

Please read this safety notice carefully, pay attention to safety items while using this product, in order to prevent injury to human body and damage of property: thus, it is divided into three classes of “Danger” “Warning” and “Caution” according to the extend of prevention.

! Danger:

Obviously situated at “Danger” state, may cause casualty if not avoided; take special safety protection and management to prevent the occurrence of “Danger”

! Warning:

Condition of operation is situated at “Danger” state , may cause casualty if not avoided; take special safety protection and management to prevent the occurrence of “Danger”

! Caution:

Condition of operation is situated at “Danger” state , may cause minor or moderate injury and damage of property if not avoided; take safety protection and management.

- For safety protection and prevention of accident, please understand the condition of application and know the design, installation, procedure of usage and essential safety condition before using this product.
- Please use within the specification and requirement of this product; application beyond the specification may cause hazard. In case of special condition of application, take the confirmation of safety into account and then use it; in case of doubt in reading this information and related data, contact us before using.
- It is hazardous in wrong assemble and operation of compressed air and its accessories; so while selecting the product, the related person of design, assemble, operating and service should possess sufficient knowledge and experience, and follow normal operating procedure, in order to maintain safe operation and good effect.

This product is suitable for application in general industrial equipment; adhere to the following caution while designing, assembling using and maintenance.

! Danger:

1.Please never use in following applications

- Use in operation ,delivering and management of the appliance for the purpose of human life and body.
- Use in operation which rise obvious “Danger” and safety concern to human life and body.
- Special for safety purpose ,situation with impact of safety to human life and body.

2.Confirmation of safety shall avoid the following conditions which cause safety impact to human and damage of equipment.

- Operation of machine, device should note to the drop of drop of driven object or race at the rotation radius and operation range cause injury of human and damage of equipment.
- Operation of machine, device should note the air supply source and poor power supply and interruption and cause injury of human and damage of equipment.
- When restarting the machine, device may cause object flying out and cause injury of human and damage of equipment.

! Warning:

1.Please never use in following situation

- in outdoor dusty condition
- Avoid chemical, corrosive and inflammable gas; avoid sea water, high temperature place in surrounding
- Exceed the condition in the specification of the product
- In the place tend to received rigorous shock impact, which affect the quality and stability of the product.

2.Please don’ t make any modification or disassemble to the structure, lunction of the product

3.Shut off the power switch and air source properly before service and maintenance, avoid consequent hazard and damage of product.

4.Avoid consequent hazard and damage of product while assembling and operation.

! Caution:

1.Pay attention to the cleanliness of the pipeline while laying the pipe, avoid dust, dirt and leak proof tape been sucked into the pipeline, affect the operation performance of the product

2.There are itemized cautions for various products, please contact our sales person if any doubt arouse.

Please read the safety notice carefully before using and pay attention to the safety caution of this product
Pay attention to the individual caution for various model series(read the cautions and safety notice in P1-2 for common cautions)

Caution for design, selection

! Warning:

- PC transparent cup of the filter, oil applicator and the see through oil dripping device of oil applicator are made of PC plastic material, no synthetic oil, organic solvent, chemical, cutting oil, volatile gas and above mentioned conditions is allowed ,in order to avoid destruction of material and affect safety of application.
- If the selected plastic panel of the pressure meter for regulation valve is not suitable for spraying with organic solvent, please avoid possible panel damage of the pressure meter.

! Caution:

- Avoid the place with impact or rigorous vibration when designing the device; avoid to be mounted outdoor and environment presence with chemical and corrosive air.

Caution for assembling

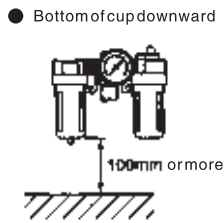
! Danger:

- Pay attention to the direction of the air source while installing, never used in reversed air direction .
- Use spanner to tighten the pressure mater while installing ,never tighten with your hand holding the casing of the pressure meter to avoid damage of the pressure meter.
- Follow the torque in table below while laying the pipe (tighten the connector),never exceed the range of application to avoid damage of product.

Torque chart for piping

Port size	Appropriate turning torque N.m(kgf.cm)
G1/8	7~9(70~90)
G1/4	12~14(120~140)
G3/8	22~24(220~240)
G1/2	28~30(280~300)
G3/4	28~30(280~300)
G1	36~38(360~380)

- Filter and lubricator should be mounted with correct direction(Bottom of cup downward as illustrated in figure A) to ensure the function of the product while using.
- Prevent debris and leak proof tape residue from entering the pipe while laying, if the connector is locked by using anoxic glue, avoid excessive amount and fluid glue form flowing in the body, which may cause jammed and poor movement.



Caution for application

! Danger:

- Don’ t remove the PC cup while running to avoid hazard; the press key of the PC cup should belocked in position and then air supply is allowed
- While top up oil to lubricator while running , shut off the air and then top up; air supply is allowed only after oiling and lock the oil plug.
- Caution for strainer of filter:

1.The pressure differential type strainer use only for pressure above 0.15mpa(1.5kgf/cm²)

2. Automatic float ball strainer use only for pressure above 0.1mpa(1.0kgf/cm²)

3.Care for the cleanliness of air and PC cup, avoid clogged by debris and dirt cause poor function of the strainer and leak

Operation and function of the drain cock

A	B	C
Differential pressure type	Manual drain standard	Automatic drain option
Adopting pressure differential for automatic drain, drain automatically when the air depletion and make up produce differential.	Also placed the left to be differential pressure type	Use float switch valve, drain automatically when water level over the float, close automatically after completely drain

- Hand turn the oil regulator oil ring of the regulator and oil applicator while operating , use no spanner, pliers tool to clamp, to prevent damage and affect safe operation.
- Lubricant of the oil applicator is tended to cause poor operation of the oil applicator and resulting in structure damage.
- Prevent backflow of residue at the end of the pipeline while stop operation, prevent the oil, water contain air in bleed pipe to flow back the device, cause blockage and damage.

! Caution:

- The setting range of the secondary pressure of the pressure regulation valve use as 85% of primary pressure or below to achieve better pressure setting and regulation
- The rotating button of the pressure regulator must be pulled before turning, increase pressure while turning in clockwise direction and vise versa to decrease. Press in and secure the swing button after operation. After turning to max value (either positive or reverse) (with no pressure variation anymore), don’ t turn by force or use tool to avoid damage.

- Align the scale of the transparent dripping device of the oil applicator to the pointer (protrusion) to regulate the oil fed amount, the feeding swing button allow one direction turning, operate in clockwise direction (positive), no counterclockwise direction (reverse) turning is allowed. The max and min oil amount values shall match the air use in adjustment.
- The density of element of filter is 5µm~20µm, the pipeline should maintain dry air, prevent excessive debris cause blockage and insufficient flow.

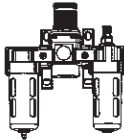
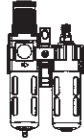




Caution for service and maintenance

! Warning:

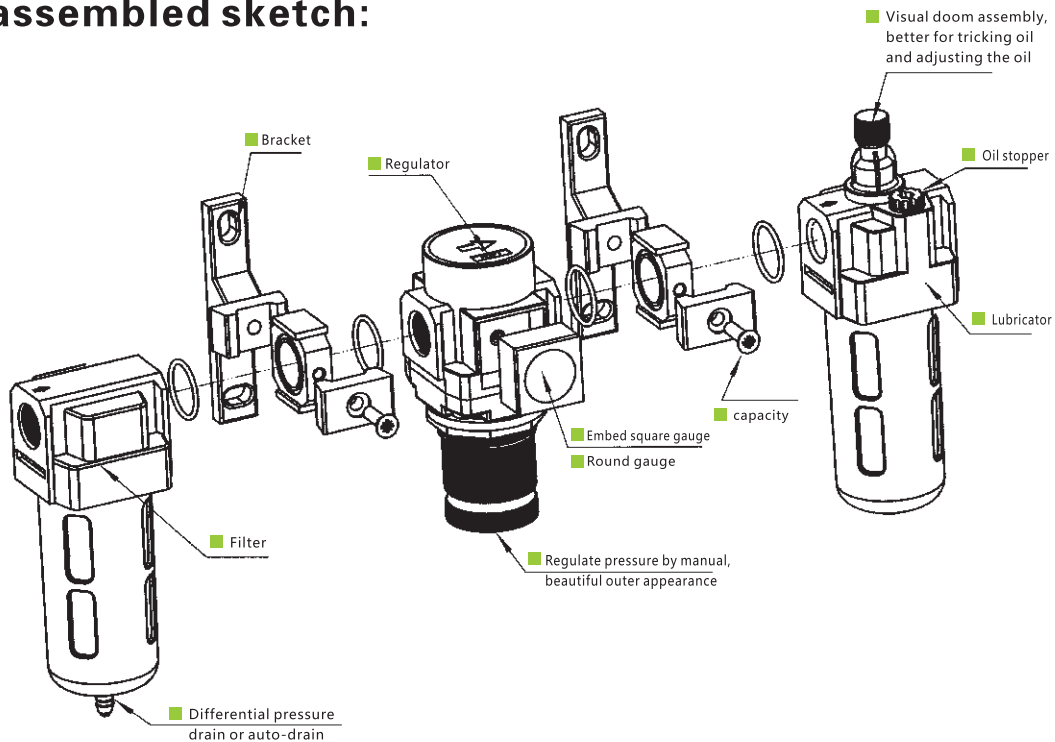
- Confirm the air line and power in turned off before serving, prevent injury and damage while disassembly for maintenance

! Danger:

- The removal and installation of the element of the filter and oil applicator plug use hexagonal spanner; avoid to use toll in other maintenance, disassemble the internal part in unsuitable manner may cause poor performance of the product and affect safe operation
- Replace the element of the filter is clogged or poor performance , avoid blockage and insufficient flow
- The PC cup of the filter and oil applicator suitable to wipe by cotton paper or wash with lure warm water and neutral household detergent , avoid to use chemical which caused damage.
- After service and maintenance, check for all parts are tighten and position properly, and confirm the matching are safe and no problem, and then start air supply.

	AC Filter+Regulator+Lubricator -----	Optional(M5,1/8",1/4",3/8",1/2",3/4",1")	024
	AC Filter Regulator+Lubricator -----	Optional(M5,1/8",1/4",3/8",1/2",3/4",1")	026
	AW Filter Regulator -----	Optional(M5,1/8",1/4",3/8",1/2",3/4",1")	028
	AF Filter -----	Optional(M5,1/8",1/4",3/8",1/2",3/4",1")	030
	AR Relief Valve -----	Optional(M5,1/8",1/4",3/8",1/2",3/4",1")	032
	AL Atomized Lubricator -----	Optional(M5,1/8",1/4",3/8",1/2",3/4",1")	034

F.R.L assembled sketch:



Filter+Regulator+Lubricator

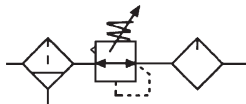


Specification:

Type		AC200A-01, 02	AC300A-02, 03	AC400A-03, 04	AC500A-06, 08	AC600A-06, 08
Portsize(G)		1/8" · 1/4"	1/4" · 3/8"	3/8" · 1/2"	3/4" · 1"	3/4" · 1"
Gaugethread(G)		1/8"				
Fluid		Compressed air				
Operatingpressure(MPa)		0.15~0.85				
Max.Flowrate(L/min)		1000	2000	3500	5000	
Ambient temperature(°C)		-10~60				
Filterprecision		5µm or 40µm				
Oilrecommended		ISO VG32				
Cupmaterial		Polycarbonate				
Structure		Overflow type				
Optional	Guard cup	-	●	●	●	●
	Bracket	20T	30T	40T	50T	50T

Note1 : The guard cup of AC200A series can be optional. Note2 : Metal cups are optional.

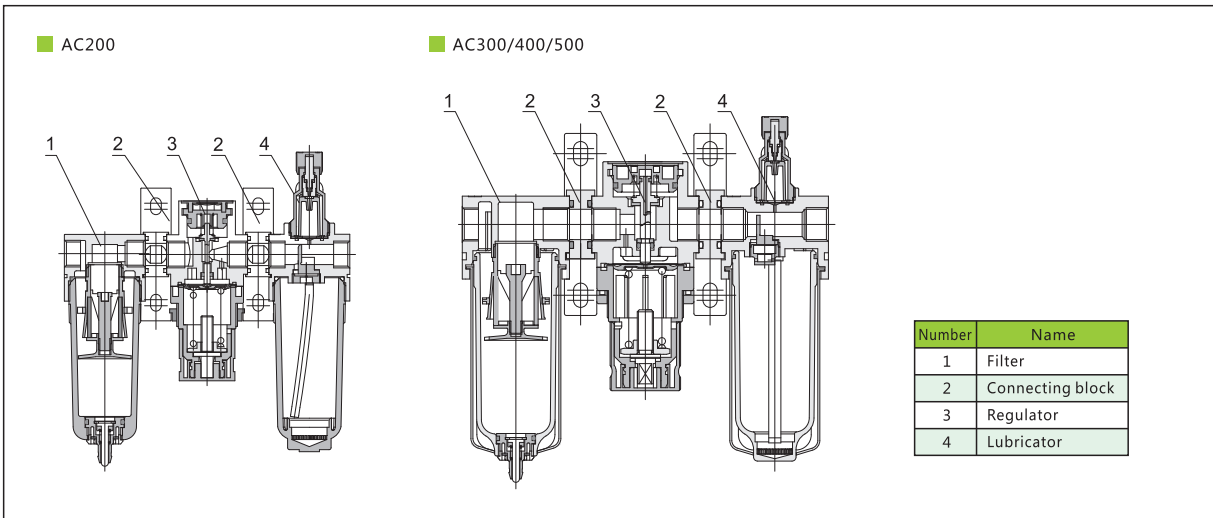
Symbol:



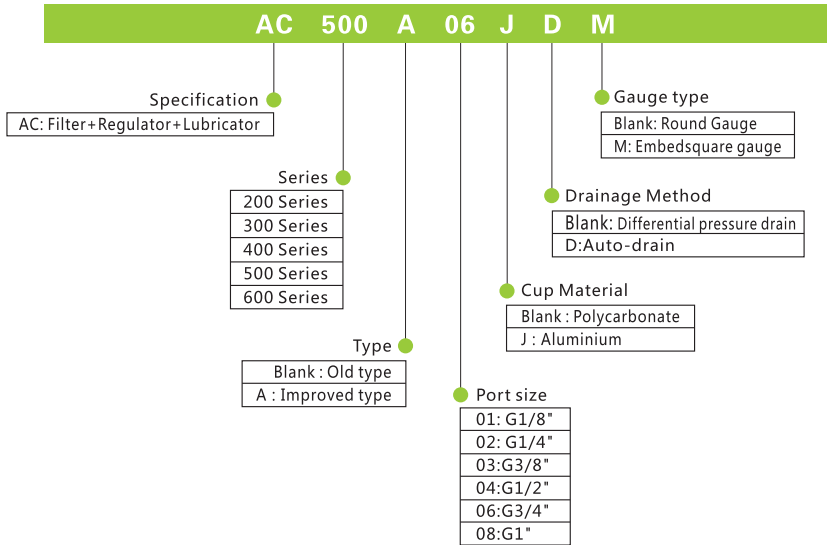
Product feature:

- 1.Oil dripping adopts the clearance seal to stabilize oil feeding.
- 2.Oil feeding is linear distribution and the quantity of oil is visible.
- 3.Fixed connection is fast reliable and easy for installation and using. Pressure adjust is stable and with high repeat precision.
- 4.High efficiency of removing water and solid particle.
- 5.Manual, differential pressure and automatic drain ways are optional.

Inner structure drawing:



How to order:

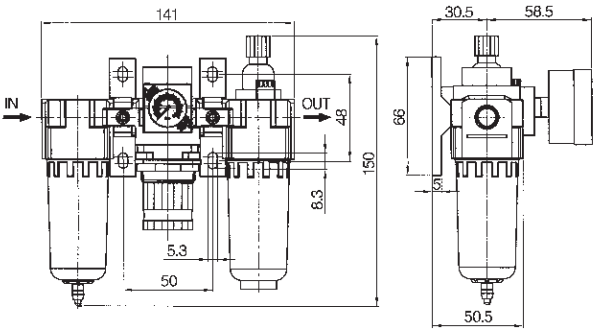


AC Air Source Treatment Unit

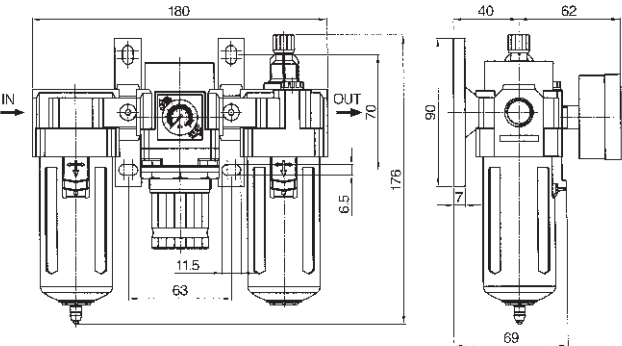
Filter+Regulator+Lubricator

Dimension(mm):

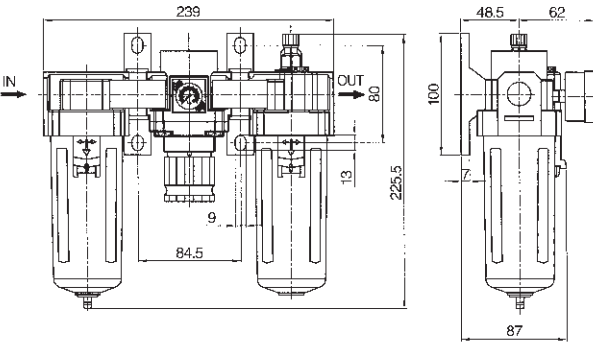
AC200A-01、02



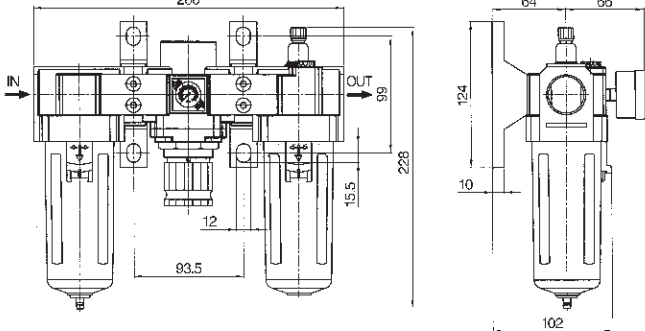
AC300A-02、03



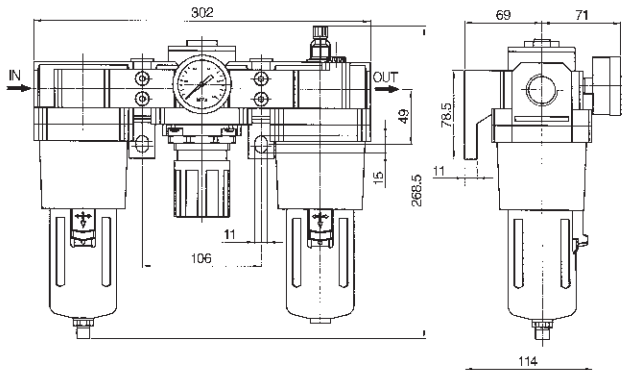
AC400A-03、04



AC500A-06、08



AC600A-06、08



AC Air Source Treatment Unit

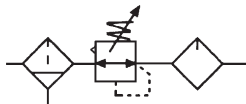
Filter Regulator+Lubricator

Specification:

Type		AC201A-01、02	AC301A-02、03	AC401A-03、04	AC501A-06、08	AC601A-06、08
Port size(G)		1/8" · 1/4"	1/4" · 3/8"	3/8" · 1/2"	3/4" · 1"	3/4" · 1"
Gauge thread(G)		1/8"				
Fluid		Compressed air				
Operating pressure range(MPa)		0.15~0.85				
Max.Flowrate(L/min)		900	2000	3500	5000	
Ambient temperature(°C)		-10~60				
Filter precision		5μm or 40μm				
Oil recommended		ISO VG32				
Cup material		Polycarbonate				
Structure		Overflow type				
Optional	Guard cup	-	●	●	●	●
	Bracket	20T	30T	40T	50T	50T

Note1 : The guard cup of AC201A series can be optional. Note2 : Metal cups are optional.

Symbol:

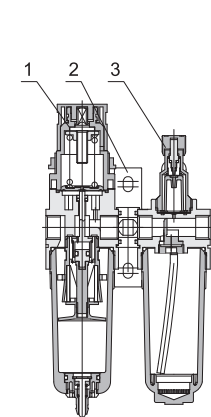


Product feature:

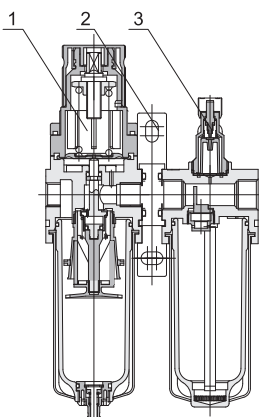
- 1.Oil dripping adopts the clearance seal to stabilize oil feeding.
- 2.Oil feeding is linear distribution and the quantity of oil is visible.
- 3.Fixed connection is fast reliable and easy for installation and using. Pressure adjust is stable and with high repeat precision.
- 4.High efficiency of removing water and solid particle.
- 5.Manual, differential pressure and automatic drain ways are optional.

Inner structure drawing:

AC201

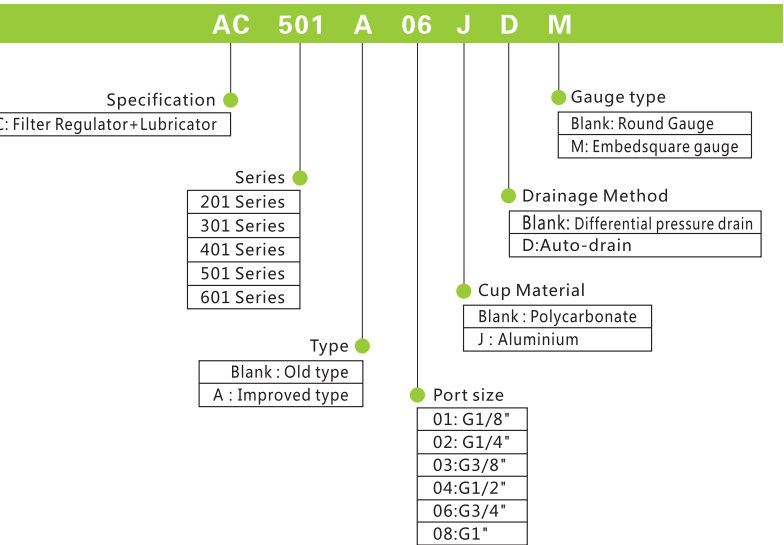


AC301/401/501



Number	Name
1	Filter Regulator
2	Connecting block
3	Lubricator

How to order:

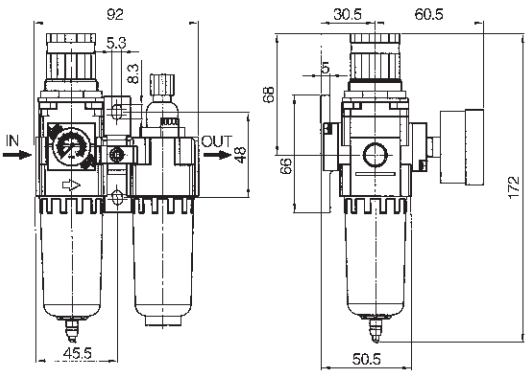


AC Air Source Treatment Unit

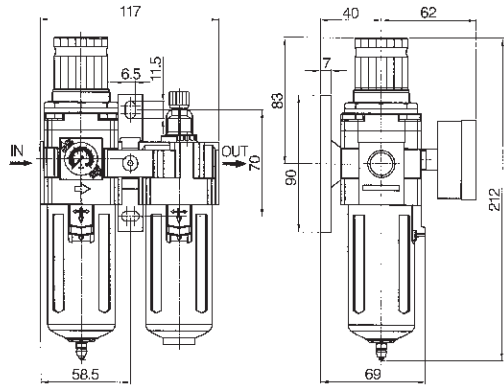
Filter Regulator+Lubricator

Dimension(mm):

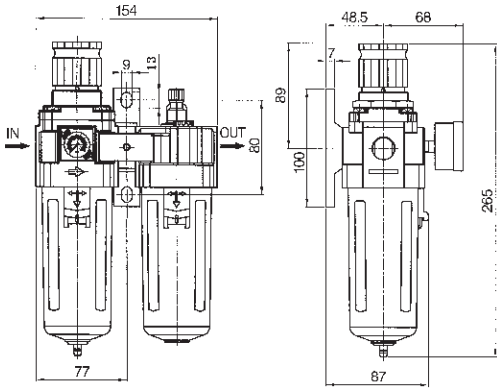
AC201A-01、02



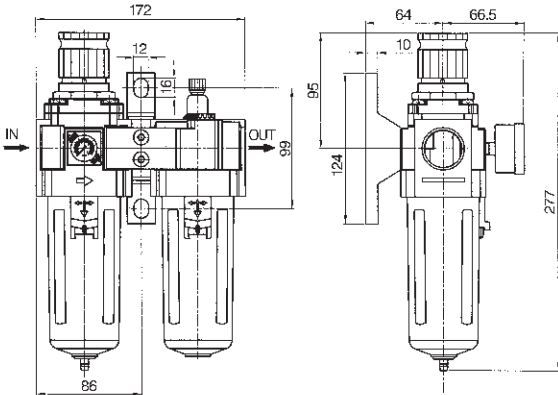
AC301A-02、03



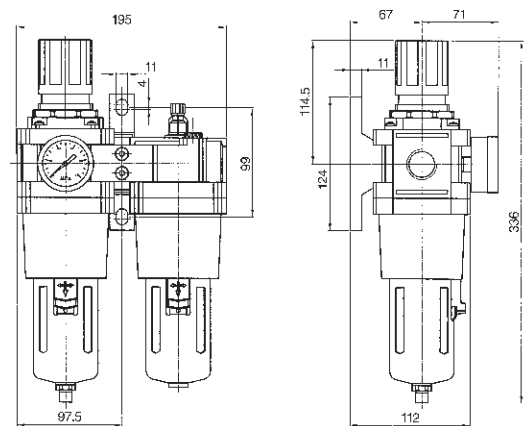
AC401A-03、04



AC501A-06、08



AC601A-06、08



AW Air Source Treatment Unit

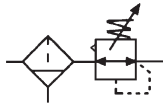
Filter Regulator

Specification:

Type	AW200A-01、02	AW300A-02、03	AW400A-03、04	AW500A-06、08	AW600A-06、08
Port size(G)	1/8" · 1/4"	1/4" · 3/8"	3/8" · 1/2"	3/4" · 1"	3/4" · 1"
Gauge thread(G)	1/8"				
Fluid	Compressed air				
Operating pressure range(MPa)	0.15~0.85				
Max.Flowrate(L/min)	900	2000	3500	5000	
Ambient temperature(°C)	-10~60				
Filter precision	5µm or 40µm				
Cup material	Polycarbonate				
Guard cup	-	●	●	●	●

Note1 : The guard cup of AW200A series can be optional. Note2 : Metal cups are optional.

Symbol:



Product feature:

- 1.Hand wheel adopts the pressed self-locking mechanism to prevent the setting pressure from external disturbance and unusual action.
- 2.Pressure adjustment mechanism adopts the balance design with more stable adjustment and better characteristic.
- 3.Special guide structure makes the flowing gases spin properly to separate the water from gas and filter solid particle efficiently.
- 4.Filter precision 5 or 40 µm is optional.
- 5.Manual, differential pressure and automatic drain ways are optional.

Inner structure drawing:

AW200

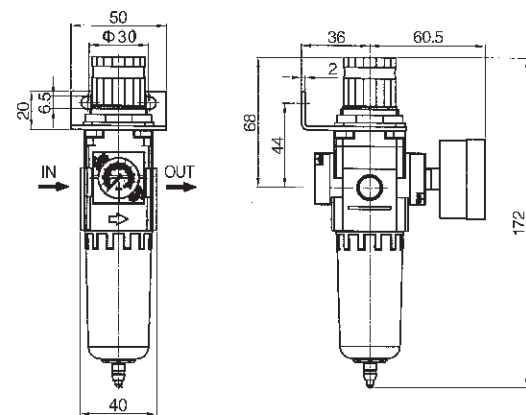
AW300/400/500

Number	Name	Material
1	Hand wheel	POM
2	Lifting screw	Q235
3	Spring	Spring steel
4	Valve cover	POM
5	Nut	POM
6	Diaphragm	Q235+NBR
7	Valve body	Aluminium
8	Valve core	Brass+NBR
9	Spring	Stainless steel
10	O-ring	NBR
11	Filter core pedestal	POM
12	Filter core	Bronze
13	Impeller	Polypropylene fiber
14	Filter core pressing plate	POM
15	Water cup	PC
16	Guard cup	Q235
17	Drainer	Assembly

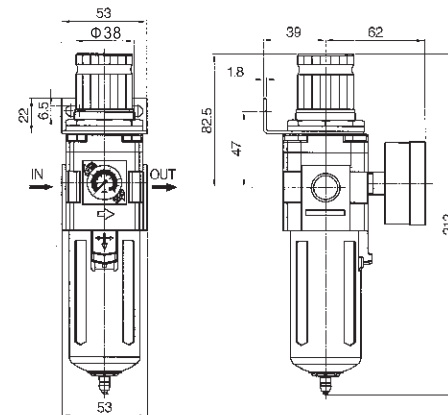
Filter Regulator

■ Dimension(mm):

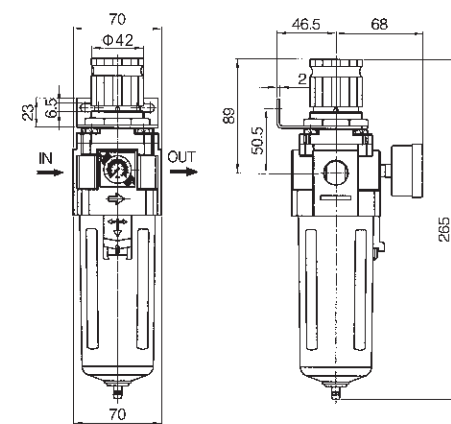
■ AW200A-01、02



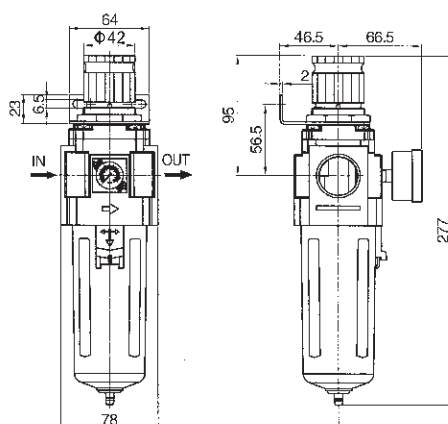
■ AW300A-02、03



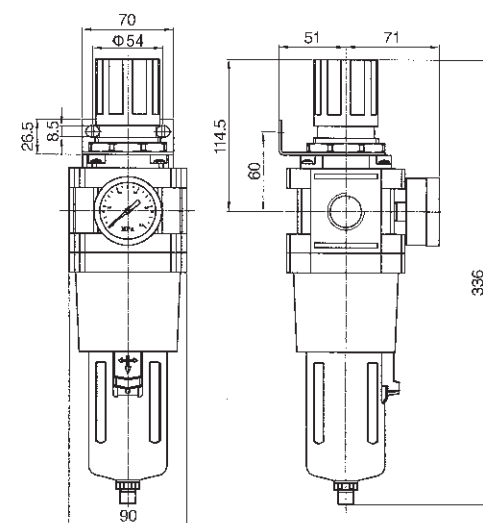
■ AW400A-03、04



■ AW500A-06、08



■ AW600A-06、08



AF Air Source Treatment Unit

Filter



■ Symbol:

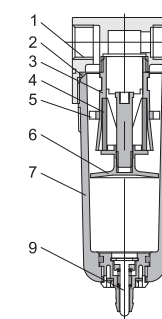


■ Product feature:

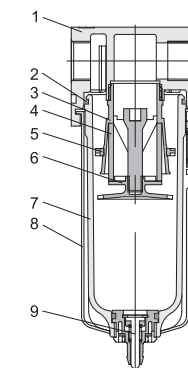
1. Special guide structure makes the flowing gases spin properly to separate the water from gas and filter solid particle efficiently.
2. Low pressure loss and high division efficiency.
3. Filter precision 5 or 40 μm is optional.
4. Manual, differential pressure and automatic drain ways are optional.

- Inner structure drawing:

■ AF200



■ AF300/400/500



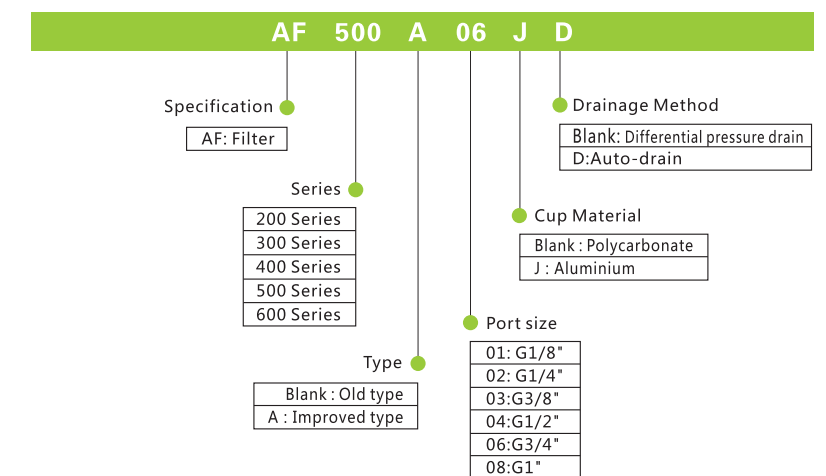
Number	Name	Material
1	Regulate body	Aluminium
2	O-ring	NBR
3	Filter core pedestal	POM
4	Filtercore	Bronze Polypropylene fiber
5	Impeller	POM
6	Filter core pressing plate	POM
7	Water cup	PC
8	Guard cup	Cold rolled plate
9	Drainer	Assembly

■ Specification:

Type	AF200A-01, 02	AF300A-02, 03	AF400A-03, 04	AF500A-06, 08	AF600A-06, 08
Port size(G)	1/8" · 1/4"	1/4" · 3/8"	3/8" · 1/2"	3/4" · 1"	3/4" · 1"
Fluid	Compressed air				
Operating pressure range(MPa)	0.15~0.85				
Max.Flowrate(L/min)	1200	2000	3500	5000	
Ambient temperature(°C)	-10~60				
Filter precision	5μm or 40μm				
Cup material	Polycarbonate				
Guard cup	-	●	●	●	●

Note1 : The guard cup of AF200A series can be optional. Note2 : Metal cups are optional.

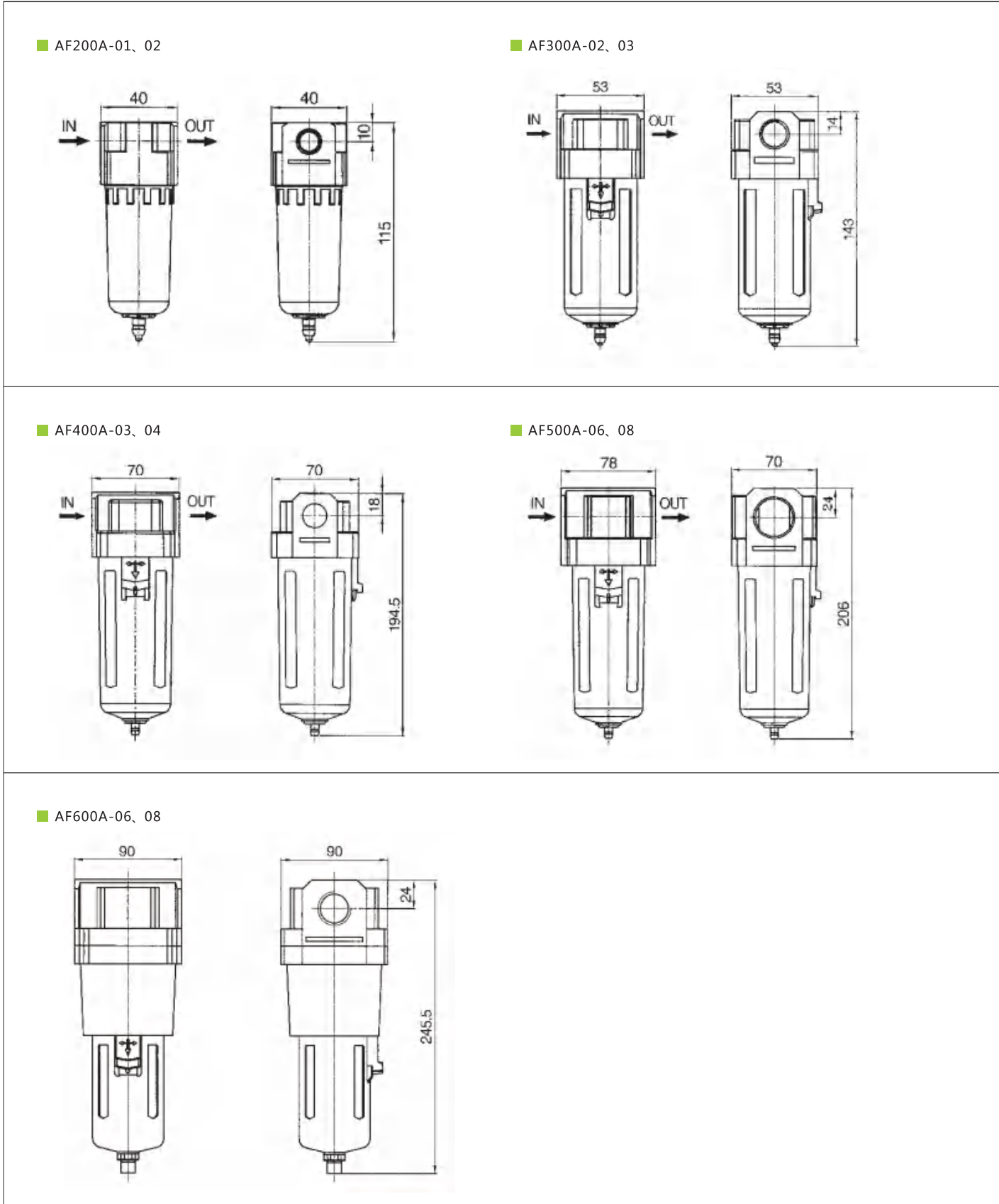
■ How to order:



AF Air Source Treatment Unit

Filter

Dimension(mm):



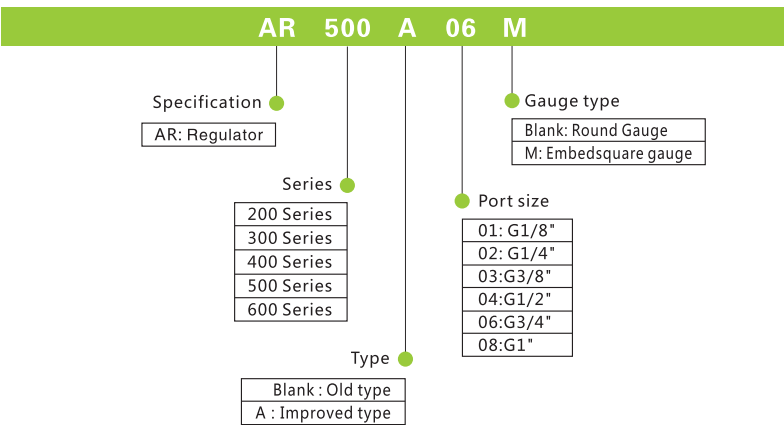
AR Air Source Treatment Unit

Regulator

Specification:

Type	AR200A-01、02	AR300A-02、03	AR400A-03、04	AR500A-06、08	AR600A-06、08
Port size(G)	1/8" · 1/4"	1/4" · 3/8"	3/8" · 1/2"	3/4" · 1"	3/4" · 1"
Gauge thread(G)	1/8"				
Fluid	Compressed air				
Operating pressure range(MPa)	0.15~0.85				
Max.Flowrate(L/min)	1000	2000	3500	5000	
Ambient temperature(°C)	-10~60				

How to order:



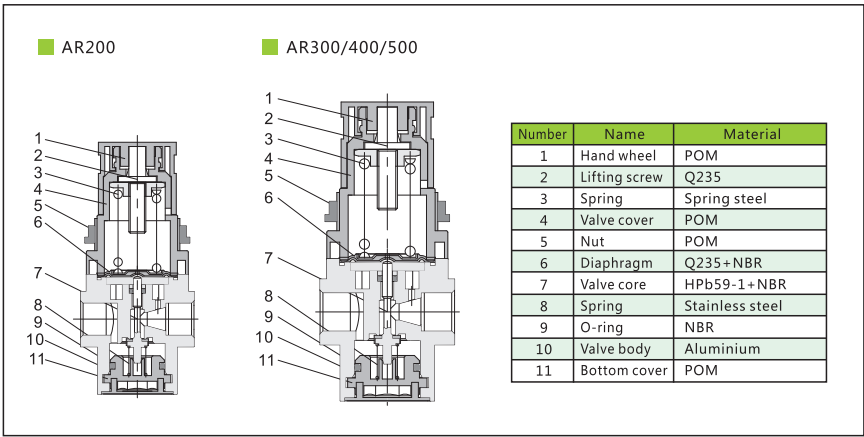
Symbol:



Product feature:

- 1.Hand wheel adopts the pressed self-locking mechanism to prevent the setting pressure from external disturbance and unusual action.
- 2.Pressure adjustment mechanism adopts the balance design with more stable adjustment and better characteristic.
- 3.Besides panel-mounting, fixed bracket installation is optional.

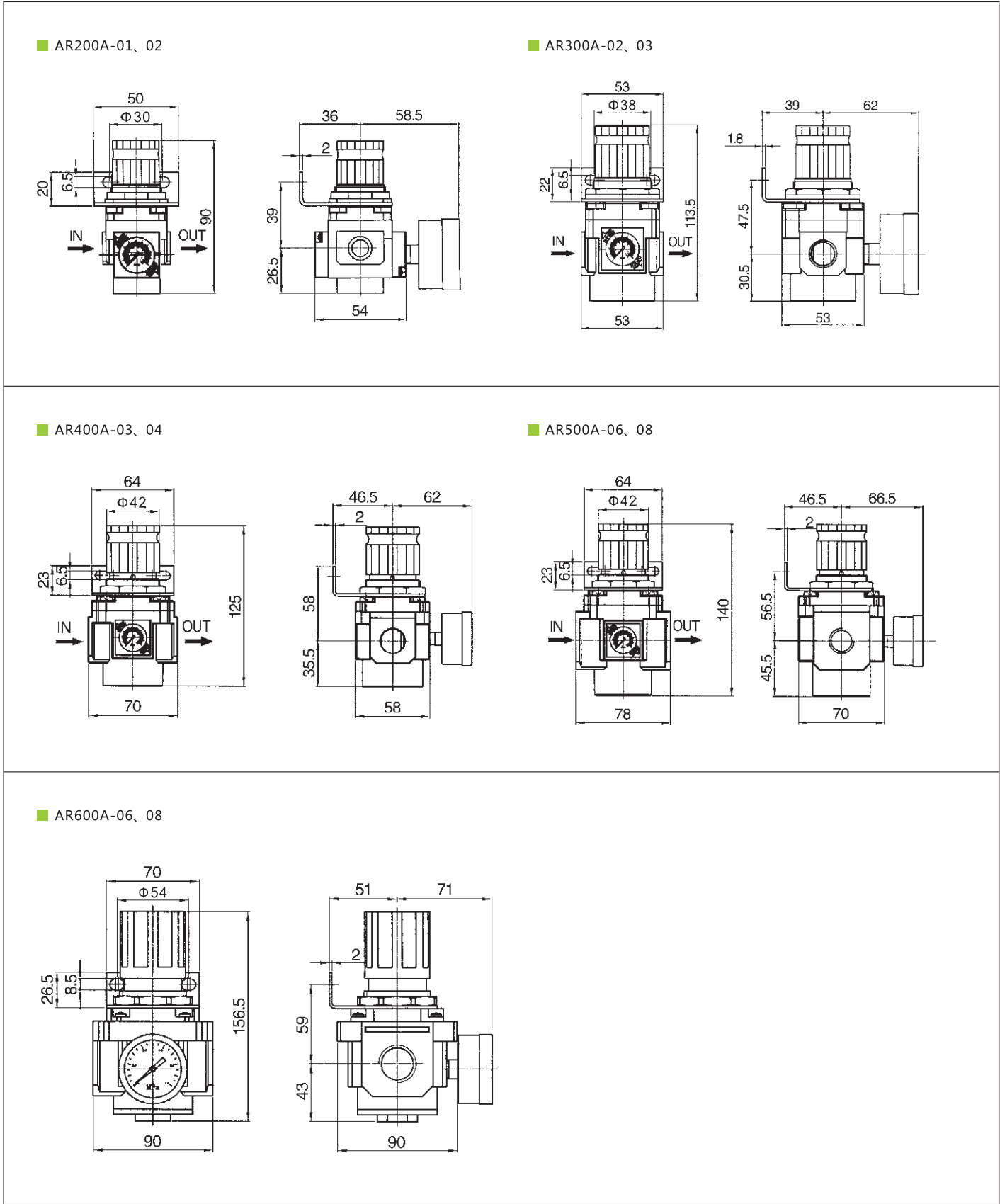
Inner structure drawing:



AR Air Source Treatment Unit

Regulator

Dimension(mm):



AL Air Source Treatment Unit

Lubricator

Specification:

Type	AL200A-01、02	AL300A-02、03	AL400A-03、04	AL500A-06、08	AL600A-06、08
Port size G	1/8" · 1/4"	1/4" · 3/8"	3/8" · 1/2"	3/4" · 1"	3/4" · 1"
Fluid	Compressed air				
Operating pressure range(MPa)	0.15~0.85				
Max.Flowrate(L/min)	1200	2000	3500	5000	
Ambient temperature(℃)	-10~60				
Filter precision	ISO VG32				
Cup material	Polycarbonate				
Guard cup	-	●	●	●	●

Note1 : The guard cup of AL200A series can be optional. Note2 : Metal cups are optional.

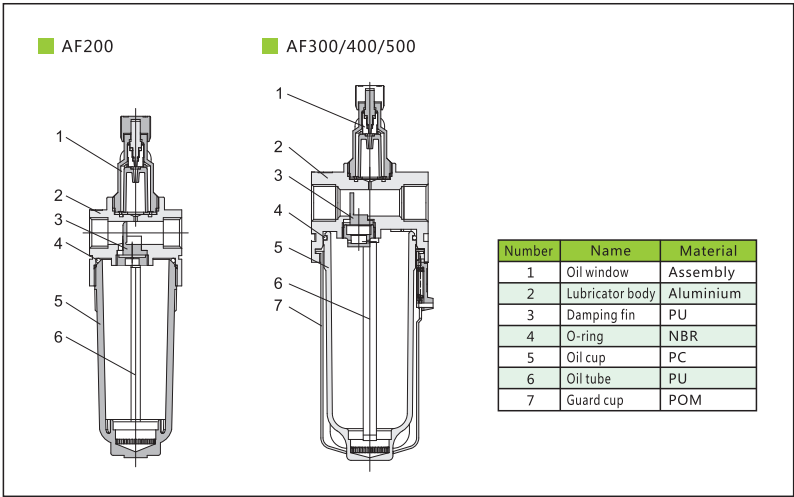
Symbol:



Product feature:

- 1.Oil dripping adopts the clearance seal to stabilize oil feeding.
- 2.Oil feeding is linear distribution and the quantity of oil is visible.
- 3.Special oil dripping structure leads to negative pressure at the exit of oil dripping and low fog flow.
- 4.Fixed bracket installation is optional.

Inner structure drawing:

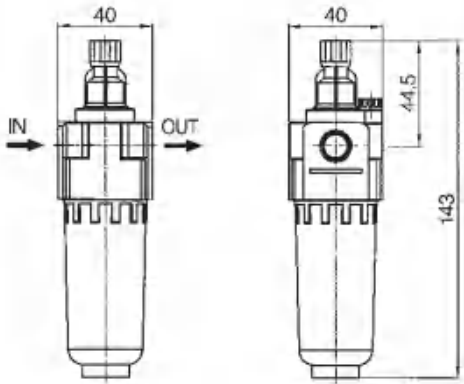


AL Air Source Treatment Unit

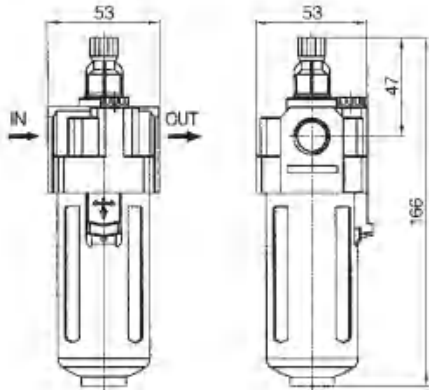
Lubricator

Dimension(mm):

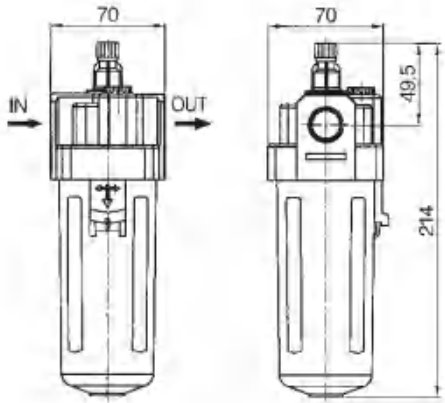
AL200A-01、 02



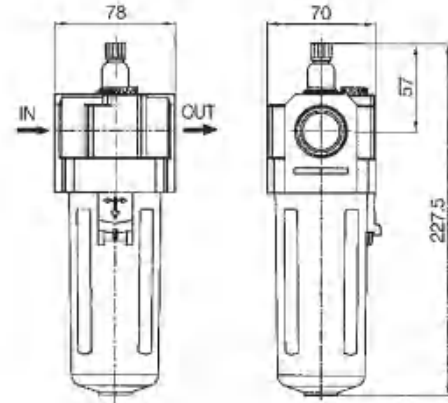
AL300A-02、 03



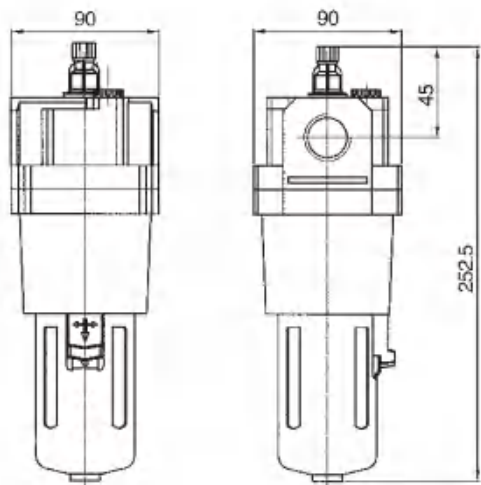
AL400A-03、 04



AL500A-06、 08



AL600A-06、 08



AV Air Source Treatment Unit

Soft Start-up Valve

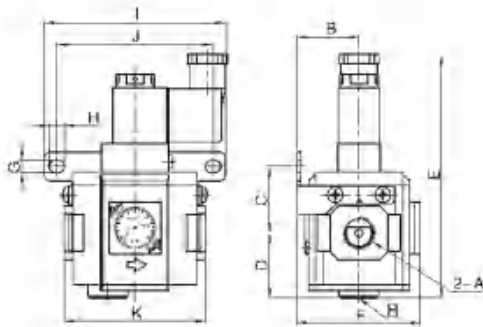
Specification:

Type	AV200-01、 02	AV300-02、 03	AV400-03、 04
Port size (G)	1/8" · 1/4"	1/4" · 3/8"	3/8" · 1/2"
Fluid	Compressed air		
Operating pressure range(MPa)	0.25~0.85		
Ambient temperature (°C)	-5~60		
Acting type	Electronic control		
Port size (G)	1/4"	3/8"	1/2"
Voltage range	±10		
Apply to FRL	AC200A-01、 02	AC300A-02、 03	AC400A-03、 04

How to order:

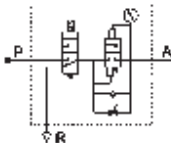
AV 300 02 M AC220V C G					
Specification AV: Soft Start-up Valve		Series 200 Series 300 Series 400 Series		Thread type Blank : PT thread T : NPT thread G : G thread	
Port size 01: G1/8" 02: G1/4" 03: G3/8" 04: G1/2" 06: G3/4" 08: G1"		Wiring type Blank: White with ended C: Browns W: Lead wire type		Coil Voltage DC24V AC220V 50/60Hz AC110V 50/60Hz	
Gauge type Blank: Round Gauge M: Embedsquare gauge					

Dimension(mm):



Type	AV200		AV300		AV400	
Symbol	01	02	02	03	03	04
A	1/8"	1/4"	1/4"	3/8"	3/8"	1/2"
B	24.5		32.5		40.5	
C	30.5		34.5		39	
D	30		34		40.5	
E	123.5		130		142.5	
F	57		64.5		80	
G	5.5		6.5		8.5	
H	8		8		11	
I	80		95		120	
J	67		82		102	
K	59		74		90	
R	1/4		3/8		1/2	

Symbol:



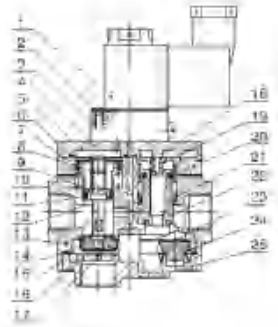
Product feature:

Soft start-up valve is used to input compressed air into pneumatic system slowly and has the effect of safety and protection. Air intake is connected with the input of Soft start-up valve.

If coil is energized, the 3/2 way valve opens. At this time, a little air comes to output A through throttle valve, which increases the pressure of the system gradually. When the output pressure is equal to the half of the input pressure, the soft start-up valve completely opens and the flow at this time reaches the highest value of itself.

When the coil is de-energized, air intake P closes, the air returns to R orifice through reflux valve and is quickly exhausted. The pressure of the system falls to zero, which protects the whole system.

Inner structure drawing:



Number	Name	Number	Name	Number	Name
1	Coil set	10	O ring	19	Spring
2	Sunk screw	11	Y seal	20	Y seal
3	Lead head set	12	Piston 1	21	Y seal
4	Body cover	13	Valve body	22	Piston 2
5	Split washer	14	Seal	23	Spool 2
6	Seal	15	O ring	24	Spring
7	Y seal	16	Valve rod	25	Bottom cover
8	O ring	17	Spool 1		
9	Spring	18	Cover		