Best Pneumatics 4

Air Filter

Air Filter: AF1000 to 6000 ····· P.1.4-2

Mist Separator: AFM2000/3000/4000 ····· P.1.4-6

Micro Mist Separator: AFD2000/3000/4000 ····· P.1.4-9

Large Flow Air Filter: AF800/900 ····· P.1.4-12

Modular Style
Air Filter
Series AF

	Model	Port size	Filtration μm	Accessories
Air Filter Series AF 	**AF1000**	M5	5	Bracket Float style auto drain Pressure differential auto-drain
	AF2000	1/8, 1/4		
	AF3000	1/4, 3/8		
	AF4000	1/4, 3/8, 1/2		
	AF4000-06	3/4		
	AF5000	3/4, 1		
	AF6000	1		
Mist Separator Series AFM 	**AFM2000**	1/8, 1/4	0.3	Bracket Float style auto drain Pressure differential auto-drain
	AFM3000	1/4, 3/8		
	AFM4000	1/4, 3/8, 1/2		
	AFM4000-06	3/4		
Micro Mist Separator Series AFD 	**AFD2000**	1/8, 1/4	0.01	Bracket Float style auto drain Pressure differential auto-drain
	AFD3000	1/4, 3/8		
	AFD4000	1/4, 3/8, 1/2		
	AFD4000-06	3/4		

	Model	Port size	Filtration μm	Accessories
Large Flow Air Filter Series AF 	**AF800**	1 1/4, 1 1/2	5	Float style auto drain
	AF900	2		

Air Filter

AF1000 to 6000

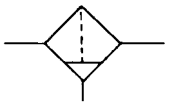
AF4000

AF3000

AF2000

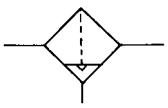
AF1000

JIS symbol



With auto drain

JIS symbol



Standard Specifications

Model		AF1000	AF2000	AF3000	AF4000	AF4000-06	AF5000	AF6000
Port size		M5	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Fluid		Air						
Proof pressure		1.5MPa						
Max. operating pressure		1.0MPa						
Ambient and fluid temperature		–5 to 60°C (No freezing)						
Filtration		5μm						
Bowl material		Polycarbonate						
Bowl capacity (cm^3)		2.5	8	23	45	45	45	45
Weight (kg)		0.07	0.19	0.29	0.55	0.58	1.08	1.18
Accessory (Standard)	Bowl guard	—	—	●	●	●	●	●

Accessory (optional) Part No.

Description \ Model		Part No. AF1000	AF2000	AF3000	AF4000	AF4000-06	AF5000	AF6000
Bracket assembly (1)		—	B240A	B340A	B440A	B540A	B640A	B640A
Float style auto drain (2)	N.O.	—	—	AD43	AD44	AD44	AD44	AD44
	N.C.	—	—	AD53	AD54	AD54	AD54	AD54
Pressure differential auto drain (3)		AD61	AD62	—	—	—	—	—

Note 1) Bracket with two mounting threads.
Note 2) Min. operating pressure: 0.1MPa (N.O.), 0.15MPa (N.C.)
Note 3) Min. pressure differential: 0.01MPa

How to Order

E **AF** **30** **00** – **F** **03** **B** – **2R**

Air filter

Body size

10	M5
20	1/8
30	3/8
40	1/2
50	3/4
60	1

Thread

—	Meter thread (M5)
	Rc(PT)
N	NPT
F	G(PF)

Port size

M5	M5
01	1/8
02	1/4
03	3/8
04	1/2
06	3/4
10	1

Ordering source area code

-	Japan, Asia Australia
E	Europe
N	North America

Accessory

Symbol	Description	Applicable model
—	—	—
B	Bracket	AF2000 to AF6000
C	Float auto drain (N.C.)	AF3000 to AF6000
D	Float auto drain (N.O.)	AF3000 to AF6000
	Press. differential auto-drain	AF1000/ AF2000

Option

2	Metal bowl
6	Nylon bowl
8	Metal bowl with level gauge (AF3000 to AF6000)
C	With bowl guard (AF2000 only)
J	Drain guide Rc(PT)1/4 (AF3000 to AF6000)*
R	Flow: From right to left
W	With drain cock and barb fitting (AF3000 to AF6000) (For ø6/ø4 nylon)

•When specifying more than one symbol, indicate them alphabetically.
Ex.) 6RW
*Without valve function

Combination Table/Accessory and Option

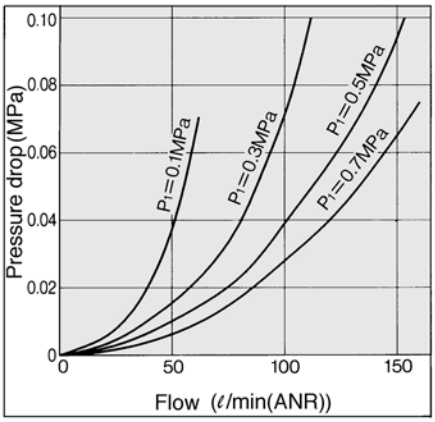
◎Combinable ▭Impossible ○Depends on the model

	Accessory/Option	Symbol	Auto drain			Option							Applicable filter model			
			D	D	C	2	6	8	C	J	R	W	AF1000	AF2000	AF3000	AF4000 to AF6000
Option	Pressure differential auto-drain	D				◎	◎		○		◎		◎	◎		
	Float style auto drain (N.O.)	D				◎	◎	○			◎				◎	◎
	Float style auto drain (N.C.)	C				◎	◎	○			◎				◎	◎
Accessory	Metal bowl	–2	◎	◎	◎				○		◎		◎	◎	◎	◎
	Nylon bowl	–6	◎	◎	◎				○	○	◎	○	◎	◎	◎	◎
	Metal bowl with level gauge	–8		◎	◎					○	◎				◎	◎
	Bowl guard	–C	◎				◎				◎			◎		
	Drain guide Rc(PT)1/4	–J				◎	◎	○			◎				◎	◎
	Flow direction: From right to left	–R	◎	◎	◎	◎	◎	○	○	○		○	◎	◎	◎	◎
	Barb fitting on One-touch drain cock	–W					◎				◎				◎	◎

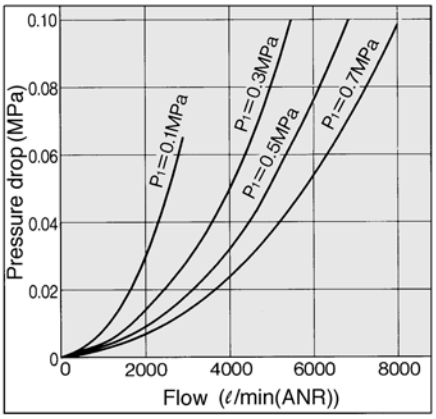
*Refer to p.1.0-1 and 1.0-2 for FRL precautions.

Flow Characteristics

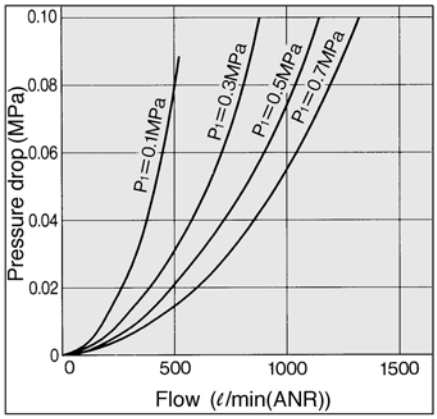
AF1000 M5



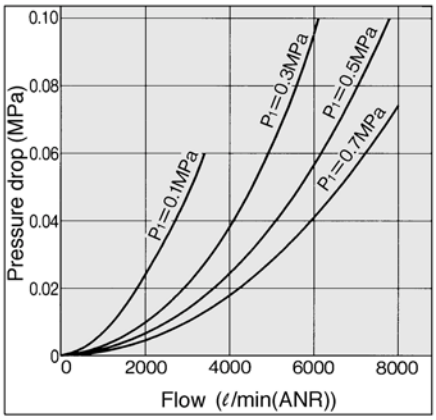
AF4000-06 Rc(PT) 3/4



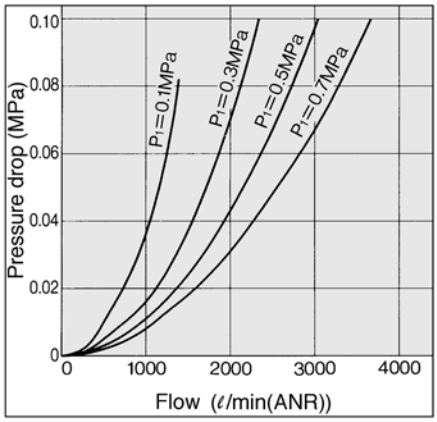
AF2000 Rc(PT) 1/4



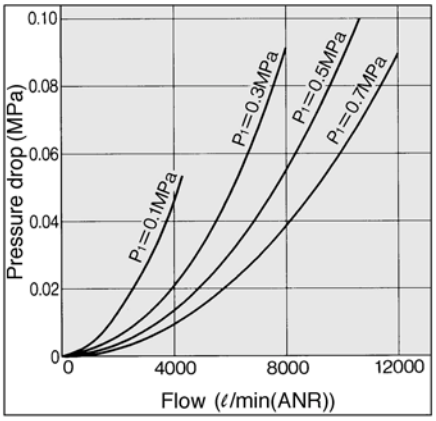
AF5000 Rc(PT) 3/4



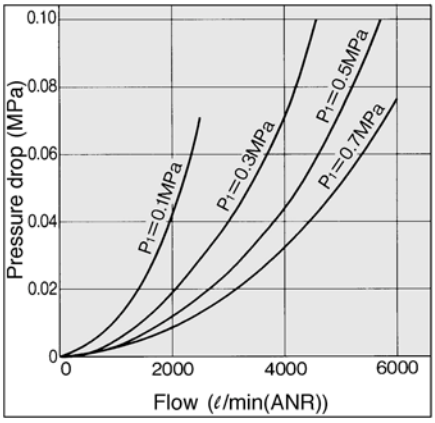
AF3000 Rc(PT) 3/8



AF6000 Rc(PT) 1



AF4000 Rc(PT) 1/2



⚠ Precautions

Be sure to read before handling. Refer to p.0-26 and 0-27 for Safety Instructions and common precautions on the products mentioned in this catalogue and refer to p.1.0-2 and 1.0-3 for precautions on every series.

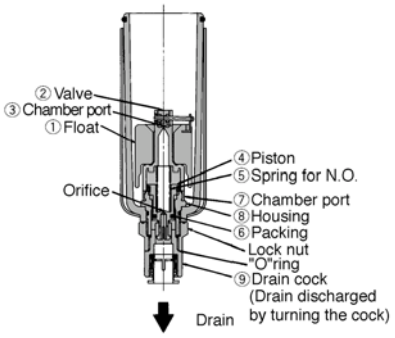
Maintenance

⚠Warning

Replace the filter element within 2 years of operation or before the pressure drop reaches 0.1 MPa. Failure to observe this precaution could damage the filter element.

Operation Principle: Float Style Auto Drain

N.O. type: AD43/44



●When no pressure is applied internally to the bowl

Float ① descends due to its own weight and valve ② closes chamber hole ③. Piston ④ is pushed down by spring ⑤, and the drainage passes through chamber hole ⑦ to enter housing ⑧.

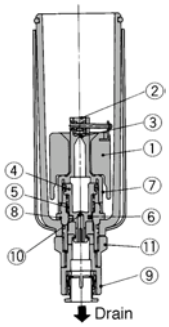
●When the pressure is applied internally to the bowl

When the pressure is greater than 1kgf/cm^2, it overcomes the force of spring ⑤, allowing piston ④ to ascend to the position that causes it to be sealed by seal ⑥. Thus, the inside of the bowl is isolated from the outside.

●When drainage has accumulated

Float ① ascends through flotation and opens the chamber's hole ③, allowing the pressure to enter the chamber. Piston ④ descends due to the force of the internal pressure and spring ⑤, and the accumulated drainage is discharged through drain outlet ⑨.

N.C. type: AD53/54



●When no drainage has accumulated

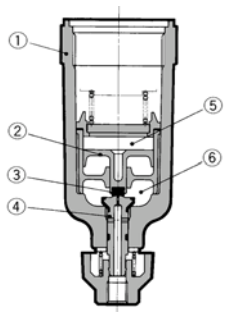
Float ① descends due to its own weight and valve ② closes the chamber's hole ③. Spring ⑤ pushes piston ④ up to the position that causes it to be sealed by seal ⑥.

●When drainage has accumulated

Float ① ascends through flotation and opens the chamber's hole ③, allowing the pressure to enter the chamber. The force of the internal pressure pushes piston ④ down, and the accumulated drainage passes through chamber hole ⑦ and drain housing ⑧, and is discharged through drain outlet ⑨. After the drainage has been discharged and valve ② closes, the chamber's internal pressure passes through the orifice ⑩ portion of piston ④, and is released externally. Therefore, piston ④ receives the case's internal pressure at its bottom, and with the additional force of spring ⑤, piston ④ is pushed upward, thus returning to the sealing position of seal ⑥.

Differential Pressure Auto Drain

AD61/62

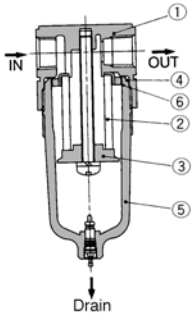


●When no pressure is applied internally to the case

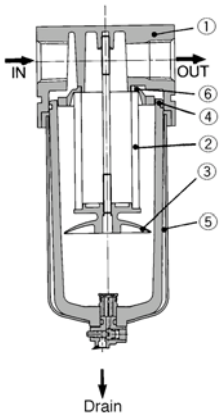
With piston ② having descended, if a pressure > 0.1 MPa is applied to piston ② inside bowl ①, the hole of valve ④ becomes closed by valve seal ③. While the valve remains closed, the pressure of piston upper chamber ⑤ and lower chamber ⑥ are equalized. As soon as the air is expended, the pressure in upper chamber ⑤ decreases, thus creating a momentary difference in pressure berween upper ⑤ and lower chamber ⑥ and causing piston ② to ascend. Then, the hole of valve ④ opens to discharge (the valve opens even if no drainage has accumulated). The pressure at the bottom of piston ② decreases, causing the pressure in upper chamber ⑤ to become greater than the pressure in lower chamber ⑥. So, piston ② descends, causing the hole of valve ④ to be closed by valve seal ③. When the air consumption rate becomes constant, the pressure between piston upper ⑤ and lower chamber ⑥ becomes equalized and the hole of the valve remains closed.

Construction

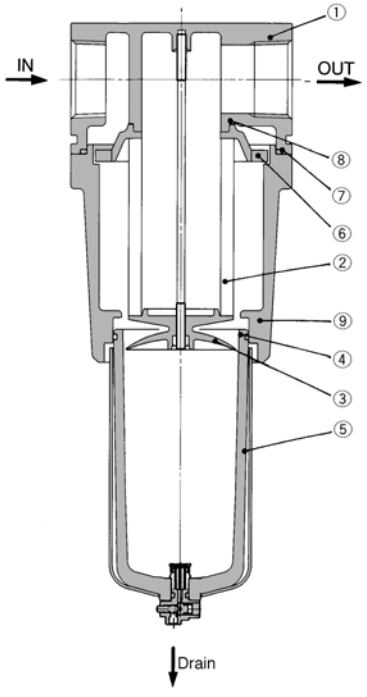
AF1000/2000



AF3000/4000



AF5000/6000



Component Parts

No.	Description	Material			Note
		AF1000/2000	AF3000/4000/4000-06	AF5000/6000	
①	Body	Zinc die cast	Aluminum die cast		Platinum silver paint
⑨	Housing	—		Aluminum die cast	Platinum silver paint

Replacement Parts

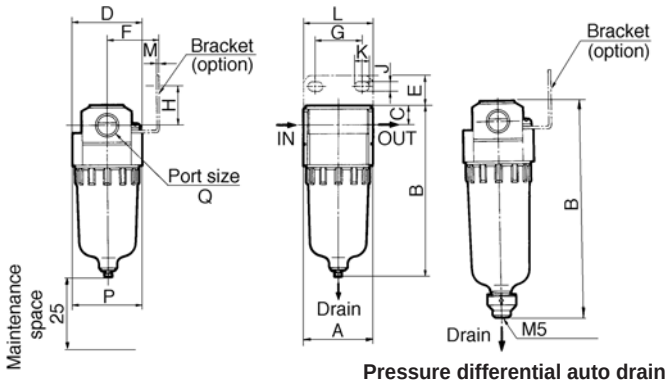
No.	Description	Material	Part No.						
			AF1000	AF2000	AF3000	AF4000	AF4000-06	AF5000	AF6000
②	Filter element	Non-woven fabric	111344	1129116	111585	1116103	1116103	111724	111825
③	Baffle	indicated in ( )	111312 (POM)	11295 (PBT)	111522 (PBT)	111622 (PBT)	111622 (PBT)	111727 (ABS)	111824 (ABS)
④	Bowl O ring	NBR	111325	11297	111512	111636	111636	111636	111636
⑤	Bowl assembly (1)	Polycarbonate	C100F	C200F	C300F	C400F	C400F	C400F	C400F
⑥	Deflector	indicated in ( )	11133A (POM/ABS)	1129111 (PBT)	11158 (PBT)	11167 (PBT)	11167 (PBT)	111726 (ABS)	111823 (ABS)
⑦	Housing O ring	NBR	—	—	—	—	—	111710	11189
⑧	Packing	NBR	—	—	—	—	—	111711	111810

Note 1) A bowl guard (material: SPCE) is included in the bowl assembly for AF3000-AF6000.

AF1000 to 6000

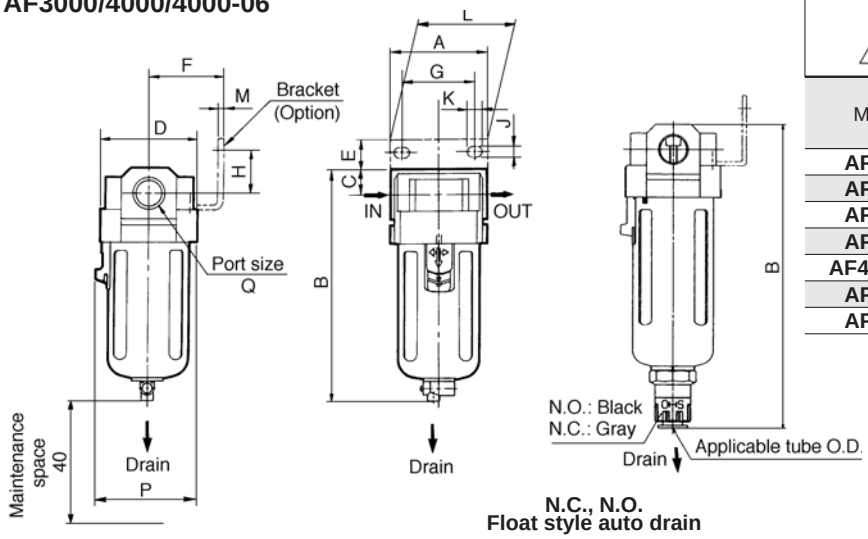
Dimensions

AF1000/2000



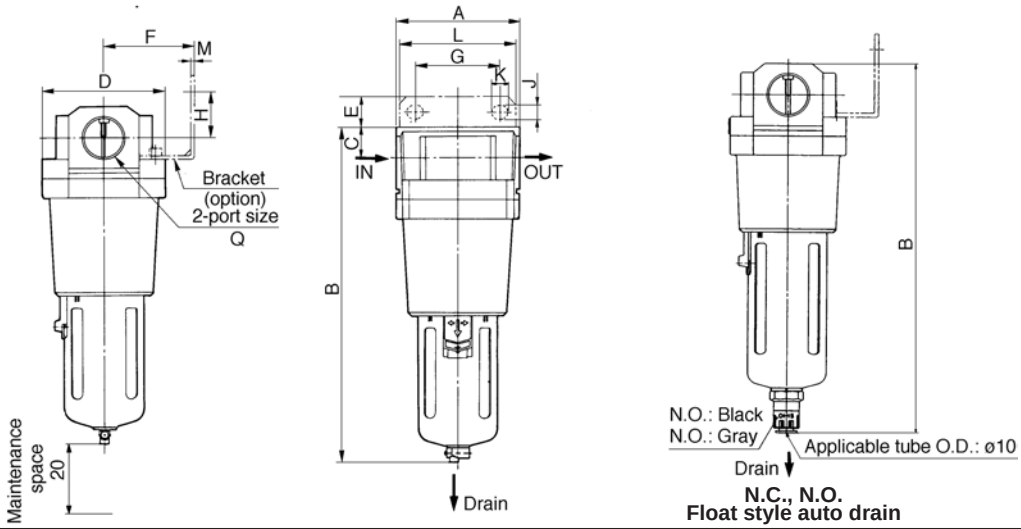
Pressure differential auto drain

AF3000/4000/4000-06



N.C., N.O.
Float style auto drain

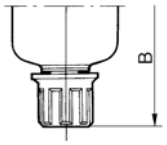
AF5000/6000



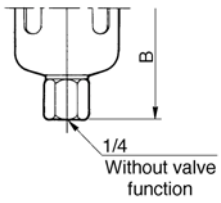
N.C., N.O.
Float style auto drain

Option (AF3000 to AF6000)

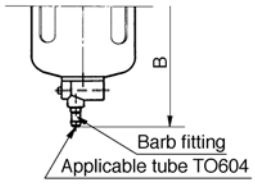
Metal bowl



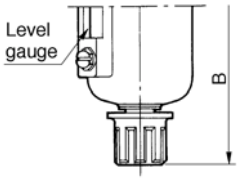
Drain guide



Drain cock/Barb fitting



Metal bowl with level gauge



Model	Barb fitting	Drain guide	Metal bowl	Metal bowl with level gauge
	B	B	**B**	B
AF1000	—	—	66	—
AF2000	—	—	97.5	—
AF3000	137.5	135	142	162
AF4000	173.5	171	178	198
AF4000-06	177.5	175	182	202
AF5000	252.5	250	257	277
AF6000	266.5	264	271	291

Model	Port size Q	A	B	C	D	Bracket mounting dimensions								P	Auto-drain	
						E	F	G	H	J	K	L	M		Float	Press. Diff.
															B	B
AF1000	M5	25	66	7	25	—	—	—	—	—	—	—	—	27.5	—	86.5
AF2000	1/8, 1/4	40	97.5	11	40	17	30	27	22	5.4	8.4	40	2.3	40	—	120.5
AF3000	1/4, 3/8	53	129	14	53	16	41	40	23	6.5	8	53	2.3	56	170	—
AF4000	1/4, 3/8, 1/2	70	165	18	70	17	50	54	26	8.5	10.5	70	2.3	73	206	—
AF4000-06	3/4	75	169	20	70	14	50	54	25	8.5	10.5	70	2.3	73	210	—
AF5000	3/4, 1	90	244	24	90	23	70	66	35	11	13	90	3.2	—	285.5	—
AF6000	1	95	258	24	95	23	70	66	35	11	13	90	3.2	—	299.5	—