

Modular F.R.L. Units

▶ Regulator

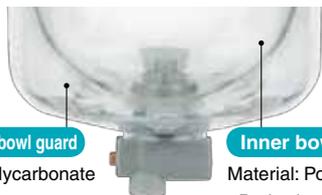
Set pressure: **0.05 to 0.85 MPa**
0.02 to 0.2 MPa

▶ Better visibility & environmental resistance

Double layer design

The bowl is covered with a transparent bowl guard!

- The inside is visible from 360°.
- The bowl is completely protected from the environment. Safety improved



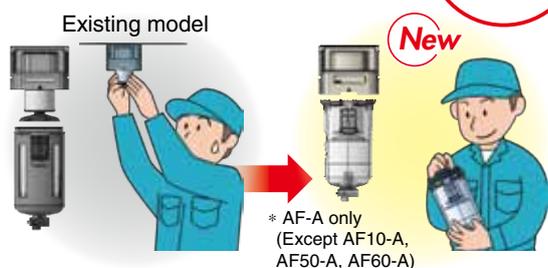
Transparent bowl guard
Material: Polycarbonate

Inner bowl
Material: Polycarbonate
* Body size: 30 or more

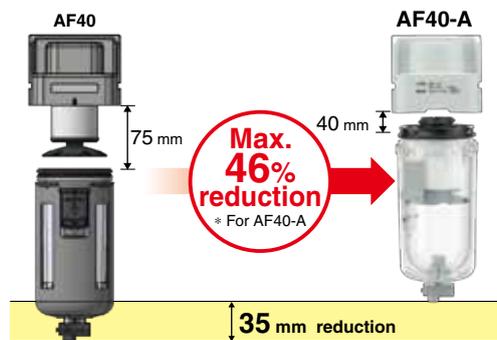
▶ Easy replacement of the element

The element and the bowl are in one piece. Replacement can be done in hand.

Replacement in hand!



▶ Reduced required maintenance space



▶ Selection of pressure gauges



Square embedded type pressure gauge



Round type pressure gauge



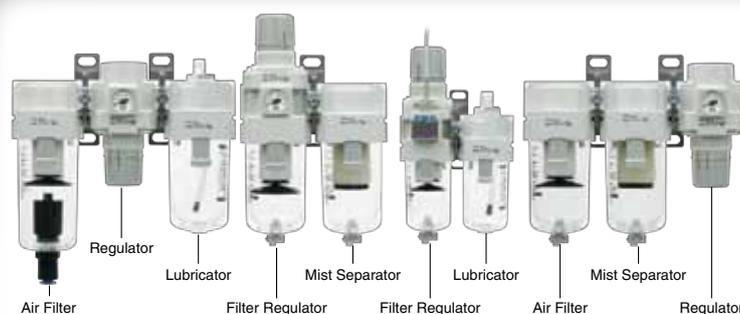
Digital pressure switch

▶ Interchangeability

Interchangeable with the current AR series by panel mounting

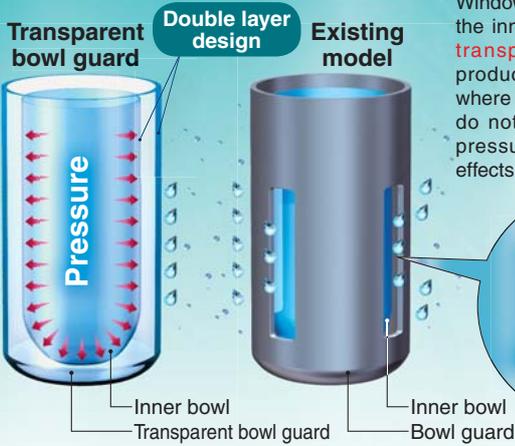


Regulator with backflow function AR□0K is available.



▶ Transparent bowl guard

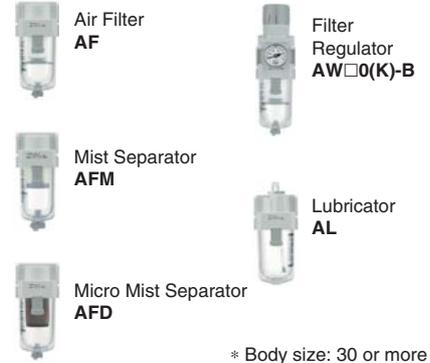
Better environmental resistance:
Transparent bowl guard can protect the inner bowl!



Windows on the bowl guard are abolished and the inner bowl is covered with "polycarbonate transparent bowl guard". Even when the product is used in an ambient environment where it is exposed to chemicals or oil, which do not stick to the bowl where the internal pressure is applied. This can reduce direct effects on the bowl.

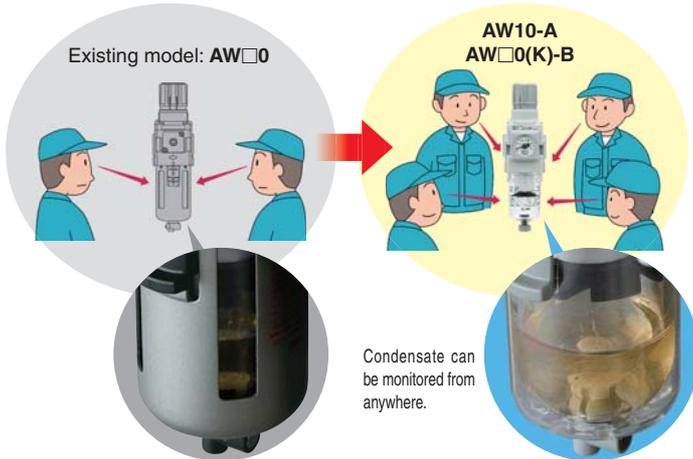
Cracks may occur in a portion where the internal pressure is applied.

Applicable model



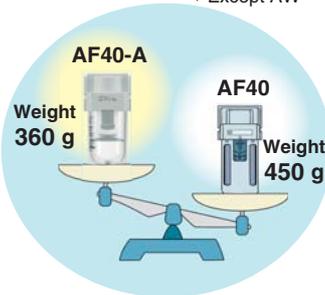
Better visibility: 360°

Use of transparent bowl guard makes it possible to check the condensate inside the filter case and the remaining oil amount in the lubricator from the entire periphery.



Light weight: Max. 90 g reduction

* Except AW



Metal related corrosion does not occur.

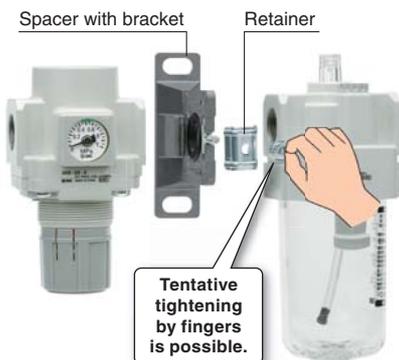


New Spacer

Modular connection

Step ①

- Mount the product by lining up the mating surface of the new spacer with bracket.
- Insert the retainer into the spacer bolt and tighten the nut. (temporary assembling)



Step ②

- Tighten the nut with the hexagon wrench.

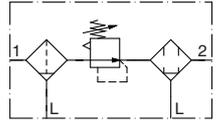
Interchangeable with existing model

- New spacer can be connected to existing AF, AR, AL, AW series.
- Existing spacer can be connected to the New AF□-A, AR□(K)-B, AL□-A, AW□(K)-B series.



AC20D-B to AC40D-B

Symbol



How to Order

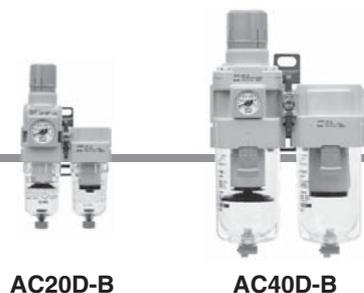
AC **30** D - **03** DE - **01** - **03** - B

① ② ③ ④ ⑤ ⑥

- Option/Semi-standard: Select one each for a to j.
- Option/Attachment/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
Example) AC30D-F03DE1-SV-16NR-B

	Symbol	Description	①				
			Body size				
			20	30	40		
②	Pipe thread type	—	Rc	●	●	●	
		N ^{Note 1)}	NPT	●	●	●	
		F ^{Note 2)}	G	●	●	●	
+							
③	Port size	01	1/8	●	—	—	
		02	1/4	●	●	●	
		03	3/8	—	●	●	
		04	1/2	—	—	●	
		06	3/4	—	—	●	
+							
④ Option ^{Note 3)}	a	Float type auto drain	—	Without auto drain	●	●	●
			C ^{Note 4)}	N.C. (Normally closed) Drain port is closed when pressure is not applied.	●	●	●
			D ^{Note 5)}	N.O. (Normally open) Drain port is open when pressure is not applied.	—	●	●
	+						
	b	Pressure gauge ^{Note 6)}	—	Without pressure gauge	●	●	●
			E	Square embedded type pressure gauge (with limit indicator)	●	●	●
			G	Round type pressure gauge (with limit indicator)	●	●	●
			M	Round type pressure gauge (with colour zone)	●	●	●
		Digital pressure switch	E1	Output: NPN output/Electrical entry: Wiring bottom entry	●	●	●
			E2	Output: NPN output/Electrical entry: Wiring top entry	●	●	●
			E3	Output: PNP output/Electrical entry: Wiring bottom entry	●	●	●
	E4	Output: PNP output/Electrical entry: Wiring top entry	●	●	●		
+							
⑤ Attachment	c	Pressure switch	—	Without attachment	●	●	●
			S ^{Note 7)}	Mounting position: AW+S+AFM	●	●	●
	d	Pressure relief 3 port valve	—	Without attachment	●	●	●
			V	Mounting position: AW+AFM+V	●	●	●
V1 ^{Note 8)}	Mounting position: V+AW□K+AFM	●	●	●			
+							
⑥ Semi-standard	e	Set pressure ^{Note 9)}	—	0.05 to 0.85 MPa setting	●	●	●
			1	0.02 to 0.2 MPa setting	●	●	●
	+						
	f	Bowl ^{Note 10)}	—	Polycarbonate bowl	●	●	●
			2	Metal bowl	●	●	●
			6	Nylon bowl	●	●	●
			8	Metal bowl with level gauge	—	●	●
			C	With bowl guard	●	— ^{Note 11)}	— ^{Note 11)}
			6C	Nylon bowl with bowl guard	●	— ^{Note 12)}	— ^{Note 12)}
	+						
	g	Filter regulator Mist separator drain port ^{Note 13)}	—	With drain cock	●	●	●
			J ^{Note 14)}	Drain guide 1/8	●	—	—
J			Drain guide 1/4	—	●	●	
W ^{Note 15)}			Drain cock with barb fitting: For ø6 x ø4 nylon tube	—	●	●	
+							
h	Exhaust mechanism	—	Relieving type	●	●	●	
		N	Non-relieving type	●	●	●	
+							
i	Flow direction	—	Flow direction: Left to right	●	●	●	
		R	Flow direction: Right to left	●	●	●	

Air Combination Series AC20D-B to AC40D-B



AC20D-B

AC40D-B

		Symbol	Description	①			
				Body size			
				20	30	40	
⑥	Semi-standard	j	Pressure unit	—	●	●	
				Z ^{Note 16)}	○ ^{Note 18)}	○ ^{Note 18)}	○ ^{Note 18)}
				ZA ^{Note 17)}	△ ^{Note 19)}	△ ^{Note 19)}	△ ^{Note 19)}

Note 1) Drain guide is NPT1/8 (applicable to the AC20D-B) and NPT1/4 (applicable to the AC30D-B/AC40D-B). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AC30D-B/AC40D-B).

Note 2) Drain guide is G1/8 (applicable to the AC20D-B) and G1/4 (applicable to the AC30D-B/AC40D-B).

Note 3) Option G, M are not assembled and supplied loose at the time of shipment.

Note 4) When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended.

Note 5) If the compressor is small (0.75 kW, discharge flow is less than 100 L/min [ANR]), air leakage from the drain cock may occur during start of operations. N.C. type is recommended.

Note 6) When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.85 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.

Note 7) The bracket position varies depending on the pressure switch mounting.

Note 8) Make sure that the outlet pressure is released to atmospheric pressure using a pressure gauge.

Note 9) Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

Note 10) Refer to Chemical data on page 46 for chemical resistance of the bowl.

Note 11) A bowl guard is provided as standard equipment (polycarbonate).

Note 12) A bowl guard is provided as standard equipment (nylon).

Note 13) The combination of float type auto drain: C and D

is not available.

Note 14) Without a valve function

Note 15) The combination of metal bowl: 2 and 8 is not available.

Note 16) For pipe thread type: NPT. Cannot be used with M: Round pressure gauge (with colour zone). Available by request for special. The digital pressure switch will be equipped with the unit conversion function, setting to psi initially.

Note 17) For options: E1, E2, E3, E4.

Note 18) ○: For pipe thread type: NPT only

Note 19) △: Select with options: E1, E2, E3, E4.

Standard Specifications

Model		AC20D-B	AC30D-B	AC40D-B	AC40D-06-B
Component	Filter Regulator [AW]	AW20-B	AW30-B	AW40-B	AW40-06-B
	Mist Separator [AFM]	AFM20-A	AFM30-A	AFM40-A	AFM40-06-A
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4
Pressure gauge port size [AW] ^{Note 1)}		1/8			
Fluid		Air			
Ambient and fluid temperature ^{Note 2)}		-5 to 60°C (with no freezing)			
Proof pressure		1.5 MPa			
Maximum operating pressure		1.0 MPa			
Set pressure range [AW]		0.05 to 0.85 MPa			
Nominal filtration rating [AW/AFM]		AW: 5 µm, AFM: 0.3 µm (99.9% filtered particle size)			
Rated flow (L/min(ANR)) [AFM] ^{Note 3)}		150	330	800	800
Outlet side oil mist concentration [AFM] ^{Note 4) Note 5)}		Max. 1.0 mg/m ³ (ANR) (=0.8 ppm)			
Bowl material [AW/AFM]		Polycarbonate			
Bowl guard [AW/AFM]		Semi-standard (Steel)	Standard (Polycarbonate)		
Construction [AW]		Relieving type			
Weight [kg]		0.32	0.62	1.15	1.25

Note 1) Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch.

Note 2) -5 to 50°C for the products with the digital pressure switch

Note 3) Conditions: Mist separator inlet pressure: 0.5 MPa; The rated flow varies depending on the inlet pressure. Keep the air flow within the rated flow to prevent an outflow of lubricant to the outlet side.

Note 4) When the compressor oil mist discharge concentration is 30 mg/m³ (ANR).

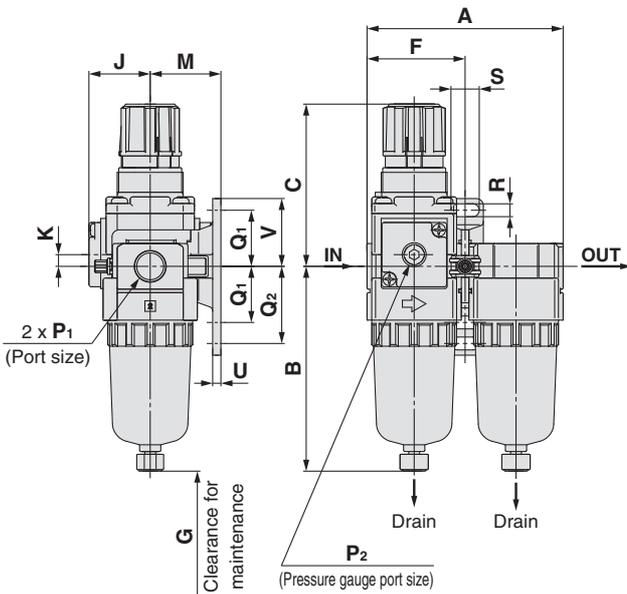
Note 5) Bowl seal and other O-rings are slightly lubricated.

AC
AF+AR+AL
AW+AL
AF+AR
AF+AFM+AR
AW+AFM
Attachment
AF
AFM/AFD
AR
AL
AW

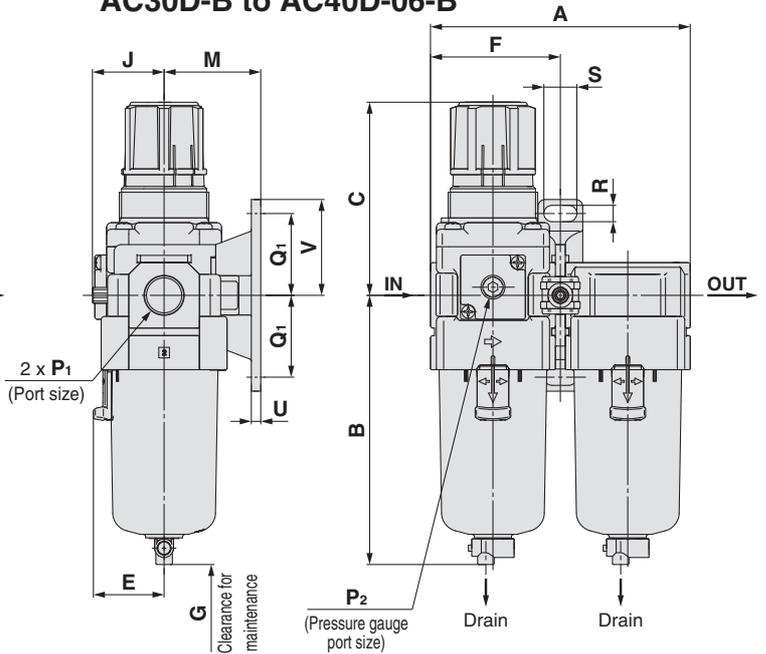
Series AC20D-B to AC40D-B

Dimensions

AC20D-B



AC30D-B to AC40D-06-B



Option	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with colour zone)
Dimensions				

Applicable model	AC20D-B				AC30D-B to AC40D-06-B
Optional/Semi-standard specification	With auto drain (N.C.)	With drain guide	Metal bowl	Metal bowl with drain guide	With auto drain (N.O./N.C.)
Dimensions					

Applicable model	AC30D-B to AC40D-06-B					
Optional/Semi-standard specification	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide	With drain guide	Drain cock with barb fitting
Dimensions						

Model	Standard specifications																
	P ₁	P ₂	A	B	C (Note)	E	F	G	J	K	Bracket mount						
											M	Q ₁	Q ₂	R	S	U	V
AC20D-B	1/8, 1/4	1/8	83.2	87.6	72.4	—	41.6	40	28.5	5	30	24	33	5.5	12	3.5	29
AC30D-B	1/4, 3/8	1/8	110.2	115.1	85.6	30	55.1	50	29.4	3.5	41	35	—	7	14	4	41
AC40D-B	1/4, 3/8, 1/2	1/8	145.2	147.1	91.7	38.4	72.6	75	33.8	1.5	50	40	—	9	18	5	48
AC40D-06-B	3/4	1/8	155.2	149.1	93.2	38.4	77.6	75	33.8	1.2	50	40	—	9	18	5	48

Model	Optional specifications						Semi-standard specifications								
	Square type pressure gauge		Digital pressure switch		Round type pressure gauge		Round type pressure gauge (with colour zone)	With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide	
	H	J	H	J	H	J	H	J	B	B	B	B	B	B	
AC20D-B	□28	27	□27.8	37.5	ø37.5	62.5	ø37.5	63.5	104.9	—	91.4	87.4	93.9	—	
AC30D-B	□28	30	□27.8	40.9	ø37.5	66.9	ø37.5	67.9	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AC40D-B	□28	38.4	□27.8	48.8	ø42.5	75.7	ø42.5	75.7	186.9	155.6	153.9	149.6	154.1	169.6	174.1
AC40D-06-B	□28	38.4	□27.8	48.8	ø42.5	75.7	ø42.5	75.7	188.9	157.6	155.9	151.6	156.1	171.6	176.1

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