

Air Filter

Series AF10 to 60

How to Order

AF 30 - F 03 BD - 2R

Body size: 10 20 30 40 50 60

Thread type: Nil, N (1), F (2)

Port size: M5, M5, 01, 02, 03, 04, 06, 10

Accessory: Nil, B (3), C, D

Option: 2, 6, 8, C, J (5), R, W, Z (6)

Note 1) Drain guide is NPT 1/4 (applicable to AF30 to 60), and the exhaust port for auto-drain comes with ø3/8" One-touch fitting (applicable to AF30 to 60).

Note 2) Drain guide is G 1/4 (applicable to AF30 to 60).

Note 3) Bracket is not assembled and is supplied loose at the time of shipment.

Note 4) Applicable tubing O.D for auto-drain connection should be ø3/8" in case NPT thread port is chosen.

* When more than one specification is required, indicate in ascending alphanumeric order.

Note 5) Without a valve function.

Note 6) This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Accessory/Optional Specifications Combinations

⊙ : Combination available
 ○ : Varies depending on the model
 ◻ : Combination not available
 △ : Available only with NPT thread

Accessory/Optional specifications	Combination	Symbol	Accessory			Optional specifications							Applicable filter			
			B	C	D	2	6	8	C	J	R	W	Z	AF10	AF20	AF30 to 60
Accessory	With bracket	B	⊙	○	○	⊙	⊙	○	○	○	○	○	△	⊙	⊙	⊙
	Float type auto-drain (N.C.)	C	○	⊙	○	⊙	⊙	○	○	○	○	○	△	⊙	⊙	⊙
	Float type auto-drain (N.O.)	D	⊙	○	○	⊙	⊙	○	○	○	○	○	△	⊙	⊙	⊙
Optional specifications	Metal bowl	-2	○	⊙	○	⊙	⊙	○	○	○	○	○	△	⊙	⊙	⊙
	Nylon bowl	-6	○	⊙	○	⊙	⊙	○	○	○	○	○	△	⊙	⊙	⊙
	Metal bowl with level gauge	-8	⊙	⊙	○	⊙	⊙	○	○	○	○	○	△	⊙	⊙	⊙
	With bowl guard	-C	⊙	⊙	○	⊙	⊙	○	○	○	○	○	△	⊙	⊙	⊙
	Drain guide 1/4	-J	⊙	○	○	⊙	⊙	○	○	○	○	○	△	⊙	⊙	⊙
	Flow direction: Right → Left	-R	○	⊙	○	⊙	⊙	○	○	○	○	○	△	⊙	⊙	⊙
	Drain cock with barb fitting: ø6 x ø4 nylon tubing	-W	⊙	○	○	⊙	⊙	○	○	○	○	○	△	⊙	⊙	⊙
Name plate and caution plate for bowl in imperial units (PSI, °F)	-Z	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△

Standard Specifications

Model	AF10	AF20	AF30	AF40	AF40-06	AF50	AF60
Port size	M5 x 0.8	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Fluid	Air						
Proof pressure	1.5 MPa						
Maximum operating pressure	1.0 MPa						
Ambient and fluid temperature	-5 to 60°C (With no freezing)						
Nominal filtration rating	5 µm						
Bowl material	Polycarbonate						
Bowl guard	—	Option	Standard				
Drain capacity (cm ³)	2.5	8	25	45	45	45	45
Weight (kg)	0.06	0.18	0.22	0.45	0.49	0.99	1.05

Accessory Part No.

Accessory	Applicable model	AF10	AF20	AF30	AF40	AF40-06	AF50	AF60
Bracket assembly (1)		—	AF20P-050AS	AF30P-050AS	AF40P-050AS	AF40P-070AS	AF50P-050AS	AF50P-050AS
Float type auto-drain (2)	N.O.	—	—	AD38 AD38N(3)	AD48 AD48N(3)	AD48 AD48N(3)	AD48 AD48N(3)	AD48 AD48N(3)
	N.C.	AD17	AD27	AD37 AD37N(3)	AD47 AD47N(3)	AD47 AD47N(3)	AD47 AD47N(3)	AD47 AD47N(3)

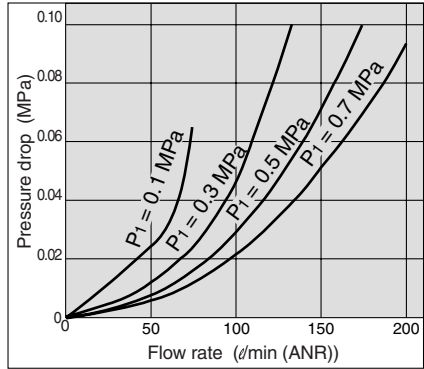
Note 1) Assembly includes a bracket and 2 mounting screws.
 Note 2) Minimum operating pressure: N.O. type—0.1 MPa; N.C. type—0.1 MPa (AD17/27) and 0.15 MPa (AD37/47).
 Note 3) When "N" is specified in the end of part number of auto-drain, applicable tubing O.D should be ø3/8".



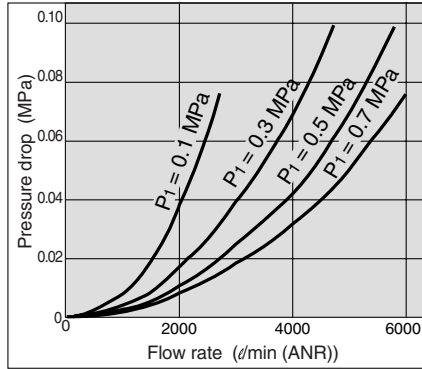
P. 14-2-39

Flow Characteristics (Representative values)

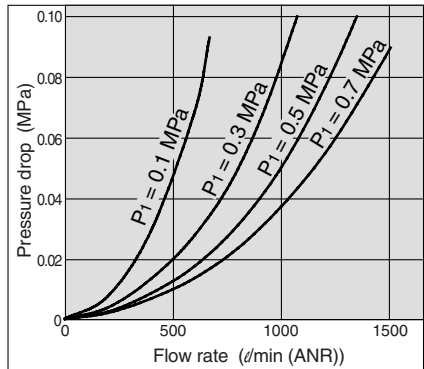
AF10 M5



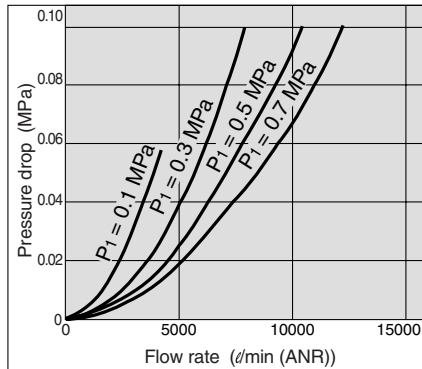
AF40-06 Rc 3/4



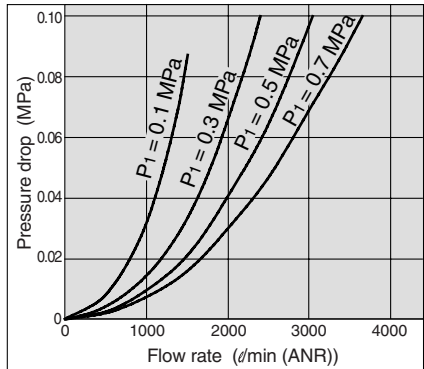
AF20 Rc 1/4



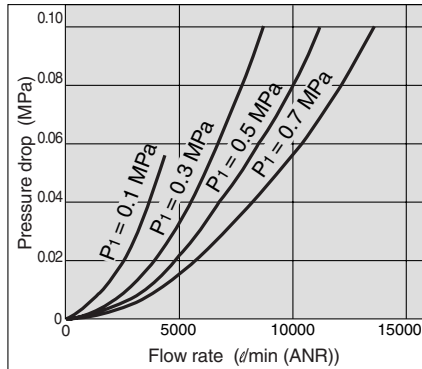
AF50 Rc 1



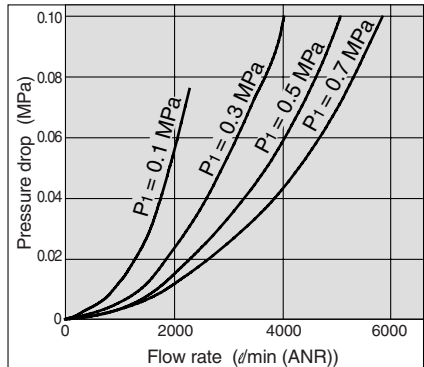
AF30 Rc 3/8



AF60 Rc 1



AF40 Rc 1/2



⚠ Precautions

Be sure to read before handling. Refer to pages 14-21-3 to 14-21-4 for Safety Instructions and Common Precautions.

Maintenance

⚠ Warning

1. Replace the element every 2 years or when the pressure drop becomes 0.1 MPa, whichever comes first, to prevent damage to the element.

F.R.L.

AV

AU

AF

AR

IR

VEX

AMR

ITV

IC

VBA

VE □

VY1

G

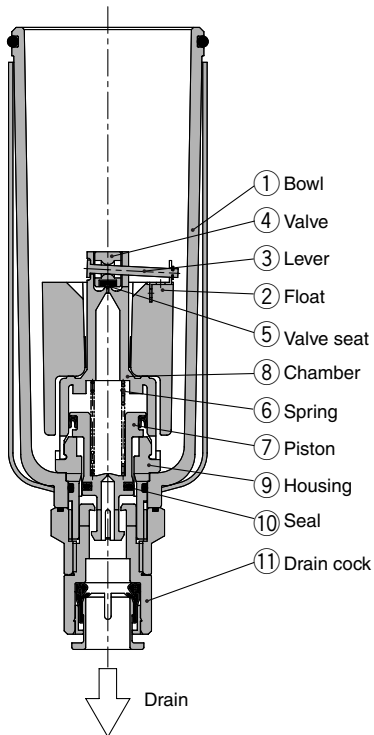
PPA

AL

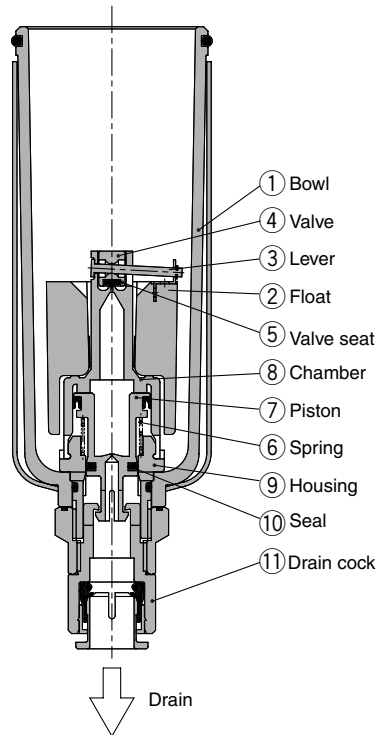
Series AF10 to 60

Working Principle: Float Type Auto Drain

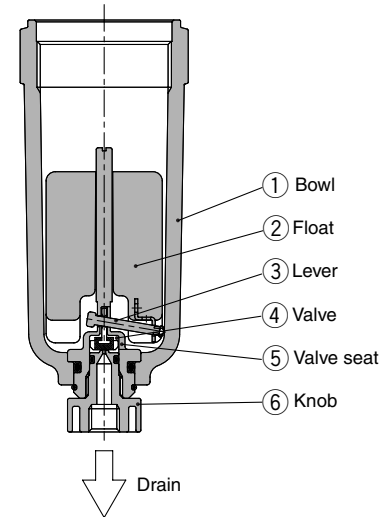
N.O. type: AD38/48



N.C. type: AD37/47



Compact auto-drain
N.C. type: AD17/27



- **When the pressure inside the bowl is released:**

When pressure is released from the bowl ①, piston ⑦ is lowered by spring ⑥.

The sealing action of seal ⑩ is interrupted, and the outside air flows inside the bowl ①, through housing hole ⑨ and drain cock ⑪.

Therefore, if there is an accumulation of condensate in the bowl ①, it will drain out through the drain cock.

- **When pressure is applied inside the bowl:**

When the pressure exceeds 0.1 MPa, the force of piston ⑦ surpasses the force of spring ⑥, and the piston goes up.

This pushes seal ⑩ up so that the it creates a seal and the inside of the bowl ①, is shut off from the outside air.

If there is no accumulation of condensate in the bowl ①, at this time float ② will be pulled down by its own weight, causing valve ④, which is connected to lever ③, to seal valve seat ⑤.

- **When there is an accumulation of condensate in the bowl:**

Float ② rises due to its own buoyancy and pushes open the seal created by the valve seat, ⑤.

This allows the pressure inside the bowl ①, to enter the chamber ⑧. The result is that the combined pressure inside chamber ⑧ and the force of the spring ⑥, lower the piston ⑦.

This causes the sealing action of seal ⑩ to be interrupted, and the accumulated condensate in the bowl ①, drains out through the drain cock ⑪.

Turning drain cock ⑪ manually counterclockwise lowers piston ⑦, which pushes open the seal created by seal ⑩, thus allowing the condensate to drain out.

- **When the pressure inside the bowl is released:**

Even when pressure inside the bowl ①, is released, spring ⑥ keeps piston ⑦ in its upward position.

This keeps the seal created by the seal ⑩, in place, thus shutting the outside air from inside the bowl ①.

Therefore, even if there should be some condensate accumulation inside the bowl ①, it will not drain out.

- **When pressure is applied inside the bowl:**

Even when pressure is applied inside the bowl ①, the combined force of spring ⑥ and the pressure inside the bowl ①, keeps piston ⑦ in its upward position.

This maintains the seal created by the seal ⑩, in place, thus shutting the outside air from inside the bowl ①.

If there is no accumulation of condensate in the bowl ①, at this time float ② will be pulled down by its own weight, causing valve ④, which is connected to lever ③, to seal valve seat ⑤.

- **When there is an accumulation of condensate in the bowl:**

Float ② rises due to its own buoyancy and pushes open the seal created by the valve seat ⑤. Pressure passes from the bowl to chamber ⑧.

The result is that the pressure inside chamber ⑧ surpasses the force of the spring ⑥, and pushes piston ⑦ downwards.

This causes the sealing action of seal ⑩ to be interrupted and the accumulated condensate in the bowl ①, drains out through the drain cock ⑪.

Turning drain cock ⑪ manually counterclockwise lowers piston ⑦, which pushes open the seal created by seal ⑩, thus allowing the condensate to drain out.

- **When the pressure inside the bowl is released:**

Even when pressure inside the bowl ①, is released, the weight of the float ② causes valve ④, which is connected to lever ③, to seal valve seat ⑤. As a result, the inside of the bowl ①, is shut off from the outside air.

Therefore, even if there is an accumulation of condensate in the bowl ①, it will not drain out.

- **When pressure is applied inside the bowl:**

Even when pressure is applied inside the bowl ①, the weight of the float ②, and the differential pressure that is applied to valve ④ cause valve ④ to seal valve seat ⑤, and the outside air is shut off from the inside of the bowl ①.

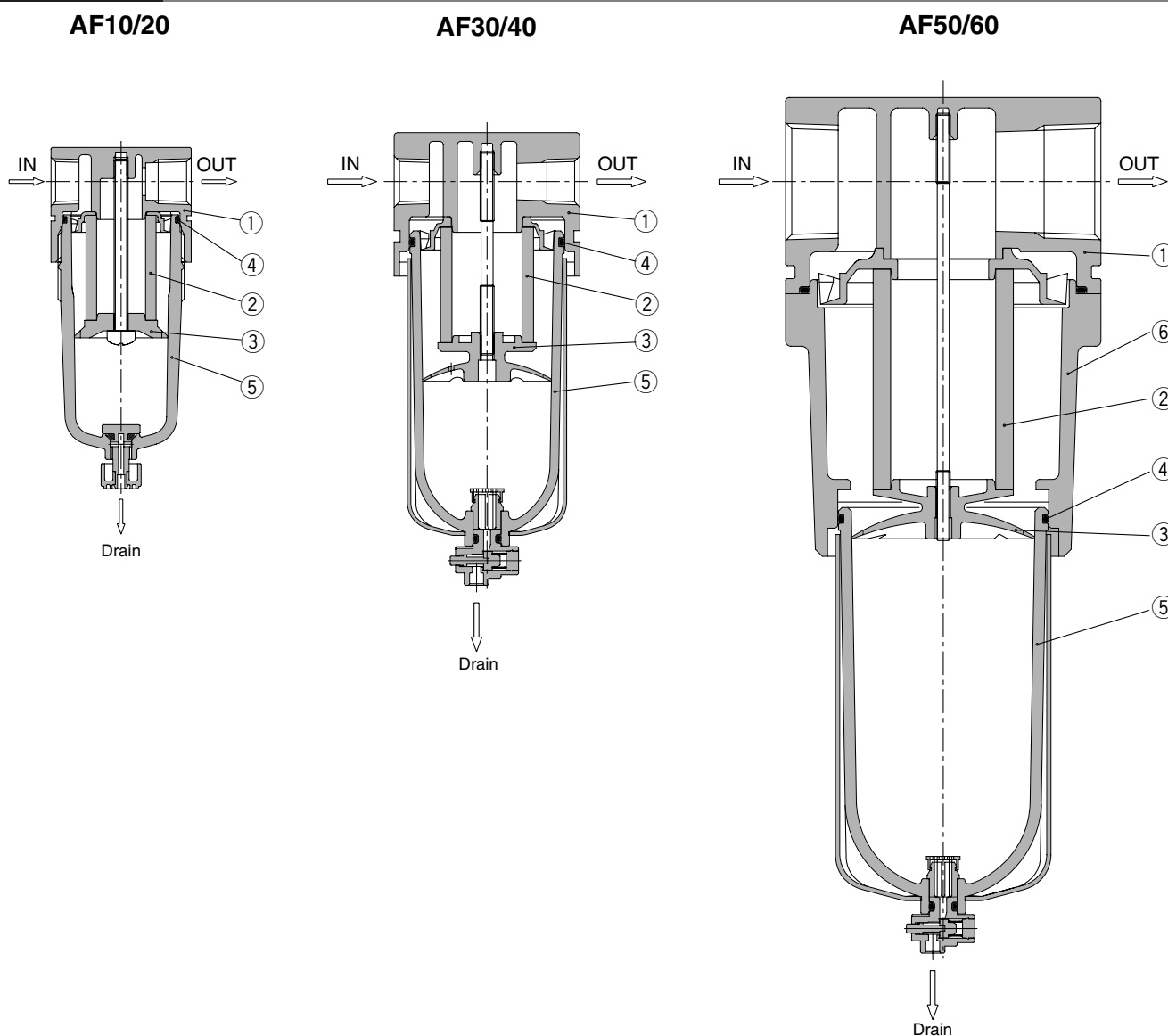
- **When the drain is accumulated in the bowl:**

Float ② rises due to its own buoyancy and the seal at valve seat ⑤ is interrupted.

The condensate inside the bowl ① drains out through the knob, ⑥.

Turning knob ⑥ manually counterclockwise lowers it and causes the sealing action of valve seat ⑤ to be interrupted, thus allowing the condensate to drain out.

Construction



- F.R.L.
- AV
- AU
- AF
- AR
- IR
- VEX
- AMR
- ITV
- IC
- VBA
- VE□
- VY1
- G
- PPA
- AL

Component Parts

No.	Description	Material			Color
		AF10/20	AF30/40/40-06	AF50/60	
①	Body	Zinc die-casted	Aluminum die-casted		Platinum silver
⑥	Housing	—		Aluminum die-casted	Platinum silver

Air Filter Replacement Parts

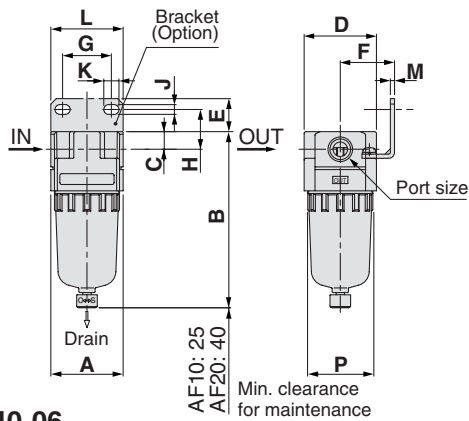
No.	Description	Material	Part no.						
			AF10	AF20	AF30	AF40	AF40-06	AF50	AF60
②	Filter element	Non-woven fabric	AF10P-060S	AF20P-060S	AF30P-060S	AF40P-060S	AF40P-060S	AF50P-060S	AF60P-060S
③	Baffle	PBT	AF10P-040S ⁽¹⁾	AF20P-040S	AF30P-040S	AF40P-040S	AF40P-040S	AF50P-040S	AF60P-040S
④	Bowl O-ring	NBR	C1SFP-260S	C2SFP-260S	C3SFP-260S	C4SFP-260S	C4SFP-260S	C4SFP-260S	C4SFP-260S
⑤	Bowl assembly ⁽²⁾	PC	C1SF	C2SF	C3SF ⁽³⁾	C4SF ⁽³⁾	C4SF ⁽³⁾	C4SF ⁽³⁾	C4SF ⁽³⁾

- Note 1) The material of the baffle for AF10 (AF10P-040S) only is POM.
- Note 2) Please contact SMC regarding the bowl assembly supply for PSI and °F unit specifications.
- Note 3) Bowl assembly for AF30 to 60 models comes with a bowl guard (steel band material).

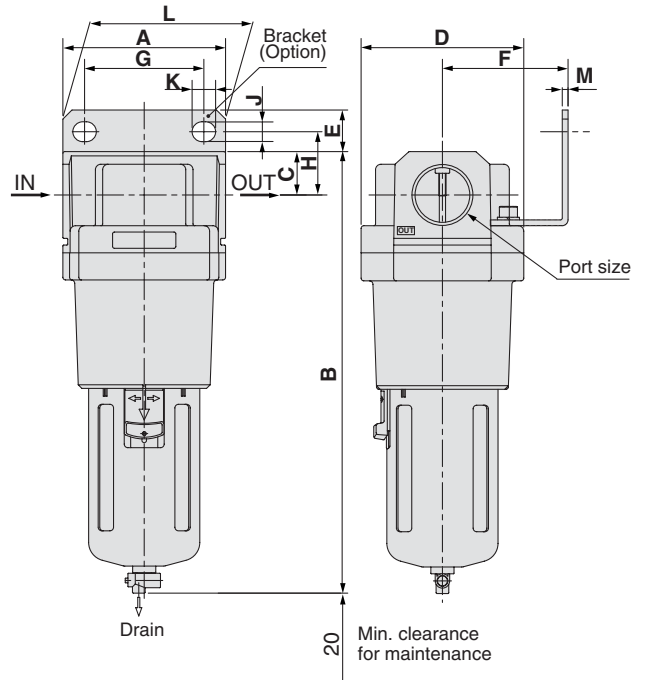
Series AF10 to 60

Dimensions

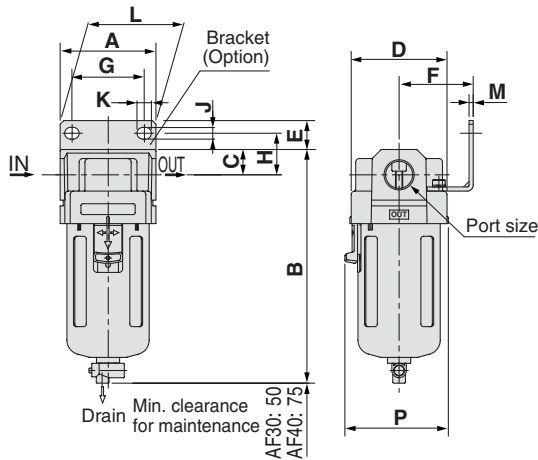
AF10/20



AF50/60



AF30/40/40-06



Applicable model	AF10, AF20		AF30, AF40, AF40-06, AF50, AF60				
	With auto-drain (N.C.)	Metal bowl	With auto-drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting
Optional specifications							
	M5 x 0.8		N.O.: Black N.C.: Gray ø10 One-touch fitting			1/4 Width across flats 17	Barb fitting Applicable tubing: T0604

(mm)

Model	Port size	Standard specifications					Accessory specifications									
		A	B	C	D	P	Bracket mounting size									
							E	F	G	H	J	K	L	M	B	
AF10	M5 x 0.8	25	67	7	25	28	—	—	—	—	—	—	—	—	85	
AF20	1/8, 1/4	40	97	10	40	—	18	30	27	22	5.4	8.4	40	2.3	115	
AF30	1/4, 3/8	53	129	14	53	57	16	41	40	23	6.5	8	53	2.3	170	
AF40	1/4, 3/8, 1/2	70	165	18	70	73	17	50	54	26	8.5	10.5	70	2.3	204	
AF40-06	3/4	75	169	20	70	73	14	50	54	25	8.5	10.5	70	2.3	208	
AF50	3/4, 1	90	245	24	90	—	23	70	66	35	11	13	90	3.2	284	
AF60	1	95	258	24	95	—	23	70	66	35	11	13	90	3.2	297	

Model	Optional specifications			
	With drain guide	With barb fitting	Metal bowl	Metal bowl with level gauge
	B	B	B	B
AF10	—	—	66	—
AF20	—	—	97	—
AF30	136	137	142	162
AF40	172	173	178	198
AF40-06	176	177	182	202
AF50	252	253	258	278
AF60	265	266	271	291

Air Filter Series AF20 to 60

Made to Order Specifications:

Please contact SMC for detailed dimensions, specifications, and lead times.

1. Special Temperature Environment

Special materials are used in the manufacturing of seals and resin parts to allow them to withstand various temperature conditions in cold or tropical (hot) climates.

Specifications

Part no.	-X430	-X440
Environment	Low temperature	High temperature
Ambient temperature	-30 to 60°C	-5 to 80°C
Fluid temperature	-5 to 60°C (With no freezing)	
Material	Rubber parts	Special NBR
	Main parts	FPM
	Metal (Aluminum die-casted)	

Applicable Model

Model	AF30	AF40	AF40-06	AF50	AF60
Port size	1/4 3/8	1/4 3/8 1/2	3/4	3/4 1	1

How to Order

AF 30 F 03 B 2 R X430

Air filter | Body size | Thread type | Option | Bowl | Port size

Body size

30	40	50	60
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Thread type

Nil	Rc
N (2)	NPT
F (3)	G

Note 1) Drain guide is NPT 1/4 (applicable to AC30 to 60)
Note 2) Drain guide is G 1/4 (applicable to AF30 to 60).

Option

Symbol	Description	Applicable model
J (5)	Drain guide 1/4	AF30 to 60
R	Flow direction: Rightt → Left	AF30 to 60
Z (6)	Name plate and caution plate for bowl in imperial units (PSI, °F)	AF30 to 60

* When more than one specification is required, indicate in ascending alphanumeric order.
Note 5) Without a valve function.
Note 6) For thread type NPT.

Bowl

Symbol	Description	Applicable model
2 (4)	Metal bowl	AF30 to 60

Note 4) Only metal bowl available.

Option

Symbol	Description	Applicable model
Nil	—	—
B (3)	With bracket	AF30 to 60

Note 3) Bracket is not assembled and is supplied loose at the time of shipment.

Port size

Symbol	Port size	Body size			
		30	40	50	60
02	1/4	●	●	—	—
03	3/8	●	●	—	—
04	1/2	●	●	—	—
06	3/4	—	●	●	—
10	1	—	—	●	●

2. High Pressure

Strong materials are used in the manufacturing of air filters intended for high pressure operation.

Specifications

Part no.	-X425
Proof pressure	3.0 MPa
Maximum operating pressure	2.0 MPa
Ambient and fluid temperature	-5 to 60°C (With no freezing)

Applicable Model

Model	AF20	AF30	AF40	AF40-06	AF50	AF60
Port sizes	1/8 1/4	1/4 3/8	1/4 3/8 1/2	3/4	3/4 1	1

How to Order

AF 30 F 03 B 2 R X425

Air filter | Body size | Thread type | Option | Bowl | Port size

Body size

20	30	40	50	60
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Thread type

Nil	Rc
N (1)	NPT
F (2)	G

Note 1) Drain guide is NPT 1/4 (applicable to AF30 to 60)
Note 2) Drain guide is G 1/4 (applicable to AF30 to 60).

Option

Symbol	Description	Applicable model
J (5)	Drain guide 1/4	AF30 to 60
R	Flow direction: Right → Left	AF20 to 60
Z (6)	Name plate and caution plate for bowl in imperial units (PSI, °F)	AF20 to 60

* When more than one specification is required, indicate in ascending alphanumeric order.
Note 5) Without a valve function.
Note 6) For thread type NPT.

Bowl

Symbol	Description	Applicable model
2 (4)	Metal bowl	AF20 to 60
8 (3)	Metal bowl with level gauge	AF30 to 60

Note 4) Only metal bowl or metal bowl with level gauge available.

Option

Symbol	Description	Applicable model
Nil	—	—
B (3)	With bracket	AF20 to 60

Note 3) Bracket is not assembled and is supplied loose at the time of shipment.

Port size

Symbol	Port size	Body size				
		20	30	40	50	60
01	1/8	●	—	—	—	—
02	1/4	●	●	—	—	—
03	3/8	—	●	●	—	—
04	1/2	—	—	●	—	—
06	3/4	—	—	●	●	—
10	1	—	—	—	●	●

Note) Please contact SMC regarding the detailed dimensions and optional availability.

F.R.L.

AV

AU

AF

AR

IR

VEX

AMR

ITV

IC

VBA

VE□

VY1

G

PPA

AL

Large Flow Air Filter

Series AF800/900



Standard Specifications

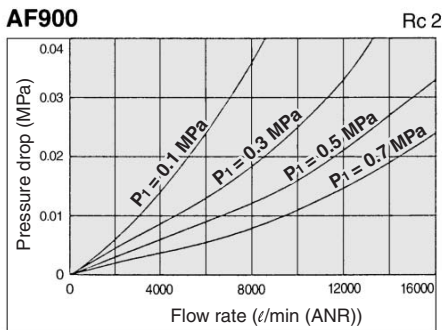
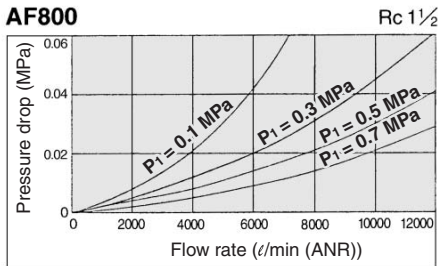
Model	AF800	AF900
Port size	1 1/4 1 1/2	2
Proof pressure	1.5 MPa	
Maximum operating pressure	1.0 MPa	
Ambient and fluid temperature	-5 to 60°C (No freezing)	
Filtration	Standard specifications: 5 μm Option: 2, 10, 20, 40, 70, 100 μm	
Bowl material	Polycarbonate	
Bowl capacity (cm ³)	180	
Weight (kg)	3.15	5.45
Accessory (Standard)	Bowl guard	

Accessory (Option)/Part No.

Description	Model	Part no.	
		AF8□□	AF9□□
Float type auto-drain *	N.O	AD34 (Bowl material: Nylon)	AD34 (Bowl material: Nylon)
Auto-drain (Bowl assembly)	N.C	AD16M (Bowl material: Polycarbonate)	AD16M (Bowl material: Polycarbonate)

* Min. operating pressure: 0.1 MPa (N.O.), 0.15 MPa (N.C.)

Flow Characteristics



How to Order

AF 8 00 - 12 - 127 - R

- Air filter**
- Body size**

8	1 1/2
9	2
- Auto-drain specifications**

00	None
10	Float type auto-drain (N.C.)
11	Float type auto-drain (N.O.)
- Thread type**

Nil	Rc
N	NPT
F	G
- Option**

D	Drain cock thread piping {Rc 1/4}
J□*4	Drain guide
R	Flow direction: From Right → Left
- Option**

1 *1	Optional filtration rate
2	Metal bowl
6	Nylon bowl
7 *2	Stainless steel element
8	Metal bowl with level gauge
9 *3	Without drain cock
- Port size**

12	1 1/4
14	1 1/2
20	2



Note 1) When specifying more than one number, indicate them in numerical order.
(Ex.) 127-40

Note 2) When specifying more than one alphabet symbol, indicate them alphabetically and put "-" between them.
(Ex.) D-R

Note 3) Options for "2", "6", and "8" can not be specified at the same time.
(Ex.) 68

Note 4) Symbols "9", "D", "J" can not be specified at the same time.
(Ex.) 9-D-J

Note 5) For products with auto-drain, either symbol "D" or "J" cannot be specified at the same time because of female threads (3/8 or 1/8), for connection to drain piping.

Note 6) For N.C. type with auto-drain, metal case with liquid level indicator is not available.

* 1 Indicate the required filtration rate after the symbol "1".
Ex.) When 40 μm is required: 1-40

* 2 If indicating "7" only, the filtration rate is 5 μm. Optional filtration rate is required, indicate like 17-□.
Ex.) When requiring "stainless steel and 40 μm": 17-40

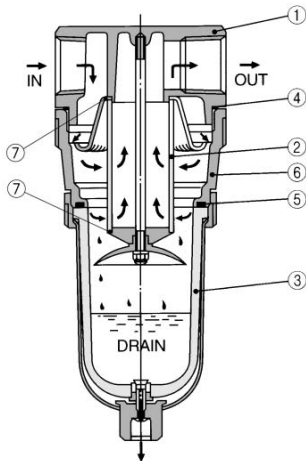
* 3 The bowl of series AL is used.

* 4 This symbol "□" indicates the port size.

1	Rc 1/4
6	NPT 1/4
8	G 1/4

Series AF800/900

Construction



Component Parts

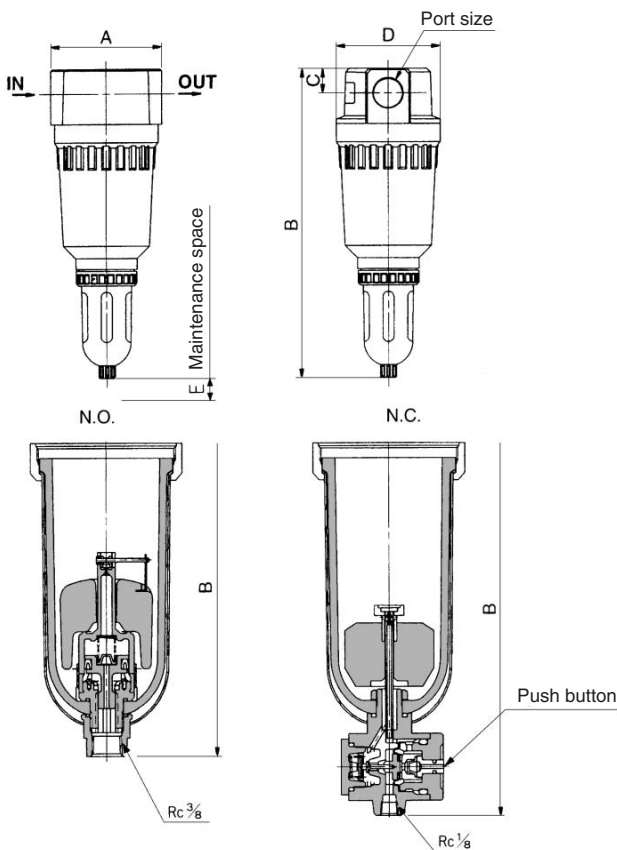
No.	Description	Material		Note
		AF800	AF900	
①	Body	Aluminum die-casted	Aluminum die-casted	Platinum silver painted
⑥	Housing	Aluminum die-casted	Aluminum die-casted	Platinum silver painted

Replacement Parts

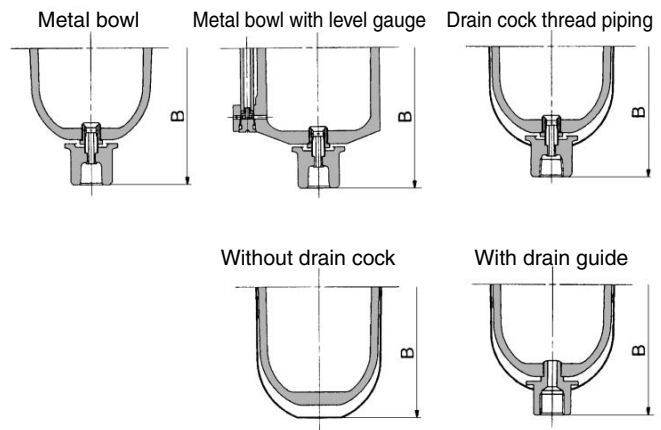
No.	Description	Material	Part no.	
			AF800	AF900
②	Element	Bronze	11345-5B	11352-5B
③	Bowl assembly *	—	AF11-4	AF11-4
④	O-ring	NBR	JIS B2401 G130	630332
⑤	O-ring	NBR	113136	113136
⑦	Gasket for element	NBR	11217	112310

* Bowl (polycarbonate), drain cock, bowl guard and clamp ring are assembled.
Assembly part no. for bowl (polycarbonate) and drain cock is 11316A (for AF800/900).

Dimensions



Option



Option/Dimensions

Model	B (Without auto-drain)				
	Metal bowl	Metal bowl with level gauge	Without drain cock	Drain cock thread piping	With drain guide
AF800	409	440.5	393.5	410	406.5
AF900	489	520.5	473.5	490	486.5

Model	A	B	C	D	B (With auto-drain)		
					N.O.	N.C.	E
AF800	150	410	33	140	439	440	200
AF900	200	490	46	170	519	520	260

⚠ Precautions

Be sure to read before handling. Refer to pages 14-21-3 and 14-21-4 for Safety Instructions and Common Precautions.

Selection

⚠ Warning

Use auto-drain under the following conditions. Otherwise, it may result in a malfunction.

- Float type auto-drain (N.O.)
 - Use compressor with capacity more than 3.7 kw {400 ℓ/min (ANR)}.
 - Set pressure more than 0.1 MPa.
- Float type auto-drain (N.C.)
 - Compressor can be used even if energy is under 3.7 kw.
 - Set pressure more than 0.15 MP

Piping

⚠ Warning

Be sure to pipe auto-drain under the following conditions. Otherwise, it may result in a malfunction.

- Float type auto-drain (N.O.)

When making drain exhaust piping, use piping with bore size $\phi 10$ or larger than $\phi 10$. Length should be shorter than 5 m. Do NOT make upward piping.
- Float type auto-drain (N.C.)

DO NOT pipe upwards.

Air Filter Series AF20 to 60

Made to Order Specifications:

Please contact SMC for detailed dimensions, specifications, and lead times.

1. Special Temperature Environment

Special materials are used in the manufacturing of seals and resin parts to allow them to withstand various temperature conditions in cold or tropical (hot) climates.

Specifications

Part no.	-X430	-X440
Environment	Low temperature	High temperature
Ambient temperature	-30 to 60°C	-5 to 80°C
Fluid temperature	-5 to 60°C (With no freezing)	
Material	Rubber parts	Special NBR
	Main parts	FPM
	Metal (Aluminum die-casted)	

Applicable Model

Model	AF30	AF40	AF40-06	AF50	AF60
Port size	1/4 3/8	1/4 3/8 1/2	3/4	3/4 1	1

How to Order

AF 30 F 03 B 2 R X430

Air filter | Body size | Thread type | Option | Bowl | Port size

Body size

30	40	50	60
----	----	----	----

Thread type

Nil	Rc
N (2)	NPT
F (3)	G

Note 1) Drain guide is NPT 1/4 (applicable to AC30 to 60)
Note 2) Drain guide is G 1/4 (applicable to AF30 to 60).

Option

Symbol	Description	Applicable model
J (5)	Drain guide 1/4	AF30 to 60
R	Flow direction: Rightt → Left	AF30 to 60
Z (6)	Name plate and caution plate for bowl in imperial units (PSI, °F)	AF30 to 60

* When more than one specification is required, indicate in ascending alphanumeric order.
Note 5) Without a valve function.
Note 6) For thread type NPT.

Bowl

Symbol	Description	Applicable model
2 (4)	Metal bowl	AF30 to 60

Note 4) Only metal bowl available.

Option

Symbol	Description	Applicable model
Nil	—	—
B (3)	With bracket	AF30 to 60

Note 3) Bracket is not assembled and is supplied loose at the time of shipment.

Port size

Symbol	Port size	Body size			
		30	40	50	60
02	1/4	●	●	—	—
03	3/8	●	●	—	—
04	1/2	●	●	—	—
06	3/4	—	●	●	—
10	1	—	—	●	●

2. High Pressure

Strong materials are used in the manufacturing of air filters intended for high pressure operation.

Specifications

Part no.	-X425
Proof pressure	3.0 MPa
Maximum operating pressure	2.0 MPa
Ambient and fluid temperature	-5 to 60°C (With no freezing)

Applicable Model

Model	AF20	AF30	AF40	AF40-06	AF50	AF60
Port sizes	1/8 1/4	1/4 3/8	1/4 3/8 1/2	3/4	3/4 1	1

How to Order

AF 30 F 03 B 2 R X425

Air filter | Body size | Thread type | Option | Bowl | Port size

Body size

20	30	40	50	60
----	----	----	----	----

Thread type

Nil	Rc
N (1)	NPT
F (2)	G

Note 1) Drain guide is NPT 1/4 (applicable to AF30 to 60)
Note 2) Drain guide is G 1/4 (applicable to AF30 to 60).

Option

Symbol	Description	Applicable model
J (5)	Drain guide 1/4	AF30 to 60
R	Flow direction: Right → Left	AF20 to 60
Z (6)	Name plate and caution plate for bowl in imperial units (PSI, °F)	AF20 to 60

* When more than one specification is required, indicate in ascending alphanumeric order.
Note 5) Without a valve function.
Note 6) For thread type NPT.

Bowl

Symbol	Description	Applicable model
2 (4)	Metal bowl	AF20 to 60
8 (3)	Metal bowl with level gauge	AF30 to 60

Note 4) Only metal bowl or metal bowl with level gauge available.

Option

Symbol	Description	Applicable model
Nil	—	—
B (3)	With bracket	AF20 to 60

Note 3) Bracket is not assembled and is supplied loose at the time of shipment.

Port size

Symbol	Port size	Body size				
		20	30	40	50	60
01	1/8	●	—	—	—	—
02	1/4	●	●	—	—	—
03	3/8	—	●	●	—	—
04	1/2	—	—	●	—	—
06	3/4	—	—	●	●	—
10	1	—	—	—	●	●

Note) Please contact SMC regarding the detailed dimensions and optional availability.

F.R.L.

AV

AU

AF

AR

IR

VEX

AMR

ITV

IC

VBA

VE□

VY1

G


PPA


AL




Safety Instructions

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by labels of "Caution", "Warning" or "Danger". To ensure safety, be sure to observe ISO 4414 ^{Note 1)}, JIS B 8370 ^{Note 2)} and other safety practices.

 **Caution** : Operator error could result in injury or equipment damage.

 **Warning** : Operator error could result in serious injury or loss of life.

 **Danger** : In extreme conditions, there is a possible result of serious injury or loss of life.

Note 1) ISO 4414: Pneumatic fluid power--General rules relating to systems.

Note 2) JIS B 8370: General Rules for Pneumatic Equipment

Warning

1. The compatibility of pneumatic equipment is the responsibility of the person who designs the pneumatic system or decides its specifications.

Since the products specified here are used in various operating conditions, their compatibility for the specific pneumatic system must be based on specifications or after analysis and/or tests to meet your specific requirements. The expected performance and safety assurance will be the responsibility of the person who has determined the compatibility of the system. This person should continuously review the suitability of all items specified, referring to the latest catalog information with a view to giving due consideration to any possibility of equipment failure when configuring a system.

2. Only trained personnel should operate pneumatically operated machinery and equipment.

Compressed air can be dangerous if an operator is unfamiliar with it. Assembly, handling or repair of pneumatic systems should be performed by trained and experienced operators.

3. Do not service machinery/equipment or attempt to remove components until safety is confirmed.

1. Inspection and maintenance of machinery/equipment should only be performed once measures to prevent falling or runaway of the driver objects have been confirmed.
2. When equipment is to be removed, confirm the safety process as mentioned above. Cut the supply pressure for this equipment and exhaust all residual compressed air in the system.
3. Before machinery/equipment is restarted, take measures to prevent shooting-out of cylinder piston rod, etc.

4. Contact SMC if the product is to be used in any of the following conditions:

1. Conditions and environments beyond the given specifications, or if product is used outdoors.
2. Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverages, recreation equipment, emergency stop circuits, clutch and brake circuits in press applications, or safety equipment.
3. An application which has the possibility of having negative effects on people, property, or animals, requiring special safety analysis.



Common Precautions

Be sure to read before handling.

For detailed precautions on every series, refer to main text.

Selection

Warning

1. Confirm the specifications.

Products represented in this catalog are designed for use in compressed air applications only (including vacuum), unless otherwise indicated.

Do not use the product outside their design parameters.

Please contact SMC when using the products in applications other than compressed air (including vacuum).

Mounting

Warning

1. Instruction manual

Install the products and operate them only after reading the instruction manual carefully and understanding its contents. Also keep the manual where it can be referred to as necessary.

2. Securing the space for maintenance

When installing the products, please allow access for maintenance.

3. Tightening torque

When installing the products, please follow the listed torque specifications.

Piping

Caution

1. Before piping

Make sure that all debris, cutting oil, dust, etc., are removed from the piping.

2. Wrapping of pipe tape

When screwing piping or fittings into ports, ensure that chips from the pipe threads or sealing material do not get inside the piping. Also, when the pipe tape is used, leave 1.5 to 2 thread ridges exposed at the end of the threads.

Air Supply

Warning

1. Operating fluid

Please consult with SMC when using the product in applications other than compressed air (including vacuum).

Regarding products for general fluid, please ask SMC about applicable fluids.

2. Install an air dryer, aftercooler, etc.

Excessive condensate in a compressed air system may cause valves and other pneumatic equipment to malfunction.

Installation of an air dryer, after cooler etc. is recommended.

3. Drain flushing

If condensate in the drain bowl is not emptied on a regular basis, the bowl will over flow and allow the condensate to enter the compressed air lines.

If the drain bowl is difficult to check and remove, it is recommended that a drain bowl with the auto-drain option be installed.

For compressed air quality, refer to "Air Preparation Equipment" catalog.

4. Use clean air

If the compressed air supply is contaminated with chemicals, synthetic materials, corrosive gas, etc., it may lead to break down or malfunction.

Operating Environment

Warning

1. Do not use in environments where the product is directly exposed to corrosive gases, chemicals, salt water, water or steam.

2. Do not expose the product to direct sunlight for an extended period of time.

3. Do not use in a place subject to heavy vibrations and/or shocks.

4. Do not mount the product in locations where it is exposed to radiant heat.

Maintenance

Warning

1. Maintenance procedures are outlined in the operation manual.

Not following proper procedures could cause the product to malfunction and could lead to damage to the equipment or machine.

2. Maintenance work

If handled improperly, compressed air can be dangerous.

Assembly, handling and repair of pneumatic systems should be performed by qualified personnel only.

3. Drain flushing

Remove drainage from air filters regularly. (Refer to the specifications.)

4. Shut-down before maintenance

Before attempting any kind of maintenance make sure the supply pressure is shut of and all residual air pressure is released from the system to be worked on.

5. Start-up after maintenance and inspection

Apply operating pressure and power to the equipment and check for proper operation and possible air leaks. If operation is abnormal, please verify product set-up parameters.

6. Do not make any modifications to be product.

Do not take the product apart.

Quality Assurance Information (ISO 9001, ISO 14001)

Reliable quality of products in the global market

To enable our customers throughout the world to use our products with even greater confidence, SMC has obtained certification for international standards “ISO 9001” and “ISO 14001”, and created a complete structure for quality assurance and environmental controls. SMC products pursue to meet its customers’ expectations while also considering company’s contribution in society.

Quality management system ISO 9001

This is an international standard for quality control and quality assurance. SMC has obtained a large number of certifications in Japan and overseas, providing assurance to our customers throughout the world.



Environmental management system ISO 14001

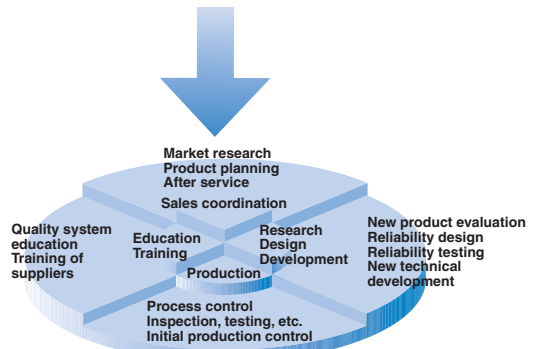
This is an international standard related to environmental management systems and environmental inspections. While promoting environmentally friendly automation technology, SMC is also making diligent efforts to preserve the environment.



SMC’s quality control system



Quality policies



Quality control activities

SMC Product Conforming to Inter

SMC products complying with EN/ISO, CSA/UL standards are supporting



The CE mark indicates that machines and components meet essential requirements of all the EC Directives applied.

It has been obligatory to apply CE marks indicating conformity with EC Directives when machines and components are exported to the member Nations of the EU.

Once "A manufacturer himself" declares a product to be safe by means of CE marking (declaration of conformity by manufacturer), free distribution inside the member Nations of the EU is permissible.

■ CE Mark

SMC provides CE marking to products to which EMC and Low Voltage Directives have been applied, in accordance with CETOP (European hydraulics and pneumatics committee) guide lines.

■ As of February 1998, the following 18 countries will be obliged to conform to CE mark legislation

Iceland, Ireland, United Kingdom, Italy, Austria, Netherlands, Greece, Liechtenstein, Sweden, Spain, Denmark, Germany, Norway, Finland, France, Belgium, Portugal, Luxembourg

■ EC Directives and Pneumatic Components

• Machinery Directive

The Machinery Directive contains essential health and safety requirements for machinery, as applied to industrial machines e.g. machine tools, injection molding machines and automatic machines. Pneumatic equipment is not specified in Machinery Directive. However, the use of SMC products that are certified as conforming to EN Standards, allows customers to simplify preparation work of the Technical Construction File required for a Declaration of Conformity.

• Electromagnetic Compatibility (EMC) Directive

The EMC Directive specifies electromagnetic compatibility. Equipment which may generate electromagnetic interference or whose function may be compromised by electromagnetic interference is required to be immune to electromagnetic affects (EMS/immunity) without emitting excessive electromagnetic affects (EMI/emission).

• Low Voltage Directive

This directive is applied to products, which operate above 50 VAC to 1000 VAC and 75 VDC to 1500 VDC operating voltage, and require electrical safety measures to be introduced.

• Simple Pressure Vessels Directive

This directive is applied to welded vessels whose maximum operating pressure (PS) and volume of vessel (V) exceed 50 bar/L. Such vessels require EC type examination and then CE marking.

national Standards

you to comply with EC directives and CSA/UL standards.



■ CSA Standards & UL Standards

UL and CSA standards have been applied in North America (U.S.A. and Canada) symbolizing safety of electric products, and are defined to mainly prevent danger from electric shock or fire, resulting from trouble with electric products. Both UL and CSA standards are acknowledged in North America as the first class certifying body. They have a long experience and ability for issuing product safety certificate. Products approved by CSA or UL standards are accepted in most states and governments beyond question.

Since CSA is a test certifying body as the National Recognized Testing Laboratory (NRTL) within the jurisdiction of Occupational Safety and Health Administration (OSHA), SMC was tested for compliance with CSA Standards and UL Standards at the same time and was approved for compliance with the two Standards. The above CSA NRTL/C logo is described on a product label in order to indicate that the product is approved by CSA and UL Standards.

■ TSSA (MCCR) Registration Products

TSSA is the regulation in Ontario State, Canada. The products that the operating pressure is more than 5 psi (0.03 MPa) and the piping size is bigger than 1 inch. fall into the scope of TSSA regulation.

Products conforming to CE Standard

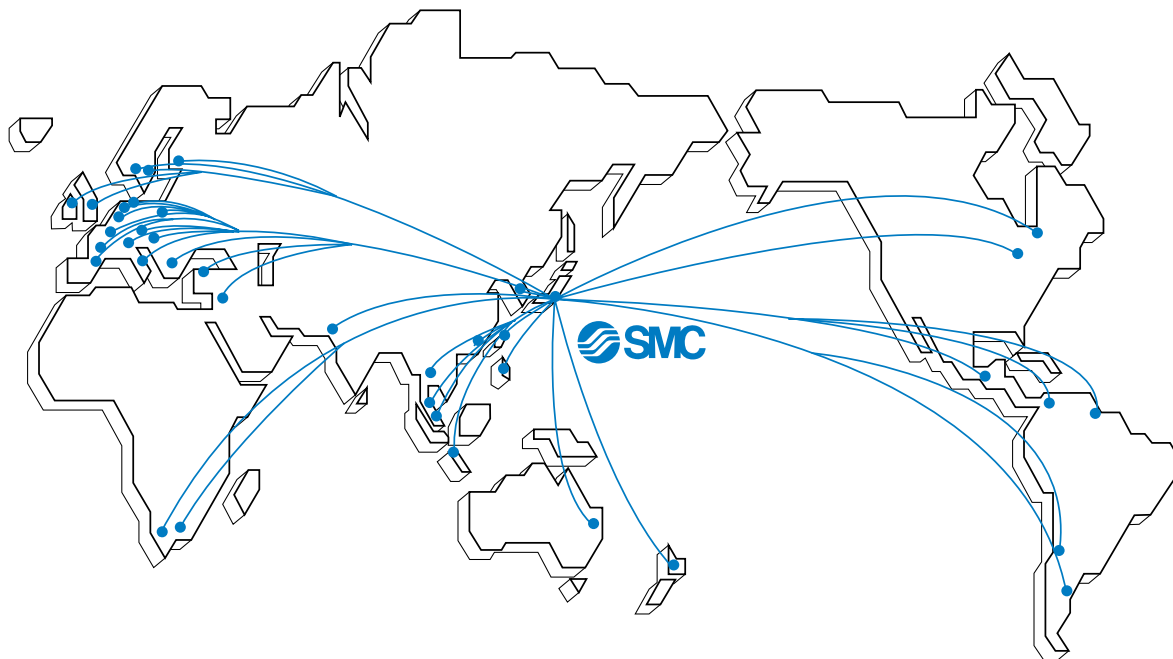


With CE symbol for simple visual recognition

In this catalog each accredited product series is indicated with a CE mark symbol. However, in some cases, every available models may not meet CE compliance. Please visit our web site for the latest selection of available models with CE mark.

<http://www.smcworld.com>

SMC's Global Service Network



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Filter
NAF800, 900

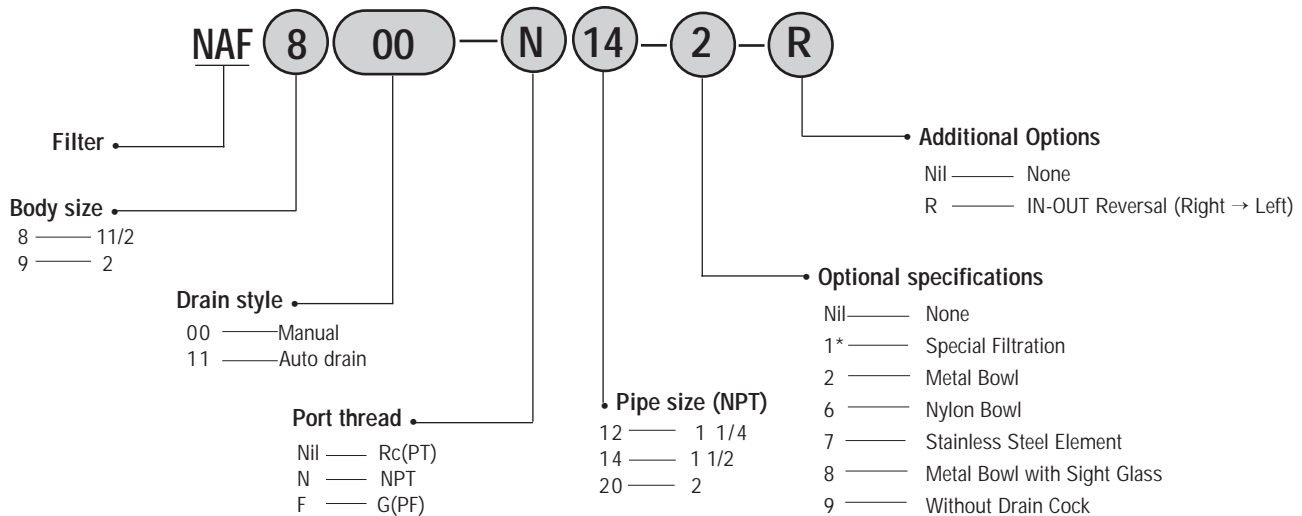


Specifications

Model		NAF800	NAF900
Pipe size (NPT)		1 1/4 - 1 1/2	2
Net bowl capacity oz. (cm ³)		6.1 (180)	6.1 (180)
Weight lbs (kgf)		6.94 (3.15)	12.02 (5.45)
Proof pressure psig (MPa)		220 (1.5)	
Max. operating pressure psig (MPa)		150 (1.0)	
Operating temperature range		23° ~ 140° F (-5° ~ 60° C)	
Filtration		40 standard, optional: 2, 10, 20, 70, 100 μm	
Bowl		Polycarbonate bowl	
Body		ADC	
Optional Accessories	Auto Drain (N.O.)	NAD34	NAD34

● Standard ▼ Optional —Not Available

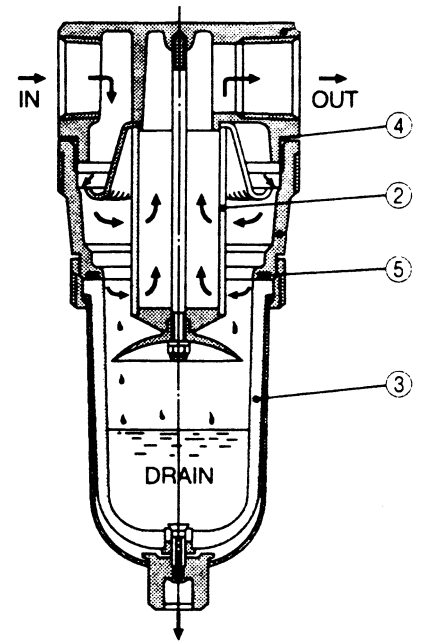
How To Order



* Please list Filtration after suffix number
(Ex. For 100μm — NAF800-N14-1-100)

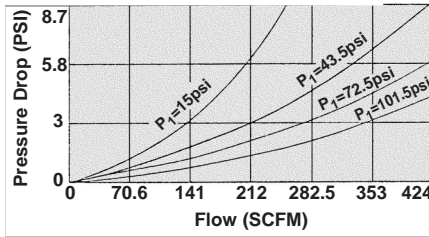
Construction/Parts List

Item No.	Name	Material	Model	
			NAF800	NAF900
②	Filter Element	Bronze	11345-40B	11352-40B
③	Bowl and guard	SPC	AF11-4	AF11-4
④	Housing O-ring	NBR	G-130	630332
⑤	Bowl O-ring		113136	113136
—	Repair Kit	—	KT-AF800-40B	KT-AF900-40B

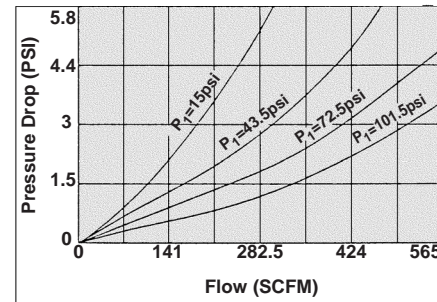


Flow Characteristics

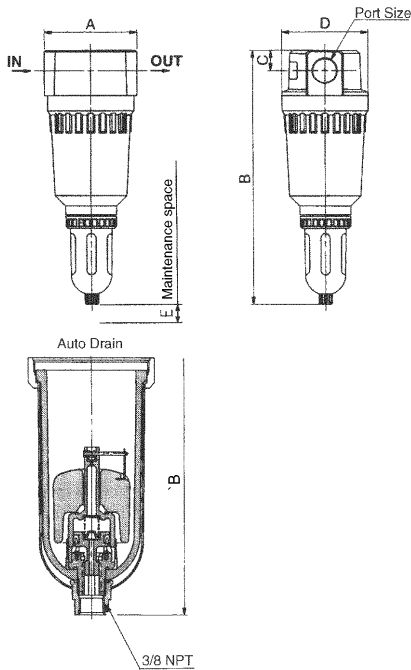
NAF800



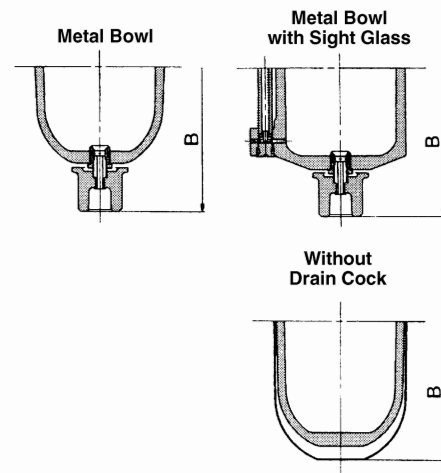
NAF900



Dimensions



Dimensions/with options



Model	A	B	B	C	D	E	Port size
NAF800	5.91	16.14	17.28 (439)	1.30	5.51 (140)	7.87 (200)	1 1/4 • 1 1/2
NAF900	7.87	19.29	20.43 (519)	1.81	6.69 (170)	10.24 (260)	2

Model	B		
	Metal Bowl	Metal Bowl w/sight glass	w/o Drain Cock
NAF811	16.10 (409)	17.34 (440.5)	15.49 (393.5)
NAF911	19.25 (489)	20.49 (520.5)	18.64 (473.5)