





# Modular Type Filter Regulators Series AW

Filter Regulator Series AW	Model	Port size	Options
 <p>Pages 516 through to 527</p>	<b>AW10</b>	M5 x 0.8	Bracket  Float type auto drain  Square embedded type pressure gauge (except the AW10)  Round type pressure gauge  Digital pressure switch (except the AW10)  Panel mount (except the AW60 (K))
	<b>AW20</b>	1/8, 1/4	
	<b>AW30</b>	1/4, 3/8	
	<b>AW40</b>	1/4, 3/8, 1/2	
	<b>AW40-06</b>	3/4	
	<b>AW60</b>	3/4, 1	
 <p>Pages 516 through to 527</p>	<b>AW20K</b>	1/8, 1/4	
	<b>AW30K</b>	1/4, 3/8	
	<b>AW40K</b>	1/4, 3/8, 1/2	
	<b>AW40K-06</b>	3/4	
	<b>AW60K</b>	3/4, 1	
 <p>Pages 528 through to 537</p>	<b>AWM20</b>	1/8, 1/4	
	<b>AWM30</b>	1/4, 3/8	
	<b>AWM40</b>	1/4, 3/8, 1/2	
 <p>Pages 528 through to 537</p>	<b>AWD20</b>	1/8, 1/4	
	<b>AWD30</b>	1/4, 3/8	
	<b>AWD40</b>	1/4, 3/8, 1/2	

AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC

AF

AF□

AR

AL

AW□

A□G

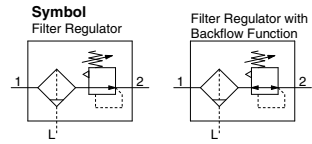
E□

AV

AF

# Filter Regulator AW10 to AW60

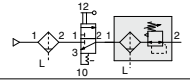
## Filter Regulator with Backflow Function AW20K to AW60K



- Integrated filter and regulator units save space and require less piping.
- With the backflow function it incorporates a mechanism to exhaust the air pressure in the outlet side reliably and quickly.

Example)

When the air supply is cut off and releasing the inlet pressure to the atmosphere, the residual pressure release of the outlet side can be ensured for a safety purpose.



### How to Order

AW **30** **K** - **03** **BE** - **10** - **1**

① ② ③ ④ ⑤ ⑥

• Made to Order  
Refer to pages 524 through 527 for details.

- Option/Semi-standard: Select one each for a to i.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.  
Example) AW30K-03BE-11

	Symbol	Description	①				
			Body size				
			10	20	30	40	60
②	With backflow function	Nil	●	●	●	●	●
		K <sup>Note 1)</sup>	—	—	●	●	●
③	Thread type	+	●	—	—	—	—
		Nil	—	—	●	●	●
		N <sup>Note 2)</sup>	—	●	●	●	●
		F <sup>Note 3)</sup>	—	●	●	●	●
④	Port size	+	●	—	—	—	—
		M5	—	●	—	—	—
		01	—	—	●	●	—
		02	—	—	●	●	—
		03	—	—	●	●	—
		04	—	—	—	●	—
		06	—	—	—	—	●
10	—	—	—	—	●		
⑤	a	Mounting	Nil	●	●	●	●
			B <sup>Note 5)</sup>	●	●	●	●
			H	●	●	●	—
	b	Float type auto drain	Nil	●	●	●	●
			C	●	●	●	●
			D	—	—	●	●
	c	Pressure gauge	Nil	●	●	●	●
			E	—	—	●	●
			G	●	—	—	—
			M	—	●	●	●
		Digital pressure switch	E1 <sup>Note 6)</sup>	—	●	●	●
			E2 <sup>Note 6)</sup>	—	●	●	●
E3 <sup>Note 6)</sup>			—	●	●	●	
E4 <sup>Note 6)</sup>	—		●	●	●		
⑥	d	Set pressure	Nil <sup>Note 7)</sup>	●	●	●	●
			1 <sup>Note 8)</sup>	●	●	●	●
	e	Bowl <sup>Note 9)</sup>	Nil	●	●	●	●
			2	●	●	●	●
			6	●	●	●	●
8			●	—	●	●	
C			—	●	—	—	
6C	—	●	—	—			

# Filter Regulator *Series AW10 to AW60*

## Filter Regulator with Backflow Function *Series AW20K to AW60K*



AW20, AW20K    AW40, AW40K

- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AC
- AF
- AF□
- AR
- AL
- AW□
- A□G
- E□
- AV
- AF

		Symbol	Description	①					
				Body size					
				10	20	30	40	60	
6	f	Drain port <small>Note 10</small>	Nil	With drain cock	●	●	●	●	●
			J <small>Note 11</small>	Drain guide 1/8	—	●	—	—	—
			W <small>Note 12</small>	Drain guide 1/4	—	—	●	●	●
			+	Drain cock with barb fitting: For ø6 x ø4 nylon tube	—	—	●	●	●
	g	Exhaust mechanism	Nil	Relieving type	●	●	●	●	●
			N	Non-relieving type	●	●	●	●	●
			+						
	h	Flow direction	Nil	Flow direction: Left to right	●	●	●	●	●
			R	Flow direction: Right to left	●	●	●	●	●
	i	Pressure unit	Nil	Name plate, caution plate for bowl, and pressure gauge in imperial units: MPa	●	●	●	●	●
Z <small>Note 13</small>			Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, "F	○ <small>Note 15</small>	○ <small>Note 15</small>	○ <small>Note 15</small>	○ <small>Note 15</small>	○ <small>Note 15</small>	
ZA <small>Note 14</small>			Digital pressure switch: With unit conversion function	—	△ <small>Note 16</small>	△ <small>Note 16</small>	△ <small>Note 16</small>	△ <small>Note 16</small>	

- Note 1) The AW10 type comes with a backflow function as a standard feature. (K is not available.) When using the AW10 type as w/ backflow function, backflow may not occur with the set pressure 0.15 MPa or less. For AW20K to AW60K, Please set the inlet pressure to at least 0.05 MPa higher than the set pressure.
- Note 2) Drain guide is NPT 1/8 (applicable to the AW20(K)) and NPT 1/4 (applicable to the AW30(K) to AW60(K)). The auto drain port comes with ø3/8" one-touch fitting (applicable to the AW30(K) to AW60(K)).
- Note 3) Drain guide is G 1/8 (applicable to the AW20(K)) and G 1/4 (applicable to the AW30(K) to AW60(K)).
- Note 4) Option B, G, H, M are not assembled and supplied loose at the time of shipment.
- Note 5) Assembly of a bracket and set nuts (AW10, AW20(K) to AW40(K)) including 2 mounting screws for the AW60(K)
- Note 6) When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring top entry" for the electrical entry.
- Note 7) Only the AW10 has a pressure setting of 0.05 to 0.7 MPa.
- Note 8) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.2 MPa pressure gauge will be fitted, selecting a case material.
- Note 9) Refer to Chemical Data on page 365 when selecting a case material.
- Note 10) Float type auto drain: The combination of C and D is not possible.
- Note 11) Without a valve function
- Note 12) Metal bowl: The combination of 2 and 8 is not possible.
- Note 13) 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.) The digital pressure switch will be equipped with the unit conversion function, setting to psi initially. The combination of the round type pressure gauge with color zone "M" and a psi display "Z" is not orderable as a standard product. However, this combination is available as a special.
- Note 14) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)
- Note 15) ○: For thread type: M5 and NPT only
- Note 16) △: Select with options: E1, E2, E3, E4.

### Standard Specifications

Model	AW10	AW20(K)	AW30(K)	AW40(K)	AW40(K)-06	AW60(K)
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
Pressure gauge port size <small>Note 1</small>	1/16 <small>Note 2</small>	1/8		1/4		
Fluid	Air					
Ambient and fluid temperature <small>Note 3</small>	-5 to 60°C (with no freezing)					
Proof pressure	1.5 MPa					
Maximum operating pressure	1.0 MPa					
Set pressure range	0.05 to 0.7 MPa	0.05 to 0.85 MPa				
Relief pressure <small>Note 4</small>	Set pressure + 0.05 MPa [at relief flow rate of 0.1 L/min (ANR)]					
Nominal filtration rating	5 μm					
Drain capacity (cm <sup>3</sup> )	2.5	8	25	45	45	45
Bowl material	Polycarbonate					
Bowl guard	—	Semi-standard		Standard		
Construction	Relieving type					
Weight (kg)	0.09	0.20	0.40	0.72	0.75	2.00

- Note 1) Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge (AW20(K) to AW60(K)).
- Note 2) Use a bushing (part no.:131368) when connecting the R1/8 pressure gauge to the Rc 1/16.
- Note 3) -5 to 50°C for the products with the digital pressure switch
- Note 4) Not applicable to the AW10.

# Series AW10 to AW60

# Series AW20K to AW60K

## Options/Part No.

Optional specifications		Model					
		AW10	AW20(K)	AW30(K)	AW40(K)	AW40(K)-06	AW60(K)
Bracket assembly <sup>Note 1)</sup>		AR10P-270AS	AW20P-270AS	AR30P-270AS	AR40P-270AS		AW60P-270AS <sup>Note 6)</sup>
Set nut		AR10P-260S	AR20P-260S	AR30P-260S	AR40P-260S		— <sup>Note 7)</sup>
Pressure gauge	Round type <sup>Note 2)</sup>	Standard	G27-10-R1	G36-10-□01	G46-10-□02		
		0.02 to 0.2 MPa setting	G27-10-R1 <sup>Note 3)</sup>	G36-2-□01	G46-2-□02		
	Round type <sup>Note 2)</sup> (with color zone)	Standard	—	G36-10-□01-L	G46-10-□02-L		
		0.02 to 0.2 MPa setting	—	G36-2-□01-L	G46-2-□02-L		
Square embedded type <sup>Note 4)</sup>	Standard	—	GC3-10AS [GC3P-010AS (Pressure gauge cover only)]				
	0.02 to 0.2 MPa setting	—	GC3-2AS [GC3P-010AS (Pressure gauge cover only)]				
Digital pressure switch <sup>Note 5)</sup>	NPN output / Wiring bottom entry	—	ISE35-N-25-MLA [ISE35-N-25-M (Switch body only)]				
	NPN output / Wiring top entry	—	ISE35-R-25-MLA [ISE35-R-25-M (Switch body only)]				
	PNP output / Wiring bottom entry	—	ISE35-N-65-MLA [ISE35-N-65-M (Switch body only)]				
	PNP output / Wiring top entry	—	ISE35-R-65-MLA [ISE35-R-65-M (Switch body only)]				
Float type auto drain <sup>Note 8) Note 9)</sup>	N.C.	AD17	AD27	AD37	AD47		
	N.O.	—	—	AD38	AD48		

## Semi-standard/Bowl Assembly Part No.

Semi-standard specifications					Model						
Bowl material	Float type auto drain <sup>Note 8) Note 9)</sup>		With drain guide <sup>Note 9)</sup>	With barb fitting	With bowl guard	AW10	AW20(K)	AW30(K)	AW40(K)	AW40(K)-06	AW60(K)
	N.C.	N.O.									
Polycarbonate	—	—	—	—	●	—	C2SF-C	—	—		
	●	—	—	—	●	—	AD27-C	—	—		
	—	—	●	—	—	—	C2SF-J	C3SF-J	C4SF-J		—
	—	—	—	●	—	—	—	C3SF-W	C4SF-W		—
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 set nuts

Note 2) □ in part numbers for a round pressure gauge indicates a type of connection thread. No indication is necessary for R; however, indicate N for NPT. Please contact SMC regarding the connection thread NPT and pressure gauge supply for psi unit specifications.

Note 3) Standard pressure gauge

Note 4) Including one O-ring and 2 mounting screws. [ ] : Pressure gauge cover only

Note 5) Lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screw (2 pcs.) are attached. [ ] : Switch body only. Also, regarding how to order the digital pressure switch, please refer to page 538. A pressure switch adapter assembly (AW60P-310AS) will be additionally required for the AW60(K) only. Use the attached mounting screw (M3 x 0.5 x 14) for mounting. The mounting screw (M3 x 0.5 x 7) attached to the digital pressure switch assembly will not be required.

Note 6) Assembly of a bracket and 2 mounting screws

Note 7) Please consult SMC regarding the set nuts for the AW60(K).

Note 8) Minimum operating pressure: N.O. type=0.1 MPa; N.C. type=0.1 MPa (AD27) and 0.15 MPa (AD37/47). Please contact SMC for psi and °F unit specifications.

Note 9) Please consult SMC for details on drain piping to fit NPT or G port sizes.

Note) • Bowl O-ring is included for the AW20(K) to AW60(K).

• Bowl assembly for the AW30(K) to AW60(K) models comes with a bowl guard (steel band material). (except when the bowl material is metal)



# Series AW10 to AW60 Series AW20K to AW60K Specific Product Precautions

Be sure to read before handling. Refer to front matter 43 for Safety Instructions and pages 365 to 369 for F.R.L. Precautions.

## Selection

### Warning

1. Residual pressure disposal (outlet pressure removal) is not possible for the AW20 to AW60 even though the inlet pressure is exhausted. When the residual pressure disposal is performed, use the filter regulator with backflow function (AW20K to AW60K).

## 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.

## Mounting and Adjustment

### Warning

1. Set the regulator while verifying the displayed values of the inlet and outlet pressure gauges. Turning the regulator knob excessively can cause damage to the internal parts.
2. The pressure gauge included with regulators for 0.02 to 0.2 MPa setting is for up to 0.2 MPa use only (except the AW10). Exceeding 0.2 MPa of pressure can damage the gauge.
3. Do not use tools on the pressure regulator knob as this may cause damage. It must be operated manually.

### Caution

1. Be sure to unlock the knob before adjusting the pressure and lock it after setting the pressure. Failure to follow this procedure can cause damage to the knob and the outlet pressure may fluctuate.
  - Pull the pressure regulator knob to unlock. (You can visually verify this with the "orange mark" that appears in the gap.)
  - Push the pressure regulator knob to lock. When the knob is not easily locked, turn it left and right a little and then push it (when the knob is locked, the "orange mark", i.e., the gap will disappear).



2. A knob cover is available to prevent careless operation of the knob. Refer to page 539 for details.

AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC

AF

AF□

AR

AL

AW□

A□G

E□

AV

AF

# Series AW10 to AW60

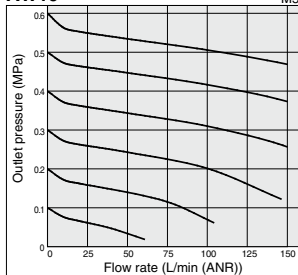
# Series AW20K to AW60K

## Flow Characteristics (Representative values)

Condition: Inlet pressure 0.7 MPa

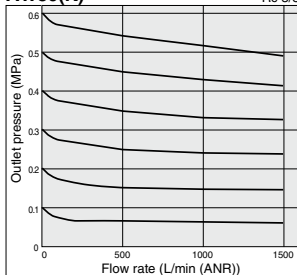
**AW10**

M5



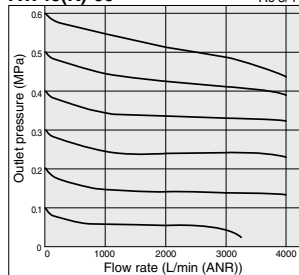
**AW30(K)**

Rc 3/8



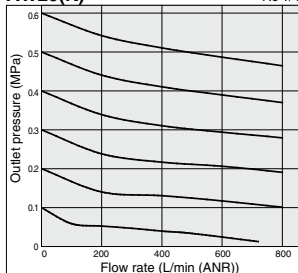
**AW40(K)-06**

Rc 3/4



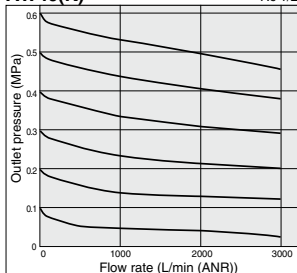
**AW20(K)**

Rc 1/4



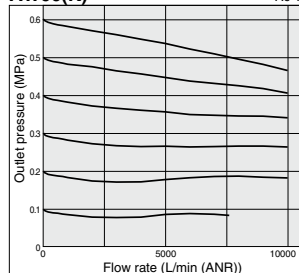
**AW40(K)**

Rc 1/2



**AW60(K)**

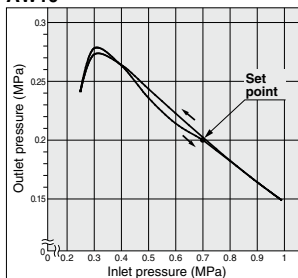
Rc 1



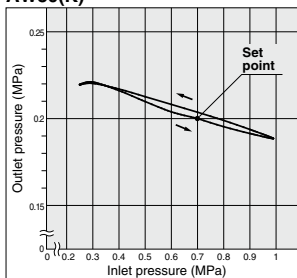
## Pressure Characteristics (Representative values)

Conditions: Inlet pressure 0.7 MPa, Outlet pressure 0.2 MPa, Flow rate 20 L/min (ANR)

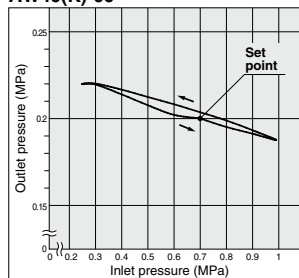
**AW10**



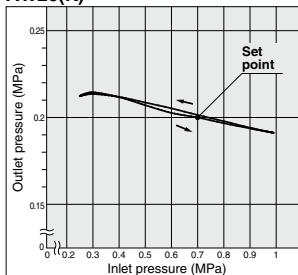
**AW30(K)**



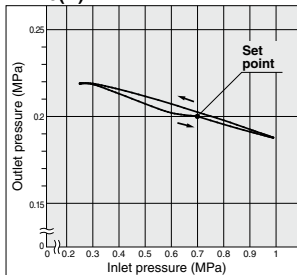
**AW40(K)-06**



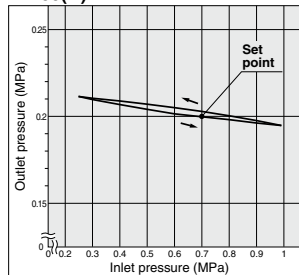
**AW20(K)**



**AW40(K)**



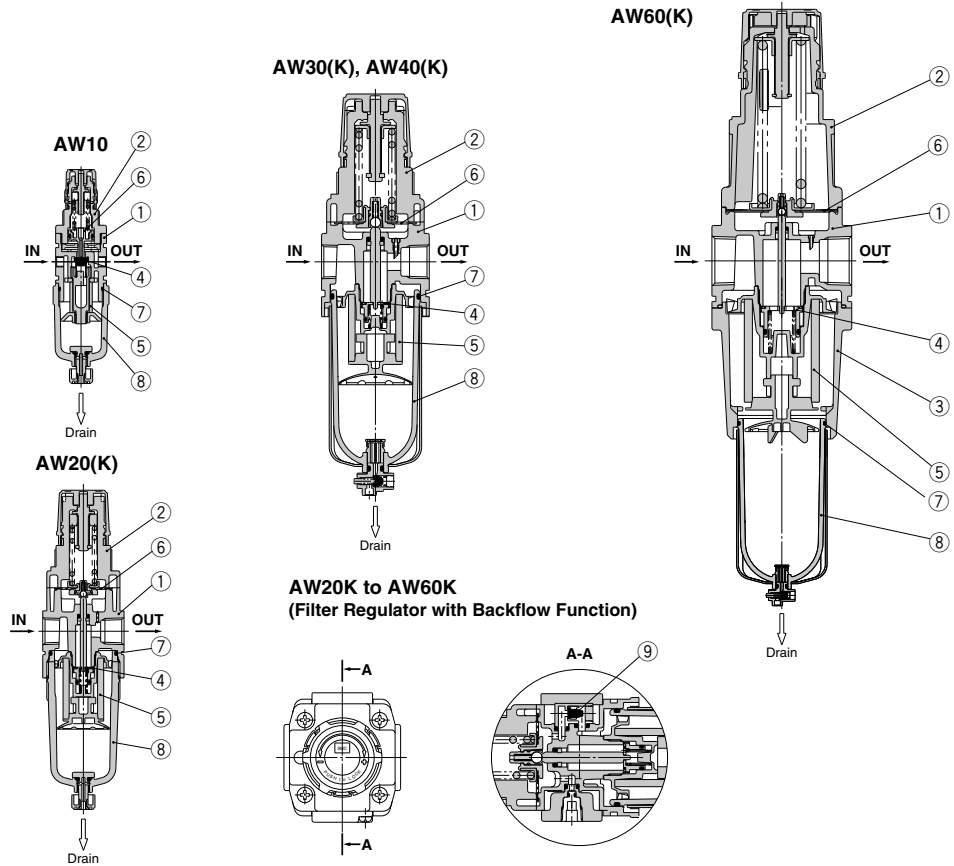
**AW60(K)**



# Filter Regulator *Series AW10 to AW60*

## Filter Regulator with Backflow Function *Series AW20K to AW60K*

### Construction



AC-A
AF-A
AF□-A
AR-A
AL-A
AW-A
AC
AF
AF□
AR
AL
AW□
□G
E□
AV
AF

### Component Parts

No.	Description	Material	Model	Color
1	Body	Zinc die-cast	AW10	Platinum silver
		Aluminum die-cast	AW20(K) to AW60(K)	
2	Bonnet	Polycetal	AW10 to AW40(K)	Black
		Aluminum die-cast	AW60(K)	
3	Housing	Aluminum die-cast	AW60(K)	Platinum silver

### Replacement Parts

No.	Description	Material	Part no.				
			AW10	AW20(K)	AW30(K)	AW40(K)	AW40(K)-06
4	Valve assembly	Brass, HNBR	AR10P-090S	AW20P-340AS	AW30P-340AS	AW40P-340AS	AW60P-090AS
5	Filter element	Non-woven fabric	AF10P-060S	AF20P-060S	AF30P-060S	AF40P-060S	AW60P-060S
6	Diaphragm assembly	Weatherable NBR	AR10P-150AS <small>Note 1)</small>	AR20P-150AS	AR30P-150AS	AR40P-150AS	AR50P-150AS
7	Bowl O-ring	NBR	C1SFP-260S	C2SFP-260S	C3SFP-260S	C4SFP-260S	
8	Bowl assembly <small>Note 2)</small>	Polycarbonate	C1SF	C2SF	C3SF <small>Note 3)</small>	C4SF <small>Note 3)</small>	
9	Check valve assembly <small>Note 4)</small>	—	—	—	C3SF <small>Note 3)</small>	AR20KP-020AS	

Note 1) The AW10 is a piston type. Assembly of a piston and a seal (KSY-P-13).  
 Note 2) Bowl O-ring is included for the AW20(K) to AW60(K). Please contact SMC regarding the bowl assembly supply for psi and °F unit specifications.  
 Note 3) Bowl assembly for the AW30(K) to AW60(K) models comes with a bowl guard (steel band material).  
 Note 4) Check valve assembly is applicable for a filter regulator with backflow function (AW20K to AW60K) only.  
 Assembly of a check valve cover, check valve body assembly and 2 screws

# Series AW10 to AW60

# Series AW20K to AW60K

## Working Principle (Filter Regulator with Backflow Function)

### AW10



When the inlet pressure is higher than the regulating pressure, the check valve operates as a normal regulator (Figure 1). When the inlet pressure is shut off and exhausted, any inlet pressure applied to the valve ① will be lost. The force for seating the valve ① is the valve spring force ② only. When the valve ① is opened using the outlet force, the outlet pressure will be exhausted at the inlet side. (Figure 2)

When the set pressure is 0.15 MPa or less, valve ① may not open due to the valve spring ② force.

### AW20K to AW60K

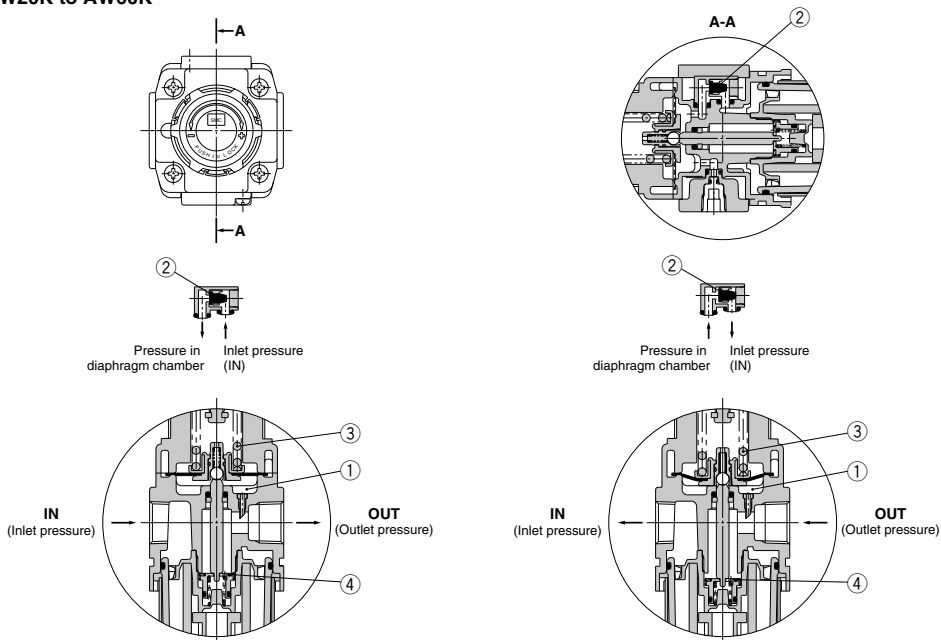


Figure 1 Normal

Figure 2 Backflow

When the inlet pressure is higher than the regulating pressure, the check valve ② closes and operates as a normal regulator (Figure 1). When the inlet pressure is shut off and released, the check valve ② opens and the pressure in the diaphragm chamber ① is released into the inlet side (Figure 2).

This lowers the pressure in the diaphragm chamber ① and the force generated by the pressure regulator spring ③ lifts the diaphragm. Valve ④ opens through the stem, and the outlet pressure is released to the inlet side (Figure 2).

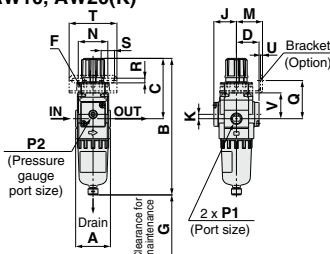


# Filter Regulator *Series AW10 to AW60*

## Filter Regulator with Backflow Function *Series AW20K to AW60K*

### Dimensions

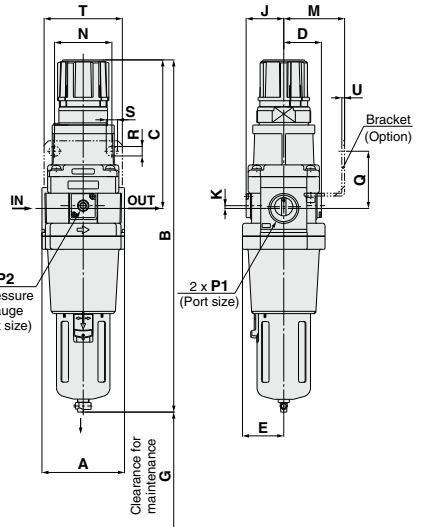
#### AW10, AW20(K)



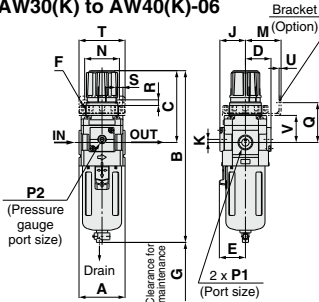
Panel fitting dimension

Plate thickness  
AW10, AW20(K): Max. 3.5

#### AW60(K)



#### AW30(K) to AW40(K)-06



Panel fitting dimension

Plate thickness  
AW30(K): Max. 3.5  
AW40(K): Max. 5

Applicable model	AW20(K) to AW60(K)		AW10, AW20(K) to AW60(K)		AW20(K) to AW60(K)	
Option	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with color zone)		
Dimensions	<p>Center of piping</p>		<p>Center of piping</p>		<p>Center of piping</p>	

Applicable model	AW10, AW20(K)		AW20(K)		AW30(K) to AW60(K)				
	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									
	M5 x 0.8		Width across flats 14	N.O.: Blue N.C.: Gray ø10 one-touch fitting			1/4	Barb fitting Applicable tubing: TO604	

Model	Standard specifications											Optional specifications							
	P1	P2	A	B (Note)	C	D	E	F	G	J	K	Square type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with color zone)				
AW10	M5 x 0.8	1/16	25	108	48	12.5	—	M18 x 1	25	12.5	0	—	—	—	—				
AW20(K)	1/8, 1/4	1/8	40	160	73	26	—	M28 x 1.5	40	26	5	□28	27	□27.8	37.5	ø26	26	—	
AW30(K)	1/4, 3/8, 1/2	1/8	53	201	86	29.5	30	M38 x 1.5	55	29.5	3.5	□28	30.5	□27.8	41	ø37.5	62.5	ø37.5	63
AW40(K)	1/4, 3/8, 1/2	1/4	70	239	92	37.5	38	M42 x 1.5	80	37.5	1.5	□28	38.5	□27.8	49	ø42.5	76	ø42.5	76
AW40(K)-06	3/4	1/4	75	242	93	37.5	38	M42 x 1.5	80	37.5	1.2	□28	38.5	□27.8	49	ø42.5	76	ø42.5	76
AW60(K)	3/4, 1	1/4	95	409	175	43.5	47.5	—	20	43.5	3.2	□28	44.5	□27.8	61.5	ø42.5	82	ø42.5	84

Model	Optional specifications											Semi-standard specifications				
	Bracket mount						Panel mount					With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge
	M	N	Q	R	S	T	U	V	W	Y	Z	B (Note)	B (Note)	B (Note)	B (Note)	B (Note)
AW10	25	28	30	4.5	6.5	40	2	18	18.5	—	—	125	—	—	107	—
AW20(K)	30	34	44	5.4	15.4	55	2.3	30	28.5	14	6	177	—	164	160	—
AW30(K)	41	40	46	6.5	8	53	2.3	31	38.5	19	7	242	209	208	214	234
AW40(K)	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	278	247	246	252	272
AW40(K)-06	50	54	56	8.5	10.5	70	2.3	37	42.5	21	7	282	251	249	255	275
AW60(K)	70	66	66	11	13	90	3.2	—	—	—	—	448	417	416	422	442

Note) The total length of B dimension is the length when the filter regulator knob is unlocked.

- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AC
- AF
- AF□
- AR
- AL
- AW□
- AF□G
- E□
- AV
- AF

# Filter Regulator AW20 to AW60

# 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

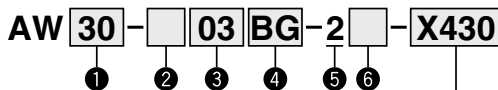
Made-to-order part no.	-X430	-X440
Environment	Low temperature	High temperature
Ambient temperature (°C)	-30 to 60	-5 to 80
Fluid temperature (°C)	-5 to 60 (with no freezing)	
Material	Rubber parts	Special NBR      FKM
	Main parts	Metal (Aluminum die-cast), etc.



AW30-03G-2-X440

### Applicable Model

Model	AW30	AW40	AW40-06	AW60
Port size	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1



For high/low temperature

X430	Low temperature
X440	High temperature

- Option/Semi-standard: Select one each for a to g.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.  
Example) AW30-03BG-2N-X430

		Symbol	Description	①		
				Body size		
				30	40	60
②	Thread type	NII	Rc	●	●	●
		N	NPT	●	●	●
		F	G	●	●	●
		+				
③	Port size	02	1/4	●	●	—
		03	3/8	●	●	—
		04	1/2	—	●	—
		06	3/4	—	●	●
		10	1	—	—	●
		+				
④	a Mounting	NII	Without mounting option	●	●	●
		B (Note 2)	With bracket	●	●	●
		H	With set nut (for panel fitting)	●	●	—
		+				
b	Pressure gauge	NII	Without pressure gauge	●	●	●
		G (Note 3)	Round type pressure gauge (without limit indicator)	●	●	●
		+				
⑤	Bowl (Note 4)	2	Metal bowl	●	●	●
		+				
⑥	c Set pressure	NII	0.05 to 0.85 MPa setting	●	●	●
		1 (Note 5)	0.02 to 0.2 MPa setting	●	●	●
			+			
	d Drain port	NII	With drain cock	●	●	●
		J (Note 6)	Drain guide 1/4	●	●	●
			+			
	e Exhaust mechanism	NII	Relieving type	●	●	●
		N	Non-relieving type	●	●	●
			+			
	f Flow direction	NII	Flow direction: Left to right	●	●	●
R		Flow direction: Right to left	●	●	●	
		+				
g Pressure unit	NII	Name plate, caution plate for bowl, and pressure gauge in imperial units: MPa	●	●	●	
	Z (Note 7)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	○ (Note 8)	○ (Note 8)	○ (Note 8)	

Note 1) Option B, G, H are not assembled and supplied loose at the time of shipment.

Note 2) Assembly of 2 mounting screws for the AW30 to AW40

Note 3) Including 2 mounting threads for the AW60

Note 4) Mounting thread for pressure gauge: 1/8 for the AW30, 1/4 for the AW40 and AW60. Pressure gauge type: G43

Note 5) Only metal bowl 2 is available.

Note 6) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.2 MPa pressure gauge will be fitted.

Note 7) Without a valve function

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

## ② High Pressure

Strong materials are used in the manufacturing of air filters intended for high pressure operation. Also, construction modification allows a wider regulating pressure range.

### Specifications

Made-to-order part no.	-X425
Proof pressure (MPa)	3.0
Maximum operating pressure (MPa)	2.0
Set pressure range (MPa)	0.1 to 1.7
Ambient and fluid temperature (°C)	-5 to 60°C (with no freezing)

### Applicable Model

Model	AW20	AW30	AW40	AW40-06	AW60
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1



AW30-03-2-X425

AW **30** - **03** **BG** - **2** **□** - X425

① ② ③ ④ ⑤ ⑥

For high pressure •

- 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) AW30-03BG-2N-X425

	Symbol	Description	① Body size			
			20	30	40	60
② Thread type	NII	Rc	●	●	●	●
	N	NPT	●	●	●	●
	F	G	●	●	●	●
+						
③ Port size	01	1/8	●	—	—	—
	02	1/4	—	●	●	—
	03	3/8	—	●	●	—
	04	1/2	—	—	●	—
	06	3/4	—	—	●	●
	10	1	—	—	—	●
+						
④ Option 1) a Mounting	NII	Without mounting option	●	●	●	●
	B <sup>Note 2)</sup>	With bracket	●	●	●	●
	H	With set nut (for panel fitting)	●	●	●	—
+						
b Pressure gauge	NII	Without pressure gauge	●	●	●	●
	G <sup>Note 3)</sup>	Round type pressure gauge (with limit indicator)	●	●	●	●
+						
⑤ Bowl <sup>Note 4)</sup>	2	Metal bowl	●	●	●	●
	8	Metal bowl with level gauge	—	●	●	●
+						
⑥ Semi-standard c Exhaust mechanism	NII	Relieving type	●	●	●	●
	N	Non-relieving type	●	●	●	●
	+					
d Drain port	NII	With drain cock	●	●	●	●
	J <sup>Note 5)</sup>	Drain guide 1/8	●	—	—	—
		Drain guide 1/4	—	●	●	●
+						
e Flow direction	NII	Flow direction: Left to right	●	●	●	●
	R	Flow direction: Right to left	●	●	●	●
+						
f Pressure unit	NII	Name plate, caution plate for bowl, and pressure gauge in imperial units: MPa	●	●	●	●
	Z <sup>Note 6)</sup>	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	○ <sup>Note 7)</sup>	○ <sup>Note 7)</sup>	○ <sup>Note 7)</sup>	○ <sup>Note 7)</sup>

Note 1) Option B, G, H are not assembled and supplied loose at the time of shipment.

Note 2) Assembly of a bracket and set nuts (AW20 to AW40)

Including 2 mounting screws for the AW60

Note 3) Mounting thread for pressure gauge: 1/8 for the AW20 and AW30, 1/4 for the AW40 and AW60. Pressure gauge type: G46-20-□

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

AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC

AF

AF□

AR

AL

AW□

A□G

E□

AV

AF

# Filter Regulator *AW10 to AW60* Filter Regulator with Backflow Function *AW20K to AW60K* Made to Order Specifications:



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

### ③ 0.4 MPa Setting

The maximum set pressure is 0.4 MPa. When a pressure gauge is included, the display will show a range from 0 to 0.4 MPa.

#### Specifications

Proof pressure	1.5 MPa
Maximum operating pressure	1.0 MPa
Set pressure range	0.05 to 0.4 MPa

#### Applicable Model

Model	AW10	AW20(K)	AW30(K)	AW40(K)	AW40(K)-06	AW60(K)
Port size	M5	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1

### ④ Long Bowl

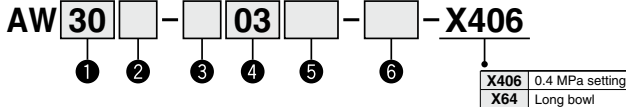
Drain capacity is greater than that of standard models.

#### Applicable Model/Drain Capacity

Model	AW10	AW20(K)	AW30(K)	AW40(K)	AW40(K)-06	AW60(K)
Port size	M5	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1
Drain capacity (cm <sup>3</sup> )	9	19	43		88	

Note) Please consult SMC for dimensions.

## How to Order



- Option/Semi-standard: Select one each for a to h.
  - Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
- Example) AW30K-03BE-2N-X406

0.4 MPa Setting	Long Bowl
-----------------	-----------

	Symbol	Description	① Body size				① Body size				
			10	20	30	40	60	10	20	30	40
②	With backflow function	Nil K Note 1)	Without backflow function				Without backflow function				
		+									
③	Thread type	Nil N Note 2) F Note 3)	Metric thread (M5)				Metric thread (M5)				
		+									
④	Port size	M5 01 02 03 04 06 10	M5 1/8 1/4 3/8 1/2 3/4 1				M5 1/8 1/4 3/8 1/2 3/4 1				
		+									
⑤	a	Mounting	Nil B Note 5) H	Without mounting option With bracket With set nut (for panel fitting)				Without mounting option With bracket With set nut (for panel fitting)			
			+								
		b	Float type auto drain	Nil C D	Without auto drain Float type auto drain (N.C.) Float type auto drain (N.O.)				Without auto drain Float type auto drain (N.C.) Float type auto drain (N.O.)		
	+										
c	Pressure gauge		Nil	Without pressure gauge				Without pressure gauge			
		E	Square embedded type pressure gauge (with limit indicator)				Square embedded type pressure gauge (with limit indicator)				
		G	Round type pressure gauge (without limit indicator)				Round type pressure gauge (without limit indicator)				
		M	Round type pressure gauge (with color zone)				Round type pressure gauge (with color zone)				
	Digital pressure switch	E1 Note 6) E2 Note 6) E3 Note 6) E4 Note 6)	Output: NPN output / Electrical entry; Wiring bottom entry Output: NPN output / Electrical entry; Wiring top entry Output: PNP output / Electrical entry; Wiring bottom entry Output: PNP output / Electrical entry; Wiring top entry				Output: NPN output / Electrical entry; Wiring bottom entry Output: NPN output / Electrical entry; Wiring top entry Output: PNP output / Electrical entry; Wiring bottom entry Output: PNP output / Electrical entry; Wiring top entry				

Note 1) The AW10 type comes with a backflow function as a standard feature. (K is not available.) When using the AW10 type as w/backflow function, backflow may not occur with the set pressure 0.15 MPa or less. Please set the inlet pressure to at least 0.05 MPa higher than the set pressure.

Note 2) Drain guide is NPT 1/8 (applicable to the AW20(K)) and NPT 1/4 (applicable to the AW30(K) to AW60(K)). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AW30(K) to AW60(K)).

Note 3) Drain guide is G 1/8 (applicable to the AW20(K)) and G 1/4 (applicable to the AW30(K) to AW60(K)).

Note 4) Option B, G, H, M are not assembled and supplied loose at the time of shipment.

Note 5) Assembly of a bracket and set nuts. (AW10, AW20(K) to AW40(K). Including 2 mounting screws for the AW60(K).

Note 6) When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring down entry" for the electrical entry.

# Filter Regulator *Series AW10 to AW60*

## Filter Regulator with Backflow Function *Series AW20K to AW60K*

- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AC
- AF
- AF□
- AR
- AL
- AW□
- A□G
- E□
- AV
- AF

		Symbol	Description	0.4 MPa Setting					Long Bowl						
				①					①						
				Body size					Body size						
				10	20	30	40	60	10	20	30	40	60		
6	Semi-standard	d	Set pressure	Ni <sup>Note 7)</sup>	0.05 to 0.85 MPa setting	—	—	—	—	—	●	●	●	●	●
				1 <sup>Note 8)</sup>	0.02 to 0.2 MPa setting	—	—	—	—	—	●	●	●	●	●
		e	Bowl <sup>Note 9)</sup>	+											
				Ni	Polycarbonate bowl	●	●	●	●	●	●	●	●	●	●
				2	Metal bowl	●	●	●	●	●	●	●	●	●	●
				6	Nylon bowl	●	●	●	●	●	●	●	●	●	●
				8	Metal bowl with level gauge	—	—	●	●	●	—	—	—	—	—
				C	With bowl guard	—	—	●	●	●	—	—	●	●	●
		f	Drain port <sup>Note 10)</sup>	+											
				Ni	With drain cock	●	●	●	●	●	●	●	●	●	●
		g	Exhaust mechanism	J <sup>Note 11)</sup>	Drain guide 1/8	—	—	—	—	—	—	●	—	—	—
				W <sup>Note 12)</sup>	Drain guide 1/4	—	—	●	●	●	—	—	●	●	●
		h	Flow direction	+											
				R	Flow direction: Right to left	—	—	●	●	●	—	—	●	●	●
		i	Pressure unit	+											
Ni	Name plate, caution plate for bowl, and pressure gauge in imperial units: MPa			○ <sup>Note 15)</sup>	○ <sup>Note 15)</sup>	○ <sup>Note 15)</sup>	○ <sup>Note 15)</sup>	○ <sup>Note 15)</sup>	○ <sup>Note 15)</sup>	○ <sup>Note 15)</sup>	○ <sup>Note 15)</sup>	○ <sup>Note 15)</sup>	○ <sup>Note 15)</sup>		
j	Digital pressure switch: With unit conversion function	Z <sup>Note 13)</sup>	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	—	△ <sup>Note 16)</sup>	△ <sup>Note 16)</sup>	△ <sup>Note 16)</sup>	△ <sup>Note 16)</sup>	—	△ <sup>Note 16)</sup>	△ <sup>Note 16)</sup>	△ <sup>Note 16)</sup>	△ <sup>Note 16)</sup>		
		ZA <sup>Note 14)</sup>	Digital pressure switch: With unit conversion function	—	△ <sup>Note 16)</sup>	△ <sup>Note 16)</sup>	△ <sup>Note 16)</sup>	△ <sup>Note 16)</sup>	—	△ <sup>Note 16)</sup>	△ <sup>Note 16)</sup>	△ <sup>Note 16)</sup>	△ <sup>Note 16)</sup>		

Note 7) Only the AW10 has a pressure setting of 0.05 to 0.7 MPa.  
 Note 8) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.2 MPa pressure gauge will be fitted.  
 Note 9) Refer to Chemical Data on page 365 when selecting a case material.  
 Note 10) Float type auto drain: The combination of C and D is not possible.  
 Note 11) Without a valve function  
 Note 12) Metal bowl: The combination of 2 and 8 is not possible.  
 Note 13) 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.)  
 The digital pressure switch will be equipped with the unit conversion function, setting to psi initially.  
 Note 14) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)  
 Note 15) ○: For thread type: M5 and NPT only  
 Note 16) △: Select with options: E1, E2, E3, E4.

# Lubricator

How To Order

Series AL20 to 40

**AL 20 - N 02 B - 2 Z - X480**

Lubricator •  
 Body Size •  
 NPT Threads •  
 Port Size •  
 Bowl •  
 Accessories •  
 With External Epoxy Coating, Stainless Fasteners  
 Name Plate, Caution Plate On Bowl in psi, °F

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

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

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

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.

# Filter - Regulator

How To Order

Series AW20 to 40

**AW 30 - N 03 D 8 Z - X48**

Filter - Regulator •  
 Body Size •  
 NPT Threads •  
 Port Size •  
 Bowl •  
 Accessories •  
 With External Epoxy Coating Stainless Fasteners  
 Name Plate in imperial Units (psi, °F)

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

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

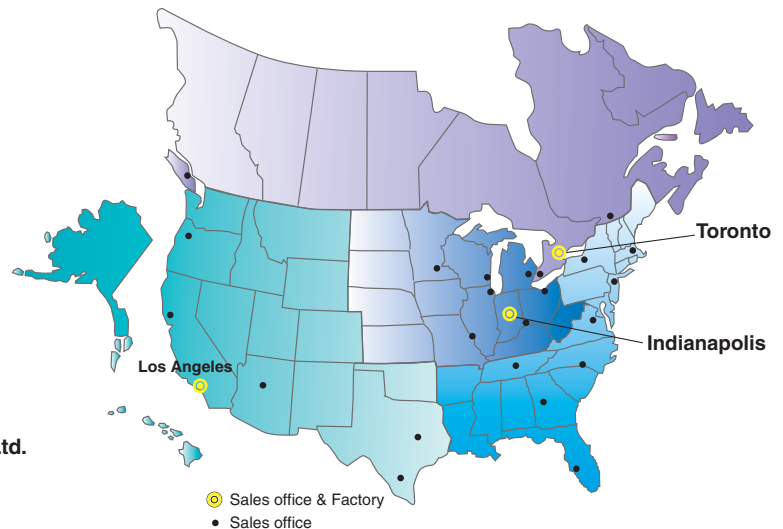
Symbol	Description	Applicable Body Size
2	Metal Bowl	20
8	Metal Bowl with Sight Glass	30, 40

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.

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