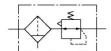
Filter Regulator

Series AW10 to 40

Integrated filter and regulator units save space and require less piping.

Direct operated, relieving type

JIS Symbol









AW40

How to Order

4 1 1

AW 30-F 03 BE-1N

Filter regulator

Body size 10 20 30 40

Thread type

Nil	Metric thread (M5)
1411	Rc
N (1)	NPT
F (2)	G

Note 1) Drain guide is NPT 1/4 (applicable to AW30 and 40), and the exhaust port for auto- drain comes with ø3/8" One-touch fitting (applicable to AW30 and AW40).

Note 2) Drain guide is G 1/4 (applicable to AW30 and AW40).

Port size

	Port		Body	size	
Symbol	size	10	20	30	40
M5	M5	•	_	_	_
01	1/8	_	•	-	_
02	1/4	_	•	•	•
03	3/8	_	_	•	•
04	1/2	_	_	_	•
06	3/4	_	_		•

Option

Symbol	Description	Applicable model
1 (5)	0.02 to 0.2 MPa setting	AW10 to 40
2	Metal bowl	AW10 to 40
6	Nylon bowl	AW10 to 40
8	Metal bowl with level gauge	AW30/40
С	With bowl guard	AW20
J (6)	Drain guide 1/4	AW30/40
N	Non-relieving	AW10 to 40
R	Flow direction: Right → Left	AW10 to 40
W	Drain cock with barb fitting: ø6 x ø4 nylon tubing	AW30/40
Z ⁽⁷⁾	Name plate, caution plate for bowl, and pressure gauge in imperial units (PSI, °F)	AW10 to 40

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* When more than one specification is required, indicate in alphanumeric order.
Note 5) 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.

Note 6) Without a valve function.

Note 7) For M5 and NPT thread types. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Accessory (3)

Symbol	Description	Applicable model
Nil		_
В	With bracket	AW10 to 40
С	Float type auto-drain (N.C.) (4)	AW10 to 40
D	Float type auto-drain (N.O.) (4)	AW30/40
E	With square embedded type pressure gauge (With limit indicator)	AW20 to 40
G	With round pressure gauge (Without limit indicator)	AW10
G	With round pressure gauge (With limit indicator)	AW20 to 40
Н	With set nut (For panel mount)	AW10 to 40

Note 3) Optional parts are not assembled and are supplied loose at the time of shipment (except options C, D and E).

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

Accessory/Optional Specifications Combinations

Combination availableVaries depending on the model

: Combination not available

: Available only with NPT thread

	Combination	loq	Accessory								Op	otion	al sp	ecific	catio	ns			Applicable filter regulator		
Ac	cessory/Optional specifications	Symbol	В	С	D	Е	G	Н	1	2	6	8	С	J	N	R	W	Z	AW10	AW20	AW30 to 40
	With bracket (With set nut)	В		0	0	0	0		0	0	0	0	0	0	0	0	0	Δ	0	0	0
2	Float type auto-drain (N.C.)	С	0			0	0	0	0	0	0	0	0		0	0		Δ	0	0	0
ssory	Float type auto-drain (N.O.)	D	0			0	0	0	0	0	0	0			0	0		Δ			0
cce	Square embedded type pressure gauge	Е	0	0	0			0	0	0	0	0	0	0	0	0	0	Δ		0	0
Ă	Round pressure gauge	G	0	0	0			0	0	0	0	0	0	0	0	0	0	Δ	0	0	0
	With set nut (For panel mount)	Н		0	0	0	0		0	0	0	0	0	0	0	0	0	Δ	0	0	0
	0.02 to 0.2 MPa setting	-1	0	0	0	0	0	0		0	0	0	0	0	0	0	0	Δ	0	0	0
ည	Metal bowl	-2	0	0	0	0	0	0	0					0	0	0		Δ	0	0	0
specifications	Nylon bowl	-6	0	0	0	0	0	0	0				0	0	0	0	0	Δ	0	0	0
<u>:</u>	Metal bowl with level gauge	-8	0	0	0	0	0	0	0					0	0	0		Δ			0
ecii	With bowl guard	-C	0	0		0	0	0	0		0				0	0		Δ		0	
	Drain guide 1/4	-J	0			0	0	0	0	0	0	0			0	0		Δ			0
nal	Non-relieving type	-N	0	0	0	0	0	0	0	0	0	0	0	0		0	0	Δ	0	0	0
Optional	Flow direction: Right → Left	-R	0	0	0	0	0	0	0	0	0	0	0	0	0		0	Δ	0	0	0
Ō	Drain cock with barb fitting: ø6 x ø4 nylon tubing	-W	0			0	0	0	0		0				0	0		Δ			0
	Name plate, caution plate for bowl, and pressure	-Z		Δ	Δ		Δ		Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ		Δ	Δ	

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Series AW10 to 40

Standard Specifications

Model	AW10	AW20	AW30	AW40	AW40-06							
Port sizes	M5 x 0.8	1/8, 1/4	1/4, 3/8, 1/2	3/4								
Fluid		Air										
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								
Pressure gauge port size (1)	Rc 1/16 ⁽²⁾	Rc, NPT, G 1/8	Rc, NPT, G 1/8	Rc, NPT, G 1/4	Rc, NPT, G 1/4							
Relief pressure	5	Set pressure + 0.05 M	1Pa (3) (at relief flow r	ate of 0.1 ∉min (ANR))							
Ambient and fluid temperature		−5 t	o 60°C (With no free:	zing)								
Nominal filtration rating			5 μm									
Drain capacity (cm ³)	2.5	8	25	45	45							
Bowl material			Polycarbonate									
Bowl guard	_	Option		Standard								
Construction			Relieving type		·							
Weight (kg)	0.09	0.09 0.32 0.40 0.72 0.75										

Note 1) Pressure gauge connection threads are not required for regulators with a square embedded type pressure gauge (AW20 to AW40).

Note 2) Use a bushing (part no: 131368) when connecting R 1/8 pressure gauge to R 1/16 gauge port.

Note 3) Not applicable to AW10.

Accessory Part No.

Applicable model Accessory		Applicable model	AW10	AW20		AW30		AW40	A۱	N40-06
Bracket as	ssembly	(1)	AR10P-270AS	AW20P-270AS	AR3	0P-270AS	AR4	OP-270AS	AR40	0P-270AS
Set nut			AR10P-260S	AR20P-260S	AR3	30P-260S	AR4	0P-260S	AR4	0P-260S
(2)	1.0 MPa	Round Type	G27-10-R1	G36-10-□01	G36	6-10-□01	G46	6-10-□02	G46	6-10-□02
Pressure	1.0 MPa	Square embedded type (4)	_	GC3-10AS	GC	3-10AS	GC	3-10AS	GC	3-10AS
gauge	0.2 MPa	Round Type	G27-10-R1 (3)	G36-2-□01	G3	G36-2-□01		G46-2-□02		6-2-□02
	U.Z IVIFA	Square embedded type ⁽⁴⁾	_	GC3-2AS	G	C3-2AS	GC3-2AS		G	C3-2AS
Float type	(=)	N.O.	_	_	AD38	AD38N(6)	AD48	AD48N(6)	AD48	AD48N ⁽⁶⁾
auto-drain	1	N.C.	AD17	AD27	AD37	AD37N(6)	AD47	AD47N(6)	AD47	AD47N ⁽⁶⁾

Note 1) Assembly includes 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 supply of the pressure gauge for PSI unit specifications.

Note 3) For 1 MPa.

Note 4) Includes one O-ring and 2 mounting screws.

Note 5) 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 regarding the specifications for PSI unit and °F.

Note 6) When "N" is specified in the end of part number of auto-drain, applicable tubing O.D should be ø3/8".

⚠ Precautions

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

Selection

1. Residual pressure release (outlet pressure release) is not completed by releasing inlet pressure. To release residual pressure, use a filter regulator with a back flow mechanism.

Maintenance

\land 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 & Adjustment

🗥 Warning

- 1. Set the regulator while checking the displayed values of the inlet and outlet pressure gauges. Turning the knob excessively can cause damage to the internal parts.
- 2. The pressure gauge indicated with regulators for 0.02 to 0.2 MPa setting is for 0.2 MPa use only. Exceeding 0.2 MPa of pressure can damage the
- 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" will disappear).



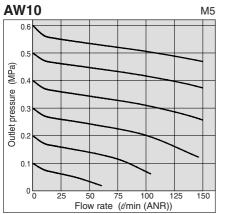
2. A knob cover is available to prevent careless operation of the knob. Refer to page 14-2-6 for details.

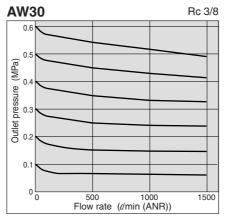


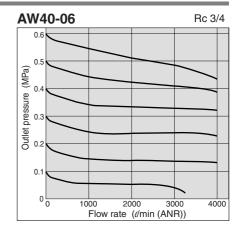
Filter Regulator Series AW10 to 40

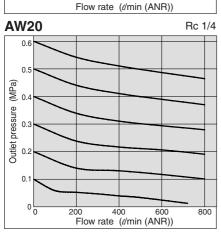
Flow Characteristics (Representative values)

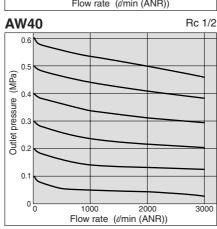
Condition: Inlet pressure 0.7 MPa











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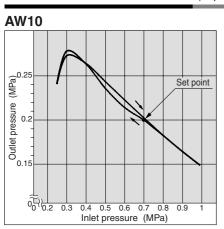
ITV

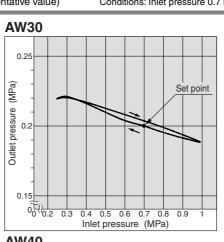
IC

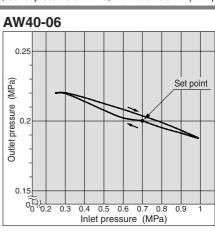
VBA

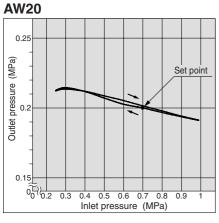
Pressure Characteristics (Representative value)

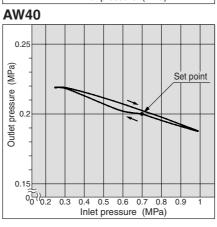
Conditions: Inlet pressure 0.7 MPa; Outlet pressure 0.2 MPa; Flow rate 20 t/min (ANR)











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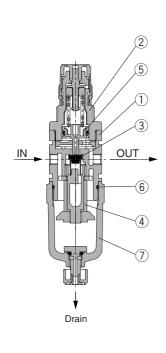
Series AW10 to 40

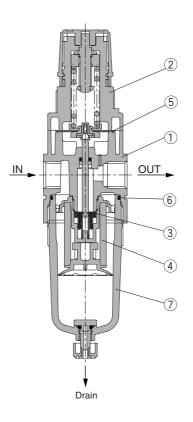
Construction

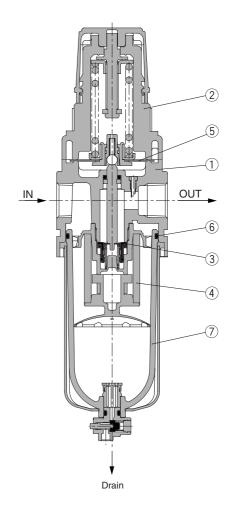
JIS Symbol



AW20 AW10 AW30/40





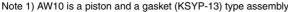


Component Parts

NI-	Danasistias		Material		Note		
No.	Description	Description AW10/20 AW30 AW40/40-06					
1	Body	Zinc die-casted	Aluminu	m die-casted	Platinum silver		
2	Bonnet		Black				

Replacement Parts

NIa	Description	Matarial			Part no.		
No.	Description	Material	AW10	AW20	AW30	AW40	AW40-06
3	Valve assembly	Stainless steel Brass, HNBR	AR10P-090S	AW20P-360AS (4)	AW30P-360AS (4)	AW40P-360AS (4)	AW40P-380AS
4	Filter element	Non-woven fabric	AF10P-060S	AF20P-060S	AF30P-060S	AF40P-060S	AF40P-060S
(5)	Diaphragm assembly	Weatherability NBR	AR10P-150AS (1)	AR20P-150AS	AR30P-150AS	AR40P-150AS	AR40P-150AS
6	Bowl O-ring	NBR	C1SFP-260S	C2SFP-260S	C3SFP-260S	C4SFP-260S	C4SFP-260S
7	Bowl assembly (2)	PC	C1SF	C2SF	C3SF (3)	C4SF (3)	C4SF (3)



Note 1) AW10 is a piston and a gasket (KSYP-13) type assembly.

Note 2) Including O-ring. Please contact SMC regarding the bowl assembly supply for PSI and °F unit specifications.

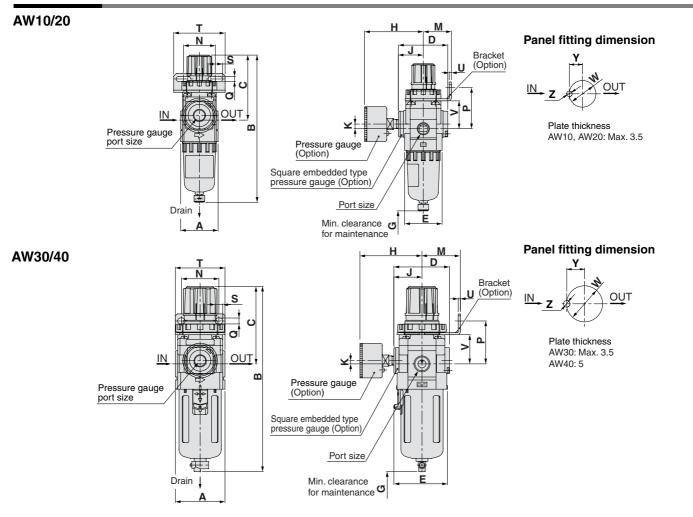
Note 3) Bowl assembly includes a bowl guard (steel band material).

Note 4) Assembly includes valve assembly, valve spring and stem assembly.



Filter Regulator Series AW10 to 40

Dimensions



Applicable model	AW10,	AW20	AW30, AW40, AW40-06									
	With auto-drain (N.C.)	Metal bowl	With auto-drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting					
Optional specifications	M5 x 0.8		N.O.: Black N.C.: Gray Ø10 One-touch fitting	B	B	Midth across flats 17	Barb fitting Applicable tubing: T0604					

																						(mm)
			Stan	dard ei	acifica	tione			Accessory specifications With precours gauge Product mounting size Page mount With													
Model Port size Standard specifications						With p	ressure	gauge	Bracket mounting size							Panel mount						
		Α	В	С	D	Е	G	Н	J	K	M	N	Р	Q	S	Т	U	٧	W	Υ	Z	В
AW10	M5 x 0.8	25	108	48	25	28	25	26		0	25	28	30	4.5	6.5	40	2	18	18.5	_	_	125
AW20	1/8, 1/4	40	160	73	52	40	40	63	27	5	30	34	44	5.4	15.4	55	2.3	30	28.5	14	6	177
AW30	1/4, 3/8	53	201	86	59	57	55	66	30.5	3.5	41	40	46	6.5	8	53	2.3	31	38.5	19	7	242
AW40	1/4, 3/8, 1/2	70	239	92	75	73	80	76	38.5	1.5	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	278
AW40-06	3/4	75	242	93	75	73	80	76	38.5	1.2	50	54	56	8.5	10.5	70	2.3	37	42.5	21	7	281

		0 " 1									
		Optional specifications									
Model	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge							
	В	В	В	В							
AW10	_	_	107	_							
AW20	_	_	160	_							
AW30	209	208	214	234							
AW40	247	246	252	272							
AW40-06	250	249	255	275							

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Filter Regulator with Back Flow Mechanism

Series AW20K/30K/40K

How to Order



AW40K

AW 30 K

Port size

Port Body size

1/8 •

02 1/4 • • •

03 3/8

04 1/2

06 3/4

20 30 40

• •

Filter regulator

Body size •

20 30 40

With back flow mechanism of

Note) AW10 comes with a back flow mechanism as a standard feature If the set pressure is not exceeding 0.15 MPa, back flow may not occur. When a back flow mechanism is required with a set pressure of less than 0.15 MPa, please contact SMC.

	Th	read	tγ	ре	•
--	----	------	----	----	---



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

Note 1) Drain guide is NPT 1/4 (applicable to AW30K and 40K), and the exhaust port for auto-drain comes with ø3/8" One-touch fitting (applicable to AW30K and AW40K).

Note 2) Drain guide is G 1/4 (applicable to AW30K and AW40K).

Option

Symbol	Description	Applicable model
1 (4)	0.02 to 0.2 MPa setting	AW20K to 40K
2	Metal bowl	AW20K to 40K
6	Nylon bowl	AW20K to 40K
8	Metal bowl with level gauge	AW30K/40K
С	With bowl guard	AW20K
J (5)	Drain guide 1/4	AW30K/40K
N	Non-relieving type	AW20K to 40K
R	Flow direction: Right → Left	AW20K to 40K
W	Drain cock with barb fitting: ø6 x ø4 nylon tubing	AW30K/40K
Z (6)	Name plate, caution plate for bowl, and pressure gauge in imperial units (PSI, °F)	AW20K to 40K

When more than one specification is required, indicate in alphanumeric order. Note 4) 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

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

Accessory (3)

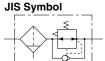
Symbol	Description	Applicable model
Nil		_
В	With bracket	AW20K to 40K
С	Float type auto-drain (N.C.) (2)	AW20K to 40K
D	Float type auto-drain (N.O.) (2)	AW30K/40K
Е	With square embedded type pressure gauge (With limit indicator)	AW20K to 40K
G	With round pressure gauge (With limit indicator)	AW20K to 40K
Н	With set nut (For panel mount)	AW20K to 40K

Note 1) Optional parts are not assembled and are supplied loose at the time of shipment (except options C, D and E). Note 2) Applicable tubing O.D for auto drain connection should be $\varnothing 3/8"$ in

case NPT thread port is chosen.

Standard Specifications

Model	AW20K	AW30K	AW40K	AW40K-06					
Port sizes	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4					
Fluid	Air								
Proof pressure		1.5	MPa						
Maximum operating pressure		1.0	MPa						
Set pressure range (1)		0.05 to 0).85 MPa						
Pressure gauge port size (2)	Rc, NPT, G 1/8	Rc, NPT, G 1/8	Rc, NPT, G 1/4	Rc, NPT, G 1/4 Rc, NPT, G 1/4					
Relief pressure	Set press	Set pressure + 0.05 MPa (at relief flow rate of 0.1/min (ANR))							
Ambient and fluid temperature		−5 to 60°C (W	ith no freezing)						
Nominal filtration rating		5 <u>j</u>	ım						
Drain capacity (cm ³)	8	25	45	45					
Bowl material	Polycarbonate								
Bowl guard	Option Standard								
Construction	Relieving type								
Weight (kg)	0.32	0.40	0.72	0.75					



Note 1) Set the inlet pressure 0.05 MPa or higher than the set pressure.

Note 2) Pressure gauge connection threads are not required for regulators with a square embedded type pressure gauge (AW20K to AW40K).

Accessory Part No.

7.0000	7.0000001 7.1.1.1.101									
Accessory		licable model	AW20K	А	W30K	A	W40K	AW	/40K-06	
Bracket a	assembly	(1)	AW20P-270AS	AR3	OP-270AS	AR4	DP-270AS	AR4	0P-270AS	
Set nut		AR20P-260S	ARS	30P-260S	AR40P-260S		AR40P-260S			
(0)	(1) 4 0 MD-	Round type	G36-10-□01	G36	G36-10-□01 G46-10-		6-10-□02	G46	6-10-□02	
Pressure (2)	1.0 MPa	Square (3) embedded type	GC3-10AS	GC	3-10AS	GC	3-10AS	GC	3-10AS	
gauge		Round type	G36-2-□01	G3	G36-2-□01		G46-2-□02		G46-2-□02	
	0.2 MPa	Square (3) embedded type	GC3-2AS	G	C3-2AS	GC3-2AS		G	C3-2AS	
Float typ	Float type (4)		_	AD38	AD38N(5)	AD48	AD48N(5)	AD48	AD48N(5)	
auto-drain		N.C.	AD27	AD37	AD37N(5)	AD47	AD47N(5)	AD47	AD47N(5)	



Note 1) Assembly includes 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) Includes one O-ring and 2 mounting screws.

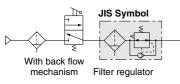
Note 4) Minimum operating pressure: N.O. type–0.1 MPa;

N.C. type–0.1 MPa (AD27) and 0.15 MPa (AD37/47). Please contact SMC regarding the specifications for PSI unit and °F.

Note 5) When "N" is specified in the end of part number of auto-drain, applicable tubing O.D should be ø3/8".



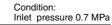
When the air supply is cut off and releasing the inlet pressure to the atmosphere, the residual pressure release of the outlet side can be ensured for a safety purpose.

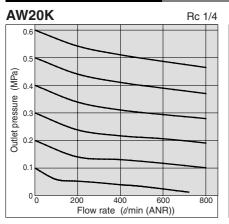


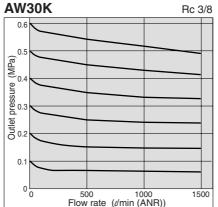


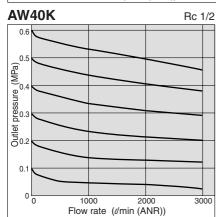
Filter Regulator with Back Flow Mechanism Series AW20K/30K/40K

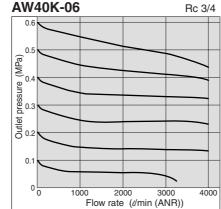
Flow Characteristics (Representative values)







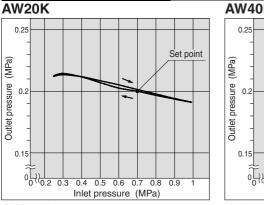


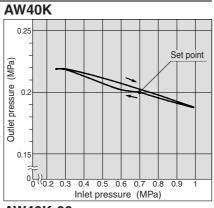


Conditions: Inlet pressure 0.7 MPa Outlet pressure 0.2 MPa Flow rate 20 /min (ANR)

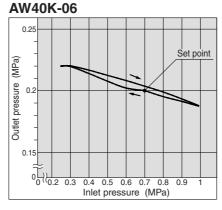
Pressure Characteristics (Representative values)







AW30K Set point (MPa pressure Outlet 0.4 0.5 0.6 0.7 0.8 0.9 Inlet pressure (MPa)



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

Mounting & Adjustment

- 1. Set the regulator while checking the displayed values of the inlet and outlet pressure gauges. Turning the 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. 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 14-2-6 for details.

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.

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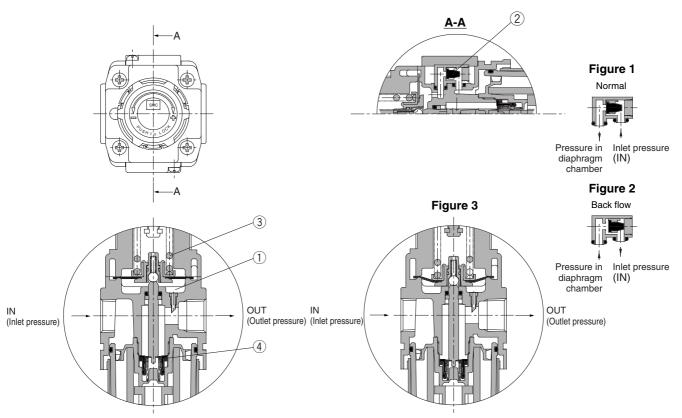
 $\mathsf{VE}\Box$ VY1

G

PPA

Series AW20K/30K/40K

Working Principle

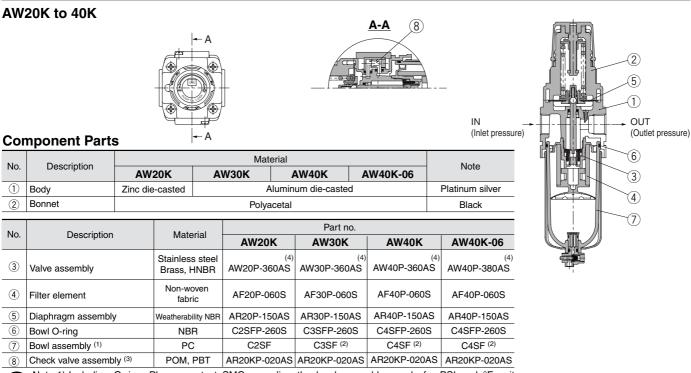


When the inlet pressure (P1) is higher than the set pressure, the check valve ② closes and operates as a normal regulator (Figure 1).

When the inlet pressure (P1) 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 pressure regulator spring ③ lifts the diaphragm. Valve ④ opens through the stem, and the outlet pressure is released to the inlet side (Figure 3).

Construction



Note 1) Including O-ring. Please contact SMC regarding the bowl assembly supply for PSI and °F unit specifications.

Note 2) Bowl assembly includes a bowl guard (steel band material). Note 3) Check valve assembly includes check valve cover, check valve body assembly and screws (2 pcs.).

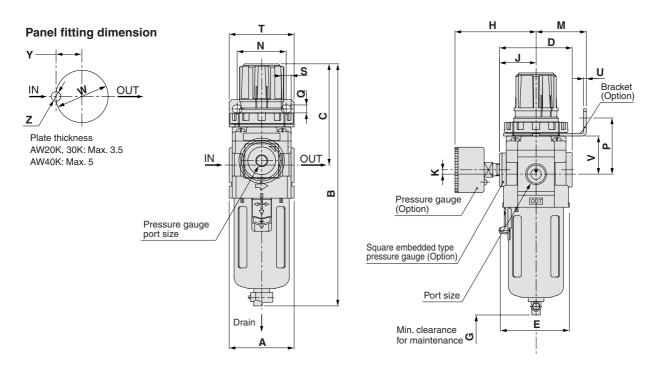
Note 4) Assembly includes valve assembly, valve spring and stem assembly.



Filter Regulator with Back Flow Mechanism Series AW20K/30K/40K

Dimensions

AW20K/30K/40K



Applicable model	AW	20K		AW3	0K, AW40K, AC40	K-06	
	With auto-drain (N.C.)	Metal bowl	With auto-drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting
Optional specifications	M5 x 0.8	B	N.O.: Black N.C.: Gray e10 One-touch fitting	B	B	1/4 Width across flats 17	Barb fitting Applicable tubing: T0604

(mm)

																						, ,
		Standard specifications						Accessory specifications														
Model	Port size		Stand	ara s	Decilica	ations		With p	ressure	gauge		Е	Bracket	moun	ting siz	e			Panel	mount		With auto-drain
		Α	В	С	D	Е	G	Н	J	K	М	N	Р	Q	S	Т	U	٧	W	Υ	Z	В
AW20K	1/8, 1/4	40	160	73	52	40	40	63	27	5	30	34	44	5.4	15.4	55	2.3	30	28.5	14	6	177
AW30K	1/4, 3/8	53	201	86	59	57	55	66	30.5	3.5	41	40	46	6.5	8	53	2.3	31	38.5	19	7	242
AW40K	1/4, 3/8, 1/2	70	239	92	75	73	80	76	38.5	1.5	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	278
AW40K-06	3/4	75	242	93	75	73	80	76	38.5	1.2	50	54	56	8.5	10.5	70	2.3	37	42.5	21	7	281

	Port size	Optional specifications						
Model		With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge			
		В	В	В	В			
AW20K	1/8, 1/4	-	_	160	_			
AW30K	1/4, 3/8	209	208	214	234			
AW40K	1/4, 3/8, 1/2	247	246	252	272			
AW40K-06	3/4	250	249	255	275			

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PPA

Filter Regulator Series AR20 to 40 **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) regions.

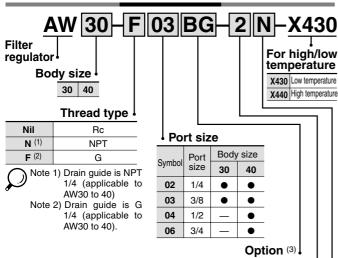
Specifications

	Part no.	-X430	-X440		
Environn	nent	Low temperature	High temperature		
Ambient	temperature	-30 to 60°C	−5 to 80C°		
Fluid ten	nperature	-5 to 60°C (With no freezing)			
Material	Rubber parts	Special NBR	R FPM		
Materiai	Rubber parts Main parts	Aluminum die-casted			

Applicable Model

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

How to Order



Symbol	Description	Applicable model
Nil		_
В	With bracket	AW30/40
G ⁽⁴⁾	With round pressure gauge (With limit indicator)	AW30/40
Н	With set nut (For panel mount)	AW30/40

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

Note 4) Mounting thread for pressure gauge: 1/8 for AW30; 1/4 for Pressure gauge type: G43

Bowl 1

Symbol	Description	Applicable model
Nil ⁽⁵⁾	Metal bowl	AW30/40
Note 5		

Symbol	Description	Applicable model
1 (6)	0.02 to 0.2 MPa setting	AW30/40
J (7)	Drain guide 1/4	AW30/40
N	Non-relieving type	AW30/40
R	Flow direction: Right → Left	AW30/40
Z ⁽⁸⁾	Name plate, caution plate for bowl, and pressure gauge in imperial units (PSI, °F)	AW30/40

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

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.

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.)

2. High Pressure

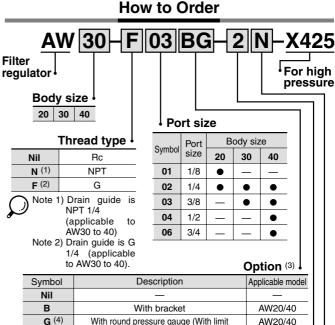
Strong materials are used in the manufacturing of air filters intended for high pressure operation.

Specifications

Part no.	-X425	
Proof pressure	3.0 MPa	
Max. operating pressure	2.0 MPa	
Set pressure range	0.1 to 1.6 MPa	
Ambient and fluid temperature	-5 to 60°C (With no freezing)	

Applicable Model

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



Symbol	Description	Applicable model	
Nil		_	
В	With bracket	AW20/40	
G (4)	With round pressure gauge (With limit	AW20/40	
Н	indicator)	AW20/40	
- N. O. D			

Note 3) Bracket is not assembled and is supplied loose at the time of shipment. Note 4) Mounting thread for pressure gauge: 1/8 for AW20 to

gauge available.

30; 1/4 for AW40 Pressure gauge type: G46

Symbol	Description	Applicable model
2 (5)	Metal bowl	AW20 to 40
8 (5)	Metal bowl with level gauge	AW30/40
Note 5	o) Only metal bowl or metal	bowl with level

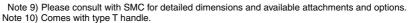
Optional specifications

Symbol	Description	Applicable model
J (6)	Drain guide 1/4	AW30/40
N	Non-relieving type	AW20 to 40
R	Flow direction: Right → Left	AW20 to 40
Z (7)	Name plate, caution plate for bowl, and pressure gauge in imperial units (PSI, °F)	AW20 to 40

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

Note 7) 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.)



Option !





Safety Instructions

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

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

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

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

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

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

△Warning

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

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

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

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

- 3. Do not service machinery/equipment or attempt to remove components until safety is confirmed.
 - 1. Inspection and maintenance of machinery/equipment should only be performed once measures to prevent falling or runaway of the driver objects have been confirmed.
 - 2. When equipment is to be removed, confirm the safety process as mentioned above. Cut the supply pressure for this equipment and exhaust all residual compressed air in the system.
 - 3. Before machinery/equipment is restarted, take measures to prevent shooting-out of cylinder piston rod. etc.
- 4. Contact SMC if the product is to be used in any of the following conditions:
 - 1. Conditions and environments beyond the given specifications, or if product is used outdoors.
 - 2. Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverages, recreation equipment, emergency stop circuits, clutch and brake circuits in press applications, or safety equipment.
 - 3. An application which has the possibility of having negative effects on people, property, or animals, requiring special safety analysis.





Common Precautions

Be sure to read before handling. For detailed precautions on every series, refer to main text.

Selection

⚠ Warning

1. Confirm the specifications.

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

Do not use the product outside their design parameters.

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

Mounting

⚠ Warning

1. Instruction manual

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

2. Securing the space for maintenance

When installing the products, please allow access for maintenance.

3. Tightening torque

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

Piping

⚠ Caution

1. Before piping

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

2. Wrapping of pipe tape

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

Air Supply

⚠ Warning

1. Operating fluid

Please consult with SMC when using the product in applications other than compressed air (including vacuum). Regarding products for general fluid, please ask SMC about applicable fluids.

2. Install an air dryer, aftercooler, etc.

Excessive condensate in a compressed air system may cause valves and other pneumatic equipment to malfunction. Installation of an air dryer, after cooler etc. is recommended.

3. Drain flushing

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

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

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

4. Use clean air

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

Operating Environment

\land Warning

- 1. Do not use in environments where the product is directly exposed to corrosive gases, chemicals, salt water, water or steam.
- 2. Do not expose the product to direct sunlight for an extended period of time.
- 3. Do not use in a place subject to heavy vibrations and/or shocks.
- 4. Do not mount the product in locations where it is exposed to radiant heat.

Maintenance

🗥 Warning

1. Maintenance procedures are outlined in the operation manual.

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

2. Maintenance work

If handled improperly, compressed air can be dangerous. Assembly, handling and repair of pneumatic systems should be performed by qualified personnel only.

3. Drain flushing

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

4. Shut-down before maintenance

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

5. Start-up after maintenance and inspection

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

6. Do not make any modifications to be product.

Do not take the product apart.



Quality Assurance Information (ISO 9001, ISO 14001)

Reliable quality of products in the global market

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

Quality management system $ISO\ 9001$

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







Environmental management system ISO 14001

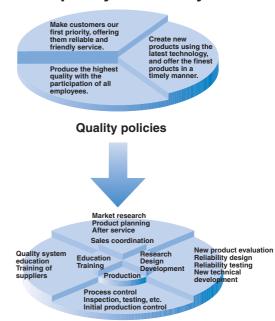
This is an international standard related to environmental management systems and environmental inspections. While promoting environmentally friendly automation technology, SMC is also making diligent efforts to preserve the environment.







SMC's quality control system



Quality control activities

SMC Product Conforming to Inter

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



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

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

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

■ CE Mark

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

■ As of February 1998, the following 18 countries will be obliged to conform to CE mark legislation Iceland, Ireland, United Kingdom, Italy, Austria, Netherlands, Greece, Liechtenstein, Sweden, Spain, Denmark, Germany, Norway, Finland, France, Belgium, Portugal, Luxembourg

■ EC Directives and Pneumatic Components

Machinery Directive

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

• Electromagnetic Compatibility (EMC) Directive

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

Low Voltage Directive

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

• Simple Pressure Vessels Directive

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



national Standards

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



■ CSA Standards & UL Standards

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

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

■ TSSA (MCCR) Registration Products

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

Products conforming to CE Standard

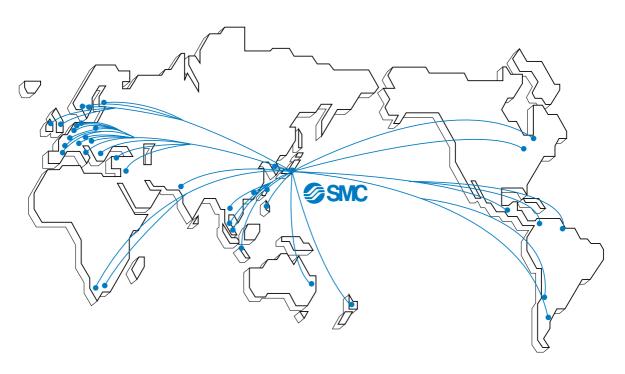


In this catalog each accredited product series is indicated with a CE mark symbol. However, in some cases, every available models may not meet CE compliance. Please visit our web site for the latest selection of available models with CE mark.

http://www.smcworld.com



SMC's Global Service Network



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