Air						
Port size	1/8"	1/4"	1/4"	3/8"	1/2"	3/8"	1/2"
Filter aperture	40um or 5um						
Pressure regulating range	Manual drain:0.05~0.9MPa(0.5~9.1kfg/cm ²) / Others: 0.15~0.9MPa(1.5~9.1kfg/cm ²)						
Proof pressure	1.5MPa(15.3kfg/cm ²)						
Environment and fluid temp.	-20~70℃						
Filter water cup capacity	10CC		40CC			80CC	
Weight	135g		360kg			680g	

Product characteristics

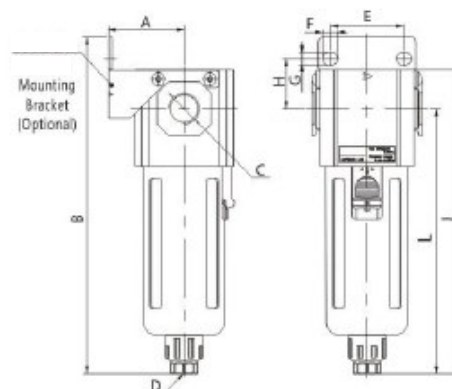
1. The unique diversion structure, so that the flow of gas to generate the appropriate rotation. so gas squids more effectively separate and reliable filtration of solid particles.
2. Pressure loss, high division efficiency, large cup capacity.
3. Filtration precision have 5um, 40um for choose.
4. A manual, and automatic drainage pressure drainage in the form of three kinds to choose from.
5. You can choose a fixed bracket.

Dimensions

GF200



GF300~400



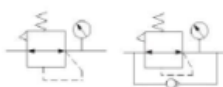
Model	A	B	BA	C	CA	K	KA	KB	KC	P	PA	Q
GF300-08	60	67.5	41	182	164	6.5	40	8	27	PT1/4	143	G1/8
GF300-10	60	67.5	41	182	164	6.5	40	8	27	PT3/8	143	G1/8
GF300-15	60	67.5	41	182	164	6.5	40	8	27	PT1/2	143	G1/8
GF400-10	80	85.5	50	205	191.5	8.6	55	11	33.5	PT3/8	166.5	G1/4
GF400-15	80	85.5	50	208	191.5	8.6	55	11	33.5	PT1/2	166.5	G1/4

The above products parameters and photos are for reference only, please in kind prevail.

—GR Series



Symbol



Ordering code

GR200	08	L			F	1	G	K
①	②	③	④	⑤	⑥	⑦	⑧	⑨

① Series No.

GR200	GR200 Series
GR300	GR300 Series
GR400	GR400 Series
GR600	GR600 Series

② Port size

06	1/8"
08	1/4"
10	3/8"
15	1/2"
20	3/4"

③ Code form

Nil	Standard manual type
L	Low pressure type

□ Bracket code

Nil	With bracket
J	Without bracket

□ Pressure gauge code

Nil	With pressure gauge
N	No pressure gauge

⑥ Pressure gauge form

F	Square table
C	Round table

⑦ Scale unit

1	MPa
2	psi
3	bar

⑧ Thread type

Nil	PT thread
T	NPT thread
G	G thread

⑨ Reflux valve code

Nil	Without reflux valve
K	With reflux valve

Standard Specifications

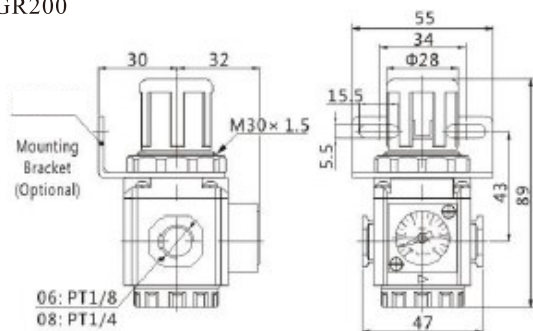
Model	GR200-06	GR200-08	GR300-08	GR300-10	GR300-15	GR400-10	GR400-15
Working medium	Air						
Port size	1/8"	1/4"	1/4"	3/8"	1/2"	3/8"	1/2"
Filter aperture	40um or 5um						
Pressure regulating range	0.05~0.9MPa(0.5~9.1kgf/cm ²)						
Proof pressure	1.5MPa(15.3kgf/cm ²)						
Environment and fluid temp.	-20~70℃						
Weight	150g		350g			720g	

Product characteristics

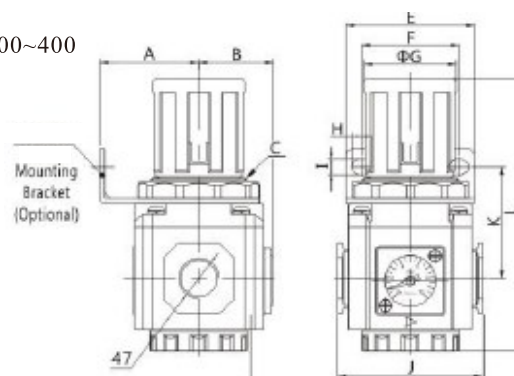
1. A square embedded pressure gauge, space-saving installation (can also choose to use an external round pressure gauge).
2. The pressure self-locking structure prevents the set pressure generated by the movement of outside interference.
3. The pressure adjusting mechanism balanced design, the pressure regulator is more stable, low drift and good pressure characteristics.
4. In addition to panel mounting outside, may elect a fixed bracket.
5. In addition to the standard form, and another low pressure type are available (maximum adjustable pressure 0.4MPa).

Dimensions

GR200



GR300~400



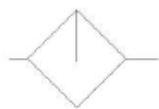
Model	A	AB	AC	B	BA	BC	C	D	K	KA	KB	KC	P
GR300-08	60	53	38	72	41	31	225.5	M40X1.5	6.5	40	8	46	PT1/4
GR300-10	60	53	38	72	41	31	225.5	M40X1.5	6.5	40	8	46	PT3/8
GR300-15	60	53	38	72	41	31	225.5	M40X1.5	6.5	40	8	46	PT1/2
GR400-10	80	72	52	90	50	40	270.5	M55X2.0	8.6	55	11	53	PT3/8
GR400-15	80	72	52	90	50	40	270.5	M55X2.0	8.6	55	11	53	PT1/2

The above products parameters and photos are for reference only, please in kind prevail.

—GL Series



Symbol



Ordering code

GL200 08 □ G					
①		②	③	④	
①Series No.		② Port size		③Bracket code	
GL200	GL200 Series	06	1/8"	Nil	With bracket
GL300	GL300 Series	08	1/4"	J	Without bracket
GL400	GL400 Series	10	3/8"		
GL600	GL600 Series	15	1/2"		
		20	3/4"		
				④Thread type	
				Nil	PT thread
				T	NPT thread
				G	G thread

Standard Specifications

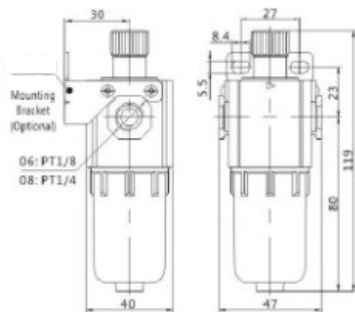
Model	GL200-06	GL200-08	GL300-08	GL300-10	GL300-15	GL400-10	GL400-15
Working medium	Air						
Port size	1/8"	1/4"	1/4"	3/8"	1/2"	3/8"	1/2"
Pressure regulating range	0.05~0.9MPa(0.5~9.1kgf/cm ²)						
Proof pressure	1.5MPa(15.3kgf/cm ²)						
Environment and fluid temp.	-20~70℃						
Suggest lubrication oil	Turbine 1 oil(ISO VG32)						
Oil cup capacity	25CC		75CC			160CC	
Weight	130g		360kg			670g	

Product characteristics

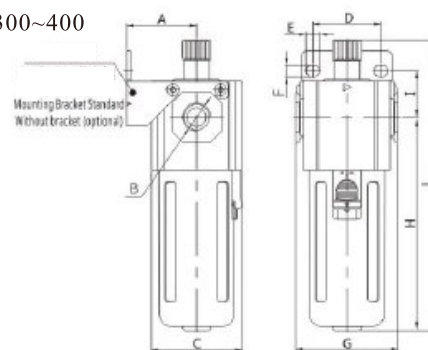
1. The unique diversion structure, so that the flow of gas to generate the appropriate rotation. so gas squids more effectively separate and reliable filtration of solid particles.
2. Pressure loss, high division efficiency, large cup capacity.
3. Filtration precision have 5um, 40um for choose.
4. A manual, and automatic drainage pressure drainage in the form of three kinds to choose from.
5. You can choose a fixed bracket.

Dimensions

GL200



GL300~400



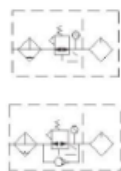
Model	A	B	BA	BC	C	K	KA	KB	KC	P	PA
GL300-08	60	68	41	53.5	169	6.5	40	8	27	PT1/4	125
GL300-10	60	68	41	53.5	169	6.5	40	8	27	PT3/8	125
GL300-15	60	68	41	53.5	169	6.5	40	8	27	PT1/2	125
GL400-10	80	85.5	50	71	190	8.5	55	11	33.5	PT3/8	142
GL400-15	80	85.5	50	71	190	8.5	55	11	33.5	PT1/2	142

The above products parameters and photos are for reference only, please in kind prevail.

—GFR Series



■ Symbol



■ Ordering code

GFR200	08	M	L	□	□	F	1	W	G	K
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Series No.

GFR200	GFR200 Series
GFR300	GFR300 Series
GFR400	GFR400 Series
GFR600	GFR600 Series

② Port size

06	1/8"
08	1/4"
10	3/8"
15	1/2"
20	3/4"

③ Drainage pattern

Nil	Differential pressure drain
M	Manual drain
A	Automatic drain

④ Code form

Nil	Standard manual type
L	Low pressure type

⑤ Bracket code

Nil	With bracket
J	Without bracket

⑥ Pressure gauge code

Nil	With pressure gauge
N	No pressure gauge

⑦ Pressure gauge form

F	Square table
C	Round table

⑧ Scale unit

1	MPa
2	psi
3	bar

⑨ Filtration accuracy

Nil	40um
W	5um

⑩ Thread type

Nil	PT thread
T	NPT thread
G	G thread

⑪ Reflux valve code

Nil	Without reflux valve
K	With reflux valve

Product characteristics

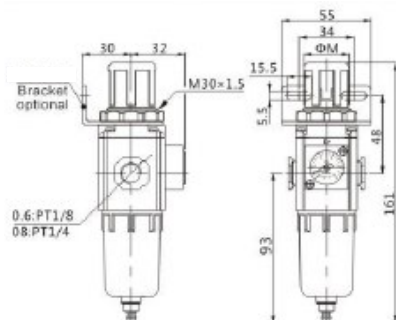
1. A square embedded pressure gauge, space-saving installation (can also choose to use an external round pressure gauge).
2. The pressure self-locking structure prevents the set pressure generated by the movement of outside interference.
3. The pressure adjusting mechanism balanced design, the pressure regulator is more stable, low drift and good pressure characteristics.
4. In addition to panel mounting outside, may elect a fixed bracket.
5. The unique diversion structure, the flowing gas to generate the appropriate rotation to more effectively share of gas in the liquid and reliable filtration of solid particles.
6. Filtering accuracy 5um, 40um optional.
7. A manual, and automatic drainage pressure drainage in the form of three kinds to choose from.
8. You can choose a fixed bracket.

Standard Specifications

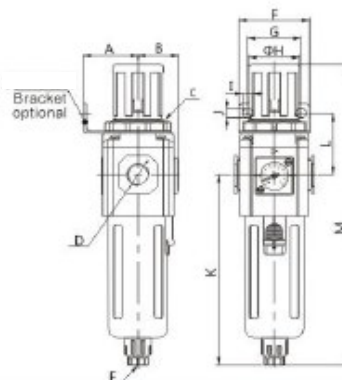
Model	GFR200-06	GFR200-08	GFR300-08	GFR300-10	GFR300-15	GFR400-10	GFR400-15
Working medium	Air						
Port size	1/8"	1/4"	1/4"	3/8"	1/2"	3/8"	1/2"
Filter aperture	40um or 5um						
Pressure regulating range	Manual drain: 0.05~0.9MPa (0.5~9.1kgf/cm ²) / Others: 0.15~0.9MPa (1.5~9.1kgf/cm ²)						
Proof pressure	1.5MPa (15.3kgf/cm ²)						
Environment and fluid temp.	-20~70°C						
Filter water cup capacity	10CC		40CC			80CC	
Weight	220g		500kg			1030g	

Dimensions

GFR200



GFR300~400



Model	A	AB	AC	B	BA	BC	C	D	K	KA	KB	KC	P	PA	Q
GFR300-08	60	53	38	72	41	31	225.5	M40X1.5	6.5	40	8	46	PT1/4	143	G1/8
GFR300-10	60	53	38	72	41	31	225.5	M40X1.5	6.5	40	8	46	PT3/8	143	G1/8
GFR300-15	60	53	38	72	41	31	225.5	M40X1.5	6.5	40	8	46	PT1/2	143	G1/8
GFR400-10	80	72	52	90	50	40	270.5	M55X2.0	8.5	52	11	53	PT3/8	165.5	G1/4
GFR400-15	80	72	52	90	50	40	270.5	M55X2.0	8.5	52	11	53	PT1/2	165.5	G1/4

The above products parameters and photos are for reference only, please in kind prevail.

GFC200 08 M L □ F 1 W G K

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

② Port size	
06	1/8"
08	1/4"
10	3/8"
15	1/2"
20	3/4"

③ Drainage pattern	
Nil	Differential pressure drain
M	Manual drain
A	Automtic drain

1. Fast and reliable fixed connection, easy to install.
2. The pressure regulating stability, high repeatability.
3. Efficient water and solid particle removal function.
4. A manual, and automatic drainage pressure drainage in the form of three kinds to choose from.

⑤Pressure gauge code	
Nil	With pressure gauge
N	No pressure gauge

⑥ Pressure gauge form	
F	Square table
C	Round table

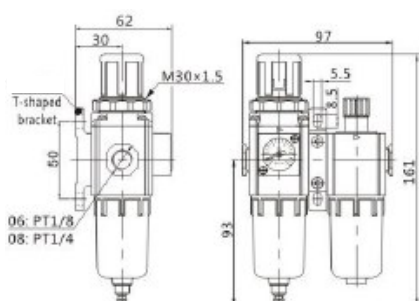
⑧Filtration accuracy	
Nil	40um
W	5um

⑨ Thread type	
Nil	PT thread
T	NPT thread
G	G thread

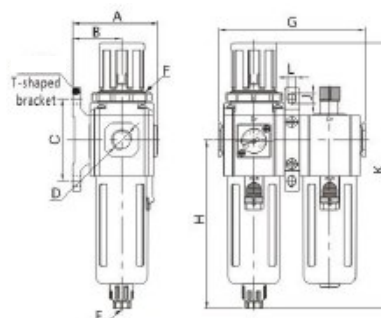
⑩Reflux valve code	
Nil	Without reflux valve
K	With reflux valve

Model	GFC200-06	GFC200-08	GFC300-08	GFC300-10	GFC300-15	GFC400-10	GFC400-15
Working medium	Air						
Port size	1/8"	1/4"	1/4"	3/8"	1/2"	3/8"	1/2"
Filter aperture	40um or 5um						
Pressure regulating range	Manual drain:0.05~0.9MPa(0.5~9.1kgf/cm ²) / Others: 0.15~0.9MPa(1.5~9.1kgf/cm ²)						
Proof pressure	1.5MPa(15.3kgf/cm ²)						
Environment and fluid temp.	-20~70℃						
Suggest lubrication oil	Turbine 1 oil(ISO VG32)						
Filter water cup capacity	10CC		40CC			80CC	
Oil cup capacity	25CC		75CC			160CC	
Weight	430g		980kg			1950g	

GFC200



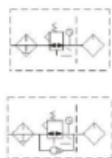
GFC300~400



Model	A	B	BA	C	D	K	KA	KB	P	PA	Q
GFC300-08	124	72	41.5	225.5	M40X1.5	6.5	70	9	PT1/4	143	G1/8
GFC300-10	124	72	41.5	225.5	M40X1.5	6.5	70	9	PT3/8	143	G1/8
GFC300-15	124	72	41.5	225.5	M40X1.5	6.5	70	9	PT1/2	143	G1/8
GFC400-10	164	89	50	270.5	M55X2.0	8.5	80	12	PT3/8	166.5	G1/4
GFC400-15	164	89	50	270.5	M55X2.0	8.5	80	12	PT1/2	166.5	G1/4

www.btbjx.com

——GC Series(GF+GR+GL)

**Symbol**

Ordering code

GC200 08 M L ☐ F 1 W G K

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

①Series No.	
GC200	GC200 Series
GC300	GC300 Series
GC400	GC400 Series
GC600	GC600 Series

② Port size	
06	1/8"
08	1/4"
10	3/8"
15	1/2"
20	3/4"

③ Drainage pattern	
Nil	Differential pressure drain
M	Manual drain
A	Automtic drain

Product characteristics

1. Drip structure using gap seals form. To regulate the oil more stable and reliable.
2. To the oil adjustment ring rotation only to oil the size of a substantially linear distribution to the oil can roughly calculate the size based on the position of the scale ring.
3. Can not stop air refueling.
4. A special mouth structure drip, drip at the outlet so that a negative pressure, low flow fog.
5. The pressure regulating stability, high repeatability.
6. Fast and reliable fixed connection, high mounting precision.
7. A manual, and automatic drainage pressure drainage in the form of three kinds to choose from.
8. The high efficiency of water and solids removal function.

④ Code form	
Nil	Standard manual type
L	Low pressure type

⑤Pressure gauge code	
Nil	With pressure gauge
N	No pressure gauge

⑥Pressure gauge form	
F	Square table
C	Round table

⑦Scale unit	
1	MPa
2	psi
3	bar

⑧Filtration accuracy	
Nil	40um
W	5um

⑨ Thread type	
Nil	PT thread
T	NPT thread
G	G thread

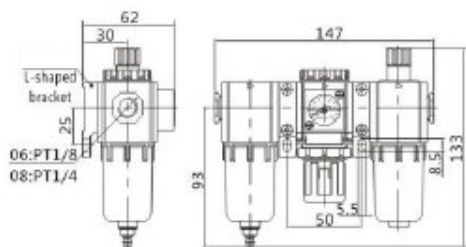
⑩Reflux valve code	
Nil	Without reflux valve
K	With reflux valve

Standard Specifications

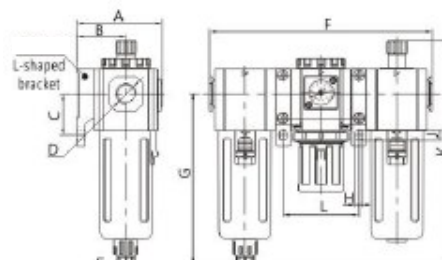
Model	GC200-06	GC200-08	GC300-08	GC300-10	GC300-15	GC400-10	GC400-15
Working medium	Air						
Port size	1/8"	1/4"	1/4"	3/8"	1/2"	3/8"	1/2"
Filter aperture	40um or 5um						
Pressure regulating range	Manual drain:0.05~0.9MPa(0.5~9.1kfg/cm ²) / Others: 0.15~0.9MPa(1.5~9.1kfg/cm ²)						
Proof pressure	1.5MPa(15.3kgf/cm ²)						
Environment and fluid temp.	-20~70℃						
Suggest lubrication oil	Turbine 1 oil(ISO VG32)						
Filter water cup capacity	10CC		40CC			80CC	
Oil cup capacity	25CC		75CC			160CC	
Weight	580g		1300kg			2360g	

Dimensions

GC200



GC300~400



Model	A	B	BA	C	K	KA	KB	P	PA	PB	Q
GC300-08	188	72	41.5	188	6.5	64	9	PT1/4	35	143	G1/8
GC300-10	188	72	41.5	188	6.5	64	9	PT3/8	35	143	G1/8
GC300-15	188	72	41.5	188	6.5	64	9	PT1/2	35	143	G1/8
GC400-10	248	89	50	216	8.5	84	12	PT3/8	40	166.5	G1/4
GC400-15	248	89	50	216	8.5	84	12	PT1/2	40	166.5	G1/4

The above products parameters and photos are for reference only, please in kind prevail.

3V1 Series



Symbol



Product feature

1. Direct acting type and normally closed mode, flexible in direction change.
2. No need to add oil for lubrication.
3. Several valves can be installed integrately to save installation space.
4. Affiliated manual devices are equipped to facilitate installation and debugging.
5. Several standard voltage grades are optional.

Specification

Model	3V1-M5	3V1-06
Fluid	Air(to be filtered by 40 μm filter element)	
Acting	Direct acting	
Port size [Note1]	M5	1/8"
Valve type	3 port 2 position	
Lubrication	Not required	
Operating pressure	0~0.8MPa(0~114psi)	
Proof pressure	1.2MPa(175psi)	
Temperature	-20~70°C	
Orifice size	Φ1.2mm	
Material of body	Aluminum alloy	

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

Coil specification

Item	Specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%				
Power consumption	4.5VA	4.5VA	5.0VA	3.0W	3.0W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				
Max. frequency [Note 1]	10 cycle/sec				

[Note 1] The maximum actuation frequency is in the no-load state.

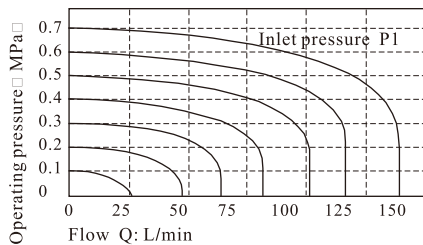
Ordering code

3V 1 06 A □ □

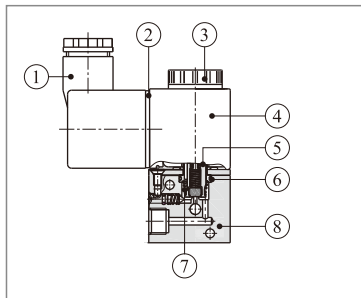
① ② ③ ④ ⑤ ⑥

Model	Code	Port size	Standard voltage	Electrical entry	Thread type
3V: Solenoid valve (3/2 way)	1: 1 Series	M5: M5 06: 1/8"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	No this code Blank: PT G: G T: NPT

Flow chart



Inner structure

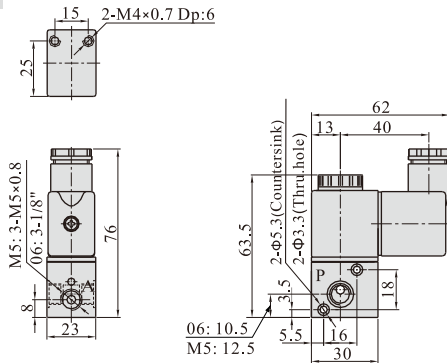


No.	Item	No.	Item
1	Connector	5	Armature
2	Gasket	6	O-ring
3	Coil nut	7	Return spring
4	Coil	8	Body

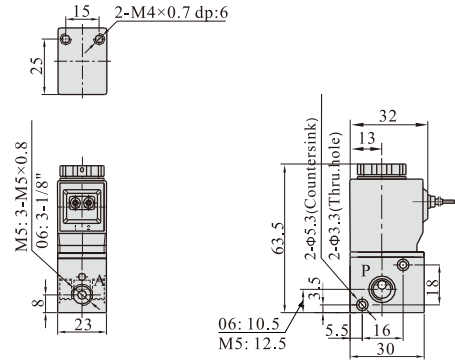
3V1 Series

Dimensions

Terminal

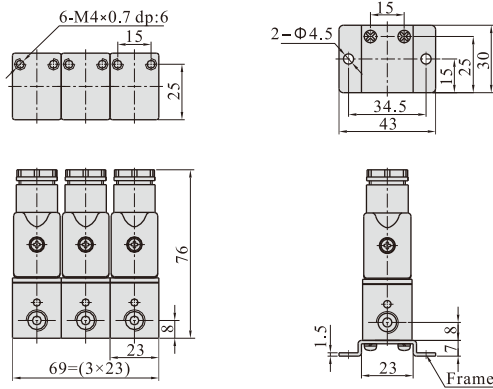


Grommet



Series connection

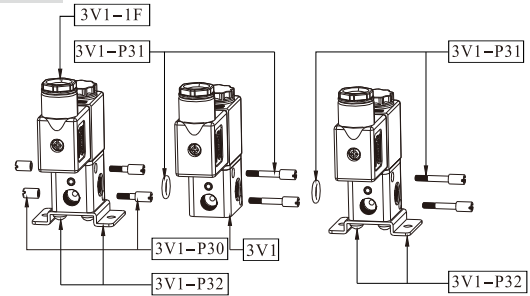
Dimensions



3F(3 Stations)

1F(1 Station)

How to joint



Product structure

Connection Amount/Q.TY	3V1	3V1-P30	3V1-P31	3V1-P32
3V1-□-□-1F	1	0	0	1
3V1-□-□-2F	2	1	1	1
.....
3V1-□-□- nF	n	1	n-1	2

Note: "n" is the number of junction valve, and $n \geq 3$.

Ordering code for series

3V 1 06 A □ 3F □

1 2 3 4 5 6 7

Model	Code	Port size	Standard voltage	Electrical entry	Number of stations	Thread type
3V: Solenoid valve (3/2 way)	1: 1 Series	M5: M5 06: 1/8"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	1F: 1 Station 2F: 2 Stations 3F: 3 Stations 20F: 20 Stations	Not this code Blank: PT G: G T: NPT

The above codes have included the series accessories, so it is unnecessary to order the accessories specially. But if you like, you could order as follows.

Code of accessories	Accessory name	Part code	Part name	Quantity
3V1-P30	Coupling screw assembly	F-3V1002B	Coupling screw(S)	2
		F-3V1003B	Coupling screw(M)	2
3V1-P31	Coupling screw assembly	GOR20008N75	O-Ring	1
		F-3V1004B	Coupling screw(L)	2
3V1-P32	Bracket assembly	F-3V1001B	Fixed mounting	1
		GSDA04008ZA	Cross round head screw	2

Solenoid valve(3/2 way)

BITEBI®

3V2 Series



Symbol



Product feature

1. Direct acting type and normally closed mode, flexible in direction change.
2. Normally closed and normally open types are optional.
3. Structure in coaxial blanking mode: leakage proof and large air flow.
4. No need to add oil for lubrication.
5. Affiliated manual devices are equipped to facilitate installation and debugging.
6. Several standard voltage grades are optional.
7. Can be used under vacuum condition.

Ordering code

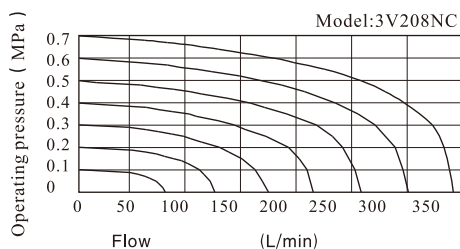
Ordering code of solenoid valve

3V 2 08 NC A □ □						
1 2 3 4 5 6 7						
□ Model	□ Code	□ Port size	□ Acting type	□ Standard voltage	□ Electrical entry	□ Thread type
3V: Solenoid valve(3/2 way)	2: 2 Series	06: 1/8" 08: 1/4"	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	Blank: PT G: G T: NPT

Ordering code of accessories

F-3V2 FA		
1 2 3		
□ Accessories code	□ Valve type	□ Accessories type
F: Mounting accessories	3V2: Solenoid valve(3/2 way)	FA: FA Bracket

Flow chart



Specification

Model	3V206	3V208
Fluid	Air(to be filtered by 40 μ m filter element)	
Acting	Direct acting	
Port size [Note1]	1/8"	1/4"
Valve type	3 port 2 position	
Orifice size	3.2mm ² (Cv=0.18)	3.4mm ² (Cv=0.19)
Lubrication	Not required	
Operating pressure	0~0.8MPa(0~114psi)	
vacuum	-102.2kPa~0.1MPa(-1.45~14.2psi)	
Proof pressure	1.2MPa(175psi)	
Temperature	-20~70℃	
Material of body	Aluminum alloy	

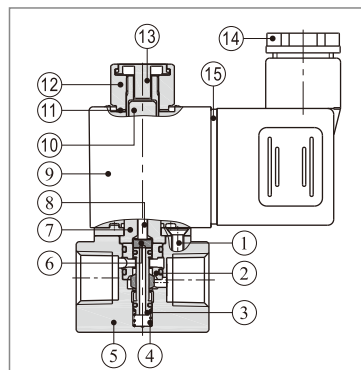
[Note1] PT thread, G thread and NPT thread are available.

Coil specification

Item	Specification
Standard voltage	AC220V、AC110V、AC24V、DC24V、DC12V
Scope of voltage	AC: ± 15% DC: ± 10%
Power consumption	AC: 7VA DC: 7.0W
Protection	IP65(DIN40050)
Temperature classification	B Class
Electrical entry	Terminal, Grommet
Activating time	0.05 sec and below
Max. frequency [Note1]	10 cycle/sec

[Note1] The maximum actuation frequency is in the no-load state.

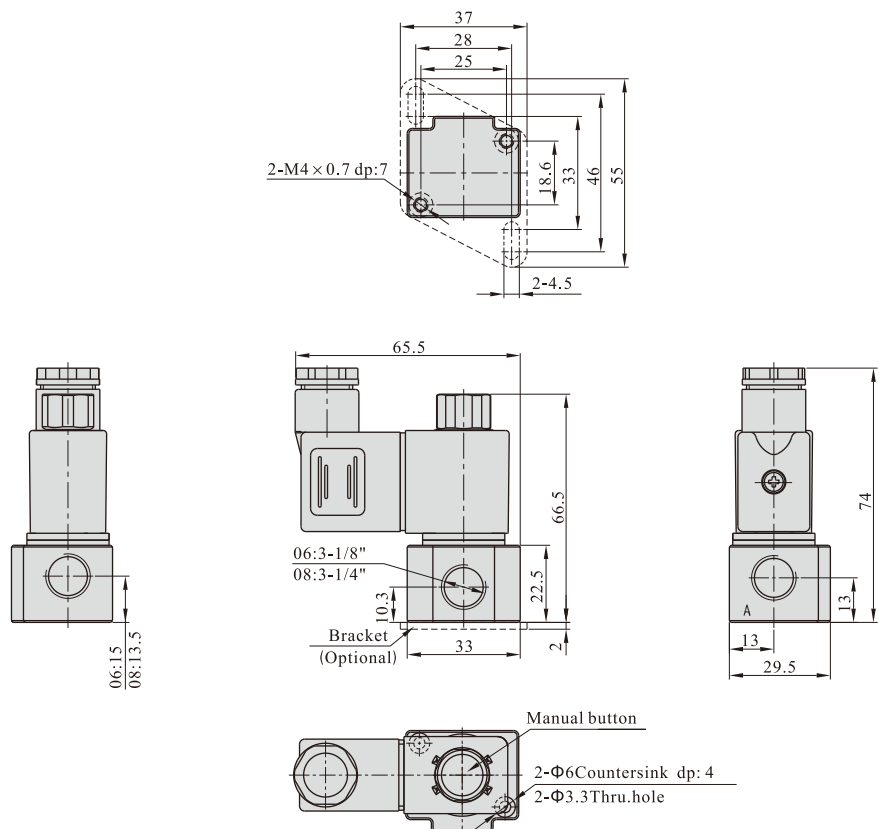
Inner structure



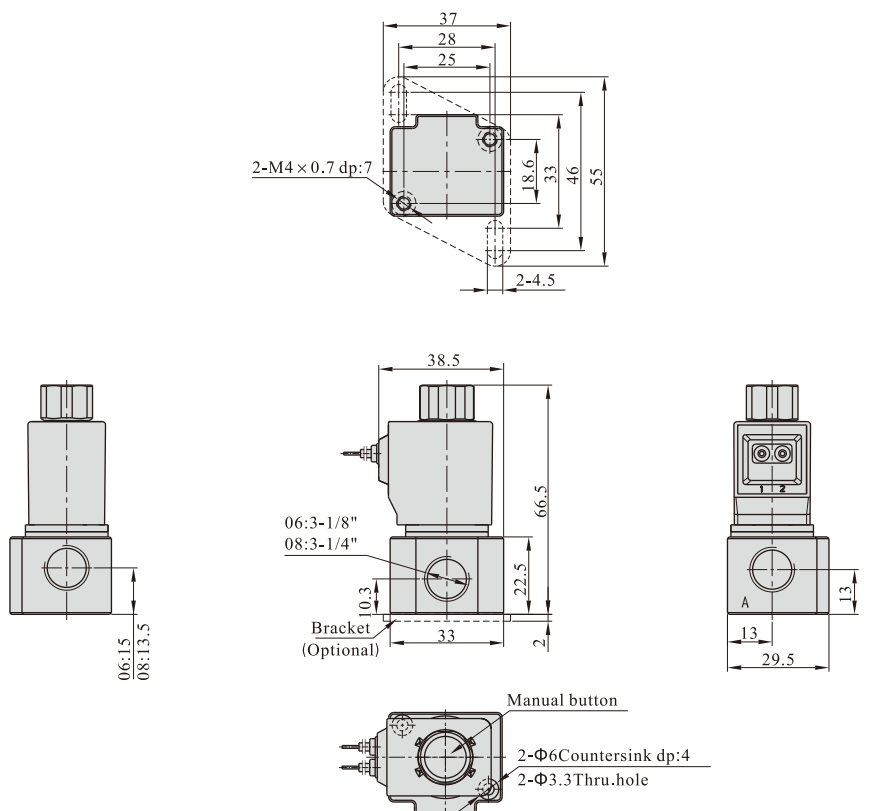
No.	Item	No.	Item
1	Pilot screw	9	Coil
2	Spacer	10	Armature
3	Spool	11	Washer
4	Spring	12	Coil nut
5	Body	13	Manual button
6	Washer	14	Connector
7	Electromagnet set	15	Gasket
8	Man drill		

Dimensions

Terminal



Grommet



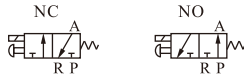
Solenoid valve(3/2 way)

BITEBI®

3V2M Series



Symbol



Product feature

1. Direct acting type and normally closed mode, flexible in direction change.
2. Normally closed and normally open types are optional.
3. Structure in coaxial blanking mode: leakage proof and large air flow.
4. No need to add oil for lubrication.
5. Affiliated manual devices are equipped to facilitate installation and debugging.
6. Valve needs to be used with the sub-base and allows various connection combinations to save space.
7. It is easy to examine when there are faults owing to the unified air intake and exhaust and unified wiring.
8. Flexible combination and strong expansion capability can make any combination or expansion of the numbers of direction control valves that are connected.
9. Can adjust the installation direction of special sub-base seal for NO or NC functions.

Ordering code

Ordering code for valve

3V2M NC A □			
1	2	3	4
Model	Acting type	Standard voltage	Electrical entry
3V2M: Solenoid valve(3/2 way, with manifold)	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet

Ordering code for manifold

3V2M 5F D □			
1	2	3	4
Model	Number of stations	Exhaust type	Thread type
3V2M: Solenoid valve(3/2 way, with manifold)	1F: 1 Stations 2F: 2 Stations 20F: 20 Stations	Blank: Centralized exhaust D: Separated exhaust	Blank: PT G: G T: NPT

[Note]: Manifold kits contains manifold, seal and screw.
The port size is only 1/8".

Ordering code for valve's group(valve+manifold)

3V2M NC A □ - 5F D □						
1	2	3	4	5	6	7
Model	Acting type	Standard voltage	Electrical entry	Number of stations	Exhaust type	Thread type
3V2M: Solenoid valve (3/2 way, with manifold)	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	1F: 1 Station 2F: 2 Stations 3F: 3 Stations 20F: 20 Stations	Blank: Centralized exhaust D: Separated exhaust	Blank: PT G: G T: NPT

Ordering code for blank plate

P-3V2M-R2		
1	2	3
Subassembly type	Valve type	Accessories type
P: subassembly	3V2M: Solenoid valve(3/2 way, with manifold)	R2: Blank plate for manifold

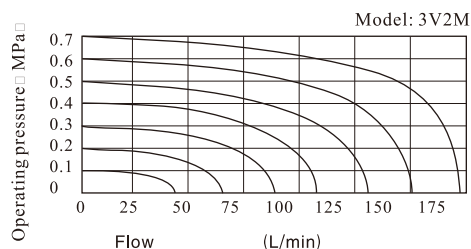
[Note]: Blank plate kits contains blank plate and screw.

Solenoid valve(3/2 way)

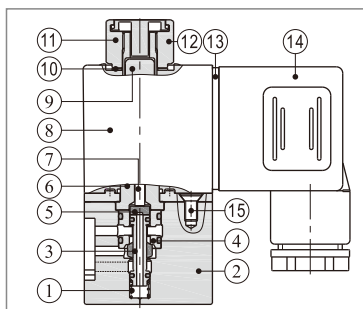
BITEBI®

3V2M Series

Flow chart



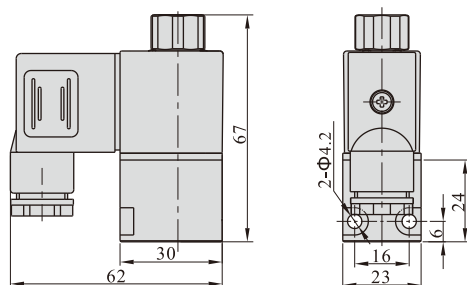
Inner structure



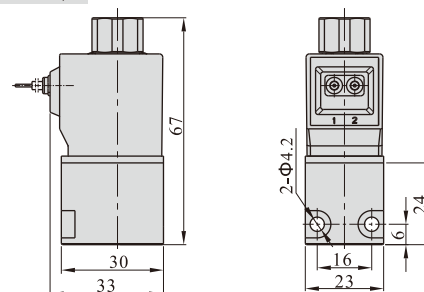
No.	Item	No.	Item
1	Spring	9	Armature
2	Body	10	Washer
3	Spool	11	Coil nut
4	Spacer	12	Manual button
5	Washer	13	Gasket
6	Electromagnet set	14	Connector
7	Man drill	15	Pilot screw
8	Coil		

Dimensions

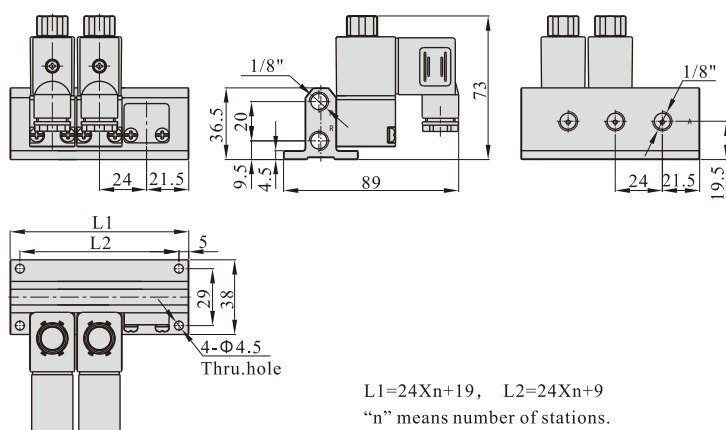
Valve(Terminal)



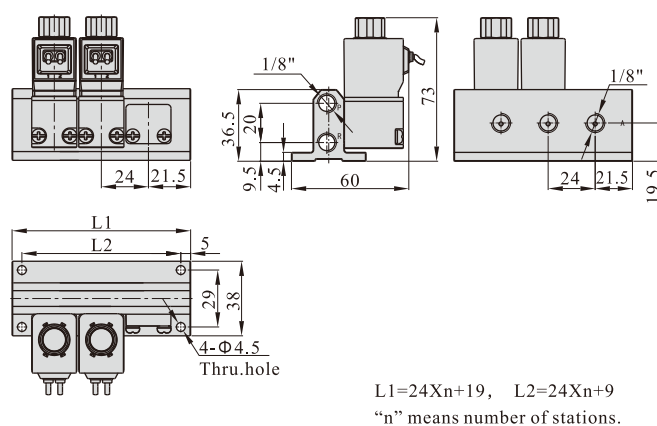
Valve(Grommet)



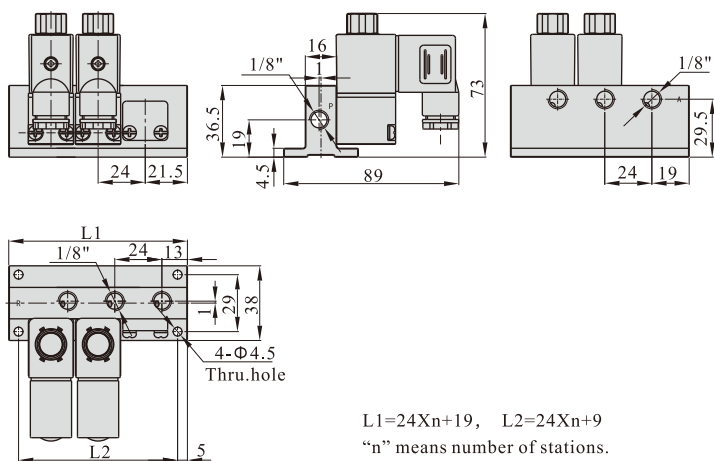
Valve's group(Terminal, Centralized exhaust)



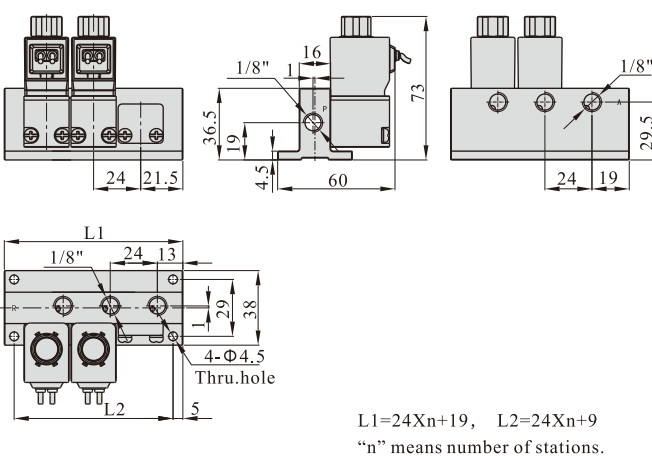
Valve's group(Grommet, Centralized exhaust)



Valve's group(Terminal, Separated exhaust)



Valve's group(Grommet, Separated exhaust)



Solenoid valve(3/2 way)

BITEBI®

3V3 Series



Symbol



Product feature

1. Direct acting type and normally closed mode, flexible in direction change.
2. Normally closed and normally open types are optional.
3. Structure in coaxial blanking mode: leakage proof and large air flow.
4. No need to add oil for lubrication.
5. Affiliated manual devices are equipped to facilitate installation and debugging.
6. Several standard voltage grades are optional.
7. Can be used under vacuum condition.

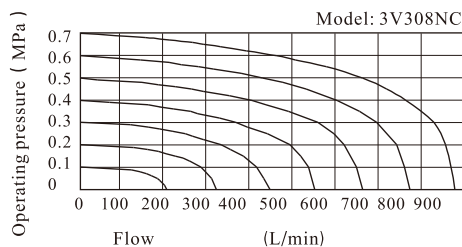
Ordering code

3V 3 08 NC A □ □

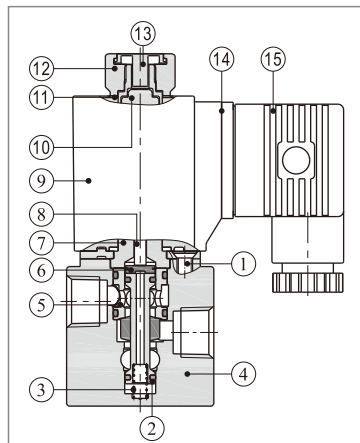
① ② ③ ④ ⑤ ⑥ ⑦

Model	Code	Port size	Acting type	Standard voltage	Electrical entry	Thread type
3V: Solenoid valve (3/2 way)	3: 3 Series	08: 1/4"	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	Blank: PT G: G T: NPT

Flow chart



Inner structure



No.	Item	No.	Item
1	Pilot screw	9	Coil
2	Spool	10	Armature
3	Spring	11	Washer
4	Body	12	Coil nut
5	Washer	13	Manual button
6	Spacer	14	Gasket
7	Electromagnet set	15	Connector
8	Man drill		

Specification

Model		3V308
Fluid		Air(to be filtered by 40 μm filter element)
Acting		Direct acting
Port size [Note1]		1/4"
Valve type		3 port 2 position
Orifice size		11mm ² (Cv=0.62)
Lubrication		Not required
Operating pressure	Common vacuum	0~0.8MPa(0~114psi) -102.2kPa~0.1MPa(-1.45~14.2psi)
Proof pressure		1.2MPa(175psi)
Temperature		-20~70°C
Material of body		Aluminum alloy

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

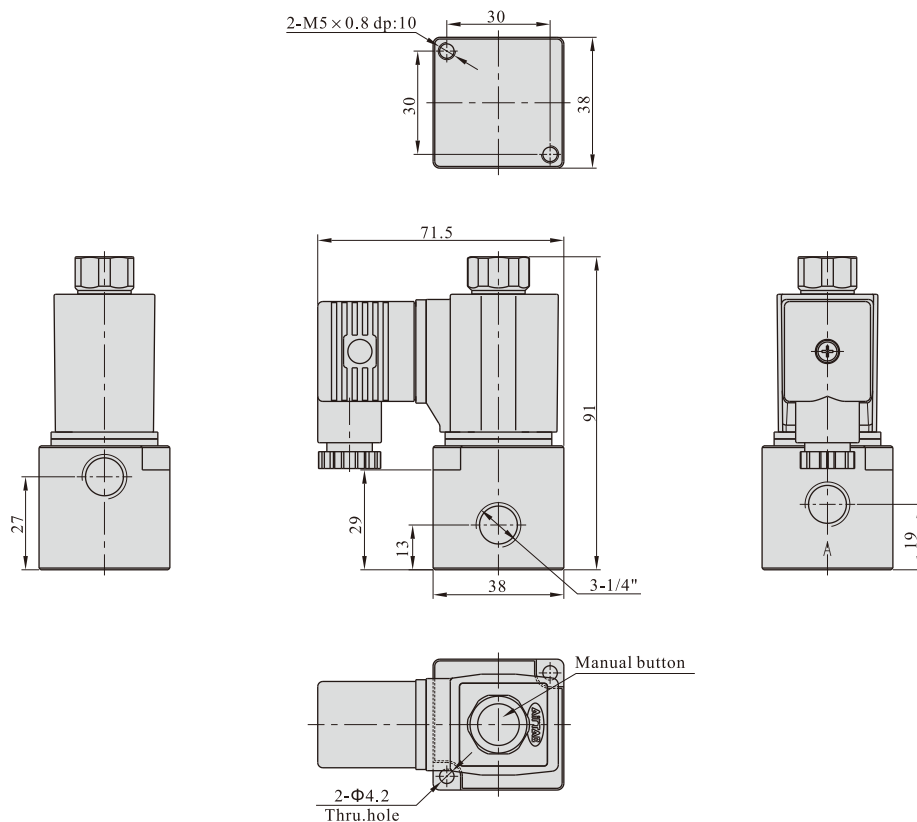
Coil specification

Item	specification
Standard voltage	AC220V、AC110V、AC24V、DC24V、DC12V
Scope of voltage	AC: ±15% DC: ±10%
Power consumption	AC: 10VA DC: 6.5W
Protection	IP65(DIN40050)
Temperature classification	B Class
Electrical entry	Terminal, Grommet
Activating time	0.05 sec and below
Max. frequency [Note1]	10 cycle/sec

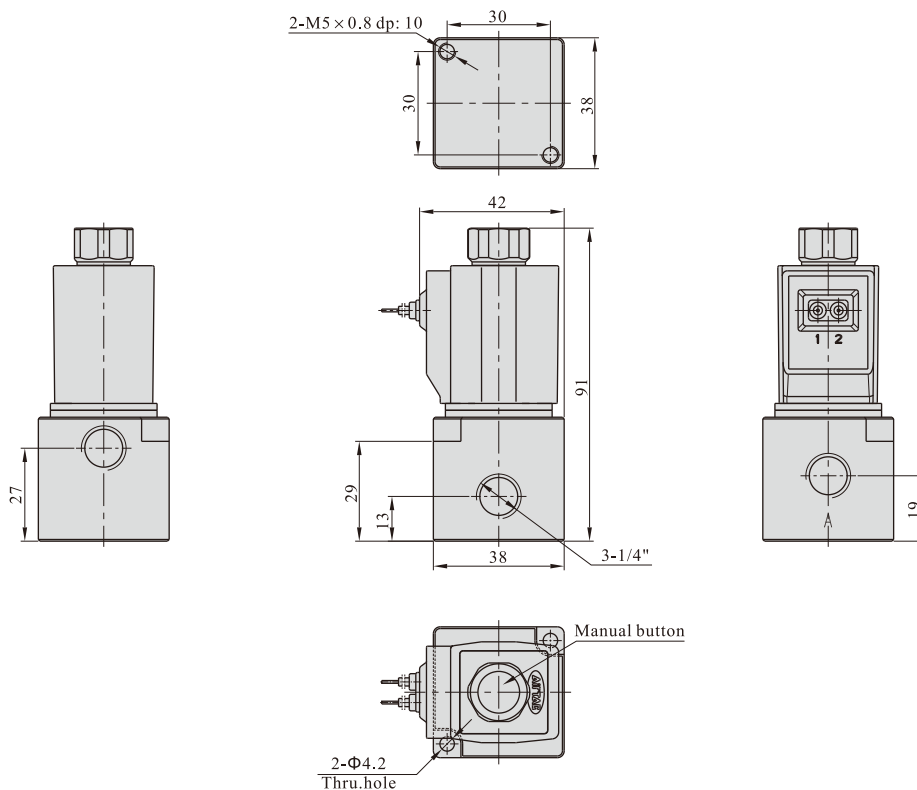
[Note1] The maximum actuation frequency is in the no-load state.

Dimensions

Terminal



Grommet



3V100 Series



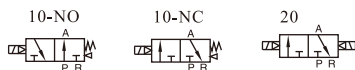
Specification

Model	3V110-M5	3V120-M5	3V110-06	3V120-06
Fluid	Air(to be filtered by 40 μm filter element)			
Acting	Internal pilot or external pilot			
Port size [Note1]	M5		1/8"	
Orifice size	5.5mm ² (Cv=0.31)		12.0mm ² (Cv=0.67)	
Valve type	3 port 2 position			
Lubrication [Note2]	Not required			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			

[Note 1] PT thread, G thread and NPT thread are available.

[Note 2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.

Symbol



Product feature

1. Pilot-oriented mode: Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Double control solenoid valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Affiliated manual devices are equipped to facilitate installation and debugging.
7. Several standard voltage grades are optional.
8. Integrate with the manifold to save installation space.

Coil specification

Item	specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%				
Power consumption	3.5VA	3.5VA	4.0VA	2.5W	2.5W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				
Max. frequency [Note 1]	5 cycle/sec				

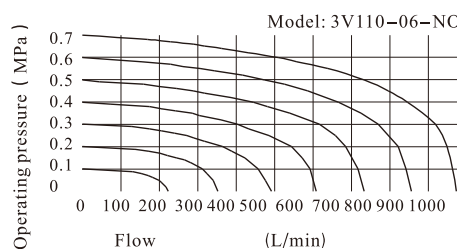
[Note 1] The maximum actuation frequency is in the no-load state.

Ordering code

3V 1 10 06 NO A □ □							
① Model	② Code	③ Valve type	④ Port size	⑤ Acting type	⑥ Standard voltage	⑦ Electrical entry	⑧ Thread type
3V:Solenoid valve (3/2 way)	1: 100 Series	10: Single solenoid	M5: M5 06: 1/8"	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	M5 1/8"
		20: Double solenoid		No this code			No this code Blank: PT G: G T: NPT

Please refer to 25 for manifold specification and the order way.

Flow chart

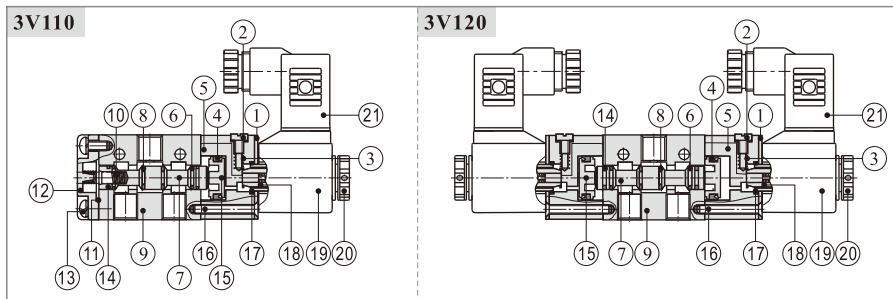


Solenoid valve(3/2 way)

BITEBI®

3V100 Series

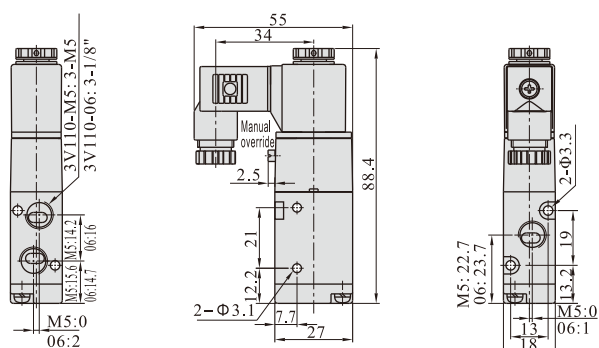
Inner structure



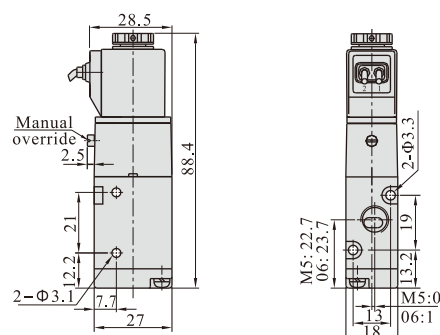
No.	Item	No.	Item	No.	Item
1	Fixed plate	8	O-ring	15	Piston
2	Manual override	9	Body	16	Pilot screw
3	Override spring	10	Spool spring	17	O-ring
4	Piston O-ring	11	Bottom cover gasket	18	Armature
5	Pilot body	12	Bottom cover	19	Coil
6	Spool packing	13	Screw	20	Coil net
7	Spool	14	Wear ring	21	Connector

Dimensions

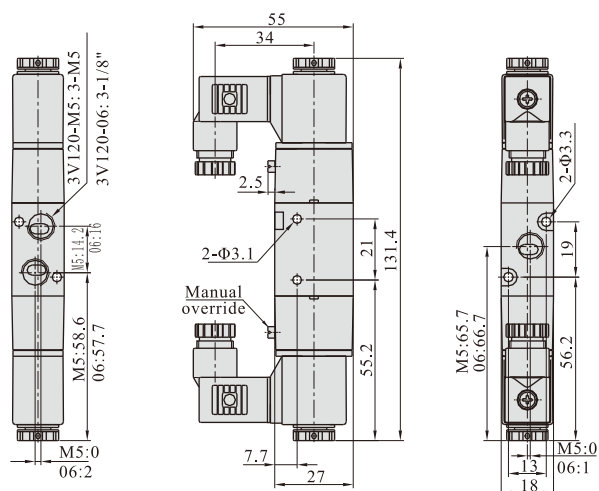
3V110(Terminal)



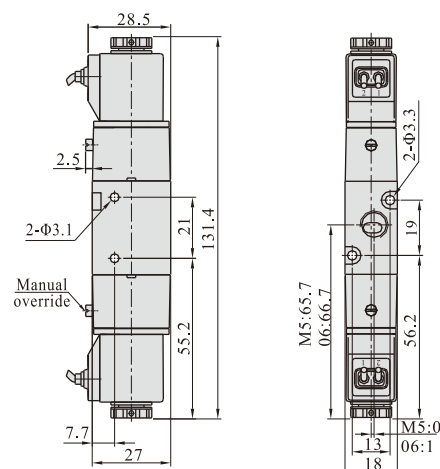
3V110(Grommet)



3V120(Terminal)



3V120(Grommet)



3V200 Series



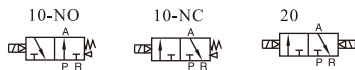
Specification

Model	3V210-06	3V220-06	3V210-08	3V220-08
Fluid	Air(to be filtered by 40 μ m filter element)			
Acting	Internal pilot or external pilot			
Port size [Note 1]	In=Out=1/8"		In=Out=1/4"	
Orifice size	14.0mm²(Cv=0.78)		16.0mm²(Cv=0.89)	
Valve type	3 port 2 position			
Lubrication [Note 2]	Not required			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			

[Note 1] PT thread, G thread and NPT thread are available.

[Note 2] Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.

Symbol



Product feature

1. Pilot-oriented mode: Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Double control solenoid valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Affiliated manual devices are equipped to facilitate installation and debugging.
7. Several standard voltage grades are optional.
8. Integrate with the manifold to save installation space.

Coil specification

Item	specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%				
Power consumption	4.5VA	4.5VA	5.0VA	3.0W	3.0W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				
Max. frequency [Note1]	5 cycle/sec				

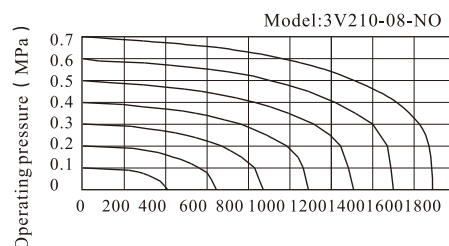
[Note 1] The maximum actuation frequency is in the no-load state.

Ordering code

3V 2 10 08 NO A □ □							
① ② ③ ④ ⑤ ⑥ ⑦ ⑧							
① Model	② Code	③ Valve type	④ Port size	⑤ Acting type	⑥ Standard voltage	⑦ Electrical entry	⑧ Thread type
3V: Solenoid valve (3/2 way)	2: 200 Series	10: Single solenoid	06: 1/8" 08: 1/4"	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	Blank: PT G: G T: NPT
		20: Double solenoid		No this code			

Please refer to 25 for manifold specification and the order way.

Flow chart

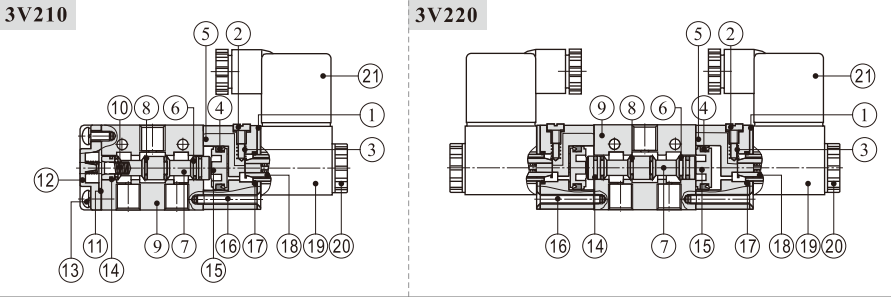


Solenoid valve(3/2 way)



3V200 Series

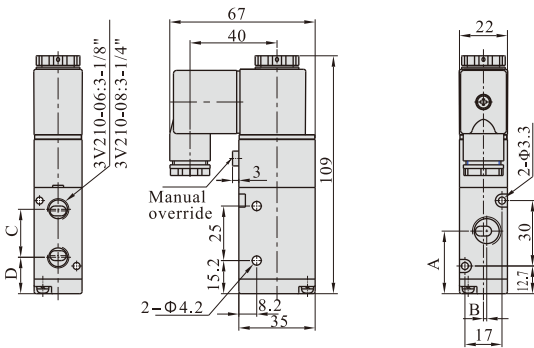
Inner structure



No.	Item	No.	Item	No.	Item
1	Fixed plate	8	O-ring	15	Piston
2	Manual override	9	Body	16	Pilot screw
3	Override spring	10	Spool spring	17	O-ring
4	Piston O-ring	11	Bottom cover gasket	18	Armature
5	Pilot body	12	Bottom cover	19	Coil
6	Spool packing	13	Screw	20	Coil net
7	Spool	14	Wear ring	21	Connector

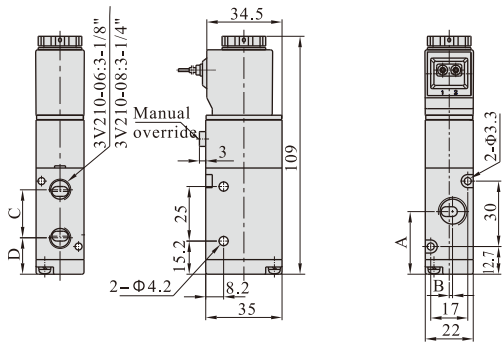
Dimensions

3V210(Terminal)



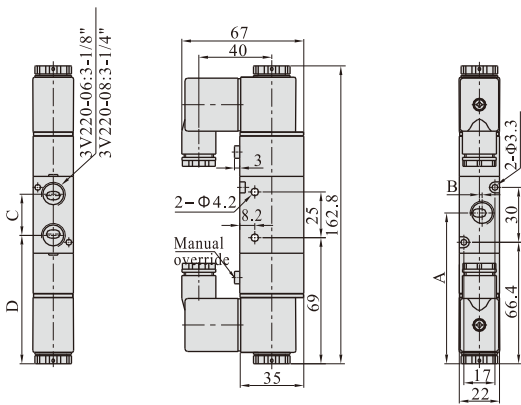
Item\Model	3V210-06	3V210-08
A	27.7	28.7
B	0	1.5
C	22	22.5
D	16.7	16.5

3V210(Grommet)



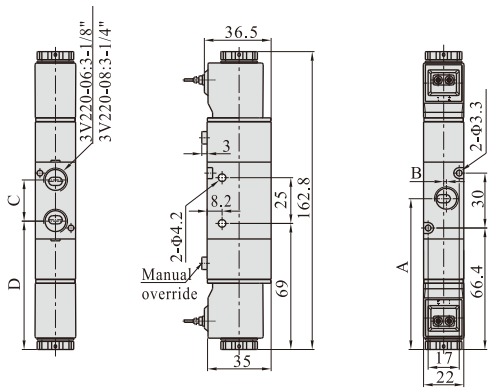
Item\Model	3V210-06	3V210-08
A	27.7	28.7
B	0	1.5
C	22	22.5
D	16.7	16.5

3V220(Terminal)



Item\Model	3V220-06	3V220-08
A	81.4	82.4
B	0	1.5
C	22	22.5
D	70.4	70.2

3V220(Grommet)

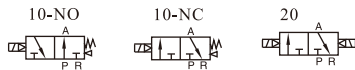


Item\Model	3V220-06	3V220-08
A	81.4	82.4
B	0	1.5
C	22	22.5
D	70.4	70.2

3V300 Series



Symbol



Product feature

1. Pilot-oriented mode: Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Double control solenoid valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Affiliated manual devices are equipped to facilitate installation and debugging.
7. Several standard voltage grades are optional.
8. Integrate with the manifold to save installation space.

Ordering code

Specification

Model	3V310-08	3V320-08	3V310-10	3V320-10
Fluid	Air(to be filtered by 40 μ m filter element)			
Acting	Internal pilot or external pilot			
Port size [Note 1]	In=Out=1/4"		In=Out=3/8"	
Orifice size	25.0mm ² (Cv=1.39)		30.0mm ² (Cv=1.67)	
Valve type	3 port 2 position			
Lubrication [Note2]	Not required			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of 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. Lubricants like ISO VG32 or equivalent are recommended.

Coil specification

Item	specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ± 15% DC: ± 10%				
Power consumption	4.5VA	4.5VA	5.0VA	3.0W	3.0W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				
Max. frequency [Note1]	5 cycle/sec				

[Note1] The maximum actuation frequency is in the no-load state.

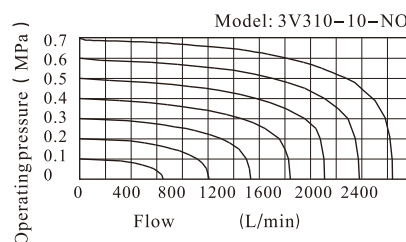
3V 3 10 10 NO A □ □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Model	② Code	③ Valve type	④ Port size	⑤ Acting type	⑥ Standard voltage	⑦ Electrical entry	⑧ Thread type
3V:Solenoid valve (3/2 way)	3: 300 Series	10: Single solenoid	08: 1/4" 10: 3/8"	NC: Normally closed NO: Normally opened	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	Blank: PT G: G T: NPT
		20: Double solenoid		No this code			

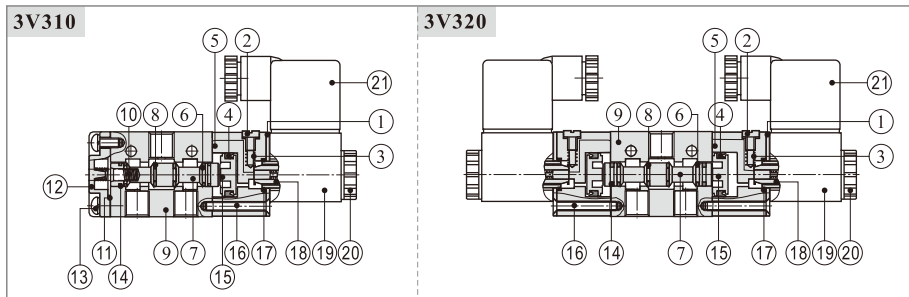
Please refer to 25 for manifold specification and the order way.

Flow chart



3V300 Series

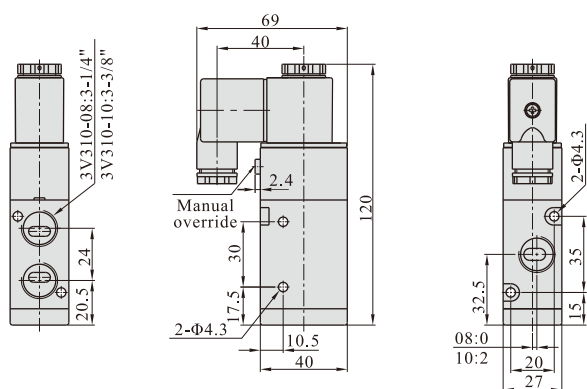
Inner structure



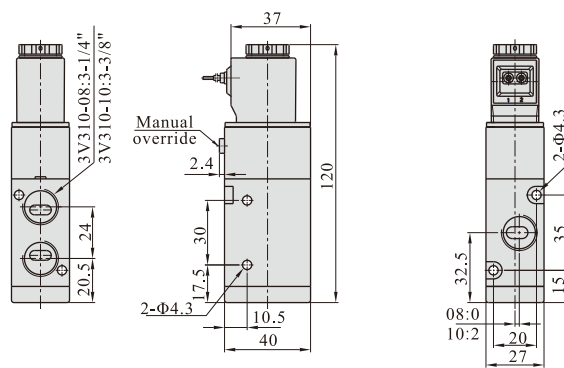
No.	Item	No.	Item	No.	Item
1	Fixed plate	8	O-ring	15	Piston
2	Manual override	9	Body	16	Pilot screw
3	Override spring	10	Spool spring	17	O-ring
4	Piston O-ring	11	Bottom cover gasket	18	Armature
5	Pilot body	12	Bottom cover	19	Coil
6	Spool packing	13	Screw	20	Coil net
7	Spool	14	Wear ring	21	Connector

Dimensions

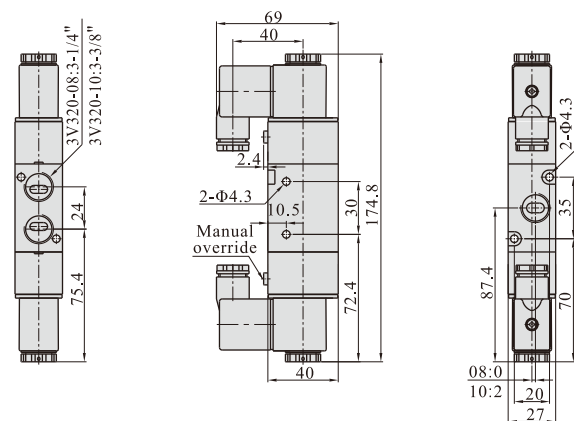
3V310(Terminal)



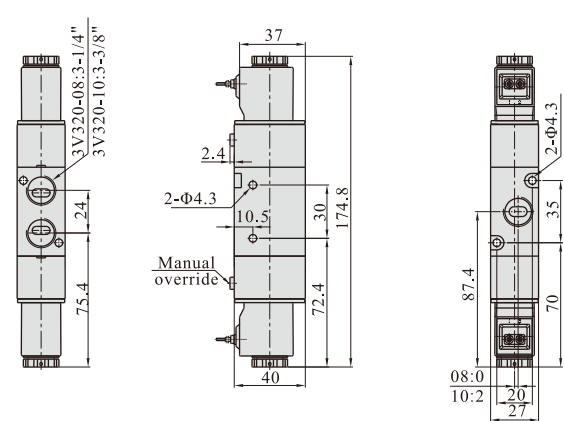
3V310(Grommet)



3V320(Terminal)



3V320(Grommet)



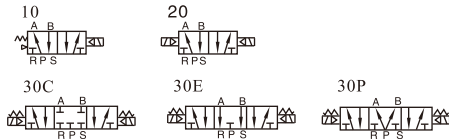
Solenoid valve(5/2 way, 5/3 way)

BITEBI®

4V100 Series



Symbol



Product feature

1. Pilot-oriented mode: Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction .
3. Three position solenoid valves have three kinds of central function for your choice.
4. Double control solenoid valves have memory function.
5. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
6. No need to add oil for lubrication.
7. It is available to form integrated valve group with the base to save installation space.
8. Affiliated manual devices are equipped to facilitate installation and debugging.
9. Several standard voltage grades are optional.

Specification

Model	4V110-M5 4V120-M5	4V130C-M5 4V130E-M5 4V130P-M5	4V110-06 4V120-06	4V130C-06 4V130E-06 4V130P-06
Fluid	Air(to be filtered by 40 μm filter element)			
Acting	Internal pilot or external pilot			
Port size [Note1]	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	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max.frequency [Note3]	5 cycle/sec	3cycle/sec	5 cycle/sec	3 cycle/sec
Weight (g)	4V110-M5:120 4V120-M5:175	200	4V110-06:120 4V120-06:175	200

[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. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency is in the no-load state.

Coil specification

Item	specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ± 15% DC: ± 10%				
Power consumption	3.5VA	3.5VA	4.0VA	2.5W	2.5W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				

Ordering code

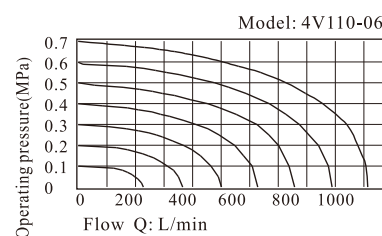
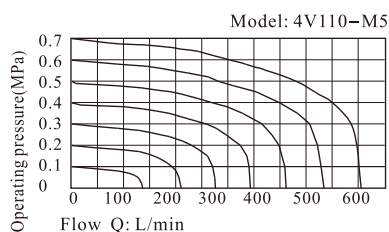
4V 1 10 06 A □ □

① ② ③ ④ ⑤ ⑥ ⑦

① Model	② Code	③ Valve type	④ Port size	⑤ Voltage	⑥ Electrical entry	⑦ Thread type
4V: Solenoid valve (5/2, 5/3 way)	1: 100 Series	10: Single solenoid 5/2 way 20: Double solenoid 5/2 way 30C: Double solenoid 5/3 way closed center 30E: Double solenoid 5/3 way exhaust center 30P: Double solenoid 5/3 way pressure center	M5: M5 06: 1/8"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	No this code Blank: PT G: G T: NPT

Please refer to 26 for manifold specification and the order way.

Flow chart

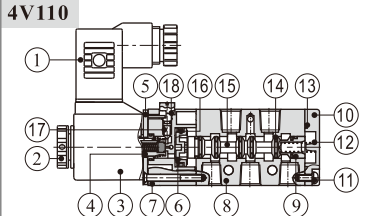
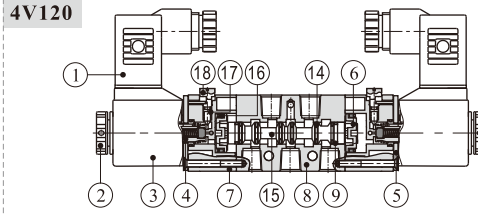
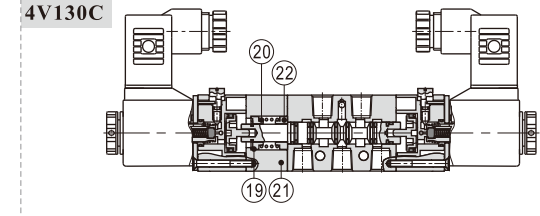


Solenoid valve(5/2 way, 5/3 way)

BITEBI®

4V100 Series

Inner structure

4V110						4V120						4V130C					
																	
No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Connector	3	Coil	5	Fixed plate	7	Pilot kit	9	Wear ring	11	Fixed screw	13	Bottom cover gasket	15	Spool	17	Override spring
2	Coil net	4	Armature	6	Piston	8	Body	10	Bottom cover	12	Spool spring	14	Spool O-ring	16	Piston O-ring	18	Manual override
																19	Spring holder
																20	Return spring
																21	Side cover
																22	Spring holder

Dimensions

4V110(Terminal)

Technical drawings of the 4V110(Terminal) component. The front view shows a rectangular body with four mounting holes. Dimensions include: total length 55, mounting hole spacing 34, body width 28.2, and mounting hole diameter 2-φ3.3. The side view shows a height of 27 and a mounting hole offset of 2.5. The top view shows a width of 27 and mounting hole spacing of 14. A 'Manual override' label points to a small feature on the side.

4V110(Grommet)

Technical drawing of the 4V110(Grommet) component. The front view shows a rectangular body with four mounting holes. Dimensions include: total length 55, mounting hole spacing 34, body width 28.2, and mounting hole diameter 2-φ3.3. A 'Manual override' label points to a small feature on the side.

Model\Item	A	B	C	D	E	F	B
4V110-M5	M5x0.8	27	14.7	0	14	21.2	0
4V110-06	1/8"	28	14.2	1	16	20.2	3

4V120(Terminal)

Technical drawings of the 4V120(Terminal) component. The front view shows a rectangular body with four mounting holes. Dimensions include: total length 55, mounting hole spacing 34, body width 71.2, and mounting hole diameter 2-φ3.3. The side view shows a height of 27 and a mounting hole offset of 2.5. The top view shows a width of 27 and mounting hole spacing of 14. A 'Manual override' label points to a small feature on the side.

4V120(Grommet)

Technical drawing of the 4V120(Grommet) component. The front view shows a rectangular body with four mounting holes. Dimensions include: total length 55, mounting hole spacing 34, body width 71.2, and mounting hole diameter 2-φ3.3. A 'Manual override' label points to a small feature on the side.

Model\Item	A	B	C	D	E	F	G
4V120-M5	M5x0.8	27	57.7	0	14	64.3	0
4V120-06	1/8"	28	57.2	1	16	63.2	3

4V130(Terminal)

Technical drawings of the 4V130(Terminal) component. The front view shows a rectangular body with four mounting holes. Dimensions include: total length 55, mounting hole spacing 34, body width 71.2, and mounting hole diameter 2-φ3.3. The side view shows a height of 27 and a mounting hole offset of 2.5. The top view shows a width of 27 and mounting hole spacing of 14. A 'Manual override' label points to a small feature on the side.

4V130(Grommet)

Technical drawing of the 4V130(Grommet) component. The front view shows a rectangular body with four mounting holes. Dimensions include: total length 55, mounting hole spacing 34, body width 71.2, and mounting hole diameter 2-φ3.3. A 'Manual override' label points to a small feature on the side.

Model\Item	A	B	C	D	E	F	G
4V130-M5	M5x0.8	27	57.7	0	14	64.3	0
4V130-06	1/8"	28	57.2	1	16	63.2	3

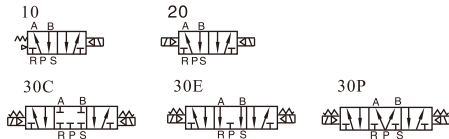
Solenoid valve(5/2 way, 5/3 way)

BITEBI®

4V200 Series



Symbol



Product feature

1. Pilot-oriented mode: Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Three position solenoid valves have three kinds of central function for your choice.
4. Double control solenoid valves have memory function.
5. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
6. No need to add oil for lubrication.
7. It is available to form integrated valve group with the base to save installation space.
8. Affiliated manual devices are equipped to facilitate installation and debugging.
9. Several standard voltage grades are optional.

Specification

Model	4V210-06 4V220-06	4V230C-06 4V230E-06 4V230P-06	4V210-08 4V220-08	4V230C-08 4V230E-08 4V230P-08
Fluid	Air(to be filtered by 40 μm filter element)			
Acting	Internal pilot or external pilot			
Port size [Note1]	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)			
Operating pressure	1.2MPa(175psi)			
Temperature	-20~70°C			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max. frequency [Note3]	5 cycle/sec	3 cycle/sec	5 cycle/sec	3 cycle/sec
Weight (g)	4V210-06:220 4V220-06:320	360	4V210-08:220 4V220-08:320	360

[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. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency is in the no-load state.

Coil specification

Item	specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%				
Power consumption	4.5VA	4.5VA	5.0VA	3.0W	3.0W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				

Ordering code

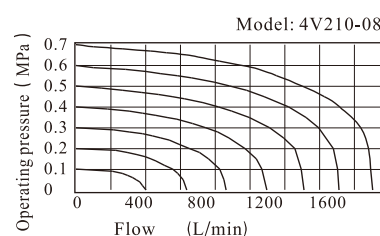
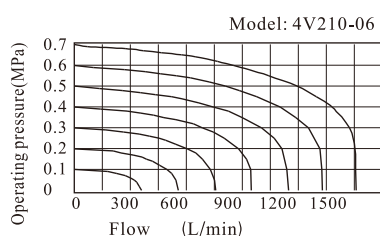
4V 2 10 08 A □ □

① ② ③ ④ ⑤ ⑥ ⑦

① Model	② Code	③ Valve type	④ Port size	⑤ Voltage	⑥ Electrical entry	⑦ Thread type
4V: Solenoid valve (5/2, 5/3 way)	2: 200 Series	10: Single solenoid 5/2 way 20: Double solenoid 5/2 way 30C: Double solenoid 5/3 way closed center 30E: Double solenoid 5/3 way exhaust center 30P: Double solenoid 5/3 way pressure center	06: 1/8" 08: 1/4"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	Blank: PT G: G T: NPT

Please refer to 26 for manifold specification and the order way.

Flow chart



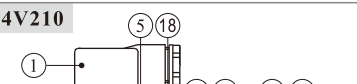
Solenoid valve(5/2 way, 5/3 way)

BITEBI®


4V200 Series

Inner structure

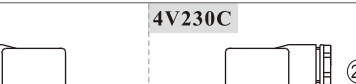
4V210



4V220



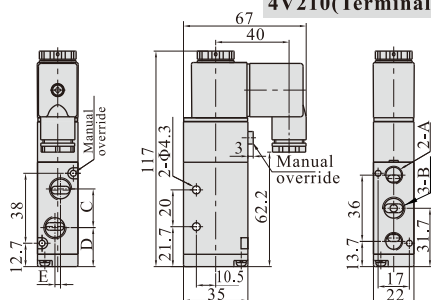
4V230C



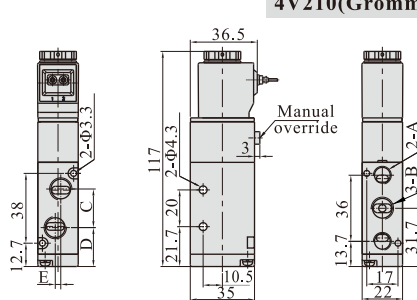
No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Connector	3	Coil	5	Fixed plate	7	Pilot kit	9	Wear ring	11	Fixed screw	13	Bottom cover gasket	15	Spool	17	Override spring	19	Spring holder	21	Side cover
2	Coil net	4	Armature	6	Piston	8	Body	10	Bottom cover	12	Spool spring	14	Spool O-ring	16	Piston O-ring	18	Manual override	20	Return spring	22	Spring holder

Dimensions

4V210(Terminal)

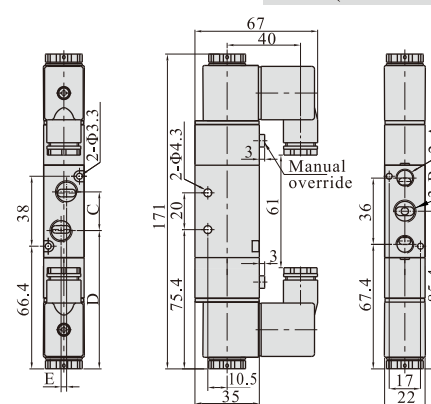


4V210(Grommet)

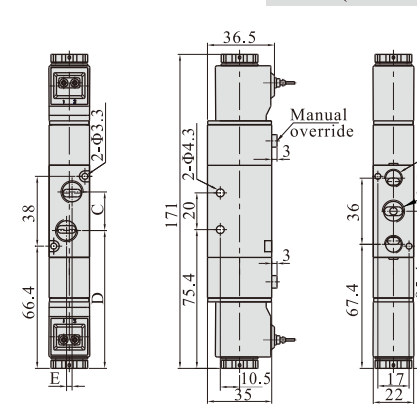


Model\Item	A	B	C	D	E
4V210-06	1/8"	1/8"	18	22.7	0
4V210-08	1/8"	1/4"	21	21.2	3

4V220(Terminal)

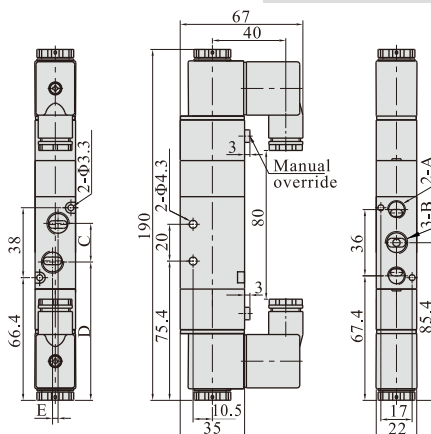


4V220(Grommet)

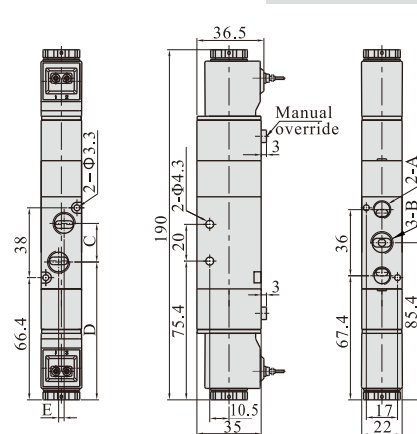


Model\Item	A	B	C	D	E
4V220-06	1/8"	1/8"	18	76.4	0
4V220-08	1/8"	1/4"	21	74.9	3

4V230(Terminal)



4V230(Grommet)



Model\Item	A	B	C	D	E
4V230-06	1/8"	1/8"	18	76.4	0
4V230-08	1/8"	1/4"	21	74.9	3

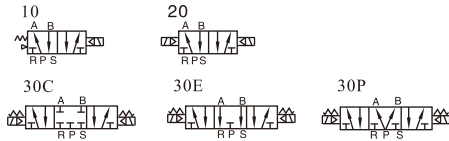
Solenoid valve(5/2 way, 5/3 way)

BITEBI®

4V300 Series



Symbol



Product feature

1. Pilot-oriented mode: Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Three position solenoid valves have three kinds of central function for your choice.
4. Double control solenoid valves have memory function.
5. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
6. No need to add oil for lubrication.
7. It is available to form integrated valve group with the base to save installation space.
8. Affiliated manual devices are equipped to facilitate installation and debugging.
9. Several standard voltage grades are optional.

Specification

Model	4V310-08 4V320-08	4V330C-08 4V330E-08 4V330P-08	4V310-10 4V320-10	4V330C-10 4V330E-10 4V330P-10
Fluid	Air(to be filtered by 40 μm filter element)			
Acting	Internal pilot or external pilot			
Port size [Note1]	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	1.2MPa(175psi)			
Temperature	-20~70°C			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max.frequency [Note3]	4 cycle/sec	3 cycle/sec	4 cycle/sec	3 cycle/sec
Weight (g)	4V310-08:310 4V320-08:400	450	4V310-10:310 4V320-10:400	450

[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. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency is in the no-load state.

Coil specification

Item	specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ±15% DC: ±10%				
Power consumption	4.5VA	4.5VA	5.0VA	3.0W	3.0W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				

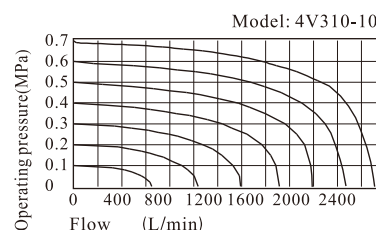
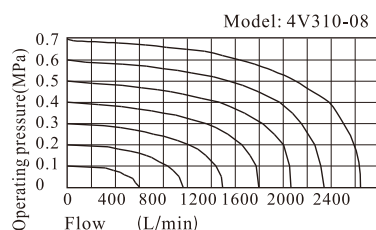
Ordering code

4V 3 10 10 A □ □
① ② ③ ④ ⑤ ⑥ ⑦

① Model	② Code	③ Valve type	④ Port size	⑤ Voltage	⑥ Electrical entry	⑦ Thread type
4V: Solenoid valve (5/2, 5/3 way)	3: 300 Series	10: Single solenoid 5/2 way 20: Double solenoid 5/2 way 30C: Double solenoid 5/3 way closed center 30E: Double solenoid 5/3 way exhaust center 30P: Double solenoid 5/3 way pressure center	08: 1/4" 10: 3/8"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	Blank: PT G: G T: NPT

Please refer to 26 for manifold specification and the order way.

Flow chart

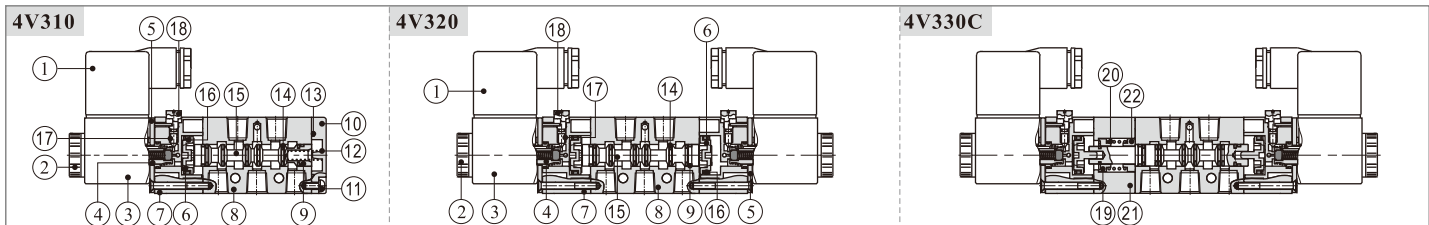


Solenoid valve(5/2 way, 5/3 way)

BITEBI®

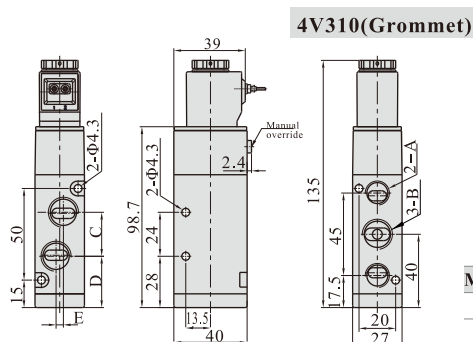
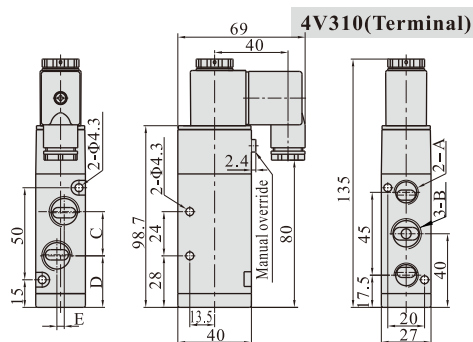
4V300 Series

Inner structure

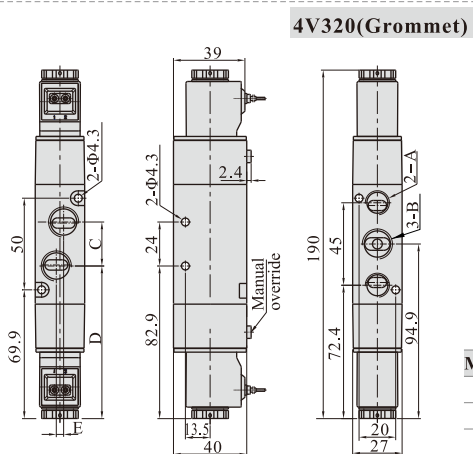
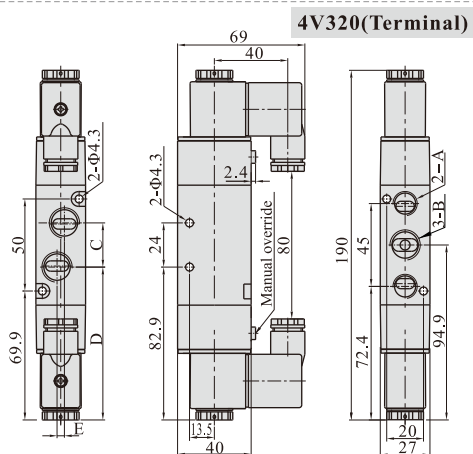


No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Connector	3	Coil	5	Fixed plate	7	Pilot kit	9	Wear ring	11	Fixed screw	13	Bottom cover gasket	15	Spool	17	Override spring	19	Spring holder
2	Coil net	4	Armature	6	Piston	8	Body	10	Bottom cover	12	Spool spring	14	Spool O-ring	16	Piston O-ring	18	Manual override	20	Return spring
																21	Side cover	22	Spring holder

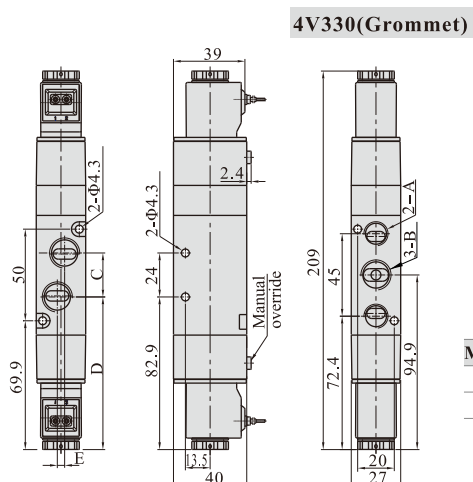
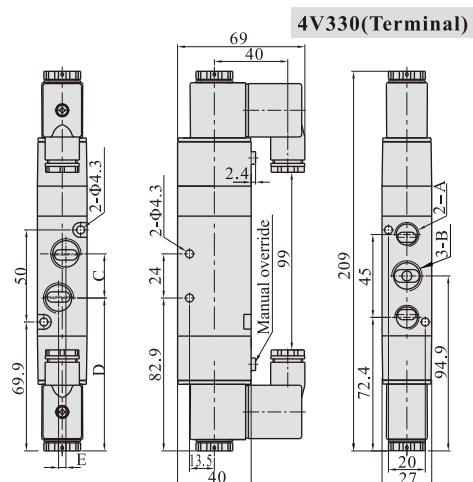
Dimensions



Model\Item	A	B	C	D	E
4V310-08	1/4"	1/4"	22	29	0
4V310-10	1/4"	3/8"	24	28	4



Model\Item	A	B	C	D	E
4V320-08	1/4"	1/4"	22	83.9	0
4V320-10	1/4"	3/8"	24	82.9	4



Model\Item	A	B	C	D	E
4V330-08	1/4"	1/4"	22	83.9	0
4V330-10	1/4"	3/8"	24	82.9	4

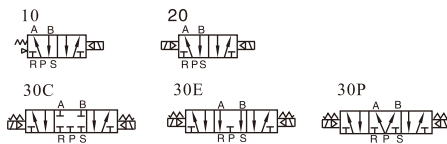
Solenoid valve(5/2 way, 5/3 way)

BITEBI®

4V400 Series



Symbol



Product feature

1. Pilot-oriented mode: Internal pilot or external pilot.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Three position solenoid valves have three kinds of central function for your choice.
4. Double control solenoid valves have memory function.
5. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
6. No need to add oil for lubrication.
7. It is available to form integrated valve group with the base to save installation space.
8. Affiliated manual devices are equipped to facilitate installation and debugging.
9. Several standard voltage grades are optional.

Specification

Model	4V410-15	4V420-15	4V430C-15	4V430E-15	4V430P-15
Fluid	Air(to be filtered by 40 μ m filter element)				
Acting	Internal pilot or external pilot				
Port size [Note1]	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	1.2MPa(175psi)				
Temperature	-20~70℃				
Material of body	Aluminum alloy				
Lubrication [Note2]	Not required				
Max. frequency [Note3]	3 cycle/sec				
Weight (g)	590	720	770		

[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. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency is in the no-load state.

Coil specification

Item	specification				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ± 15% DC: ± 10%				
Power consumption	4.5VA	4.5VA	5.0VA	3.0W	3.0W
Protection	IP65(DIN40050)				
Temperature classification	B Class				
Electrical entry	Terminal, Grommet				
Activating time	0.05 sec and below				

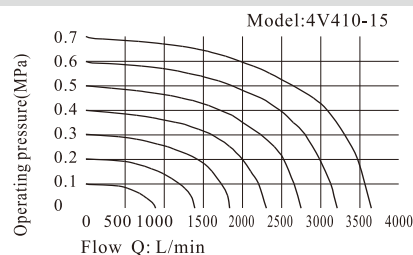
Ordering code

4V 4 10 15 A □ □
① ② ③ ④ ⑤ ⑥ ⑦

① Model	② Code	③ Valve type	④ Port size	⑤ Voltage	⑥ Electrical entry	⑦ Thread type
4V: Solenoid valve (5/2, 5/3 way)	4: 400 Series	10: Single solenoid 5/2 way 20: Double solenoid 5/2 way 30C: Double solenoid 5/3 way closed center 30E: Double solenoid 5/3 way exhaust center 30P: Double solenoid 5/3 way pressure center	15: 1/2"	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	Blank: PT G: G T: NPT

Please refer to 26 for manifold specification and the order way.

Flow chart



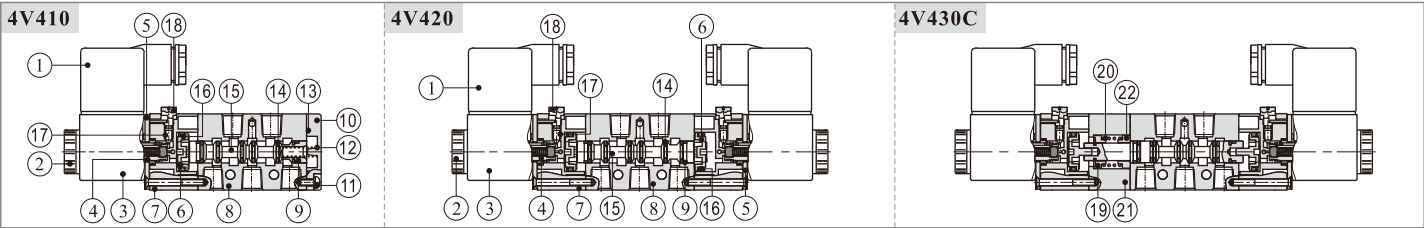
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~77~

Solenoid valve(5/2 way, 5/3 way)

4V400 Series

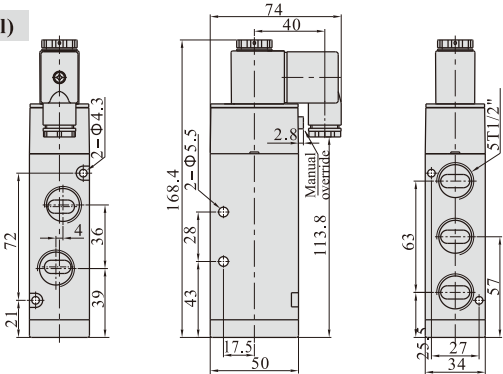
Inner structure



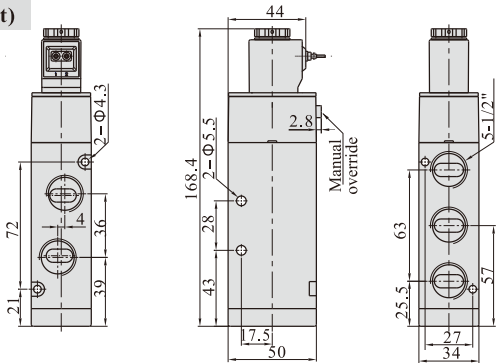
No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Connector	3	Coil	5	Fixed plate	7	Pilot kit	9	Wear ring	11	Fixed screw	13	Bottom cover gasket	15	Spool	17	Override spring	19	Spring holder
2	Coil net	4	Armature	6	Piston	8	Body	10	Bottom cover	12	Spool spring	14	Spool O-ring	16	Piston O-ring	18	Manual override	20	Return spring
																		21	Side cover
																		22	Spring holder

Dimensions

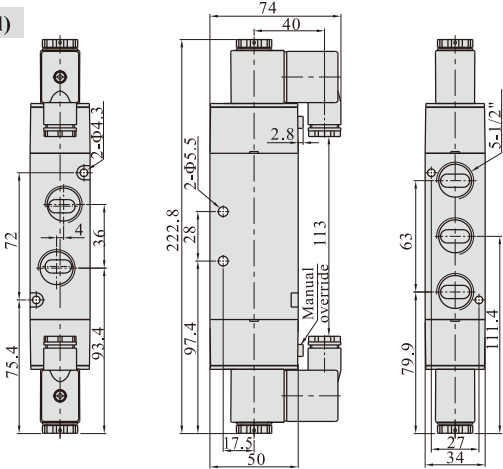
4V410(Terminal)



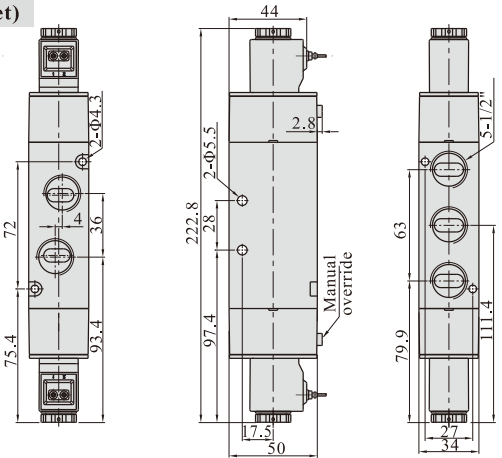
4V410(Grommet)



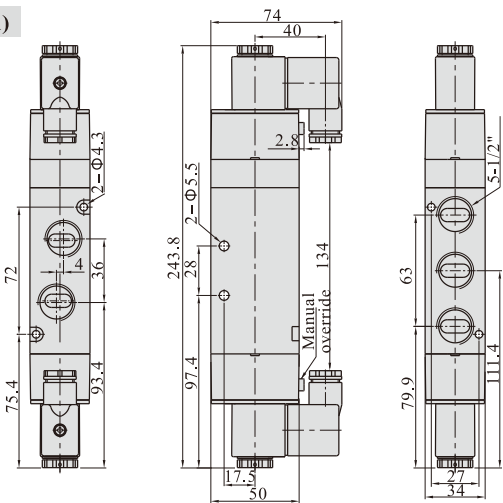
4V420(Terminal)



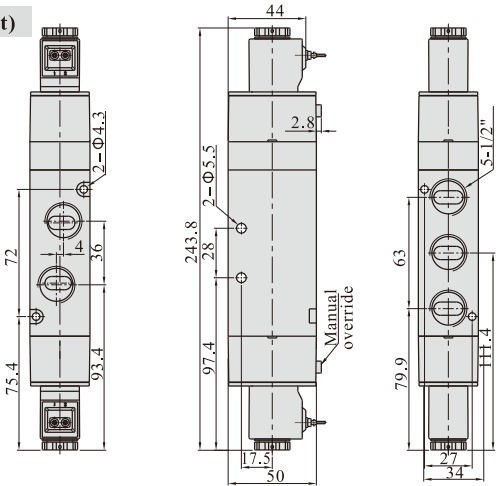
4V420(Grommet)



4V430(Terminal)



4V430(Grommet)



Solenoid valve(5/2 way)

BITEBI®

4M(NAMUR) Series



Symbol



Product feature

1. Internally piloted structure.
2. Structure in sliding column mode: good tightness and sensitive reaction.
3. Double control solenoid valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Install in the side plate with the surface upward, which can be used by directly connecting with the actuators.
7. Affiliated manual devices are equipped to facilitate installation and debugging.
8. Several standard voltage grades are optional.

Flow chart

Please refer to the same types of 4V series solenoid valves.

Specification

Model	4M110-M5 4M120-M5	4M110-06 4M120-06	4M210-06 4M220-06	4M210-08 4M220-08	4M310-08 4M320-08	4M310-10 4M320-10
Fluid	Air(to be filtered by 40 μm filter element)					
Acting	Internal pilot					
Port size [Note1]	In=Out=M5	In=Out =1/8"	In=Out =1/8"	In=1/4" Out=1/8"	In=Out =1/4"	In=3/8" Out=1/4"
Orifice size	5.5mm ² (Cv=0.31)	12.0mm ² (Cv=0.67)	14.0mm ² (Cv=0.78)	16.0mm ² (Cv=0.89)	25.0mm ² (Cv=1.40)	30.0mm ² (Cv=1.68)
Valve type	5 port 2 position					
Operating pressure	0.15~0.8MPa(21~114psi)					
Proof pressure	1.2MPa(175psi)					
Temperature	-20~70℃					
Material of body	Aluminum alloy					
Lubrication [Note2]	Not required					
Max.frequency[Note3]	5 cycle/sec				4 cycle/sec	
Weight (g)	4M110:120 4M120:175	4M210:220 4M220:320		4M310:310 4M320:400		

[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. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency is in the no-load state.

Coil specification

Item	4M110 4M120					4M210 4M220 4M310 4M320				
Standard voltage	AC220V	AC110V	AC24V	DC24V	DC12V	AC220V	AC110V	AC24V	DC24V	DC12V
Scope of voltage	AC: ± 15% DC: ± 10%									
Power consumption	3.5VA	3.5VA	4.0VA	2.5W	2.5W	4.5VA	4.5VA	5.0VA	3.0W	3.0W
Protection	IP65(DIN40050)									
Temperature classification	B Class									
Electrical entry	Terminal, Grommet									
Activating time	0.05 sec and below									

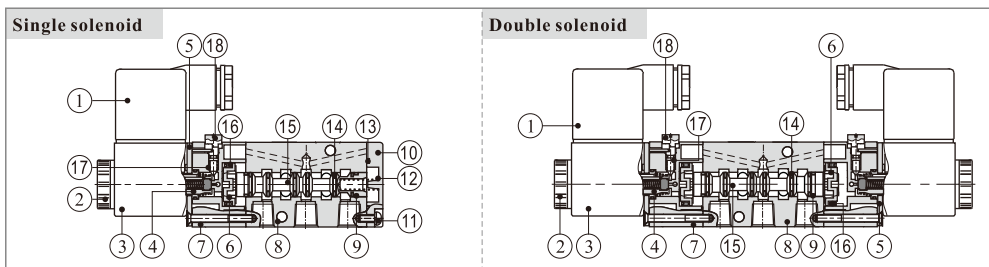
Ordering code

4M 3 10 10 A □ □

① ② ③ ④ ⑤ ⑥ ⑦

① Model	② Code	③ Valve type	④ Port size	⑤ Voltage	⑥ Electrical entry	⑦ Thread type
4M: Solenoid valve (5/2 way NAMUR type)	1: 100 Series	10: Single solenoid 20: Double solenoid	M5: M5	A: AC220V B: DC24V C: AC110V E: AC24V F: DC12V	Blank: Terminal I: Grommet	No this code
	2: 200 Series		06: 1/8"			Blank: PT G: G T: NPT
	3: 300 Series		06: 1/8"			
			08: 1/4"			
			08: 1/4"			
			10: 3/8"			

Inner structure

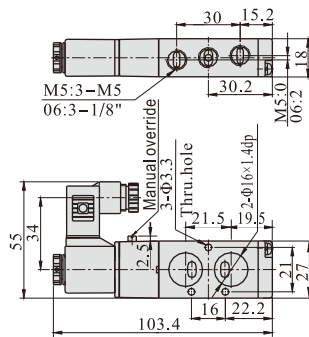


No.	Item	No.	Item
1	Connector	10	Bottom cover
2	Coil net	11	Fixed screw
3	Coil	12	Spool spring
4	Armature	13	Bottom cover gasket
5	Fixed plate	14	Spool O-ring
6	Piston	15	Spool
7	Pilot kit	16	Piston O-ring
8	Body	17	Override spring
9	Wear ring	18	Manual override

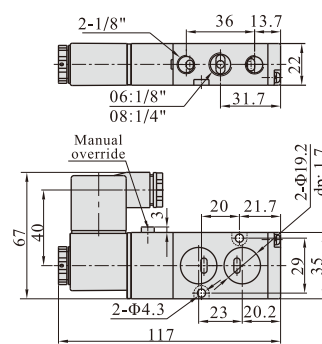
4M(NAMUR) Series

Dimensions

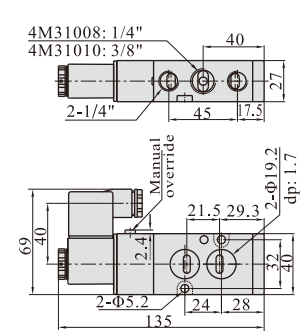
4M110(Terminal)



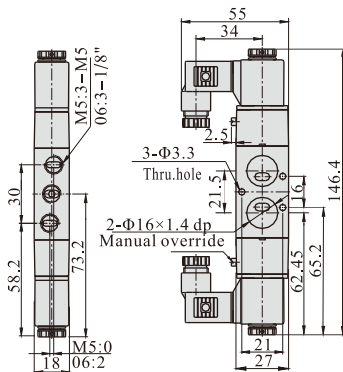
4M210(Terminal)



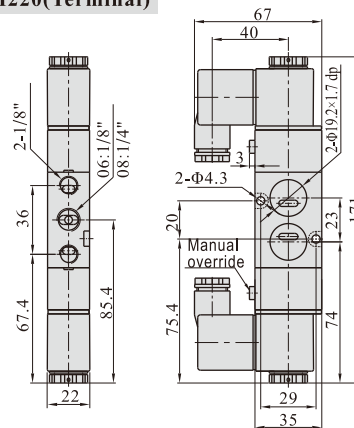
4M310(Terminal)



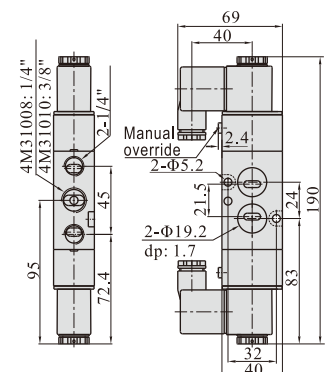
4M120(Terminal)



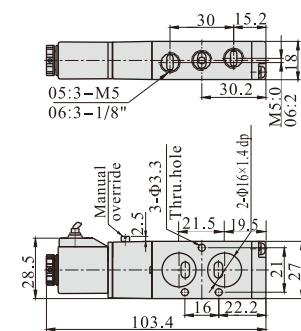
4M220(Terminal)



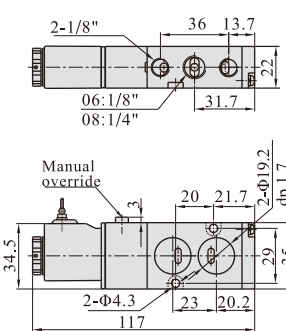
4M320(Terminal)



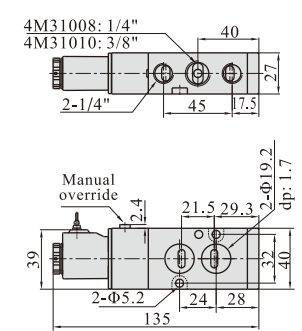
4M110(Grommet)



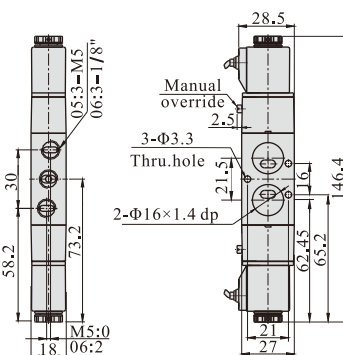
4M210(Grommet)



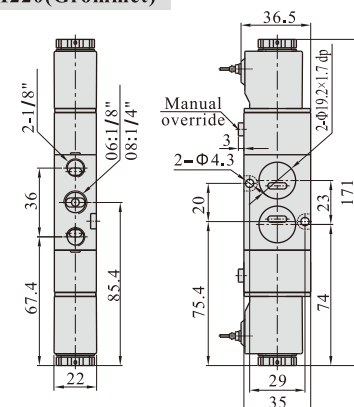
4M310(Grommet)



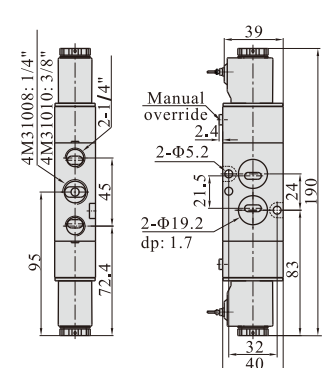
4M120(Grommet)



4M220(Grommet)



4M320(Grommet)



Manifold



Specification

Item\Manifold Model	100M	200M	300M
Fluid	Air(to be filtered by 40 μm filter element)		
Temperature	-20~70℃		
Adaptable valve's series	3V100 Series	3V200 Series	3V300 Series

Product feature

1. It is available to integrate the direction control valves of the same series to form valve 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.

Ordering code

Ordering code for manifold

3V100M 5F □		
	①	② ③
①Model	②Number of stations	③Thread type
3V100M: 100 Series manifold	1F: 1 station	Blank: PT
3V200M: 200 Series manifold	2F: 2 station	G: G
3V300M: 300 Series manifold	3F: 3 station	T: NPT
	
	16F: 16 station	

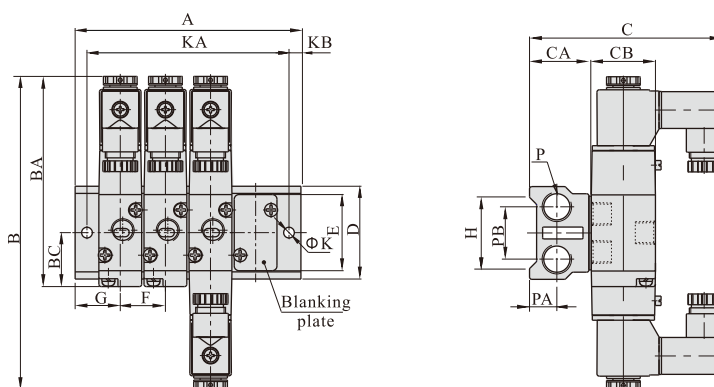
Ordering code for blank plate

P-3V100M-R2		
	①	② ③
①Kits	②Model	③Code
P: Kits	3V100M: 100Series manifold	R2: Blank plate for manifold
	3V200M: 200Series manifold	
	3V300M: 300Series manifold	

- [Note] 1. Ordering code contains the two parts of the manifold's and the blank plate's;
 2. Manifold kits contains manifold, seal and screw.
 3. Blank plate kits contains blank plate and screw.

Dimensions

With 3V solenoid valve

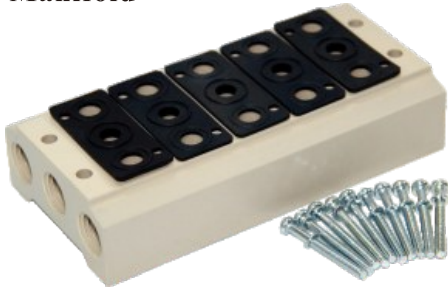


Model\Item	B	BA	BC	C	CA	CB	D	E	F	G	H	K	KB	P	PA	PB
3V100M	131.5	88.5	22.7	81	26	27	39	32	19	19	30	4.5	5	1/4"	11.5	22
3V200M	162.5	109	27.7	92.5	26	35	45	40	23	23	35	4.5	6	1/4"	11.5	25
3V300M	175	120	32.5	99	30	40	52	47	28	27	42	4.5	6	3/8"	13.5	28

A																
Model\Item	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
3V100M	38	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323
3V200M	46	69	92	115	138	161	184	207	230	253	276	299	322	345	368	391
3V300M	54	82	110	138	166	194	222	250	278	306	334	362	390	418	446	474

KA																
Model\Item	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
3V100M	28	47	66	85	104	123	142	161	180	199	218	237	256	275	294	313
3V200M	34	57	80	103	126	149	172	195	218	241	264	287	310	333	356	379
3V300M	42	70	98	126	154	182	210	238	266	294	322	350	378	406	434	462

Manifold



Specification

Item\Manifold Model	100M	200M	300M	400M
Fluid	Air(to be filtered by 40 μm filter element)			
Temperature	-20~70℃			
Adaptable valve's series	4V100 Series	4V200 Series	4V300 Series	4V400 Series

Product feature

1. It is available to integrate the direction control valves of the same series to form valve 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.

Ordering code

Ordering code for manifold

100M 5F □		
①	②	③
①Model	②Number of stations [Note1]	③Thread type
100M:100 Series manifold 200M:200 Series manifold 300M:300 Series manifold 400M:400 Series manifold	1F: 1 Station 2F: 2 Station 3F: 3 Station 16F: 16 Station	Blank: PT G: G T: NPT

Ordering code for blank plate

P-100M-R2		
①	②	③
①Kits model	②Model	③Code
P: Kits	100M: 100 Series manifold 200M: 200 Series manifold 300M: 300 Series manifold 400M: 400 Series manifold	R2: Blank plate for manifold

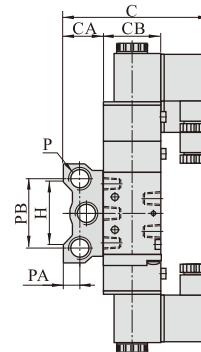
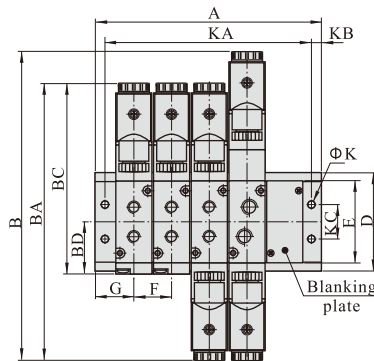
[Note1] 100M, 200M series have a maximum of 16 stations ; 300M series have a maximum of 12 stations; 400M series have a maximum of 8 stations.

[Note] 1. Ordering code contains the two parts of the manifold's and the blank plate's. 2. Manifold kits contains manifold, seal and screw.

3. Blank plate kits contains blank plate and screw.

Dimensions

With 4V solenoid valve



Model\Item	B	BA	BC	BD	C	CA	CB	D	E	F	G	H	K	KB	KC	P	PA	PB
100M□F	154.5	142.5	99.5	28	78	23	27	57.5	43	19	19	36	4.5	5	20	1/4"	10	40
200M□F	189	171	117	31.7	92	25	35	60	52	23	22	38	4.5	5	21	1/4"	10	42
300M□F	208	190	135	40	98	29	40	75	64	28	26	54	4.5	5	26	3/8"	13.5	53
400M□F	243	223	168.5	57	108	34	50	100	94	35	30.5	75	5.5	6	32	1/2"	15	68

Model\Item	A															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
100M□F	38	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323
200M□F	44	67	90	113	136	159	182	205	228	251	274	297	320	343	366	389
300M□F	52	80	108	136	164	192	220	248	276	304	332	360	-	-	-	-
400M□F	61	96	131	166	201	236	271	306	-	-	-	-	-	-	-	-

Model\Item	KA															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
100M□F	28	47	66	85	104	123	142	161	180	199	218	237	256	275	294	313
200M□F	34	57	80	103	126	149	172	195	218	241	264	287	310	333	356	379
300M□F	42	70	98	126	154	182	210	238	266	294	322	350	-	-	-	-
400M□F	49	84	119	154	189	224	259	294	-	-	-	-	-	-	-	-

3A100 Series



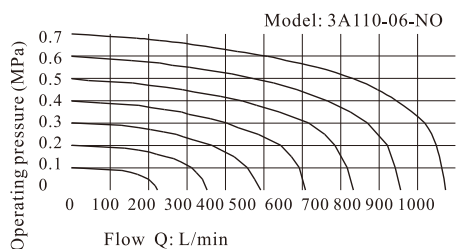
Symbol



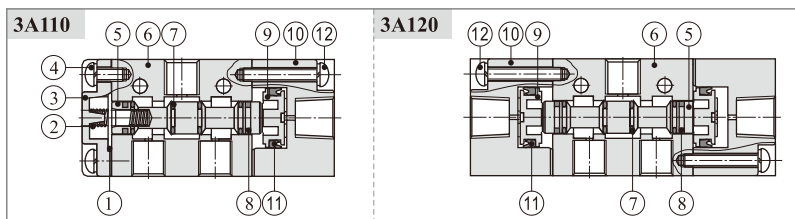
Product feature

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.
6. Integrate with the manifold to save installation space.

Flow chart



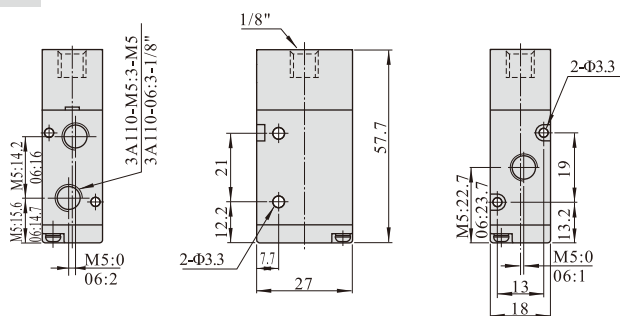
Inner structure



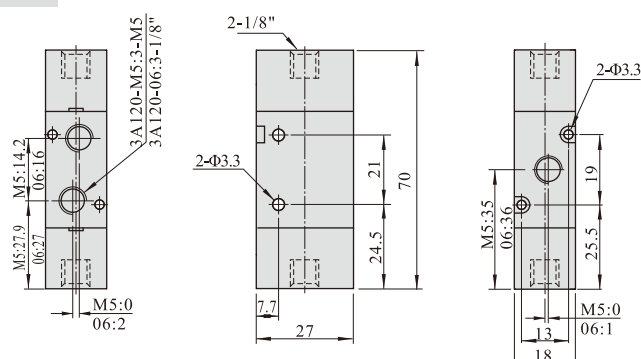
No.	Item	No.	Item	No.	Item
1	Bottom cover gasket	5	Spool	9	Piston
2	Spring	6	Body	10	Pilot body
3	Bottom cover	7	O-ring	11	Piston O-ring
4	Bottom cover screw	8	Wear ring	12	Piston screw

Dimension

3A110



3A120



Specification

Model	3A110-M5	3A120-M5	3A110-06	3A120-06
Fluid	Air(to be filtered by 40 μm filter element)			
Acting	Exterior control			
Port size [Note1]	M5		1/8"	
Orifice size	5.5mm ² (Cv=0.31)		12.0mm ² (Cv=0.67)	
Valve type	3 port 2 position			
Lubrication [Note2]	Not required			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Max. frequency [Note3]	5 cycle/sec			

[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.Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency is in the no-load state.

Ordering code

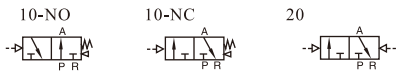
3A 1 10 06 NO □					
① Model	② Code	③ Valve type	④ Port size	⑤ Acting type	⑥ Thread type
3A: Air Valve (3/2 way)	1: 100 Series	10: Single air control 20: Double air control	M5: M5 06: 1/8"	NC: Normally close NO: Normally open No this code	M5 1/8" No this code Blank: PT G: G T: NPT

Please refer to 38 for manifold specification and the order way.

3A200 Series



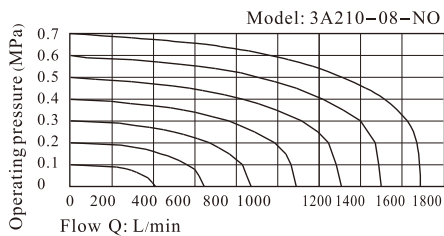
Symbol



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.
6. Integrate with the manifold to save installation space.

Flow chart



Specification

Model	3A210-06	3A220-06	3A210-08	3A220-08
Fluid	Air(to be filtered by 40 μm filter element)			
Acting	Exterior control			
Port size [Note1]	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 [Note2]	Not required			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Max. frequency [Note3]	5 cycle/sec			

[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. Lubricants like ISO VG32 or equivalent are recommended.

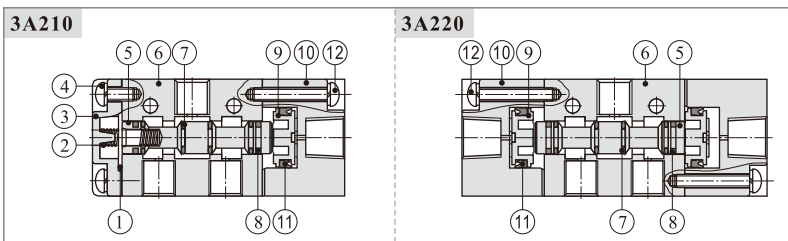
[Note3] The maximum actuation frequency is in the no-load state.

Ordering code

3A 2 10 08 NO □					
① Model	② Code	③ Valve type	④ Port size	⑤ Acting type	⑥ Thread type
3A: Air Valve (3/2 way)	2: 200 Series	10: Single air control 20: Double air control	06: 1/8" 08: 1/4"	NC: Normally close NO: Normally open No this code	Blank: PT G: G T: NPT

Please refer to 38 for manifold specification and the order way.

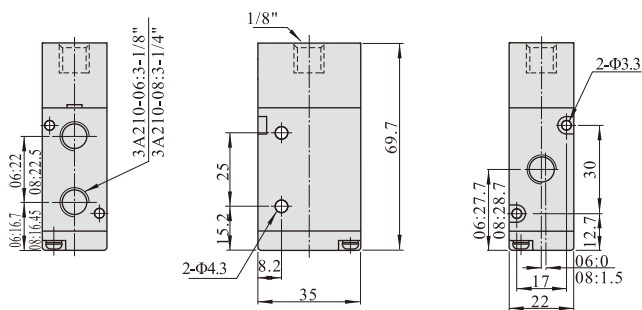
Inner structure



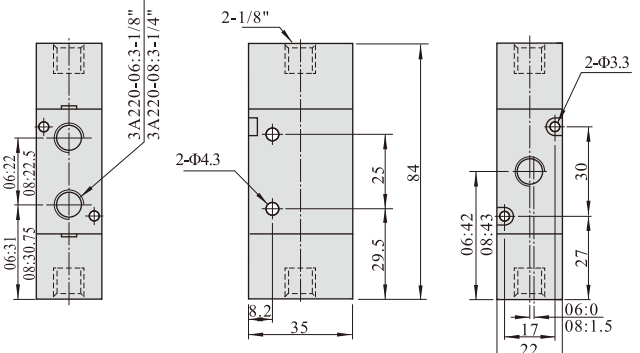
No.	Item	No.	Item	No.	Item
1	Bottom cover gasket	5	Spool	9	Piston
2	Spring	6	Body	10	Pilot body
3	Bottom cover	7	O-ring	11	Piston O-ring
4	Bottom cover screw	8	Wear ring	12	Piston screw

Dimension

3A210



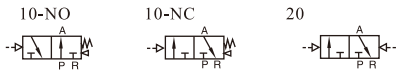
3A220



3A300 Series



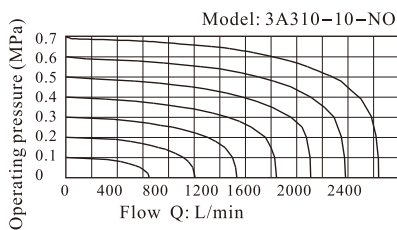
Symbol



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.
6. Integrate with the manifold to save installation space.

Flow chart



Specification

Model	3A310-08	3A320-08	3A310-10	3A320-10
Fluid	Air(to be filtered by 40 μm filter element)			
Acting	Exterior control			
Port size [Note1]	In=Out=1/4"		In=Out=3/8"	
Orifice size	25.0mm ² (Cv=1.39)		30.0mm ² (Cv=1.67)	
Valve type	3 port 2 position			
Lubrication [Note2]	Not required			
Operating pressure	0.15~0.8MPa(21~114psi)			
Proof pressure	1.2MPa(175psi)			
Temperature	-20~70℃			
Material of body	Aluminum alloy			
Max. frequency [Note3]	5 cycle/sec			

[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. Lubricants like ISO VG32 or equivalent are recommended.

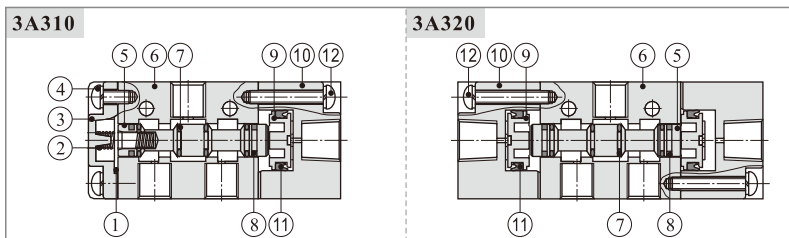
[Note3] The maximum actuation frequency is in the no-load state.

Ordering code

3A 3 10 10 NO □					
① Model	② Code	③ Valve type	④ Port size	⑤ Acting type	⑥ Thread type
3A: Air Valve (3/2 way)	3: 300 Series	10: Single air control 20: Double air control	08: 1/4" 10: 3/8"	NC: Normally close NO: Normally open No this code	Blank: PT G: G T: NPT

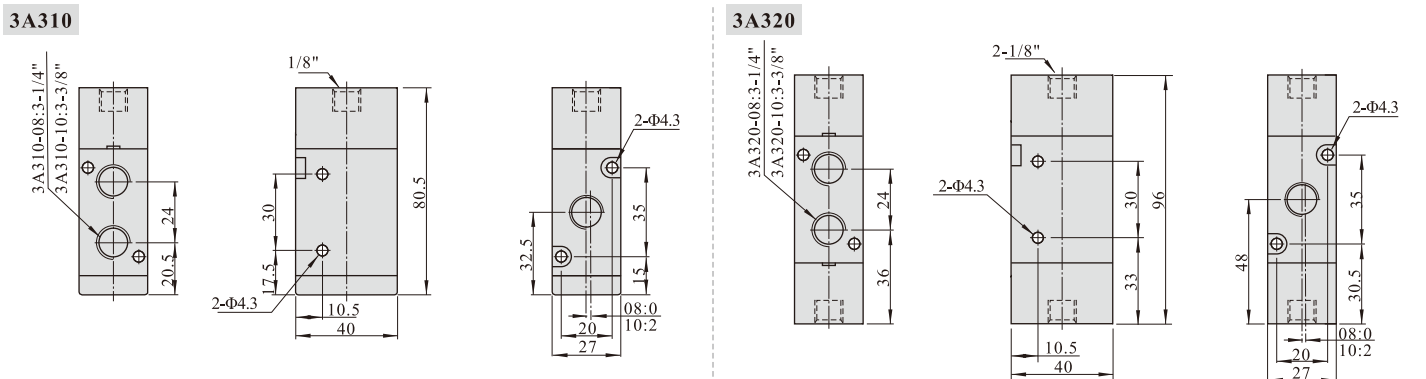
Please refer to 38 for manifold specification and the order way.

Inner structure



No.	Item	No.	Item	No.	Item
1	Bottom cover gasket	5	Spool	9	Piston
2	Spring	6	Body	10	Pilot body
3	Bottom cover	7	O-ring	11	Piston O-ring
4	Bottom cover screw	8	Wear ring	12	Piston screw

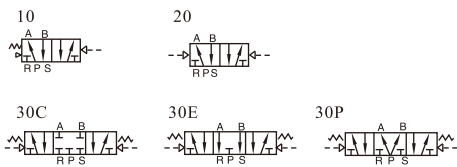
Dimension



4A100 Series



Symbol



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 40 μm filter element)			
Acting	Exterior control			
Port size [Note1]	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	1.2MPa(175psi)			
Temperature	-20~70°C			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max. frequency [Note3]	5 cycle/sec	3 cycle/sec	5 cycle/sec	3 cycle/sec
Weight (g)	4A110-M5:85 4A120-M5:140	165	4A110-06:85 4A120-06:140	165

[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. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency of no-load state.

Product feature

1. Structure in sliding column mode: good tightness and sensitive reaction.
2. Three position air valves have three kinds of central function for your choice.
3. Double air control valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Integrate with the manifold to save installation space.

Ordering code

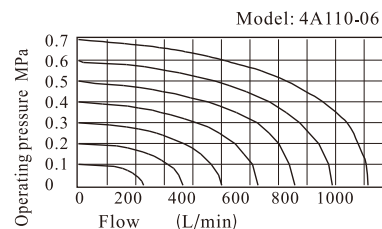
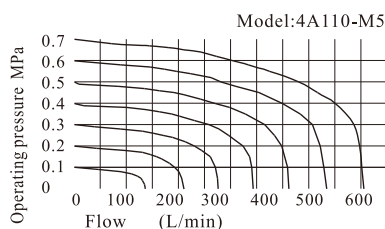
4A 1 10 06 □

① ② ③ ④ ⑤

① Model	② Code	③ Valve type	④ Port size	⑤ Thread type
4A: Air Valve(5/2, 5/3 way)	1: 100 Series	10: Single air control 5/2 way 20: Double air control 5/2 way 30C: Double air control 5/3 way closed center 30E: Double air control 5/3 way exhaust center 30P: Double air control 5/3 way pressure center	M5: M5 06: 1/8"	No this code Blank: PT G: G T: NPT

Please refer to 39 for manifold specification and the order way.

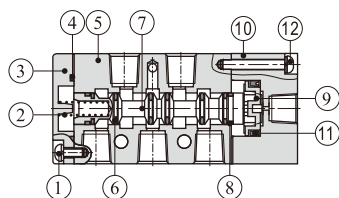
Flow chart



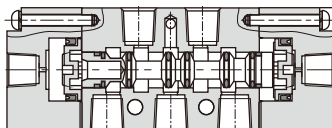
4A100 Series

Inner structure

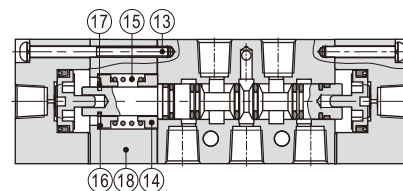
4A110



4A120



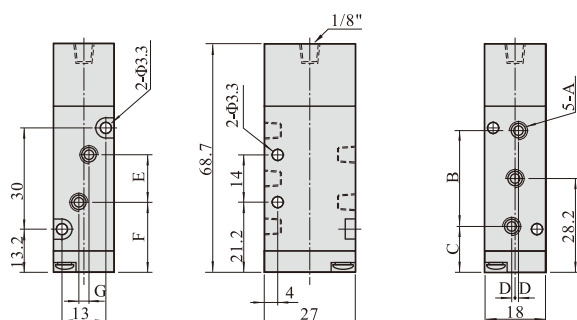
4A130C



No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Screw	3	Bottom cover	5	Body	7	Spool	9	Piston	11	O-ring	13	Screw	15	Return Spring	17	E Clip
2	Spring	4	Bottom cover gasket	6	O-ring	8	Wear ring	10	Pilot body	12	Screw	14	Spring holder	16	Spring holder	18	Side cover

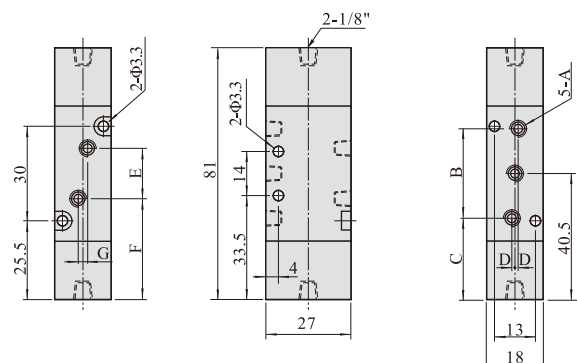
Dimension

4A110



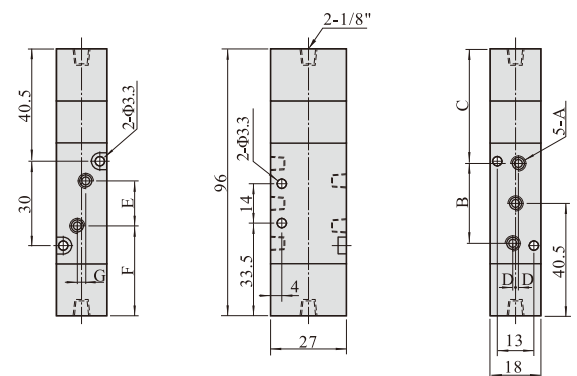
Model\Item	A	B	C	D	E	F	G
4A110-M5	M5x0.8	27	14.7	0	14	21.2	0
4A110-06	1/8"	28	14.2	1	16	20.2	3

4A120



Model\Item	A	B	C	D	E	F	G
4A120-M5	M5x0.8	27	27	0	14	33.5	0
4A120-06	1/8"	28	26.5	1	16	32.5	3

4A130

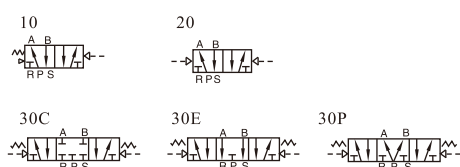


Model\Item	A	B	C	D	E	F	G
4A130-M5	M5x0.8	27	42	0	14	33.5	0
4A130-06	1/8"	28	41.5	1	16	32.5	3

4A200 Series



Symbol



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 40 μm filter element)			
Acting	Exterior control			
Port size [Note1]	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	1.2MPa(175psi)			
Temperature	-20~70°C			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max. frequency [Note3]	5 cycle/sec	3 cycle/sec	5 cycle/sec	3 cycle/sec
Weight (g)	4A210-06:185 4A220-06:285	365	4A210-08:185 4A220-08:285	365

[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. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency of no-load state.

Product feature

1. Structure in sliding column mode: good tightness and sensitive reaction.
2. Three position air valves have three kinds of central function for your choice.
3. Double air control valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Integrate with the manifold to save installation space.

Ordering code

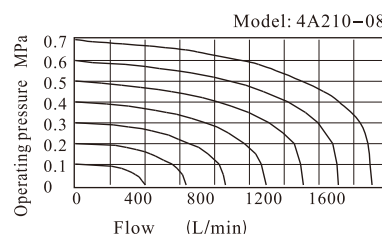
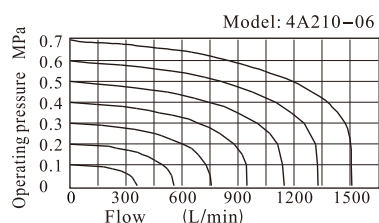
4A 2 10 08 □

① ② ③ ④ ⑤

① Model	② Code	③ Valve type	④ Port size	⑤ Thread type
4A: Air Valve(5/2, 5/3 way)	2: 200 Series	10: Single air control 5/2 way 20: Double air control 5/2 way 30C: Double air control 5/3 way closed center 30E: Double air control 5/3 way exhaust center 30P: Double air control 5/3 way pressure center	06: 1/8" 08: 1/4"	Blank: PT G: G T: NPT

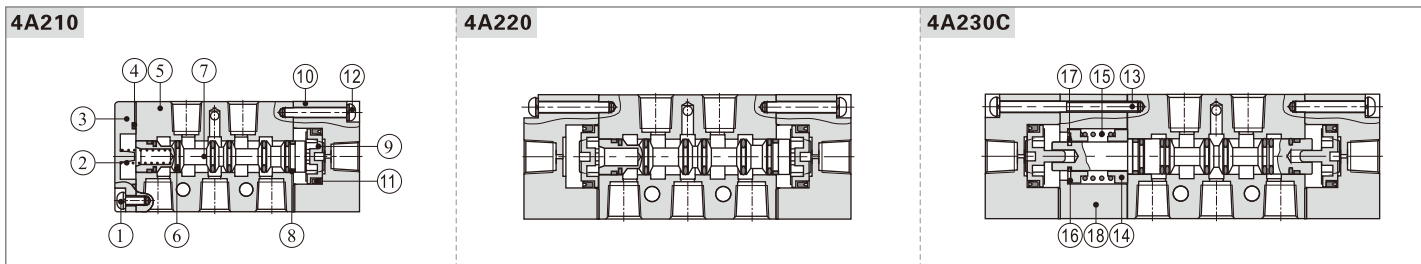
Please refer to 39 for manifold specification and the order way.

Flow chart



4A200 Series

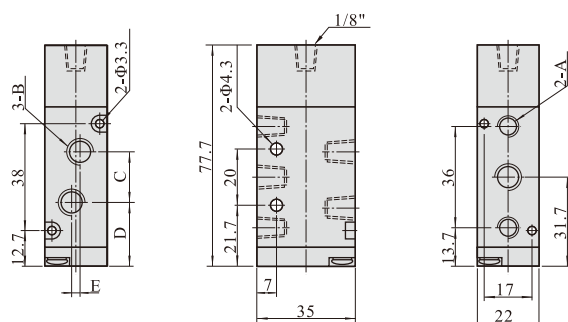
Inner structure



No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Screw	3	Bottom cover	5	Body	7	Spool	9	Piston	11	O-ring	13	Screw	15	Return Spring	17	E Clip
2	Spring	4	Bottom cover gasket	6	O-ring	8	Wear ring	10	Pilot body	12	Screw	14	Spring holder	16	Spring holder	18	Side cover

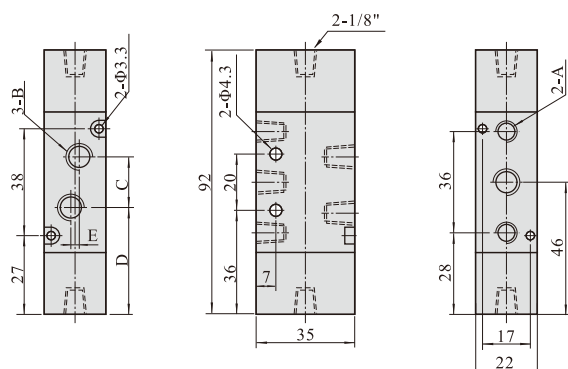
Dimension

4A210



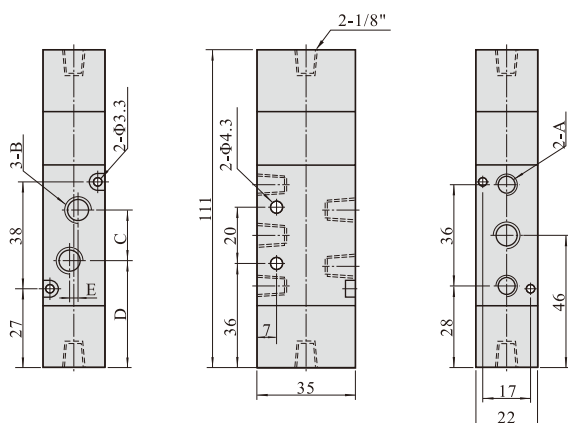
Model\Item	A	B	C	D	E
4A210-06	1/8"	1/8"	18	22.7	0
4A210-08	1/8"	1/4"	21	21.2	3

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 way, 5/3 way)

BITEBI®

4A300 Series



Specification

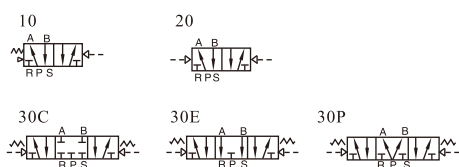
Model	4A310-08 4A320-08	4A330C-08 4A330E-08 4A330P-08	4A310-10 4A320-10	4A330C-10 4A330E-10 4A330P-10
Fluid	Air(to be filtered by 40 μm filter element)			
Acting	Exterior control			
Port size [Note1]	In=Out=Exhaust=1/4"		In=Out=3/8"	Exhaust=1/4"
Orifice size	25.0mm ² (Cv=1.40)	18.0mm ² (Cv=1.00)	30.0mm 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	1.2MPa(175psi)			
Temperature	-20~70°C			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max. frequency [Note3]	4 cycle/sec	3 cycle/sec	4 cycle/sec	3 cycle/sec
Weight (g)	4A310-08:275 4A320-08:365	505	4A310-10:275 4A320-10:365	505

[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. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency of no-load state.

Symbol



Product feature

1. Structure in sliding column mode: good tightness and sensitive reaction.
2. Three position air valves have three kinds of central function for your choice.
3. Double air control valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Integrate with the manifold to save installation space.

Ordering code

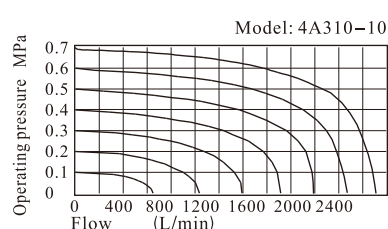
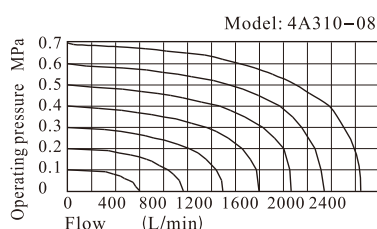
4A 3 10 10 □

① ② ③ ④ ⑤

①Model	②Code	③Valve type	④Port size	⑤Thread type
4A: Air Valve(5/2, 5/3 way)	3: 300 Series	10: Single air control 5/2 way 20: Double air control 5/2 way 30C: Double air control 5/3 way closed center 30E: Double air control 5/3 way exhaust center 30P: Double air control 5/3 way pressure center	08: 1/4" 10: 3/8"	Blank: PT G: G T: NPT

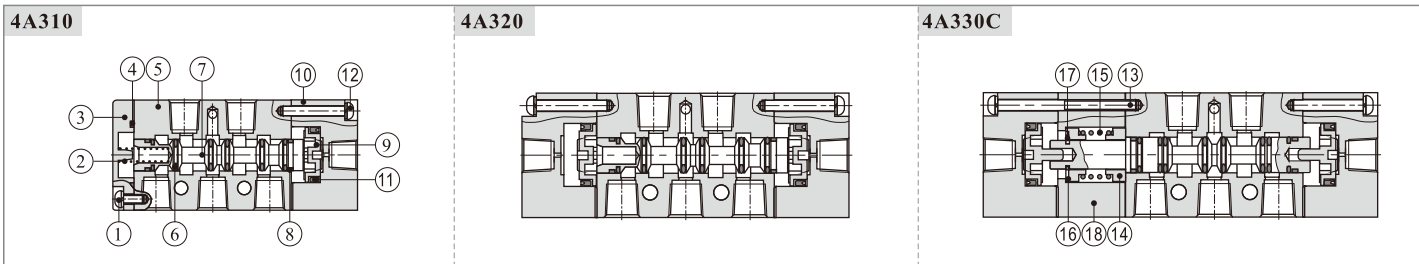
Please refer to 39 for manifold specification and the order way.

Flow chart



4A300 Series

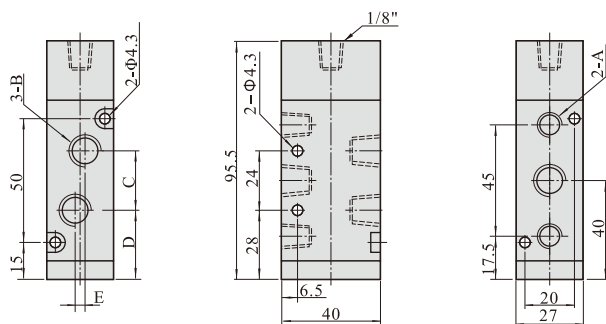
Inner structure



No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Screw	3	Bottom cover	5	Body	7	Spool	9	Piston	11	O-ring	13	Screw	15	Return Spring	17	E Clip
2	Spring	4	Bottom cover gasket	6	O-ring	8	Wear ring	10	Pilot body	12	Screw	14	Spring holder	16	Spring holder	18	Side cover

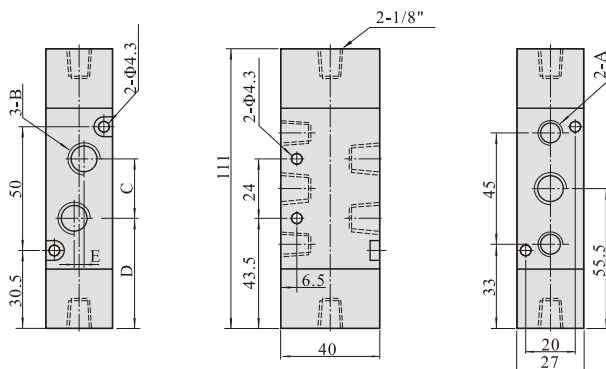
Dimension

4A310



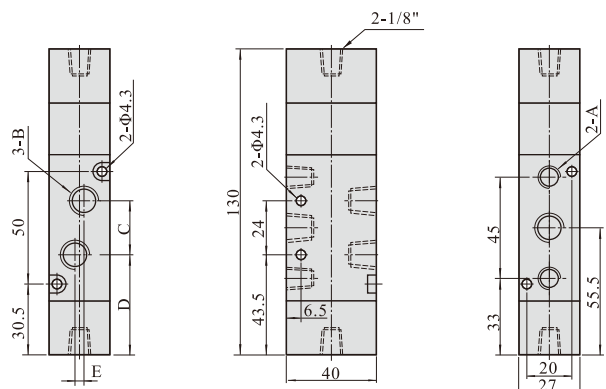
Model\Item	A	B	C	D	E
4A310-08	1/4"	1/4"	22	29	0
4A310-10	1/4"	3/8"	24	28	4

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

4A400 Series



Specification

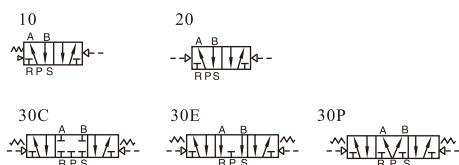
Model	4A410-15	4A420-15	4A430C-15	4A430E-15	4A430P-15
Fluid	Air(to be filtered by 40 μ m filter element)				
Acting	Exterior control				
Port size [Note1]	In=Out=Exhaust=1/2"				
Orifice size	50.0mm ² (Cv=2.79)		30.0mm ² (Cv=1.68)		
Valve type	5 port 2 position		5 port 3 position		
Operating pressure	0.15~0.8MPa(21~114psi)				
Proof pressure	1.2MPa(175psi)				
Temperature	-20~70 °C				
Material of body	Aluminum alloy				
Lubrication [Note2]	Not required				
Max. frequency [Note3]	3 cycle/sec				
Weight (g)	555	685	735		

[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. Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency of no-load state.

Symbol



Product feature

1. Structure in sliding column mode: good tightness and sensitive reaction.
2. Three position air valves have three kinds of central function for your choice.
3. Double air control valves have memory function.
4. Internal hole adopts special processing technology which has little attrition friction, low start pressure and long service life.
5. No need to add oil for lubrication.
6. Integrate with the manifold to save installation space.

Ordering code

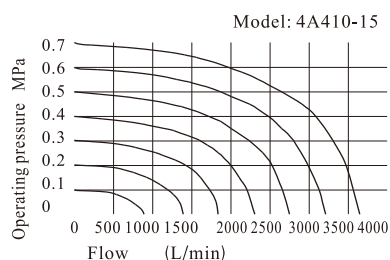
4A 4 10 15 □

① ② ③ ④ ⑤

① Model	② Code	③ Valve type	④ Port size	⑤ Thread type
4A: Air Valve(5/2, 5/3 way)	4: 400 Series	10: Single air control 5/2 way 20: Double air control 5/2 way 30C: Double air control 5/3 way closed center 30E: Double air control 5/3 way exhaust center 30P: Double air control 5/3 way pressure center	15: 1/2"	Blank: PT G: G T: NPT

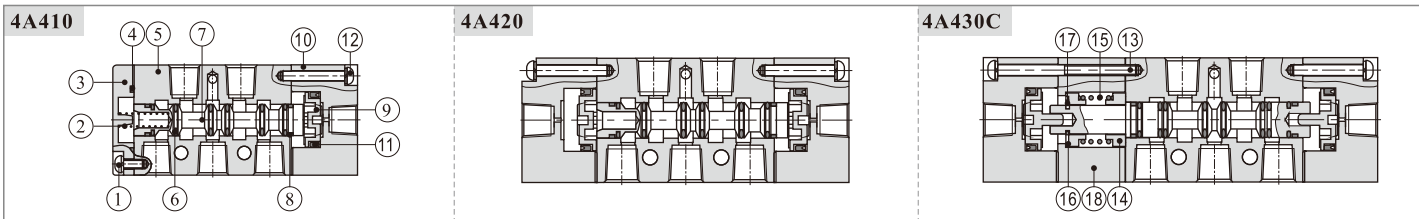
Please refer to 39 for manifold specification and the order way.

Flow chart



4A400 Series

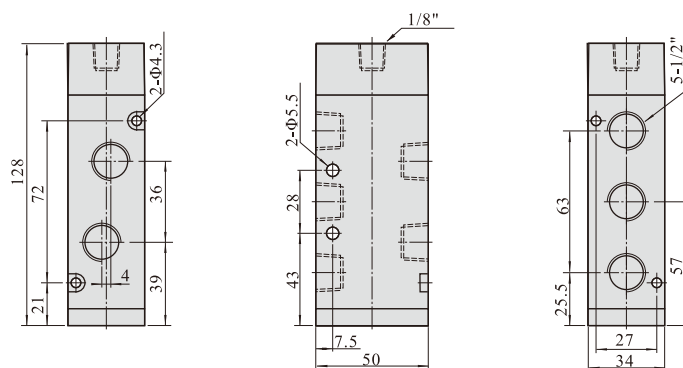
Inner structure



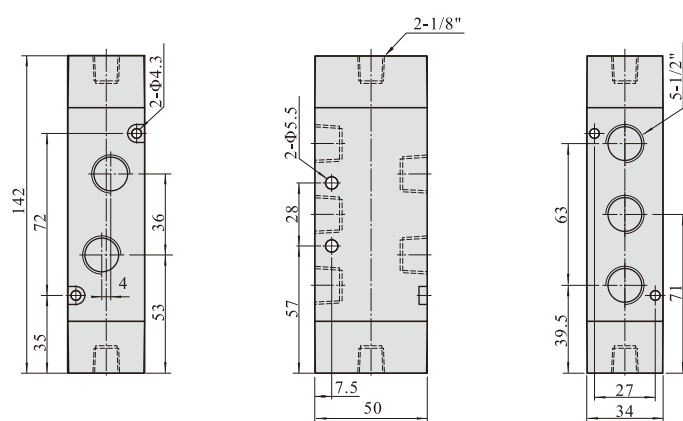
No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item	No.	Item
1	Screw	3	Bottom cover	5	Body	7	Spool	9	Piston	11	O-ring	13	Screw	15	Return Spring	17	E Clip
2	Spring	4	Bottom cover gasket	6	O-ring	8	Wear ring	10	Pilot body	12	Screw	14	Spring holder	16	Spring holder	18	Side cover

Dimension

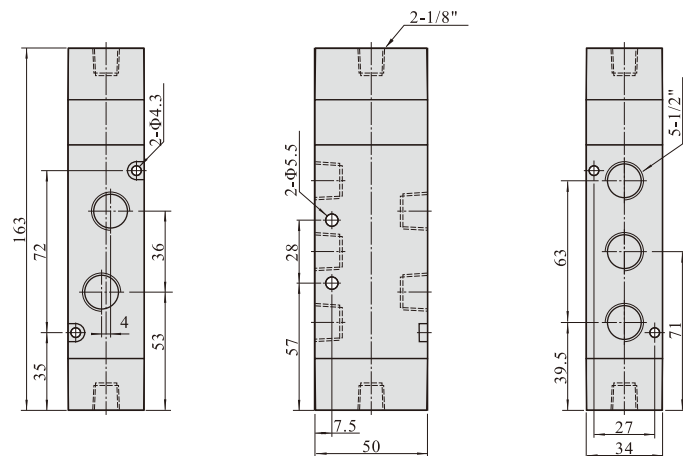
4A410



4A420



4A430



Manifold



Specification

Item\Manifold Model	100M	200M	300M
Fluid	Air(to be filtered by 40 μ m filter element)		
Temperature	-20~70℃		
Adoptable valve's series	3A100 Series	3A200 Series	3A300 Series

Product feature

1. It is available to integrate the direction control valves of the same series to form valve 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.

Ordering code

Ordering code for manifold

3V100M 5F □		
①	②	③
①Model	②Number of stations	③Thread type
3V100M: 100 Series Manifold	1F: 1 Station	Blank: PT G: G T: NPT
3V200M: 200 Series Manifold	2F: 2 Station	
3V300M: 300 Series Manifold	3F: 3 Station	
	
	16F: 16 Station	

Ordering code for blank plate

P-3V100M-R2		
①	②	③
① Kits code	②Model	③Code
P: Kits	3V100M: 100 Series Manifold 3V200M: 200 Series Manifold 3V300M: 300 Series Manifold	R2: Blank plate for manifold

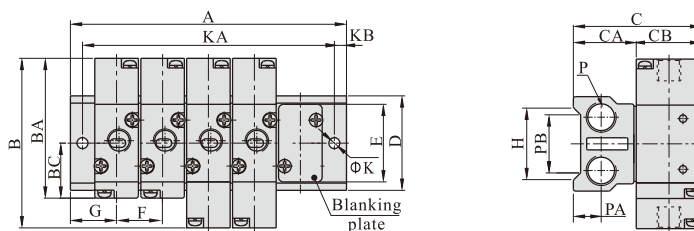
[Note] 1. Ordering code contains the two parts of the manifold's and the blank plate's.

2. Manifold kits contains manifold, seal and screw.

3. Blank plate kits contains blank plate, and screw.

Dimensions

With 3A air valve



Model\Item	B	BA	BC	C	CA	CB	D	E	F	G	H	K	KB	P	PA	PB
3V100M	70	57.7	22.7	53	26	27	39	32	19	19	30	4.5	5	1/4"	11.5	22
3V200M	84	69.7	27.7	61	26	35	45	40	23	23	35	4.5	6	1/4"	11.5	25
3V300M	96	80.5	32.5	70	30	40	52	47	28	27	42	4.5	6	3/8"	13.5	28

Model\Item	A															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
3V100M	38	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323
3V200M	46	69	92	115	138	161	184	207	230	253	276	299	322	345	368	391
3V300M	54	82	110	138	166	194	222	250	278	306	334	362	390	418	446	474

Model\Item	KA															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
3V100M	28	47	66	85	104	123	142	161	180	199	218	237	256	275	294	313
3V200M	34	57	80	103	126	149	172	195	218	241	264	287	310	333	356	379
3V300M	42	70	98	126	154	182	210	238	266	294	322	350	378	406	434	462

Manifold



Specification

Item\Manifold Model	100M	200M	300M	400M
Fluid	Air(to be filtered by 40 μm filter element)			
Temperature	-20~70℃			
Adoptable valve's series	4A100 Series	4A200 Series	4A300 Series	4A400 Series

Product feature

1. It is available to integrate the direction control valves of the same series to form valve 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.

Ordering code

Ordering code for manifold

100M 5F □		
① Model	② Number of stations [Note1]	③ Thread type
100M: 100 Series Manifold 200M: 200 Series Manifold 300M: 300 Series Manifold 400M: 400 Series Manifold	1F: 1 Station 2F: 2 Station 3F: 3 Station 16F: 16 Station	Blank: PT G: G T: NPT

[Note1] 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.

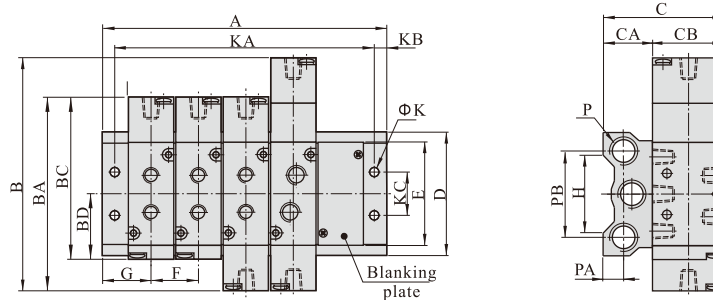
Ordering code for blank plate

P-100M-R2		
① Kits code	② Model	③ Code
P: Kits	100M: 100 Series Manifold 200M: 200 Series Manifold 300M: 300 Series Manifold 400M: 400 Series Manifold	R2: Blank plate for manifold

- [Note] 1. Ordering code contains the two parts of the manifold's and the blank plate's.
2. Manifold kits contains manifold, seal and screw.
3. Blank plate kits contains blank plate, and screw.

Dimension

With 4A air valve



Model\Item	B	BA	BC	BD	C	CA	CB	D	E	F	G	H	K	KB	KC	P	PA	PB
100M□F	96	81	68.7	28	50	23	27	57.5	43	19	19	36	4.5	5	20	1/4"	10	40
200M□F	111	92	77.7	31.7	60	25	35	60	52	23	22	38	4.5	5	21	1/4"	10	42
300M□F	130	111	95.5	40	69	29	40	75	64	28	26	54	4.5	5	26	3/8"	13.5	53
400M□F	163	142	128	57	84	34	50	100	94	35	30.5	75	5.5	6	32	1/2"	15	68

Model\Item	A															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
100M□F	38	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323
200M□F	44	67	90	113	136	159	182	205	228	251	274	297	320	343	366	389
300M□F	52	80	108	136	164	192	220	248	276	304	332	360	-	-	-	-
400M□F	61	96	131	166	201	236	271	306	-	-	-	-	-	-	-	-

Model\Item	KA															
	1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F	13F	14F	15F	16F
100M□F	28	47	66	85	104	123	142	161	180	199	218	237	256	275	294	313
200M□F	34	57	80	103	126	149	172	195	218	241	264	287	310	333	356	379
300M□F	42	70	98	126	154	182	210	238	266	294	322	350	-	-	-	-
400M□F	49	84	119	154	189	224	259	294	-	-	-	-	-	-	-	-

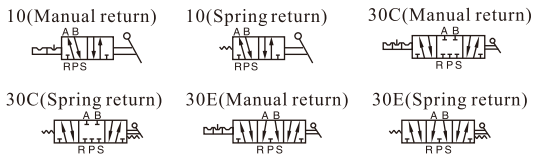
Hand lever valve (5/2 way, 5/3 way)

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4H Series



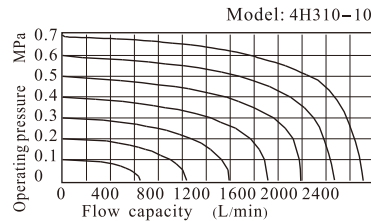
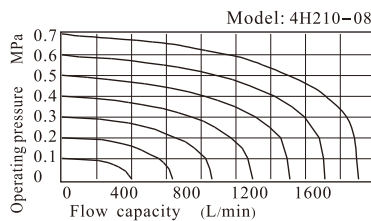
Symbol



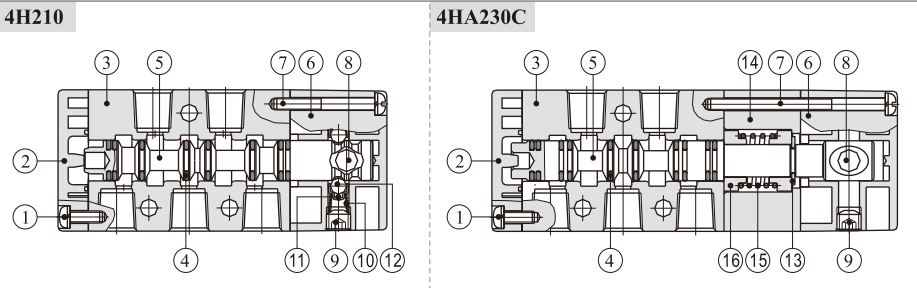
Product feature

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



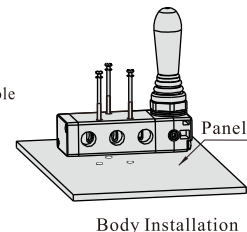
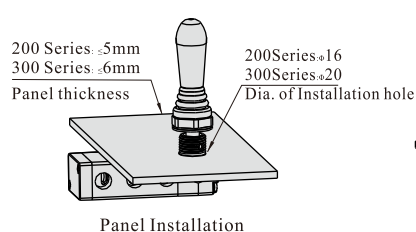
Inner structure



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.



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	14.0mm ² (Cv=0.78)	12.0mm ² (Cv=0.67)	16.0mm ² (Cv=0.89)	12.0mm ² (Cv=0.67)	25.0mm ² (Cv=1.39)	18.0mm ² (Cv=1.00)	30.0mm ² (Cv=1.67)	18.0mm ² (Cv=1.00)
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°

[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.

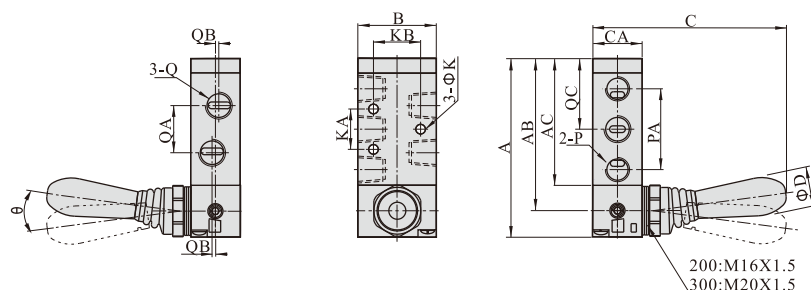
Ordering code

4H 2 30C 08 □				
① Model	② Code	③ Valve type	④ Port size	⑤ Thread type
4H: Manual return 4HA: Spring return	2: 200 Series 3: 300 Series	10: 5/2 Way 30C: 5/3 Way closed center 30E: 5/3 Way exhaust center	06: 1/8" 08: 1/4" 08: 1/4" 10: 3/8"	Blank: PT G: G T: NPT

4H Series

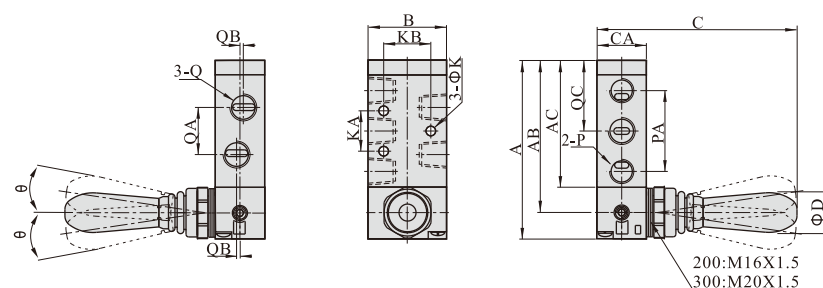
Dimensions

4H210\310 □ 4HA210\310



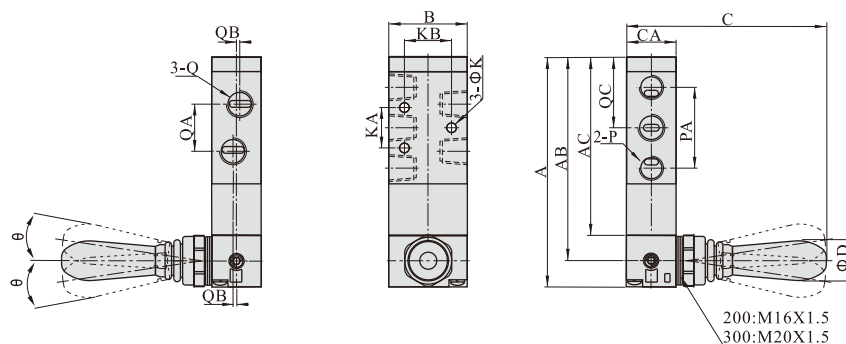
Model/Item	A	AB	AC	B	C	CA	D	K	KA	KB	P	PA	Q	QA	QB	QC	Θ
4H210-06 4HA210-06	81.5	69.5	57.5	35	90	22	18	4.3	20	23.5	1/8"	36	1/8"	18	-	32.5	15
4H210-08 4HA210-08	81.5	69.5	57.5	35	90	22	18	4.3	20	23.5	1/8"	36	1/4"	21	1.5	32.5	15
4H310-08 4HA310-08	101	87	73	40	93.5	27	18	4.3	24	27.5	1/4"	45	1/4"	22	-	40.5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

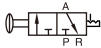
Push-pull valve(3/2way)

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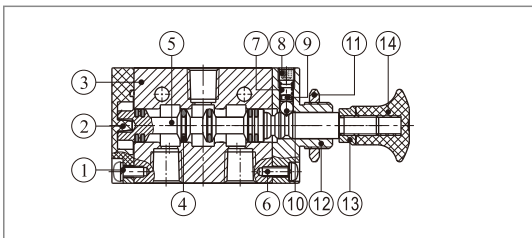
3L Series



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	12.0mm ² (Cv=0.67)	14.0mm ² (Cv=0.78)	16.0mm ² (Cv=0.89)	25.0mm ² (Cv=1.39)	30.0mm ² (Cv=1.67)
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;

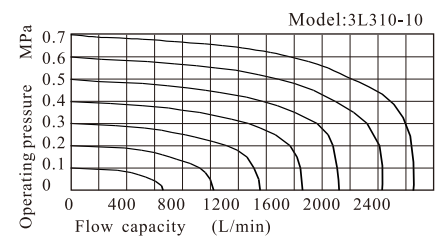
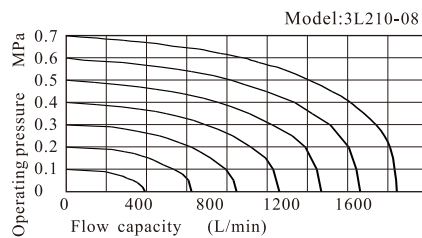
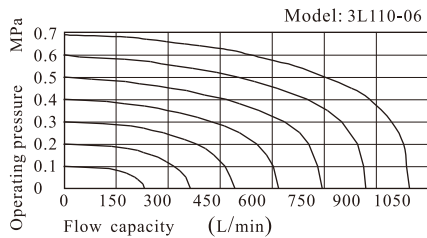
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span.

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

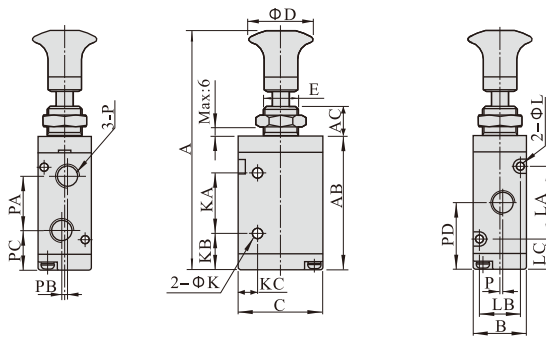
Ordering code

3L 2 10 08 □				
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"	
	3: 300 Series		08: 1/4"	

Flow chart



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)

BITEBI®

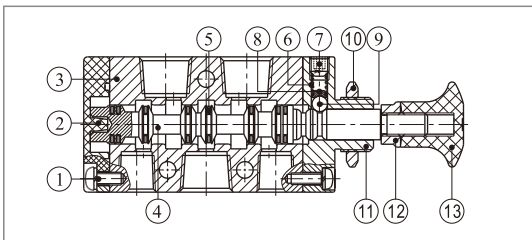
4L Series



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	12.0mm ² (Cv=0.67)	14.0mm ² (Cv=0.78)	16.0mm ² (Cv=0.89)	25.0mm ² (Cv=1.39)	30.0mm ² (Cv=1.67)
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;

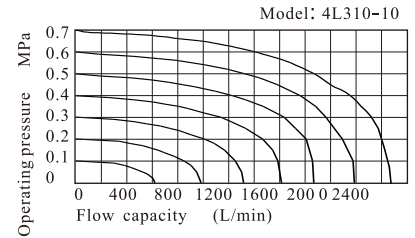
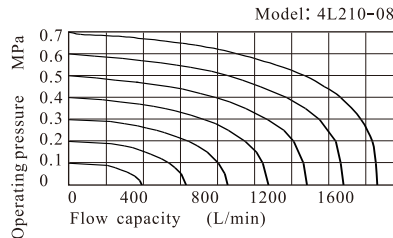
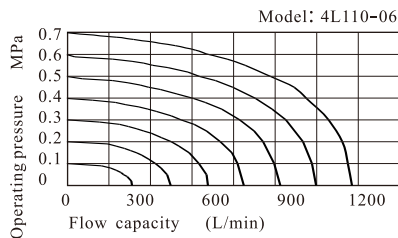
[Note2] Once lubricated air is used, continue with same medium to optimise valve life span.

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

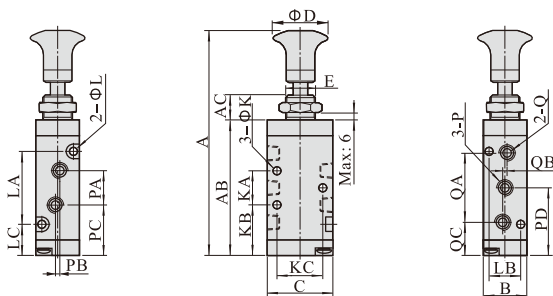
Ordering code

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



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)

BITEBI®

HSV Series



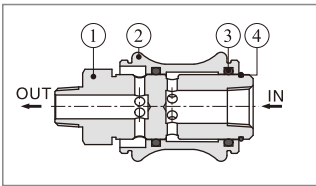
Symbol



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°C					
Material body	Aluminum alloy					

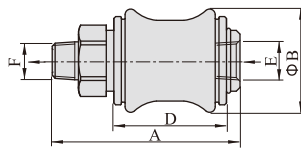
[Note1] PT thread, G thread and NPT thread are available.

Ordering code

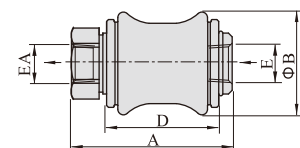
HSV 08 SS □			
1	2	3	4
① Model	② Port size	③ Dovt thread	④ Thread type
HSV: Hand slide valve	06: 1/8" 08: 1/4" 10: 3/8" 15: 1/2" 20: 3/4" 25: 1"	Blank: Standard SS: Double male thread FF: Double female thread SF: Male and female thread	Blank: PT G: G T: NPT

Dimensions

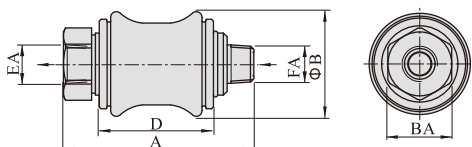
Standard



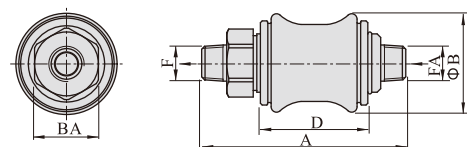
Double female thread (FF)



Male and female thread (SF)



Double male thread (SS)



Model/Item	A				B	BA	D	E	EA	F	FA
	Standard	Double female thread	Male and female thread	Double male thread							
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"

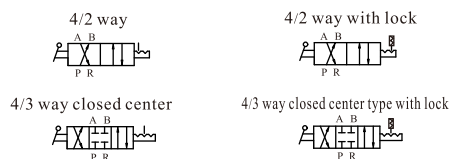
Hand lever valve (4/2 way, 4/3 way)

BITEBI®

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°C					
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

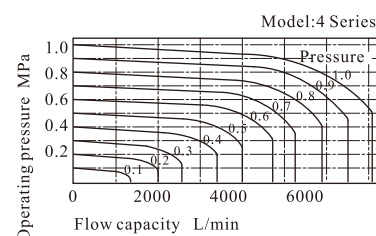
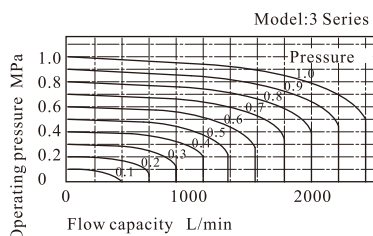
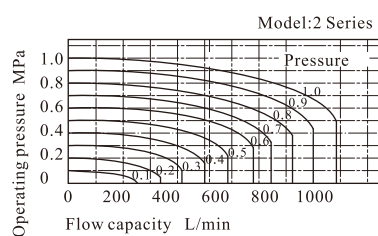
4HV 2 30 06 S L □

1 2 3 4 5 6 7

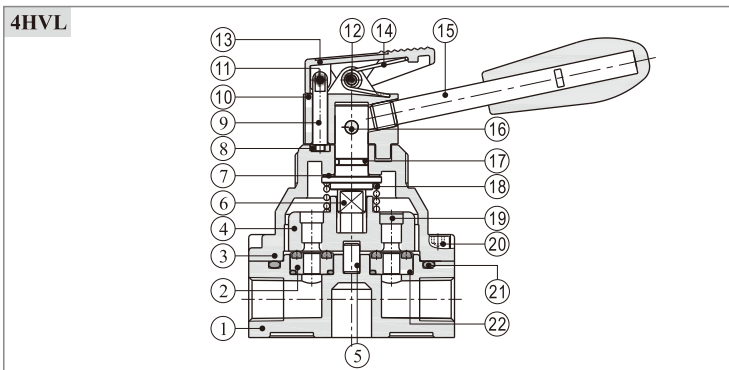
① Model	② Code	③ Valve type	④ Port size	⑤ Installation	⑥ Note	⑦ Thread type
4HV: Hand lever valve	2: 2 Series	10: 4 port 2 position 30: 4 port 3 position [Note1]	06: 1/8" 08: 1/4"	Blank: Body installation S: Panel installation [Note2]	Blank: Without lock L: With lock	Blank: PT G: G T: NPT
	3: 3 Series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



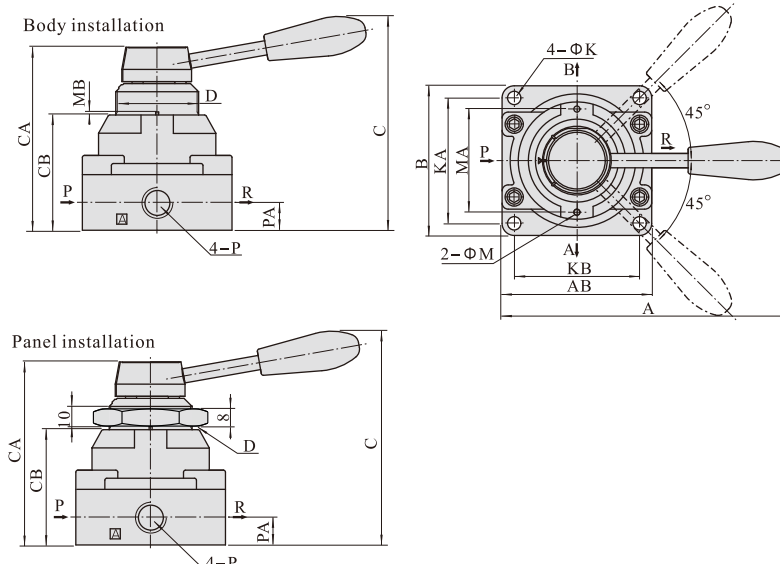
Inner structure



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

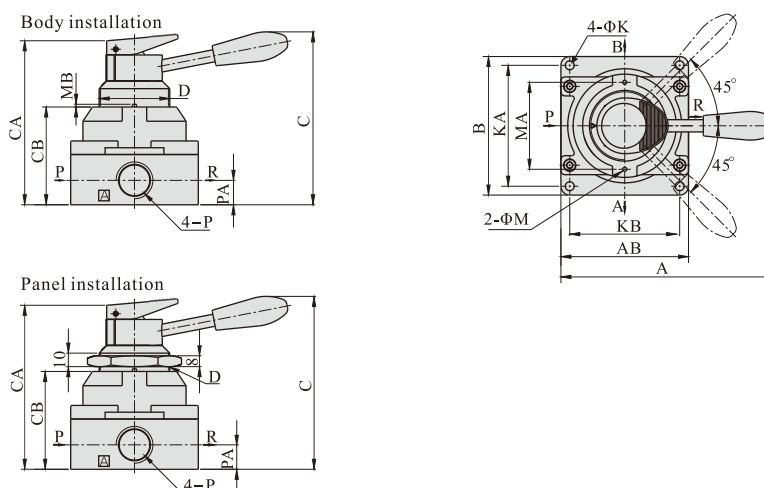
Dimensions

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)

BITEBI®

S3 Series

Specification

Model	S3B	S3C	S3D	S3V	S3R	S3L	S3Y	S3PM	S3PP	S3PF	S3PL	S3HS
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	05:2.5 mm ² (Cv=0.14) 06:8.0mm ² (Cv=0.45) 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.

Symbol

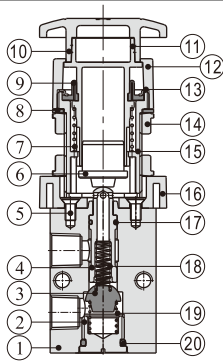


Product feature

1. The external force required by changing the direction of the series of S3B, S3R, S3L and S3V is provided by external mechanism, which can be used for position test or limit switch.
2. The series of S3PF, S3PM, S3PP, S3PL, S3Y, S3HS, S3C and S3D are operated manually, owning control joints with several structure forms and suitable for application under different conditions.
3. Shut-off structure has good tightness and is sensitive in direction changing and lubricant is not necessary.
4. Multi-mounting makes it convenient to install and apply.
5. The control joints of series of S3C, S3D, S3Y, S3R and S3L are made of metal which has long service life and more reliable and steady performance.

Inner structure

S3PM



No.	Item	No.	Item	No.	Item
1	Body	8	Clamping gasket	15	Button body
2	Bottom cover	9	Dust cover	16	Connector
3	Stopper plug	10	Button cap	17	O-ring
4	Valve core	11	Main body of button	18	Spring
5	Screw	12	Top cover	19	Spring
6	Button pressing buckle	13	Button ring	20	O-ring
7	Spring	14	Clamping nut		

Reversal stroke

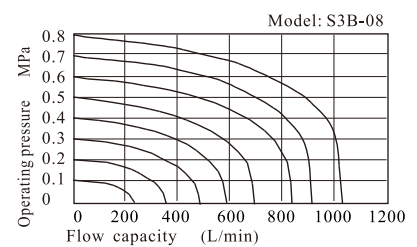
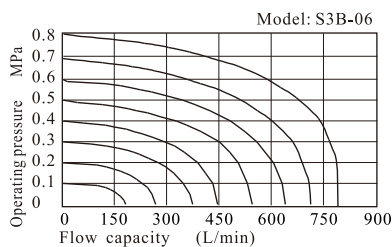
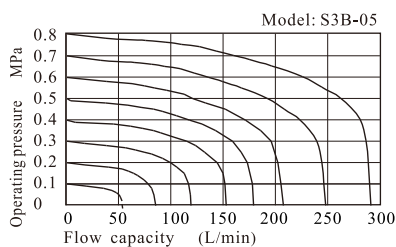
Type	Spool stroke	Button stroke	Type	Spool stroke	Roller(handle) stroke
S3B	2.4~4.0	—	S3R	2.4~3.4	5.5~7.8
S3PF	2.4~4.0	3.8~5.4	S3L	2.4~3.4	6.0~8.6
S3PP	2.4~4.0	3.8~5.4	S3V	2.4~3.8	3.4~4.8
S3PM	2.4~4.0	3.8~5.4	S3C	2.4~3.8	14.4~18.4
S3PL	2.4~4.0	5.9~7.5	S3D	2.4~3.8	7.4~9.4
S3HS	2.4~4.0	5.1~6.7			

Unit: mm

Ordering code

S3 PM 06 R □				
① Valve's type	② Model	③ Port size	④ Button color	⑤ Thread type
S3: S type 3/2 Way	B: Basic type	05:M5 06:1/8" 08:1/4"	No this code	M5 1/8" 1/4"
	C: Long handle type			No this code
	D: Short handle type			
	Y: Lever type			
	R: Roller type			
	L: Roller with free return type			
	V: Vertical type			
	PL: Latching type			
	PP: Protruding type			
	PF: Flat type			
	PM: Mushroom type		R: Red G: Green B: Black	Blank: PT G: G T: NPT
	HS: Selector type			

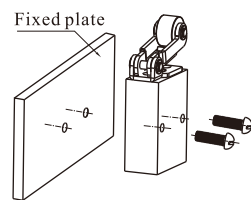
Flow chart



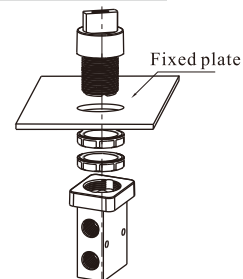
Installation and Application

- 1) The control set is made of engineering plastic which only allows manual operation and switching valves through metal impact is forbidden.
- 2) The series of S3B, S3C, S3D, S3PM, S3PF and S3PP get the function of automatic restoration. The hand valves of S3Y, S3HS and S3PL are in the type of manual restoration. S3PL will be restored by turning the revolve button after being pressed into orientation.
- 3) Pay attention to the reversing stroke. The reversing stroke can not surpass its stroke stipulated in stroke control table when the direction-change of the valve is forced by any external forces, otherwise it will cause the damage of the valve.
- 4) The S3L can only switch the valve in single direction (impact from right to left). The impact from the other direction is invalid (from left to right).
- 5) Control joint combination can be ordered individually.
Please refer to the table on the right for order details.

Fixation way of body

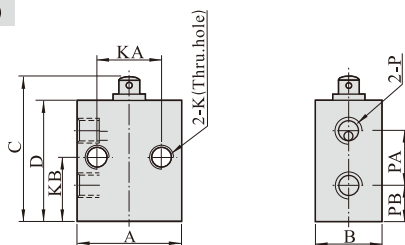


Fixation way of panel



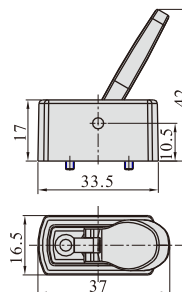
Dimension

Body(S3B)



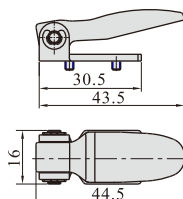
Model\Item	A	B	C	D	K	KA	KB	P	PA	PB
05	26	16.5	36	30	M5x0.8	16	15	M5x0.8	13	9
06	30	16.5	47	41	M5x0.8	23	20.5	1/8"	17.5	11.5
08	34	17.5	52	46	M5x0.8	24	22.5	1/4"	21	12

Lever type(Y)



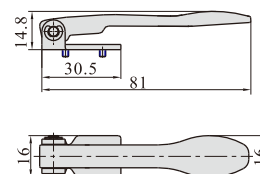
Model	Lever type(Y)
How to order	Ordering code M3Y210-P13A
	Type M3Y210Lever type control set
Applicable products	S3Y05,S3Y06,S3Y08

Short handle type(D)



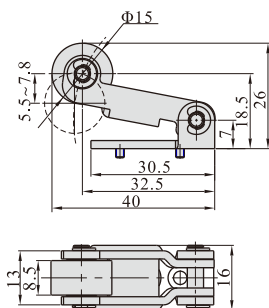
Model	Short handle type(D)
How to order	Ordering code M3D210-P13A
	Type M3D210 Short handle type control set
Applicable products	S3D05,S3D06,S3D08

Long handle type(C)



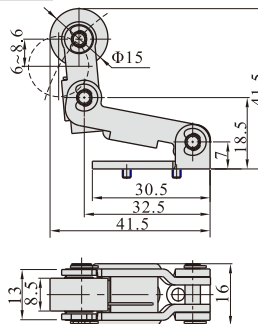
Model	Long handle type(C)
How to order	Ordering code M3C210-P13A
	Type M3C210 Long handle type control set
Applicable products	S3C05,S3C06,S3C08

Roller type(R)



Model	Roller type(R)
How to order	Ordering code M3R210-P14A
	Type M3R210 Roller type control set
Applicable products	S3R05,S3R06,S3R08

Roller with free return type(L)



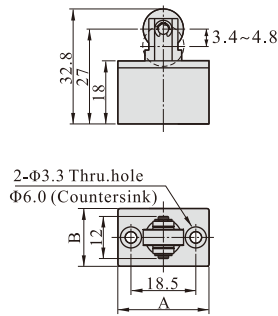
Model	Roller with free return type(L)
How to order	Ordering code M3L210-P14A
	Type M3L210 Roller with free return type control set
Applicable products	S3L05,S3L06,S3L08

Control valve(3/2way)

BITEBI®

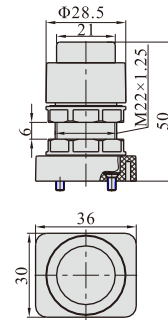
S3 Series

Vertical type(V)



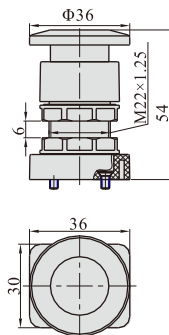
Model		Vertical type (V)
How to order	Ordering code	S3V05(06/08)-P14A
	Type	S3V05(06. 08) Vertical type control set
Applicable products		S3V05,S3V06,S3V08
Model\Item	A	B
05	26	16.5
06	30	16.5
08	34	17.5

Protruding type(PP)



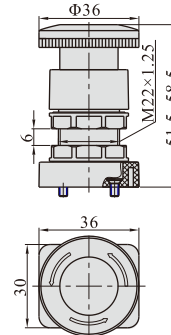
Model		Protruding type(PP)
How to order	Ordering code	S3PP05-P11A
	Type	S3PP protruding type control set (Green)
How to order	Ordering code	S3PP05-P12A
	Type	S3PP protruding type control set (Red)
How to order	Ordering code	S3PP05-P13A
	Type	S3PP protruding type control set (Black)
Applicable products		S3PP05,S3PP06,S3PP08

Mushroom type(PM)



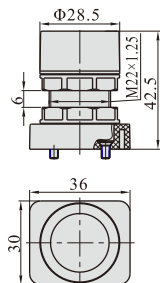
Model		Mushroom type(PM)
How to order	Ordering code	S3PM05-P11A
	Type	S3PM mushroom type control set (Green)
How to order	Ordering code	S3PM05-P12A
	Type	S3PM mushroom type control set (Red)
How to order	Ordering code	S3PM05-P13A
	Type	S3PM mushroom type control set (Black)
Applicable products		S3PM05,S3PM06,S3PM08

Latching type(PL)



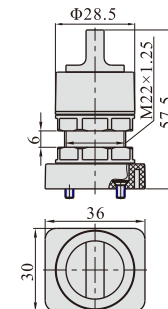
Model		Latching type (only red)(PL)
How to order	Ordering code	S3PL05-P12A
	Type	S3PL Latching type control set (Red)
Applicable products		S3PL05,S3PL06,S3PL08

Flat type(PF)



Model		Flat type(PF)
How to order	Ordering code	S3PF05-P11A
	Type	S3PF flat type control set (Green)
How to order	Ordering code	S3PF05-P12A
	Type	S3PF flat type control set (Red)
How to order	Ordering code	S3PF05-P13A
	Type	S3PF flat type control set (Black)
Applicable products		S3PF05,S3PF06,S3PF08

Selector type(HS)



Model		Selector type(HS)
How to order	Ordering code	S3HS05-P11A
	Type	S3HS selector type control set (Green)
How to order	Ordering code	S3HS05-P12A
	Type	S3HS selector type control set (Red)
How to order	Ordering code	S3HS05-P13A
	Type	S3HS selector type control set (Black)
Applicable products		S3HS05,S3HS06,S3HS08

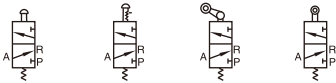
Control valve(3/2way)

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M3 Series



Symbol

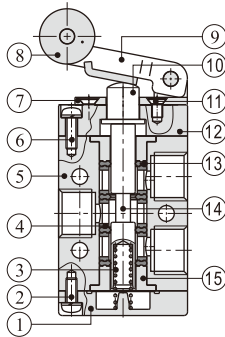


Product feature

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, owing 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.

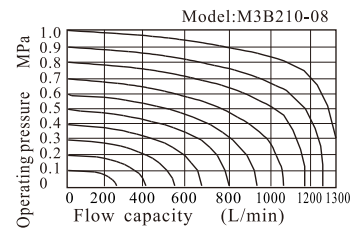
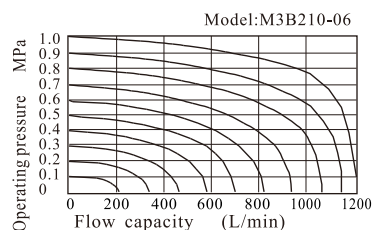
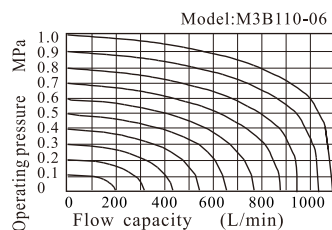
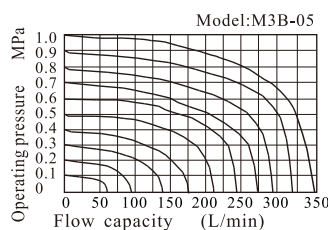
Inner structure

M3R210



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	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

Unit:mm								
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				
	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

M3 R 05

1 2 3

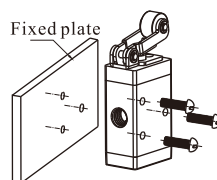
① Valve's type	② Model	③ Port size
M3: M type 3/2 Way	B: Basic type R: Roller type L: Roller with free return type	05: M5

M3 Series

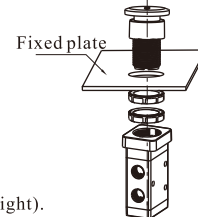
Installation and Application

- 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

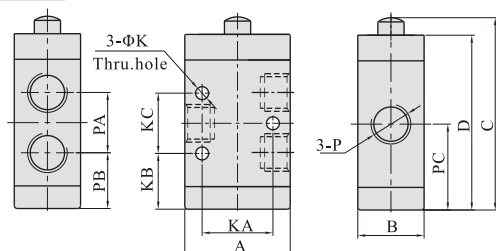


Fixation way of panel



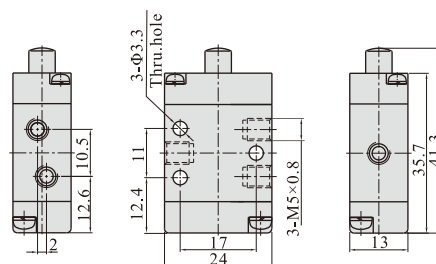
Dimensions

Common type



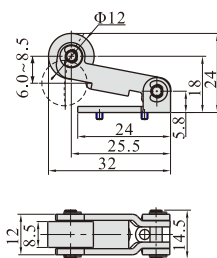
Model\Item	A	B	C	D	K	KA	KB	KC	P	PA	PB	PC
M3B11006	27	18	52	46.5	3.3	18	15.5	16	1/8"	16	15.5	23.5
M3B21006	35	22	64	58	4.3	23.5	18.5	20	1/8"	20	18.5	28.5
M3B21008									1/4"			

Mini type

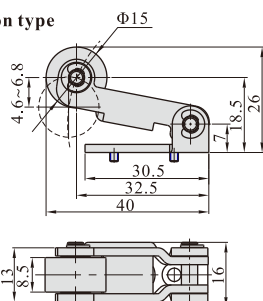


Roller type(R)

Mini type



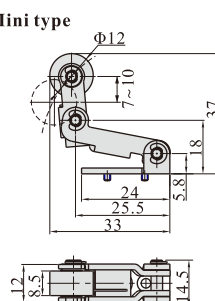
Common type



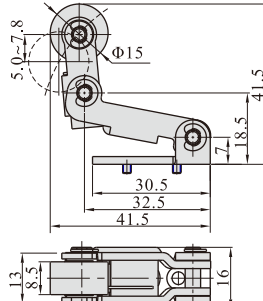
Model	Roller type(R)
How to order	Ordering code
	Type
Applicable products	

Roller with free return type(L)

Mini type

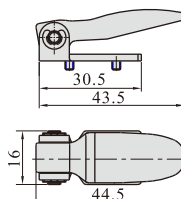


Common type



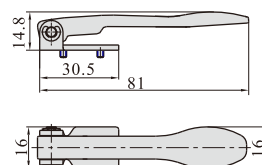
Model	Roller with free return type(L)
How to order	Ordering code
	Type
Applicable products	

Short handle type(D)



Model	Short handle type(D)
How to order	Ordering code
	Type
Applicable products	

Long handle type(C)



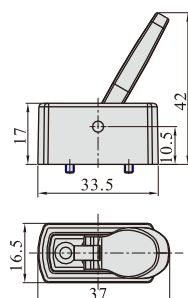
Model	Long handle type(C)
How to order	Ordering code
	Type
Applicable products	

Control valve(3/2way)

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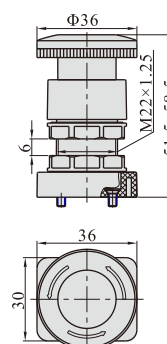
M3 Series

Lever type(Y)



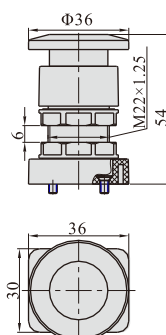
Model		Lever type(Y)
How to order	Ordering code	M3Y210-P13A
	Type	M3Y210 Lever type control set
Applicable products		M3Y110, M3Y210

Latching type(PL)



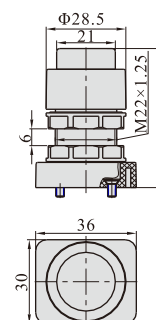
Model		Latching type (only red)(PL)
How to order	Ordering code	S3PL05-P12A
	Type	S3PL Latching type control set (Red)
Applicable products		M3PL110, M3PL210

Mushroom type(PM)



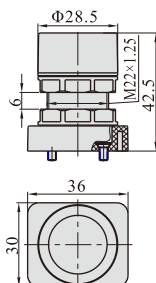
Model		Mushroom type(PM)
How to order	Ordering code	S3PM05-P11A
	Type	S3PM mushroom type control set (Green)
	Ordering code	S3PM05-P12A
	Type	S3PM mushroom type control set (Red)
	Ordering code	S3PM05-P13A
	Type	S3PM mushroom type control set (Black)
Applicable products		M3PM110, M3PM210

Protruding type(PP)



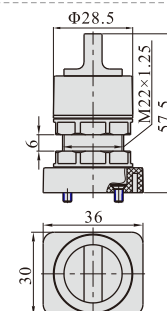
Model		Protruding type(PP)
How to order	Ordering code	S3PP05-P11A
	Type	S3PP protruding type control set (Green)
	Ordering code	S3PP05-P12A
	Type	S3PP protruding type control set (Red)
	Ordering code	S3PP05-P13A
	Type	S3PP protruding type control set (Black)
Applicable products		M3PP110, M3PP210

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

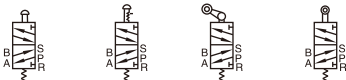
Control valve(3/2way)

BITEBI®

M5 Series



Symbol

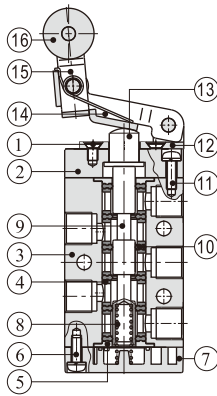


Product feature

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 M5B, M5R and M5L is provided by external mechanism, which can be used for position test or [stroke switch] limit switch.
3. 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.
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. Lubricant is not necessary.
6. Multi-mounting makes it convenient to install and apply.
7. 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.

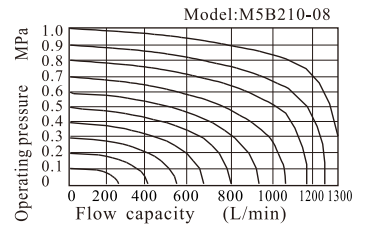
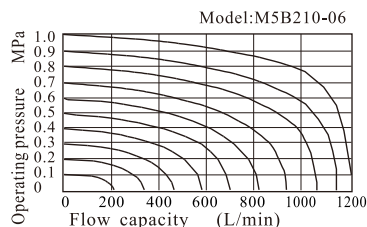
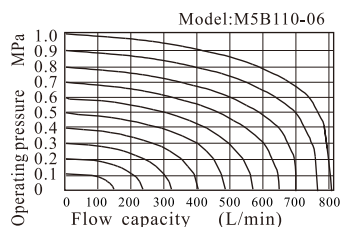
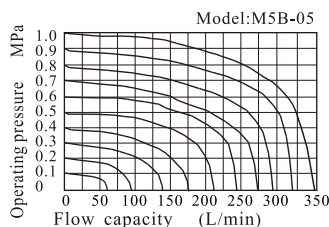
Inner structure

M5L210



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										
	110										
	210										
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

Unit:mm								
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 <input type="checkbox"/>					
<div><div>①</div><div>②</div><div>③</div><div>④</div><div>⑤</div><div>⑥</div></div>					
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"		
	PL: Latching type			R: Red	
	PP: Protruding type			R: Red G: Green B: Black	
	PF: Flat type				
	PM: Mushroom type				
	HS: Selector type				

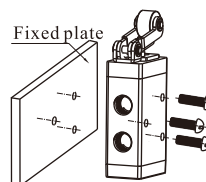
Mini type		
M5 R 05		
① Valve's type	② Model	③ Port size
M5: M type 5/2 Way	B: Basic type R: Roller type L: Roller with free return type	05: M5

M5 Series

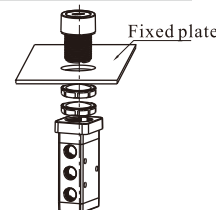
Installation and Application

- 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

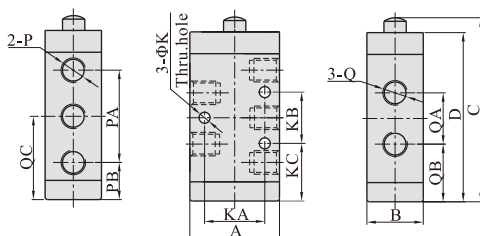


Fixation way of panel



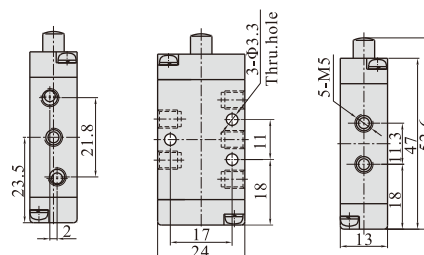
Dimensions

Common type



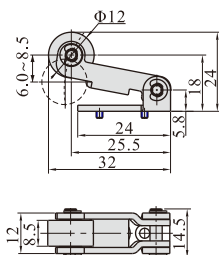
Model\Item	A	B	C	D	K	KA	KB	KC	P	PA	PB	Q	QA	QB	QC
M5B11006	27	18	63	57.5	3.3	18	14	22	1/8"	28	15	1/8"	16	21	29
M5B21006	35	22	72	66	4.3	23.5	20	22.5	1/8"	36	14.5	1/8"	20	22.5	32.5
M5B21008									1/8"			1/4"			

Mini type

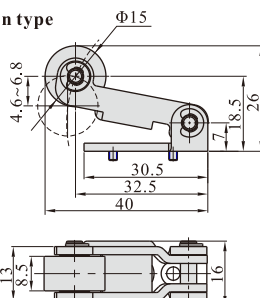


Roller type(R)

Mini type



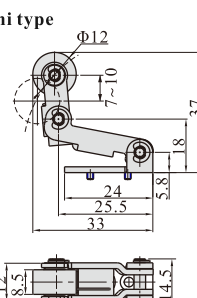
Common type



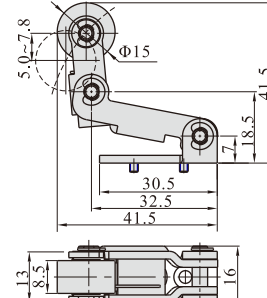
Model	Roller type(R)
How to order	Ordering code
	Type
Applicable products	M3R05

Roller with free return type(L)

Mini type

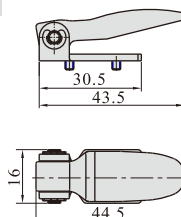


Common type



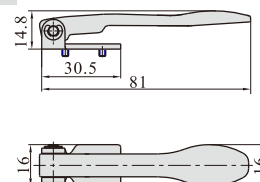
Model	Roller with free return type(L)
How to order	Ordering code
	Type
Applicable products	M5L05

Short handle type(D)



Model	Short handle type(D)
How to order	Ordering code
	Type
Applicable products	M5D110, M5D210

Long handle type(C)



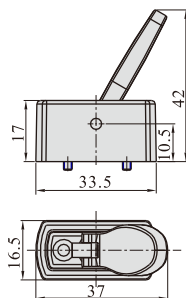
Model	Long handle type(C)
How to order	Ordering code
	Type
Applicable products	M5C110, M5C210

Control valve(3/2way)

BITEBI®

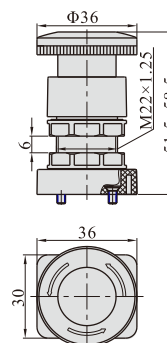
M5 Series

Lever type(Y)



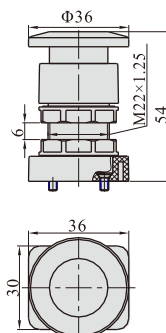
Model		Lever type(Y)
How to order	Ordering code	M3Y210-P13A
	Type	M3Y210 Lever type control set
Applicable products		M5Y110, M5Y210

Latching type(PL)



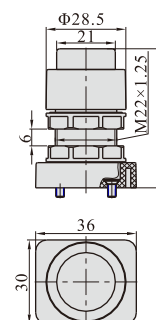
Model		Latching type (only red)(PL)
How to order	Ordering code	S3PL05-P12A
	Type	S3PL Latching type control set (Red)
Applicable products		M5PL110, M5PL210

Mushroom type(PM)



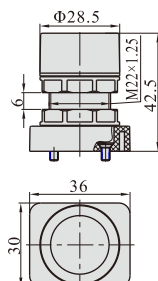
Model		Mushroom type(PM)
How to order	Ordering code	S3PM05-P11A
	Type	S3PM mushroom type control set (Green)
	Ordering code	S3PM05-P12A
	Type	S3PM mushroom type control set (Red)
	Ordering code	S3PM05-P13A
	Type	S3PM mushroom type control set (Black)
Applicable products		M5PM110, M5PM210

Protruding type(PP)



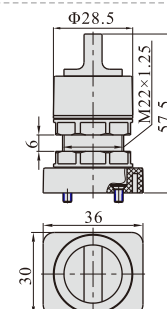
Model		Protruding type(PP)
How to order	Ordering code	S3PP05-P11A
	Type	S3PP protruding type control set (Green)
	Ordering code	S3PP05-P12A
	Type	S3PP protruding type control set (Red)
	Ordering code	S3PP05-P13A
	Type	S3PP protruding type control set (Black)
Applicable products		M5PP110, M5PP210

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
	Type	S3PF flat type control set (Black)
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
	Type	S3HS selector type control set (Black)
Applicable products		M5HS110, M5HS210

Control valve(3/2 way, 5/3 way)

BITEBI®

CM3 Series



Specification

Model	CM3□-05	CM3□-06	CM3□-08
Operating	External control		
Fluid	Air (to be filtered by 40 μm filter element)		
Pressure range	0~1.0MPa(0~10bar)(0~145psi)		
Proof pressure	1.5MPa(15bar)(215psi)		
Temperature	-20~70°C		
Valve type [Note1]	3 port 2 position		
Orifice size	2.0mm ²	2.5mm ²	15.0mm ²
Cv	0.11	0.14	0.84
Port size [Note2]	M5×0.8	1/8"	1/4"
Material of body	Aluminum alloy		

[Note1] HD series are 5/3 way.

[Note2] PT thread, G thread and NPT thread are available.

Symbol



Product feature

1. The external force required by changing the direction of the series of CM3B, CM3V, CM3L and CM3R is provided by external mechanism, which can be used for position test or limit switch.
2. The series of CM3PF, CM3PM, CM3PMS, CM3PMX, CM3PL, CM3PP, CM3HS, CM3HD and CM3Y are operated manually, owning control joints with several structure forms and suitable for application under different conditions.
3. Shut-off structure has good tightness and is sensitive in direction changing and lubricant is not necessary.
4. Multi-mounting makes it convenient to install and apply.
5. The control joints of series of CM3L, CM3V, CM3R and CM3Y are made of metal which has long service life and more reliable and steady performance.
6. CM3PMS, CM3PMX Series have metallic guard, it can protect the push cup, to avoid misact due to outside force touching the push cup. So they can be used more reliably.

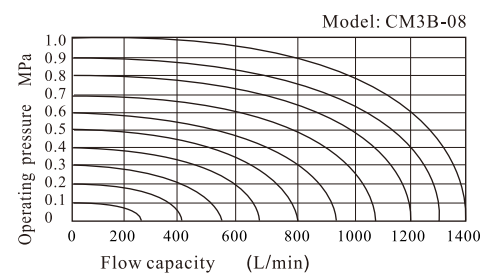
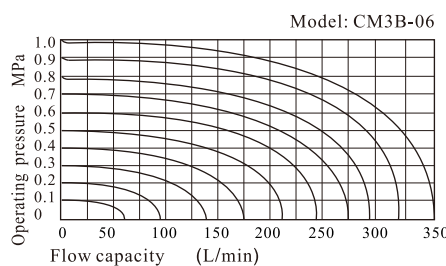
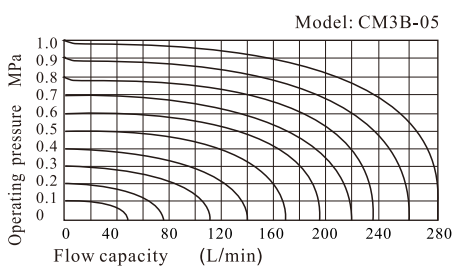
Ordering code

CM3 PP 06 B □

1 2 3 4 5

① Valve's type	② Model	③ Port size	④ Button color	⑤ Thread type	
CM3: CM type 3/2 5/3 way	B: Basic type	05: M5 06: 1/8" 08: 1/4"	No this code	M5	1/8" 1/4"
	R: Roller type			No this code	Blank: PT G: G T: NPT
	L: Roller with free return type				
	V: Vertical type				
	Y: Lever typer				
	PL: Latching type		R: Red		
	PP: Protruding type		R: Red G: Green B: Black Y: Yellow		
	PF: Flat type				
	PM: Mushroom type				
	PMS: Mushroom type(with guard)				
	PMX: Big mushroom type(with guard)				
	HS: Selector type				
	HD: Double-selector type				

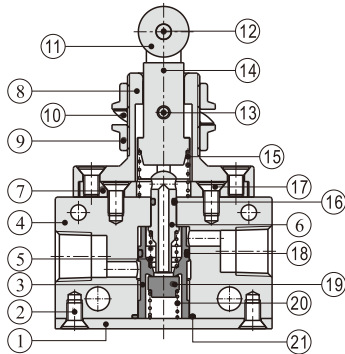
Flow chart



CM3 Series

Inner structure

CM3V



No.	Item	No.	Item	No.	Item
1	Fixing plate	8	Connecting holder	15	Spring
2	Screw	9	Clamping nut	16	O-ring
3	Spacer	10	Spring gasket	17	Screw
4	Body	11	Roller	18	O-ring
5	Spring	12	Shaft	19	Bottom cover gasket
6	Spool	13	Lock pin	20	Spring
7	Connerting gasket	14	Roller bracket	21	O-ring

Installation and operation

1. Mounting way: by body, by panel I, by panel II, latching type, mushroom type. Please refer to the following picture:

Fixation way of body	Fixation way of panel I	Fixation way of panel II	Big mushroom type(With guard)	Mushroom type(With guard)
<p>Fixed plate Thickness≤6 Fix holeΦ30.5</p>	<p>Fixed plate Thickness≤6 Fix holeΦ30.5</p>	<p>Fixed plate Thickness≤6 Fix holeΦ14.5</p>	<p>Push cap Guard Fixed plate Thickness≤6 Fix holeΦ30.5</p> <p>Disassembly: Remove the push cap, then remove the guard. Assembly: Install the guard, then to tighten the push cap.</p>	<p>Push cap Guard Fixed plate Thickness≤6 Fix holeΦ30.5</p> <p>Disassembly: Untighten the guard first, then remove the push cap with the guard. Assembly: Install the guard, then to tighten the push cap.</p>
Latching type	Mushroom type			
<p>Fixed plate Thickness≤6 Fix holeΦ30.5</p> <p>Disassembly: Remove the screw, then to draw the button. Assembly: Install the button, then to tighten the screw.</p>	<p>Fixed plate Thickness≤6 Fix holeΦ30.5</p> <p>The button can be drew upward, or be pressed downward.</p>			

- The control set is made of engineering plastic which only allows manual operation and switching valves through metal impact is forbidden.
- The series of CM3B, CM3L, CM3V, CM3R, CM3PM, CM3PMS, CM3PMX, CM3PF, CM3PP get the function of automatic restoration. The hand valves of CM3Y, CM3HS, CM3HD, CM3PL are in type of manual restoration. CM3PL will be restored by turning the revolve button after being pressed into orientation.
- 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.

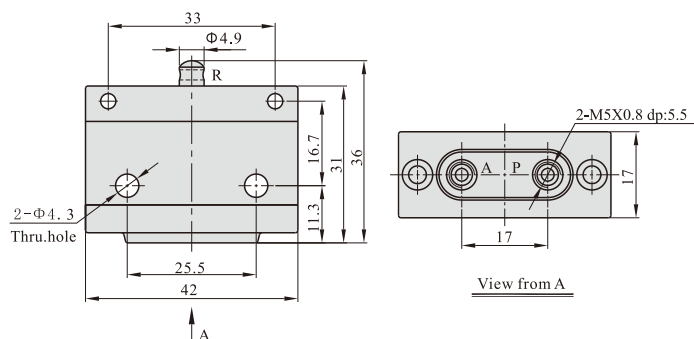
Model	Spool stroke	Button(Roller\Handle) stroke	Model	Spool stroke	Button(Roller\Handle) stroke
CM3B05(06)	1.5~3.0	-	CM3B08	2.4~4.0	-
CM3R05(06)	1.5~2.5	3.0~4.8	CM3R08	2.4~3.2	6.8~9.0
CM3L05(06)	1.5~2.3	3.0~4.8	CM3L08	2.4~3.2	7.2~9.7
CM3V05(06)	1.5~3.0	2.7~4.2	CM3V08	2.4~4.0	2.6~4.2
CM3Y05(06)	1.5~2.5	3.0~4.8	CM3Y08	2.4~3.2	6.8~9.0
CM3PL05(06)	1.5~2.5	4.0~5.0	CM3PL08	2.4~3.5	4.0~5.0
CM3PP05(06)	1.5~3.0	4.0~5.5	CM3PP08	2.4~4.0	4.0~5.5
CM3PF05(06)	1.5~3.0	4.0~5.5	CM3PF08	2.4~4.0	4.0~5.5
CM3HS05(06)	1.5~3.0	4.0~5.5	CM3HS08	2.4~4.0	4.0~5.5
CM3HD05(06)	1.5~3.0	4.0~5.5	CM3HD08	2.4~4.0	4.0~5.5
CM3PM05(06)	1.5~3.0	4.0~5.5	CM3PM08	2.4~4.0	4.0~5.5
CM3PMS05(06)	1.5~3.0	4.0~5.5	CM3PMX08	2.4~4.0	4.0~5.5
CM3PMX05(06)	1.5~3.0	4.0~5.5	CM3PMX08	2.4~4.0	4.0~5.5

- The CM3L can only switch the valve in single direction(impact from left to right). The impact from the other direction (from right to left) is invalid.
- Control joint combination can be ordered individually. Please refer to external specification.

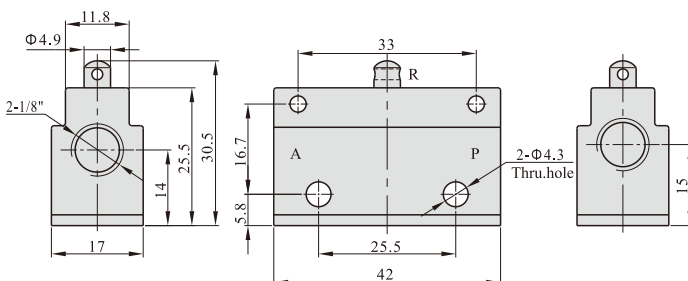
CM3 Series

Dimension (Basic type)

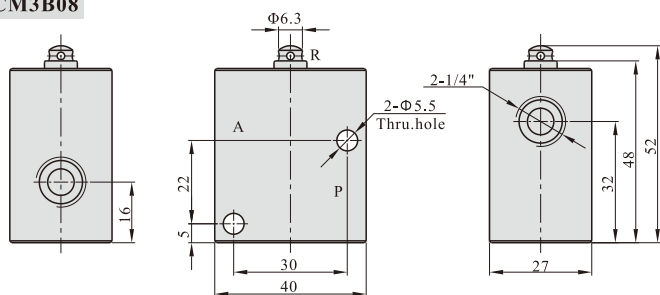
CM3B05



CM3B06



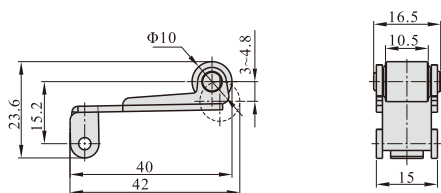
CM3B08



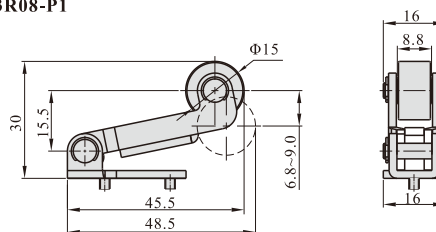
Control set dimension

Roller type(R)

CM3R06-P1



CM3R08-P1

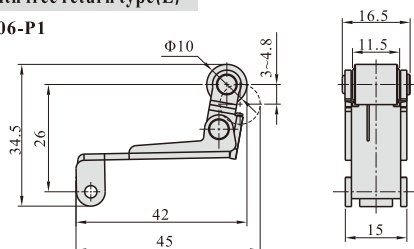


Note: CM3R06 control joint, which used in CM3R05 and CM3R06, can not be ordered individually. It should be matched with basic type.

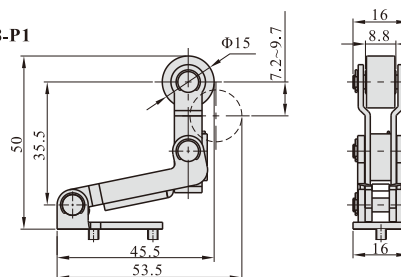
Model		Roller type(R)
How to order	Ordering code	CM3R08-P1
	Type	CM3R08 roller type control set
Applicable products		CM3R08

Roller with free return type(L)

CM3L06-P1



CM3L08-P1



Note: CM3L06 control joint, which used in CM3L05 and CM3L06, can not be ordered individually. It should be matched with basic type.

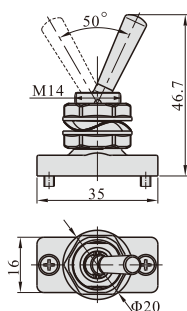
Model		Roller with free return type(L)
How to order	Ordering code	CM3L08-P1
	Type	CM3L08 roller with free return type control set
Applicable products		CM3L08

Control valve(3/2 way, 5/3 way)

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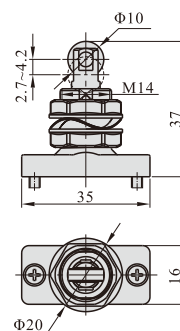
CM3 Series

Lever type(Y)



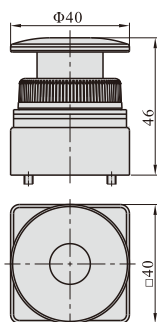
Model		Lever type(Y)
How to order	Ordering code	CM3Y06-P1
	Type	CM3Y lever type control set
Applicable products		CM3Y05 CM3Y06 CM3Y08

Vertical type(V)



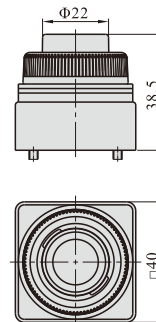
Model		Vertical type (V)
How to order	Ordering code	CM3V06-P1
	Type	CM3V vertical type control set
Applicable products		CM3V05 CM3V06 CM3V08

Mushroom type(PM)



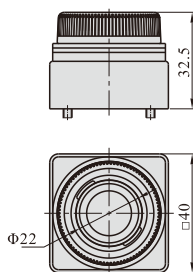
Model		Mushroom type (PM)
How to order	Ordering code	CM3PM06-P1
	Type	CM3PM mushroom type control set(green)
	Ordering code	CM3PM06-P2
	Type	CM3PM mushroom type control set(red)
	Ordering code	CM3PM06-P3
	Type	CM3PM mushroom type control set(black)
	Ordering code	CM3PM06-P4
	Type	CM3PM mushroom type control set(yellow)
Applicable products		CM3PM05 CM3PM06 CM3PM08

Protruding type(PP)



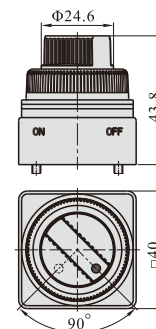
Model		Protruding type (PP)
How to order	Ordering code	CM3PP06-P1
	Type	CM3PP protruding type control set(green)
	Ordering code	CM3PP06-P2
	Type	CM3PP protruding type control set(red)
	Ordering code	CM3PP06-P3
	Type	CM3PP protruding type control set(black)
	Ordering code	CM3PP06-P4
	Type	CM3PP protruding type control set(yellow)
Applicable products		CM3PP05 CM3PP06 CM3PP08

Flat type(PF)



Model		Flat type (PF)
How to order	Ordering code	CM3PF06-P1
	Type	CM3PF flat type control set(green)
	Ordering code	CM3PF06-P2
	Type	CM3PF flat type control set(red)
	Ordering code	CM3PF06-P3
	Type	CM3PF flat type control set(black)
	Ordering code	CM3PF06-P4
	Type	CM3PF flat type control set(yellow)
Applicable products		CM3PF05 CM3PF06 CM3PF08

Selector type(HS)



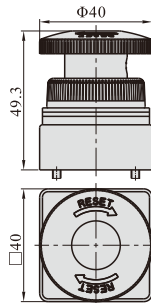
Model		Selector type (HS)
How to order	Ordering code	CM3HS06-P1
	Type	CM3HS selector type control set(green)
	Ordering code	CM3HS06-P2
	Type	CM3HS selector type control set(red)
	Ordering code	CM3HS06-P3
	Type	CM3HS selector type control set(black)
	Ordering code	CM3HS06-P4
	Type	CM3HS selector type control set(yellow)
Applicable products		CM3HS05 CM3HS06 CM3HS08

Control valve(3/2 way, 5/3 way)

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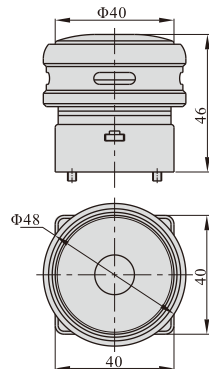
CM3 Series

Latching type(PL)



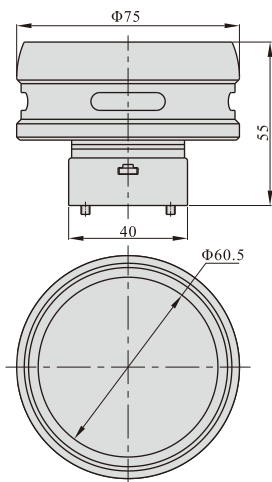
Model		Latching type(PL)
How to order	Ordering code	CM3PL06-P2
	Type	CM3PL latching type control set(red)
	Applicable products	CM3PL05 CM3PL06 CM3PL08

Mushroom type(with guard)(PMS)



Model		Mushroom type(with guard) (PMS)
How to order	Ordering code	CM3PMS06-P1
	Type	CM3PMS mushroom type control set(green with guard)
	Ordering code	CM3PMS06-P2
	Type	CM3PMS mushroom type control set(red with guard)
	Ordering code	CM3PMS06-P3
	Type	CM3PMS mushroom type control set(black with guard)
	Ordering code	CM3PMS06-P4
	Type	CM3PMS mushroom type control set(yellow with guard)
Applicable products		CM3PMS05 CM3PMS06 CM3PMS08

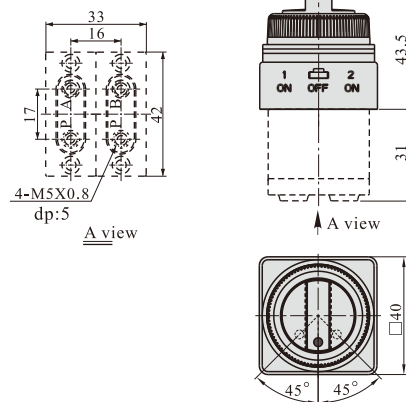
Big mushroom type(with guard)(PMX)



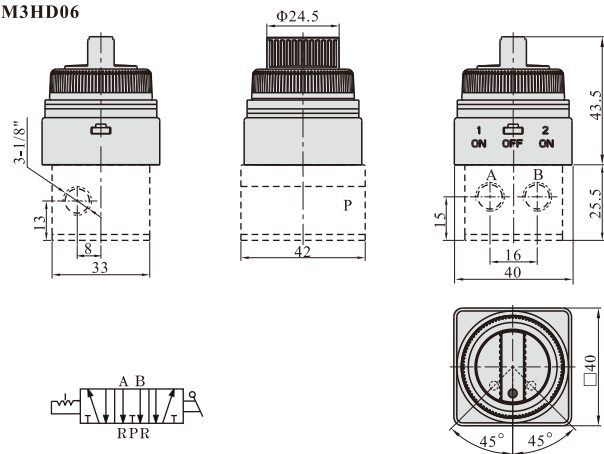
Model		Big mushroom type(with guard)(PMX)
How to order	Ordering code	CM3PMX06-P1
	Type	CM3PMX big mushroom type control set(green with guard)
	Ordering code	CM3PMX06-P2
	Type	CM3PMX big mushroom type control set(red with guard)
	Ordering code	CM3PMX06-P3
	Type	CM3PMX big mushroom type control set(black with guard)
	Ordering code	CM3PMX06-P4
	Type	CM3PMX big mushroom type control set(yellow with guard)
Applicable products		CM3PMX05 CM3PMX06 CM3PMX08

Double-selector type(HD)

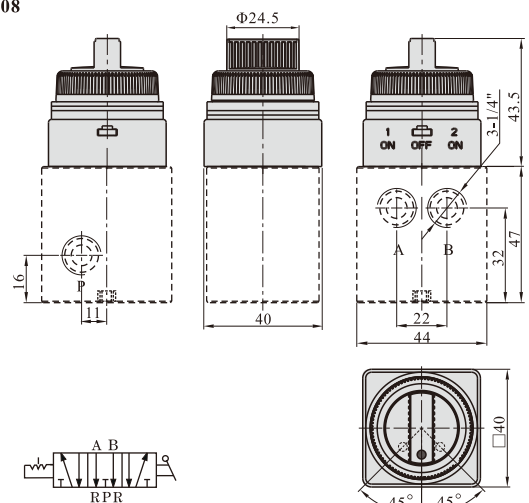
CM3HD05



CM3HD06



CM3HD08



Model		Double-selector type (HD)
How to order	Ordering code	CM3HD06-P1
	Type	CM3HD double-selector type control set(green)
	Ordering code	CM3HD06-P2
	Type	CM3HD double-selector type control set(red)
	Ordering code	CM3HD06-P3
	Type	CM3HD double-selector type control set(black)
	Ordering code	CM3HD06-P4
	Type	CM3HD double-selector type control set(yellow)
Applicable products		CM3HD05 CM3HD06 CM3HD08

Note: CM3HD control joint can be ordered individually, but should be matched with the body of CM3HD.

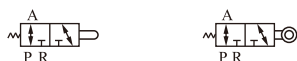
Control valve(3/2 way)

BITEBI®

ZM3 Series

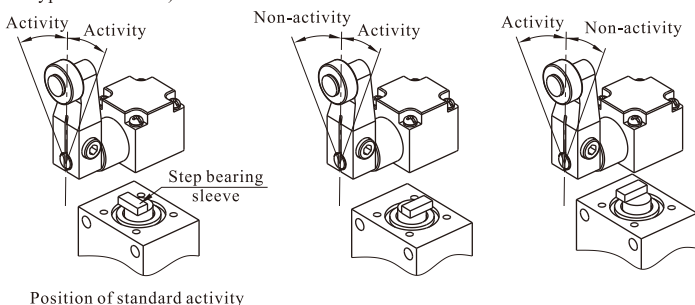


Symbol

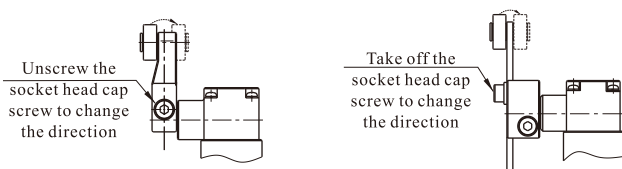


Product feature

1. The activity direction could be changed(Only adapt to standard type, large angle type unavailable)



2. The rolling wheel could be installed at the inside of leverage



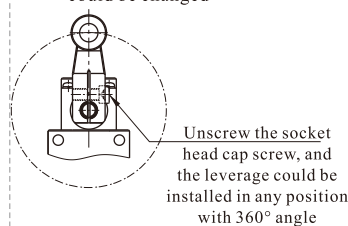
Specification

Model	ZM3R	ZM3J	ZM3P
Operating	External control direct acting type		
Fluid	Air (to be filtered by 40 μm filter element)		
Pressure range	-0.1~1.0MPa(-1~10bar)(-15~145psi)		
Proof pressure	1.5MPa(15bar)(215psi)		
Temperature	-20~70°C		
Valve type	3/2 Way		
Orifice size	6.0mm ² (Cv=0.34)		
Port size [Note1]	1/8"		
Lubrication [Note2]	Not required		
Material body	Aluminum alloy		

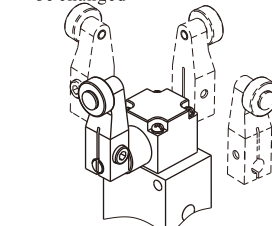
[Note1] PT thread, G thread and NPT thread are available.

[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.

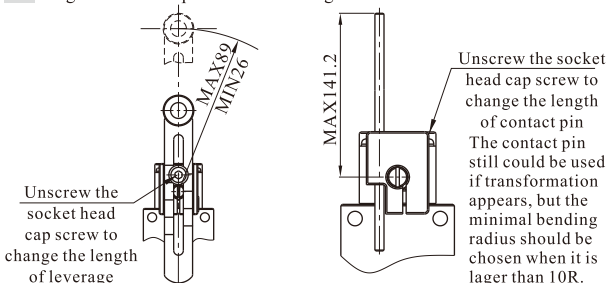
3. Installation position of leverage could be changed



4. Direction of head part could be changed



5. Length of contact pin could be changed



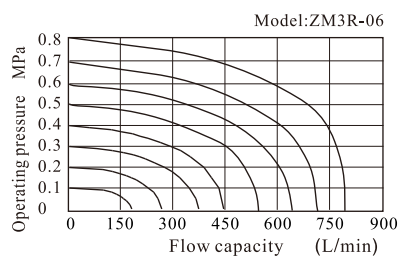
Ordering code

ZM3 R 06 W □

1 2 3 4 5

① Valve's type	② Model	③ Port size	④ Extreme angle of opening and closing of control head	⑤ Thread type
ZM3: ZM type 3/2 Way	R: Roller type J: Adjustable roller type P: Contact pin adjustable roller type	06: 1/8"	Blank: Standard type W: Large angle type	Blank: PT G: G T: NPT

Flow chart



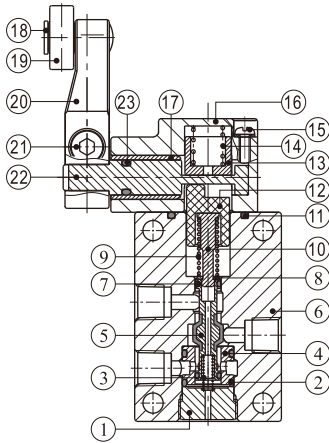
Control valve(3/2 way)

BITEBI®

ZM3 Series

Inner structure

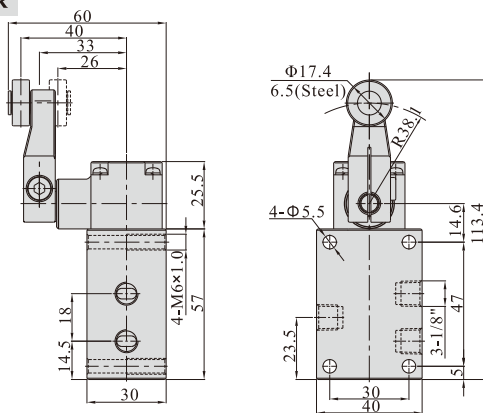
ZM3R



No.	Item	No.	Item
1	Bottom cover	13	Spring holder
2	O-ring	14	Spring
3	Spring	15	Screw
4	Spacer	16	Front cover
5	Spool	17	Bushing
6	Body	18	Shaft
7	O-ring	19	Roller
8	Spring washer	20	Rocker arm
9	Spring	21	Screw
10	Man drill	22	Rotation axis
11	O-ring	23	O-ring
12	Bushing		

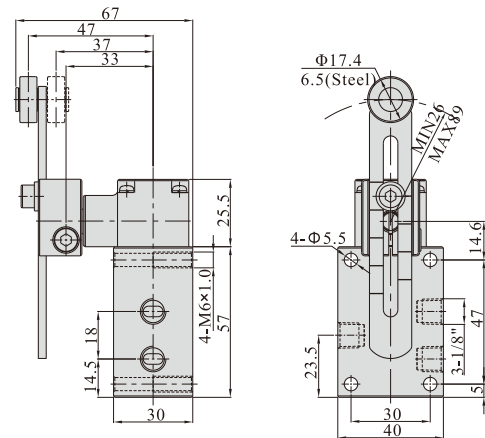
Dimensions

ZM3R



Model\Item	F.O.F	P.T.	O.T.	T.T.
ZM3R06	20N	20°	30°	50°
ZM3R06-W	20N	25°	50°	75°

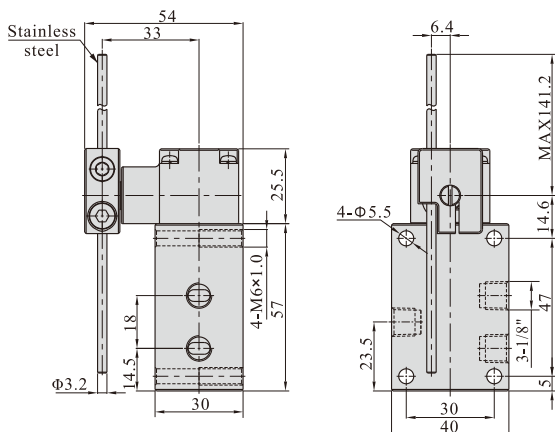
ZM3J



Model\Item	F.O.F [Note1]	P.T.	O.T.	T.T.
ZM3J06	20N	20°	30°	50°
ZM3J06-W	20N	25°	50°	75°

[Note1] When the length of leverage is 38.1mm

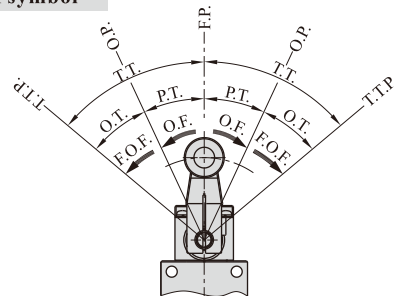
ZM3P



Model\Item	F.O.F [Note1]	P.T.	O.T.	T.T.
ZM3P06	2.3N	20°	30°	50°
ZM3P06-W	2.3N	25°	50°	75°

[Note1] When the length of leverage is 141.2mm

Description of symbol

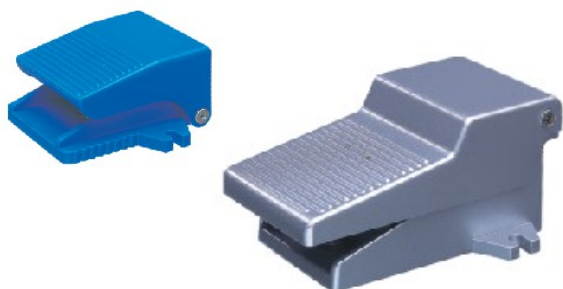


- F.P. Free position: the position of control head when no external force applied;
- O.P. Activity position: the position when the control head is applied with external force and the valve is switched;
- T.T.P. Extreme position of actuation: position of control head when it is pushed until end position;
- O.F. Actuation power: when driving from free position to actuation position, the operation power applied on control head;
- F.O.F. Extreme actuation power: when driving from free position to extreme actuation position, the operation power applied on control head;
- P.T. Free route: movement distance or rotation angle from free position of control head to actuation position;
- O.T. Actuation route: movement distance or rotation angle from actuation position of control head to extreme actuation position;
- T.T. Total route: movement distance or rotation angle from free position of control head to extreme actuation position;

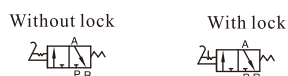
Foot pedal valve(3/2way)

BITEBI®

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.

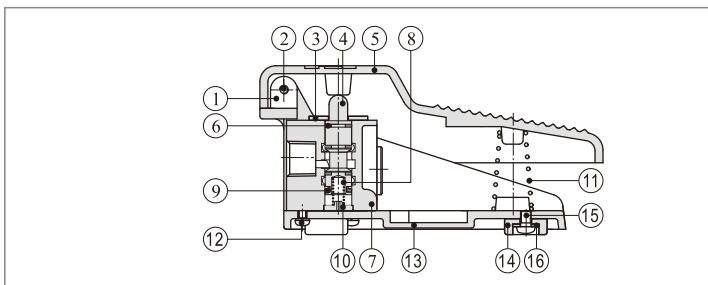
Ordering code

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

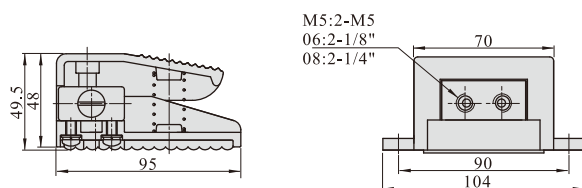


No.	Item	No.	Item	No.	Item
1	Bushing	7	Body	13	Base
2	Fixed screw	8	Spring	14	Base pad
3	Fixed plate	9	E clip	15	Fixed screw
4	Spool	10	Spring bolder	16	Clip
5	Pedal	11	Override spring		
6	O-ring	12	Fixed screw		

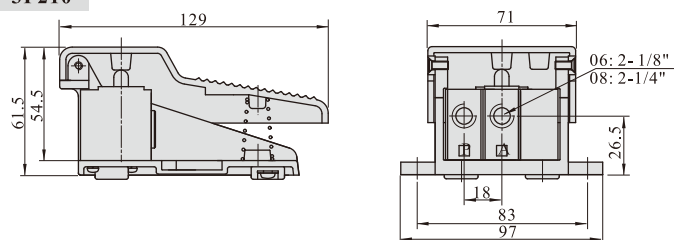
Note ⚠ Lockable type should be added grease periodically to ensure the machine can work regularly

Dimensions

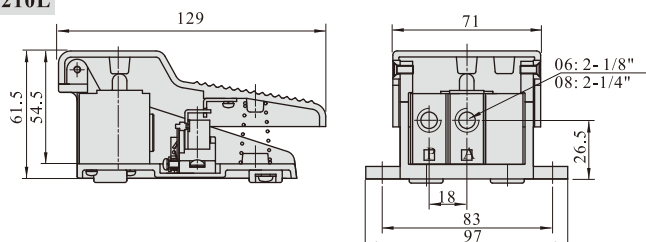
3FM210



3F210



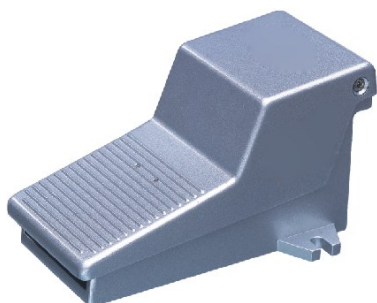
3F210L



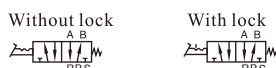
Foot pedal valve(5/2way)

BITEBI®

4F Series



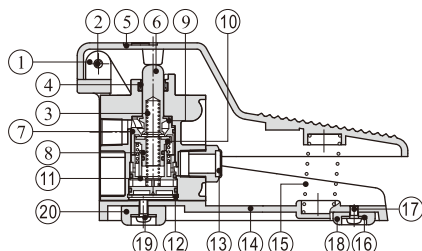
Symbol



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℃			
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
①Model	②Port size	③Note	④Thread 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

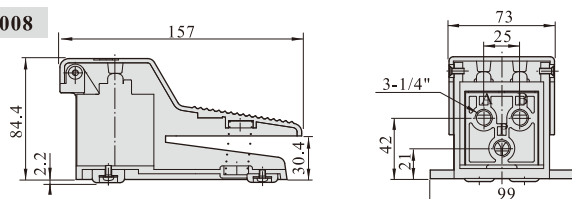
No.	Item	No.	Item	No.	Item	No.	Item
1	Pin	6	Spool	11	Bottom cover	16	Washer
2	Screw	7	O-ring	12	C clip	17	Screw
3	Spring	8	O-ring	13	Silencer	18	Base pad
4	E clip	9	Front cover	14	Base	19	Screw
5	Pedal	10	Piston	15	Pedal spring	20	Base pad



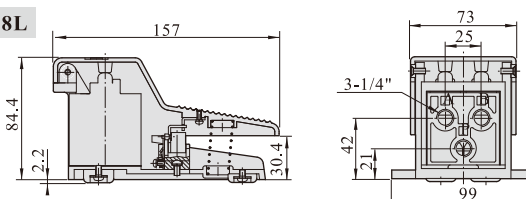
Note Lockable type should be added grease periodically to ensure the machine can work regularly.

Dimensions

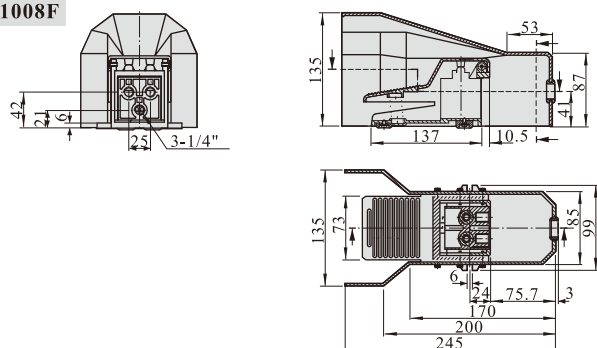
4F21008



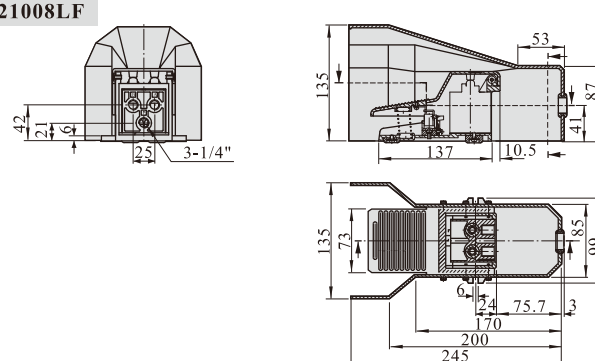
4F21008L



4F21008F



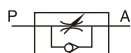
4F21008LF



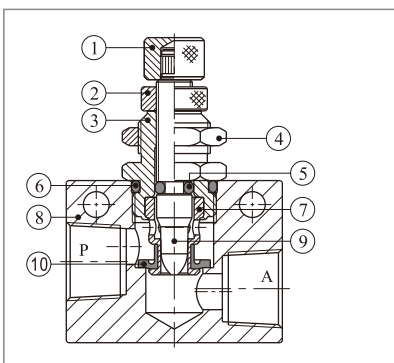
ASC Series



Symbol



Inner structure



No.	Item
1	Adjustment cap
2	Clamping cap
3	Throttle body
4	Hexagon nut
5	O-ring
6	O-ring
7	Throttle sheath
8	Body
9	Throttle column
10	Spool O-ring

Specification

Model	ASC100-06	ASC200-08	ASC300-10	ASC300-15
Fluid	Air (to be filtered by 40 μm filter element)			
Port size [Note1]	1/8"	1/4"	3/8"	1/2"
Pressure range	0.05~0.95MPa(7~135psi)			
Proof pressure	1.5MPa(215psi)			
Temperature	-20~70℃			
Material body	Aluminum alloy			
Flow (L/min)	Control flow	200	450	1250
	Free flow	400	800	1500

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

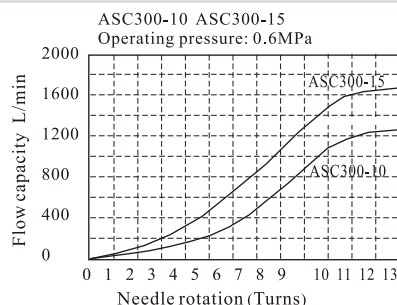
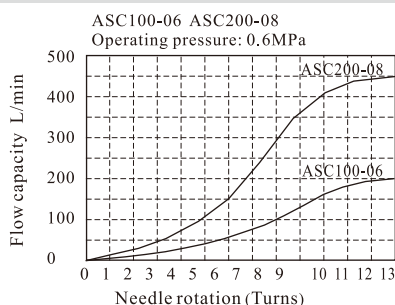
Product feature

1. Small and compact structure.
2. Allows air to exhaust and cut off air flow. The adjustment screw is both sensitive and precise.
3. Can be mounted in various position to facilitate installation and application.

Ordering code

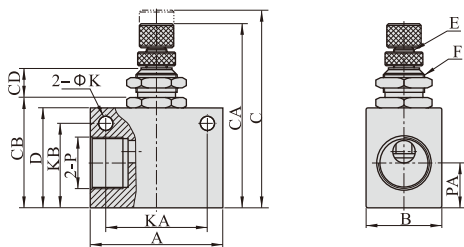
ASC 300 10 □			
	1	2	3 4
①Model	②Code	③Port size	④Thread type
ASC: Flow control valve	100: 100 series	06: 1/8"	Blank: PT G: G T: NPT
	200: 200 series	08: 1/4"	
	300: 300 series	10: 3/8"	
		15: 1/2"	

Flow chart

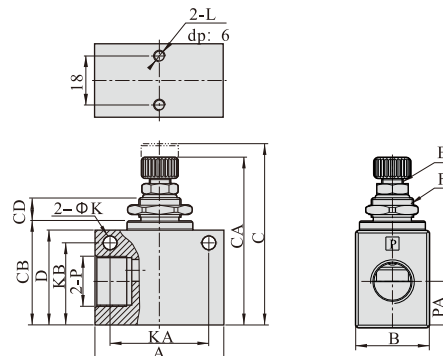


Dimensions

ASC100\ASC200



ASC300



Model\Item	A	B	C	CA	CB	CD	D	E	F	K	KA	KB	L	P	PA
ASC10006	32	18	52.5	47	26	8.6	23	M6×0.5	M12×0.75	4.3	22	18	M4×0.7	1/8"	10
ASC20008	36	18	56.5	51	30	8.6	27	M6×0.5	M12×0.75	4.3	26	23	M4×0.7	1/4"	13.5
ASC30010	50	28	74	65	40.5	10	37	M8×0.75	M16×1.0	5.3	35	32	M4×0.7	3/8"	17.5
ASC30015	50	28	74	65	40.5	10	37	M8×0.75	M16×1.0	5.3	35	32	M4×0.7	1/2"	17.5

Non-return valve

BITEBI®

NRV Series

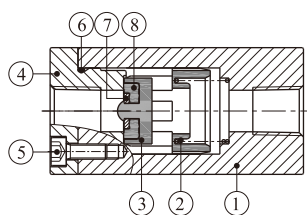


Symbol



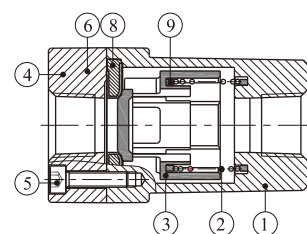
Inner structure

NRV06\NRV08



No.	Item
1	Body
2	Spring
3	Spool
4	End cover
5	Screw
6	O-ring
7	Washer
8	Gasket washer
9	Bumper

NRV10~25



Specification

Model	NRV06	NRV08	NRV10	NRV15	NRV20	NRV25
Fluid	Air (to be filtered by 40 μm filter element)					
Port size [Note1]	1/8"	1/4"	3/8"	1/2"	3/4"	1"
Orifice size mm ² (Cv valve)	18(1.0)	27(1.5)	60(3.33)	73(4.06)	230(12.78)	260(14.44)
Pressure range	0.02~1.0MPa(2.9~145psi)					
Proof pressure	1.5MPa(215psi)					
Temperature	-20~70℃					
Material of body	Aluminum alloy					

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

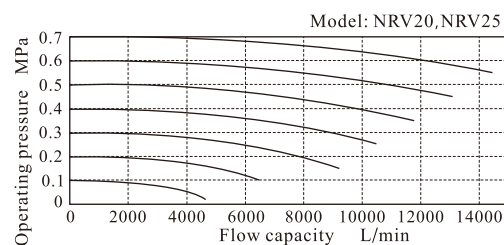
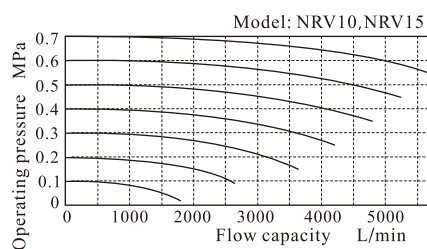
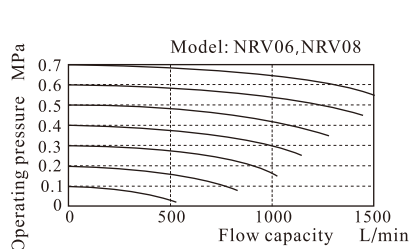
Product feature

1. There are many port sizes: 1/8", 1/4", 3/8", 1/2", 3/4", 1".
2. It allows the fluid to flow in one direction **ONLY**.
3. It is prevent backflow due to sudden drop in pressure or decrease in air consumption .
4. There is large valid area of section.
5. The spool is made of POM, valve's core sealed with rubber, and it has a compact structure.

Ordering code

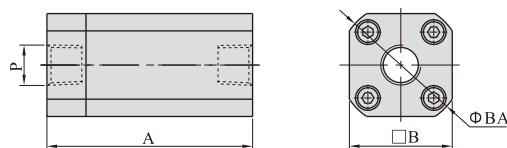
NRV 08 □		
①	②	③
① Model	② Port size	③ Thread type
NRV: Non-return valve	06: 1/8" 08: 1/4" 10: 3/8" 15: 1/2" 20: 3/4" 25: 1"	Blank: PT G: G T: NPT

Flow chart



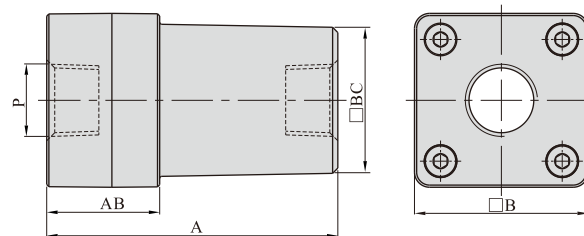
Dimensions

NRV06\NRV08



Model\Item	A	AB	B	BA	BC	P
NRV06	50	-	25	30	-	1/8"
NRV08	50	-	25	30	-	1/4"
NRV10	67	26	40	-	33.6	3/8"
NRV15	67	26	40	-	33.6	1/2"
NRV20	95	31.5	52	-	46.7	3/4"
NRV25	95	31.5	52	-	46.7	1"

NRV10~25



Pilot no-return valve

BITEBI®

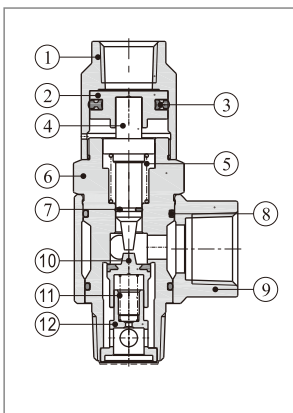
PCV Series



Symbol



Inner structure



No.	Item	Material
1	Pilot body	Aluminum alloy or Brass
2	Piston	Brass
3	Gasket	NBR
4	Spool	Brass
5	Spring	SUS304
6	Body	Brass
7	Spool O-ring	NBR
8	O-ring	NBR
9	Conversion fitting	Aluminum alloy or Brass
10	Plunger	Brass+NBR
11	Spring	SUS304
12	Pedestal	Brass

Specification

Model	PCV06	PCV08	PCV10	PCV15	PCV06F	PCV08F	PCV10F	PCV15F
Fluid	Air(to be filtered by 40μm filter element)							
Operating pressure range	0.15~1.0MPa							
Proof pressure	1.5MPa							
Temperature	-20~70(°C)							
Operating frequency	6(Cycle/minute)	40(Cycle/minute)	60(Cycle/minute)	40(Cycle/minute)	60(Cycle/minute)	40(Cycle/minute)	60(Cycle/minute)	40(Cycle/minute)
Port size [Note1]	1/8"	1/4"	3/8"	1/2"	1/8"	1/4"	3/8"	1/2"
Pilot port size	M5X0.8	1/8"	1/4"	1/4"	Φ6	Φ6	Φ8	Φ8
Weight (g)	PT thread	53.2	94.8	142.8	189.6	53	90	142.2
	G thread	54.6	94.8	145	189	54.2	90.6	143.4

[Note1] PT thread, G thread are available.

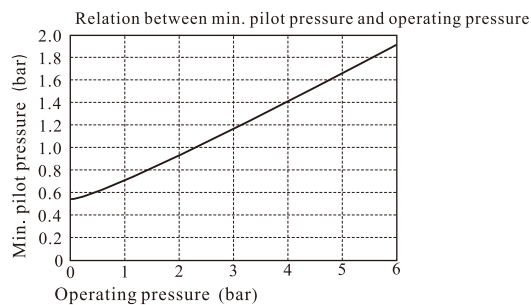
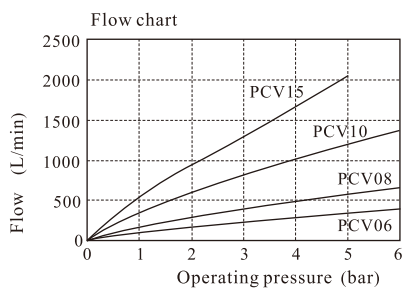
Product feature

1. Can be used for safety loop of pressure holding.
2. Can make cylinder momentary stop, accurate orientation.
3. Can be used special loop.
4. Fitting joint type is used for pilot port, which saved space and improve efficiency of installation.

Ordering code

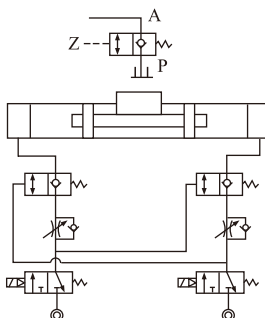
PCV 06			
①Model	②Port size	③Pilot port type	④Thread type
PCV: Pilot no-return valve	06: 1/8" 08: 1/4" 10: 3/8" 15: 1/2"	Pilot port type	Pilot port size
		Blank:	M5X0.8
		Female thread	1/8"
		F: Fitting	Φ6
			1/4"
			3/8", 1/2"
			Φ8
			3/8", 1/2"

Flow chart, Relation between min. pilot pressure and operating pressure



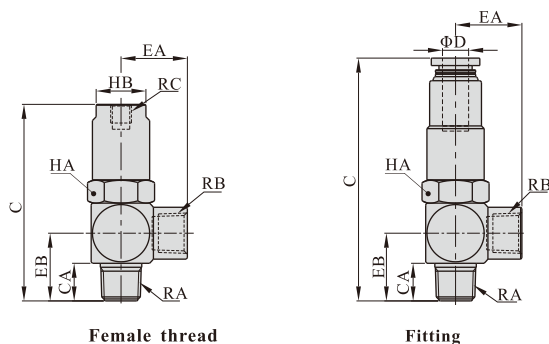
Typical application

Accurate orientation



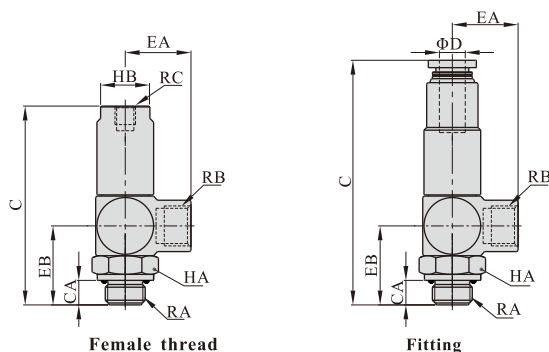
Dimensions

PT Thread



Model\Item	C	CA	D	EA	EB	HA	HB	RA	RB	RC
PCV06	48.5	7.5	-	16	16.5	14	12	1/8"	1/8"	M5X0.8
PCV08	59	10	-	20.3	21	17	14	1/4"	1/4"	1/8"
PCV10	74.5	11	-	25	26	22	17	3/8"	3/8"	1/4"
PCV15	79.5	14	-	28	29.5	24	19	1/2"	1/2"	1/4"
PCV06F	58.5	7.5	6	16	16.5	14	-	1/8"	1/8"	-
PCV08F	67	10	6	20.3	21	17	-	1/4"	1/4"	-
PCV10F	82	11	8	25	26	22	-	3/8"	3/8"	-
PCV15F	87	14	8	28	29.5	24	-	1/2"	1/2"	-

G Thread



Model\Item	C	CA	D	EA	EB	HA	HB	RA	RB	RC
PCV06G	48.5	5.5	-	16	19	14	12	G1/8	G1/8	M5X0.8
PCV08G	59	6.5	-	20.3	24	17	14	G1/4	G1/4	G1/8
PCV10G	74.5	7.5	-	25	30.5	22	17	G3/8	G3/8	G1/4
PCV15G	79.5	9	-	28	34.5	24	19	G1/2	G1/2	G1/4
PCV06FG	58.5	5.5	6	16	19	14	-	G1/8	G1/8	-
PCV08FG	67	6.5	6	20.3	24	17	-	G1/4	G1/4	-
PCV10FG	82	7.5	8	25	30.5	22	-	G3/8	G3/8	-
PCV15FG	87	9	8	28	34.5	24	-	G1/2	G1/2	-

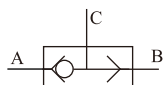


Specification

Model	VS-06	VS-08	VS-10	VS-15	VS-20	VS-25
Fluid	Air(to be filtered by 40μm filter element)					
Operating pressure range	0.15~1.0MPa					
Proof pressure	1.5MPa					
Temperature	-20~70(°C)					
Operating	External control direct acting type					
Port size [Note1]	1/8"	1/4"	3/8"	1/2"	3/4"	1"

[Note1] Standard thread, G thread are available.

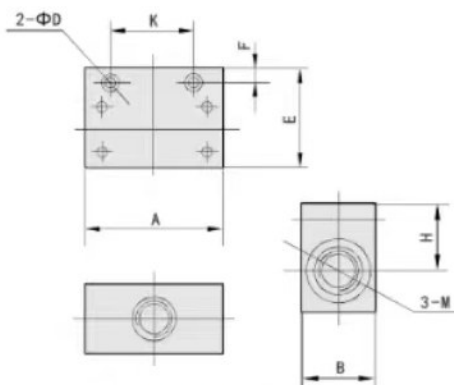
Symbol



Ordering code

VS - 08 □		
①	②	③
①Model	②Port size	③Thread type
VS: Shuttle valve	06: 1/8" 08: 1/4" 10: 3/8" 15: 1/2" 20: 3/4" 25: 1"	Blank: Standard thread G: G



Dimensions






Model\Item	A	K	B	E	H	F	D	Thread
VS-06	52	38	25	42	28	9	4.8	M10X1.0(G1/8)
VS-08	52	38	25	42	28	9	4.8	M12X1.25(G1/4)
VS-10	70	48	36	52	34	10	7	M16X1.5(G3/8)
VS-15	70	48	36	52	34	10	7	M20X1.5(G1/2)
VS-20	110	72	55	76	49	12	7	M27X2.0(G3/4)
VS-25	110	72	5	76	49	12	7	M33X2.0(G1)


One-Touch Fittings




Threaded One-Touch Fittings



Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	M5	PC4M5	PC6M5			
	1/8"	PC401	PC601	PC801	PC1001	PC1201
	1/4"	PC402	PC602	PC802	PC1002	PC1202
	3/8"		PC603	PC803	PC1003	PC1203
	1/2"		PC604	PC804	PC1004	PC1204
	M5	POC4M5	POC6M5			
	1/8"	POC401	POC601	POC801	POC1001	
	1/4"	POC402	POC602	POC802	POC1002	POC1202
	3/8"			POC803	POC1003	POC1203
	1/2"				POC1004	POC1204


Product series	Thread type	Port size		
		Φ3.2	Φ4	Φ6
	M3	PC3.2M3	PC4M3	
	M5	PC3.2M5	PC4M5	PC6M5
	1/8"		PC401	PC601
	M3	PL3.2M3	PL4M3	
	M5	PL3.2M5	PL4M5	PL6M5
	1/8"		PL401	PL01


Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	M5	PLL5M5	PLL6M5			
	1/8"	PLL401	PLL601	PLL801	PLL1001	
	1/4"	PLL402	PLL602	PLL802	PLL1002	PLL1202
	3/8"		PLL603	PLL803	PLL1003	PLL1203
	1/2"				PLL1004	PLL1204

Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	M5	PL4M5	PL6M5			
	1/8"	PL401	PL601	PL801	PL1001	PL1201
	1/4"	PL402	PL602	PL802	PL1002	PL1202
	3/8"		PL603	PL803	PL1003	PL1203
	1/2"		PL604	PL804	PL1004	PL1204




Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	M5	PEB4M5	PEB6M5			
	1/8"	PEB401	PEB601	PEB801	PEB1001	
	1/4"	PEB402	PEB602	PEB802	PEB1002	PEB1202
	3/8"		PEB603	PEB803	PEB1003	PEB1203
	1/2"			PEB804	PEB1004	PEB1204
	M5	PED4M5	PED6M5			
	1/8"	PED401	PED601	PED801	PED1001	
	1/4"	PED402	PED602	PED802	PED1002	PED1202
	3/8"		PED603	PED803	PED1003	PED1203
	1/2"			PED804	PED1004	PED1204
	M5	PYB4M5	PYB6M5			
	1/8"	PYB401	PYB601	PYB801	PYB1001	
	1/4"	PYB402	PYB602	PYB802	PYB1002	PYB1202
	3/8"		PYB603	PYB803	PYB1003	PYB1203
	1/2"			PYB804	PYB1004	PYB1204


Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	M5	PH4M5	PH6M5			
	1/8"	PH401	PH601	PH801		
	1/4"		PH602	PH802	PH1002	
	3/8"		PH603	PH803	PH1003	PH1203
	1/2"			PH804	PH1004	PH1204
	M5	PHF4M5	PHF6M5			
	1/8"	PHF401	PHF601	PHF801		
	1/4"		PHF602	PHF802	PHF1002	
	3/8"		PHF603	PHF803	PHF1003	PHF1203
	1/2"			PHF804	PHF1004	PHF1204

Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	1/8"		PZB601	PZB801		
	1/4"		PZB602	PZB802	PZB1002	
	3/8"		PZB603	PZB803	PZB1003	PZB1203
	1/2"			PZB804	PZB1004	PZB1204





Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	1/8"	PHW401	PHW601	PHW801		
	1/4"		PHW602	PHW802	PHW1002	
	3/8"		PHW603	PHW803	PHW1003	PHW1203
	1/2"			PHW804	PHW1004	PHW1204




One-Touch Fittings


Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	M5	PLF4M5	PLF6M5			
	1/8"	PLF401	PLF601	PLF801	PLF1001	
	1/4"	PLF402	PLF602	PLF802	PLF1002	PLF1202
	3/8"		PLF603	PLF803	PLF1003	PLF1203
	1/2"			PLF804	PLF1004	PLF1204
	M5	PCF4M5	PCF6M5			
	1/8"	PCF401	PCF601	PCF801	PCF1001	
	1/4"	PCF402	PCF602	PCF802	PCF1002	PCF12002
	3/8"		PCF603	PCF803	PCF1003	PCF12003
	1/2"		PCF604	PCF804	PCF1004	PCF12004
	M5					
	1/8"	PMF401	PMF601	PMF801	PMF1001	
	1/4"	PMF402	PMF602	PMF802	PMF1002	PMF1202
	3/8"		PMF603	PMF803	PMF1003	PMF1203
	1/2"			PMF804	PMF1004	PMF1204


Product series	Thread type	Port size		
		Φ6-Φ4	Φ8-Φ6	Φ10-Φ8
	1/8"	PKD6-401		
	1/4"		PKD8-601	
	3/8"			PKD10-801


Metal one-touch fittings

Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	M5	BPC4M5	BPC6M5			
	1/8"	BPC401	BPC601	BPC801	BPC1001	
	1/4"	BPC402	BPC602	BPC802	BPC1002	BPC1202
	3/8"		BPC603	BPC803	BPC1003	BPC1203
	1/2"				BPC1004	BPC1204
	M5	BPOC4M5	BPOC6M5			
	1/8"	BPOC401	BPOC601	BPOC801		
	1/4"		BPOC602	BPOC802	BPOC1002	
	3/8"				BPOC1003	BPOC1203
	1/2"					BPOC1204
	M5	BPCF4M5	BPCF6M5			
	1/8"	BPCF401	BPCF601	BPCF801		
	1/4"		BPCF602	BPCF802	BPCF1002	
	3/8"				BPCF1003	BPCF1203
	1/2"					BPCF1204
	M5					
	1/8"	BPMF401	BPMF601	BPMF801		
	1/4"		BPMF602	BPMF802	BPMF1002	
	3/8"				BPMF1003	BPMF1203
	1/2"					BPMF1204


Product series	Thread connection I	Thread connection II			
		1/8"	1/4"	3/8"	1/2"
	1/8"	BB0101	BB0102	BB0103	
	1/4"		BB0202	BB0203	BB0204
	3/8"			BB0303	BB0304
	1/2"				Bb0404
	1/8"		BD0102	BD0103	BD0104
	1/4"			BD0203	BD0204
	3/8"				BD0304
	1/8"	BU0101			
	1/4"		BU0202		
	3/8"			BU0303	
	1/2"				BU0404

Product series	Thread connection			
	1/8"	1/4"	3/8"	1/2"
	BZ01	BZ02	BZ03	BZ04



Product series	Port size				
	Φ4	Φ6	Φ8	Φ10	Φ12
	BPM4	BPM6	BPM8	BPM10	BPM12

Product series	Tubing outer diameter	Tubing inner diameter	Thread connection					
			M3	M5	1/8"	1/4"	3/8"	1/2"
	04	25	BKC0425-M3	BKC0425-M5	BKC0425-01			
	06	04			BKC0604-01	BKC0604-02	BKC0604-03	
	08	05			BKC0805-01	BKC0805-02	BKC0805-03	
		06			BKC0806-01	BKC0806-02	BKC0806-03	
	10	65				BKC1065-02	BKC1065-03	BKC1065-04
		75				BKC1075-02	BKC1075-03	BKC1075-04
	12	08				BKC1208-02	BKC1208-03	BKC1208-04
		09				BKC1209-02	BKC1209-03	BKC1209-04






One-touch fittings—tube-tube type

Product series	Port size I	Port size II				Product series	Port size				
		Φ4	Φ6	Φ8	Φ10		Φ4	Φ6	Φ8	Φ10	Φ12
 PG	Φ6	PG6-4				 PE	PE4	PE6	PE8	PE10	PE12
	Φ8	PG8-4	PG8-6								
	Φ10		PG10-6	PG10-8							
	Φ12			PG12-8	PG12-10						
 PGJ	Φ6	PGJ6-4				 PY	PY4	PY6	PY8	PY10	PY12
	Φ8	PGJ8-4	PGJ8-6								
	Φ10		PGJ10-6	PGJ10-8							
	Φ12			PGJ12-8	PGJ12-10						
 PEG	Φ6	PEG6-4				 PV	PV4	PV6	PV8	PV10	PV12
	Φ8		PEG8-6								
	Φ10			PEG10-8							
	Φ12			PEG12-8	PEG12-10						
 PEW	Φ6	PEW6-4				 PU	PU4	PU6	PU8	PU10	PU12
	Φ8		PEW8-6								
	Φ10			PEW10-8							
	Φ12			PEW12-8	PEW12-10						
 PYW	Φ6	PYW6-4				 PM	PM4	PM6	PM8	PM10	PM12
	Φ8		PYW8-6								
	Φ10			PYW10-8							
	Φ12			PYW12-8	PYW12-10						
 PZG	Φ6	PZG6-4				 PLM	PLM4	PLM6	PLM8	PLM10	PLM12
	Φ8		PZG8-6								
	Φ10			PZG10-8							
	Φ12				PZG12-10						
 PKG	Φ6	PKG6-4				 PP	PP4	PP6	PP8	PP10	PP12
	Φ8		PKG8-6								
	Φ10			PKG10-8							
 PHK	Φ8		PHD8-6			 PZ	PZ4	PZ6	PZ8	PZ10	PZ12
	Φ10			PHD10-8							
 PHD	Φ8		PHD8-6								
	Φ10			PHD10-8							

Speed Controllers



Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
 PSA	—	PSA4	PSA6	PSA8	PSA10	PSA12
 PSL	M5	PSL4M5	PSL6M5			
	1/8"	PSL401	PSL601	PSL801		
	1/4"		PSL602	PSL802	PSL1002	
	3/8"		PSL603	PSL803	PSL1003	PSL1203
	1/2"			PSL804	PSL1004	PSL1204
 PSS	M5	PSS5M5				
	1/8"		PSS601	PSS801		
	1/4"		PSS602	PSS802	PSS1002	
	3/8"				PSS1003	PSS1203
	1/2"					PSS1204
 PTL	M5	PTL4M5	PTL6M5			
	1/8"	PTL401	PTL601			


Silencers


Product series	Thread connection				
	M5	1/8"	1/4"	3/8"	1/2"
 BSL	BSLM5	BSL01	BSL02	BSL03	BSL04
 BSLM	BSLMM5	BSLM01	BSLM02	BSLM03	BSLM04
 BESL		BESL01	BESL02	BESL03	BESL04
 PAL		PAL01	PAL02	PAL03	PAL04
 PALM		PALM01	PALM02		


One-Touch Fittings(Stainless steel)




Threaded One-Touch Fittings



Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	M5	PC4M5-S	PC6M5-S			
	1/8"	PC401-S	PC601-S	PC801-S	PC1001-S	PC1201-S
	1/4"	PC402-S	PC602-S	PC802-S	PC1002-S	PC1202-S
	3/8"		PC603-S	PC803-S	PC1003-S	PC1203-S
	1/2"		PC604-S	PC804-S	PC1004-S	PC1204-S
	M5	POC4M5-S	POC6M5-S			
	1/8"	POC401-S	POC601-S	POC801-S	POC1001-S	
	1/4"	POC402-S	POC602-S	POC802-S	POC1002-S	POC1202-S
	3/8"			POC803-S	POC1003	POC1203-S
	1/2"				POC1004-S	POC1204-S


Product series	Thread type	Port size		
		Φ6-Φ4	Φ8-Φ6	Φ10-Φ8
	1/8"	PKD6-401-S		
	1/4"		PKD8-601-S	
	3/8"			PKD10-801-S


Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	M5	PLL5M5-S	PLL6M5-S			
	1/8"	PLL401-S	PLL601-S	PLL801-S	PLL1001-S	
	1/4"	PLL402-S	PLL602-S	PLL802-S	PLL1002-S	PLL1202-S
	3/8"		PLL603-S	PLL803-S	PLL1003-S	PLL1203-S
	1/2"				PLL1004-S	PLL1204-S

Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	M5	PL4M5-S	PL6M5-S			
	1/8"	PL401-S	PL601-S	PL801-S	PL1001-S	PL1201-S
	1/4"	PL402-S	PL602-S	PL802-S	PL1002-S	PL1202-S
	3/8"		PL603-S	PL803-S	PL1003-S	PL1203-S
	1/2"		PL604-S	PL804-S	PL1004-S	PL1204-S

Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	M5	PEB4M5-S	PEB6M5-S			
	1/8"	PEB401-S	PEB601-S	PEB801-S	PEB1001-S	
	1/4"	PEB402-S	PEB602-S	PEB802-S	PEB1002-S	PEB1202-S
	3/8"		PEB603-S	PEB803-S	PEB1003-S	PEB1203-S
	1/2"			PEB804-S	PEB1004-S	PEB1204-S
	M5	PED4M5-S	PED6M5-S			
	1/8"	PED401-S	PED601-S	PED801-S	PED1001-S	
	1/4"	PED402-S	PED602-S	PED802-S	PED1002-S	PED1202-S
	3/8"		PED603-S	PED803-S	PED1003-S	PED1203-S
	1/2"			PED804-S	PED1004-S	PED1204-S
	M5	PYB4M5-S	PYB6M5-S			
	1/8"	PYB401-S	PYB601-S	PYB801-S	PYB1001-S	
	1/4"	PYB402-S	PYB602-S	PYB802-S	PYB1002-S	PYB1202-S
	3/8"		PYB603-S	PYB803-S	PYB1003-S	PYB1203-S
	1/2"			PYB804-S	PYB1004-S	PYB1204-S




Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	M5	PH4M5-S	PH6M5-S			
	1/8"	PH401-S	PH601-S	PH801-S		
	1/4"		PH602-S	PH802-S	PH1002-S	
	3/8"		PH603-S	PH803-S	PH1003-S	PH1203-S
	1/2"			PH804-S	PH1004-S	PH1204-S
	M5	PHF4M5-S	PHF6M5-S			
	1/8"	PHF401-S	PHF601-S	PHF801-S		
	1/4"		PHF602-S	PHF802-S	PHF1002-S	
	3/8"		PHF603-S	PHF803-S	PHF1003-S	PHF1203-S
	1/2"			PHF804-S	PHF1004-S	PHF1204-S


Product series	Thread type	Port size			
		Φ6	Φ8	Φ10	Φ12
	1/8"	PZB601-S	PZB801-S		
	1/4"	PZB602-S	PZB802-S	PZB1002-S	
	3/8"	PZB603-S	PZB803-S	PZB1003-S	PZB1203-S
	1/2"		PZB804-S	PZB1004-S	PZB1204-S


Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
	1/8"	PHW401-S	PHW601-S	PHW801-S		
	1/4"		PHW602-S	PHW802-S	PHW1002-S	
	3/8"		PHW603-S	PHW803-S	PHW1003-S	PHW1203-S
	1/2"			PHW804-S	PHW1004-S	PHW1204-S

One-Touch Fittings And Silencers And Speed Controllers(Stainless steel)




One-touch fittings—threaded type

Product series	Thread connection I	Thread connection II			
		1/8"	1/4"	3/8"	1/2"
	1/8"	BB0101-S	BB0102-S	BB0103-S	
	1/4"		BB0202-S	BB0203-S	BB0204-S
	3/8"			BB0303-S	BB0304-S
	1/2"				Bb0404-S
	1/8"		BD0102-S	BD0103-S	BD0104-S
	1/4"			BD0203-S	BD0204-S
	3/8"				BD0304-S
	1/8"	BU0101-S			
	1/4"		BU0202-S		
	3/8"			BU0303-S	
	1/2"				BU0404-S



Product series	Thread connection			
	1/8"	1/4"	3/8"	1/2"
 BZ-S	BZ01-S	BZ02-S	BZ03-S	BZ04-S

Product series	Tubing outer diameter	Tubing inner diameter	Thread connection					
			M3	M5	1/8"	1/4"	3/8"	1/2"
	04	25	BKC0425-M3-S	BKC0425-M5-S	BKC0425-01-S			
	06	04			BKC0604-01-S	BKC0604-02-S	BKC0604-03-S	
	08	05			BKC0805-01-S	BKC0805-02-S	BKC0805-03-S	
		06			BKC0806-01-S	BKC0806-02-S	BKC0806-03-S	
	10	65				BKC1065-02-S	BKC1065-03-S	BKC1065-04-S
		75				BKC1075-02-S	BKC1075-03-S	BKC1075-04-S
	12	08				BKC1208-02-S	BKC1208-03-S	BKC1208-04-S
		09				BKC1209-02-S	BKC1209-03-S	BKC1209-04-S

Silencers

Product series	Thread connection				
	M5	1/8"	1/4"	3/8"	1/2"
 BSL-S	BSLM5-S	BSL01-S	BSL02-S	BSL03-S	BSL04-S
 BSLM-S	BSLMM5-S	BSLM01-S	BSLM02-S	BSLM03-S	BSLM04-S
 BESL-S		BESL01-S	BESL02-S	BESL03-S	BESL04-S

Speed Controllers

Product series	Thread type	Port size				
		Φ4	Φ6	Φ8	Φ10	Φ12
 PSA-S	—	PSA4-S	PSA6-S	PSA8-S	PSA10-S	PSA12-S
 PSL-S	M5	PSL4M5-S	PSL6M5-S			
	1/8"	PSL401-S	PSL601-S	PSL801-S		
	1/4"		PSL602-S	PSL802-S	PSL1002-S	
	3/8"		PSL603-S	PSL803-S	PSL1003-S	PSL1203-S
	1/2"			PSL804-S	PSL1004-S	PSL1204-S
 PSS-S	M5	PSS5M5-S				
	1/8"		PSS601-S	PSS801-S		
	1/4"		PSS602-S	PSS802-S	PSS1002-S	
	3/8"				PSS1003-S	PSS1203-S
	1/2"					PSS1204-S
 PTL-S	M5	PTL4M5-S	PTL6M5-S			
	1/8"	PTL401-S	PTL601-S			

US98A, UE95A Series



Product feature

1. Plastic polyurethane material conforms to the ROHS environment protection requirement.
2. High elasticity: small bend radius enables PU tubing to pass through the tight space.
3. Anti-knot: better anti-knot effect than other plastic tubing.
4. Excellent flexibility: it can bear repeated expansion.
5. Anti-abrasion: long working life and suitable for the environment in which it is easy to be worn.
6. Low permeability of gas: relieve the problems of leakage and pollution.
7. Good anti-solubility: no solvent leaks, therefore it will not pollute the environment.
8. Low compression: maintain excellent physical character.
9. Wide resistance: it has certain resistance to chemicals, water, fuel, oil and bacterium.

Specification(Standard pressure type)

Type [Note1]	Tubing OD (mm)	Tubing ID (mm)	Wall Thickness (mm)	Package Length(m)	Working Pressure at 23°C(MPa)[Note2]	Burst pressure at 23°C(MPa)	Bend radius (mm)	Weight per 100M(kg)	Temperature (°C)
US98A032020□□	3.2	2.0	0.60	100/200	1.0	3.0	8	0.60	-20~70
US98A040025□□	4.0	2.5	0.75	100/200	1.0	3.0	10	0.94	
US98A060040□□	6.0	4.0	1.00	100/200	1.0	3.0	15	1.93	
US98A080050□□	8.0	5.0	1.50	100	1.0	3.0	20	3.66	
US98A100065□□	10.0	6.5	1.75	100	1.0	3.0	25	5.44	
US98A120080□□	12.0	8.0	2.00	100	1.0	3.0	35	7.56	
US98A160110□□	16.0	11.0	2.50	100	1.0	3.0	80	10.03	
UE95A032020□□	3.2	2.0	0.60	20/100/200	1.0	2.5	8	0.60	-40~70
UE95A040025□□	4.0	2.5	0.75	20/100/200	1.0	2.5	8	0.94	
UE95A060040□□	6.0	4.0	1.00	20/100/200	1.0	2.5	12	1.91	
UE95A080050□□	8.0	5.0	1.50	20/100	1.0	2.5	17	3.58	
UE95A100065□□	10.0	6.5	1.75	20/100	1.0	2.5	20	5.32	
UE95A120080□□	12.0	8.0	2.00	20/100	1.0	2.5	30	7.27	

[Note1] The first square of "□□" in the type column is for ordering code "unit" and the second is for "color".

[Note2] Working pressure:3 to 1 safety factor.

Specification(Lower pressure type)

Type [Note1]	Tubing OD (mm)	Tubing ID (mm)	Wall Thickness (mm)	Package Length(m)	Working Pressure at 23°C(MPa)[Note2]	Burst pressure at 23°C(MPa)	Bend radius (mm)	Weight per 100M(kg)	Temperature (°C)
US98A080055□□	8.0	5.5	1.25	100	0.8	2.0	20	3.25	-20~70
US98A080060□□	8.0	6.0	1.00	100	0.4	1.5	25	2.70	
US98A100080□□	10.0	8.0	1.00	100	0.4	1.5	40	3.47	
US98A120100□□	12.0	10.0	1.00	100	0.4	1.5	60	4.24	
US98A160120□□	16.0	12.0	2.00	100	0.4	2.0	80	8.32	
UE95A080055□□	8.0	5.5	1.25	20/100	0.8	1.5	17	3.18	-40~70

[Note1] The first square of "□□" in the type column is for ordering code "unit" and the second is for "color".

[Note2] Working pressure:3 to 1 safety factor.

Ordering code

US98A 060 040 100M BU

① ② ③ ④ ⑤

①Model	②Tubing OD	③Tubing ID		④Material length	⑤Standard color [Note1]
US98A: Ester Base,Shore A98±2	032: Φ3.2mm	020: Φ2.0mm	065: Φ6.5mm 080: Φ8.0mm 0100: Φ10.0mm 0110: Φ11.0mm 0120: Φ12.0mm	100M: 100 m/coil 200M: 200 m/coil	BU: Blue BK: Black GE: Orange C: Clear WH: White CB: Clear Blue R: Red Y: Yellow GA: Gray GN: Green BR: Brown CR: Clear Red CG: Clear Green CY: Clear Yellow CE: Clear Orange
	040: Φ4.0mm	025: Φ2.5mm		100M: 100 m/coil	
	060: Φ6.0mm	040: Φ4.0mm			
	080: Φ8.0mm	050: Φ5.0mm			
	100: Φ10.0mm	055: Φ5.5mm			
	120: Φ12.0mm	060: Φ6.0mm			
UE95A: Ether Base,Shore A95±2	032: Φ3.2mm	020: Φ2.0mm	055: Φ5.5mm 065: Φ6.5mm 080: Φ8.0mm	20M: 20 m/coil 100M: 100 m/coil 200M: 200 m/coil	
	040: Φ4.0mm	025: Φ2.5mm		20M: 20 m/coil 100M: 100 m/coil	
	060: Φ6.0mm	040: Φ4.0mm			
	080: Φ8.0mm	050: Φ5.0mm			
	100: Φ10.0mm				
	120: Φ12.0mm				

[Note1] Φ8xΦ6, Φ10xΦ8, Φ12xΦ10 type have nine standard colors: Blue\ Black\ Orange\ Clear\ White\ Clear Blue\ Red\ Yellow\ Gray.

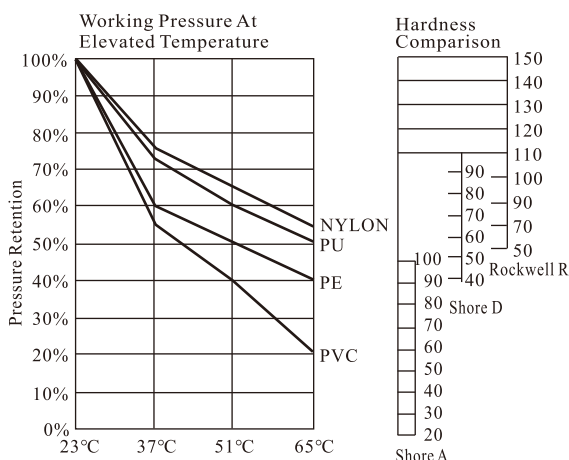
UCS Series



Product feature

1. Plastic polyurethane material conforms to the ROHS environment protection requirement.
2. High elasticity: small bend radius enables PU tubing to pass through the tight space.
3. Anti-knot: better anti-knot effect than other plastic tubing.
4. Excellent flexibility: it can bear repeated expansion.
5. Anti-abrasion: long working life and suitable for the environment in which it is easy to be worn.
6. Low permeability of gas: relieve the problems of leakage and pollution.
7. Good anti-solubility: no solvent leaks, therefore it will not pollute the environment.
8. Low compression: maintain excellent physical character.
9. Wide resistance: it has certain resistance to chemicals, water, fuel, oil and bacterium.

Technical chart



Specification(Standard pressure type)

Type [Note1]	Tubing OD (mm)	Tubing ID (mm)	Working Pressure at 23°C (MPa) [Note2]	Burst pressure at 23°C (MPa)	Bend radius (mm)	Length (m) [Note3]	Temp. (°C)
UCS060040□030□□	6.0	4.0	1.0	3.0	38	3	-20~70
UCS060040□060□□	6.0	4.0	1.0	3.0	38	6	
UCS060040□090□□	6.0	4.0	1.0	3.0	38	9	
UCS060040□120□□	6.0	4.0	1.0	3.0	38	12	
UCS060040□150□□	6.0	4.0	1.0	3.0	38	15	
UCS080050□060□□	8.0	5.0	1.0	3.0	38	6	
UCS080050□090□□	8.0	5.0	1.0	3.0	38	9	
UCS080050□120□□	8.0	5.0	1.0	3.0	38	12	
UCS080050□150□□	8.0	5.0	1.0	3.0	38	15	
UCS100065□060□□	10.0	6.5	1.0	3.0	50	6	
UCS100065□090□□	10.0	6.5	1.0	3.0	50	9	
UCS100065□120□□	10.0	6.5	1.0	3.0	50	12	
UCS100065□150□□	10.0	6.5	1.0	3.0	50	15	
UCS120080□060□□	12.0	8.0	1.0	3.0	60	6	
UCS120080□090□□	12.0	8.0	1.0	3.0	60	9	
UCS120080□120□□	12.0	8.0	1.0	3.0	60	12	
UCS120080□150□□	12.0	8.0	1.0	3.0	60	15	

Specification(Lower pressure type)

Type [Note1]	Tubing OD (mm)	Tubing ID (mm)	Working Pressure at 23°C (MPa) [Note2]	Burst pressure at 23°C (MPa)	Bend radius (mm)	Length (m) [Note3]	Temp. (°C)
UCS080055□060□□	8.0	5.5	0.8	2.0	38	6	-20~70
UCS080055□090□□	8.0	5.5	0.8	2.0	38	9	
UCS080055□120□□	8.0	5.5	0.8	2.0	38	12	
UCS080055□150□□	8.0	5.5	0.8	2.0	38	15	

[Note1] "□" in the type column is for "color", and "□□" is for "coupling type" and "coupling mode".

[Note2] Working pressure: 3 to 1 safety factor.

[Note3] Material length: length of operating status=(0.8~0.9)xMaterial length.

Ordering code

UCS 080 050 BU 090M A 1

① ② ③ ④ ⑤ ⑥ ⑦

① Model	② Tubing OD	③ Tubing ID	④ Standard color [Note1]	⑤ Material length	⑥ Coupling type	⑦ Coupling form
UCS: Ester Base	060: Φ6.0mm 080: Φ8.0mm 100: Φ10.0mm 120: Φ12.0mm	040: Φ4.0mm 050: Φ5.0mm 055: Φ5.5mm 065: Φ6.5mm 080: Φ8.0mm	BU: Blue BK: Black GE: Orange C: Clear WH: White CB: Clear Blue R: Red Y: Yellow GN: Green BR: Brown CR: Clear Red CG: Clear Green CY: Clear Yellow CE: Clear Orange	030M: 3m 060M: 6m 090M: 9m 120M: 12m 150M: 15m	A: one end is 30cm and the other end is 10cm B: Both of the tubings of the couplings are 10cm C: Both of the tubings of the couplings are 0cm	1: Without coupling 2: With female-male coupling 3: With male-male coupling

[Note1] Lower pressure type has nine standard colors: Blue\ Black\ Orange\ Clear\ White\ Clear Blue\ Red\ Yellow\ Gray.

Pipe end coupling

Male quick coupling PP40 Φ12 × Φ8	Female quick coupling SP40 Φ12 × Φ8	Male quick coupling PP30 Φ10 × Φ6.5	Female quick coupling SP30 Φ10 × Φ6.5	Male quick coupling PP20 Φ8 × Φ5	Female quick coupling SP20 Φ8 × Φ5	Male quick coupling PP10 Φ6 × Φ4	Female quick coupling SP10 Φ6 × Φ4
PP40/SP40-PU tubing (12 × 8) quick coupling use		PP30/SP30-PU tubing (10 × 6.5) quick coupling use		PP20/SP20-PU tubing (8 × 5) quick coupling use		PP10/SP10-PU tubing (6 × 4) quick coupling use	

PA12、PA6 Series



Product feature

1. PA12、PA6 Nylon tubing has excellence capability to be used high temperature conditions widely.
2. Many kinds of colors to be chosned.
3. Steady size, Little osmotic rate.
4. Be used widely for it's aging resistant, good anti-oil,and high temperature resistant capability.

Specification

Type [Note1]	Tubing OD (mm)	Tubing ID (mm)	Wall Thickness (mm)	Package Length(m)	Working Pressure at 23℃(MPa) [Note2]	Burst pressure at 23℃(MPa)	Bend radius (mm)	Weight per 100M(kg)	Temperature (℃)
PA6040025□□	4.0	2.5	0.75	200	3.5	11.0	30	0.90	-10~70
Pa6060040□□	6.0	4.0	1.00	100	3.0	10.0	45	1.80	
PA6080060□□	8.0	6.0	1.00	100	2.0	7.0	65	2.50	
PA6100075□□	10.0	7.5	1.25	100	2.0	7.0	75	3.90	
PA6120090□□	12.0	9.0	1.50	100	2.0	7.0	100	5.70	-40~70
PA12040025□□	4.0	2.5	0.75	200	2.5	7.5	25	0.80	
PA12060040□□	6.0	4.0	1.00	100	2.0	7.0	35	1.60	
PA12080060□□	8.0	6.0	1.00	100	1.5	5.0	55	2.30	
PA12100075□□	10.0	7.5	1.25	100	1.5	5.0	75	3.50	
PA12120090□□	12.0	9.0	1.50	100	1.5	5.0	75	5.10	

[Note1] The first square of "□□" in the type column is for ordering code "unit" and the second is for "color".

[Note2] Working pressure:3 to 1 safety factor.

Relationship of operation pressure and temperature

	PA6 the percentage of work pressure reached at different temperatures					PA12 the percentage of work pressure reached at different temperatures				
Temperature	20℃	40℃	60℃	80℃	100℃	20℃	30℃	50℃	60℃	80℃
Percentage	100%	74%	57%	47%	40%	100%	83%	75%	64%	47%

Ordering code

Pa12 060 040 100M BU

① ② ③ ④ ⑤

①Model	②Tubing OD	③Tubing ID	④Material length	⑤Standard color
PA6: Nylon 6 PA12: Nylon 12	040: Φ4.0mm 060: Φ6.0mm 080: Φ8.0mm 100: Φ10.0mm 120: Φ12.0mm	025: Φ2.5mm 040: Φ4.0mm 060: Φ6.0mm 075: Φ7.5mm 090: Φ9.0mm	200M: 200 m/coil(4X2.5) 100M: 100 m/coil(Others)	BU : Blue BK : Black GE : Orange N : Clear WH : White GN : Green R : Red Y : Yellow

UN54D Series



Product feature

1. Monolayer tubing with flame resistant.
2. Excel in elasticity: can pass compactness space with lesser bend radius.
3. Excellent water-resistant and flexibility.
4. Super doughty wearable and higher intensity of stretch.

Specification

Type [Note1]	Tubing OD (mm)	Tubing ID (mm)	Wall Thickness (mm)	Package Length(m)	Working Pressure at 23℃ (MPa)	Burst pressure at 23℃	Bend radius (mm)	Weight per 100M(kg)	Temperature (℃)
UN54D□060040□□	6.0	4.0	1.00	100	1.0	4.0	12	1.93	-20~70
UN54D□080050□□	8.0	5.0	1.50	100	1.0	4.0	18	3.66	
UN54D□100065□□	10.0	6.5	1.75	100	1.0	4.0	20	5.44	
UN54D□120080□□	12.0	8.0	2.00	100	1.0	4.0	20	7.56	

[Note1] "□□" in the type column is for "color"

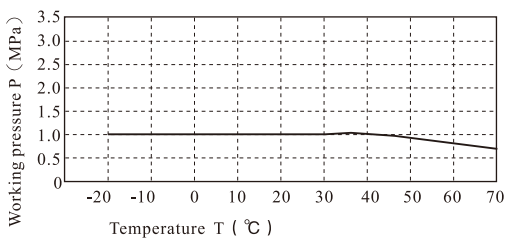
Ordering code

UN54D 120 080 100M Y

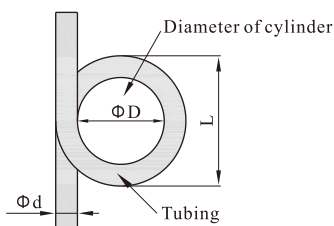
① ② ③ ④ ⑤

①Model	②Tubing OD	③Tubing ID	④Material length	⑤Standard color
UN54D: Flame resistant tubing54D±3	060: Φ6.0mm 080: Φ8.0mm 100: Φ10.0mm 120: Φ12.0mm	040: Φ4.0mm 050: Φ5.0mm 065: Φ6.5mm 080: Φ8.0mm	100M: 100 m/coil	BU: Blue BK: Black GN: Green WH: White R: Red Y: Yellow

Relationship of operation pressure and temperature



Mini bend radius



The least bend radius (JIS method)

JIS method (Base on JIS B8381 standard)

When the tubing circle the cylinder tightly and the distortion rate is 25%, the cylinder radius is the least bend radius.

Testing condition: 20℃, 65%RH

$N = \{1 - (L - D) / 2d\} \times 100$

N=Distortion rate (%), less than 25% of standard value.

d=Tubing diameter (mm)

L=Measure value (mm)

D=Diameter of cylinder (mm)

Compact Guide Cylinder With Air Cushion

Guide rod shortened

for MGPM40-25 stroke

Up to 24% Weight reduced!

Weight reduced by up to 24% with a shorter guide rod and thinner plate

JIS standard circular induction switch installation groove

With air cushion

The fixed plate is chemically plated with nickel, which has strong corrosion resistance.

3 types of bearing can be selected.

- **Slide bearing**
MGPM series
- **Ball bushing**
MGPL series
- **High precision ball bushing**
MGPA series

The minimum starting pressure $\leq 0.05\text{MPa}$

Greatly improve the consistency of cylinder operation



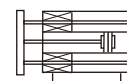
Compact Guide Cylinder

BITEBI®

—MGP Series



■ Symbol



■ Specification

Bore size(mm)	12	16	20	25	32	40	50	63	80	100
Acting type	Double acting									
Fluid	Air(to be filtered by 40μm filter element)									
Proof pressure	1.5MPa(215psi)									
Maximum operating pressure	1.0MPa(145psi)									
Minimum operating pressure	0.06MPa(10psi)		0.05MPa(7psi)							
Temperature °C	-10~70(No freezing)									
Speed range mm/s	50~500								50~400	
Stroke tolerance	+1.5 0									
Cushion type	Bumper									
Port size [Note2]	M5×0.8		1/8"				1/4"		3/8"	

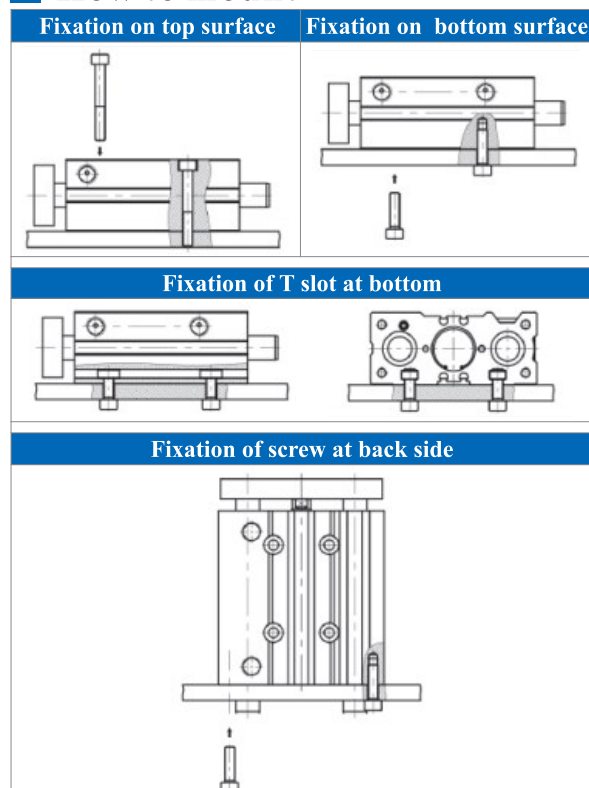
■ Standard Stroke

Bore size(mm)	Standard stroke Note1)
12, 16	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250
20, 25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400
32~100	25, 50, 75, 100, 125, 150, 200, 250, 300, 350, 400

■ Manufacture of Intermediate Strokes

Description	Spacer installation type Spacers are installed in the standard stroke cylinder. ø12 to ø32: Available in 1 mm stroke increments. ø40 to ø100: Available in 5 mm stroke increments.	
Model no.	Refer to How to Order for the standard model numbers.	
Applicable stroke	12, 16	1~249
	20, 25, 32	1~399
	40, 50, 63, 80, 100	5~395
Example	Part no.: MGPM20-39S A spacer 1 mm in width is installed in the MGPM20-40. C dimension is 77 mm.	

■ How to mount



Compact Guide Cylinder

BITEBI®

—MGP Series

Ordering code

MGP M 20 □ -30 S

① ② ③ ④ ⑤ ⑥

③ Bore size

12	12mm
16	16mm
20	20mm
25	25mm
32	32mm
40	40mm
50	50mm
63	63mm
80	80mm
100	100mm

④ Port thread type

Nil	M5 x 0.8
	Rc
TN	NPT
TF	G

*: For bore sizes 12 and 16, only M5 x 0.8 is available.

① Model

MGP: Compact Guide Cylinder

② Bearing type

M	Slide bearing
L	Ball bushing
A	High precision ball bushing

⑤ Cylinder stroke (mm)

Refer to "Standard Strokes"

⑥ Magnet

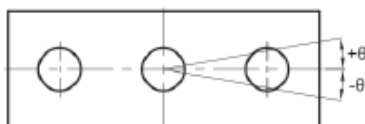
S With magnet

Criteria for selection: Cylinder thrust

Unit: Newton(N)

Bore size	Rod size	Acting type	Pressure area(mm ²)	Operating pressure(MPa)							
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	
12	6	Double acting	Push side	113.1	11.3	22.6	33.9	45.2	56.5	67.9	79.2
			Pull side	84.8	8.5	17.0	25.4	33.9	42.4	50.9	59.4
16	8	Double acting	Push side	201.1	20.1	40.2	60.3	80.4	100.5	120.6	140.7
			Pull side	150.8	15.1	30.2	45.2	60.3	75.4	90.5	105.6
20	10	Double acting	Push side	314.2	31.4	62.8	94.2	125.7	157.1	188.5	219.9
			Pull side	235.6	23.6	47.1	70.7	94.2	117.8	141.4	164.9
25	12	Double acting	Push side	490.9	49.1	98.2	147.3	196.3	245.4	294.5	343.6
			Pull side	377.8	37.8	75.6	113.3	151.1	188.9	226.7	264.4
32	16	Double acting	Push side	804.2	80.4	160.8	241.3	321.7	402.1	482.5	563.0
			Pull side	603.2	60.3	120.6	181.0	241.3	301.6	361.9	422.2
40	16	Double acting	Push side	1256.6	125.7	251.3	377.0	502.7	628.3	754.0	879.6
			Pull side	1055.6	105.6	211.1	316.7	422.2	527.8	633.3	738.9
50	20	Double acting	Push side	1963.5	196.3	392.7	589.0	785.4	981.7	1178.1	1374.4
			Pull side	1649.3	164.9	329.9	494.8	659.7	824.7	989.6	1154.5
63	20	Double acting	Push side	3117.2	311.7	623.4	935.2	1246.9	1558.6	1870.3	2182.1
			Pull side	2803.1	280.3	560.6	840.9	1121.2	1401.5	1681.9	1962.2
80	25	Double acting	Push side	5026.5	502.7	1005.3	1508.0	2010.6	2513.3	3015.9	3518.6
			Pull side	4535.7	453.6	907.1	1360.7	1814.3	2267.8	2721.4	3175.0
100	25	Double acting	Push side	7854.0	785.4	1570.8	2356.2	3141.6	3927.0	4712.4	5497.8
			Pull side	7363.1	736.3	1472.6	2208.9	2945.2	3681.6	4417.9	5154.2

Non-rotating tolerance

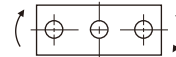


Non-rotating accuracy q when retracted and when no load is applied should be not more than the values shown in the table.

Bore size (mm)	Non-rotating tolerance		
	MGPM	MGPL	MGPA
12	±0.07°	±0.05°	±0.01°
16	±0.07°	±0.05°	
20	±0.06°	±0.04°	
25	±0.06°	±0.04°	
32	±0.05°	±0.03°	

Bore size (mm)	Non-rotating tolerance		
	MGPM	MGPL	MGPA
40	±0.05°	±0.03°	±0.01°
50	±0.04°	±0.03°	
63	±0.04°	±0.03°	
80	±0.03°	±0.03°	
100	±0.03°	±0.03°	

Allowable Rotational Torque of Plate

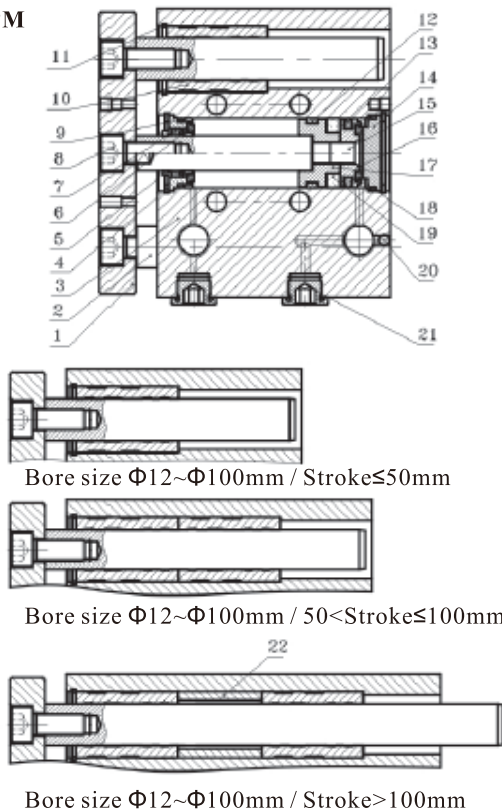


Unit: Newton·Meter(N·m)

Bore size	Type	Stroke(mm)															
		10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
12	MGPM	0.39	0.32	-	0.27	0.24	0.21	0.43	0.36	0.31	0.27	0.24	0.22	0.19	-	-	-
	MGPL/A	0.61	0.45	-	0.35	0.58	0.50	0.37	0.29	0.24	0.20	0.18	0.16	0.12	-	-	-
16	MGPM	0.69	0.58	-	0.49	0.43	0.38	0.69	0.58	0.50	0.44	0.40	0.36	0.30	-	-	-
	MGPL/A	0.99	0.74	-	0.59	0.99	0.86	0.65	0.52	0.43	0.37	0.32	0.28	0.23	-	-	-
20	MGPM	-	1.05	-	0.93	0.83	0.75	1.83	1.63	1.44	1.28	1.16	1.06	0.90	0.78	0.69	0.62
	MGPL/A	-	1.26	-	1.03	2.17	1.94	1.52	1.25	1.34	1.17	1.03	0.93	0.76	0.65	0.56	0.49
25	MGPM	-	1.76	-	1.55	1.38	1.25	2.96	2.57	2.26	2.02	1.83	1.67	1.42	1.24	1.09	0.98
	MGPL/A	-	2.11	-	1.75	3.37	3.02	2.38	1.97	2.05	1.78	1.58	1.41	1.16	0.98	0.85	0.74
32	MGPM	-	-	6.35	-	-	5.13	5.69	4.97	4.42	3.98	3.61	3.31	2.84	2.48	2.20	1.98
	MGPL/A	-	-	5.95	-	-	4.89	5.11	4.51	6.34	5.79	5.33	4.93	4.29	3.78	3.38	3.04
40	MGPM	-	-	7.00	-	-	5.66	6.27	5.48	4.87	4.38	3.98	3.65	3.13	2.74	2.43	2.19
	MGPL/A	-	-	6.55	-	-	5.39	5.62	4.96	6.98	6.38	5.87	5.43	4.72	4.16	3.71	3.35
50	MGPM	-	-	13.0	-	-	10.8	12.0	10.6	8.90	8.60	7.86	7.24	6.24	5.49	4.90	4.43
	MGPL/A	-	-	9.17	-	-	7.62	9.83	8.74	11.6	10.7	9.83	9.12	7.95	7.02	6.26	5.63
63	MGPM	-	-	14.7	-	-	12.1	13.5	11.9	10.7	9.69	8.86	8.16	7.04	6.19	5.52	4.99
	MGPL/A	-	-	10.2	-	-	8.48	11.0	9.74	13.0	11.9	11.0	10.2	8.84	7.80	6.94	6.24
80	MGPM	-	-	21.9	-	-	18.6	22.8	20.5	18.6	17.0	15.6	14.5	12.6	11.2	10.0	9.11
	MGPL/A	-	-	15.1	-	-	23.3	22.7	20.6	18.9	17.3	16.0	14.8	12.9	11.3	10.0	8.94
100	MGPM	-	-	38.8	-	-	33.5	37.5	33.8	30.9	28.4	26.2	24.4	21.4	19.1	17.2	15.7
	MGPL/A	-	-	27.1	-	-	30.6	37.9	34.6	31.8	29.3	27.2	25.3	22.1	19.5	17.3	15.5

Inner structure and material of major parts

MGPM



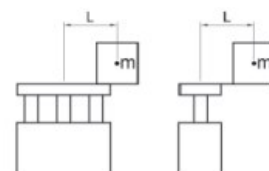
NO.	Description	Material
1	Fixing plate	Carbon steel
2	Leader	Carbon steel
3	Body	Aluminum alloy
4	C clip	Spring steel
5	Front cover	Aluminum alloy
6	Bumper	TPU
7	Piston rod O-ring	NBR
8	Screw	Alloy steel
9	O-ring	NBR
10	Bearing	Brass
11	C clip	Stainless steel
12	Guide ring	PTFE
13	Piston seal	NBR
14	Back cover	Aluminum alloy
15	Piston rod	Carbon steel
16	Piston	Aluminum alloy
17	Magnet holder	Aluminum alloy
18	Magnet washer	NBR
19	Magnet	Rare Earth
20	Steel ball	Stainless steel
21	Plager	Carbon steel+NBR
22	Spacer	Aluminum alloy

—MGP Series

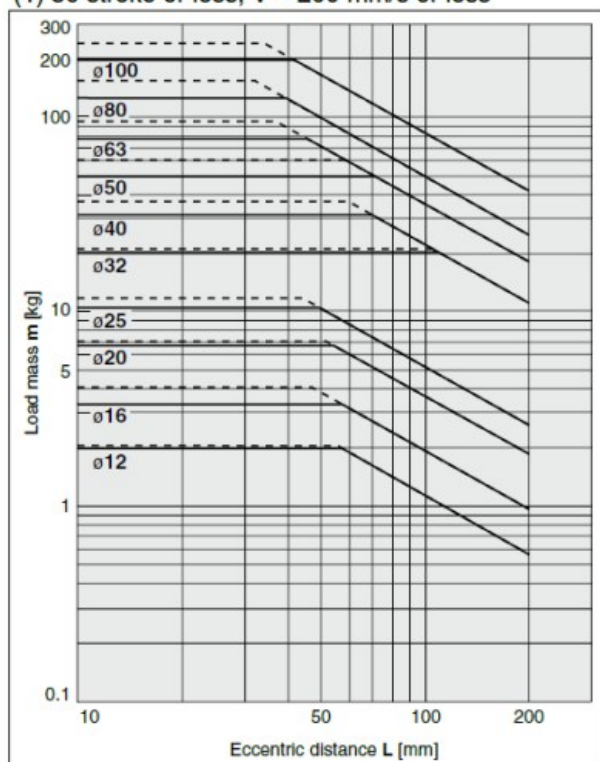
Allowable load for vertical installation

MGPM12 to 100

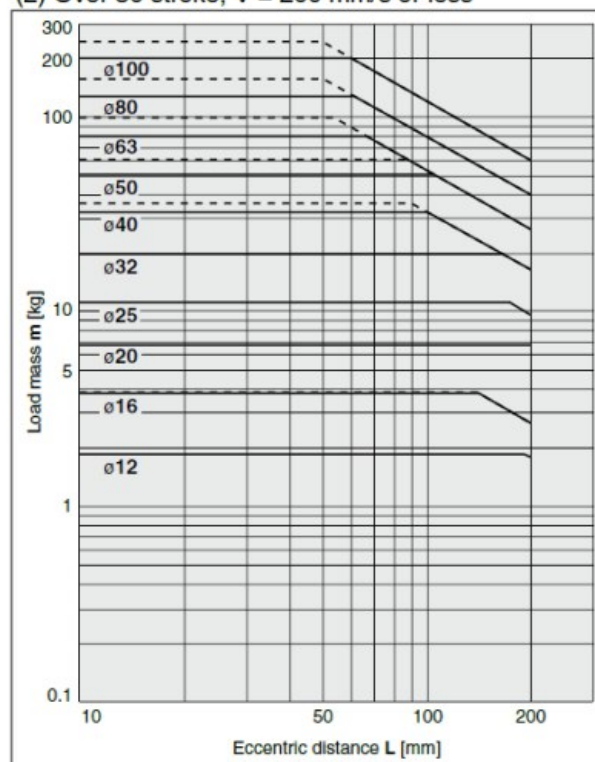
————— Operating pressure 0.4 MPa
 - - - - - Operating pressure 0.5 MPa or more



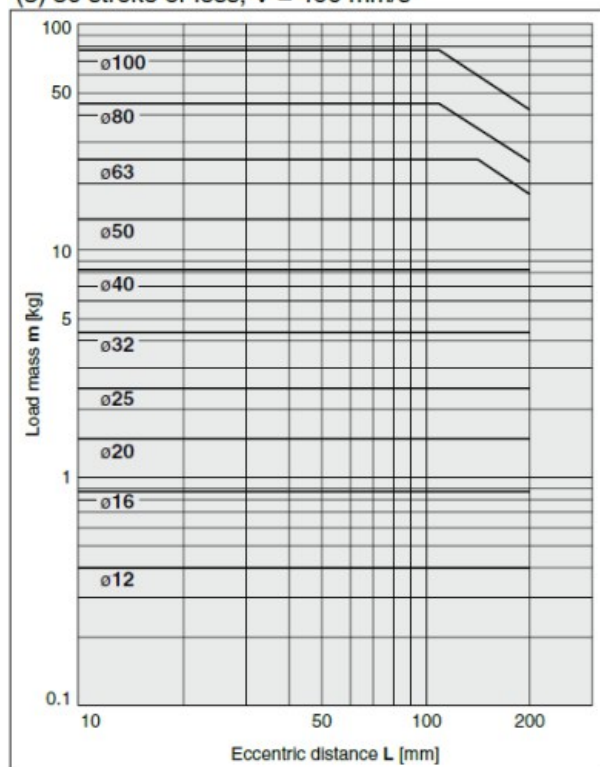
(1) 50 stroke or less, V = 200 mm/s or less



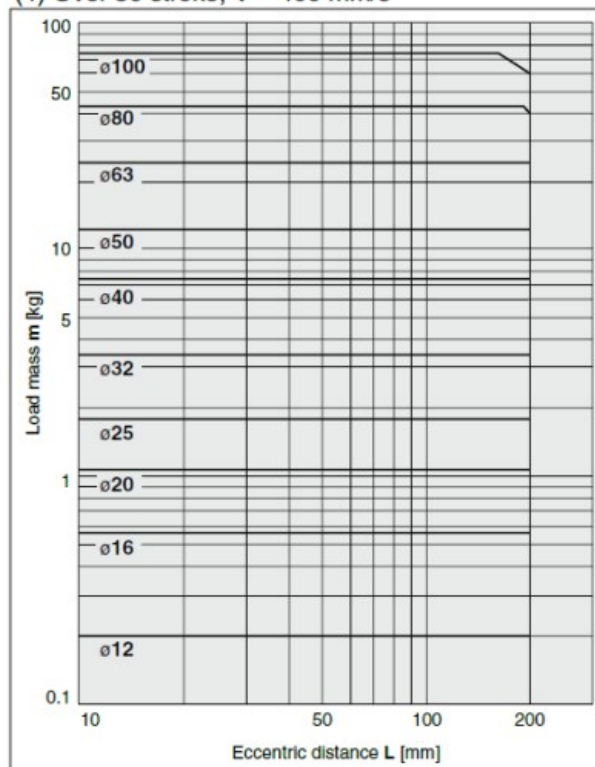
(2) Over 50 stroke, V = 200 mm/s or less



(3) 50 stroke or less, V = 400 mm/s



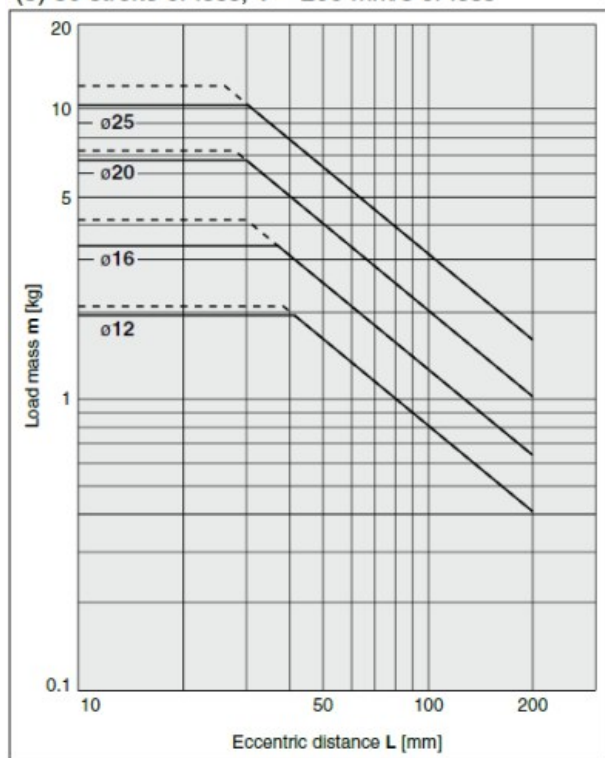
(4) Over 50 stroke, V = 400 mm/s



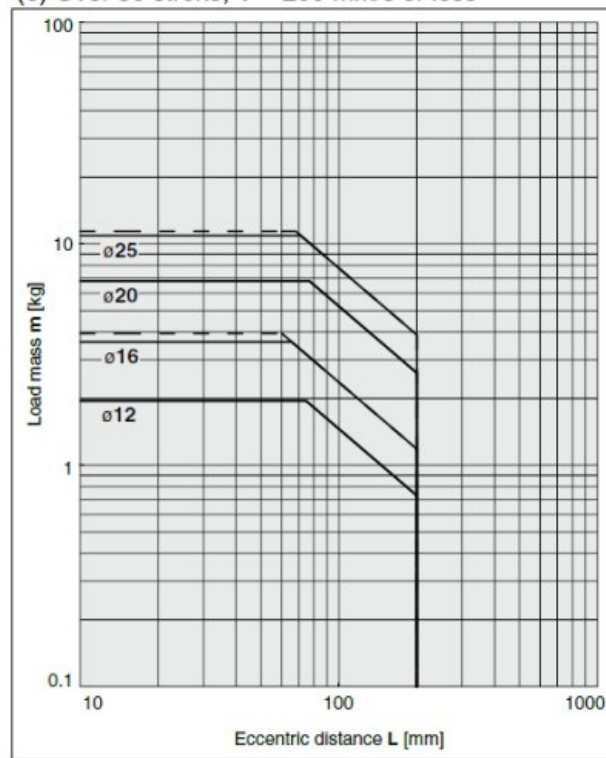
· Use the Guide Cylinder Selection Software, when the eccentric distance is 200 mm or more.

MGPL12 to 25, MGPA12 to 25

(5) 30 stroke or less, V = 200 mm/s or less

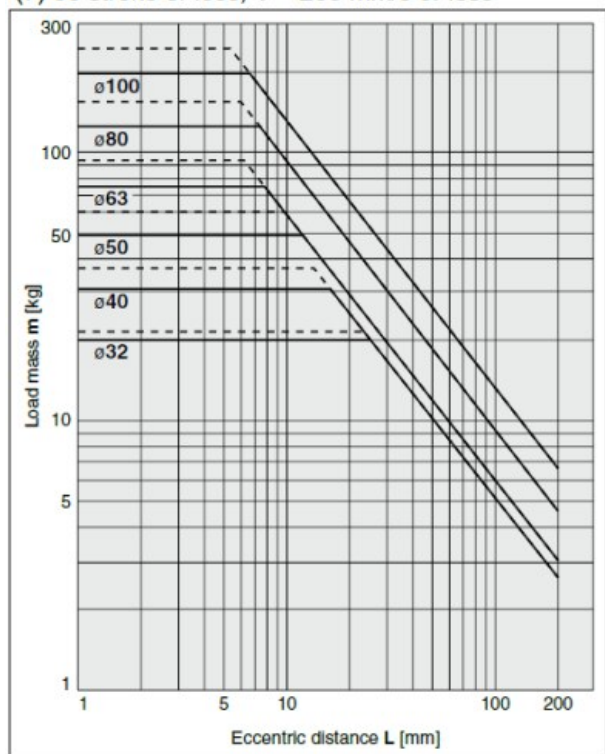


(6) Over 30 stroke, V = 200 mm/s or less

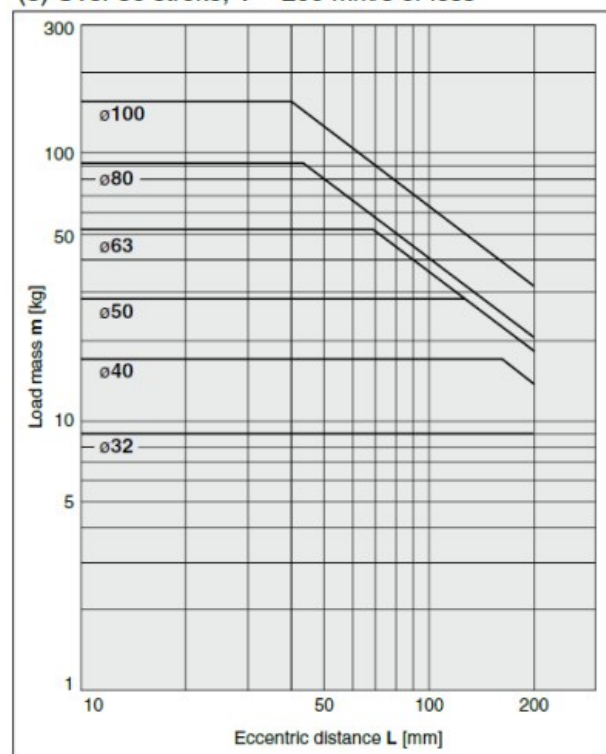


MGPL32 to 100, MGPA32 to 100

(7) 50 stroke or less, V = 200 mm/s or less



(8) Over 50 stroke, V = 200 mm/s or less

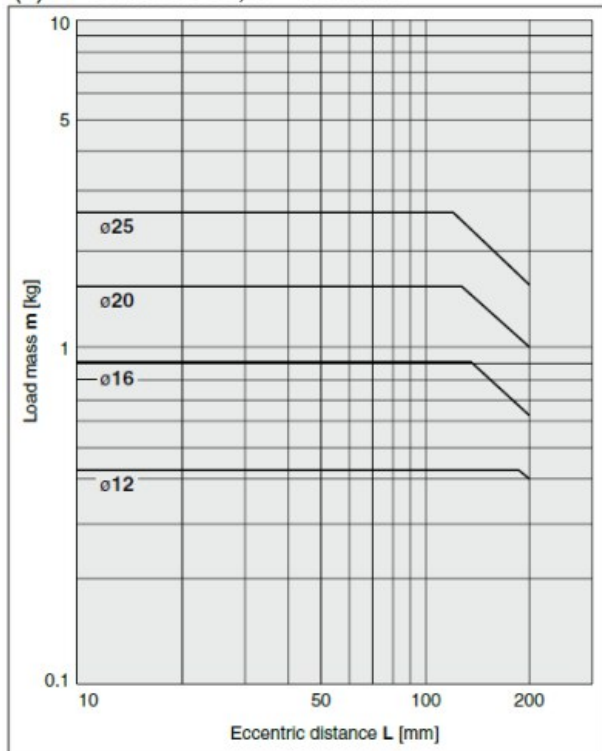


· Use the Guide Cylinder Selection Software, when the eccentric distance is 200 mm or more.

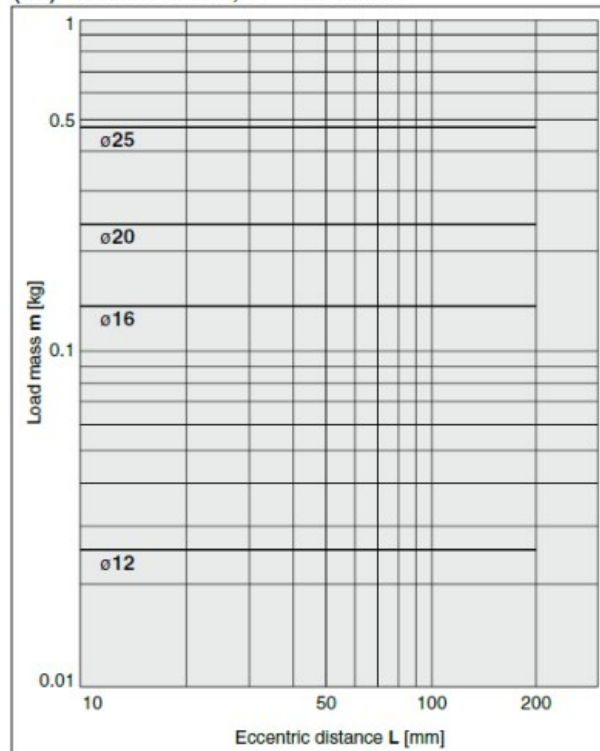
MGPL12 to 25, MGPA12 to 25

————— Operating pressure 0.4 MPa

(9) 30 stroke or less, $V = 400$ mm/s

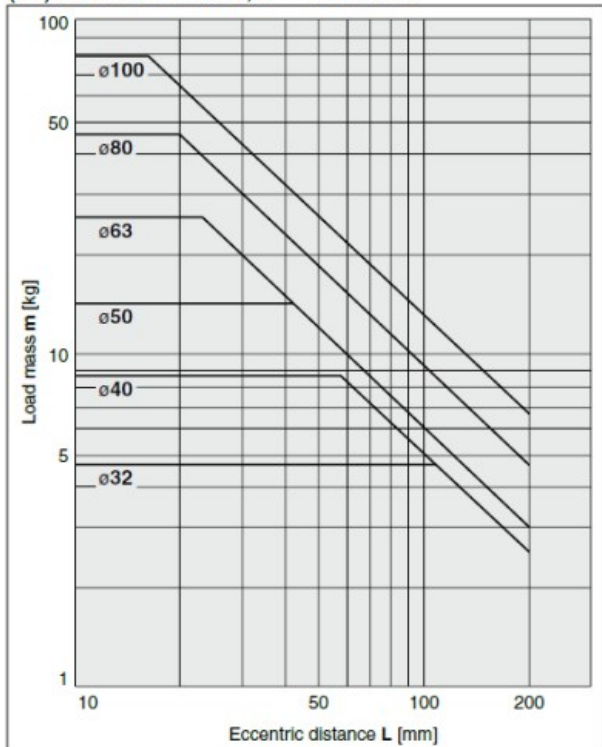


(10) Over 30 stroke, $V = 400$ mm/s

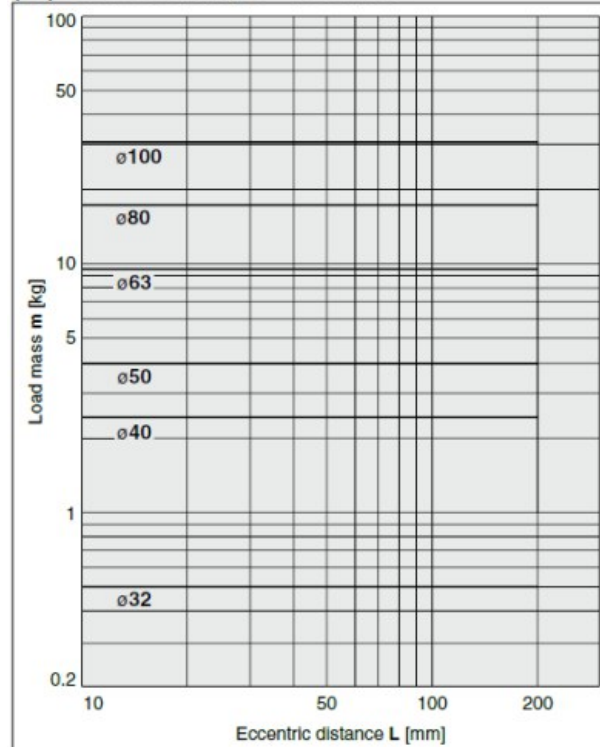


MGPL32 to 100, MGPA32 to 100

(11) 50 stroke or less, $V = 400$ mm/s



(12) Over 50 stroke, $V = 400$ mm/s



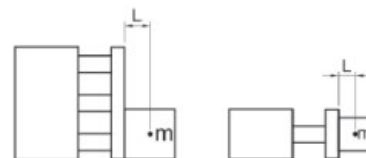
· Use the Guide Cylinder Selection Software, when the eccentric distance is 200 mm or more.

—MGP Series

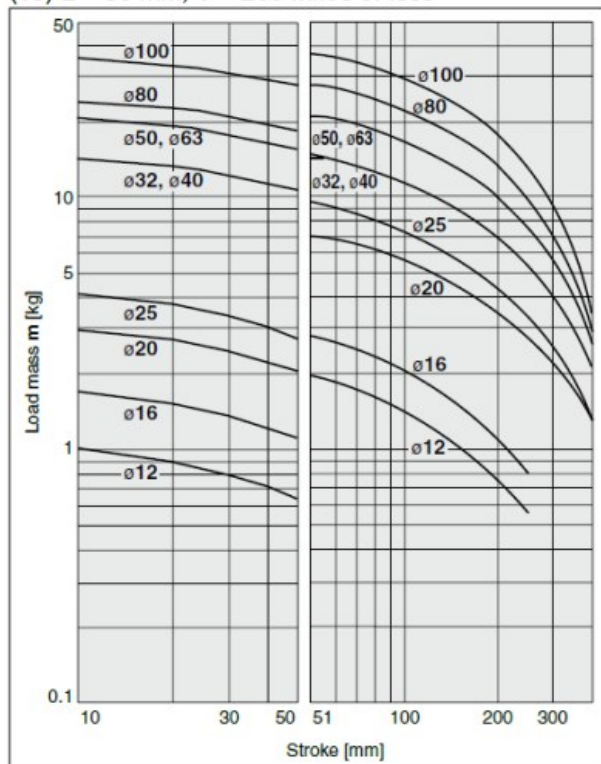
■ Allowable load for horizontal Mounting

MGPM12 to 100

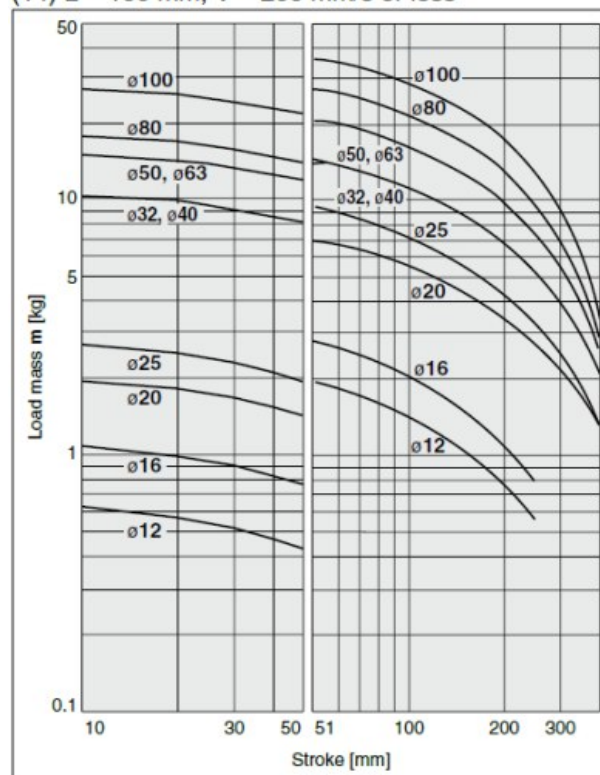
————— Operating pressure 0.4 MPa



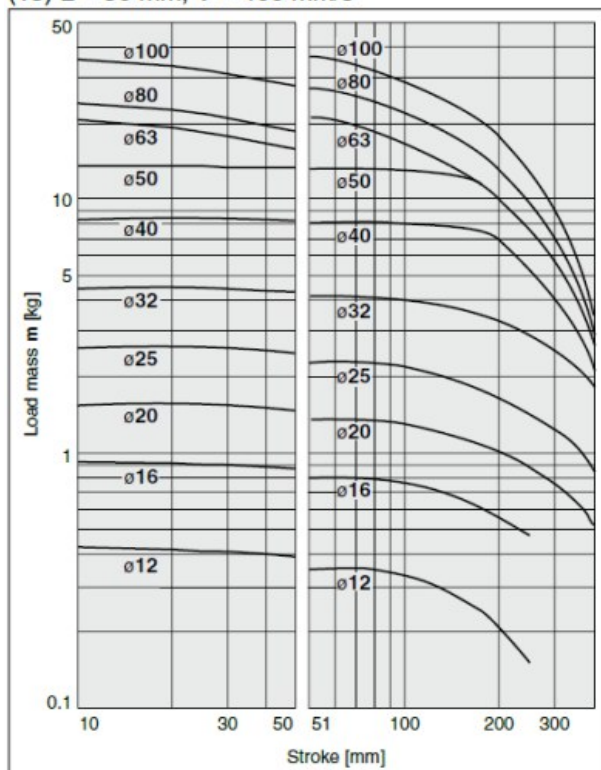
(13) L = 50 mm, V = 200 mm/s or less



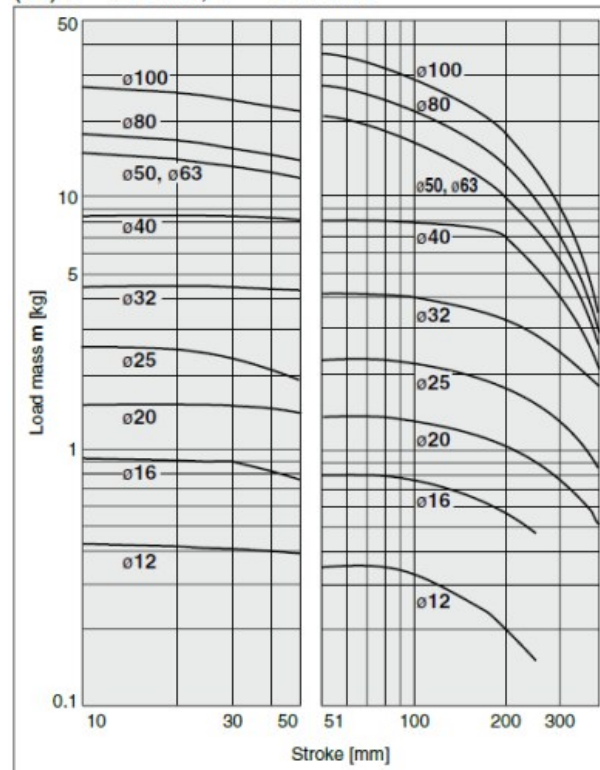
(14) L = 100 mm, V = 200 mm/s or less



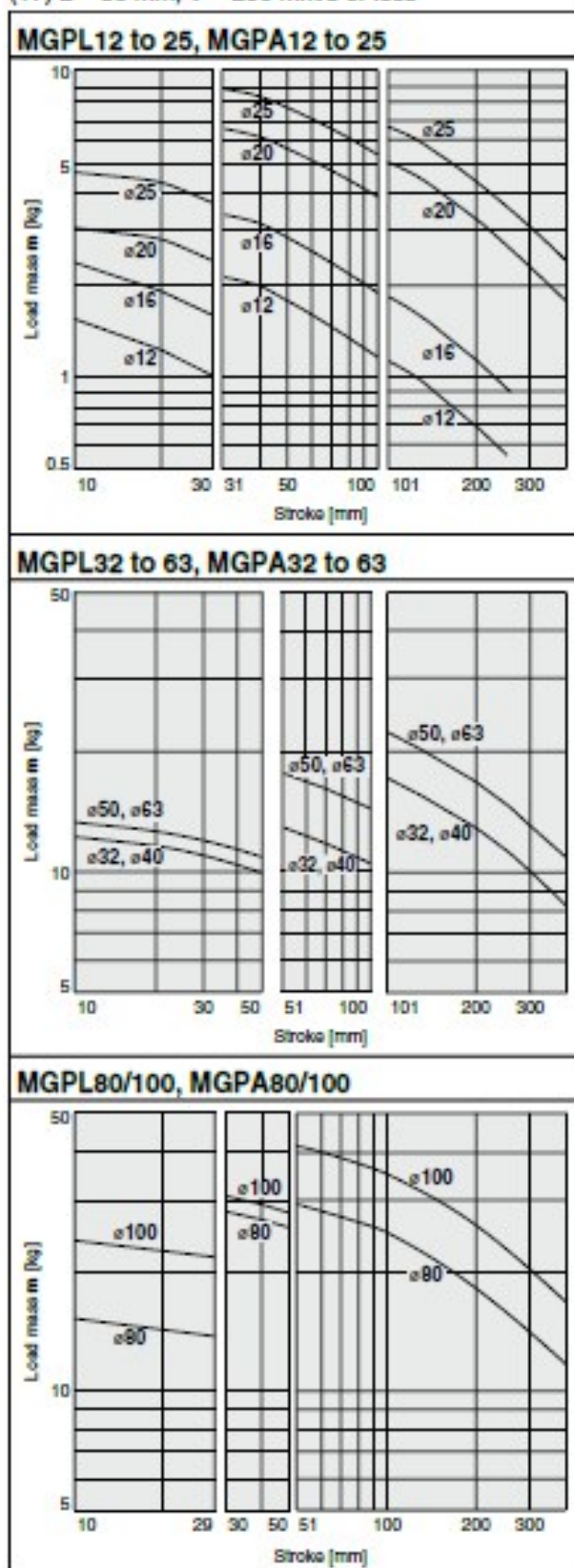
(15) L = 50 mm, V = 400 mm/s



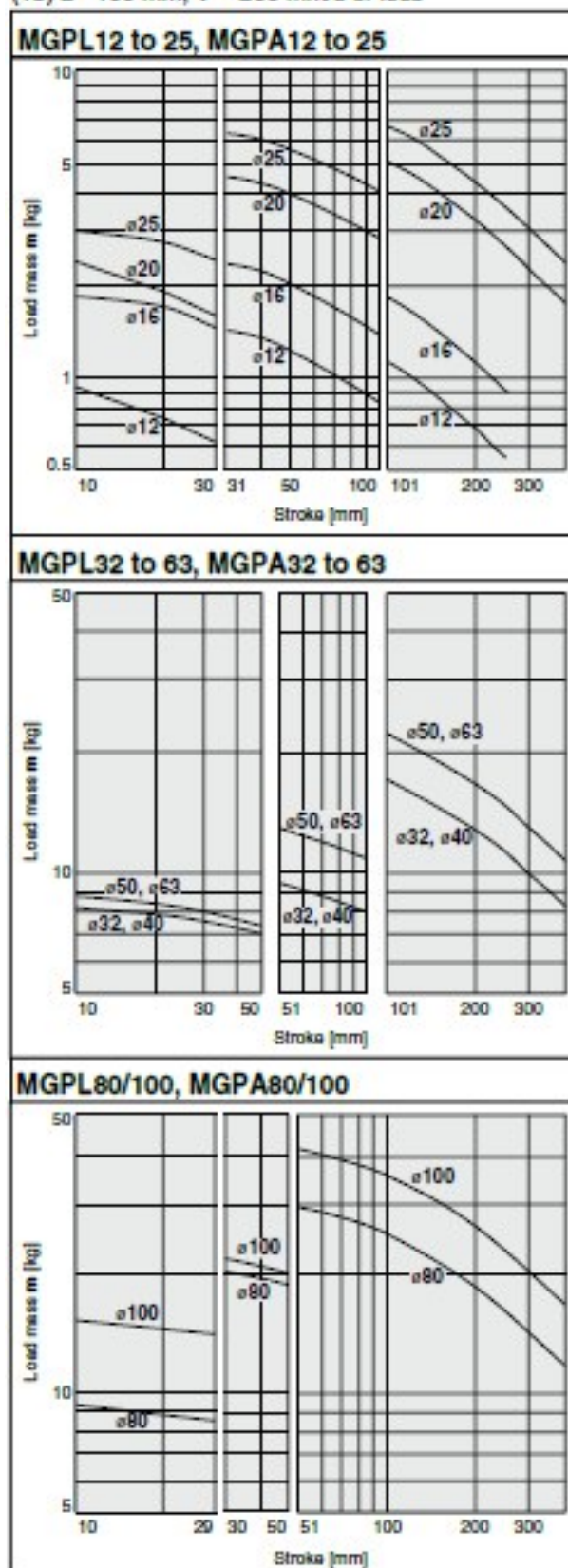
(16) L = 100 mm, V = 400 mm/s



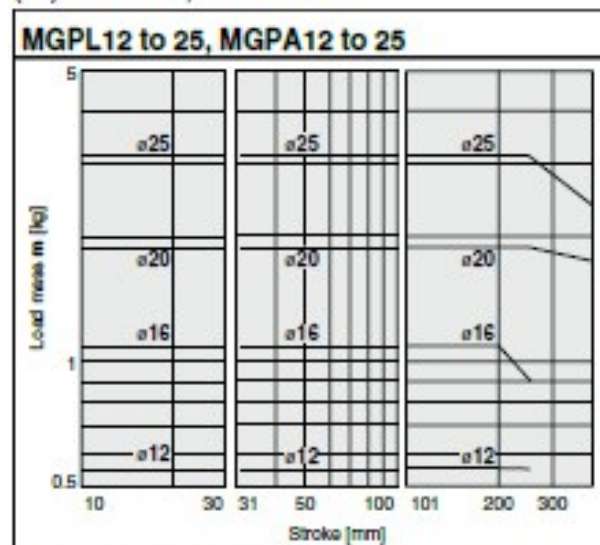
(17) L = 50 mm, V = 200 mm/s or less



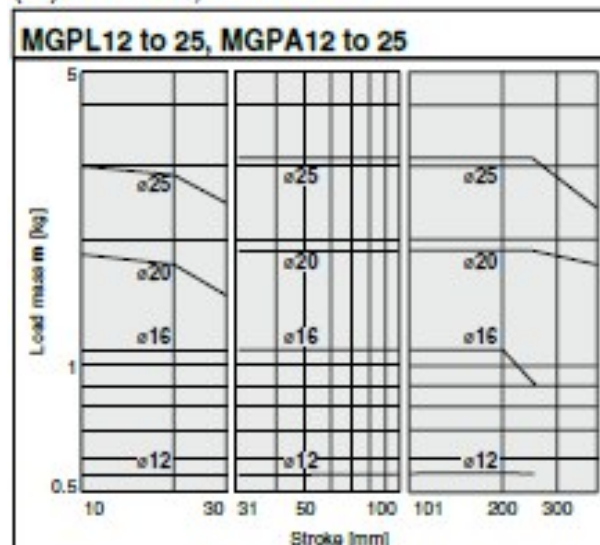
(18) L = 100 mm, V = 200 mm/s or less



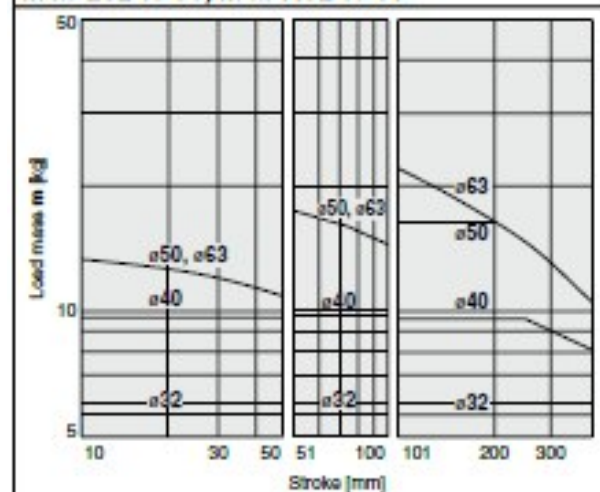
(19) L = 50 mm, V = 400 mm/s



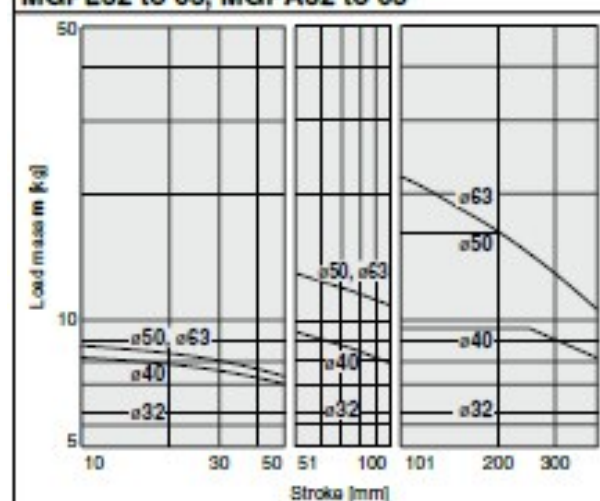
(20) L = 100 mm, V = 400 mm/s



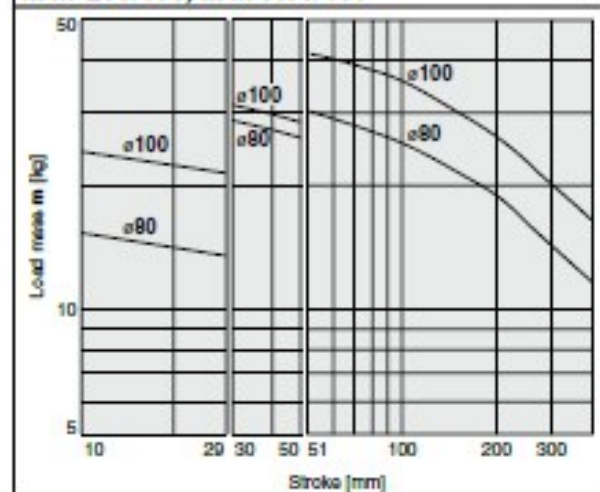
MGPL32 to 63, MGPA32 to 63



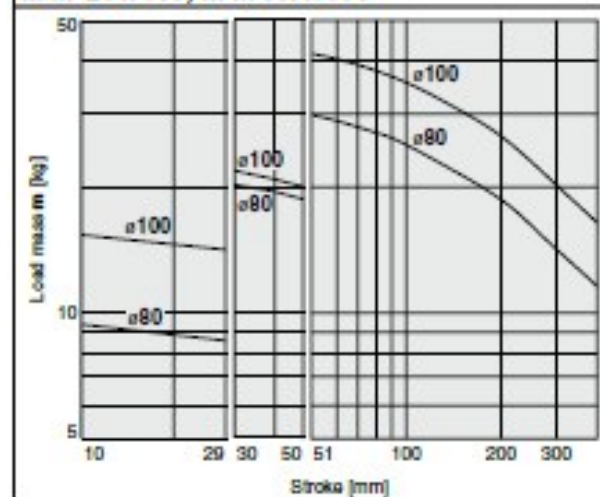
MGPL32 to 63, MGPA32 to 63



MGPL80/100, MGPA80/100



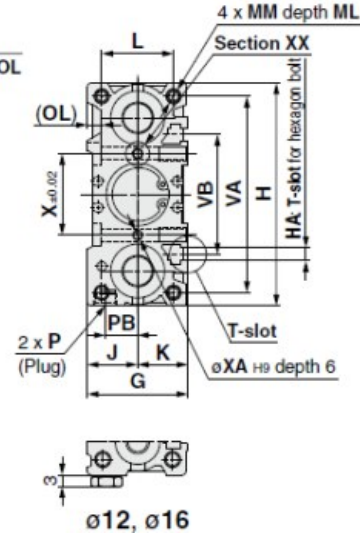
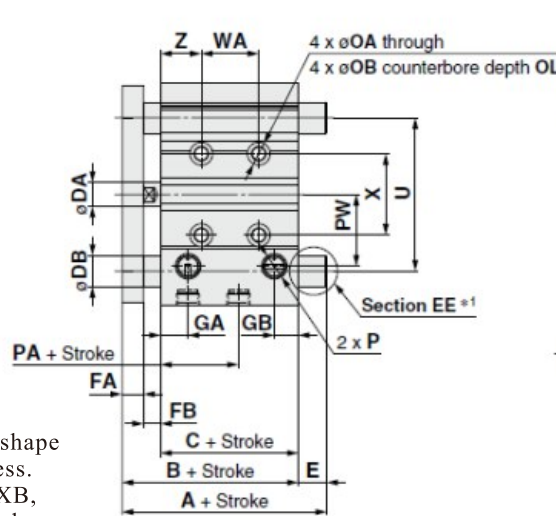
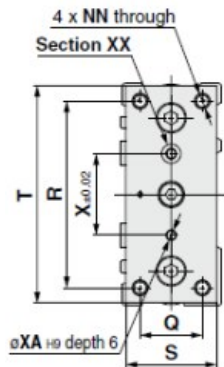
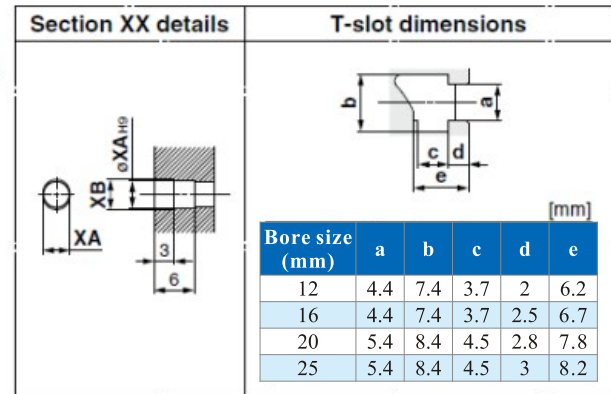
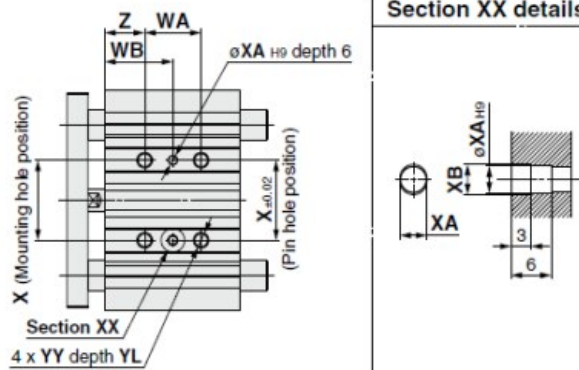
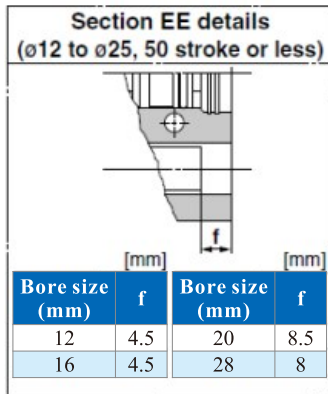
MGPL80/100, MGPA80/100



—MGP Series

Dimensions

ø12 to ø25/MGPM, MGPL, MGPA



*1: Refer to Section EE details for the shape of ø12 to ø25 with stroke of 50 or less.

*: The use of a slot (width XA, length XB, depth 3) allows for a relaxed pin pitch tolerance, with the pin hole (øXA H9, depth 6) as the reference, without affecting mounting accuracy.

*: For bore size ø12 and ø16, only M5 x 0.8 port is available. *: For bore size ø20 or more, choice of Rc, NPT, G port is available.

MGPM, MGPL, MGPA Common Dimensions

Bore size	Standard Stroke					B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P		
																									Nil	TN	TF
12	10,20,30,40,50,75,100					42	29	6	7	6	26	10	7	58	M4	13	13	18	M4 x 0.7	10	M4 x 0.7	4.3	8	4.5	M5 x 0.8	-	-
16	125,150,175,200,250					46	33	8	7	6	30	10.5	7.5	64	M4	15	15	22	M5 x 0.8	12	M5 x 0.8	4.3	8	4.5	M5 x 0.8	-	-
20	20,30,40,50,75,100,125,150					53	37	10	8	8	36	11.5	9	83	M5	18	18	24	M5 x 0.8	13	M5 x 0.8	5.4	9.5	5.5	Rc1/8	NPT1/8	G1/8
25	175,200,250,300,350,400					53.5	37.5	10	9	7	42	11.5	10	93	M5	21	21	30	M6 x 1	15	M6 x 1	5.4	9.5	5.5	Rc1/8	NPT1/8	G1/8

Bore size	PA	PB	PW	Q	R	S	T	U	VA	VB	WA					WB					X	XA	XB	YY	YL	Z
											≤30	31~100	101~200	201~300	≥300	≤30	31~100	101~200	201~300	≥300						
12	13	8	18	14	48	22	56	41	50	37	20	40	110	200	-	15	25	60	105	-	23	3	3.5	M5 x 0.8	10	5
16	14.5	10	19	16	54	25	62	46	56	38	24	44	110	200	-	17	27	60	105	-	24	3	3.5	M5 x 0.8	10	5
20	13.5	10.5	25	18	70	30	81	54	72	44	24	44	120	200	300	29	39	77	117	167	28	3	3.5	M6 x 1.0	12	17
25	12.5	13.5	30	26	78	38	91	64	82	50	24	44	120	200	300	29	39	77	117	167	34	4	4.5	M6 x 1.0	12	17

MGPM (Slide bearing) A, DB, E Dimensions

Bore size	A				DB	E			
	≤50	51~100	101~200	≥200		≤50	51~100	101~200	≥200
12	42	60.5	82.5	82.5	8	0	18.5	40.5	40.5
16	46	64.5	92.5	92.5	10	0	18.5	46.5	46.5
20	53	77.5	77.5	110	12	0	24.5	24.5	57
25	53.5	77.5	77.5	109.5	16	0	24	24	56

MGPL (Ball bushing)

MGPA (High precision ball bushing) A, DB, E Dimensions

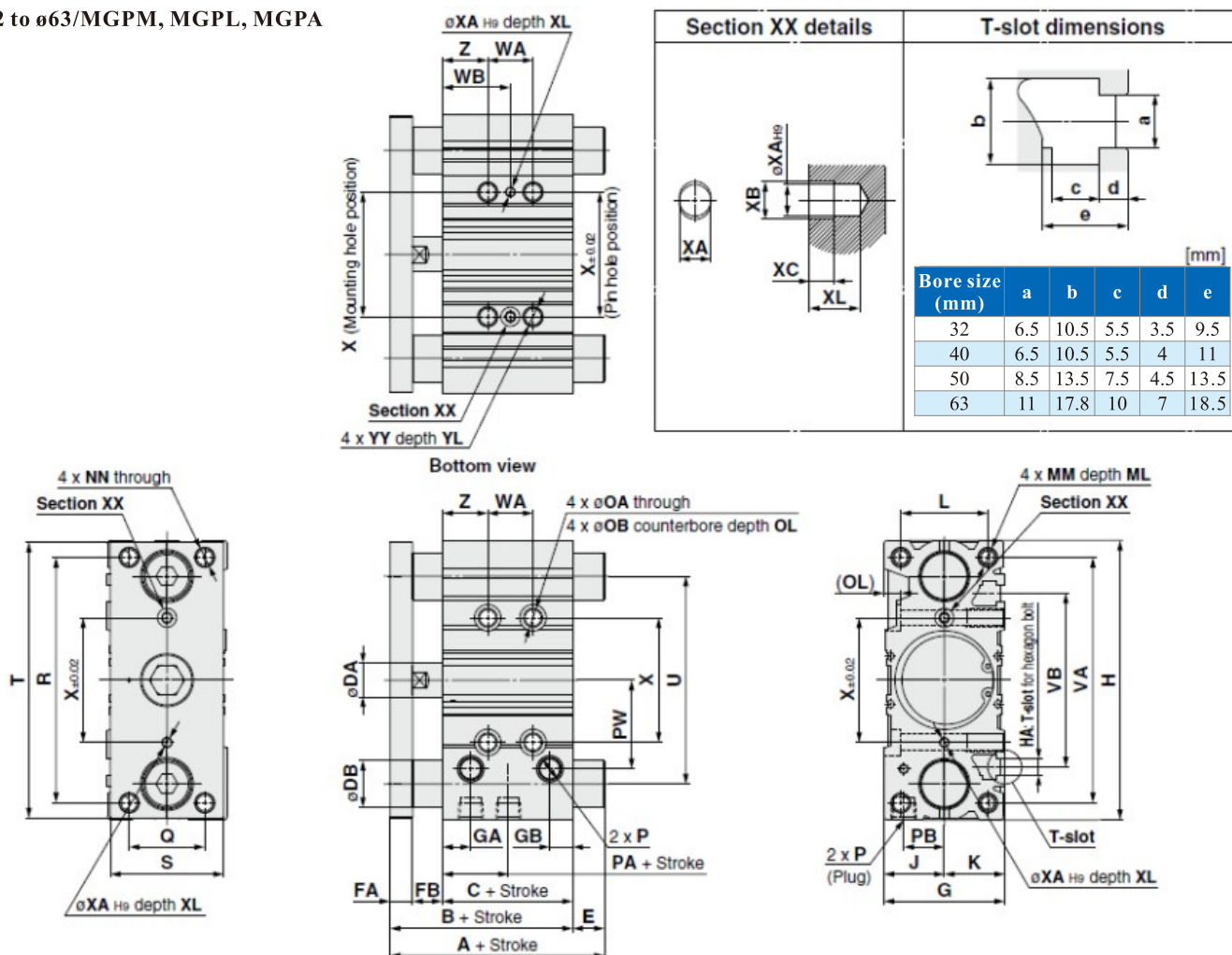
Bore size	A				DB	E			
	≤50	51~100	101~200	≥200		≤50	51~100	101~200	≥200
12	43	55	84.5	84.5	6	1	13	42.5	42.5
16	49	65	94.5	94.5	8	3	19	48.5	48.5
20	59	76	100	117.5	10	6	23	47	64.5
25	65.5	81.5	100.5	117.5	13	12	28	47	64

Compact Guide Cylinder

BITEBI®

—MGP Series

ø32 to ø63/MGPM, MGPL, MGPA



*: The use of a slot (width XA, length XB, depth XC) allows for a relaxed pin pitch tolerance, with the pin hole (øXAH9, depth XL) as the reference, without affecting mounting accuracy.

*: Choice of Rc, NPT, G port is available.

MGPM, MGPL, MGPA Common Dimensions

[mm]

Bore size	Standard Stroke	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P		
																					Nil	TN	TF
32	25, 50, 75	59.5	37.5	14	10	12	48	12	9	112	M6	24	24	34	M8x1.25	20	M8x1.25	6.7	11	7.5	Rc1/8	NPT1/8	G1/8
40	100, 125, 150	66	44	14	10	12	54	15	12	120	M6	27	27	40	M8x1.25	20	M8x1.25	6.7	11	7.5	Rc1/8	NPT1/8	G1/8
50	175, 200, 250	72	44	18	12	16	64	15	12	148	M8	32	32	46	M10x1.5	22	M10x1.5	8.6	14	9	Rc1/4	NPT1/4	G1/4
63	300, 350, 400	77	49	18	12	16	78	15.5	13.5	162	M10	39	39	58	M10x1.5	22	M10x1.5	8.6	-	9	Rc1/4	NPT1/4	G1/4

Bore size	PA	PB	PW	Q	R	S	T	U	VA	VB	WA					WB					X	XA	XB	XC	XL	YY	YL	Z
											≤25	26~100	101~200	201~300	≥300	≤25	26~100	101~200	201~300	≥300								
32	6.5	16	35.5	30	96	44	110	78	98	63	24	48	124	200	300	33	45	83	121	171	42	4	4.5	3	6	M8x1.25	16	21
40	13	18	39.5	30	104	44	118	86	106	72	24	48	124	200	300	34	46	84	122	172	50	4	4.5	3	6	M8x1.25	16	22
50	9	21.5	47	40	130	60	146	110	130	92	24	48	124	200	300	36	48	86	124	174	66	5	6	4	8	M10x1.5	20	24
63	13	28	58	50	130	70	158	124	142	110	28	52	128	200	300	38	50	88	124	174	80	5	6	4	8	M10x1.5	20	24

MGPM (Slide bearing) A, DB, E Dimensions

[mm]

Bore size	A			DB	E		
	≤50	51~200	≥200		≤50	51~200	≥200
32	75	93.5	129.5	20	15.5	34	70
40	75	93.5	129.5	20	9	27.5	63.5
50	88.5	109.5	150.5	25	16.5	37.5	78.5
63	88.5	109.5	150.5	25	11.5	32.5	73.5

MGPL (Ball bushing)

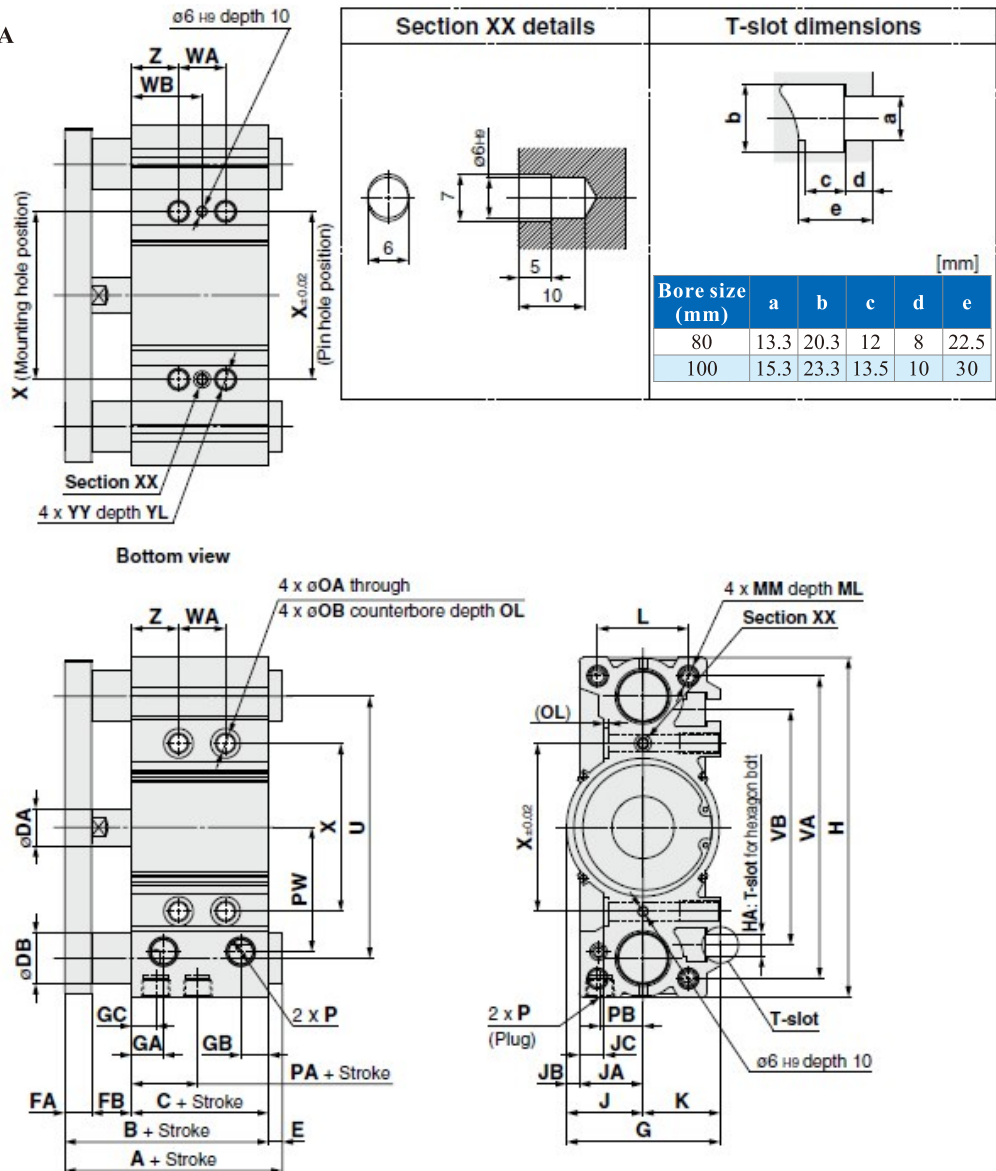
MGPA (High precision ball bushing) A, DB, E Dimensions [mm]

Bore size	A				DB	E			
	≤50	51~100	101~200	≥200		≤50	51~100	101~200	≥200
32	79.5	96.5	116.5	138.5	16	20	37	57	79
40	79.5	96.5	116.5	138.5	16	13.5	30.5	50.5	72.5
50	91.5	112.5	132.5	159.5	20	19.5	40.5	60.5	87.5
63	91.5	112.5	132.5	159.5	20	14.5	35.5	55.5	82.5

Compact Guide Cylinder

—MGP Series

ø80, ø100/MGPM, MGPL, MGPA



*: The use of a slot (width X6, length 7, depth 5) allows for a relaxed pin pitch tolerance, with the pin hole (ø6H9, depth 10) as the reference, without affecting mounting accuracy.

*: Choice of Rc, NPT, G port is available.

MGPM, MGPL, MGPA Common Dimensions

[mm]

Bore size	Standard Stroke					B	C	DA	FA	FB	G	GA	GB	GC	H	HA	J	JA	JB	JC	K	L	MM	ML	NN	OA	OB	OL	P		
																													Nil	TN	TF
80	25,50,75,100,125,150,					96.5	56.5	22	16	24	91.5	19	16.5	14.5	202	M12	45.5	38	7.5	15	13	18	M12x1.75	25	M12x1.75	10.6	17.5	3	Rc3/8	NPT3/8	G3/8
100	175,200,250,300,350,400					116	66	26	19	31	111.5	22.5	20.5	18	240	M14	55.5	45	10.5	10	15	22	M14x2.0	31	M14x2.0	12.5	20	8	Rc3/8	NPT3/8	G3/8

Bore size	PA	PB	PW	Q	R	S	T	U	VA	VB	WA					WB					X	YY		YL	Z
											≤25	26~100	101~200	201~300	≥300	≤25	26~100	101~200	201~300	≥300					
80	14.5	25.5	74	52	174	75	198	156	180	140	28	52	128	200	300	42	54	92	128	178	100	M12x1.75		24	28
100	17.5	32.5	89	64	210	90	236	188	210	166	45	72	148	220	320	35	47	85	121	171	124	M14x2.0		28	11

MGPM (Slide bearing) A, DB, E Dimensions

[mm]

Bore size	A			DB	E		
	≤50	51~200	≥200		≤50	51~200	≥200
80	104.5	131.5	180.5	30	8	35	84
100	126.5	151.5	190.5	36	10.5	35.5	74.5

MGPL (Ball bushing)

MGPA (High precision ball bushing) A, DB, E Dimensions [mm]

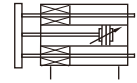
Bore size	A				DB	E			
	≤25	26~50	51~200	≥200		≤25	26~50	51~200	≥200
80	104.5	128.5	158.5	191.5	25	8	32	62	95
100	119.5	145.5	178.5	201.5	30	3.5	29.5	62.5	85.5

Compact Guide Cylinder With Air Cushion **BITEBI®**

—MGP Series



■ Symbol



■ Specification

Bore size(mm)	16	20	25	32	40	50	63	80	100
Acting type	Double acting								
Fluid	Air(to be filtered by 40μm filter element)								
Proof pressure	1.5MPa(215psi)								
Maximum operating pressure	1.0MPa(145psi)								
Minimum operating pressure	0.12MPa(18psi)	0.1MPa(15psi)							
Temperature °C	-10~70(No freezing)								
Speed range mm/s	50~500							50~400	
Stroke tolerance	+1.5 0								
Cushion type	Bumper or air cushion(Operational)								
Port size [Note2]	M5×0.8	1/8"				1/4"		3/8"	

■ Standard Stroke

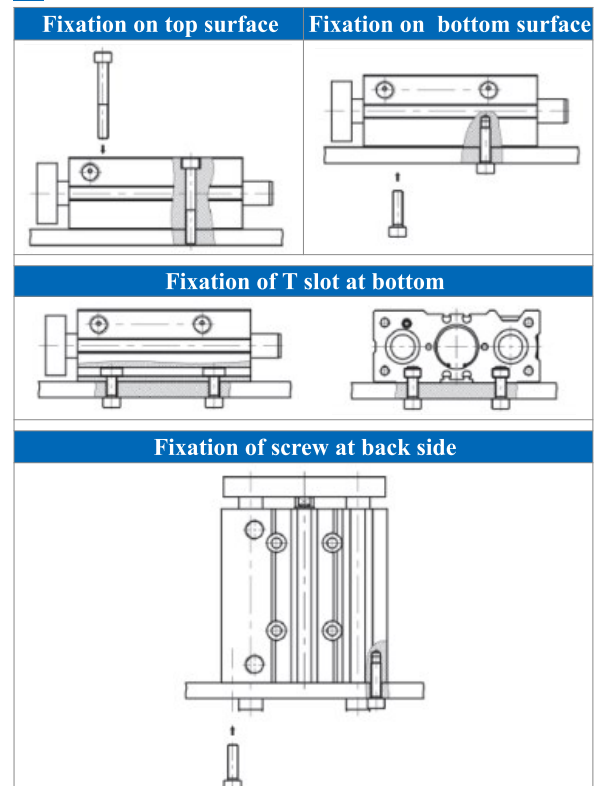
Bore size(mm)	Standard stroke Note1)
16	25, 50, 75, 100, 125, 150, 175, 200, 250
20~63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400
80, 100	50, 75, 100, 125, 150, 200, 250, 300, 350, 400

■ Manufacture of Intermediate Strokes

Description	Intermediate strokes in 1 mm increments are available by replacing collars of a standard stroke cylinder. Minimum manufacturable stroke ø16 to ø63: 15 mm ø80, ø100: 20 mm Select a rubber bumper type, because the cushion effect is not obtainable for less than this stroke.	
Model no.	Refer to How to Order for the standard model numbers.	
Applicable stroke	16	15~249
	20, 25, 32, 40, 50, 63	15~399
	80, 100	20~399
Example	Part no.: MGPM20-35AS A collar 15 mm in width is installed in the MGPM20-50AS. C dimension is 112 mm.	

*: Intermediate stroke (in 1 mm increments) based on an exclusive body will be available upon request for special.

■ How to mount



Compact Guide Cylinder With Air Cushion **BITEBI®**

—MGP Series

Ordering code

MGP M 20 □ -30 A S

① ② ③ ④ ⑤ ⑥ ⑦

③ Bore size

16	16mm
20	20mm
25	25mm
32	32mm
40	40mm
50	50mm
63	63mm
80	80mm
100	100mm

④ Port thread type

Nil	M5 x 0.8
	Rc
TN	NPT
TF	G

*: For bore sizes 16, only M5 x 0.8 is available.

① Model

MGP: Compact Guide Cylinder

② Bearing type

M	Slide bearing
L	Ball bushing
A	High precision ball bushing

⑤ Cylinder stroke (mm)

Refer to "Standard Strokes"

⑥ Cushion

A	With air cushion
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⑦ Magnet

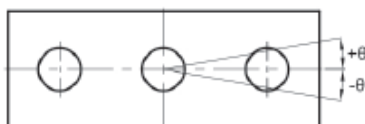
S	With magnet
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Criteria for selection: Cylinder thrust

Unit: Newton(N)

Bore size	Rod size	Operating direction	Pressure area(mm ²)	Operating pressure(MPa)								
				0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
16	8	OUT	201	40	60	80	101	121	141	161	181	201
		IN	151	30	45	60	75	90	106	121	136	151
20	10	OUT	314	63	94	126	157	188	220	251	283	314
		IN	236	47	71	94	118	141	165	188	212	236
25	10	OUT	491	98	147	196	245	295	344	393	442	491
		IN	412	82	124	165	206	247	289	330	371	412
32	14	OUT	804	161	241	322	402	483	563	643	724	804
		IN	650	130	195	260	325	390	455	520	585	650
40	14	OUT	1257	251	377	503	628	754	880	1005	1131	1257
		IN	1103	221	331	441	551	662	772	882	992	1103
50	20	OUT	1963	393	589	785	982	1178	1374	1571	1767	1963
		IN	1649	330	495	660	825	990	1154	1319	1484	1649
63	20	OUT	3117	623	935	1247	1559	1870	2182	2494	2806	3117
		IN	2803	561	841	1121	1402	1682	1962	2242	2523	2803
80	25	OUT	5027	1005	1508	2011	2513	3016	3519	4021	4524	5027
		IN	4536	907	1361	1814	2268	2722	3175	3629	4082	4536
100	30	OUT	7854	1571	2356	3142	3927	4712	5498	6283	7069	7854
		IN	7147	1429	2144	2859	3574	4288	5003	5718	6432	7147

Non-rotating tolerance



Non-rotating accuracy q when retracted and when no load is applied should be not more than the values shown in the table.

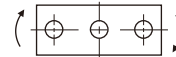
Bore size (mm)	Non-rotating tolerance		
	MGPM	MGPL	MGPA
16	±0.07°	±0.05°	±0.01°
20	±0.06°	±0.04°	
25	±0.06°	±0.04°	
32	±0.05°	±0.03°	

Bore size (mm)	Non-rotating tolerance		
	MGPM	MGPL	MGPA
40	±0.05°	±0.03°	±0.01°
50	±0.04°	±0.03°	
63	±0.04°	±0.03°	
80	±0.03°	±0.03°	
100	±0.03°	±0.03°	

Compact Guide Cylinder With Air Cushion **BITEBI®**

—MGP Series

Allowable Rotational Torque of Plate

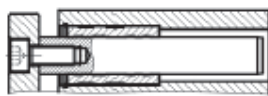
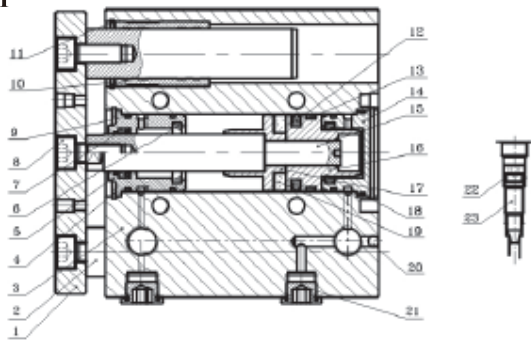


Unit: Newton·Meter(N·m)

Bore size	Type	Stroke(mm)											
		25	50	75	100	125	150	175	200	250	300	350	400
16	MGPM	0.53	0.84	0.69	0.58	0.50	0.44	0.40	0.36	0.30	-	-	-
	MGPL/A	1.27	0.86	0.65	0.52	0.43	0.37	0.32	0.28	0.23	-	-	-
20	MGPM	0.99	2.23	1.88	1.63	1.44	1.28	1.16	1.06	0.90	0.78	0.69	0.62
	MGPL/A	2.66	1.94	1.52	1.57	1.34	1.17	1.03	0.93	0.76	0.65	0.56	0.49
25	MGPM	1.64	3.51	2.96	2.57	2.26	2.02	1.83	1.67	1.42	1.24	1.09	0.98
	MGPL/A	4.08	3.02	2.38	2.41	2.05	1.78	1.58	1.41	1.16	0.98	0.85	0.74
32	MGPM	6.35	6.64	5.69	4.97	4.42	3.98	3.61	3.31	2.84	2.48	2.20	1.98
	MGPL/A	5.95	5.89	5.11	6.99	6.34	5.79	5.33	4.93	4.29	3.78	3.38	3.04
40	MGPM	7.00	7.32	6.27	5.48	4.87	4.38	3.98	3.65	3.13	2.74	2.43	2.19
	MGPL/A	6.55	6.49	5.62	7.70	6.98	6.38	5.87	5.43	4.72	4.16	3.71	3.35
50	MGPM	13.0	13.8	12.0	10.6	9.50	8.60	7.86	7.24	6.24	5.49	4.90	4.43
	MGPL/A	9.17	11.2	9.80	12.8	11.6	10.7	9.80	9.10	7.95	7.02	6.26	5.63
63	MGPM	14.7	15.6	13.5	11.9	10.7	9.69	8.86	8.16	7.04	6.19	5.52	4.99
	MGPL/A	10.2	12.5	11.0	14.3	13.0	11.9	11.0	10.2	8.84	7.80	6.94	6.24
80	MGPM	-	26.0	22.9	20.5	18.6	17.0	15.6	14.5	12.6	11.2	10.0	9.11
	MGPL/A	-	25.2	22.7	20.6	18.9	17.3	16.0	14.8	12.9	11.3	10.0	8.94
100	MGPM	-	41.9	37.5	33.8	30.9	28.4	26.2	24.4	21.4	19.1	17.2	15.7
	MGPL/A	-	41.7	37.9	34.6	31.8	29.3	27.2	25.3	22.1	19.5	17.3	15.5

Inner structure and material of major parts

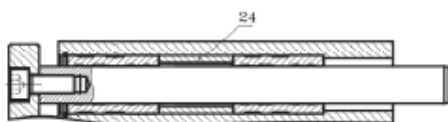
MGPM



Bore size Φ16~Φ100mm / Stroke≤75mm



Bore size Φ16~Φ100mm / 75<Stroke≤125mm



Bore size Φ16~Φ100mm / Stroke>125mm

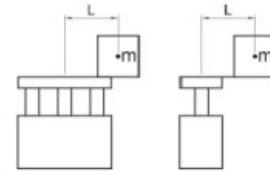
NO.	Description	Material
1	Fixing plate	Carbon steel
2	Leader	Carbon steel
3	Body	Aluminum alloy
4	C clip	Spring steel
5	Front cover	Aluminum alloy
6	Bumper	TPU
7	Piston rod O-ring	NBR
8	Screw	Carbon steel
9	O-ring	NBR
10	Bearing	Brass
11	C clip	Stainless steel
12	Piston seal	NBR
13	Guide ring	PTFE
14	Back cover	Aluminum alloy
15	Piston rod	Carbon steel
16	Piston	Aluminum alloy
17	Magnet holder	Aluminum alloy
18	O-ring	NBR
19	Magnet	Rare Earth
20	Steel ball	Stainless steel
21	Plager	Carbon steel+NBR
22	O-ring	NBR
23	Cushion pin	Carbon steel
24	Partition	Aluminum alloy

—MGP Series

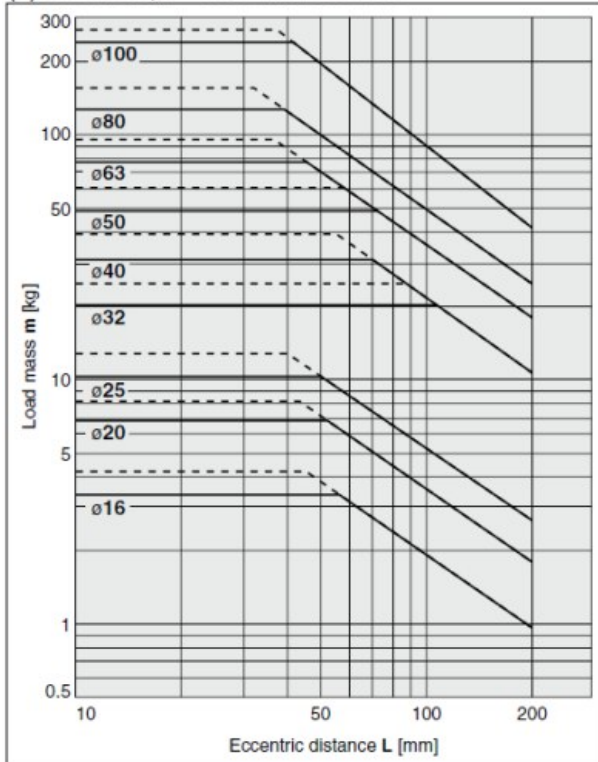
Allowable load for vertical installation

MGPM16 to 100

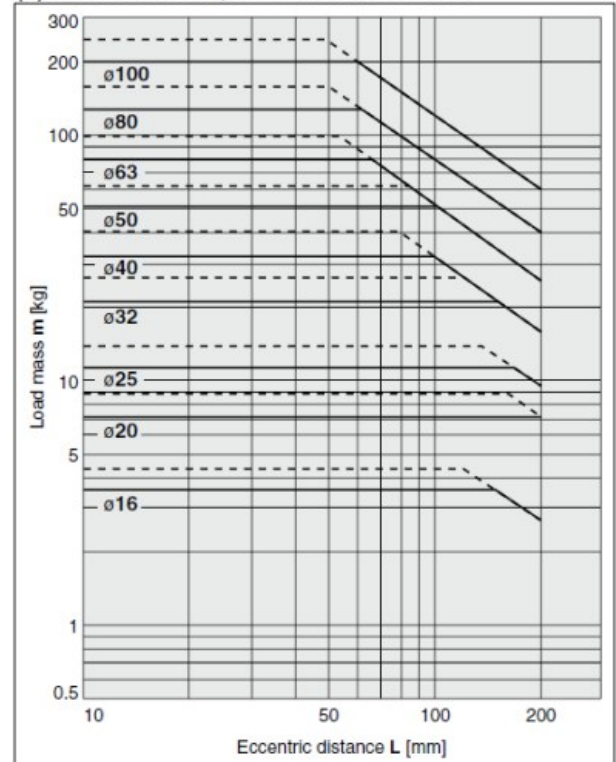
———— Operating pressure 0.4 MPa
 - - - - - Operating pressure 0.5 MPa or more



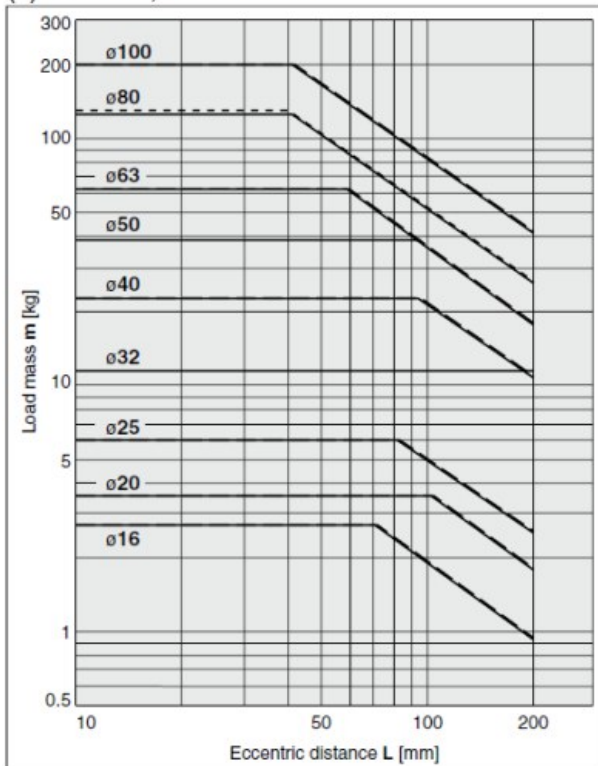
(1) 25 stroke, V = 200 mm/s or less



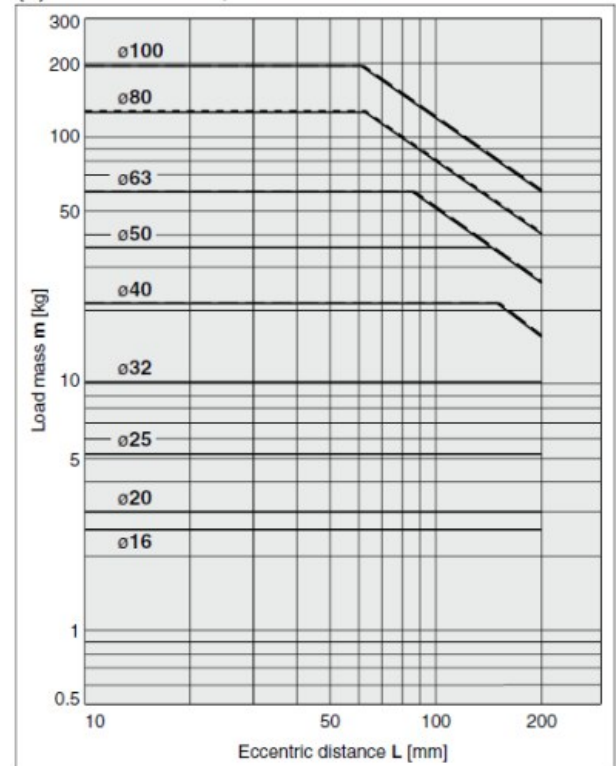
(2) Over 25 stroke, V = 200 mm/s or less



(3) 25 stroke, V = 400 mm/s



(4) Over 25 stroke, V = 400 mm/s



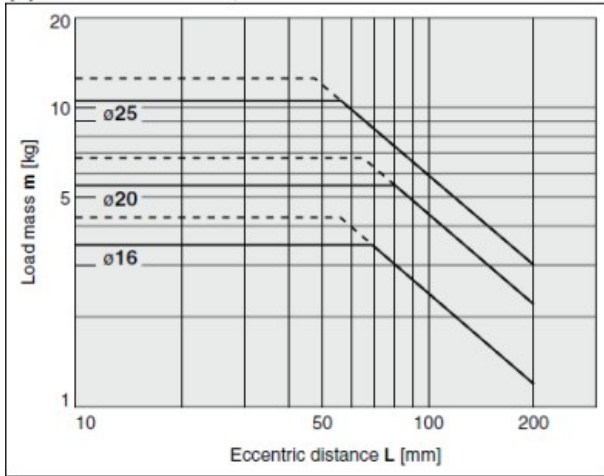
· Use the Guide Cylinder Selection Software, when the eccentric distance is 200 mm or more.

Compact Guide Cylinder With Air Cushion **BITEBI®**

—MGP Series

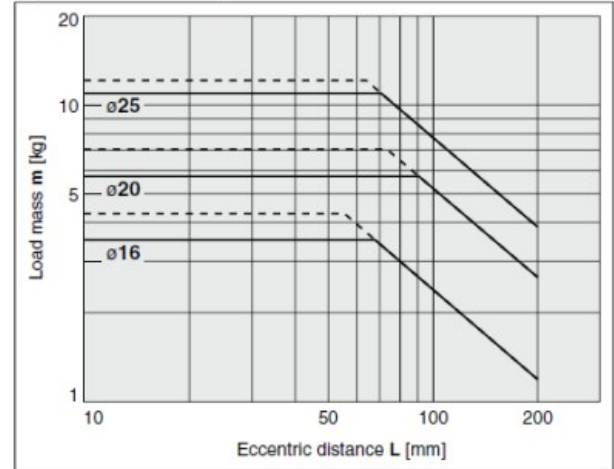
MGPL16 to 25

(5) 75 stroke or less, $V = 200$ mm/s or less



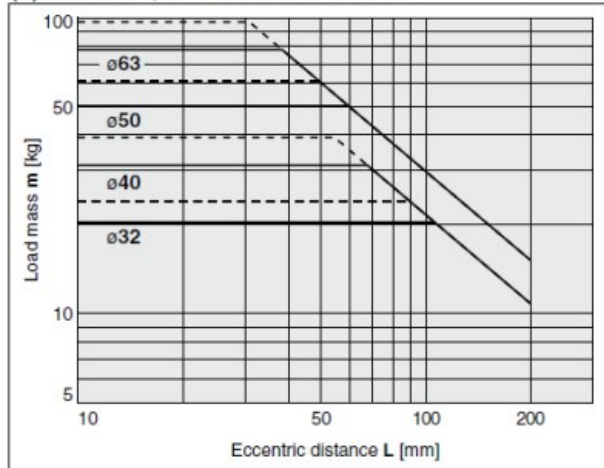
————— Operating pressure 0.4 MPa
 - - - - - Operating pressure 0.5 MPa or more

(6) Over 75 stroke, $V = 200$ mm/s or less

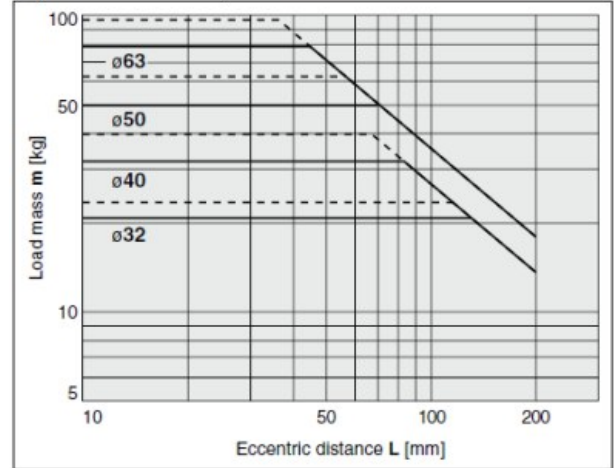


MGPL32 to 63

(7) 25 stroke, $V = 200$ mm/s or less

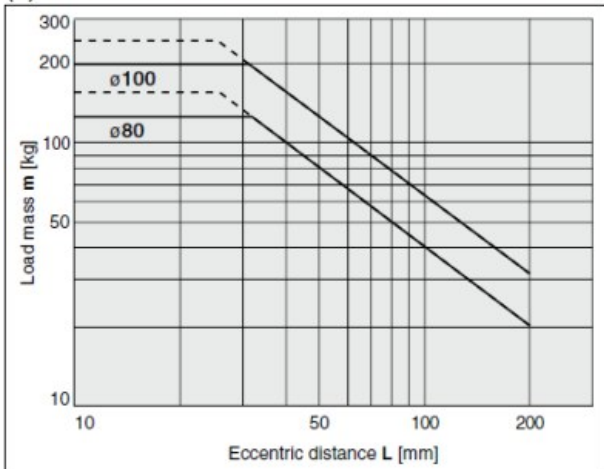


(8) Over 25 stroke, $V = 200$ mm/s or less



MGPL80/100

(9) $V = 200$ mm/s or less



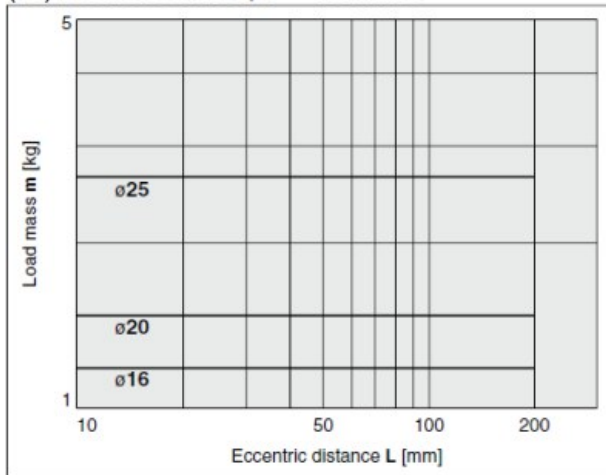
· Use the Guide Cylinder Selection Software, when the eccentric distance is 200 mm or more.

Compact Guide Cylinder With Air Cushion **BITEBI®**

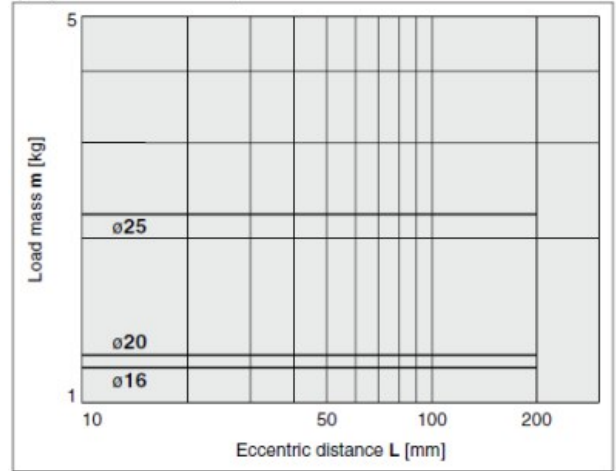
—MGP Series

MGPL16 to 25

(10) 75 stroke or less, $V = 400$ mm/s

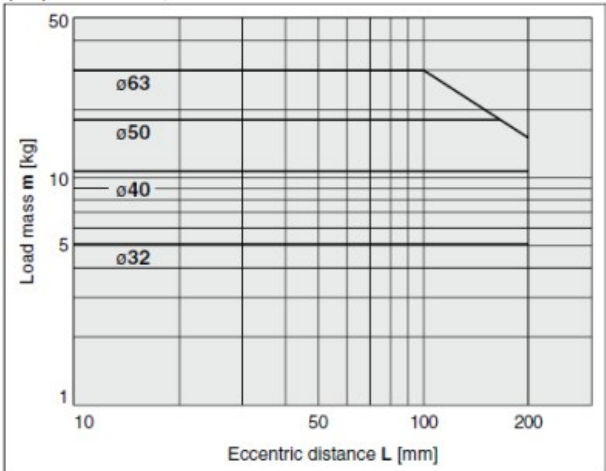


Operating pressure 0.4 MPa
(11) Over 75 stroke, $V = 400$ mm/s

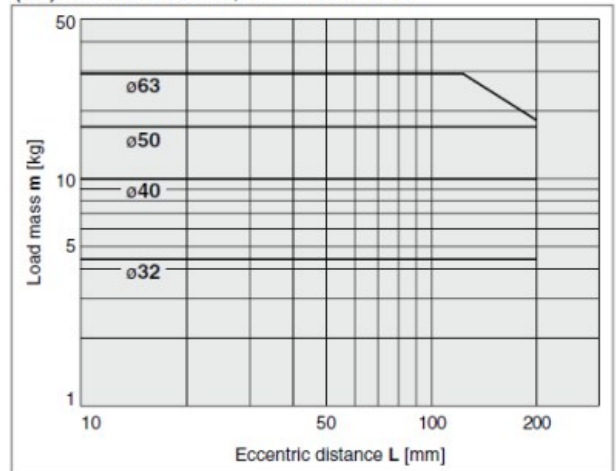


MGPL32 to 63

(12) 25 stroke, $V = 400$ mm/s

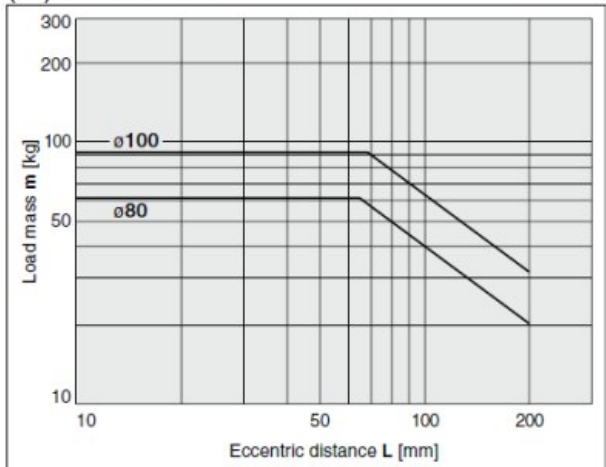


(13) Over 25 stroke, $V = 400$ mm/s



MGPL80/100

(14) $V = 400$ mm/s

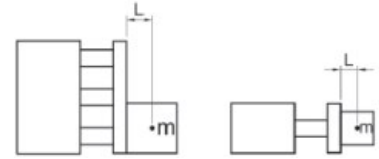


· Use the Guide Cylinder Selection Software, when the eccentric distance is 200 mm or more.

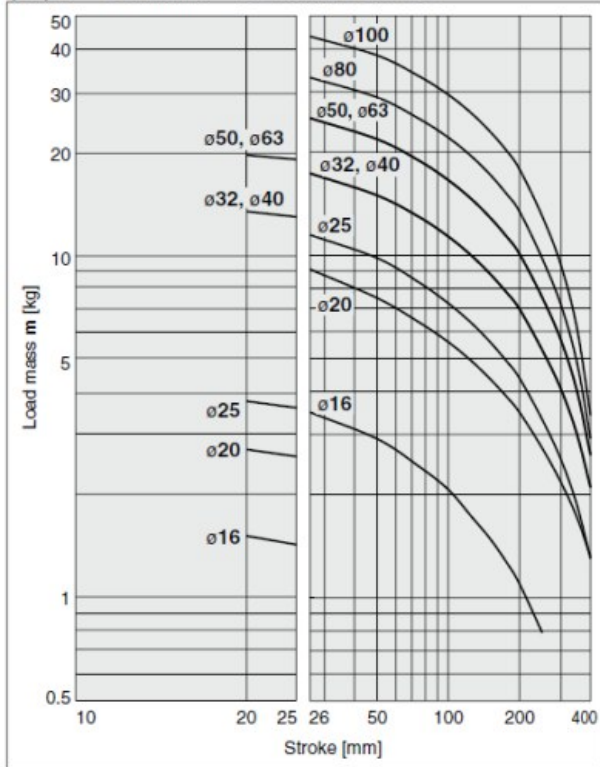
—MGP Series

■ Allowable load for horizontal Mounting

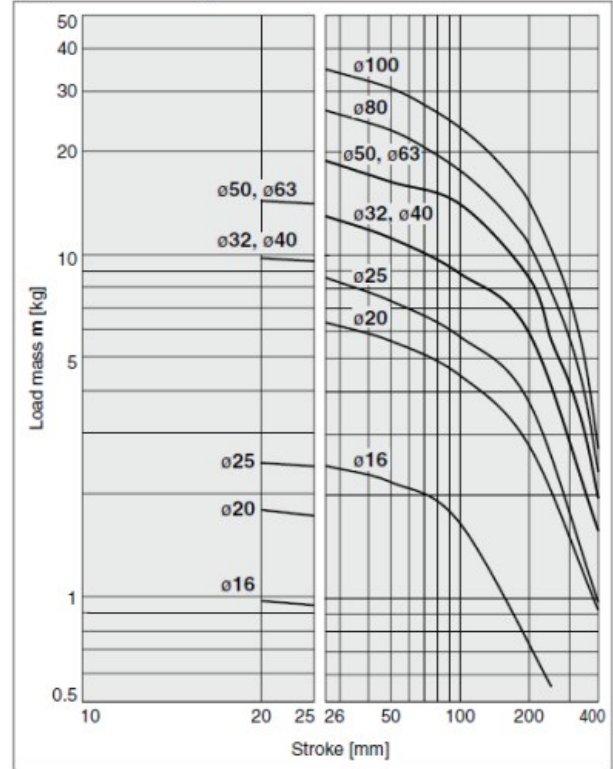
MGPM16 to 100



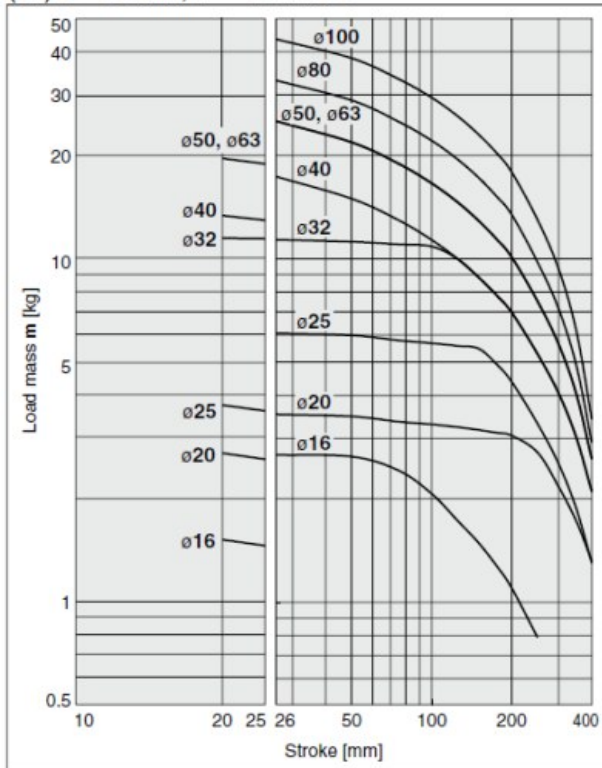
(15) L = 50 mm, V = 200 mm/s or less



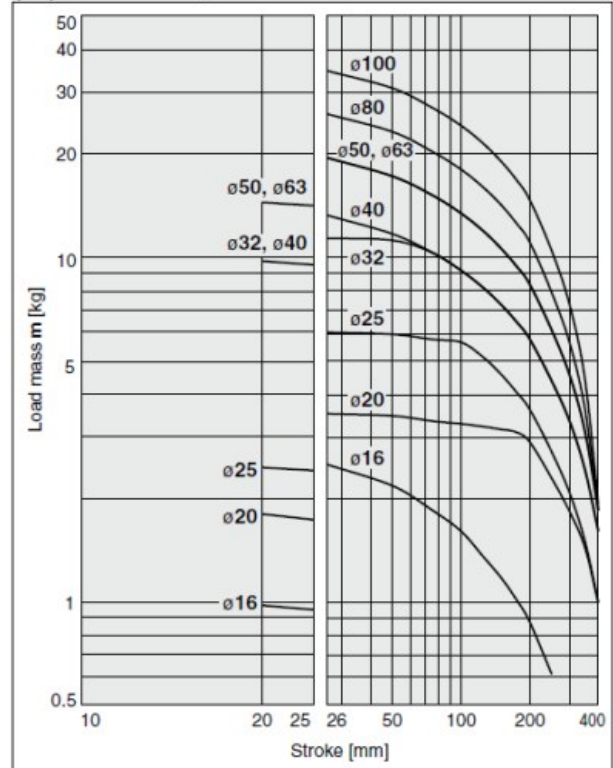
(16) L = 100 mm, V = 200 mm/s or less



(17) L = 50 mm, V = 400 mm/s

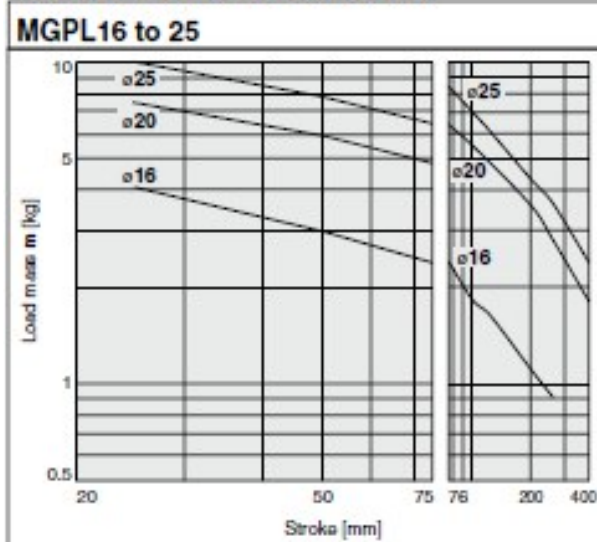


(18) L = 100 mm, V = 400 mm/s

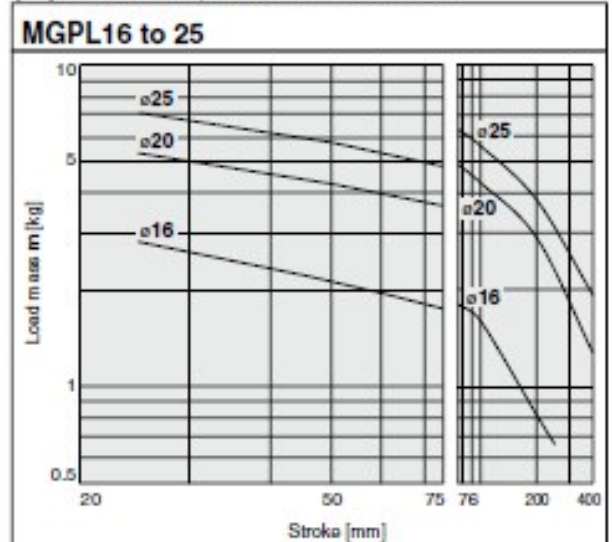


—MGP Series

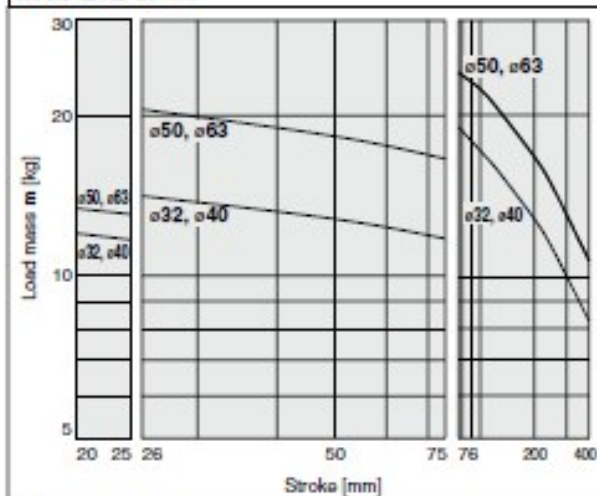
(19) L = 50 mm, V = 200 mm/s or less



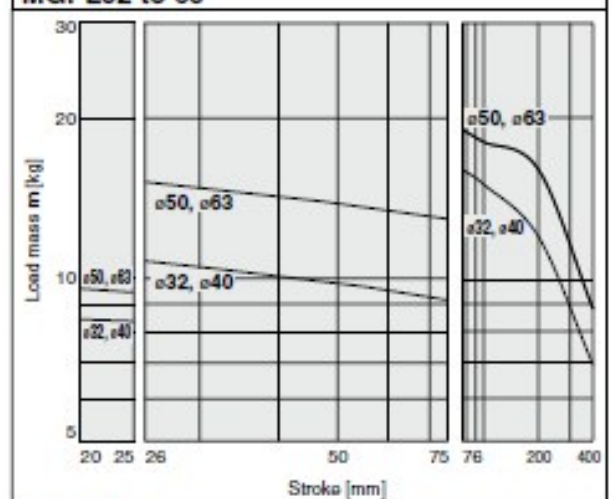
(20) L = 100 mm, V = 200 mm/s or less



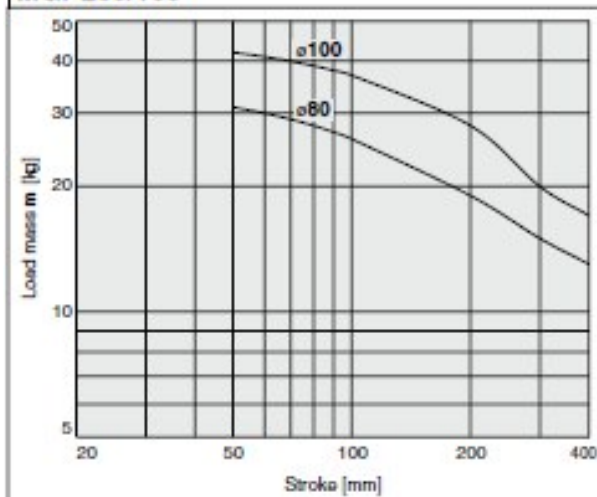
MGPL32 to 63



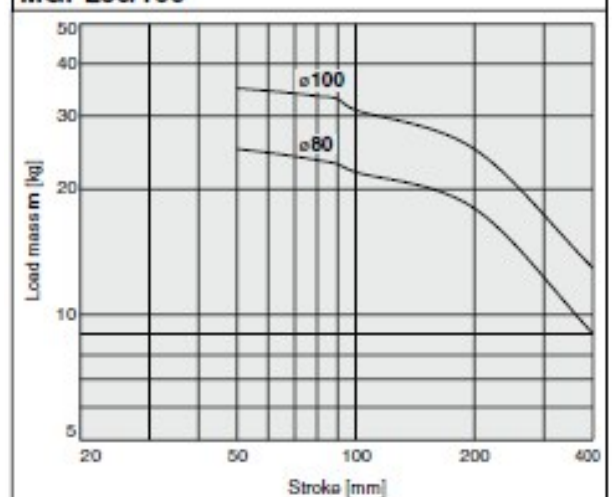
MGPL32 to 63



MGPL80/100

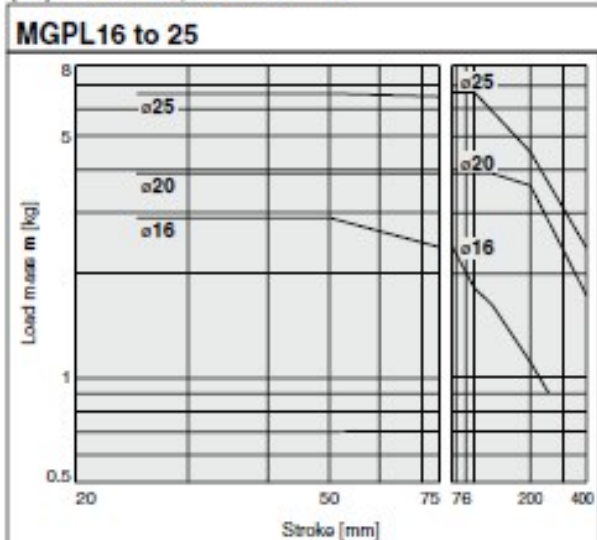


MGPL80/100

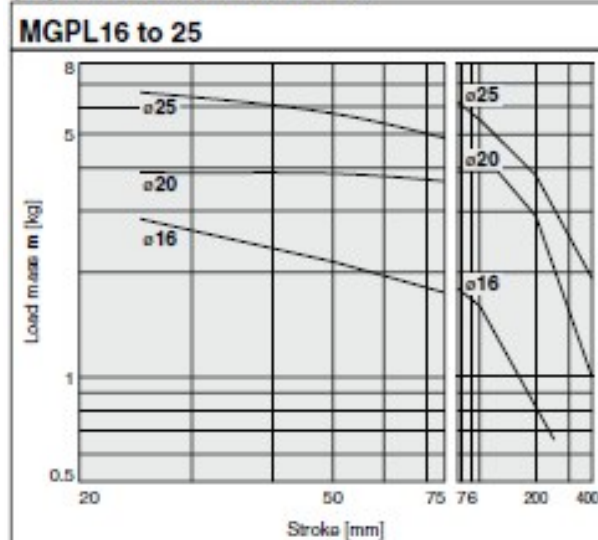


—MGP Series

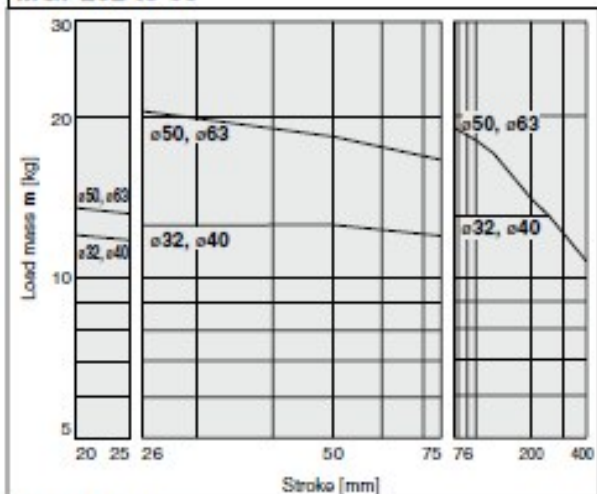
(21) L = 50 mm, V = 400 mm/s



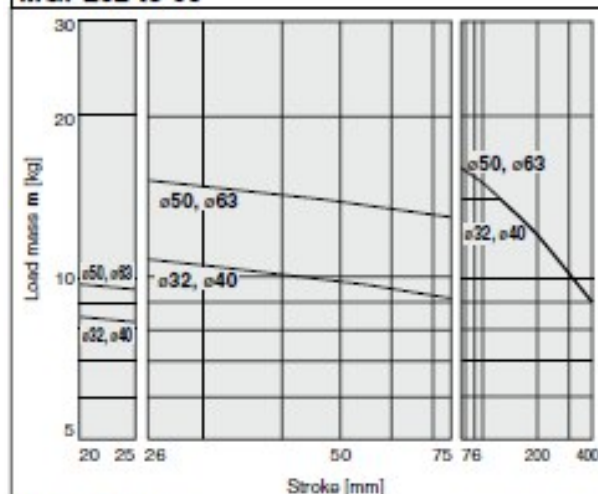
(22) L = 100 mm, V = 400 mm/s



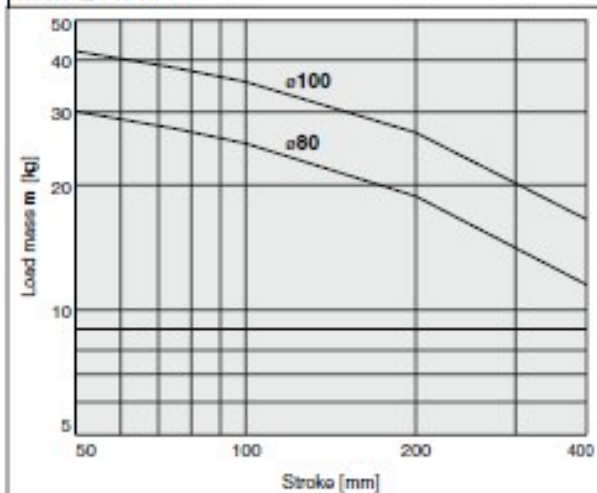
MGPL32 to 63



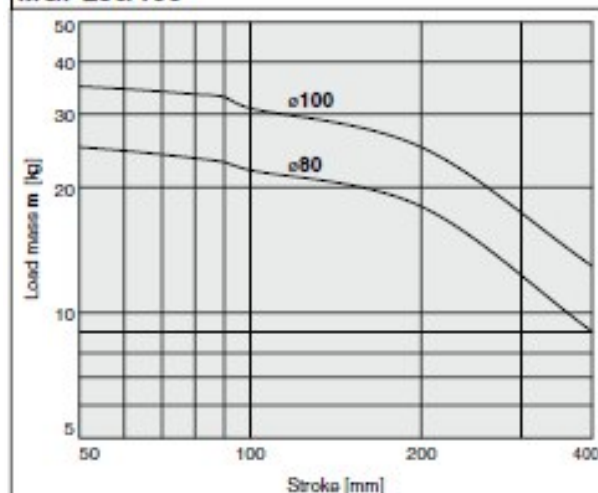
MGPL32 to 63



MGPL80/100



MGPL80/100

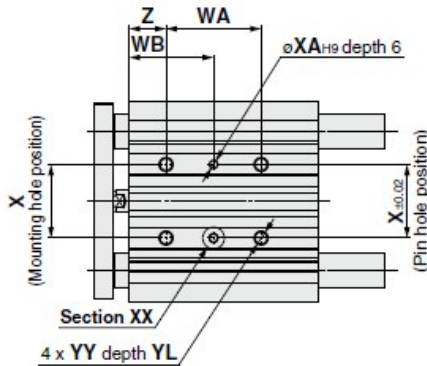


Compact Guide Cylinder With Air Cushion **BITEBI®**

—MGP Series

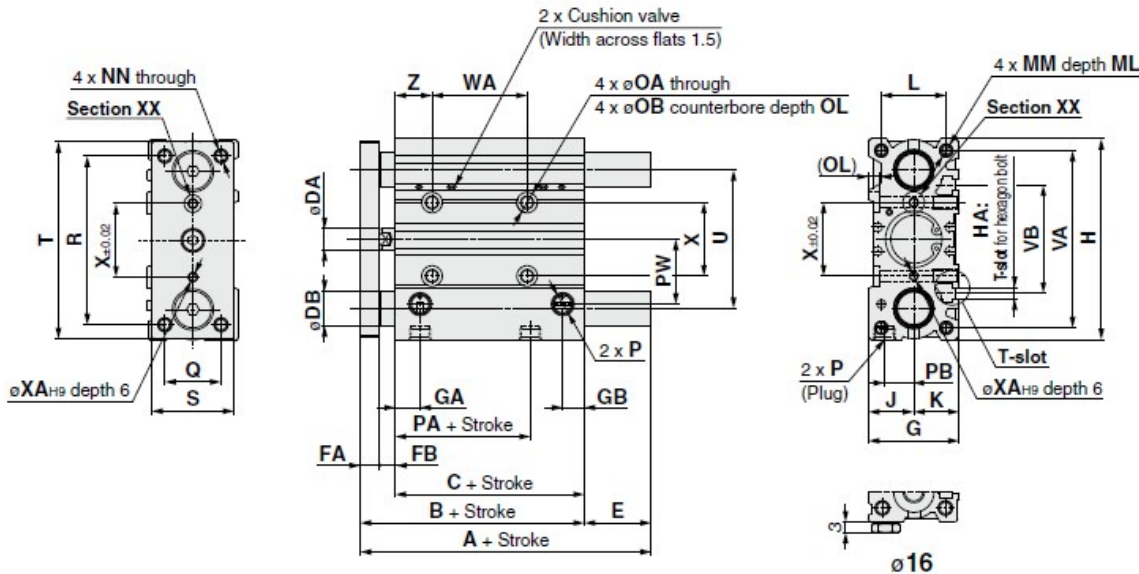
Dimensions

ø16 to ø25/MGPM, MGPL, MGPA (With Air Cushion)



Bottom view

Section XX details	T-slot dimensions				
	[mm]				
	Bore size (mm)	a	b	c	d
	16	4.4	7.4	3.7	2.5
	20	5.4	8.4	4.5	2.8
	25	5.4	8.4	4.5	3



*: The use of a slot (width XA, length XB, depth 3) allows for a relaxed pin pitch tolerance, with the pin hole (øXAH9, depth 6) as the reference, without affecting mounting accuracy.

*: For bore size ø16, only M5 x 0.8 port is available.

*: For bore size ø20 or more, choice of Rc, NPT, G port is available.

MGPM, MGPL Common Dimensions

[mm]

Bore size	Standard Stroke	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P		
																					Nil	TN	TF
16	25,50,75,100,125,150,175,200,250	71	58	8	7	6	30	10.5	7.5	64	M4	15	15	22	M5x0.8	12	M5x0.8	4.3	8	4.5	M5x0.8	-	-
20	25,50,75,100,125,150	78	62	10	8	8	36	11.5	9	83	M5	18	18	24	M5x0.8	13	M5x0.8	5.4	9.5	5.5	Rc1/8	NPT1/8	G1/8
25	175,200,250,300,350,400	78.5	62.5	10	9	7	42	11.5	10	93	M5	21	21	30	M6 x 1	15	M6x1	5.4	9.5	5.5	Rc1/8	NPT1/8	G1/8

Bore size	PA	PB	PW	Q	R	S	T	U	VA	VB	WA				WB				X	XA	XB	YY	YL	Z
											≤75	100~175	200, 250	≥300	≤75	100~175	200, 250	≥300						
16	39.5	10	19	16	54	25	62	46	56	38	44	110	200	-	27	60	105	-	24	3	3.5	M5 x 0.8	10	5
20	35.8	10.5	25	18	70	30	81	54	72	44	44	120	200	300	39	77	117	167	28	3	3.5	M6 x 1.0	12	17
25	37.5	13.5	30	26	78	38	91	64	82	50	44	120	200	300	39	77	117	167	34	4	4.5	M6 x 1.0	12	17

MGPM (Slide bearing)/A, DB, E Dimensions

[mm]

Bore size	A			DB	E		
	25~100	125~200	≥250		25~100	125~200	≥250
16	71	92.5	92.5	10	0	21.5	21.5
20	78	78	110	12	0	0	32
25	78.5	78.5	109.5	16	0	0	31

MGPL (Ball bushing)

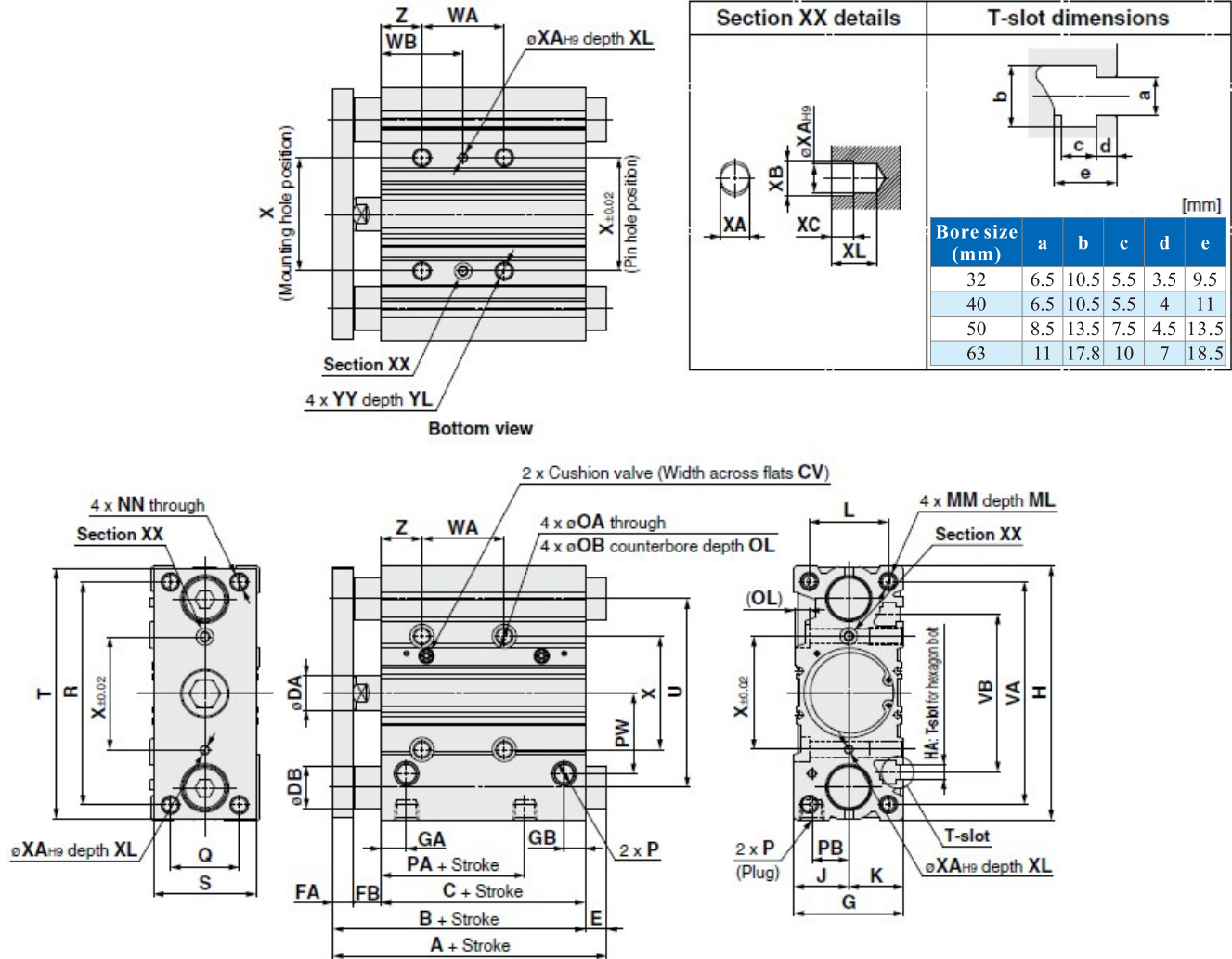
MGPA (High precision ball bushing)/A, DB, E Dimensions [mm]

Bore size	A			DB	E		
	25~75	100~200	≥250		25~75	100~200	≥250
16	71	94.5	94.5	8	0	23.5	23.5
20	78	100	117.5	10	0	22	39.5
25	81.5	100.5	117.5	13	0	22	39

Compact Guide Cylinder With Air Cushion **BITEBI®**

—MGP Series

ø32 to ø63/MGPM, MGPL, MGPA (With Air Cushion)



*: The use of a slot (width XA, length XB, depth XC) allows for a relaxed pin pitch tolerance, with the pin hole (øXAH9, depth XL) as the reference, without affecting mounting accuracy.

*: Choice of Rc, NPT, G port is available.

MGPM, MGPL Common Dimensions

Bore size	Standard Stroke	B	C	CV	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P		
																						Nil	TN	TF
32	25, 50, 75	84.5	62.5	1.5	14	10	12	48	12	9	112	M6	24	24	34	M8x1.25	20	M8x1.25	6.7	11	7.5	Rc1/8	NPT1/8	G1/8
40	100, 125, 150	91	69	1.5	14	10	12	54	15	12	120	M6	27	27	40	M8x1.25	20	M8x1.25	6.7	11	7.5	Rc1/8	NPT1/8	G1/8
50	175, 200, 250	97	69	3	20	12	16	64	15	12	148	M8	32	32	46	M10x1.5	22	M10x1.5	8.6	14	9	Rc1/4	NPT1/4	G1/4
63	300, 350, 400	102	74	3	20	12	16	78	15.5	13.5	162	M10	39	39	58	M10x1.5	22	M10x1.5	8.6	-	9	Rc1/4	NPT1/4	G1/4

Bore size	PA	PB	PW	Q	R	S	T	U	VA	VB	WA				WB				X	XA	XB	XC	XL	YY	YL	Z
											≤75	100~175	200, 250	≥300	≤75	100~175	200, 250	≥300								
32	31.5	16	35.5	30	96	44	110	78	98	63	48	124	200	300	45	83	121	171	42	4	4.5	3	6	M8x1.25	16	21
40	38	18	39.5	30	104	44	118	86	106	72	48	124	200	300	46	84	122	172	50	4	4.5	3	6	M8x1.25	16	22
50	34	21.5	47	40	130	60	146	110	130	92	48	124	200	300	48	86	124	174	66	5	6	4	8	M10x1.5	20	24
63	38	28	58	50	130	70	158	124	142	110	52	128	200	300	50	88	124	174	80	5	6	4	8	M10x1.5	20	24

MGPL (Ball bushing)

MGPA (High precision ball bushing)/A, DB, E Dimensions [mm]

MGPM (Slide bearing)/A, DB, E Dimensions

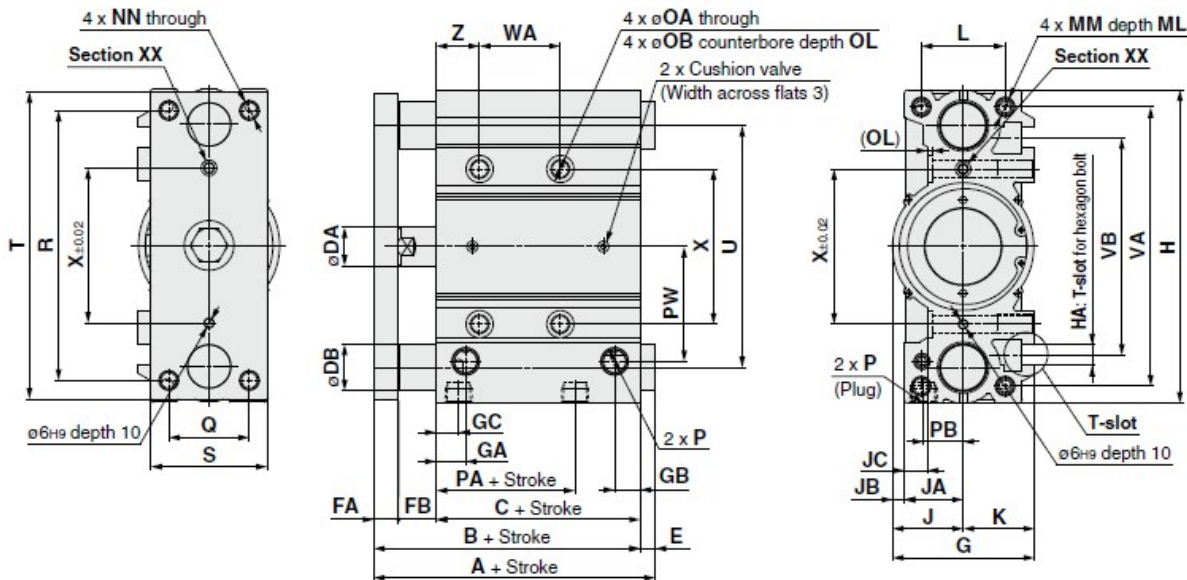
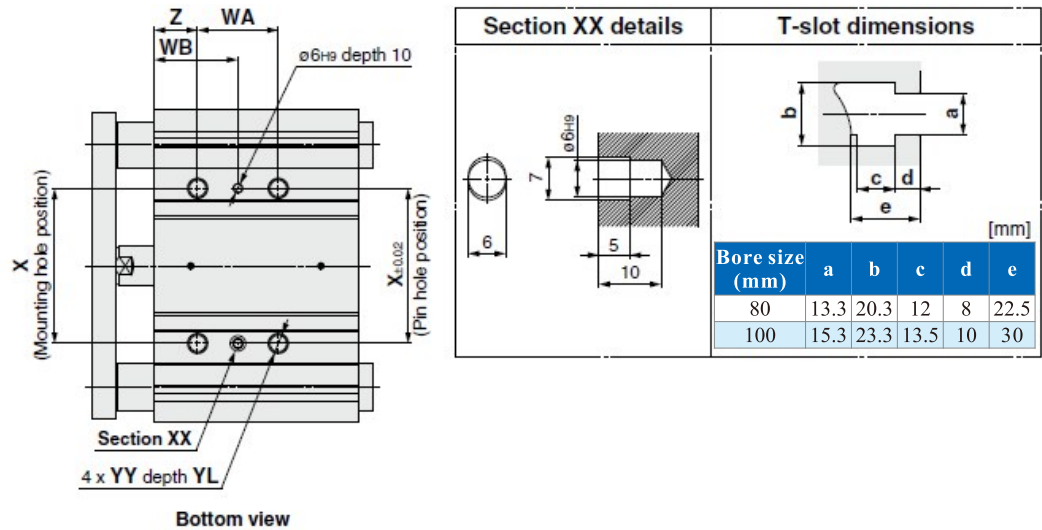
Bore size	A			DB	E		
	25	50~200	≥250		25	50~200	≥250
32	84.5	93.5	129.5	20	0	9	45
40	91	93.5	129.5	20	0	2.5	38.5
50	97	109.5	150.5	25	0	12.5	53.5
63	102	109.5	150.5	25	0	7.5	48.5

Bore size	A				DB	E			
	25	50, 75	100~200	≥250		25	50, 75	100~200	≥250
32	84.5	96.5	116.5	138.5	16	0	12	32	54
40	91	96.5	116.5	138.5	16	0	5.5	25.5	47.5
50	97	112.5	132.5	159.5	20	0	15.5	35.5	62.5
63	102	112.5	132.5	159.5	20	0	10.5	30.5	57.5

Compact Guide Cylinder With Air Cushion **BITEBI®**

—MGP Series

ø80, ø100/MGPM, MGPL, MGPA (With Air Cushion)



*: The use of a slot (width X6, length 7, depth 5) allows for a relaxed pin pitch tolerance, with the pin hole (ø6H9, depth 10) as the reference, without affecting mounting accuracy.

*: Choice of Rc, NPT, G port is available.

MGPM, MGPL Common Dimensions

Bore size	Standard Stroke	B	C	DA	FA	FB	G	GA	GB	GC	H	HA	J	JA	JB	JC	K	L	MM	ML	NN	OA	OB	OL	P		
																									NH	TN	TF
80	50,75,100,125,150,	121.5	81.5	25	16	24	91.5	19	16.5	14.5	202	M12	45.5	38	7.5	15	46	54	M12x1.75	25	M12x1.75	10.6	17.5	3	Rc3/8	NPT3/8	G3/8
100	175,200,250,300,350,400	141	91	30	19	31	111.5	22.5	20.5	18	240	M14	55.5	45	10.5	10	56	62	M14x2.0	31	M14x2.0	12.5	20	8	Rc3/8	NPT3/8	G3/8

MGPM (Slide bearing)/A, DB, E Dimensions

Bore size	A		DB	E	
	50~200	≥250		50~200	≥250
80	131.5	180.5	30	10	59
100	151.5	190.5	36	10.5	49.5

MGPL (Ball bushing)

MGPA (High precision ball bushing)/A, DB, E Dimensions [mm]

Bore size	A		DB	E	
	50~200	≥250		50~200	≥250
80	158.5	191.5	25	37	70
100	178.5	201.5	30	37.5	60.5