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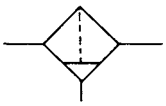
Modular Type
Air Filters
Series AF

	Model	Port size	Filtration (μm)	Options
Air Filter Series AF  **Page 328 through to 336**	**AF10**	M5 x 0.8	5	Bracket Float type auto drain
	AF20	1/8, 1/4		
	AF30	1/4, 3/8		
	AF40	1/4, 3/8, 1/2		
	AF40-06	3/4		
	AF50	3/4, 1		
	AF60	1		
Mist Separator Series AFM  **Page 338 through to 344**	**AFM20**	1/8, 1/4	0.3	Bracket Float type auto drain
	AFM30	1/4, 3/8		
	AFM40	1/4, 3/8, 1/2		
	AFM40-06	3/4		
Micro Mist Separator Series AFD  **Page 338 through to 344**	**AFD20**	1/8, 1/4	0.01	Bracket Float type auto drain
	AFD30	1/4, 3/8		
	AFD40	1/4, 3/8, 1/2		
	AFD40-06	3/4		

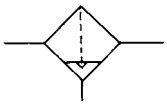
Air Filter
AF10 to AF60

JIS Symbol

Air Filter



Air Filter with Auto Drain





AF20



AF40

How to Order

AF **30** – ❶ **03** **BD** – ❺ – Made to Order

(Refer to page 334 through to 336 for details.)

- Option/Semi-standard: Select one each for **a** to **f**.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.

Example) AF30-03BD-2R

		Symbol	Description	❶ Body size 10	20	30	40	50	60
❷	Thread type	Nil	Metric thread (M5)	●	—	—	—	—	—
			Rc	—	●	●	●	●	●
		N Note 1)	NPT	—	●	●	●	●	●
		F Note 2)	G	—	●	●	●	●	●
		+							
❸	Port size	M5	M5	●	—	—	—	—	—
		01	1/8	—	●	—	—	—	—
		02	1/4	—	●	●	●	—	—
		03	3/8	—	—	●	●	—	—
		04	1/2	—	—	—	●	—	—
		06	3/4	—	—	—	●	●	—
		10	1	—	—	—	—	●	●
		+							
❹ Option	a Mounting	Nil	Without mounting option	●	●	●	●	●	●
		B Note 3)	With bracket	—	●	●	●	●	●
		+							
	b Float type auto drain	Nil	Without auto drain	●	●	●	●	●	●
		C	Float type auto drain (N.C.)	●	●	●	●	●	●
		D	Float type auto drain (N.O.)	—	—	●	●	●	●
		+							
❺ Semi-standard	c Bowl Note 4)	Nil	Polycarbonate bowl	●	●	●	●	●	●
		2	Metal bowl	●	●	●	●	●	●
		6	Nylon bowl	●	●	●	●	●	●
		8	Metal bowl with level gauge	—	—	●	●	●	●
		C	With bowl guard	—	●	—	—	—	—
		6C	Nylon bowl with bowl guard	—	●	—	—	—	—
		+							
	d Drain port Note 5)	Nil	With drain cock	●	●	●	●	●	●
		J Note 6)	Drain guide 1/8	—	●	—	—	—	—
			Drain guide 1/4	—	—	●	●	●	●
		W Note 7)	Drain cock with barb fitting: For ø6 x ø4 nylon tube	—	—	●	●	●	●
		+							
	e Flow direction	Nil	Flow direction: Left to right	●	●	●	●	●	●
		R	Flow direction: Right to left	●	●	●	●	●	●
		+							
	f Pressure unit	Nil	Name plate and caution plate for bowl in imperial units: MPa	●	●	●	●	●	●
		Z Note 8)	Name plate and caution plate for bowl in imperial units: psi, °F	○ Note 9)	○ Note 9)	○ Note 9)	○ Note 9)	○ Note 9)	○ Note 9)

Note 1) Drain guide is NPT1/8 (applicable to the AF20) and NPT1/4 (applicable to the AF30 to AF60). The auto drain port comes with ø3/8" one-touch fitting (applicable to the AF30 to AF60).

Note 2) Drain guide is G1/8 (applicable to the AF20) and G1/4 (applicable to the AF30 to AF60).

Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws

Note 4) Refer to Chemical Data on page 287 when selecting a case material.

Note 5) Float type auto drain: The combination of C and D is not possible.

Note 6) Without a valve function

Note 7) Metal bowl: The combination of 2 and 8 is not possible.

Note 8) For thread type: M5 and NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Note 9) ○: For thread type: M5 and NPT only

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						
Ambient and fluid temperature	–5 to 60°C (with no freezing)						
Proof pressure	1.5 MPa						
Maximum operating pressure	1.0 MPa						
Nominal filtration rating	5 µm						
Drain capacity (cm³)	2.5	8	25	45			
Bowl material	Polycarbonate						
Bowl guard	—	Semi-standard	Standard				
Mass (kg)	0.06	0.18	0.22	0.45	0.49	0.99	1.05

Options/Part No.

Optional specifications		Model						
		AF10	**AF20**	**AF30**	**AF40**	**AF40-06**	**AF50**	**AF60**
Bracket assembly Note 1)		—	AF20P-050AS	AF30P-050AS	AF40P-050AS	AF40P-070AS	AF50P-050AS	AF50P-050AS
Float type auto drain Note 2) Note 3)	**N.C.**	AD17	AD27	AD37	AD47			
	N.O.	—	—	AD38	AD48			

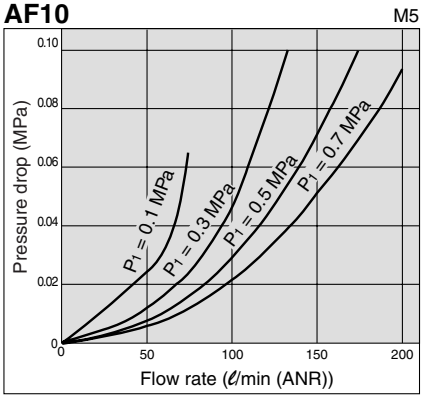
Semi-standard/Bowl Assembly Part No.

Semi-standard specifications						Model						
Bowl material	Note 2) Note 3) Float type auto drain		Note 3) With drain guide	With barb fitting	With bowl guard	**AF10**	**AF20**	**AF30**	**AF40**	**AF40-06**	**AF50**	**AF60**
	N.C.	N.O.										
Polycarbonate	—	—	—	—	●	—	C2SF-C	—	—			
	●	—	—	—	●	—	AD27-C	—	—			
	—	—	●	—	—	—	C2SF-J	C3SF-J	C4SF-J			
	—	—	—	●	—	—	—	C3SF-W	C4SF-W			
	—	—	●	—	●	—	C2SF-CJ	—	—			
Nylon	—	—	—	—	—	C1SF-6	C2SF-6	C3SF-6	C4SF-6			
	—	—	—	—	●	—	C2SF-6C	—	—			
	●	—	—	—	—	AD17-6	AD27-6	AD37-6	AD47-6			
	—	●	—	—	—	—	—	AD38-6	AD48-6			
	●	—	—	—	●	—	AD27-6C	—	—			
	—	—	●	—	—	—	C2SF-6J	C3SF-6J	C4SF-6J			
	—	—	—	●	—	—	—	C3SF-6W	C4SF-6W			
	—	—	●	—	●	—	C2SF-6CJ	—	—			
Metal	—	—	—	—	—	C1SF-2	C2SF-2	C3SF-2	C4SF-2			
	●	—	—	—	—	AD17-2	AD27-2	AD37-2	AD47-2			
	—	●	—	—	—	—	—	AD38-2	AD48-2			
	—	—	●	—	—	—	C2SF-2J	C3SF-2J	C4SF-2J			
Metal bowl with level gauge	—	—	—	—	—	—	—	C3LF-8	C4LF-8			
	●	—	—	—	—	—	—	AD37-8	AD47-8			
	—	●	—	—	—	—	—	AD38-8	AD48-8			
	—	—	●	—	—	—	—	C3LF-8J	C4LF-8J			

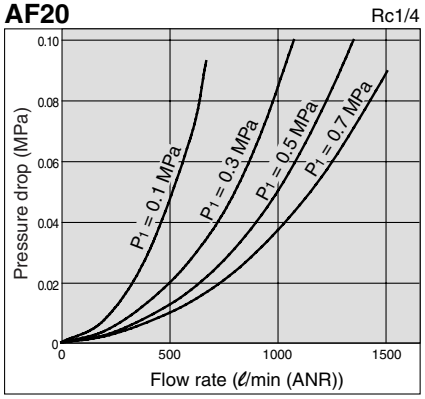
Note 1) Assembly of a bracket and 2 mounting screws
Note 2) Minimum operating pressure: N.O. type–0.1 MPa; N.C. type–0.1 MPa (AD17/27) and 0.15 MPa (AD37/47). Please contact SMC for psi and °F unit specifications.
Note 3) Please consult with SMC for details on drain piping to fit NPT or G port sizes.
Note) • Bowl O-ring is included for the AF20 to AF60.
• Bowl assembly for the AF30 to AF60 models comes with a bowl guard (steel band material). (except when the bowl material is metal)

Flow Characteristics (Representative values)

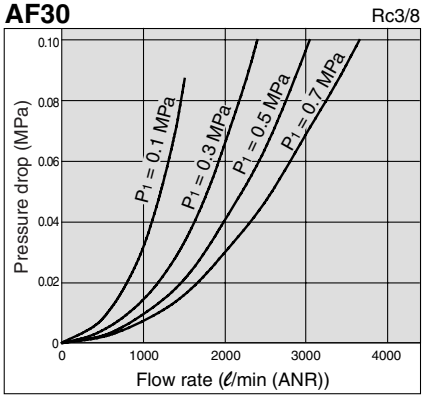
AF10 M5



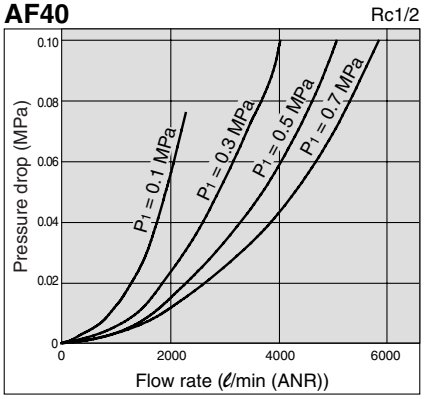
AF20 Rc1/4



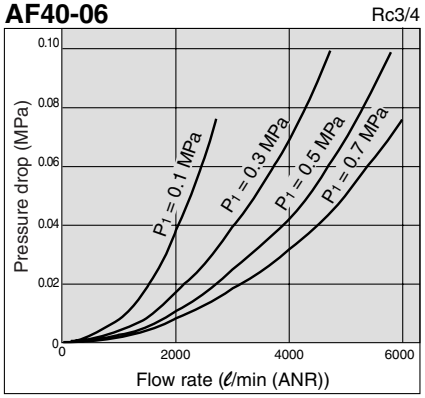
AF30 Rc3/8



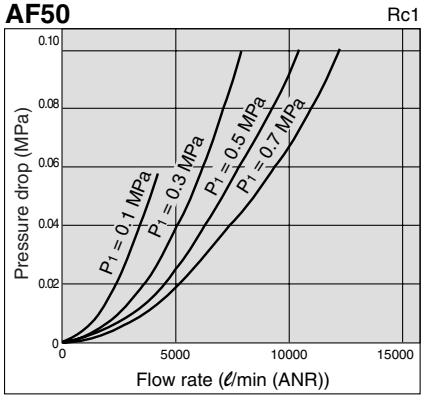
AF40 Rc1/2



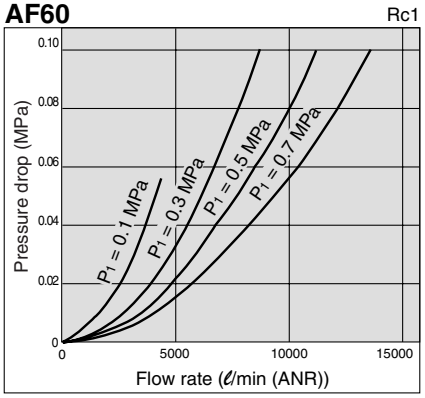
AF40-06 Rc3/4



AF50 Rc1



AF60 Rc1



⚠ Specific Product Precautions

Be sure to read before handling.
Refer to front matters 42 and 43 for Safety Instructions and pages 287 to 291 for F.R.L. Precautions.

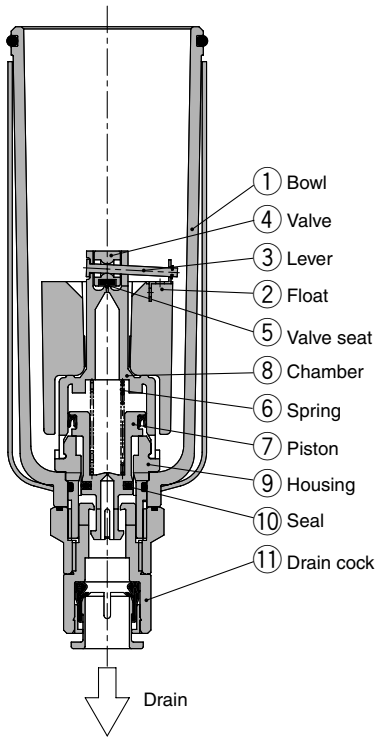
Mounting and Adjustment

⚠ 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.

Working Principle: Float Type Auto Drain

N.O. type: AD38, AD48



- **When 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.

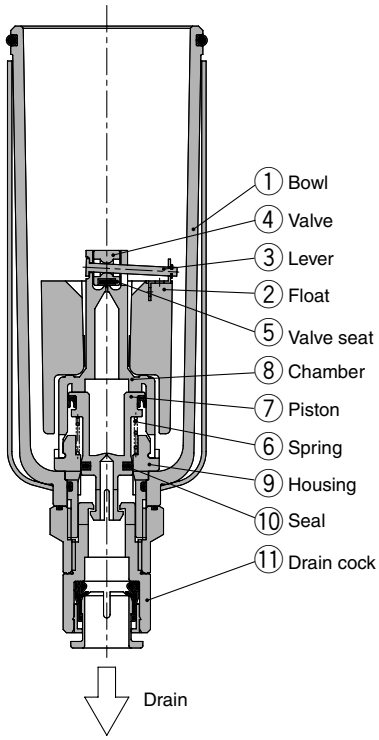
- **When pressure is applied inside the bowl:**

  When 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 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 lowers 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.

N.C. type: AD37, AD47



- **When 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, 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.

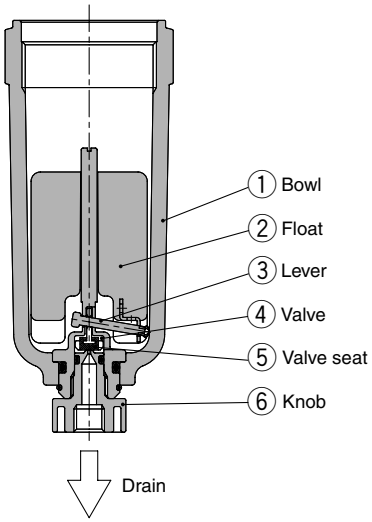
- **When pressure is applied inside the bowl:**

  Even when pressure is applied inside the bowl ①, the 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, 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. Pressure passes from the bowl ① 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.

Compact auto drain N.C. type: AD17, AD27



- **When 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:**

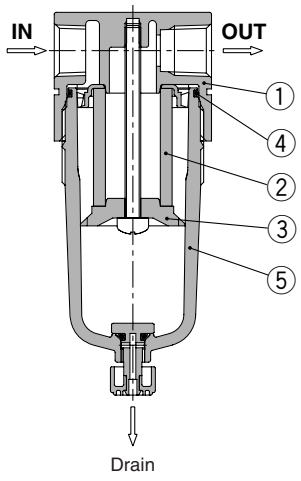
  Even when pressure is applied inside the bowl ①, the weight of the float ② and the differential pressure that is applied to valve ④ cause valve ④ to seal valve seat ⑤, and the outside air is shut off from the inside of the bowl ①.

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

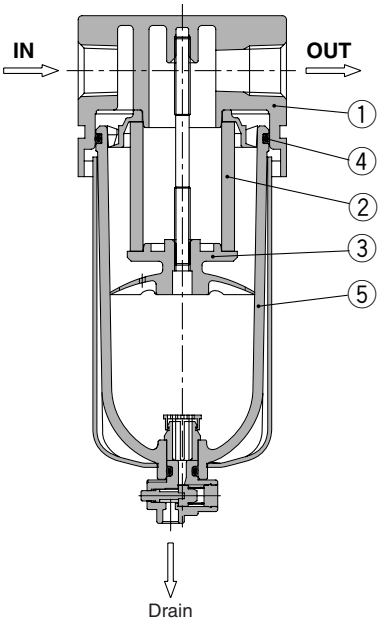
  Float ② rises due to its own buoyancy and the seal at valve seat ⑤ is interrupted.
  The condensate inside the bowl ① drains out through the knob ⑥.
  Turning knob ⑥ manually counterclockwise lowers it and causes the sealing action of valve seat ⑤ to be interrupted, which allows the condensate to drain out.

Construction

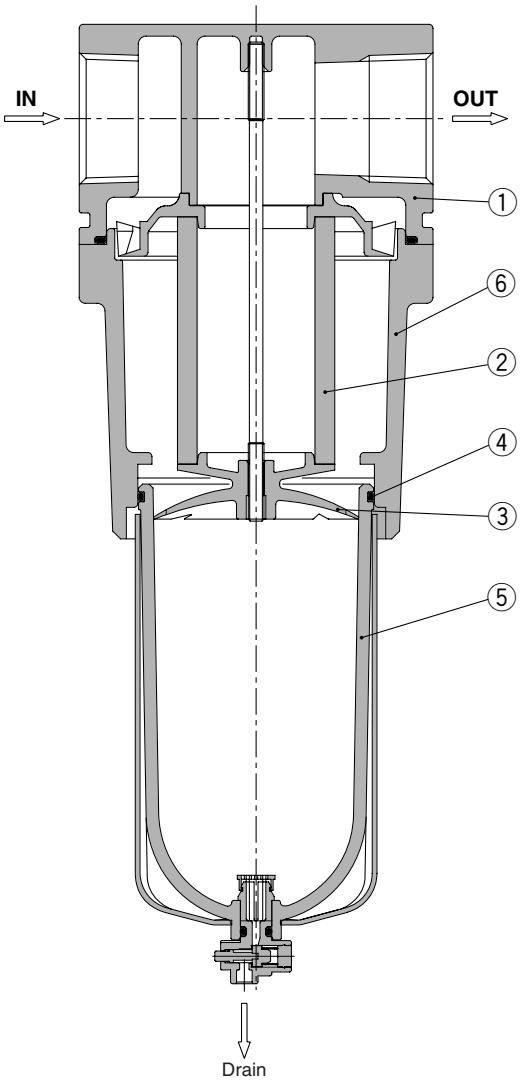
AF10, AF20



AF30 to AF40-06



AF50, AF60



Component Parts

No.	Description	Material	Model	Color
1	**Body**	Zinc die-cast	AF10, AF20	Platinum silver
		Aluminum die-cast	AF30 to AF60	
6	**Housing**	Aluminum die-cast	AF50, AF60	Platinum silver

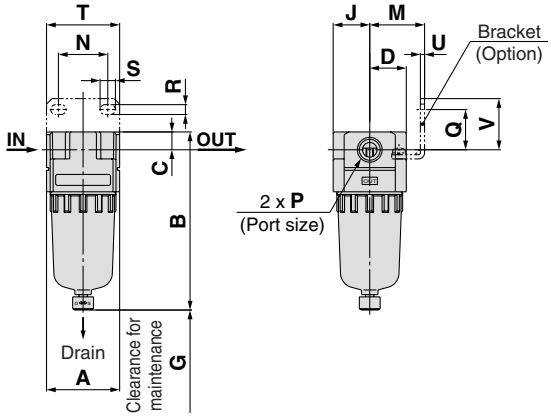
Replacement Parts

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		AF50P-060S	AF60P-060S
3	**Baffle**	PBT	AF10P-040S Note 1)	AF20P-040S	AF30P-040S	AF40P-040S		AF50P-040S	AF60P-040S
4	**Bowl O-ring**	NBR	C1SFP-260S	C2SFP-260S	C3SFP-260S	C4SFP-260S			
5	**Bowl assembly** Note 2)	Polycarbonate	C1SF	C2SF	C3SF Note 3)	C4SF Note 3)			

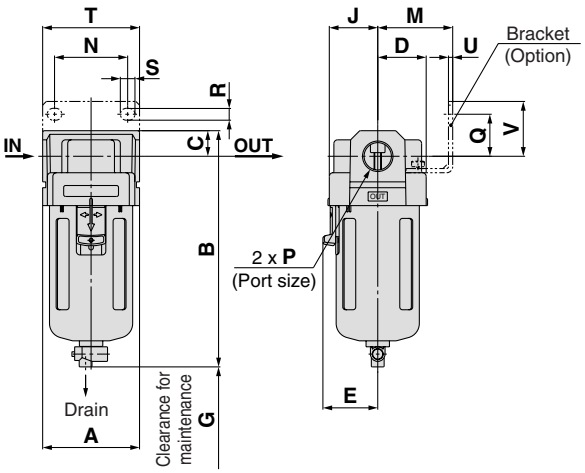
Note 1) The material of the baffle for the AF10 (AF10P-040S) only is polyacetal.
Note 2) Bowl O-ring is included. Please contact SMC regarding the bowl assembly supply for psi and °F unit specifications.
Note 3) Bowl assembly for the AF30 to AF60 models comes with a bowl guard (steel band material).

Dimensions

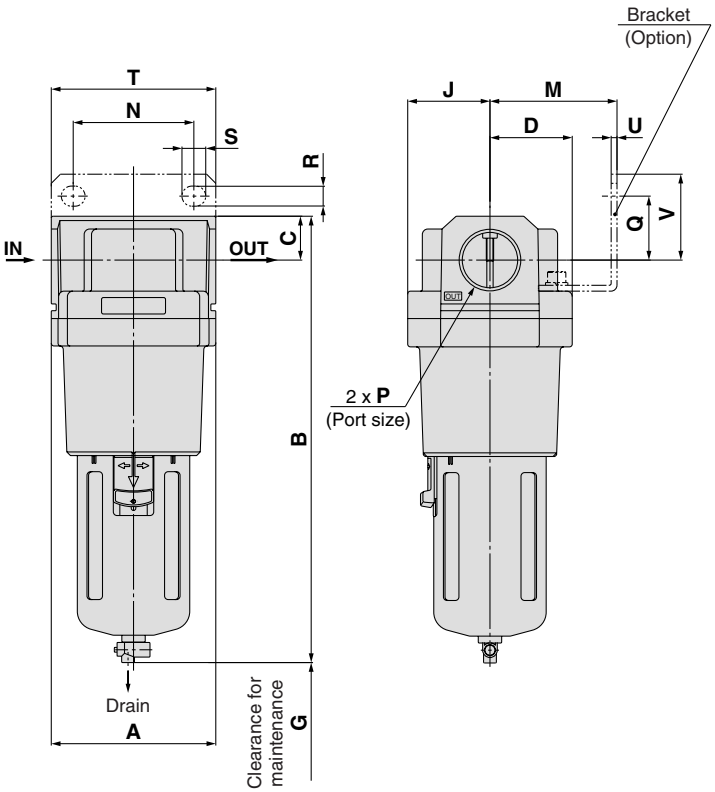
AF10, AF20

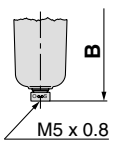
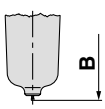
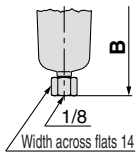
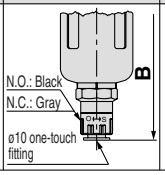
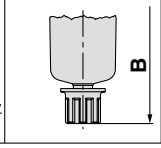
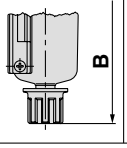
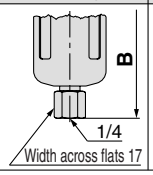
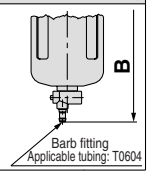


AF30 to AF40-06



AF50, AF60



Applicable model	AF10/20		AF20	AF30 to AF60				
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting
Dimensions								

Model	Standard specifications								Optional specifications								
									Bracket mount								With auto drain
	P	A	B	C	D	E	G	J	M	N	Q	R	S	T	U	V	B
AF10	M5 x 0.8	25	67	7	12.5	—	25	12.5	—	—	—	—	—	—	—	—	85
AF20	1/8, 1/4	40	97	10	20	—	40	20	30	27	22	5.4	8.4	40	2.3	28	115
AF30	1/4, 3/8	53	129	14	26.5	30	50	26.5	41	40	23	6.5	8	53	2.3	30	170
AF40	1/4, 3/8, 1/2	70	165	18	35	38	75	35	50	54	26	8.5	10.5	70	2.3	35	204
AF40-06	3/4	75	169	20	35	38	75	35	50	54	25	8.5	10.5	70	2.3	34	208
AF50	3/4, 1	90	245	24	45	—	20	45	70	66	35	11	13	90	3.2	47	284
AF60	1	95	258	24	47.5	—	20	47.5	70	66	35	11	13	90	3.2	47	297

Model	Semi-standard specifications			
	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge
	B	B	B	B
AF10	—	—	66	—
AF20	—	101	97	—
AF30	137	136	142	162
AF40	173	172	178	198
AF40-06	177	176	182	202
AF50	253	252	258	278
AF60	266	265	271	291

Air Filter
AF10 to AF60
Made to Order Specifications:

Made to Order

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

Made-to-order no.		-X430	-X440
Environment		Low temperature	High temperature
Ambient temperature (°C)		–30 to 60	–5 to 80
Fluid temperature (°C)		–5 to 60 (with no freezing)	
Material	**Rubber parts**	Special NBR	FKM
	Main parts	Metal (Aluminum die-cast, etc.)	

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

AF 30 – ❷ 03 B – 2 ❻ – X430

❶ ❷ ❸ ❹ ❺ ❻

For high/low temperature

X430	Low temperature
X440	High temperature

- Semi-standard: Select one each for **a** to **c**.
- Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.

Example) AF30-03B-2R-X430

		Symbol	Description	❶ Body size 30	40	50	60
❷	Thread type	**Nil**	Rc	●	●	●	●
		N Note 1)	NPT	●	●	●	●
		F Note 2)	G	●	●	●	●
❸	Port size	**02**	1/4	●	●	—	—
		03	3/8	●	●	—	—
		04	1/2	—	●	—	—
		06	3/4	—	●	●	—
		10	1	—	—	●	●
❹	Option (Mounting)	**Nil**	Without mounting option	●	●	●	●
		B Note 3)	With bracket	●	●	●	●
❺	Bowl Note 4)	**2**	Metal bowl	●	●	●	●
❻ Semi-standard	a Drain port	**Nil**	With drain cock	●	●	●	●
		J Note 5)	Drain guide 1/4	●	●	●	●
	b Flow direction	**Nil**	Flow direction: Left to right	●	●	●	●
		R	Flow direction: Right to left	●	●	●	●
	c Pressure unit	**Nil**	Name plate and caution plate for bowl in imperial units: MPa	●	●	●	●
		Z Note 6)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 7) ○	Note 7) ○	Note 7) ○	Note 7) ○

Note 1) Drain guide is NPT1/4.
Note 2) Drain guide is G1/4.
Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws
Note 4) Only metal bowl 2 is available.
Note 5) Without a valve function
Note 6) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
Note 7) ○: For thread type: NPT only

② High Pressure

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

Specifications

Made-to-order no.	-X425
Proof pressure (MPa)	3.0
Maximum operating pressure (MPa)	2.0
Ambient and fluid temperature (°C)	–5 to 60 (with no freezing)

Applicable Model

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

AF 30 – ❷ 03 B – 2 ❻ – X425

❶ ❷ ❸ ❹ ❺ ❻

For high pressure

- Semi-standard: Select one each for **a** to **c**.
- Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.

Example) AF30-03B-2R-X425

		Symbol	Description	❶ Body size 20	30	40	50	60
❷	Thread type	**Nil**	Rc	●	●	●	●	●
		N Note 1)	NPT	●	●	●	●	●
		F Note 2)	G	●	●	●	●	●
❸	Port size	**01**	1/8	●	—	—	—	—
		02	1/4	●	●	●	—	—
		03	3/8	—	●	●	—	—
		04	1/2	—	—	●	—	—
		06	3/4	—	—	●	●	—
		10	1	—	—	—	●	●
❹	Option (Mounting)	**Nil**	Without mounting option	●	●	●	●	●
		B Note 3)	With bracket	●	●	●	●	●
❺	Bowl Note 4)	**2**	Metal bowl	●	●	●	●	●
		8	Metal bowl with level gauge	—	●	●	●	●
❻ Semi-standard	a Drain port	**Nil**	With drain cock	●	●	●	●	●
		J Note 5)	Drain guide 1/8	●	—	—	—	—
			Drain guide 1/4	—	●	●	●	●
	b Flow direction	**Nil**	Flow direction: Left to right	●	●	●	●	●
		R	Flow direction: Right to left	●	●	●	●	●
	c Pressure unit	**Nil**	Name plate and caution plate for bowl in imperial units: MPa	●	●	●	●	●
		Z Note 6)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 7) ○	Note 7) ○	Note 7) ○	Note 7) ○	Note 7) ○

Note 1) Drain guide is NPT1/8 (applicable to the AF20) and NPT1/4 (applicable to the AF30 to AF60.
Note 2) Drain guide is G1/8 (applicable to the AF20) and G1/4 (applicable to the AF30 to AF60).
Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws
Note 4) Only metal bowl 2 and 8 are available.
Note 5) Without a valve function
Note 6) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
Note 7) ○: For thread type: NPT only

③ Long Bowl

Drain capacity is greater than that of standard models.

Applicable Model/Drain Capacity

Model	AF10	AF20	AF30	AF40	AF40-06	AF50	AF60
Port size	M5	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Drain capacity (cm³)	9	19	43	88			

Note) Please consult with SMC for dimensions.

AF 30 - ❑ 03 ❑ - ❑ - X64

❶ ❷ ❸ ❹ ❺

• Long bowl

• Semi-standard: Select one each for **a** to **d**.
• Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
Example) AF30-03B-2R-X64

		Symbol	Description	❶ Body size 10	20	30	40	50	60
❷	Thread type	**Nil**	Metric thread (M5)	●	—	—	—	—	—
			Rc	—	●	●	●	●	●
		N Note 1)	NPT	—	●	●	●	●	●
		F Note 2)	G	—	●	●	●	●	●
		+							
❸	Port size	**M5**	M5	●	—	—	—	—	—
		01	1/8	—	●	—	—	—	—
		02	1/4	—	●	●	●	—	—
		03	3/8	—	—	●	●	—	—
		04	1/2	—	—	—	●	—	—
		06	3/4	—	—	—	●	●	—
		10	1	—	—	—	—	●	●
		+							
❹	Option (Mounting)	**Nil**	Without mounting option	●	●	●	●	●	●
		B Note 3)	With bracket	—	●	●	●	●	●
		+							
❺	Semi-standard	**a** Bowl Note 4) **Nil**	Polycarbonate bowl	●	●	●	●	●	●
			2 Metal bowl	●	●	●	●	●	●
			6 Nylon bowl	●	●	●	●	●	●
			C With bowl guard	—	●	—	—	—	—
			6C Nylon bowl with bowl guard	—	●	—	—	—	—
		+							
		b Drain port **Nil**	With drain cock	●	●	●	●	●	●
		J Note 5)	Drain guide 1/8	—	●	—	—	—	—
			Drain guide 1/4	—	—	●	●	●	●
		W Note 6)	Drain cock with barb fitting: For ø6 x ø4 nylon tube	—	—	●	●	●	●
		+							
		c Flow direction **Nil**	Flow direction: Left to right	●	●	●	●	●	●
		R	Flow direction: Right to left	●	●	●	●	●	●
		+							
		d Pressure unit **Nil**	Name plate and caution plate for bowl in imperial units: MPa	●	●	●	●	●	●
		Z Note 7)	Name plate and caution plate for bowl in imperial units: psi, °F	○ Note 8)	○ Note 8)	○ Note 8)	○ Note 8)	○ Note 8)	○ Note 8)

Note 1) Drain guide is NPT1/8 (applicable to the AF20) and NPT1/4 (applicable to the AF30 to AF60).
Note 2) Drain guide is G1/8 (applicable to the AF20) and G1/4 (applicable to the AF30 to AF60).
Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws
Note 4) Refer to Chemical Data on page 287 when selecting a case material.
Note 5) Without a valve function
Note 6) Metal bowl: The combination with 2 is not possible.
Note 7) For thread type: M5, NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
Note 8) ○: For thread type: M5, NPT only

Air Filter
AF30 to AF60
Made to Order Specifications:

Made to Order

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

④ With Element Service Indicator

Clogging status of elements can be checked visually.

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

AF 30 - ❶ ❷ 03 ❸ ❹ - ❺ - X2141

• With element service indicator

A special body type is required to mount the clogging checker. It cannot be mounted on a standard body.

• Option/Semi-standard: Select one each for **a** to **f**.
• Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
Example) AF30-03BD-2R-X2141

			Symbol	Description	❶ Body size 30	40	50	60
❷	Thread type		**Nil**	Rc	●	●	●	●
			N Note 1)	NPT	●	●	●	●
			F Note 2)	G	●	●	●	●
			+					
❸	Port size		**02**	1/4	●	●	—	—
			03	3/8	●	●	—	—
			04	1/2	—	●	—	—
			06	3/4	—	●	●	—
			10	1	—	—	●	●
			+					
❹ Option	**a**	Mounting	**Nil**	Without mounting option	●	●	●	●
			B Note 3)	With bracket	●	●	●	●
			+					
	b	Float type auto drain	**Nil**	Without auto drain	●	●	●	●
			C	Float type auto drain (N.C.)	●	●	●	●
			D	Float type auto drain (N.O.)	●	●	●	●
			+					
❺ Semi-standard	**c**	Bowl Note 4)	**Nil**	Polycarbonate bowl	●	●	●	●
			2	Metal bowl	●	●	●	●
			6	Nylon bowl	●	●	●	●
			8	Metal bowl with level gauge	●	●	●	●
			+					
	d	Drain port Note 5)	**Nil**	With drain cock	●	●	●	●
			J Note 6)	Drain guide 1/4	●	●	●	●
			W Note 7)	Drain cock with barb fitting: For ø6 x ø4 nylon tube	●	●	●	●
			+					
	e	Flow direction	**Nil**	Flow direction: Left to right	●	●	●	●
			R	Flow direction: Right to left	●	●	●	●
			+					
	f	Pressure unit	**Nil**	Name plate and caution plate for bowl in imperial units: MPa	●	●	●	●
			Z Note 8)	Name plate and caution plate for bowl in imperial units: psi, °F	○ Note 9)	○ Note 9)	○ Note 9)	○ Note 9)

Note 1) Drain guide is NPT1/4.
The auto drain port comes with ø3/8" One-touch fitting.
Note 2) Drain guide is G1/4.
Note 3) Option B is not assembled and supplied loose at the time of shipment.
Including 2 mounting screws
Note 4) Refer to Chemical Data on page 287 when selecting a case material.
Note 5) Float type auto drain: The combination of C and D is not possible.
Note 6) Without a valve function
Note 7) Metal bowl: The combination of 2 and 8 is not possible.
Note 8) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
Note 9) ○: For thread type: NPT only

Filter

How To Order

Series AF 20 to 40

AF 30 – N 03 D – 8 Z - X480

- **AF** — Filter
- **30** — Body Size

Symbol	Size
20	1/8
30	3/8
40	1/2

- **N** — NPT Threads
- **03** — Port Size

Symbol	Port Size	Applicable Body Size
02	1/4	20
03	3/8	30
04	1/2	40

- **D** — Accessories

Symbol	Description	Applicable Body Size
Nil	None	All
B*	Mounting Bracket	All
C	Float Auto Drain (N.C.)	31, 41
D	Float Auto Drain (N.O.)	31, 41

*Note: Bracket is not assembled and is supplied loose at time of shipment.

- **8** — Bowl

Symbol	Description	Applicable Body Size
2	Metal Bowl	21
8	Metal Bowl with Sight Glass	31, 41

- **Z** — Name Plate, Caution Plate On Bowl in psi, °F
- **X480** — With External Epoxy Coating, Stainless Fasteners

Regulator

How To Order

Series AR 20 to 40

AR 20 – N 02 B – Y Z - X48

- **AR** — Regulator
- **20** — Body Size

Symbol	Size
20	1/8
30	3/8
40	1/2

- **N** — NPT Threads
- **02** — Port Size

Symbol	Port Size	Applicable Body Size
02	1/4	20
03	3/8	30
04	1/2	40

- **B** — Accessories

Symbol	Description
Nil	None
B*	Mounting Bracket
H*	Panel Mount Nut

*Note: Bracket and/or panel mount nut are not assembled and are supplied loose at time of shipment.

- **Y** — Handle Orientation

Symbol	Description
Nil	Handle Down
Y	Handle Up

- **Z** — Name Plate in imperial Units (psi, °F)
- **X48** — With External Epoxy Coating Stainless Fasteners

Residual Pressure Relief Valve

How To Order

Series VHS 20 to 40

VHS 30 – N 03 – Z - X513

- **VHS** — Residual Pressure Relief Valve
- **30** — Body Size

Symbol	Applicable Model
20	AC21
30	AC31
40	AC41

- **N** — Thread Type

N	NPT

- **03** — Port Size

Symbol	Port Size	Body Size		
		20	30	40
02	1/4	●		
03	3/8		●	
04	1/2			●

- **Z** — Name Plate in imperial Units (psi, °F)
- **X513** — With External Epoxy Coating Stainless Fasteners

Note: Other sizes, thread forms, options, etc. may be possible, please contact SMC for availability.

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 (cm³)	180 cm³	
Mass (kg)	3.15	5.45
Accessory (Standard)	Bowl guard	

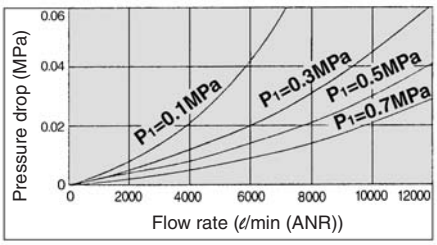
Accessory (Option)/Part No.

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

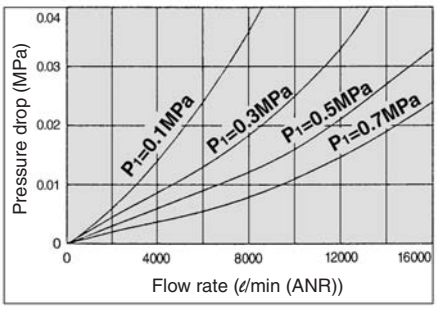
* Min. operating pressure: 0.1 MPa (N.O.), 0.15 MPa (N.C.)

Flow Characteristics (Representative Values)

AF800 Rc 1½



AF900 (Representative Values) Rc 2



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

Port size

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

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

Option

D	Drain cock thread piping {Rc 1/4}
J□ *4	Drain guide
R	Flow direction: Right to left

Note 1) When specifiying 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 rquired: 1-40

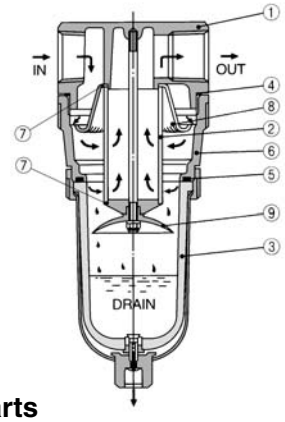
* 2 If indicating "7" only, the filtration rate is 5 μm. Optional filtration rate is required, indicate like 17-□.
Ex.) When requiring "stainless steel and 40 μm"; 17-40

* 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

Construction



Component Parts

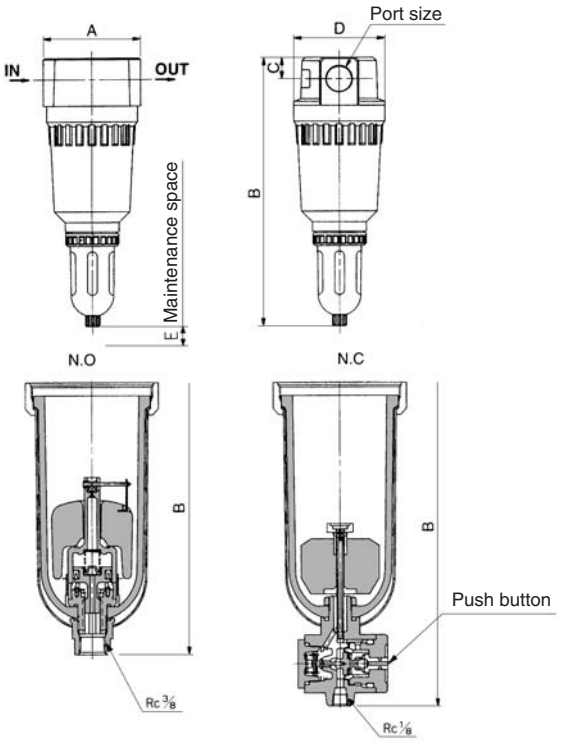
No.	Description	Material		Note
		AF800	AF900	
1	Body	Aluminum die-casted	Aluminum casted	Platinum silver painted
6	Housing	Aluminum die-casted	Aluminum casted	Platinum silver painted

Replacement Parts

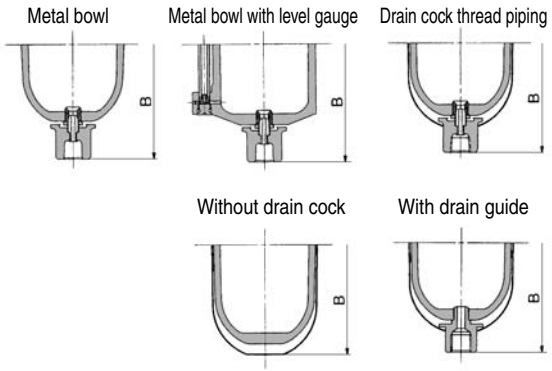
No.	Description		Material	Part no.		Qty.
				AF800	AF900	
2	Element	Standard	Bronze	11345-5B	11352-5B	1
		-7	Stainless steel	11345-5S	11352-5S	1
3	Bowl assembly	Standard	—	AF11-4(11316A)*		1
		-2	—	AF11-4-2		
		-6	—	AF11-4-6-(1131123A)*		
		-8	—	AF-8		
		-9	—	AF11-4-9(123120)*		
4	O-ring		NBR	JIS B2401 G130	630332	1
5	O-ring		NBR	113136	113136	1
7	Element seal		NBR	11217	112310	2
8	Deflector		Aluminum	11346	11355	1
9	Buffer	AF800	ADC	11344	—	1
		AF900	Aluminum casted	—	11354	

* A bowl, bowl guard, clamp ring and drain cock are assembled.
( ): A bowl and a drain cock are assembled. -9 does not include a drain cock.

Dimensions



Option



Option/Dimensions

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

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

⚠ Precautions

Be sure to read before handling.
Refer to front matters 42 and 43 for Safety Instructions and pages 287 to 291 for F.R.L. Precautions.

Selection

⚠Warning

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

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

Piping

⚠Warning

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

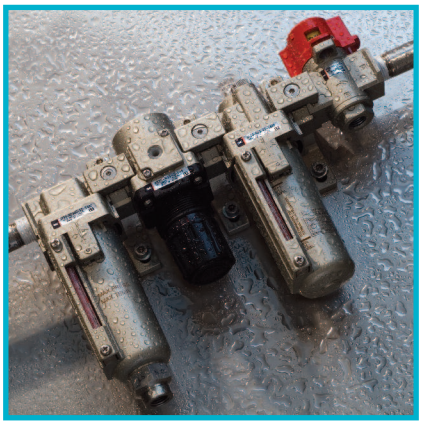
1. Float type auto drain (N.O.)
   When making drain exhaust piping, use piping with bore size ø10 or larger than ø10.
   Length should be shorter than 5 m. Do NOT make upward piping.
2. Float type auto drain (N.C.)
   DO NOT pipe upwards.

Issued: Sep 2009

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Noblesville, IN 46060
www.smcusa.com

P.G. Information

Epoxy Coated F.R.L. Units



*AC21/31/41-***-*-X2217*
*AF20/30/40-***-*-X480*
*AR20/30/40-***-*-X48*
*AL20/30/40-***-*-X480*
*AW20/30/40-***-*-X48*
*VHS20/30/40-***-*-X513*
Y20/30/40-T4*

Application: Air preparation in an environment that requires enhanced corrosion protection.

Feature 1: Die cast aluminum components are epoxy coated for improved chemical resistance.

Feature 2: Steel external hardware is replaced with stainless steel for improved chemical resistance.

Comparison with Standard Product:

1) Functional performance is equivalent to standard product.
2) Product withstood salt spray testing per ASTM B117-07A with excellent results (See test results on page 12). Improved performance vs. other chemicals is anticipated but has not been verified.

Applications:

- Marine environments
- Water splash zone in various processes
- Washdown in food plants (non-food or splash zone only)

Related Products:

- KQG Series - 316 SUS One-touch Fittings - Coming Soon: KQG2
- KQB2 Series - Ni plated brass One-touch Fittings (Coming Soon)
- ASG Series - 316 SUS One-touch Speed Controls
- CG5 Series - repairable 304 SUS Cylinder
- NCM Series with X6009 option - crimped body 304 SUS Cylinder, domestic interchange
- CJ5 Series - crimped body 304 SUS Cylinder
- HY Series - Aluminum body Hygienic Design Actuators

How To Order

AC 31 B – N 03 D – V – 8 Y Z - X2217

- **AC** — Air Combination Unit
- **31** — Body Size

Symbol	Size
21	1/8
31	3/8
41	1/2

- **B** — Model Combination

Symbol	Model / Assembly Order
Nil	AF + AR + AL
A	AW + AL
B	AF + AR

- **N** — NPT Threads
- **03** — Port Size

Symbol	Port Size	Applicable Body Size
02	1/4	21
03	3/8	31
04	1/2	41

Note: Other sizes, thread forms, options, etc. may be possible, please contact SMC for availability.

- **D** — Accessories

Symbol	Description	Applicable Body Size
Nil	None	All
C	Float Auto Drain (N.C.)	31, 41
D	Float Auto Drain (N.O.)	31, 41

- **V** — Residual Pressure Relief Valve

Symbol	Description	Applicable Model Combo
Nil	Without Valve	All
V	With Downstream Valve	All

- **8** — Bowl

Symbol	Description	Applicable Body Size
2	Metal Bowl	21
8	Metal Bowl With Sight Glass	31, 41

- **Y** — Regulator Handle Orientation

Symbol	Description
Nil	Downward Handle
Y	Upward Handle

- **Z** — Name Plate, Caution Plate On Bowl in psi, °F
- **X2217** — With External Epoxy Coating, Stainless Fasteners



Specifications

Body size	21	31	41
Operating specifications	Same as standard - see catalog ES40-42D or NC160A		
Port size	1/4" NPT	3/8" NPT	1/2" NPT
Auto drain port (AF, AW)	N/A	1/4" NPT	
Bowl type (AF, AL, AW)	Metal	Metal with sight gauge	
Body material	Die cast aluminum		
Bowl material (AF, AL, AW)	Die cast aluminum		
Body, Bowl surface treatment	Epoxy resin coating		
Bonnet (AR, AW)	Polyacetal		
Manual drain (AF, AW)	POM		
External screws	Stainless steel 410		
Individual mounting brackets	Epoxy coated steel		
Panel mount nut (AR, AW)	POM		
Connector brackets (AC)	Die cast zinc (epoxy coated)		
Fill plug (AL)	Stainless steel 304		
Sight dome (AL)	Polycarbonate		
Sight glass hardware (AF, AL, AW)	Stainless steel 304		

Dimensions - Refer to drawings on page 3

mm

AC	A*	AA**	B	C	E	F	G	J	K	M	N	Q	U	V	W
AC21	140	190	160	73	—	45.5	40	26	5	30	51	24	5	33	—
AC31	181	245	220	86	30	58.5	55	29.5	3.5	41	64	35	7	45	34.5
AC41	238	322	239	92	38	75.5	80	37.5	1.5	50	81	40	7	50	41

* Without relief valve option ** With relief valve option

mm

AC-A	A*	AA**	B	C	E	F	G	J	K	M	N	Q	U	V	W
AC21A	90	140	160	73	—	45.5	40	26	5	30	51	24	5	33	—
AC31A	117	181	220	86	30	58.5	55	29.5	3.5	41	64	35	7	45	34.5
AC41A	154	238	239	92	38	75.5	80	37.5	1.5	50	81	40	7	50	41

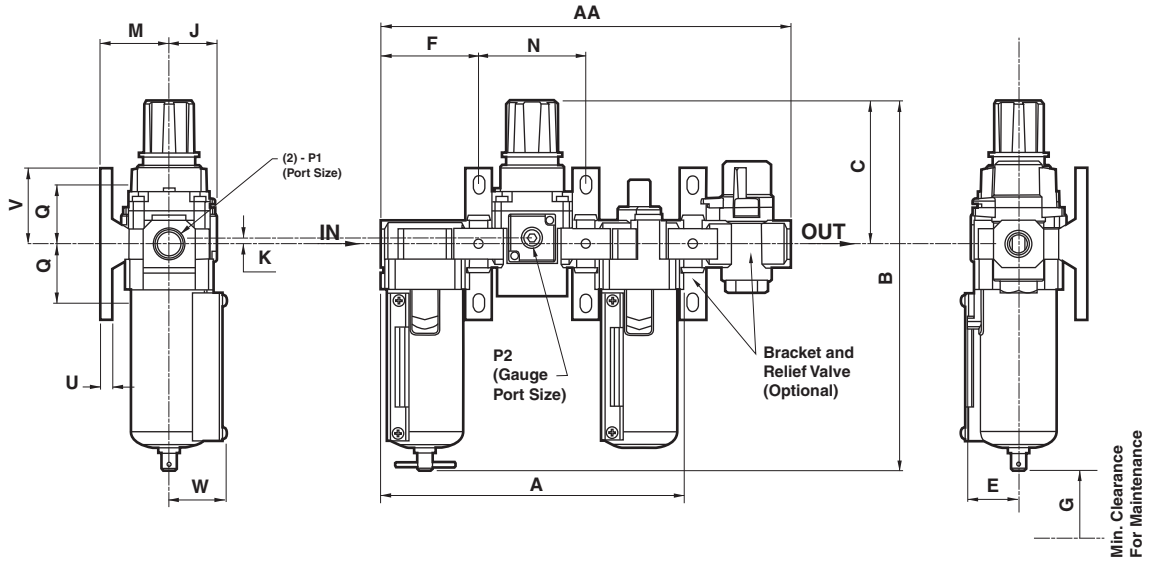
* Without relief valve option ** With relief valve option

mm

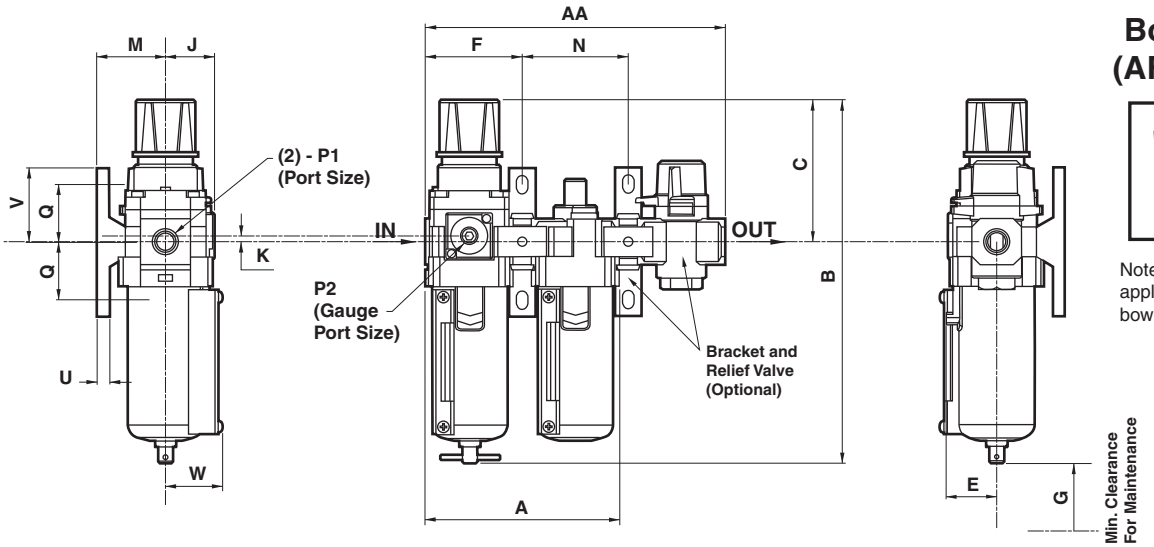
AC-B	A*	AA**	B	C	E	F	G	J	K	M	N	Q	U	V	W
AC21B	90	140	160	73	—	45.5	40	26	5	30	51	24	5	33	—
AC31B	117	181	220	86	30	58.5	55	29.5	3.5	41	64	35	7	45	34.5
AC41B	154	238	239	92	38	75.5	80	37.5	1.5	50	81	40	7	50	41

* Without relief valve option ** With relief valve option

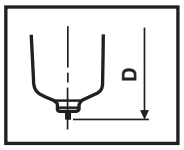
AC



AC-A

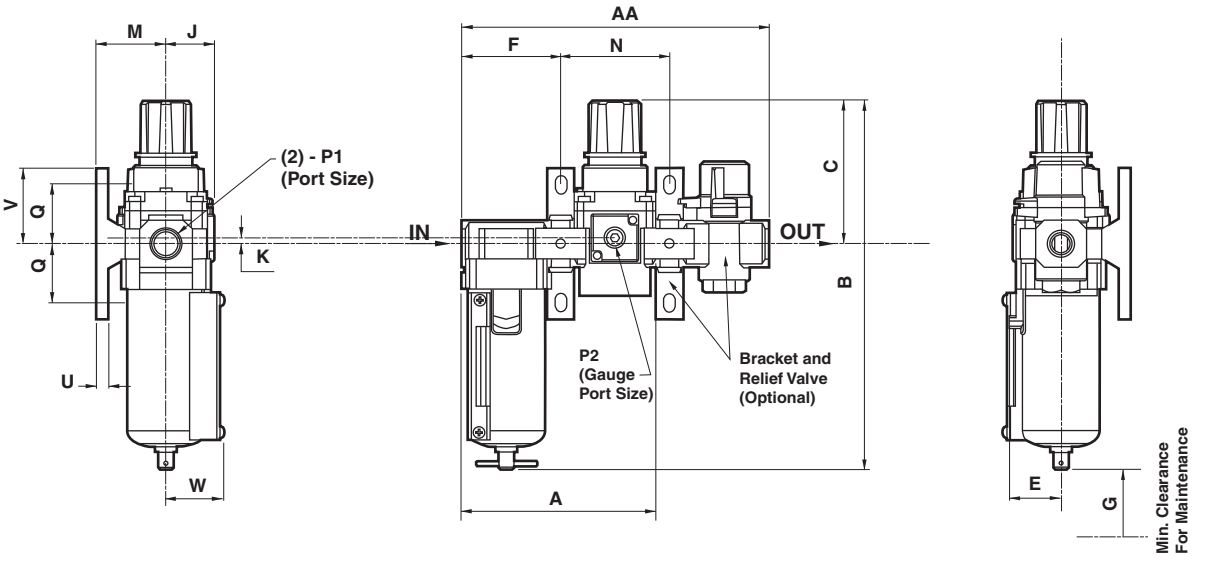


Bowl Detail (AF20/AW20)



Note: Sight glass not applicable to all size 20 bowls.

AC-B



Notes: Filter & Filter Regulator Bowls depict manual drain, see individual sections for details with auto-drain options.

How To Order

AF 30 — N 03 D — 8 Z - X480

- **Filter**
- **Body Size**

Symbol	Size
20	1/8
30	3/8
40	1/2

- **NPT Threads**
- **Port Size**

Symbol	Port Size	Applicable Body Size
02	1/4	20
03	3/8	30
04	1/2	40

Note: Other sizes, thread forms, options, etc. may be possible, please contact SMC for availability.

- **Bowl**

Symbol	Description	Applicable Body Size
2	Metal Bowl	20
8	Metal Bowl With Sight Glass	30, 40

- **Accessories**

Symbol	Description	Applicable Body Size
Nil	None	All
B*	Mounting Bracket	All
C	Float Auto Drain (N.C.)	30, 40
D	Float Auto Drain (N.O.)	30, 40

*Note: Bracket is not assembled and is supplied loose at time of shipment.

- **Name Plate, Caution Plate On Bowl in psi, °F**
- **With External Epoxy Coating, Stainless Fasteners**



Specifications

Body size	20	30	40
Operating specifications	Same as standard - see catalog ES40-42D or NC160A		
Port size	1/4" NPT	3/8" NPT	1/2" NPT
Auto drain port	N/A	1/4" NPT	
Bowl type	Metal	Metal with sight gauge	
Body material	Die cast aluminum		
Bowl material	Die cast aluminum		
Body, Bowl surface treatment	Epoxy resin coating		
Manual drain (AF, AW)	POM		
External screws	Stainless steel 410		
Individual mounting brackets	Epoxy coated steel		
Sight glass hardware	Stainless steel 304		

Dimensions - Refer to drawings on page 5

Standard

mm

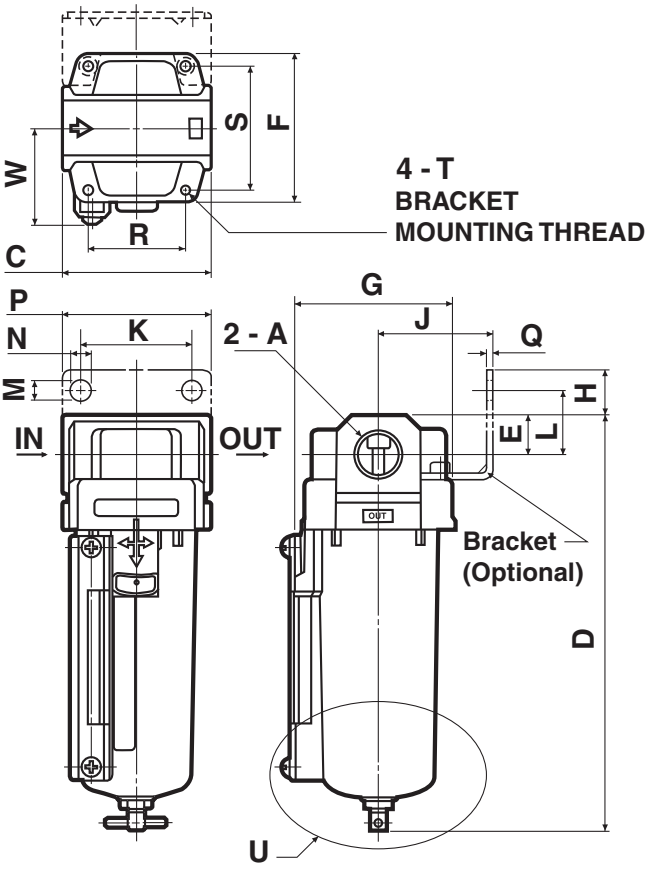
Model	Port Size	Dimensions																	Mounting Bracket Kit (Optional)
	A	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	W	
AF20	NPT 1/4	40	97	10	40	—	18	30	27	22	5.4	8.4	40	2.3	26	32	M4 X 0.7	—	AF20P-050AS-X480
AF30	NPT 3/8	53	149	14	53	57	16	41	40	23	6.5	8	53	2.3	35	44	M4 X 0.7	34.5	AF30P-050AS-X480
AF40	NPT 1/2	70	185	18	70	73	17	50	54	26	8.5	10.5	70	2.3	47	60	M5 X 0.8	41	AF40P-050AS-X480

Auto Drain

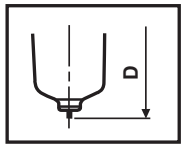
mm

Model	Port Size	Dimensions																	Mounting Bracket Kit (Optional)
	A	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	W	
AF30	NPT 3/8	53	158	14	53	57	16	41	40	23	6.5	8	53	2.3	35	44	M4 X 0.7	34.5	AF30P-050AS-X480
AF40	NPT 1/2	70	194	18	70	73	17	50	54	26	8.5	10.5	70	2.3	47	60	M5 X 0.8	41	AF40P-050AS-X480

Standard
(Manual Drain)

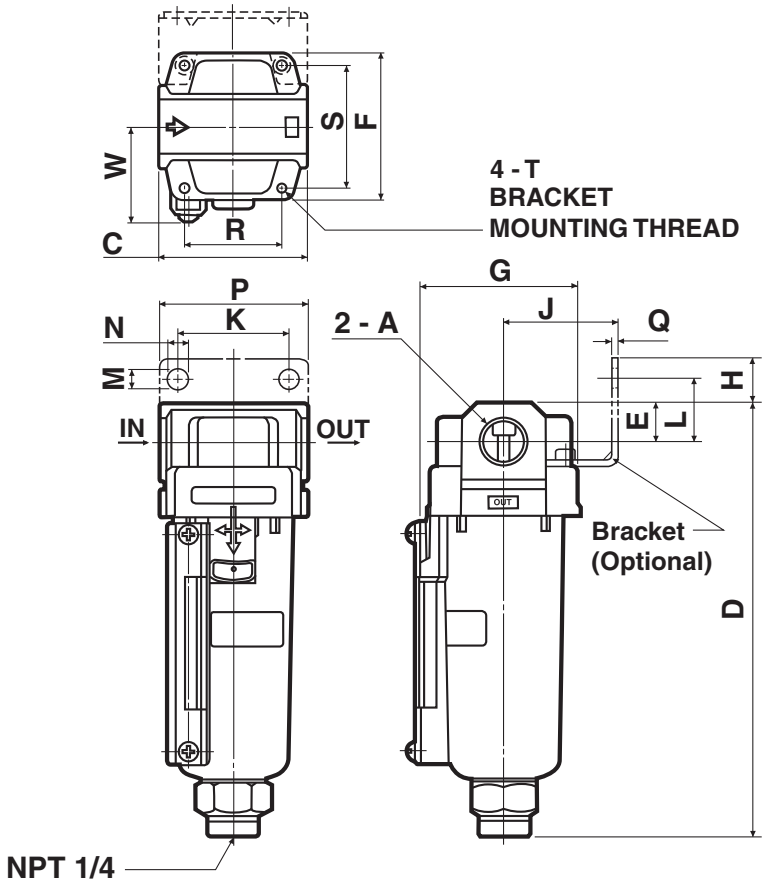


Bowl Detail U
(AF20)



Note: Sight glass not applicable to AF20.

With Auto Drain



How To Order

AW 30 — N 03 D — 8 Z - X48

- AW: Filter - Regulator
- 30: Body Size

Symbol	Size
20	1/8
30	3/8
40	1/2

- N: NPT Threads
- 03: Port Size

Symbol	Port Size	Applicable Body Size
02	1/4	20
03	3/8	30
04	1/2	40

Note: Other sizes, thread forms, options, etc. may be possible, please contact SMC for availability.

- D: Accessories

Symbol	Description	Applicable Body Size
Nil	None	All
B*	Mounting Bracket	All
C	Float Auto Drain (N.C.)	30, 40
D	Float Auto Drain (N.O.)	30, 40
H*	Panel Mount Nut	All

*Note: Bracket and/or panel mount nut are not assembled and are supplied loose at time of shipment.

- 8: Bowl

Symbol	Description	Applicable Body Size
2	Metal Bowl	20
8	Metal Bowl With Sight Glass	30, 40

- Z: Name Plate, Caution Plate On Bowl in psi, °F
- X48: With External Epoxy Coating, Stainless Fasteners



Specifications

Body size	20	30	40
Operating specifications	Same as standard - see catalog ES40-42D or NC160A		
Port size	1/4" NPT	3/8" NPT	1/2" NPT
Auto drain port	N/A	1/4" NPT	
Bowl type	Metal	Metal with sight gauge	
Body material	Die cast aluminum		
Bowl material	Die cast aluminum		
Body, Bowl surface treatment	Epoxy resin coating		
Bonnet	Polyacetal		
Manual drain (AF, AW)	POM		
External screws	Stainless steel 410		
Individual mounting brackets	Epoxy coated steel		
Panel mount nut	POM		
Sight glass hardware	Stainless steel 304		

Accessories

Model	Mounting Bracket Kit (Optional)	Panel Mounting Nut (Optional)
AW20	AW20P-270AS-X480	AR20P-260S
AW30	AR30P-270AS-X480	AR30P-260S
AW40	AR40P-270AS-X480	AR40P-260S

Dimensions - Refer to drawings on page 7

Standard

mm

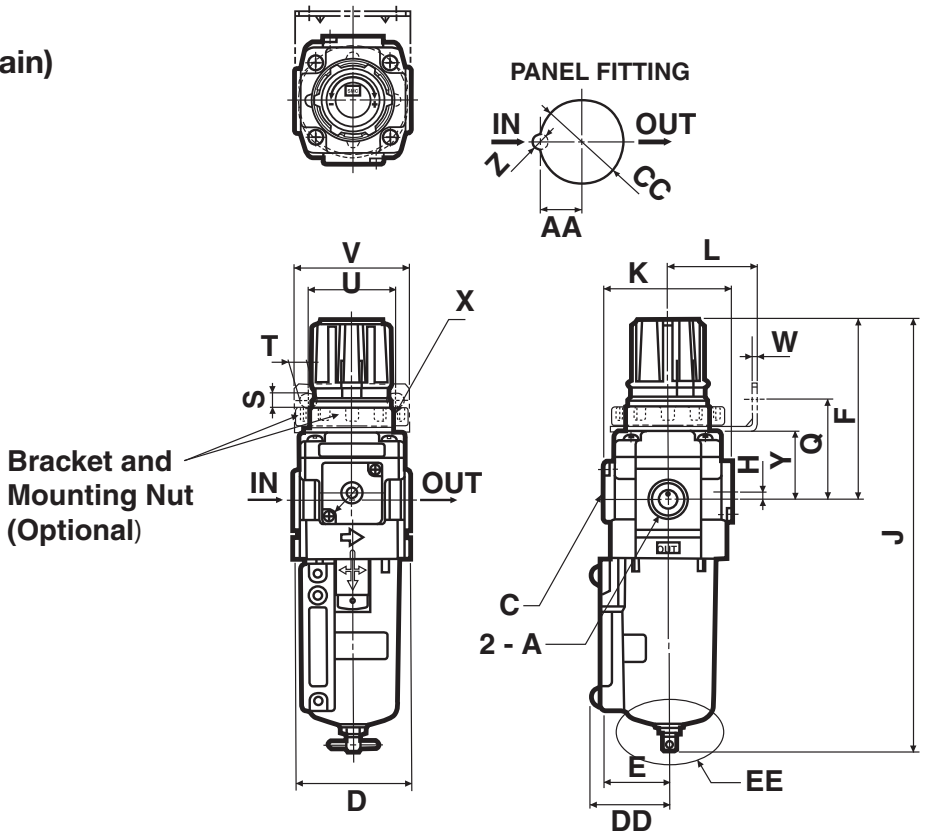
Model	Port Size	Gauge Port	Dimensions																		
	A	C	D	DD	E	F	H	J	K	L	Q	S	T	U	V	W	X	Y	Z	AA	CC
AW20	NPT 1/4	NPT 1/8	40	—	—	70(max.73)	5	157(max.160)	52	30	44	5.4	15.4	34	55	2.3	M28 X 1	30	6	14	28.5
AW30	NPT 3/8	NPT 1/8	53	34.5	30	83(max.86)	3.5	218(max.221)	59	41	46	6.5	8	40	53	2.3	M38 X 1.5	31	7	19	38.5
AW40	NPT 1/2	NPT 1/4	70	41	38	88(max.92)	1.5	255(max.259)	75	50	54	8.5	10.5	54	70	2.3	M42 X 1.5	35.5	7	21	42.5

Auto Drain

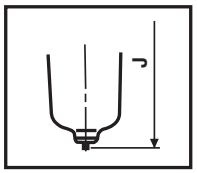
mm

Model	Port Size	Gauge Port	Dimensions																		
	A	C	D	DD	E	F	H	J	K	L	Q	S	T	U	V	W	X	Y	Z	AA	CC
AW30	NPT 3/8	NPT 1/8	53	34.5	30	83(max.86)	3.5	239(max.242)	59	41	46	6.5	8	40	53	2.3	M38 X 1.5	31	7	19	38.5
AW40	NPT 1/2	NPT 1/4	70	41	38	88(max.92)	1.5	276(max.280)	75	50	54	8.5	10.5	54	70	2.3	M42 X 1.5	35.5	7	21	42.5

Standard
(Manual Drain)

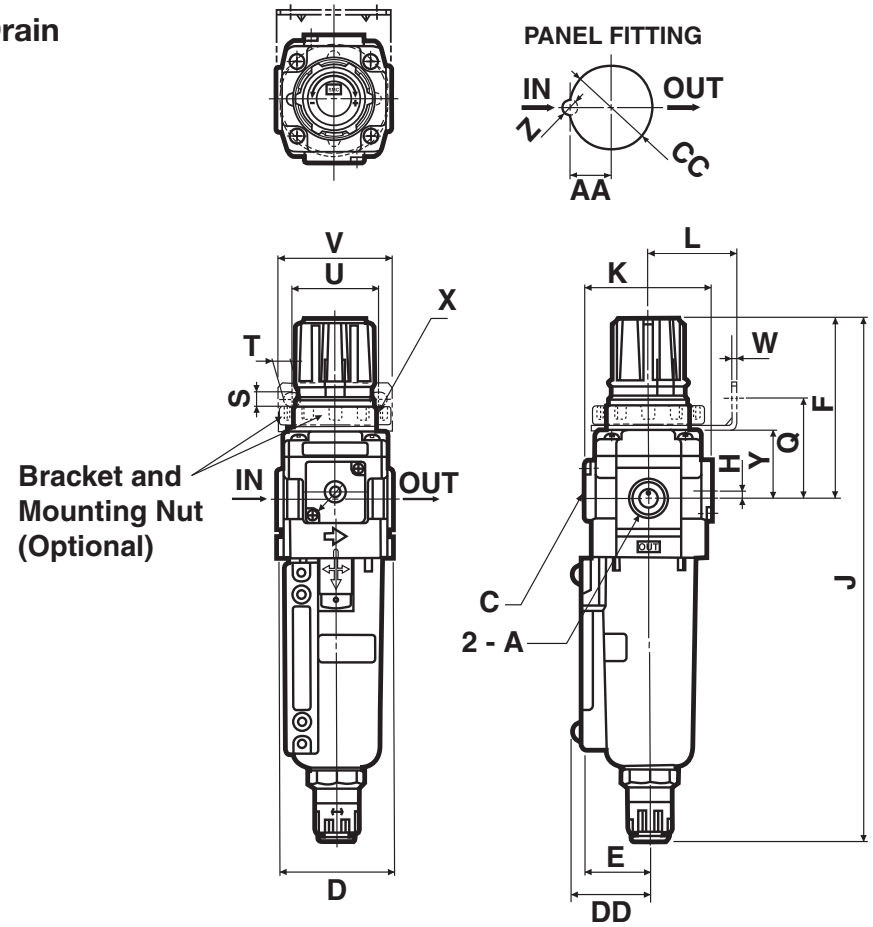


Bowl Detail EE
(AW20)



Note: Sight glass not applicable to AW20.

With Auto Drain



How To Order

AR 20 — N 02 B — Y Z - X48

- **AR** — Regulator
- **20** — Body Size

Symbol	Size
20	1/8
30	3/8
40	1/2

- **N** — NPT Threads
- **02** — Port Size

Symbol	Port Size	Applicable Body Size
02	1/4	20
03	3/8	30
04	1/2	40

- **B** — Accessories

Symbol	Description
Nil	None
B*	Mounting Bracket
H*	Panel Mount Nut

*Note: Bracket and/or panel mount nut are not assembled and are supplied loose at time of shipment.

- **Y** — Handle Orientation

Symbol	Description
Nil	Handle Down
Y	Handle Up

Note: Other sizes, thread forms, options, etc. may be possible, please contact SMC for availability.

- **Z** — Name Plate, Caution Plate On Bowl in psi, °F
- **X48** — With External Epoxy Coating, Stainless Fasteners



Specifications

Body size	20	30	40
Operating specifications	Same as standard - see catalog ES40-42D or NC160A		
Port size	1/4" NPT	3/8" NPT	1/2" NPT
Body material	Die cast aluminum		
Body, Bowl surface treatment	Epoxy resin coating		
Bonnet	Polyacetal		
Individual mounting brackets	Epoxy coated steel		
Panel mount nut	POM		

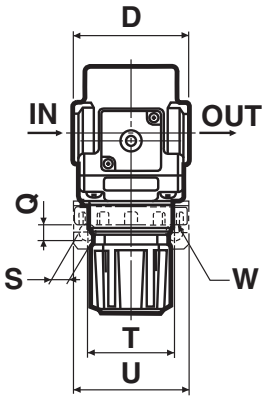
Dimensions

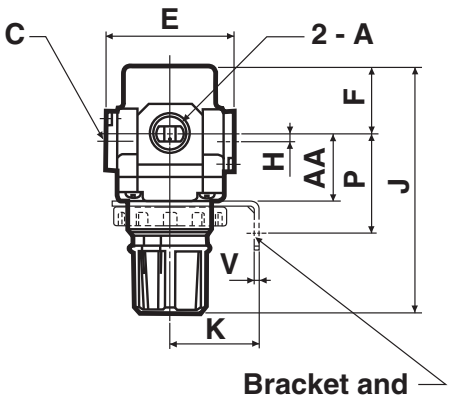
mm

Model	Port Size	Gauge Port	Dimensions																		
	A	C	D	E	F	H	J	K	L	M	P	Q	S	T	U	V	W	X	Y	Z	AA
AR20	NPT 1/4	NPT 1/8	40	57	26.5	-2	91(max.94)	30	65	37.5	44	5.4	15.4	34	55	2.3	M28 X 1	6	14	28.5	25
AR30	NPT 3/8	NPT 1/8	53	59	31	3.5	113(max.116)	41	66	37.5	46	6.5	8	40	53	2.3	M38 X 1.5	7	19	38.5	31
AR40	NPT 1/2	NPT 1/4	70	68	36	3.5	124(max.128)	50	74	42.5	54	8.5	10.5	54	70	2.3	M42 X 1.5	7	21	42.5	35.5

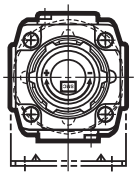
Accessories

Model	Mounting Bracket Kit (Optional)	Panel Mounting Nut (Optional)
AR20	AR20P-270AS-X48	AR20P-260S
AR30	AR30P-270AS-X48	AR30P-260S
AR40	AR40P-270AS-X48	AR40P-260S





Bracket and Mounting Nut (Optional)



PANEL FITTING

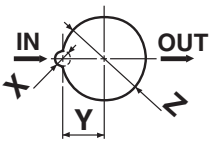


Plate Thickness
AR20, 30: Max 3.5
AR40: Max 5

How To Order

AL 20 — N 02 B — 2 Z - X480

- AL: Lubricator
- 20: Body Size

Symbol	Size
20	1/8
30	3/8
40	1/2

- N: NPT Threads
- 02: Port Size

Symbol	Port Size	Applicable Body Size
02	1/4	20
03	3/8	30
04	1/2	40

- B: Accessories

Symbol	Description	Applicable Body Size
Nil	None	All
B*	Mounting Bracket	All

*Note: Bracket is not assembled and is supplied loose at time of shipment.

- 2: Bowl

Symbol	Description	Applicable Body Size
2	Metal Bowl	20
8	Metal Bowl With Sight Glass	30, 40

- Z: Name Plate, Caution Plate On Bowl in psi, °F
- X480: With External Epoxy Coating, Stainless Fasteners

Note: Other sizes, thread forms, options, etc. may be possible, please contact SMC for availability.



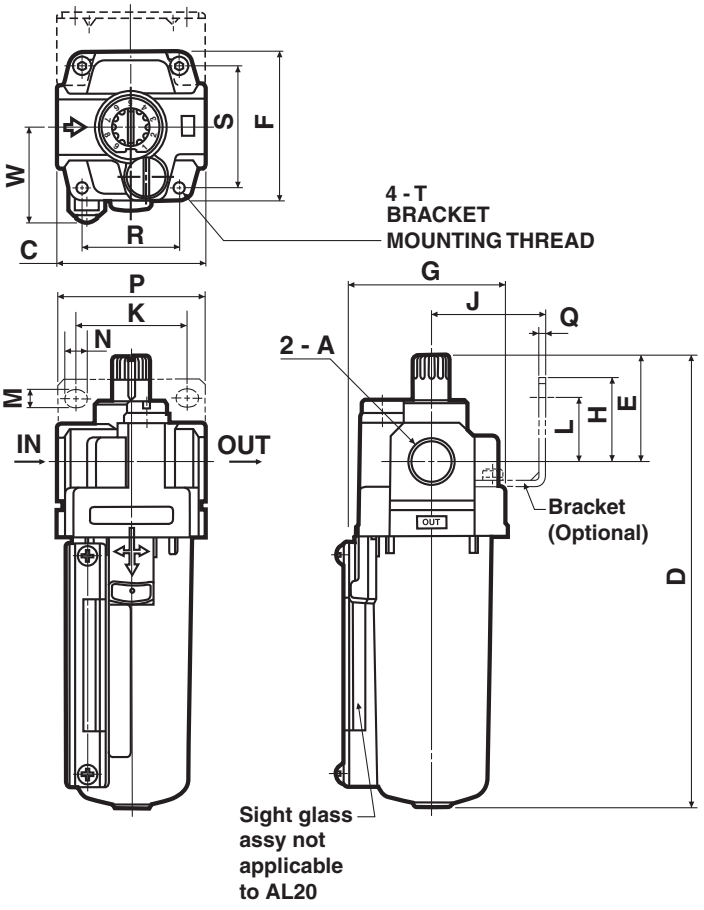
Specifications

Body size	20	30	40
Operating specifications	Same as standard - see catalog ES40-42D or NC160A		
Port size	1/4" NPT	3/8" NPT	1/2" NPT
Bowl type	Metal	Metal with sight gauge	
Body material	Die cast zinc	Die cast aluminum	
Bowl material	Die cast aluminum		
Body, Bowl surface treatment	Epoxy resin coating		
Individual mounting brackets	Epoxy coated steel		
Fill plug	Stainless steel 304		
Sight dome	Polycarbonate		
Sight glass hardware	Stainless steel 304		

Dimensions

mm

Model	Port Size	Dimensions																	Mounting Bracket Kit (Optional)
	A	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	W	
AL20	NPT 1/4	40	121	36	40	—	28	30	27	22	5.4	8.4	40	2.3	26	32	M4 X 0.7	—	AF20P-050AS-X480
AL30	NPT 3/8	53	162	38	53	57	30	41	40	23	6.5	8	53	2.3	35	44	M4 X 0.7	34.5	AF30P-050AS-X480
AL40	NPT 1/2	70	196	40	70	73	35	50	54	26	8.5	10.5	70	2.3	47	60	M5 X 0.8	41	AF40P-050AS-X480



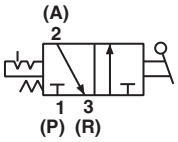
Residual Pressure Relief 3 Port Valve (V)

With the use of a 3 port valve for residual pressure release, pressure left in the line can be easily exhausted.





JIS Symbol



Model	Port Size		Effective area mm² (Cv)	
	IN, OUT	EXH	IN to OUT	OUT to EXH
VHS20	1/4	1/8	14 (0.76)	16 (0.87)
VHS30	3/8	1/4	31 (1.68)	29 (1.57)
VHS40	1/2	3/8	55 (2.98)	42 (2.28)

Paint color (Standard) Handle: Red Body: Platinum silver
Use an air filter on the IN side for operating protection.

How To Order

VHS 30 — N 02 — Z - X513

Residual Pressure Relief 3 Port Valve

Body Size

Symbol	Applicable Model
20	AC21
30	AC31
40	AC41

Thread Type

N	NPT

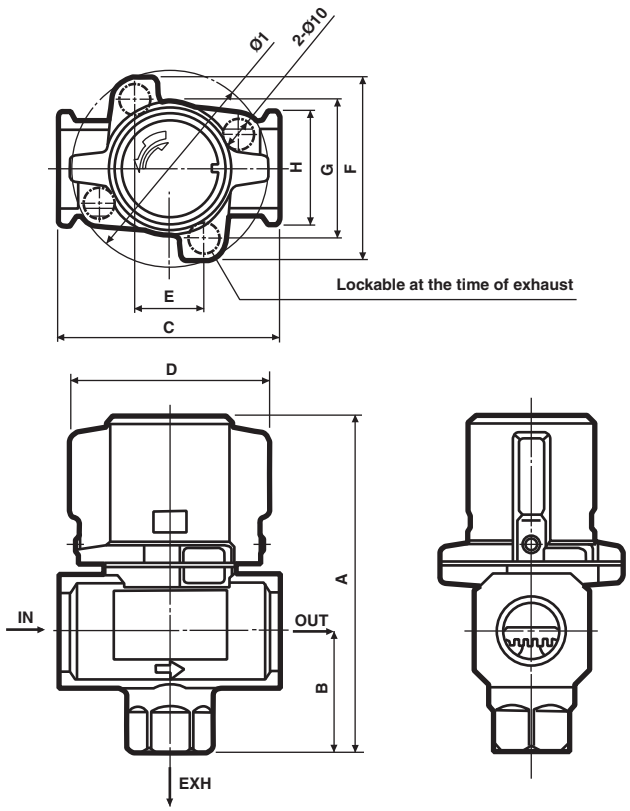
Body Size

Symbol	Port Size	Body Size		
		20	30	40
02	1/4	●		
03	3/8		●	
04	1/2			●

With External Epoxy Coating, Stainless Fasteners

Name Plate In Imperial Units (PSI, °F)

Note: Other sizes, thread forms, options, etc. may be possible, please contact SMC for availability.



Dimensions

mm

Model	A	B	C	D	E	F	G	H	I
VHS20	59	20	40	34	—	45	33	28	45
VHS30	78	29	53	46	—	55	42	30	55
VHS40	107	39	70	63	22	58	44	36	63

Caution

- If a stop valve or a silencer is connected to the exhaust port of VHS20/30, the effective sectional area should be larger than the figure indicated in the following table, to prevent malfunction caused by back pressure. (This is not applicable to VHS40)

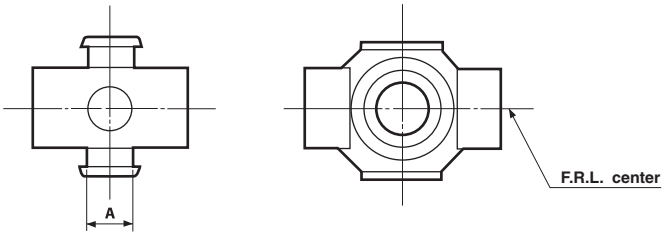
Model	Effective area (mm²)
VHS20	5
VHS30	5

- If unit is to be used in a washdown application, avoid directing fluid into the exhaust port.

Spacer

Epoxy Coated Aluminum,
Stainless Screws,
NBR Seals





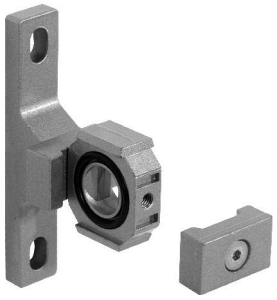
Dimensions

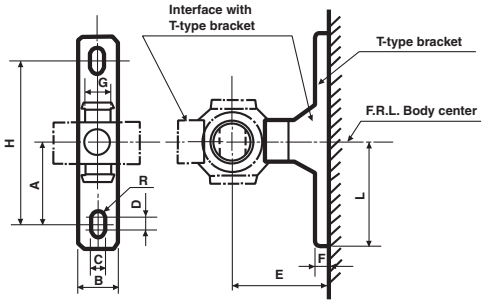
mm

Model	A
Y20-T4	10
Y30-T4	11
Y40-T4	14

Interface With T Bracket

Epoxy Coated Aluminum, Stainless Screws,
NBR Seals





Dimensions

mm

Interface With T Bracket	A	B	C	D	E	F	G	H	R	L	Applicable Models
Y20T-T4	24	15	5.5	3	30	5	10	48	2.75	33	AC21*-X2217
Y30T-T4	35	16	7	4	41	7	11	70	3.5	45	AC31*-X2217
Y40T-T4	40	22	9	4	50	7	14	80	4.5	50	AC41*-X2217

Other Available Air Line Products with Epoxy Coating/Stainless Hardware

Series	Description	Option Code
(N)AV	Soft Start Valve	X480
AMG	Water Removal Filter	X229
AR20-60	Regulator with Stainless T-handle, aluminum bonnet for UV resistance	X480
AVL	Soft Start Valve with Pilot Lock-Out	X480
AW20-40	Filter-Regulator with Stainless T-handle, aluminum bonnet for UV resistance	X480
E*00	Piping Adapter	X480
Y*10	T Interface	X480
Y*4	Cross Interface	T3

Please contact SMC for ordering information

Salt Spray Test Results (for reference)

1. Test Conditions

1) Method: In compliance with ASTM B117-07a (JIS Z 2371), leave parts in a salt spray test chamber, and compare rust generation.

2) Conditions: Temperature: 95˚F (35˚C) Salt Water Concentration: 5%

3) Time: 1000 hours [Frequency: 0hr, 24hrs, 48hrs, 72hrs, 96hrs, 168hrs, 240hrs, 480hrs, 720hrs, 1000hrs]

4) Samples: Parts for AF and AW30 (See Figure 1.)

- Part descriptions: 4 parts (1) Body (2) Drain cock (3) Small screw for level gauge (4) Bonnet screw
- Types: 2 Types A) Standard B) Special X480 (Coated with epoxy resin [External metal parts are made of SUS])
- Refer to Table 1 for part materials and treatments. *Quantity; 2 pieces for each

2. Test Results Table 1 Salt spray resistance test results

No.	Description	Type		Material & Treatment	Results
1	Body	A	Standard	Material: Die Cast Aluminum Treatment: Platinum Coating	Rusted in 480hrs Part of coating swelled
		B	Special X480	Material: Die Cast Aluminum Treatment: Platinum & Epoxy Coating	Not rusted in 1000hrs Part of coating swelled
2	Drain cock	A	Standard	Material: Die Cast Aluminum Treatment: Zinc Chromate	Rusted in 24hrs
		B	Special X480	Material: SUS	Not rusted in 1000hrs
3	Cross recessed round head screw for metal bowl with level gauge	A	Standard	Material: Steel Treatment: Nickel Plating	Rusted in 24hrs
		B	Special X480	Material: SUS	Not rusted in 1000hrs
4	Self-tapping screw for AR and AW bonnet	A	Standard	Material: Steel Treatment: Zinc Chromate	Rusted in 24hrs
		B	Special X480	Material: SUS	Not rusted in 1000hrs

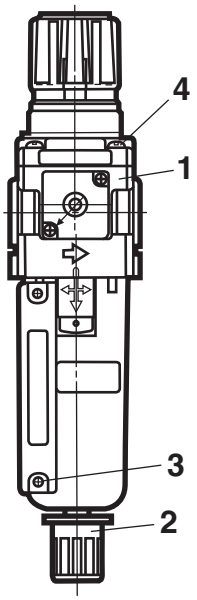
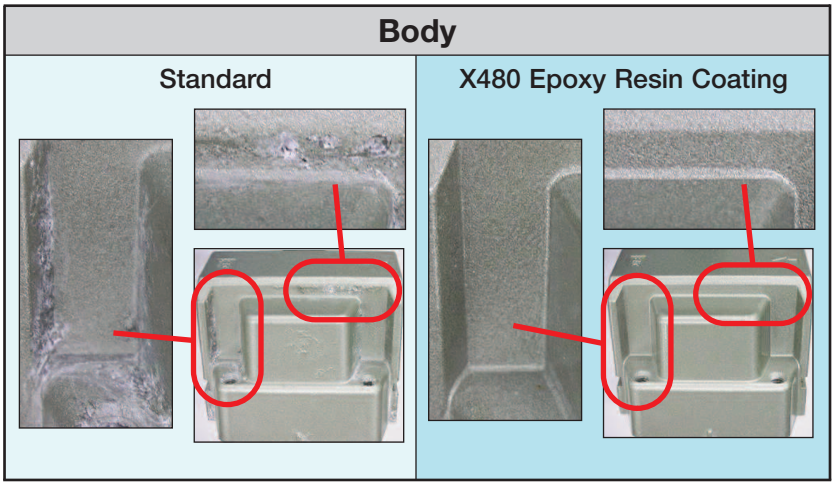
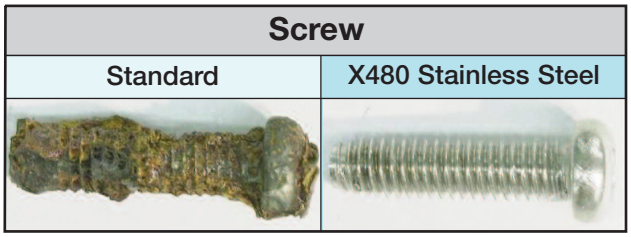
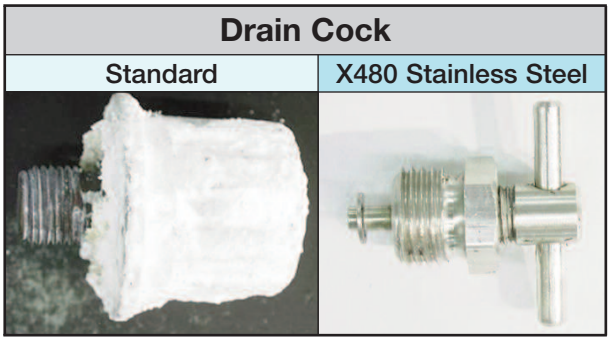


Figure 1







Caution! To ensure the safest possible operation of this product, please be sure to read thoroughly the “Safety Instructions” in our “Best Pneumatics” catalog before use.

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