

# Modular/F.R.L. Units

## Series AC



Round type pressure gauge (with color zone)

AC

AF□

AR

AL

AW□

A□G

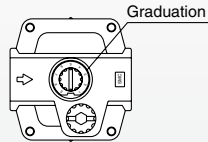
AV

AF800  
AF900

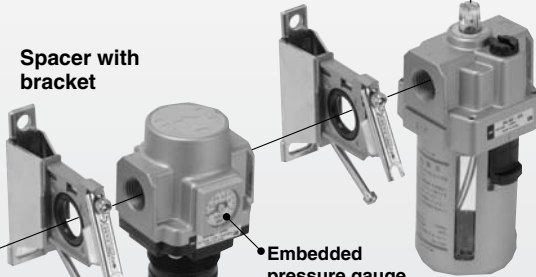


# Modular F.R.L. Units Series AC

Improved visibility for lubricant drip with graduation for lubricant control



Spacer with bracket

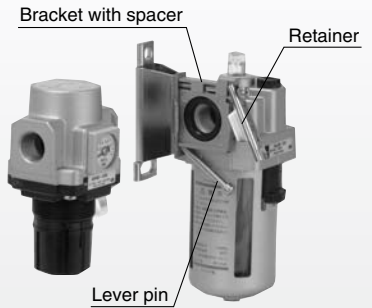


Embedded pressure gauge is a standard feature.

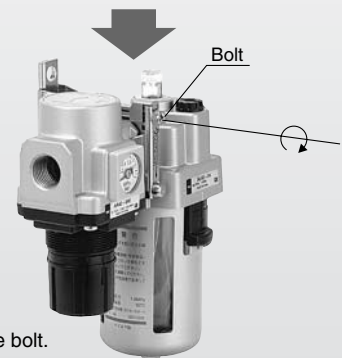
- Ozone resistant rubber material (HNBR)
- Improved relief sensitivity

• Float type auto drain with excellent operability is used for compact models (AF10/20). Drain cock is easy-to-use rotary type.

## Improved installation



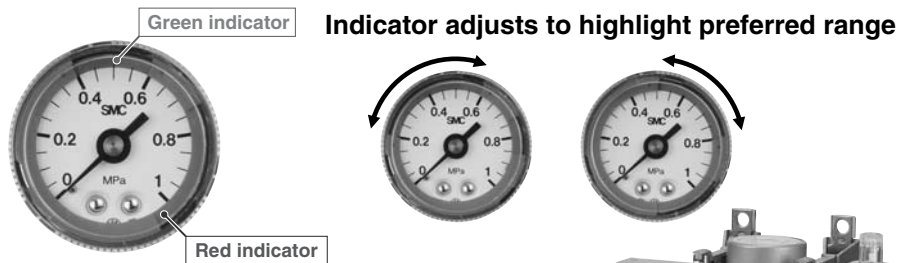
- ① Attach the component into the fitting of the spacer with bracket.
- ② Lock the lever pin into the retainer. (temporary installation)



- ③ Tighten the bolt.

## Round type pressure gauge (with color zone) type

■ Red and green zones offer improved visibility of pressure control range.



- Filter Regulator AW20(K) to 60(K)
- Mist Separator Regulator AWM20 to 40
- Micro Mist Separator Regulator AWD20 to 40








- Regulator AR20(K) to 60(K)



- F.R.L. Unit  
AC20 to 60 (AF + AR + AL)  
AC20A to 60A (AW + AL)  
AC20B to 60B (AF + AR)  
AC20C to 40C (AF + AFM + AR)  
AC20D to 40D (AW + AFM)

## Series Configuration

Product	Model	Port size							Page
		M5 x 0.8	1/8	1/4	3/8	1/2	3/4	1	
<b>Air Filter + Regulator + Lubricator</b> <b>AF AR AL</b> 	AC10	●							300
	AC20		●	●					
	AC25			●	●				
	AC30			●	●				
	AC40			●	●	●			
	AC40-06						●		
	AC50						●	●	
	AC55							●	
	AC60							●	
<b>Filter Regulator + Lubricator</b> <b>AW AL</b> 	AC10A	●							306
	AC20A		●	●					
	AC30A			●	●				
	AC40A			●	●	●			
	AC40A-06						●		
	AC50A						●	●	
	AC60A							●	
<b>Air Filter + Regulator</b> <b>AF AR</b> 	AC10B	●							310
	AC20B		●	●					
	AC25B			●	●				
	AC30B			●	●				
	AC40B			●	●	●			
	AC40B-06						●		
	AC50B						●	●	
	AC55B							●	
	AC60B							●	
<b>Air Filter + Mist Separator + Regulator</b> <b>AF AFM AR</b> 	AC20C		●	●					314
	AC25C			●	●				
	AC30C			●	●				
	AC40C			●	●	●			
	AC40C-06						●		
<b>Filter Regulator + Mist Separator</b> <b>AW AFM</b> 	AC20D		●	●					318
	AC30D			●	●				
	AC40D			●	●	●			
	AC40D-06						●		

Air Combination

AC

AF□

AR

AL






AW□

A□G






AV

AF800  
AF900

## Series Configuration

Product	Model	Port size							Page
		M5 x 0.8	1/8	1/4	3/8	1/2	3/4	1	
<b>Air Filter</b> 	<b>AF</b>	<b>AF10</b>	●						327
	<b>AF20</b>		●	●					
	<b>AF30</b>			●	●				
	<b>AF40</b>			●	●	●			
	<b>AF40-06</b>						●		
	<b>AF50</b>						●	●	
	<b>AF60</b>							●	
<b>Mist Separator</b> 	<b>AFM</b>	<b>AFM20</b>		●	●				338
	<b>AFM30</b>			●	●				
	<b>AFM40</b>			●	●	●			
	<b>AFM40-06</b>						●		
<b>Micro Mist Separator</b> 	<b>AFD</b>	<b>AFD20</b>		●	●				338
	<b>AFD30</b>			●	●				
	<b>AFD40</b>			●	●	●			
	<b>AFD40-06</b>						●		
<b>Regulator</b> 	<b>AR</b>	<b>AR10</b>	●						345
	<b>AR20</b>		●	●					
	<b>AR25</b>			●	●				
	<b>AR30</b>			●	●				
	<b>AR40</b>			●	●	●			
	<b>AR40-06</b>						●		
	<b>AR50</b>						●	●	
<b>AR60</b>							●		
<b>Regulator with Backflow Function</b> 	<b>AR□K</b>	<b>AR20K</b>		●	●				345
	<b>AR25K</b>			●	●				
	<b>AR30K</b>			●	●				
	<b>AR40K</b>			●	●	●			
	<b>AR40K-06</b>						●		
	<b>AR50K</b>						●	●	
<b>AR60K</b>							●		

## Series Configuration

Product	Model	Port size							Page
		M5 x 0.8	1/8	1/4	3/8	1/2	3/4	1	
<b>Lubricator</b> 	AL10	●							357
	AL20		●	●					
	AL30			●	●				
	AL40			●	●	●			
	AL40-06						●		
	AL50						●	●	
	AL60							●	
<b>Filter Regulator</b> 	AW10	●						365	
	AW20		●	●					
	AW30			●	●				
	AW40			●	●	●			
	AW40-06						●		
	AW60						●		●
<b>Filter Regulator with Backflow Function</b> 	AW20K		●	●				365	
	AW30K			●	●				
	AW40K			●	●	●			
	AW40K-06						●		
	AW60K						●		●
<b>Mist Separator Regulator</b> 	AWM20		●	●				378	
	AWM30			●	●				
	AWM40			●	●	●			
<b>Micro Mist Separator Regulator</b> 	AWD20		●	●				378	
	AWD30			●	●				
	AWD40			●	●	●			

## Simple Specials System

A system designed to respond quickly and easily to your special ordering needs.

Simple  
**S**pecials  
 System

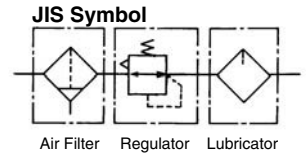
### Short lead times

This system enables us to respond to your special needs, such as additional machining, accessory assembly, or modular unit, and deliver such special products as quickly as standard products.

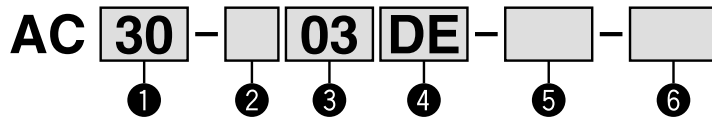
### Repeat orders

Once we receive a Simple Special part number from your previous order, we will process the order, manufacture the product, and deliver it to you.

# AC10 to AC60



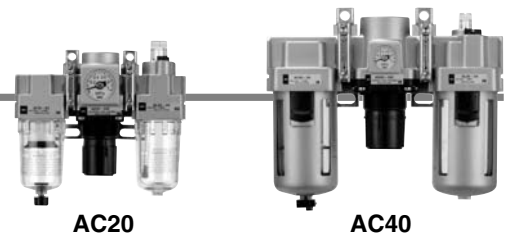
## How to Order



- Option/Semi-standard: Select one each for a to m.
- Option/Attachment/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.  
Example) AC30-F03DE1-KSTV-136NR

		Symbol	Description	①								
				Body size								
				10	20	25	30	40	50	55	60	
②	Thread type	Nil	Metric thread (M5)	●	—	—	—	—	—	—	—	
		N <sup>Note 1)</sup>	Rc	—	●	●	●	●	●	●	●	
		F <sup>Note 2)</sup>	NPT	—	●	●	●	●	●	●	●	
			G	—	●	●	●	●	●	●	●	
+												
③	Port size	M5	M5	●	—	—	—	—	—	—	—	
		01	1/8	—	●	—	—	—	—	—	—	
		02	1/4	—	●	●	●	—	—	—	—	
		03	3/8	—	—	●	●	●	—	—	—	
		04	1/2	—	—	—	—	●	—	—	—	
		06	3/4	—	—	—	—	—	●	●	—	—
		10	1	—	—	—	—	—	—	●	●	●
+												
④	a	Float type auto drain	Nil	Without auto drain	●	●	●	●	●	●	●	
			C	Float type auto drain (N.C.)	●	●	●	●	●	●	●	
			D	Float type auto drain (N.O.)	—	—	●	●	●	●	●	
	+											
	b	Pressure gauge	Nil	Without pressure gauge	●	●	●	●	●	●	●	●
			E	Square embedded type pressure gauge (with limit indicator)	—	●	●	●	●	●	●	●
			G	Round type pressure gauge (without limit indicator)	●	—	—	—	—	—	—	
			M	Round type pressure gauge (with color zone)	—	●	●	●	●	●	●	
		Digital pressure switch	E1	Output: NPN output / Electrical entry: Wiring bottom entry	—	●	●	●	●	●	●	●
			E2	Output: NPN output / Electrical entry: Wiring top entry	—	●	●	●	●	●	●	●
	+											
	⑤	c	Check valve	Nil	Without attachment	●	●	●	●	●	●	●
K				Mounting position: AF+AR+K+AL	—	●	●	●	● <sup>Note 4)</sup>	—	—	—
+												
d		Pressure switch	Nil	Without attachment	●	●	●	●	●	●	●	●
			S <sup>Note 5)</sup>	Mounting position: AF+AR+S+AL	—	●	●	●	●	●	●	●
+												
e	T-interface	Nil	Without attachment	●	●	●	●	●	●	●	●	
		T <sup>Note 5)</sup>	Mounting position: AF+T+AR+AL	●	●	●	●	●	●	●	●	
+												
f	3-port valve for residual pressure release	Nil	Without attachment	●	●	●	●	●	●	●	●	
		V	Mounting position: AF+AR+AL+V	—	●	●	●	●	—	—	—	
+												
⑥	g	Set pressure	Nil	0.05 to 0.85 MPa setting	●	●	●	●	●	●	●	
			1 <sup>Note 6)</sup>	0.02 to 0.2 MPa setting	●	●	●	●	●	●	●	
	+											
	h	Bowl <sup>Note 7)</sup>	Nil	Polycarbonate bowl	●	●	●	●	●	●	●	●
			2	Metal bowl	●	●	●	●	●	●	●	●
			6	Nylon bowl	●	●	●	●	●	●	●	●
			8	Metal bowl with level gauge	—	—	●	●	●	●	●	●
			C	With bowl guard	—	●	—	—	—	—	—	—
6C			Nylon bowl with bowl guard	—	●	—	—	—	—	—	—	

# Air Combination Series AC10 to AC60



		Symbol	Description	①								
				Body size								
				10	20	25	30	40	50	55	60	
⑥	i	Filter drain port <small>Note 8)</small>	Nil	With drain cock	●	●	●	●	●	●	●	●
			J <small>Note 9)</small>	Drain guide 1/8	—	●	—	—	—	—	—	—
			—	Drain guide 1/4	—	—	●	●	●	●	●	●
			W <small>Note 10)</small>	Drain cock with barb fitting: For ø6 x ø4 nylon tube	—	—	●	●	●	●	●	●
	+											
	j	Lubricator lubricant exhaust port	Nil	Without drain cock	●	●	●	●	●	●	●	●
			3 <small>Note 11)</small>	Lubricator with drain cock	●	●	●	●	●	●	●	●
	+											
	k	Exhaust mechanism	Nil	Relieving type	●	●	●	●	●	●	●	●
			N	Non-relieving type	●	●	●	●	●	●	●	●
	+											
	l	Flow direction	Nil	Flow direction: Left to right	●	●	●	●	●	●	●	●
R			Flow direction: Right to left	●	●	●	●	●	●	●	●	
+												
m	Pressure unit	Nil	Name plate and pressure gauge in imperial units: MPa	●	●	●	●	●	●	●	●	
		Z <small>Note 12)</small>	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	○ <small>Note 14)</small>	○ <small>Note 14)</small>	○ <small>Note 14)</small>	○ <small>Note 14)</small>	○ <small>Note 14)</small>	○ <small>Note 14)</small>	○ <small>Note 14)</small>	○ <small>Note 14)</small>	
		ZA <small>Note 13)</small>	Digital pressure switch: With unit conversion function	—	△ <small>Note 15)</small>	△ <small>Note 15)</small>	△ <small>Note 15)</small>	△ <small>Note 15)</small>	△ <small>Note 15)</small>	△ <small>Note 15)</small>	△ <small>Note 15)</small>	

- Note 1) Drain guide is NPT1/8 (applicable to the AC20) and NPT1/4 (applicable to the AC25 to AC60). The auto drain port comes with ø3/8" one-touch fitting (applicable to the AC25 to AC60).
- Note 2) Drain guide is G1/8 (applicable to the AC20) and G1/4 (applicable to the AC25 to AC60).
- Note 3) Option G, M are not assembled and supplied loose at the time of shipment.
- Note 4) Not available with piping port size: 06.
- Note 5) The bracket position varies depending on the T-interface or pressure switch mounting.

- 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) Refer to Chemical Data on page 287 when selecting a case material.
- Note 8) Float type auto drain: The combination of C and D is not possible.
- Note 9) Without a valve function
- Note 10) Metal bowl: The combination of 2 and 8 is not possible.
- Note 11) Filter drain port: When choosing with W, the drain cock of a lubricator will be with barb fittings.

- Note 12) 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. MPa and psi are shown together on the pressure unit.
- Note 13) 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 14) ○: For thread type: M5 and NPT only
- Note 15) △: Select with options: E1, E2, E3, E4.

## Standard Specifications

Model	AC10	AC20	AC25	AC30	AC40	AC40-06	AC50	AC55	AC60	
Component	Air filter	AF10	AF20	AF30	AF30	AF40	AF40-06	AF50	AF60	AF60
	Regulator	AR10	AR20	AR25	AR30	AR40	AR40-06	AR50	AR60	AR60
	Lubricator	AL10	AL20	AL30	AL30	AL40	AL40-06	AL50	AL60	AL60
Port size	M5 x 0.8	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1	1	
Pressure gauge port size <small>Note 1)</small>	1/16		1/8				1/4			
Fluid	Air									
Ambient and fluid temperature <small>Note 2)</small>	-5 to 60°C (with no freezing)									
Proof pressure	1.5 MPa									
Max. operating pressure	1.0 MPa									
Set pressure range	0.05 to 0.7 MPa	0.05 to 0.85 MPa								
Relief pressure	Set pressure + 0.05 MPa <small>Note 3)</small> [at relief flow rate of 0.1 l/min (ANR)]									
Nominal filtration rating	5 µm									
Recommended lubricant	Class 1 turbine oil (ISO VG32)									
Bowl material	Polycarbonate									
Bowl guard	—	Semi-standard	Standard							
Regulator construction	Relieving type									
Mass (kg)	0.27	0.73	0.91	1.00	1.74	1.95	4.17	4.25	4.34	

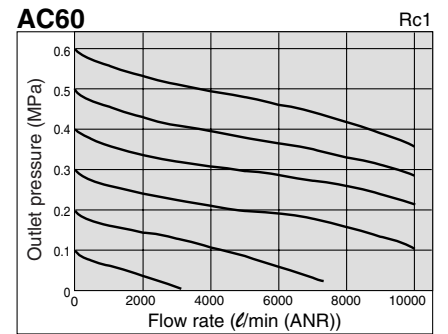
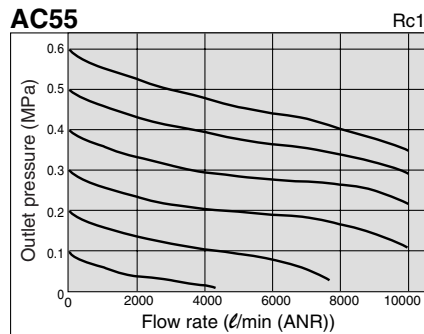
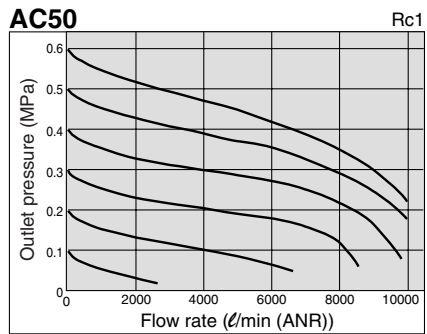
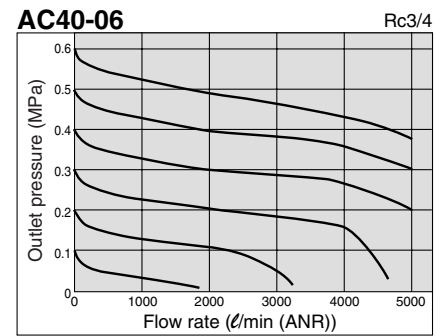
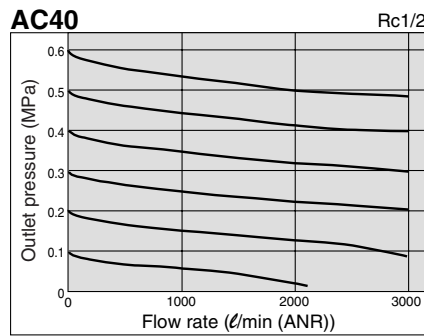
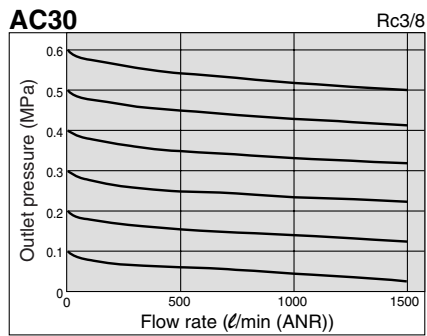
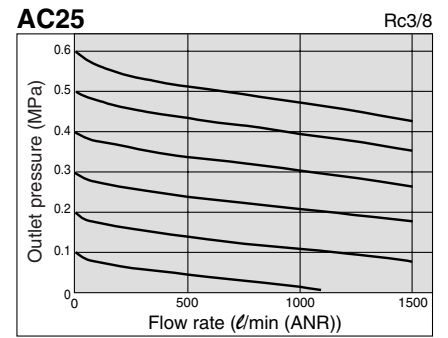
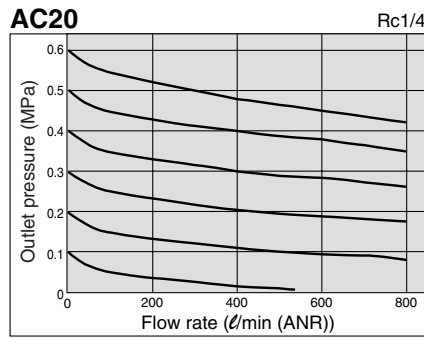
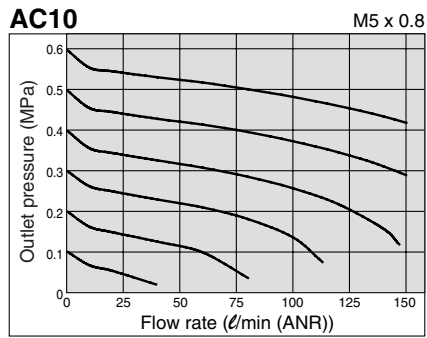
- Note 1) Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch (AC20 to AC60).
- Note 2) -5 to 50°C for the products with the digital pressure switch
- Note 3) Not applicable to the AC10.

- AC
- AF□
- AR
- AL
- AW□
- A□G
- AV
- AF800
- AF900

# Series AC10 to AC60

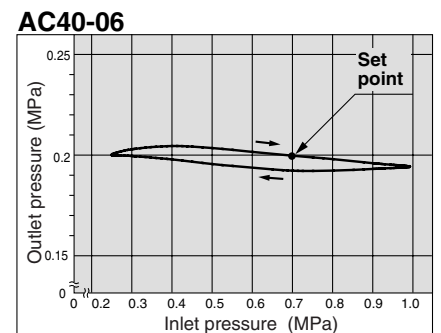
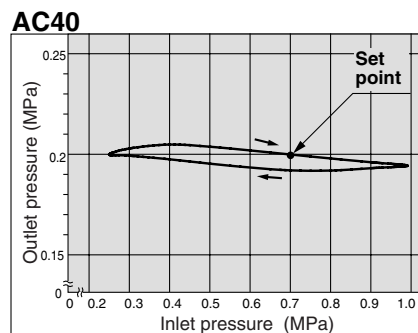
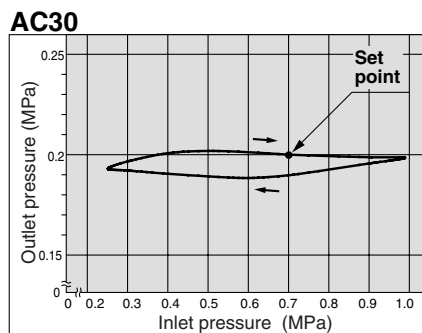
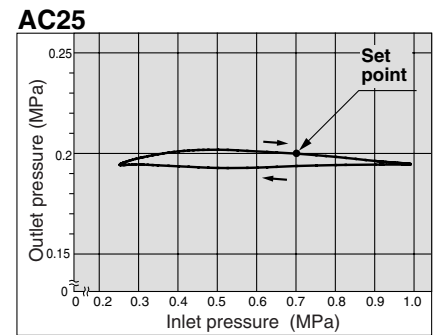
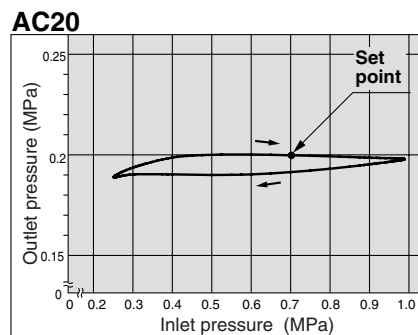
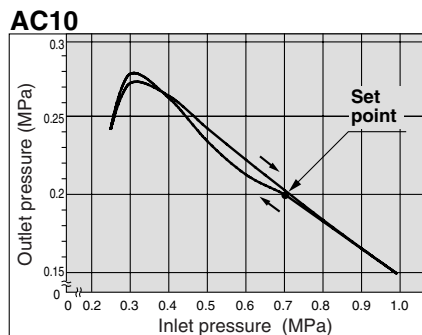
## Flow Characteristics (Representative values)

Condition: Inlet pressure 0.7 MPa



## Pressure Characteristics (Representative values)

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

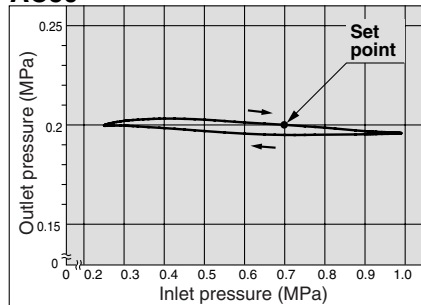




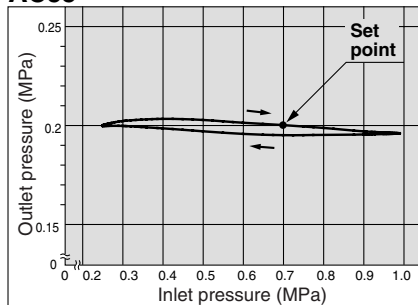
## Pressure Characteristics (Representative values)

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

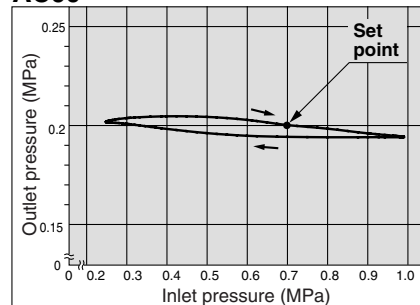
**AC50**



**AC55**



**AC60**



## ⚠ Specific Product Precautions

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

### Mounting and Adjustment

#### ⚠ Caution

1. A knob cover is available to prevent careless operation of the knob. Refer to page 389 for details.

### Piping

#### ⚠ Warning

1. When mounting a check valve, make sure the arrow (IN side) points in the correct direction of air flow.

### Air Supply

#### ⚠ Caution

1. Use an air filter with 5 μm or less filtration rating on the inlet side of the valve to avoid any damage to the seat caused by dust when mounting a 3-port valve for residual pressure release on the inlet side.

### Selection

#### ⚠ Warning

1. Float type auto drain
  - Operate under the following conditions to avoid malfunction.
  - <N.O. type>
    - Operating compressor: 0.75 kW (100 ℓ/min (ANR)) or more.
    - When using 2 or more auto drains, multiply the value above by the number of auto drains to find the capacity of the compressors you will need.
    - For example, when using 2 auto drains, 1.5 kW (200 ℓ/min (ANR)) of the compressor capacity is required.
  - Operating pressure: 0.1 MPa or more.
- <N.C. type>
  - Operating pressure for AD17/27: 0.1 MPa or more.
  - Operating pressure for AD37/47: 0.15 MPa or more.
2. Use a regulator or filter regulator with backflow function when mounting a 3-port valve for residual pressure release on the IN side to ensure the release of the residual pressure. Otherwise, residual pressure will not be fully released.

#### ⚠ Caution

1. When releasing air at the intermediate position using a T-interface on the inlet side of the lubricator, lubricant may back flow. Therefore, releasing air that does not contain traces of lubricant is not possible.
  - To release air that does not contain traces of lubricant, use a check valve (AKM series) on the inlet side of the lubricator to prevent a backflow of the lubricant.
2. If a residual pressure-release 3-port valve is mounted on the inlet side of the lubricator, causing a backflow of air, it can result in a backflow of oil or damage to internal parts. Please do not use it in this fashion.
3. An F.R.L. unit shipped from the plant has its model number labeled. However, components that are combined together during the distribution process do not have a label on them.

**AC**

**AF** □

**AR**

**AL**

**AW** □

**A** □ **G**

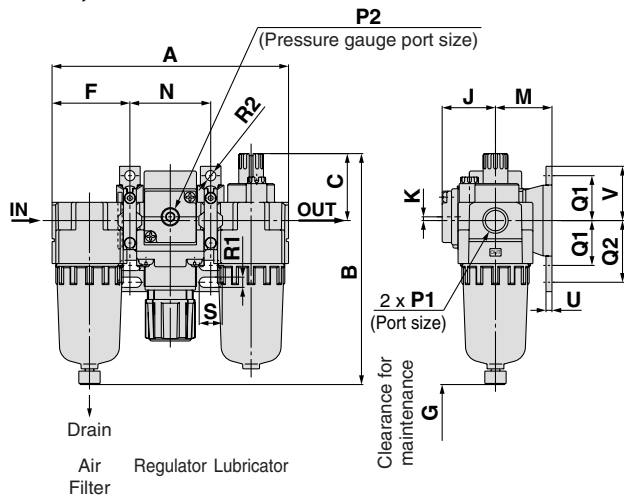
**AV**

**AF800**  
**AF900**

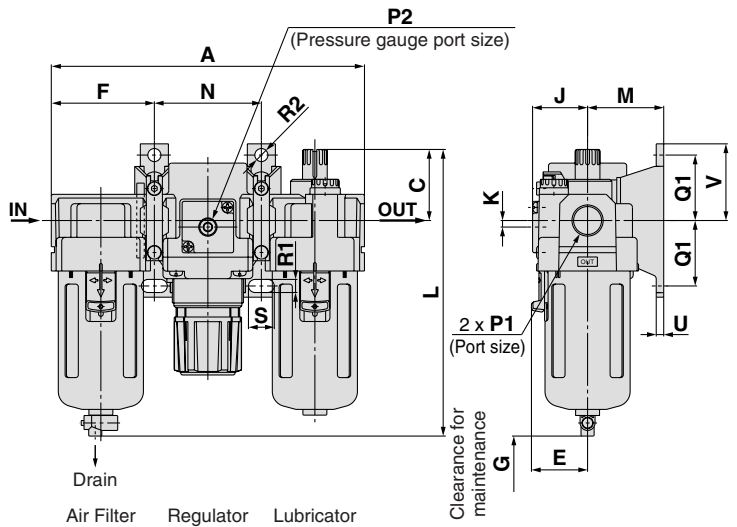
# Series AC10 to AC60

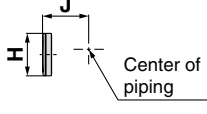
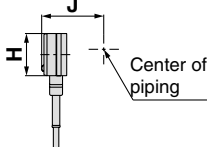
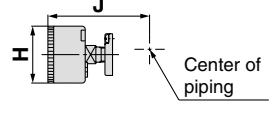
## Dimensions

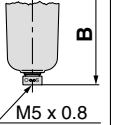
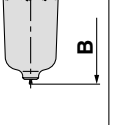
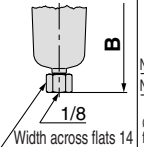
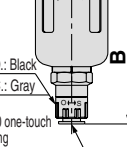
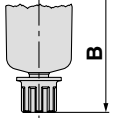
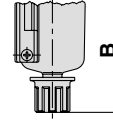
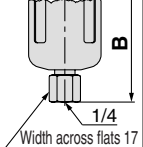
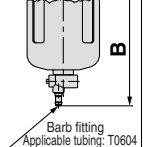
### AC10, AC20



### AC25 to AC60



Applicable model	AC20 to AC60		AC10 to AC60	AC20 to AC60
Option	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with color zone)
Dimensions				

Applicable model	AC10, AC20		AC20	AC25 to AC60				
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting
Dimensions								

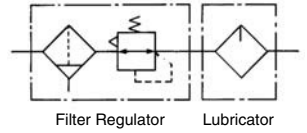
Model	Standard specifications										Optional specifications							
	P1	P2	A	B	C	E	F	G	J	K	Square type pressure gauge		Digital pressure switch		Round type pressure gauge		Round type pressure gauge (with color zone)	
AC10	M5 x 0.8	1/16	87	85	26	—	28	35	13	0	—	—	—	—	ø26	26	—	—
AC20	1/8, 1/4	1/8	126	123	36	—	41.5	60	28.5	2 (Note)	□28	29.5	□27.8	40	ø37.5	65	ø37.5	65
AC25	1/4, 3/8	1/8	167	153	38	30	55	80	27.5	0	□28	28.5	□27.8	39	ø37.5	64	ø37.5	64
AC30	1/4, 3/8	1/8	167	153	38	30	55	80	29.5	3.5	□28	30.5	□27.8	41	ø37.5	66	ø37.5	66
AC40	1/4, 3/8, 1/2	1/4	220	187	40	38	72.5	110	34	3.5	□28	35	□27.8	45	ø42.5	74	ø42.5	74
AC40-06	3/4	1/4	235	187	38	38	77.5	110	34	3	□28	35	□27.8	45	ø42.5	74	ø42.5	74
AC50	3/4, 1	1/4	282	264	43	45	93	110	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84
AC55	1	1/4	292	279	45	47.5	98	110	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84
AC60	1	1/4	297	280	46	47.5	98	110	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84

Model	Optional specifications										Semi-standard specifications				
	Bracket mount										With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge
	M	N	Q1	Q2	R1	R2	S	U	V		B	B	B	B	B
AC10	25	31	20	27	4.5	ø4.5	7	2.8	24.5		104	—	—	85	—
AC20	30	43	24	33	5.5	ø5.5	12	3.2	29		141	—	127	123	—
AC25	41	57	35	—	7	ø7	14	4	41		194	161	160	166	186
AC30	41	57	35	—	7	ø7	14	4	41		194	161	160	166	186
AC40	50	75	40	—	9	ø9	18	4	48		226	195	194	200	220
AC40-06	50	80	40	—	9	ø9	18	4.6	48		226	195	194	200	220
AC50	70	96	50	—	11	ø11	20	6.4	60		303	272	271	276	296
AC55	70	96	50	—	11	ø11	20	6.4	60		318	287	286	292	312
AC60	70	101	50	—	11	ø11	20	6.4	60		319	288	287	293	313

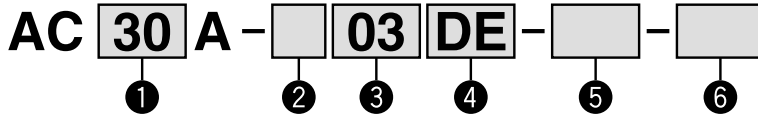
Note) For the AC20 only, the position of the pressure gauge is above the center of the piping.

# AC10A to AC60A

JIS Symbol



## How to Order



- Option/Semi-standard: Select one each for a to l.
- Option/Attachment/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.  
Example) AC30A-F03DE1-KSV-136NR

		Symbol	Description	①						
				Body size						
				10	20	30	40	50	60	
②	Thread type	Nil	Metric thread (M5)	●	—	—	—	—	—	
		N <sup>Note 1)</sup>	Rc	—	●	●	●	●	●	
		F <sup>Note 2)</sup>	NPT	—	●	●	●	●	●	
			G	—	●	●	●	●	●	
+										
③	Port size	M5	M5	●	—	—	—	—	—	
		01	1/8	—	●	—	—	—	—	
		02	1/4	—	●	●	—	—	—	
		03	3/8	—	—	●	●	—	—	
		04	1/2	—	—	—	●	—	—	
		06	3/4	—	—	—	—	●	—	
		10	1	—	—	—	—	●	●	
+										
④	a	Float type auto drain	Nil	Without auto drain	●	●	●	●	●	●
			C	Float type auto drain (N.C.)	●	●	●	●	●	●
			D	Float type auto drain (N.O.)	—	—	●	●	●	●
	+									
	b	Pressure gauge	Nil	Without pressure gauge	●	●	●	●	●	●
			E	Square embedded type pressure gauge (with limit indicator)	—	●	●	●	●	●
			G	Round type pressure gauge (without limit indicator)	●	—	—	—	—	—
				Round type pressure gauge (with limit indicator)	—	●	●	●	●	●
		Digital pressure switch	M	Round type pressure gauge (with color zone)	—	●	●	●	●	●
			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	c	Check valve	Nil	Without attachment	●	●	●	●	●	
			K	Mounting position: AW+K+AL	—	●	●	● <sup>Note 4)</sup>	—	—
	+									
	d	Pressure switch	Nil	Without attachment	●	●	●	●	●	●
			S <sup>Note 5)</sup>	Mounting position: AW+S+AL	—	●	●	●	●	●
+										
e	3-port valve for residual pressure release	Nil	Without attachment	●	●	●	●	●	●	
		V	Mounting position: AW+AL+V	—	●	●	●	●	—	
+										
⑥	f	Set pressure	Nil	0.05 to 0.85 MPa setting	●	●	●	●	●	●
			1 <sup>Note 6)</sup>	0.02 to 0.2 MPa setting	●	●	●	●	●	●
	+									
	g	Bowl <sup>Note 7)</sup>	Nil	Polycarbonate bowl	●	●	●	●	●	●
			2	Metal bowl	●	●	●	●	●	●
			6	Nylon bowl	●	●	●	●	●	●
			8	Metal bowl with level gauge	—	—	●	●	●	●
			C	With bowl guard	—	●	—	—	—	—
	6C	Nylon bowl with bowl guard	—	●	—	—	—	—		
	+									
h	Filter regulator drain port <sup>Note 8)</sup>	Nil	With drain cock	●	●	●	●	●	●	
		J <sup>Note 9)</sup>	Drain guide 1/8	—	●	—	—	—	—	
			Drain guide 1/4	—	—	●	●	●	●	
		W <sup>Note 10)</sup>	Drain cock with barb fitting: For ø6 x ø4 nylon tube	—	—	●	●	●	●	

# Air Combination Series AC10A to AC60A



		Symbol	Description	①						
				Body size						
				10	20	30	40	50	60	
6	Semi-standard	i	Lubricator lubricant exhaust port	Nil	Without drain cock					
			3	Lubricator with drain cock						
		j	Exhaust mechanism	+						
				Nil	Relieving type					
		N	Non-relieving type							
		k	Flow direction	+						
	Nil			Flow direction: Left to right						
	R	Flow direction: Right to left								
	l	Pressure unit	+							
			Nil	Name plate and pressure gauge in imperial units: MPa						
			Z <sup>Note 11)</sup>	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F						
			ZA <sup>Note 12)</sup>	Digital pressure switch: With unit conversion function						
				●	●	●	●	●	●	
				○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	
				—	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	

Note 1) Drain guide is NPT1/8 (applicable to the AC20A) and NPT1/4 (applicable to the AC30A to AC60A). The auto drain port comes with ø3/8" one-touch fitting (applicable to the AC30A to AC60A).

Note 2) Drain guide is G1/8 (applicable to the AC20A) and G1/4 (applicable to the AC30A to AC60A).

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

Note 4) Not available with piping port size: 06.

Note 5) The bracket position varies depending on the pressure switch mounting.

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

Note 8) Float type auto drain: The combination of C and D is not possible.

Note 9) Without a valve function

Note 10) Metal bowl: The combination of 2 and 8 is not possible.

Note 11) 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. MPa and psi are shown together on the pressure unit.

Note 12) 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 13) ○: For thread type: M5 and NPT only

Note 14) △: Select with options: E1, E2, E3, E4.

## Standard Specifications

Model		AC10A	AC20A	AC30A	AC40A	AC40A-06	AC50A	AC60A
Component	Filter regulator	AW10	AW20	AW30	AW40	AW40-06	AW60	AW60
	Lubricator	AL10	AL20	AL30	AL40	AL40-06	AL50	AL60
Port size		M5 x 0.8	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Pressure gauge port size <sup>Note 1)</sup>		1/16	1/8		1/4			
Fluid		Air						
Ambient and fluid temperature <sup>Note 2)</sup>		-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		Set pressure + 0.05 MPa <sup>Note 3)</sup> [at relief flow rate of 0.1 ℓ/min (ANR)]						
Nominal filtration rating		5 μm						
Recommended lubricant		Class 1 turbine oil (ISO VG32)						
Bowl material		Polycarbonate						
Bowl guard		—	Semi-standard	Standard				
Regulator construction		Relieving type						
Mass (kg)		0.20	0.59	0.75	1.41	1.46	3.33	3.40

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 (AC20A to AC60A).

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

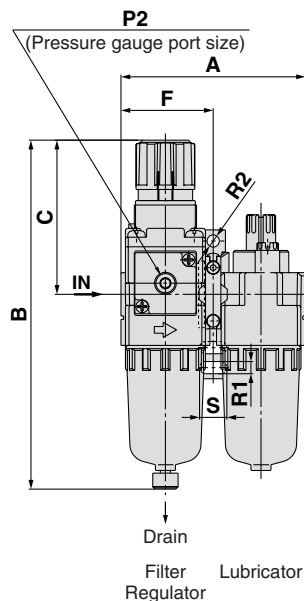
Note 3) Not applicable to the AC10A.

AC  
AF□  
AR  
AL  
AW□  
A□G  
AV  
AF800  
AF900

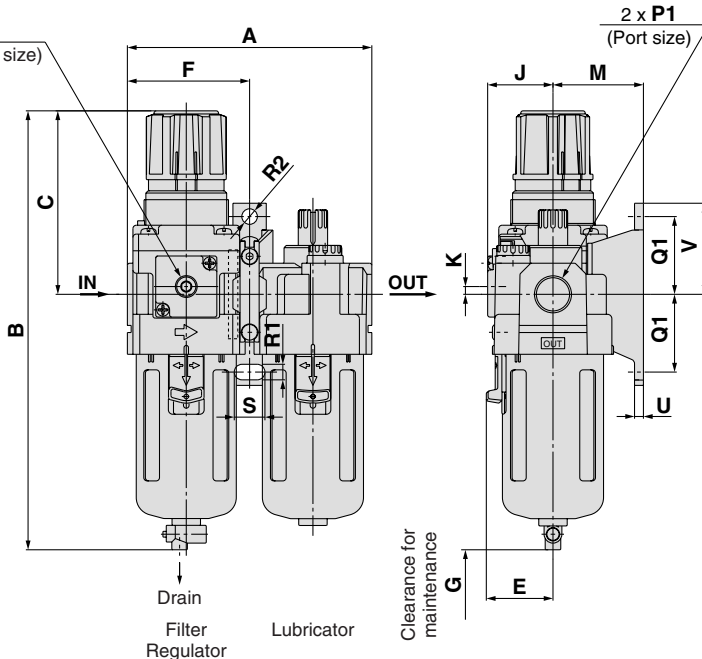
# Series AC10A to AC60A

## Dimensions

### AC10A, AC20A



### AC30A to AC60A



Applicable model	AC20A to AC60A		AC10A to AC60A	AC20A to AC60A
Option	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with color zone)
Dimensions				

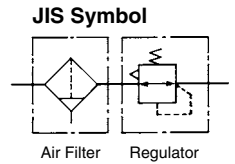
Applicable model	AC10A, AC20A		AC20A	AC30A to AC60A				
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting
Dimensions								

Model	Standard specifications										Optional specifications							
	P1	P2	A	B (Note)	C	E	F	G	J	K	Square type pressure gauge H	J	Digital pressure switch H	J	Round type pressure gauge H	J	Round type pressure gauge (with color zone) H	J
AC10A	M5 x 0.8	1/16	56	108	48	—	28	35	13	0	—	—	—	—	ø26	26	—	—
AC20A	1/8, 1/4	1/8	83	160	73	—	41.5	60	26	5	□28	27	□27.8	37.5	ø37.5	63	ø37.5	63
AC30A	1/4, 3/8	1/8	110	201	86	30	55	80	29.5	3.5	□28	30.5	□27.8	41	ø37.5	66	ø37.5	66
AC40A	1/4, 3/8, 1/2	1/4	145	239	92	38	72.5	110	37.5	1.5	□28	38.5	□27.8	49	ø42.5	76	ø42.5	76
AC40A-06	3/4	1/4	155	242	93	38	77.5	110	37.5	1.2	□28	38.5	□27.8	49	ø42.5	76	ø42.5	76
AC50A	3/4, 1	1/4	191	409	175	—	98	110	43.5	3.2	□28	44.5	□27.8	61.5	ø42.5	84	ø42.5	84
AC60A	1	1/4	196	409	175	—	98	110	43.5	3.2	□28	44.5	□27.8	61.5	ø42.5	84	ø42.5	84

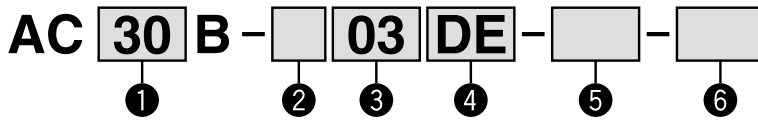
Model	Optional specifications									Semi-standard specifications				
	Bracket mount									With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge
	M	Q1	Q2	R1	R2	S	U	V		B	B	B	B	B
AC10A	25	20	27	4.5	ø4.5	7	2.8	24.5		125	—	—	107	—
AC20A	30	24	33	5.5	ø5.5	12	3.2	29		177	—	164	160	—
AC30A	41	35	—	7	ø7	14	4	41		242	209	208	214	234
AC40A	50	40	—	9	ø9	18	4	48		278	247	246	252	272
AC40A-06	50	40	—	9	ø9	18	4.6	48		282	251	249	255	275
AC50A	70	50	—	11	ø11	20	6.4	60		448	417	416	422	442
AC60A	70	50	—	11	ø11	20	6.4	60		448	417	416	422	442

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

# AC10B to AC60B



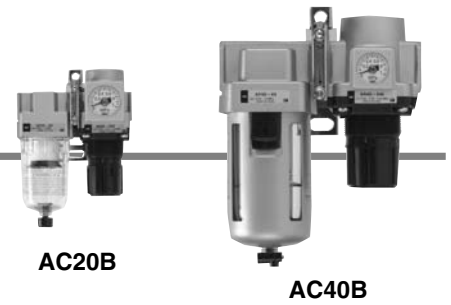
## How to Order



- 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) AC30B-F03DE1-SV-16NR

		Symbol	Description	①								
				Body size								
				10	20	25	30	40	50	55	60	
②	Thread type	Nil	Metric thread (M5)	●	—	—	—	—	—	—	—	
		N <sup>Note 1)</sup>	Rc	—	●	●	●	●	●	●	●	
		F <sup>Note 2)</sup>	NPT	—	●	●	●	●	●	●	●	
			G	—	●	●	●	●	●	●	●	
+												
③	Port size	M5	M5	●	—	—	—	—	—	—	—	
		01	1/8	—	●	—	—	—	—	—	—	
		02	1/4	—	●	●	●	—	—	—	—	
		03	3/8	—	—	●	●	—	—	—	—	
		04	1/2	—	—	—	—	●	—	—	—	
		06	3/4	—	—	—	—	—	●	●	—	—
		10	1	—	—	—	—	—	—	●	●	●
+												
④	a	Float type auto drain	Nil	Without auto drain	●	●	●	●	●	●	●	
			C	Float type auto drain (N.C.)	●	●	●	●	●	●	●	
			D	Float type auto drain (N.O.)	—	—	●	●	●	●	●	
	+											
	b	Pressure gauge	Nil	Without pressure gauge	●	●	●	●	●	●	●	●
			E	Square embedded type pressure gauge (with limit indicator)	—	●	●	●	●	●	●	●
			G	Round type pressure gauge (without limit indicator)	●	—	—	—	—	—	—	—
				Round type pressure gauge (with limit indicator)	—	●	●	●	●	●	●	●
		Digital pressure switch	M	Round type pressure gauge (with color zone)	—	●	●	●	●	●	●	●
			E1	Output: NPN output / Electrical entry: Wiring bottom entry	—	●	●	●	●	●	●	●
E2			Output: NPN output / Electrical entry: Wiring top entry	—	●	●	●	●	●	●	●	
+												
c	Pressure switch	Nil	Without attachment	●	●	●	●	●	●	●	●	
		S <sup>Note 4)</sup>	Mounting position: AF+S+AR	—	●	●	●	●	●	●	●	
		T <sup>Note 4)</sup>	Mounting position: AF+T+AR	●	●	●	●	●	●	●	●	
+												
d	3-port valve for residual pressure release	Nil	Without attachment	●	●	●	●	●	●	●	●	
		V	Mounting position: AF+AR+V	—	●	●	●	●	●	—	—	
		V1 <sup>Note 5)</sup>	Mounting position: V+AF+AR□K	—	●	●	●	●	●	—	—	
+												
e	Set pressure	Nil	0.05 to 0.85 MPa setting	●	●	●	●	●	●	●	●	
		1 <sup>Note 6)</sup>	0.02 to 0.2 MPa setting	●	●	—	—	—	—	—	—	
+												
⑥	f	Bowl <sup>Note 7)</sup>	Nil	Polycarbonate bowl	●	●	●	●	●	●	●	
			2	Metal bowl	●	●	●	●	●	●	●	
			6	Nylon bowl	●	●	●	●	●	●	●	
			8	Metal bowl with level gauge	—	—	●	●	●	●	●	
			C	With bowl guard	—	●	—	—	—	—	—	
			6C	Nylon bowl with bowl guard	—	●	—	—	—	—	—	
+												
g	Filter drain port <sup>Note 8)</sup>	Nil	With drain cock	●	●	●	●	●	●	●	●	
		J <sup>Note 9)</sup>	Drain guide 1/8	—	●	—	—	—	—	—	—	
			Drain guide 1/4	—	—	●	●	●	●	●	●	
		W <sup>Note 10)</sup>	Drain cock with barb fitting: For ø6 x ø4 nylon tube	—	—	●	●	●	●	●	●	

# Air Combination Series AC10B to AC60B



AC20B

AC40B

		Symbol	Description	①								
				Body size								
				10	20	25	30	40	50	55	60	
6	h	Exhaust mechanism	Nil	Relieving type	●	●	●	●	●	●	●	●
			N	Non-relieving type	●	●	●	●	●	●	●	●
			+									
	i	Flow direction	Nil	Flow direction: Left to right	●	●	●	●	●	●	●	●
			R	Flow direction: Right to left	●	●	●	●	●	●	●	●
			+									
j	Pressure unit	Nil	Name plate and pressure gauge in imperial units: MPa	●	●	●	●	●	●	●	●	
		Z <sup>Note 11)</sup>	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	
		ZA <sup>Note 12)</sup>	Digital pressure switch: With unit conversion function	—	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	

- Note 1) Drain guide is NPT1/8 (applicable to the AC20B) and NPT1/4 (applicable to the AC25B to AC60B). The auto drain port comes with ø3/8" one-touch fitting (applicable to the AC25B to AC60B).
- Note 2) Drain guide is G1/8 (applicable to the AC20B) and G1/4 (applicable to the AC25B to AC60B).
- Note 3) Option G, M are not assembled and supplied loose at the time of shipment.
- Note 4) The bracket position varies depending on the T-interface or pressure switch mounting.

- Note 5) The regulator is equipped with a backflow function in this configuration. Additionally, for safety purposes, please check that the pressure in the outlet side is turned to the atmospheric pressure once the pressure in the outlet side is exhausted, by using a pressure gauge, etc.
- 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) Refer to Chemical Data on page 287 when selecting a case material.
- Note 8) Float type auto drain: The combination of C and D is not possible.
- Note 9) Without a valve function

- Note 10) Metal bowl: The combination of 2 and 8 is not possible.
- Note 11) 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. MPa and psi are shown together on the pressure unit.
- Note 12) 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 13) ○: For thread type: M5 and NPT only
- Note 14) △: Select with options: E1, E2, E3, E4.

## Standard Specifications

Model		AC10B	AC20B	AC25B	AC30B	AC40B	AC40B-06	AC50B	AC55B	AC60B	
Component	Air filter	AF10	AF20	AF30	AF30	AF40	AF40-06	AF50	AF60	AF60	
	Regulator	AR10	AR20	AR25	AR30	AR40	AR40-06	AR50	AR50	AR60	
Port size		M5 x 0.8	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1	1	
Pressure gauge port size <sup>Note 1)</sup>		1/16	1/8			1/4					
Fluid		Air									
Ambient and fluid temperature <sup>Note 2)</sup>		-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		Set pressure + 0.05 MPa <sup>Note 3)</sup> [at relief flow rate of 0.1 ℓ/min (ANR)]									
Nominal filtration rating		5 μm									
Bowl material		Polycarbonate									
Bowl guard		—	Semi-standard	Standard							
Regulator construction		Relieving type									
Mass (kg)		0.16	0.51	0.55	0.63	1.12	1.16	2.44	2.45	2.54	

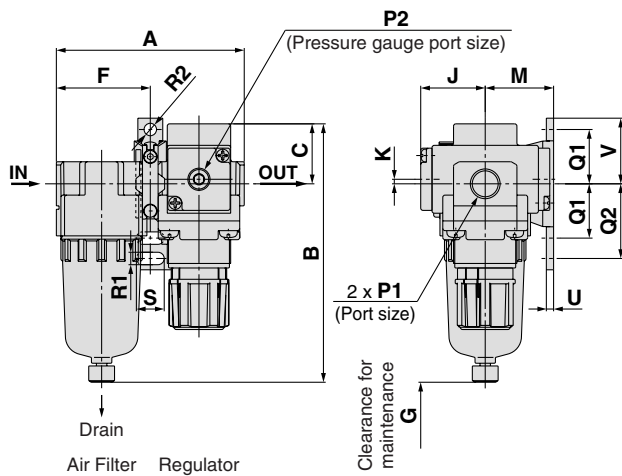
- Note 1) Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch (AC10B to AC60B).
- Note 2) -5 to 50°C for the products with the digital pressure switch
- Note 3) Not applicable to the AC10B.

- AC
- AF□
- AR
- AL
- AW□
- A□G
- AV
- AF800
- AF900

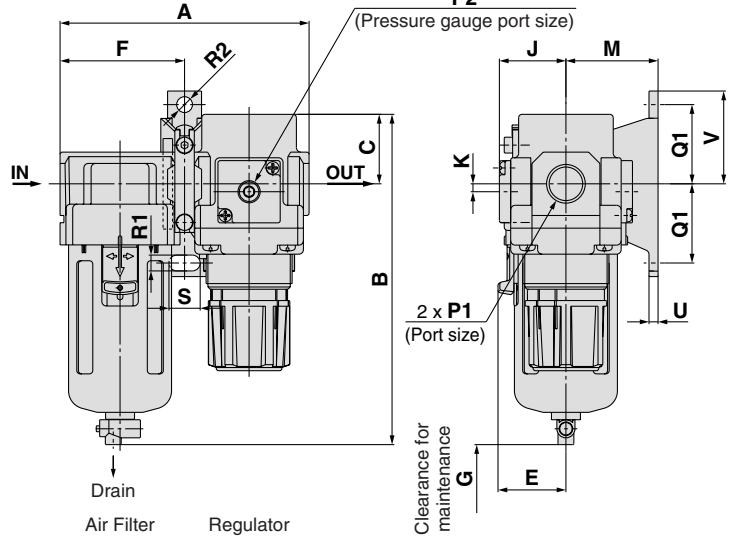
# Series AC10B to AC60B

## Dimensions

### AC10B, AC20B



### AC25B to AC60B



Applicable model	AC20B to AC60B		AC10B to AC60B	AC20B to AC60B
Option	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with color zone)
Dimensions				

Applicable model	AC10B, AC20B		AC20B	AC25B to AC60B				
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting
Dimensions								

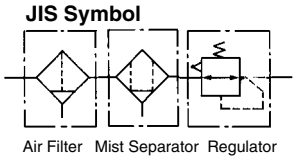
Model	Standard specifications										Optional specifications							
	P1	P2	A	B	C	E	F	G	J	K	Square type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with color zone)				
AC10B	M5 x 0.8	1/16	56	71	11	—	28	25	13	0	—	—	—	—	ø26	26	—	—
AC20B	1/8, 1/4	1/8	83	114	26.5	—	41.5	40	28.5	2 (Note)	□28	29.5	□27.8	40	ø37.5	65	ø37.5	65
AC25B	1/4, 3/8	1/8	110	143	28	30	55	50	27.5	0	□28	28.5	□27.8	39	ø37.5	64	ø37.5	64
AC30B	1/4, 3/8	1/8	110	146	31	30	55	50	29.5	3.5	□28	30.5	□27.8	41	ø37.5	66	ø37.5	66
AC40B	1/4, 3/8, 1/2	1/4	145	183	36	38	72.5	75	34	3.5	□28	35	□27.8	45	ø42.5	74	ø42.5	74
AC40B-06	3/4	1/4	155	185	36	38	77.5	75	34	3	□28	35	□27.8	45	ø42.5	74	ø42.5	74
AC50B	3/4, 1	1/4	186	263	43	45	93	20	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84
AC55B	1	1/4	191	277	43	47.5	98	20	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84
AC60B	1	1/4	196	280	46	47.5	98	20	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84

Model	Optional specifications									Semi-standard specifications				
	Bracket mount									With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge
	M	Q1	Q2	R1	R2	S	U	V	B	B	B	B	B	
AC10B	25	20	27	4.5	ø4.5	7	2.8	24.5	89	—	—	—	—	
AC20B	30	24	33	5.5	ø5.5	12	3.2	29	132	—	—	118	114	
AC25B	41	35	—	7	ø7	14	4	41	184	151	150	156	176	
AC30B	41	35	—	7	ø7	14	4	41	187	154	153	159	179	
AC40B	50	40	—	9	ø9	18	4	48	222	191	190	196	216	
AC40B-06	50	40	—	9	ø9	18	4.6	48	224	193	192	198	218	
AC50B	70	50	—	11	ø11	20	6.4	60	303	271	270	277	297	
AC55B	70	50	—	11	ø11	20	6.4	60	316	285	284	290	310	
AC60B	70	50	—	11	ø11	20	6.4	60	319	288	287	293	313	

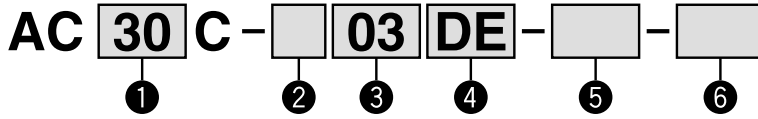
Note) For the AC20B only, the position of the pressure gauge is above the center of the piping.



# AC20C to AC40C



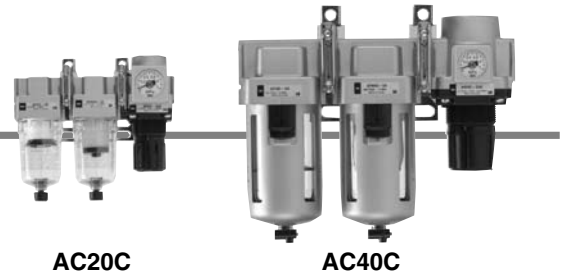
## How to Order



- 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) AC30C-F03DE1-SV-16NR

	Symbol	Description	① Body size					
			20	25	30	40		
② Thread type	Nil	Rc	●	●	●	●		
	N <sup>Note 1)</sup>	NPT	●	●	●	●		
	F <sup>Note 2)</sup>	G	●	●	●	●		
+								
③ Port size	01	1/8	●	—	—	—		
	02	1/4	●	●	●	●		
	03	3/8	—	●	●	●		
	04	1/2	—	—	—	●		
	06	3/4	—	—	—	●		
+								
④ Option	a Float type auto drain	Nil	Without auto drain	●	●	●	●	
		C	Float type auto drain (N.C.)	●	●	●	●	
		D	Float type auto drain (N.O.)	—	●	●	●	
	+							
	b	Pressure gauge	Nil	Without pressure gauge	●	●	●	●
			E	Square embedded type pressure gauge (with limit indicator)	●	●	●	●
			G	Round type pressure gauge (with limit indicator)	●	●	●	●
		Digital pressure switch	M	Round type pressure gauge (with color zone)	●	●	●	●
			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	Nil	Without attachment	●	●	●	●	
		S <sup>Note 4)</sup>	Mounting position: AF+AFM+S+AR	●	●	●	●	
	T-interface	T <sup>Note 4)</sup>	Mounting position: AF+AFM+T+AR	●	●	●	●	
+								
d 3-port valve for residual pressure release	Nil	Without attachment	●	●	●	●		
	V	Mounting position: AF+AFM+AR+V	●	●	●	●		
	V1 <sup>Note 5)</sup>	Mounting position: V+AF+AFM+AR□K	●	●	●	●		
+								
e Set pressure	Nil	0.05 to 0.85 MPa setting	●	●	●	●		
	1 <sup>Note 6)</sup>	0.02 to 0.2 MPa setting	●	●	●	●		
+								
⑥ Semi-standard	f Bowl <sup>Note 7)</sup>	Nil	Polycarbonate bowl	●	●	●	●	
		2	Metal bowl	●	●	●	●	
		6	Nylon bowl	●	●	●	●	
		8	Metal bowl with level gauge	—	●	●	●	
		C	With bowl guard	●	—	—	—	
		6C	Nylon bowl with bowl guard	●	—	—	—	
+								
g Filter Mist separator drain port <sup>Note 8)</sup>	Nil	With drain cock	●	●	●	●		
		J <sup>Note 9)</sup>	Drain guide 1/8	●	—	—	—	
	W <sup>Note 10)</sup>	Drain guide 1/4	—	●	●	●		
		Drain cock with barb fitting: For ø6 x ø4 nylon tube	—	●	●	●		
+								
h Exhaust mechanism	Nil	Relieving type	●	●	●	●		
	N	Non-relieving type	●	●	●	●		

# Air Combination Series AC20C to AC40C



AC20C

AC40C

		Symbol	Description	①				
				Body size				
				20	25	30	40	
⑥	i	Flow direction	Nil	Flow direction: Left to right	●	●	●	●
			R	Flow direction: Right to left	●	●	●	●
			+					
	j	Pressure unit	Nil	Name plate and pressure gauge in imperial units: MPa	●	●	●	●
Z <sup>Note 11)</sup>			Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	
ZA <sup>Note 12)</sup>			Digital pressure switch: With unit conversion function	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	

- Note 1) Drain guide is NPT1/8 (applicable to the AC20C) and NPT1/4 (applicable to the AC30C to AC40C). The auto drain port comes with  $\phi 3/8"$  one-touch fitting (applicable to the AC30C to AC40C).
- Note 2) Drain guide is G1/8 (applicable to the AC20C) and G1/4 (applicable to the AC30C to AC40C).
- Note 3) Option G, M are not assembled and supplied loose at the time of shipment.
- Note 4) The bracket position varies depending on the T-interface or pressure switch mounting.

- Note 5) The regulator is equipped with a backflow function in this configuration. Additionally, for safety purposes, please check that the pressure in the outlet side is turned to the atmospheric pressure once the pressure in the outlet side is exhausted, by using a pressure gauge, etc.
- 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) Refer to Chemical Data on page 287 when selecting a case material.
- Note 8) Float type auto drain: The combination of C and D is not possible.
- Note 9) Without a valve function

- Note 10) Metal bowl: The combination of 2 and 8 is not possible.
- Note 11) 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.) The digital pressure switch will be equipped with the unit conversion function, setting to psi initially. MPa and psi are shown together on the pressure unit.
- Note 12) 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 13) ○: For thread type: NPT only
- Note 14) △: Select with options: E1, E2, E3, E4.

## Standard Specifications

Model		AC20C	AC25C	AC30C	AC40C	AC40C-06
Component	Air filter	AF20	AF30	AF30	AF40	AF40-06
	Mist separator	AFM20	AFM30	AFM30	AFM40	AFM40-06
	Regulator	AR20	AR25	AR30	AR40	AR40-06
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4
Pressure gauge port size <sup>Note 1)</sup>		1/8			1/4	
Fluid		Air				
Ambient and fluid temperature <sup>Note 2)</sup>		-5 to 60°C (with no freezing)				
Proof pressure		1.5 MPa				
Maximum operating pressure		1.0 MPa				
Minimum operating pressure		0.05 MPa				
Set pressure range		0.05 to 0.85 MPa				
Relief pressure		Set pressure + 0.05 MPa [at relief flow rate of 0.1 $\ell$ /min (ANR)]				
Nominal filtration rating		AF: 5 $\mu$ m, AFM: 0.3 $\mu$ m (99.9% filtered particle size)				
Outlet side oil mist concentration		Max. 1.0 mg/m <sup>3</sup> (ANR) ( $\approx$ 0.8 ppm) <sup>Note 4) Note 5)</sup>				
Rated flow ( $\ell$ /min (ANR)) <sup>Note 3)</sup>		200	450	450	1100	1100
Bowl material		Polycarbonate				
Bowl guard		Semi-standard	Standard			
Regulator construction		Relieving type				
Mass (kg)		0.74	0.88	0.95	1.76	1.83

- 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 (AC20C to AC40C).
- Note 2) -5 to 50°C for the products with the digital pressure switch.
- Note 3) Conditions: Mist separator inlet pressure: 0.7 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/m<sup>3</sup> (ANR).
- Note 5) Bowl O-ring and other O-rings are slightly lubricated.

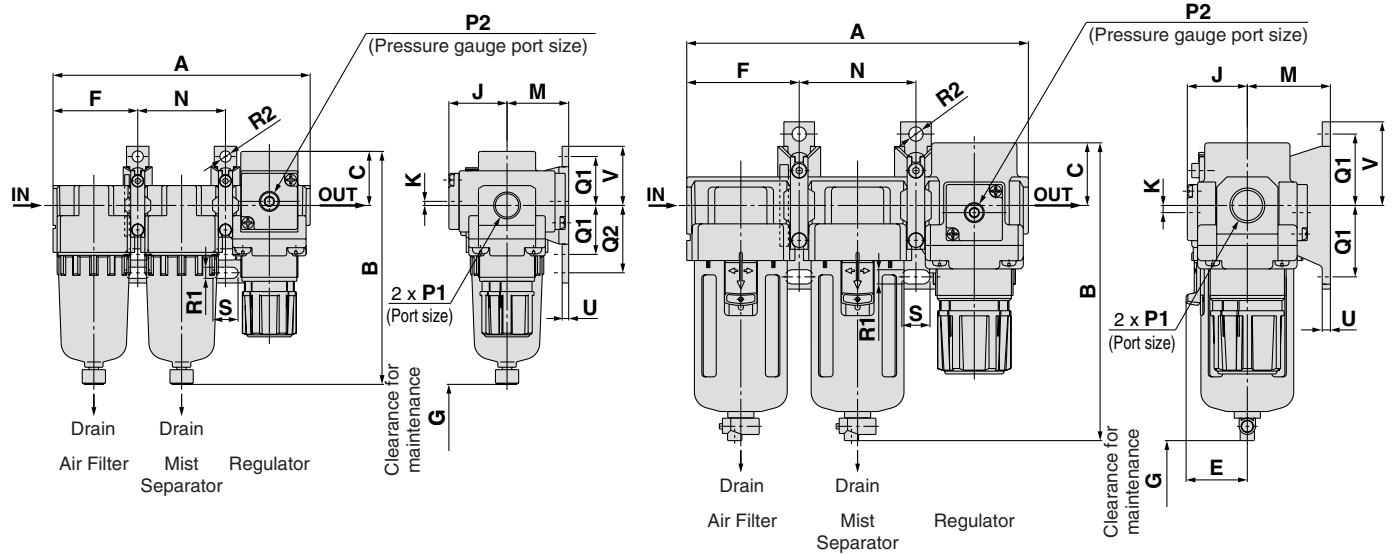
- AC
- AF□
- AR
- AL
- AW□
- A□G
- AV
- AF800
- AF900

# Series AC20C to AC40C

## Dimensions

### AC20C

### AC25C to AC40C-06



Applicable model	AC20C to AC40C-06			
Option	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with color zone)
Dimensions				

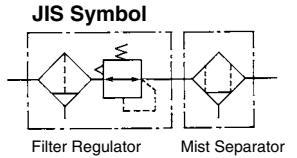
Applicable model	AC20C				AC25C to AC40C-06			
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting
Dimensions								

Model	Standard specifications										Optional specifications							
	P1	P2	A	B	C	E	F	G	J	K	H	J	H	J	H	J	H	J
AC20C	1/8, 1/4	1/8	126	114	26.5	—	41.5	45	28.5	2 (Note)	□28	29.5	□27.8	40	ø37.5	65	ø37.5	65
AC25C	1/4, 3/8	1/8	167	143	28	30	55	50	27.5	0	□28	28.5	□27.8	39	ø37.5	64	ø37.5	64
AC30C	1/4, 3/8	1/8	167	146	31	30	55	50	29.5	3.5	□28	30.5	□27.8	41	ø37.5	66	ø37.5	66
AC40C	1/4, 3/8, 1/2	1/4	220	183	36	38	72.5	75	34	3.5	□28	35	□27.8	45	ø42.5	74	ø42.5	74
AC40C-06	3/4	1/4	235	185	36	38	77.5	75	34	3	□28	35	□27.8	45	ø42.5	74	ø42.5	74

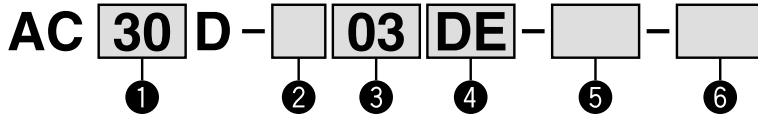
Model	Optional specifications										Semi-standard specifications				
	Bracket mount										With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge
	M	N	Q1	Q2	R1	R2	S	U	V		B	B	B	B	B
AC20C	30	43	24	33	5.5	ø5.5	12	3.2	29		132	—	118	114	—
AC25C	41	57	35	—	7	ø7	14	4	41		184	151	150	156	176
AC30C	41	57	35	—	7	ø7	14	4	41		187	154	153	159	179
AC40C	50	75	40	—	9	ø9	18	4	48		222	191	190	196	216
AC40C-06	50	80	40	—	9	ø9	18	4.6	48		224	193	192	198	218

Note) For the AC20C only, the position of the pressure gauge is above the center of the piping.

# AC20D to AC40D



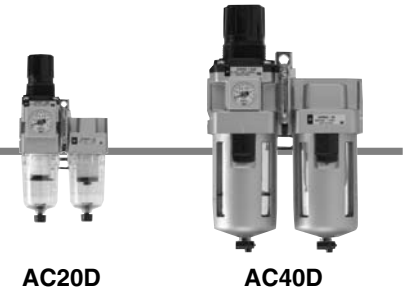
## How to Order



- 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

		Symbol	Description	① Body size			
				20	30	40	
②	Thread type	Nil	Rc	●	●	●	
		N <sup>Note 1)</sup>	NPT	●	●	●	
		F <sup>Note 2)</sup>	G	●	●	●	
		+					
③	Port size	01	1/8	●	—	—	
		02	1/4	●	●	●	
		03	3/8	—	●	●	
		04	1/2	—	—	●	
		06	3/4	—	—	●	
④ Option	a	Float type auto drain	Nil	Without auto drain	●	●	●
			C	Float type auto drain (N.C.)	●	●	●
			D	Float type auto drain (N.O.)	—	●	●
	b	Pressure gauge	Nil	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 color 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	●	●	●		
	c	Pressure switch	Nil	Without attachment	●	●	●
			S <sup>Note 4)</sup>	Mounting position: AW+S+AFM	●	●	●
	d	3-port valve for residual pressure release	Nil	Without attachment	●	●	●
V			Mounting position: AW+AFM+V	●	●	●	
V1 <sup>Note 5)</sup>			Mounting position: V+AW□K+AFM	●	●	●	
e	Set pressure	Nil	0.05 to 0.85 MPa setting	●	●	●	
		1 <sup>Note 6)</sup>	0.02 to 0.2 MPa setting	●	●	●	
f	Bowl <sup>Note 7)</sup>	Nil	Polycarbonate bowl	●	●	●	
		2	Metal bowl	●	●	●	
		6	Nylon bowl	●	●	●	
		8	Metal bowl with level gauge	—	●	●	
		C	With bowl guard	●	—	—	
		6C	Nylon bowl with bowl guard	●	—	—	
g	Filter regulator Mist separator drain port <sup>Note 8)</sup>	Nil	With drain cock	●	●	●	
		J <sup>Note 9)</sup>	Drain guide 1/8	●	—	—	
			Drain guide 1/4	—	●	●	
		W <sup>Note 10)</sup>	Drain cock with barb fitting: For ø6 x ø4 nylon tube	—	●	●	
h	Exhaust mechanism	Nil	Relieving type	●	●	●	
		N	Non-relieving type	●	●	●	
i	Flow direction	Nil	Flow direction: Left to right	●	●	●	
		R	Flow direction: Right to left	●	●	●	

# Air Combination *Series AC20D to AC40D*



AC20D

AC40D

Symbol	Description
--------	-------------

①		
Body size		
20	30	40

6 Semi-standard	j	Pressure unit	NII	Name plate and pressure gauge in imperial units: MPa
			Z <sup>Note 11)</sup>	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F
			ZA <sup>Note 12)</sup>	Digital pressure switch: With unit conversion function

●	●	●
○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>	○ <sup>Note 13)</sup>
△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>	△ <sup>Note 14)</sup>

- Note 1) Drain guide is NPT1/8 (applicable to the AC20D) and NPT1/4 (applicable to the AC30D to AC40D). The auto drain port comes with  $\phi 3/8"$  one-touch fitting (applicable to the AC30D to AC40D).
- Note 2) Drain guide is G1/8 (applicable to the AC20D) and G1/4 (applicable to the AC30D to AC40D).
- Note 3) Option G, M are not assembled and supplied loose at the time of shipment.
- Note 4) The bracket position varies depending on the pressure switch mounting.

- Note 5) The regulator is equipped with a backflow function in this configuration. Additionally, for safety purposes, please check that the pressure in the outlet side is turned to the atmospheric pressure once the pressure in the outlet side is exhausted, by using a pressure gauge, etc.
- 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) Refer to Chemical Data on page 287 when selecting a case material.
- Note 8) Float type auto drain: The combination of C and D is not possible.
- Note 9) Without a valve function

- Note 10) Metal bowl: The combination of 2 and 8 is not possible.
- Note 11) 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.) The digital pressure switch will be equipped with the unit conversion function, setting to psi initially. MPa and psi are shown together on the pressure unit.
- Note 12) 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 13) ○: For thread type: NPT only
- Note 14) △: Select with options: E1, E2, E3, E4.

## Standard Specifications

Model		AC20D	AC30D	AC40D	AC40D-06
Component	Filter regulator	AW20	AW30	AW40	AW40-06
	Mist separator	AFM20	AFM30	AFM40	AFM40-06
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4
Pressure gauge port size <sup>Note 1)</sup>		1/8		1/4	
Fluid		Air			
Ambient and fluid temperature <sup>Note 2)</sup>		-5 to 60°C (with no freezing)			
Proof pressure		1.5 MPa			
Maximum operating pressure		1.0 MPa			
Minimum operating pressure		0.05 MPa			
Set pressure range		0.05 to 0.85 MPa			
Relief pressure		Set pressure + 0.05 MPa [at relief flow rate of 0.1 ℓ/min (ANR)]			
Nominal filtration rating		AF: 5 μm, AFM: 0.3 μm (99.9% filtered particle size)			
Rated flow (ℓ/min (ANR)) <sup>Note 3)</sup>		150	330	800	800
Outlet side oil mist concentration		Max. 1.0 mg/m <sup>3</sup> (ANR) (= 0.8 ppm) <sup>Note 4) Note 5)</sup>			
Bowl material		Polycarbonate			
Bowl guard		Semi-standard	Standard		
Regulator construction		Relieving type			
Mass (kg)		0.57	0.74	1.38	1.43

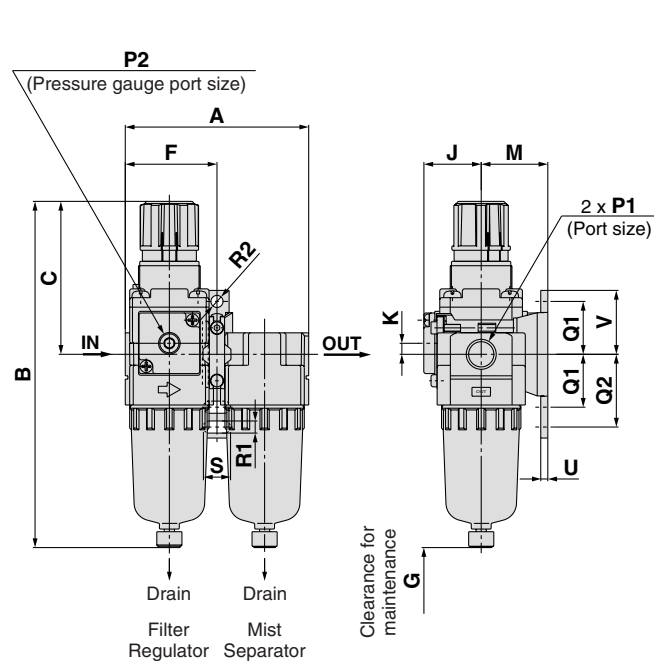
- Note 1) Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch (AC20D to AC40D).
- Note 2) -5 to 50°C for the products with the digital pressure switch
- Note 3) Conditions: Mist separator inlet pressure: 0.5 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/m<sup>3</sup> (ANR).
- Note 5) Bowl O-ring and other O-rings are slightly lubricated.

AC  
AF□  
AR  
AL  
AW□  
A□G  
AV  
AF800  
AF900

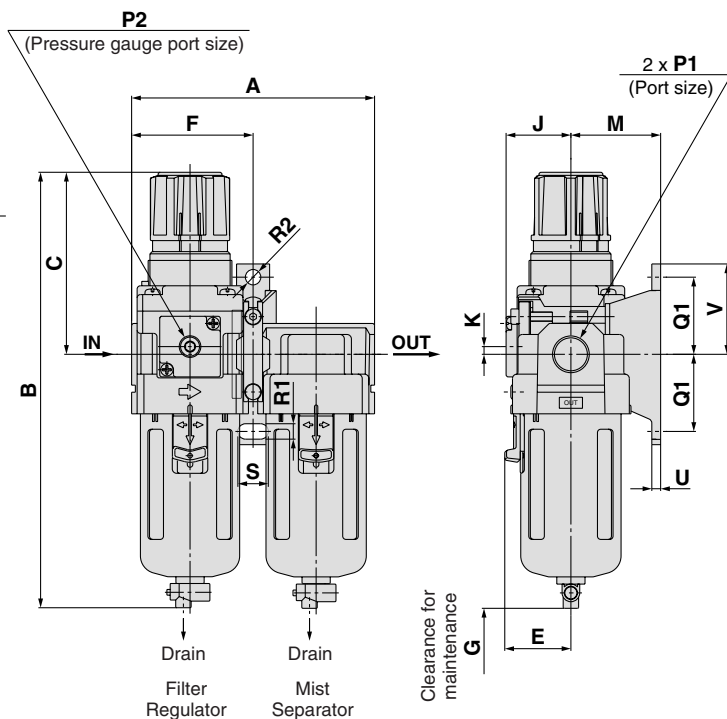
# Series AC20D to AC40D

## Dimensions

### AC20D



### AC30D to AC40D-06



Applicable model	AC20D to AC40D-06			
Option	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with color zone)
Dimensions				

Applicable model	AC20D				AC30D to AC40D-06				
	Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting
Dimensions									

Model	Standard specifications										Optional specifications							
	P1	P2	A	B (Note)	C	E	F	G	J	K	Square type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with color zone)				
AC20D	1/8, 1/4	1/8	83	160	73	—	41.5	45	26	5	□28	27	□27.8	37.5	ø37.5	63	ø37.5	63
AC30D	1/4, 3/8	1/8	110	201	86	30	55	55	29.5	3.5	□28	30.5	□27.8	41	ø37.5	66	ø37.5	66
AC40D	1/4, 3/8, 1/2	1/4	145	239	92	38	72.5	80	37.5	1.5	□28	38.5	□27.8	49	ø42.5	76	ø42.5	76
AC40D-06	3/4	1/4	155	242	93	38	77.5	80	37.5	1.2	□28	38.5	□27.8	49	ø42.5	76	ø42.5	76

Model	Optional specifications									Semi-standard specifications				
	Bracket mount									With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge
	M	Q1	Q2	R1	R2	S	U	V	B	B	B	B	B	
AC20D	30	24	33	5.5	ø5.5	12	3.2	29	177	—	164	160	—	
AC30D	41	35	—	7	ø7	14	4	41	242	209	208	214	234	
AC40D	50	40	—	9	ø9	18	4	48	278	247	246	252	272	
AC40D-06	50	40	—	9	ø9	18	4.6	48	282	251	249	255	275	

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

# Air Combination Series AC Options/Attachments

## Options/Attachments Part No.

Section	Model	Part no.									
		For AC10	For AC20	For AC25	For AC30	For AC40	For AC40-06	For AC50	For AC55	For AC60	
		For AC10A	For AC20A	—	For AC30A	For AC40A	For AC40A-06	For AC50A	—	For AC60A	
		For AC10B	For AC20B	For AC25B	For AC30B	For AC40B	For AC40B-06	For AC50B	For AC55B	For AC60B	
Option	Round type	Standard	G27-10-R1	G36-10-□01			G46-10-□02				
	0.02 to 0.2 MPa setting	Standard	G27-10-R1 (Note 3)	G36-2-□01			G46-2-□02				
	Round type (with color zone)	Standard	—	G36-10-□01-L			G46-10-□02-L				
	0.02 to 0.2 MPa setting	Standard	—	G36-2-□01-L			G46-2-□02-L				
	Square embedded type	Standard	—	GC3-10AS [GC3P-010AS (Pressure gauge cover only)]							
	0.02 to 0.2 MPa setting	Standard	—	GC3-2AS [GC3P-010AS (Pressure gauge cover only)]							
	Digital pressure switch	NPN output/Wiring bottom entry	—	ISE35-N-25-MLA [ISE35-N-25-M (Switch body only)] (Note 4)							
		NPN output/Wiring top entry	—	ISE35-R-25-MLA [ISE35-R-25-M (Switch body only)] (Note 4)							
		PNP output/Wiring bottom entry	—	ISE35-N-65-MLA [ISE35-N-65-M (Switch body only)] (Note 4)							
		PNP output/Wiring top entry	—	ISE35-R-65-MLA [ISE35-R-65-M (Switch body only)] (Note 4)							
Float type auto drain	N.O.	—	—	AD38		AD48					
	N.C.	AD17	AD27	AD37		AD47					
Attachment	Spacer	Y100	Y200	Y300		Y400	Y500	Y600			
	Check valve (Note 6) (Note 7)	—	AKM2000-□01 (□02)	AKM3000-(□01) □02		AKM4000-(□02) □03		—	—	—	
	Pressure switch (Note 7)	—	IS1000M-20	IS1000M-30		IS1000M-40	IS1000M-50	IS1000M-60			
	T-interface (Note 6) (Note 7)	Y110-M5	Y210-□01 (□02)	Y310-(□01) □02		Y410-(□02) □03	Y510-(□02) □03	Y610-□03 (□04)	Y610-(□03) □04		
	3-port valve for residual pressure release (Note 7)	—	VHS20-□01 □02	VHS30-□02 □03		□02 VHS40-□03 □04	VHS40-□06	VHS50-□06 □10	—	—	
	Piping adapter (Note 7)	E100-M5	□01 E200-□02 □03	□02 E300-□03 □04		□02 E400-□03 □04 □06	E500-□06	E600-□06 □10			
	Pressure switch with piping adapter (Note 7)	—	□01 IS1000E-20□02 □03	□02 IS1000E-30□03 □04		□02 IS1000E-40□03 □04 □06	—	—	—	—	
	Cross spacer (Note 7)	Y14-M5	Y24-□01 □02	Y34-□01 □02		Y44-□02 □03	Y54-□03 □04	—	—	—	

Note 1) □ 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 2) Including one O-ring and 2 mounting screws

Note 3) Standard pressure gauge

Note 4) 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 388.

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 for psi and °F unit specifications.

Note 6) For F.R.L. units, port sizes without ( ) are standard specifications.

Note 7) Separate interfaces are required for modular unit.

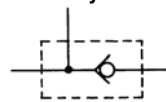
## Check Valve: (K) 1/8, 1/4, 3/8

A check valve with intermediate air release port can be easily installed to prevent a backflow of lubricant when redirecting the air flow and releasing the air on the outlet side of the regulator.

AKM **30** **00** - **□** **01**

①      ②      ③

JIS Symbol

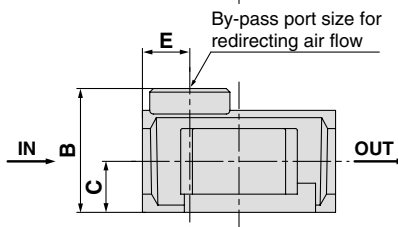
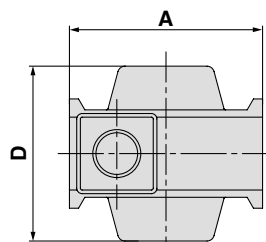


Symbol	Description	① Body size		
		20	30	40
② Thread type	Nil	●	●	●
	N	●	●	●
	F	●	●	●
③ By-pass port size	01	●	●	—
	02	●	●	●
	03	—	—	●

### Specifications

Model	Effective area (mm <sup>2</sup> )
AKM2000	28
AKM3000	55
AKM4000	111

Be sure to use above check valves when redirecting the air flow on the inlet side of the lubricator. Threads for IN and OUT ports are not machined.



Model	By-pass port size	A	B	C	D	E	Applicable model
AKM2000	1/8, 1/4	40	28	11	40	11	AC20, AC20A
AKM3000	1/8, 1/4	53	34	14	48	13	AC25, AC25A AC30, AC30A
AKM4000	1/4, 3/8	70	42	18	54	15	AC40, AC40A (Note)

Note) A pressure switch cannot be mounted on the AC40□-06.

\* Refer to the attachment table above for standard by-pass port sizes applicable to the AC.

# Series AC

## Pressure Switch: (S)

A compact integrated pressure switch can be easily installed and facilitates the pressure detection of the line.

IS1000M - **30** -   

①                      ②

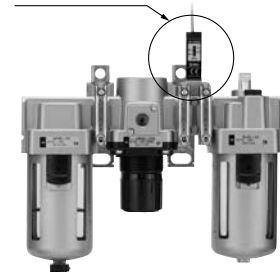
	Symbol	Description		
		Lead wire length	Set pressure range	Pressure display
② Option	Nil	0.5 m	0.1 to 0.4 MPa	MPa
	P <sup>Note)</sup>	0.5 m	0.1 to 0.4 MPa	MPa/psi dual scale
	X202	0.5 m	0.1 to 0.6 MPa	MPa
	X202-P <sup>Note)</sup>	0.5 m	0.1 to 0.6 MPa	MPa/psi dual scale
	X201	3 m	0.1 to 0.4 MPa	MPa
	X201-P <sup>Note)</sup>	3 m	0.1 to 0.4 MPa	MPa/psi dual scale
	X215	3 m	0.1 to 0.6 MPa	MPa
X215-P <sup>Note)</sup>	3 m	0.1 to 0.6 MPa	MPa/psi dual scale	

① Body size				
20	30	40	50	60
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●

JIS Symbol



Pressure switch



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

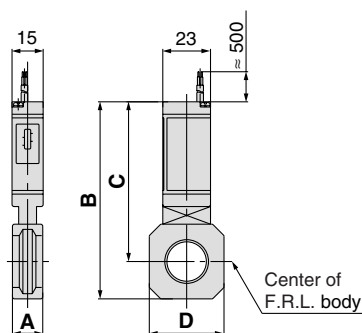
### Specifications

Fluid	Air
Ambient and fluid temperature	-5 to 60°C (with no freezing)
Proof pressure	1.0 MPa
Maximum operating pressure	0.7 MPa
Set pressure range (when OFF)	0.1 to 0.4 MPa
Hysteresis	0.08 MPa or less

### Switch Characteristics

Contact point configuration	1a
Maximum contact point capacity	2 VA (AC), 2 W (DC)
Operating voltage: AC, DC	100 V or less
Maximum operating current	12 V to 24 VAC, DC: 50 mA
	48 VAC, DC: 40 mA 100 VAC, DC: 20 mA

Note) For detailed specifications on the IS1000 series, please refer to series IS1000 in Best Pneumatics No.6.

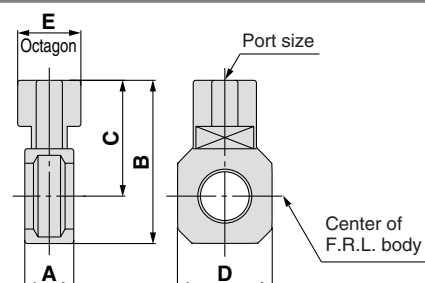
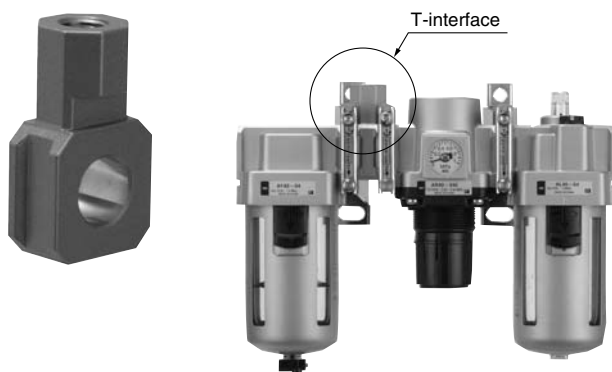


Model	A	B	C	D	Applicable model
IS1000M-20	11	76	66	28	AC20□
IS1000M-30	13	86	72	30	AC25□, AC30□
IS1000M-40	15	95	77	36	AC40□
IS1000M-50	17	99	79	44	AC40□-06
IS1000M-60	22	92.5	68.5	53	AC50□, AC55□, AC60□

Note) Separate spacers are required for modular unit.

## T-interface: (T) M5 x 0.8, 1/8, 1/4, 3/8, 1/2

Using a T-interface facilitates the redirection of air flow.



Model	Port size	A	B	C	D	E	Applicable model
Y110-M5	M5 x 0.8	11	19	12	14	8	AC10, AC10B
Y210-□01	1/8	15	42	32	28	19	AC20, AC20B, AC20C
Y210-□02	1/4		39	30	19		
Y310-□01	1/8	19	62	44	36	24	AC40, AC40B, AC40C
Y310-□02	1/4						
Y410-□02	1/4	19	66	46	44	24	AC40-06, AC40B-06, AC40C-06
Y410-□03	3/8						
Y510-□02	1/4	22	81	57	53	30	AC50, AC55, AC60, AC50B, AC55B, AC60B
Y510-□03	3/8						
Y610-□03	3/8	22	81	57	53	30	AC50, AC55, AC60, AC50B, AC55B, AC60B
Y610-□04	1/2						

Note 1) □ in model numbers indicates a thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

Note 2) Separate interfaces are required for modular unit.

\* Refer to the attachment table on page 321 for standard port sizes when using with the AC.

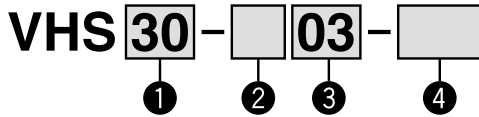
### Caution on Mounting

If a T-interface is used on the IN side of the lubricator, lubricant may be mixed. Use the AKM series check valve to avoid such possibility.



## Pressure Relief 3 Port Valve: (V)

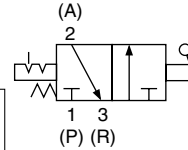
With the use of a 3-port valve for residual pressure release, pressure left in the line can be easily exhausted.



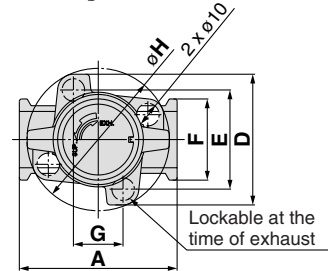
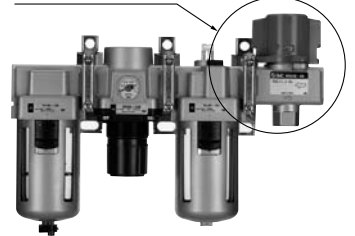
- Semi-standard: Select one each for a to b.
- Semi-standard symbol: When more than one specification is required, indicate in alphabetic order.  
Example) VHS30-03-RZ

		Symbol	Description	① Body size				
				20	30	40	50	
②	Thread type	Nil	Rc	●	●	●	●	
		N (Note)	NPT	●	●	●	●	
		F (Note)	G	●	●	●	●	
+								
③	Port size	01	1/8	●	—	—	—	
		02	1/4	●	●	—	—	
		03	3/8	—	●	●	—	
		04	1/2	—	—	●	—	
		06	3/4	—	—	●	●	
		10	1	—	—	—	●	
+								
④	a	Flow direction	Nil	Flow direction: Left to right	●	●	●	●
		R	Flow direction: Right to left	●	●	●	●	
	+							
	b	Pressure unit	Nil	Name plate in imperial units: MPa	●	●	●	●
Z (Note)			Name plate in imperial units: psi	●	●	●	●	

### JIS Symbol



3-port valve for residual pressure release



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

### Specifications

Model	Port size		Effective area (mm <sup>2</sup> ) ( ) : Cv factor	
	IN, OUT	EXH	IN→OUT	OUT→EXH
VHS20	1/8	1/8	10 (0.54)	11 (0.60)
	1/4		14 (0.76)	16 (0.87)
VHS30	1/4	1/4	16 (0.87)	14 (0.76)
	3/8		31 (1.68)	29 (1.57)
VHS40	1/4	3/8	27 (1.46)	36 (1.95)
	3/8		38 (2.06)	40 (2.17)
	1/2		55 (2.98)	42 (2.28)
VHS40-06	3/4	1/2	77 (1.73)	49 (2.66)
VHS50	3/4	1/2	82 (4.44)	50 (2.71)
	1		125 (6.78)	53 (2.87)

Note) Use an air filter on the IN side for operating protection.

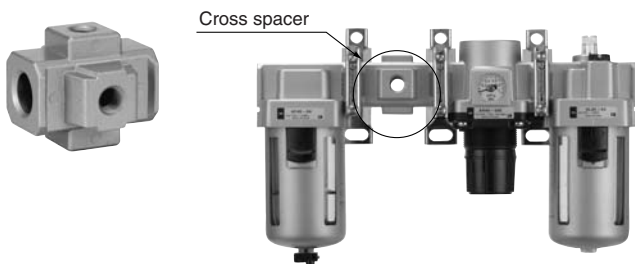
### Caution on Mounting

- If a tube, stop valve or silencer is connected to the exhaust port of the VHS20/30, the effective sectional area should be larger than the figure indicated in the following table, to prevent malfunction caused by back pressure. (This is not applicable to the VHS40/50.)

Model	Effective area (mm <sup>2</sup> )
VHS20	5
VHS30	5

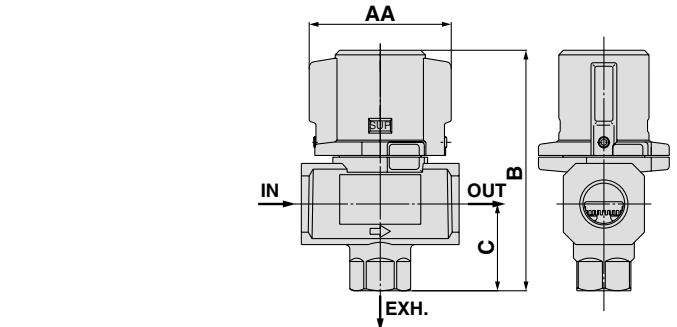
### Cross Spacer: M5 x 0.8, 1/8, 1/4, 3/8, 1/2

Pipings are possible in all 4 directions.  
IN/OUT ports are not machined for threads.  
Please contact SMC if threaded (machined) ports are required.

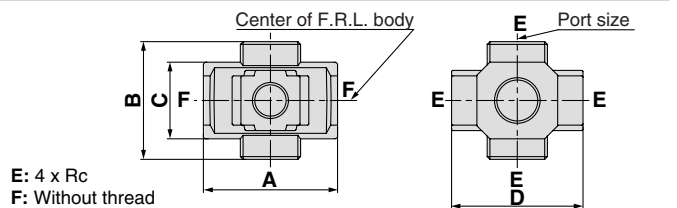


### Caution on Mounting

- When mounting a cross interface directly on the IN side of the lubricator, be sure to use the AKM series check valve between the lubricator and cross interface.
- Factory mounting of a cross interface on the AC model is available as a special order.



Model	A	AA	B	C	D	E	F	G	H
VHS20	40	34	59	20	45	33	28	—	45
VHS30	53	46	78	29	55	42	30	—	55
VHS40	70	63	107	39	58	44	36	22	63
VHS40-06	75	67	110	42	65	50	44	21	69
VHS50	90	78	134	53	76	61	54	26	81



E: 4 x Rc  
F: Without thread

Model	Port size	A	B	C	D	Applicable model
Y14-M5	M5	23	16	14	25	AC10□
Y24-□01	1/8	40	40	22	40	AC20□
Y24-□02	1/4					
Y34-□01	1/8	49	43	28	48	AC25□, AC30□
Y34-□02	1/4					
Y44-□02	1/4	60	48	36	54	AC40□
Y44-□03	3/8					
Y54-□03	3/8	72	62	40	62	AC40□-06
Y54-□04	1/2					

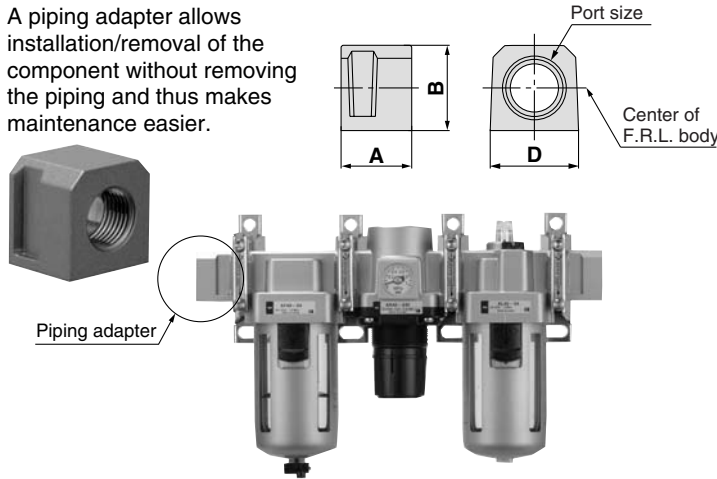
Note 1) □ in model numbers indicates a thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

Note 2) If threaded IN/OUT ports are required, they are available as a special order. Please contact SMC.

# Series AC

## Piping Adapter: M5 x 0.8, 1/8, 1/4, 3/8, 1/2, 3/4, 1

A piping adapter allows installation/removal of the component without removing the piping and thus makes maintenance easier.



Model (Note 1)	Port size	A	B	D	Applicable model
E100-M5	M5 x 0.8	10	14	14	AC10□, AW10, AF10, AR10, AL10
E200-□01	1/8	30	23.5	28	AC20□
E200-□02	1/4				AF20, AR20□, AW20□
E200-□03	3/8				AL20, AFM20, AFD20, AWM20, AWD20
E300-□02	1/4	32	30	30	AC25□, AC30□
E300-□03	3/8				AF30, AR30□, AW30□
E300-□04	1/2	32	36	36	AL30, AFM30, AFD30, AWM30, AWD30
E400-□02	1/4				AC40□
E400-□03	3/8				AF40, AR40□, AW40□
E400-□04	1/2				AL40, AFM40, AFD40
E400-□06	3/4				AWM40, AWD40
E500-□06	3/4	32	40	44	AC40□-06, AF40-06, AR40□-06, AW40□-06, AL40-06, AFM40-06, AFD40-06
E600-□06	3/4	35	48	53	AC50, AC55, AC60, AC50A
E600-□10	1				AC60A, AC50B, AC55B
					AC60B, AF50, AF60, AR50□
					AR60□, AL50, AL60, AW60□

Note 1) □ in model numbers indicates a thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

Note 2) Separate interfaces are required for modular unit.

\* Factory mounting of a piping adapter on the AC models is available as a special order.

## Pressure Switch with Piping Adapter

IS1000E - 30 □ 03 - □

1 2 3 4

	Symbol	Description	① Body size			
			20	30	40	
② Thread type	Nil	Rc	●	●	●	
	N (Note)	NPT	●	●	●	
	F (Note)	G	●	●	●	
③ Port size	+					
	01	1/8	●	—	—	
	02	1/4	●	●	—	
	03	3/8	●	●	●	
	04	1/2	—	—	●	
④ Accessory	+					
	Symbol	Lead wire length	Regulating pressure range	Pressure display	Mounting position	
	Nil	0.5 m	0.1 to 0.4 MPa	MPa	Right	● ● ●
	X250	0.5 m	0.1 to 0.4 MPa	MPa	Left	● ● ●
	P (Note)	0.5 m	0.1 to 0.4 MPa	MPa/psi dual scale	Right	● ● ●
	X250-P (Note)	0.5 m	0.1 to 0.4 MPa	MPa/psi dual scale	Left	● ● ●
	X202	0.5 m	0.1 to 0.6 MPa	MPa	Right	● ● ●
	X252	0.5 m	0.1 to 0.6 MPa	MPa	Left	● ● ●
	X202-P (Note)	0.5 m	0.1 to 0.6 MPa	MPa/psi dual scale	Right	● ● ●
	X252-P (Note)	0.5 m	0.1 to 0.6 MPa	MPa/psi dual scale	Left	● ● ●
	X201	3 m	0.1 to 0.4 MPa	MPa	Right	● ● ●
	X251	3 m	0.1 to 0.4 MPa	MPa	Left	● ● ●
	X201-P (Note)	3 m	0.1 to 0.4 MPa	MPa/psi dual scale	Right	● ● ●
	X251-P (Note)	3 m	0.1 to 0.4 MPa	MPa/psi dual scale	Left	● ● ●
	X215	3 m	0.1 to 0.6 MPa	MPa	Right	● ● ●
	X253	3 m	0.1 to 0.6 MPa	MPa	Left	● ● ●
	X215-P (Note)	3 m	0.1 to 0.6 MPa	MPa/psi dual scale	Right	● ● ●
X253-P (Note)	3 m	0.1 to 0.6 MPa	MPa/psi dual scale	Left	● ● ●	

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

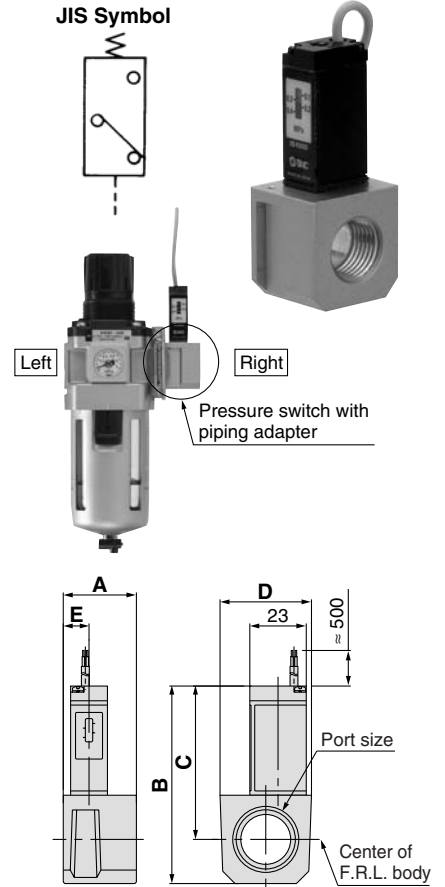
### Specifications

Fluid	Air
Ambient and fluid temperature	-5 to 60°C (with no freezing)
Proof pressure	1.0 MPa
Maximum operating pressure	0.7 MPa
Set pressure range (when OFF)	0.1 to 0.4 MPa
Hysteresis	0.08 MPa or less

### Switch Characteristics

Contact point configuration	1a
Maximum contact point capacity	2VA(AC), 2W(DC)
Operating voltage: AC, DC	100V or less
Maximum operating current	12V to 24V AC, DC: 50 mA 48V AC, DC: 40 mA 100V AC, DC: 20 mA

### JIS Symbol



Model (Note 1)	Port size	A	B	C	D	E	Applicable model
IS1000E-20□01	1/8	30	68	57	28	16	AC20□
IS1000E-20□02	1/4						AR20□, AW20□
IS1000E-20□03	3/8						AWM20, AWD20
IS1000E-30□02	1/4	32	74.5	60.5	30	13	AC25□, AC30□
IS1000E-30□03	3/8						AR25□, AR30□, AW30□
IS1000E-30□04	1/2						AWM30, AWD30
IS1000E-40□02	1/4	32	80.5	62.5	37	12.5	Note 2)
IS1000E-40□03	3/8						AC40□
IS1000E-40□04	1/2						AR40□, AW40□
IS1000E-40□06	3/4						AWM40, AWD40

Note 1) □ in the model numbers indicates a thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

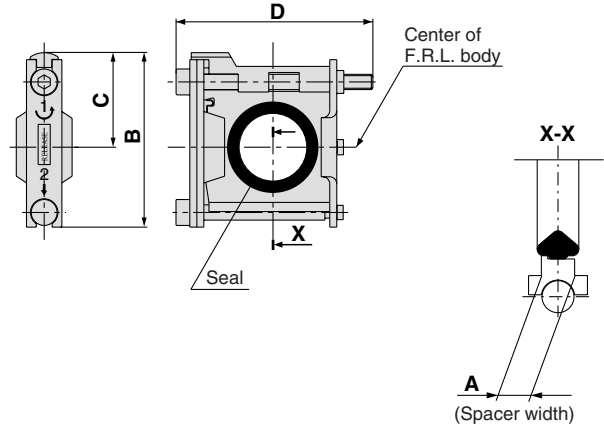
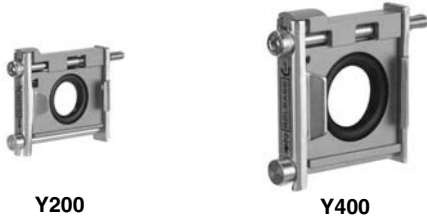
Note 2) Cannot be mounted on the AC40□-06 and AW40□-06.

Note 3) Separate interfaces are required for modular unit.

\* The pressure switch on the AC40□-06 and above and the AW40□-06 can be mounted by screwing IS1000-01 into the piping adapter E500-□06-X501 or E600-□06-X501 to E600-□10-X501 (with top-face thread Rc 1/8). Products with a premounted switch are available as a special order. Please contact SMC regarding their availability.

# Series AC Spacers/Brackets Accessories

## Spacer



Model	A	B	C	D	Applicable model
Y100	6	27	15	33	AC10, AC10A, AC10B
Y200	3	35.5	18.5	48	AC20□
Y300	4	47	26	59	AC25□, AC30□
Y400	5	57	31	65	AC40□
Y500	5	61	33	75	AC40□-06
Y600	6	75.5	41	86	AC50, AC55, AC60 AC50A, AC60A AC50B, AC55B, AC60B

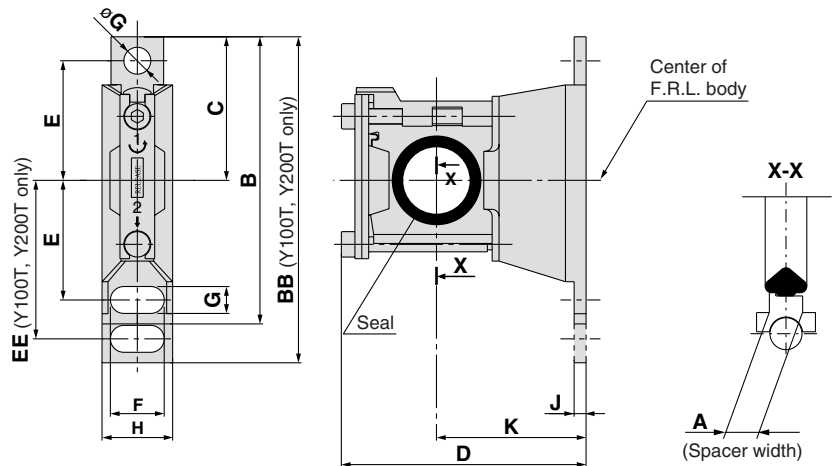
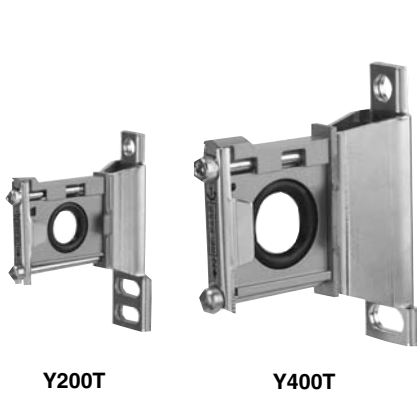
### Replacement Parts

Description	Material	Part no.					
		Y100	Y200	Y300	Y400	Y500	Y600
Seal	HNBR <sup>Note 2)</sup>	Y100P-060AS <sup>Note 1)</sup>	Y200P-061S	Y300P-060S	Y400P-060S	Y500P-060S	Y600P-060S

Note 1) Assembly of 2 O-rings

Note 2) NBR is used for Y100 spacer because of no direct contact with fluid.

## Spacer with Bracket



Model	A	B	BB	C	D	E	EE	F	G	øG	H	J	K	Applicable model
Y100T	6	—	56	24.5	40.5	20	27	6.8	4.5	4.5	14	2.8	25	AC10□
Y200T	3	—	67	29	53	24	33	12	5.5	5.5	19	3.2	30	AC20□
Y300T	4	82	—	41	68	35	—	14	7	7	21	4	41	AC25□, AC30□
Y400T	5	96	—	48	81.5	40	—	18	9	9	26	4	50	AC40□
Y500T	5	96	—	48	86	40	—	18	9	9	27	4.6	50	AC40□-06
Y600T	6	120	—	60	112	50	—	20	11	11	31	6.4	70	AC50, AC55, AC60, AC50A, AC60A, AC50B, AC55B, AC60B

### Replacement Parts

Description	Material	Part no.					
		Y100T	Y200T	Y300T	Y400T	Y500T	Y600T
Seal	HNBR <sup>Note 2)</sup>	Y100P-060AS <sup>Note 1)</sup>	Y200P-061S	Y300P-060S	Y400P-060S	Y500P-060S	Y600P-060S

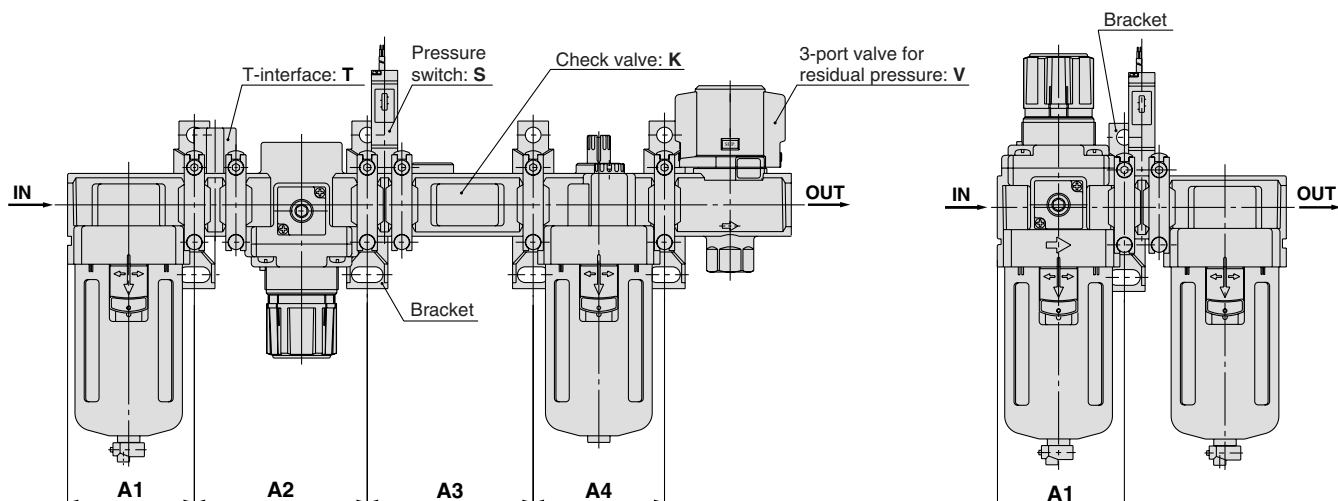
Note 1) Assembly of 2 O-rings

Note 2) NBR is used for Y100T spacer because of no direct contact with fluid.

- AC
- AF□
- AR
- AL
- AW□
- A□G
- AV
- AF800
- AF900

# Series AC

## Mounting Position for Spacer with Bracket



Attachment Model	K		S		T		V			KS			KT			KV				KST				
	A1	A2	A3	A1	A2	A1	A2	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2
AC10	—	—	—	—	—	28	48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AC20	41.5	43	43	41.5	43	41.5	61	41.5	43	43	41.5	43	57	41.5	61	43	41.5	43	43	43	41.5	61	57	—
AC25	55	57	57	55	57	55	76	55	57	57	55	57	74	55	76	57	55	57	57	57	55	57	76	74
AC30	55	57	57	55	57	55	76	55	57	57	55	57	74	55	76	57	55	57	57	57	55	57	76	74
AC40	72.5	75	75	72.5	75	72.5	99	72.5	75	75	72.5	75	95	72.5	99	75	72.5	75	75	75	72.5	99	95	—
AC40-06	—	—	—	77.5	80	77.5	104	77.5	80	80	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AC50	—	—	—	93	96	93	124	93	96	96	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AC55	—	—	—	98	96	98	124	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AC60	—	—	—	98	101	98	129	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Attachment Model	KSV				KTV				KSTV				ST		SV			STV			TV			
	A1	A2	A3	A4	A1	A2	A3	A4	A1	A2	A3	A4	A1	A2	A1	A2	A3	A1	A2	A3	A1	A2	A3	
AC10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AC20	41.5	43	57	43	41.5	61	43	43	41.5	61	57	43	41.5	61	41.5	43	57	41.5	61	57	41.5	61	43	—
AC25	55	57	74	57	55	76	57	57	55	76	74	57	55	76	55	57	74	55	76	74	55	76	57	—
AC30	55	57	74	57	55	76	57	57	55	76	74	57	55	76	55	57	74	55	76	74	55	76	57	—
AC40	72.5	75	95	75	72.5	99	75	75	72.5	99	95	75	72.5	99	72.5	75	95	72.5	99	95	72.5	99	75	—
AC40-06	—	—	—	—	—	—	—	—	—	—	—	—	—	77.5	104	77.5	80	102	77.5	104	102	77.5	104	80
AC50	—	—	—	—	—	—	—	—	—	—	—	—	—	93	124	93	96	124	93	124	124	93	124	96
AC55	—	—	—	—	—	—	—	—	—	—	—	—	—	98	124	—	—	—	—	—	—	—	—	—
AC60	—	—	—	—	—	—	—	—	—	—	—	—	—	98	129	—	—	—	—	—	—	—	—	—

Attachment Model	K		S		V		KS		KV			KSV			SV	
	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2	A3	A1	A2	A3	A1	A2
AC20A	41.5	43	41.5	41.5	43	41.5	57	41.5	43	43	41.5	57	43	41.5	57	
AC30A	55	57	55	55	57	55	74	55	57	57	55	74	57	55	74	
AC40A	72.5	75	72.5	72.5	75	72.5	95	72.5	75	75	72.5	95	75	72.5	95	
AC40A-06	—	—	77.5	77.5	80	—	—	—	—	—	—	—	—	77.5	102	
AC50A	—	—	98	98	96	—	—	—	—	—	—	—	—	98	124	
AC60A	—	—	98	—	—	—	—	—	—	—	—	—	—	—	—	

Attachment Model	S		T		V		V1		SV		SV1		TV		TV1	
	A1	A1	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2
AC10B	—	28	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AC20B	41.5	41.5	41.5	43	41.5	43	41.5	57	41.5	43	41.5	61	41.5	43	—	—
AC25B	55	55	55	57	55	57	55	74	55	57	55	76	55	57	—	—
AC30B	55	55	55	57	55	57	55	74	55	57	55	76	55	57	—	—
AC40B	72.5	72.5	72.5	75	72.5	75	72.5	95	72.5	75	72.5	99	72.5	75	—	—
AC40B-06	77.5	77.5	77.5	80	77.5	80	77.5	102	77.5	80	77.5	104	77.5	80	—	—
AC50B	93	93	93	96	93	96	93	124	93	96	93	124	93	96	—	—
AC55B	98	98	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AC60B	98	98	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Attachment Model	S		T		V			V1			SV			SV1			TV			TV1		
	A1	A2	A1	A2	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3
AC20C	41.5	43	41.5	43	41.5	43	43	41.5	43	43	41.5	43	57	41.5	43	43	41.5	43	61	41.5	43	43
AC25C	55	57	55	57	55	57	57	55	57	57	55	57	74	55	57	57	55	57	76	55	57	57
AC30C	55	57	55	57	55	57	57	55	57	57	55	57	74	55	57	57	55	57	76	55	57	57
AC40C	72.5	75	72.5	75	72.5	75	75	72.5	75	75	72.5	75	95	72.5	75	75	72.5	75	99	72.5	75	75
AC40C-06	77.5	80	77.5	80	77.5	80	80	77.5	80	80	77.5	80	102	77.5	80	80	77.5	80	104	77.5	80	80

Attachment Model	S		V		V1		SV		SV1	
	A1	A1	A2	A1	A2	A1	A2	A1	A2	
AC20D	41.5	41.5	43	41.5	43	41.5	57	41.5	43	
AC30D	55	55	57	55	57	55	74	55	57	
AC40D	72.5	72.5	75	72.5	75	72.5	95	72.5	75	
AC40D-06	77.5	77.5	80	77.5	80	77.5	102	77.5	80	

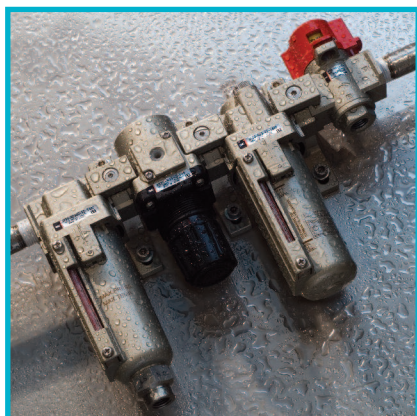
A1: Dimensions from the end of the IN side to the center of the mounting hole for the first bracket.  
A2: Mounting hole pitch between the first and the second brackets.  
A3: Mounting hole pitch between the second and the third brackets.  
A4: Mounting hole pitch between the third and the fourth brackets.



**SMC Corporation of America**  
 10100 SMC Boulevard  
 Noblesville, IN 46060  
 www.smcusa.com

## *P.G. Information*

# *Epoxy Coated F.R.L. Units*



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

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

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

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

### **Comparison with Standard Product:**

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

### **Applications:**

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

### **Related Products:**

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

How To Order

AC 31 B - N 03 D - V - 8 Y Z - X2217

Air Combination Unit

Body Size

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

Model Combination

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

NPT Threads

Port Size

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

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

• With External Epoxy Coating, Stainless Fasteners

• Name Plate, Caution Plate On Bowl in psi, °F

• Regulator Handle Orientation

Symbol	Description
Nil	Downward Handle
Y	Upward Handle

• Bowl

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

• Residual Pressure Relief Valve

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

• Accessories

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

Specifications



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

Dimensions - Refer to drawings on page 3

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

\* Without relief valve option \*\* With relief valve option

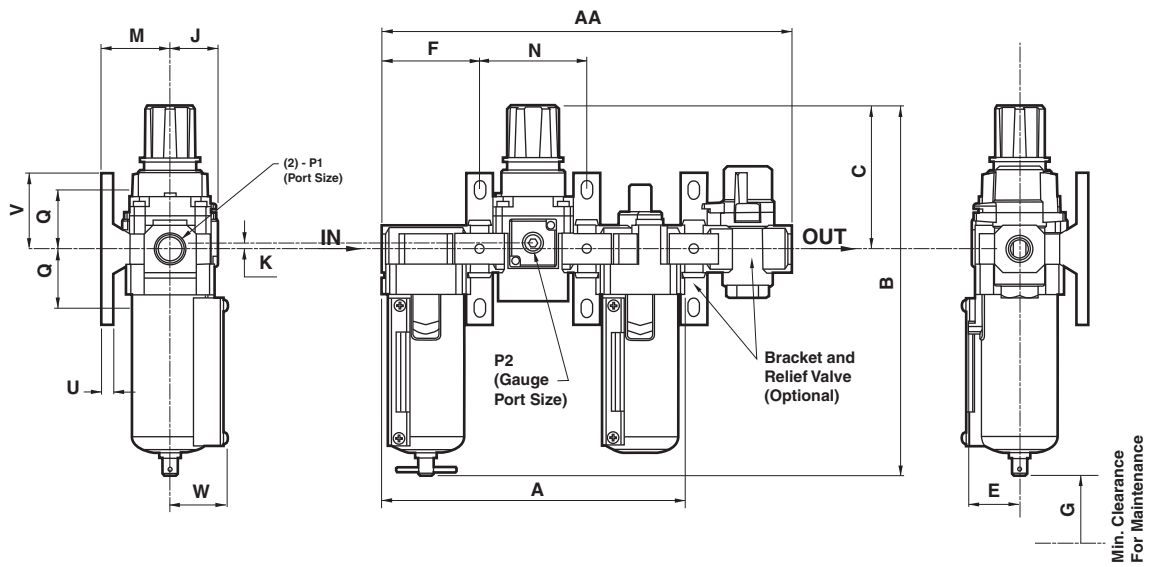
AC-A	A*	AA**	B	C	E	F	G	J	K	M	N	Q	U	V	W
AC21A	90	140	160	73	—	45.5	40	26	5	30	51	24	5	33	—
AC31A	117	181	220	86	30	58.5	55	29.5	3.5	41	64	35	7	45	34.5
AC41A	154	238	239	92	38	75.5	80	37.5	1.5	50	81	40	7	50	41

\* Without relief valve option \*\* With relief valve option

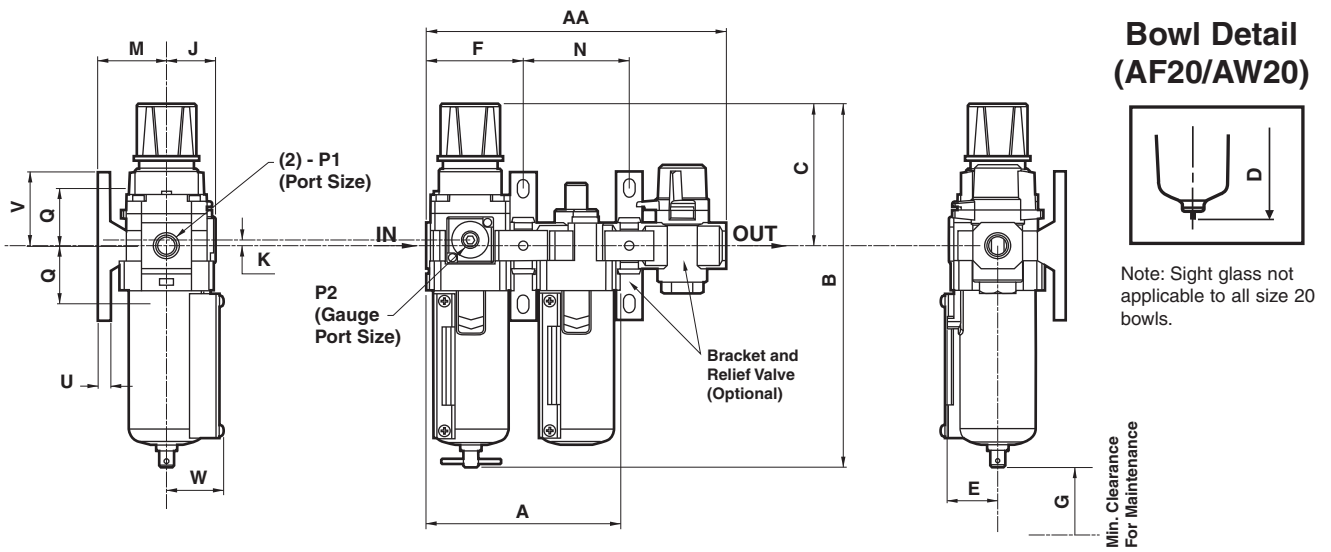
AC-B	A*	AA**	B	C	E	F	G	J	K	M	N	Q	U	V	W
AC21B	90	140	160	73	—	45.5	40	26	5	30	51	24	5	33	—
AC31B	117	181	220	86	30	58.5	55	29.5	3.5	41	64	35	7	45	34.5
AC41B	154	238	239	92	38	75.5	80	37.5	1.5	50	81	40	7	50	41

\* Without relief valve option \*\* With relief valve option

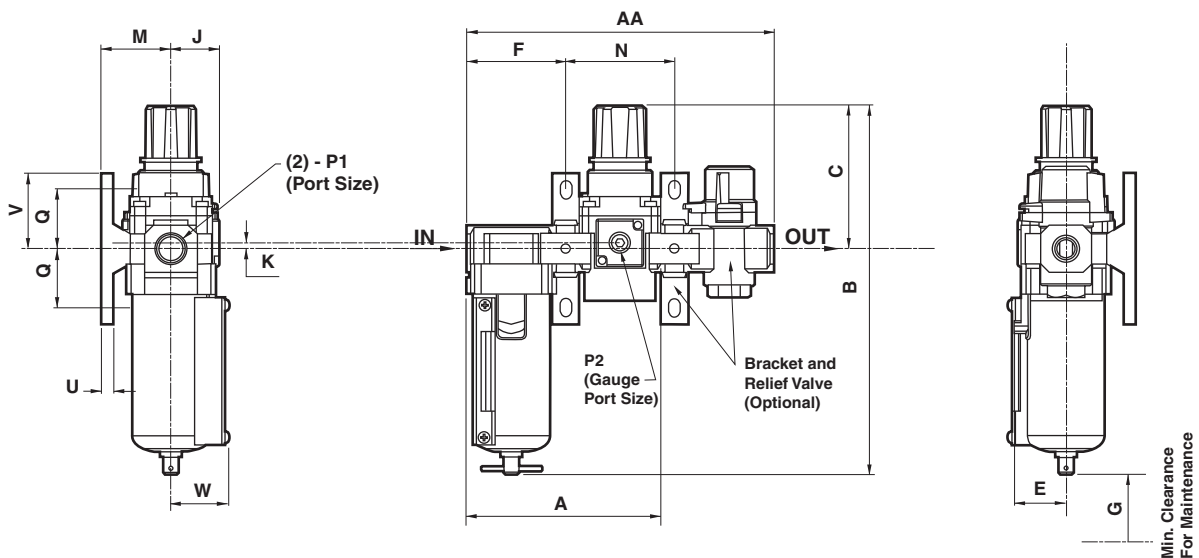
## AC



## AC-A



## AC-B



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

How To Order

**AF 30 - N 03 D - 8 Z - X480**

Filter ●

Body Size ●

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

NPT Threads ●

Port Size ●

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

● With External Epoxy Coating, Stainless Fasteners

● Name Plate, Caution Plate On Bowl in psi, °F

● Bowl

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

● Accessories

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

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

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

Specifications



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

Dimensions - Refer to drawings on page 5

Standard

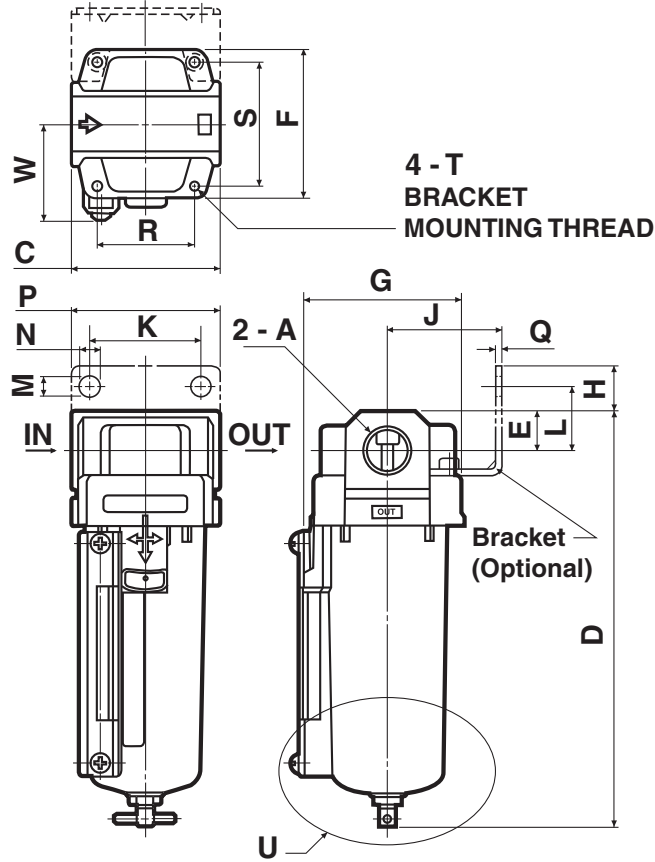
Model	Port Size	Dimensions																Mounting Bracket Kit (Optional)	
		A	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S		T
AF20	NPT 1/4	40	97	10	40	—	18	30	27	22	5.4	8.4	40	2.3	26	32	M4 X 0.7	—	AF20P-050AS-X480
AF30	NPT 3/8	53	149	14	53	57	16	41	40	23	6.5	8	53	2.3	35	44	M4 X 0.7	34.5	AF30P-050AS-X480
AF40	NPT 1/2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

Auto Drain

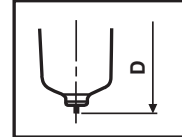
Model	Port Size	Dimensions																Mounting Bracket Kit (Optional)	
		A	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S		T
AF30	NPT 3/8	53	158	14	53	57	16	41	40	23	6.5	8	53	2.3	35	44	M4 X 0.7	34.5	AF30P-050AS-X480
AF40	NPT 1/2	70	194	18	70	73	17	50	54	26	8.5	10.5	70	2.3	47	60	M5 X 0.8	41	AF40P-050AS-X480



Standard  
(Manual Drain)

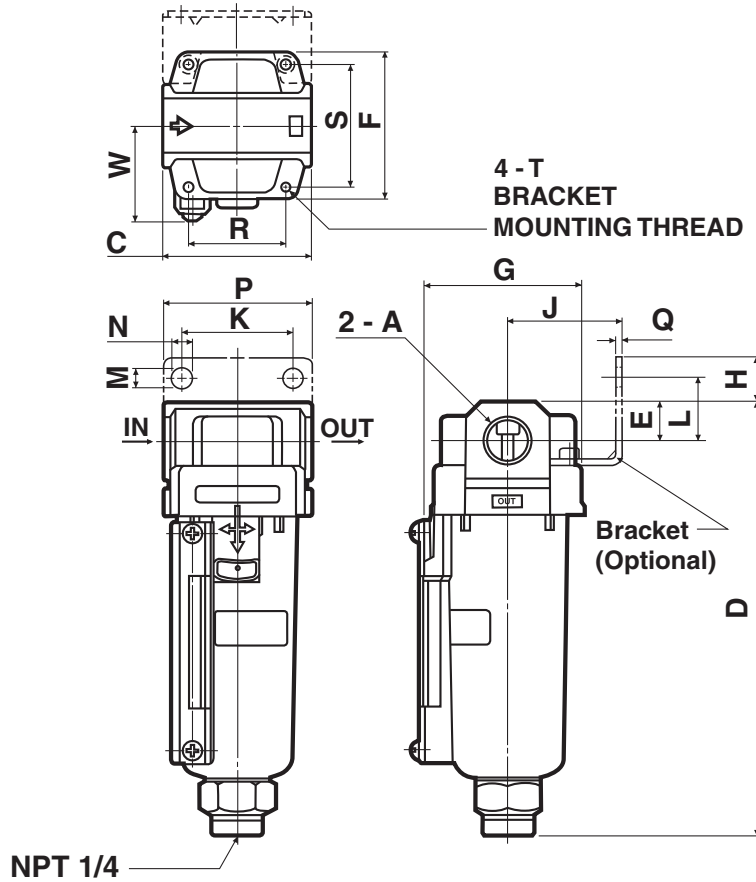


Bowl Detail U  
(AF20)

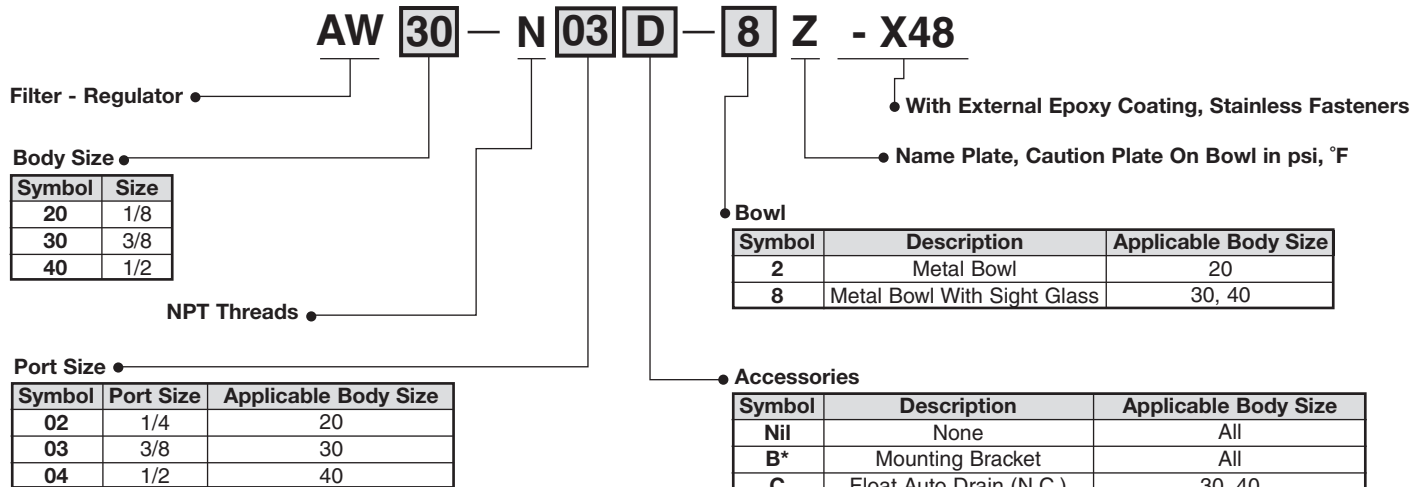


Note: Sight glass not applicable to AF20.

With Auto Drain



## How To Order



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

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



## Specifications

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

## Accessories

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

Dimensions - Refer to drawings on page 7

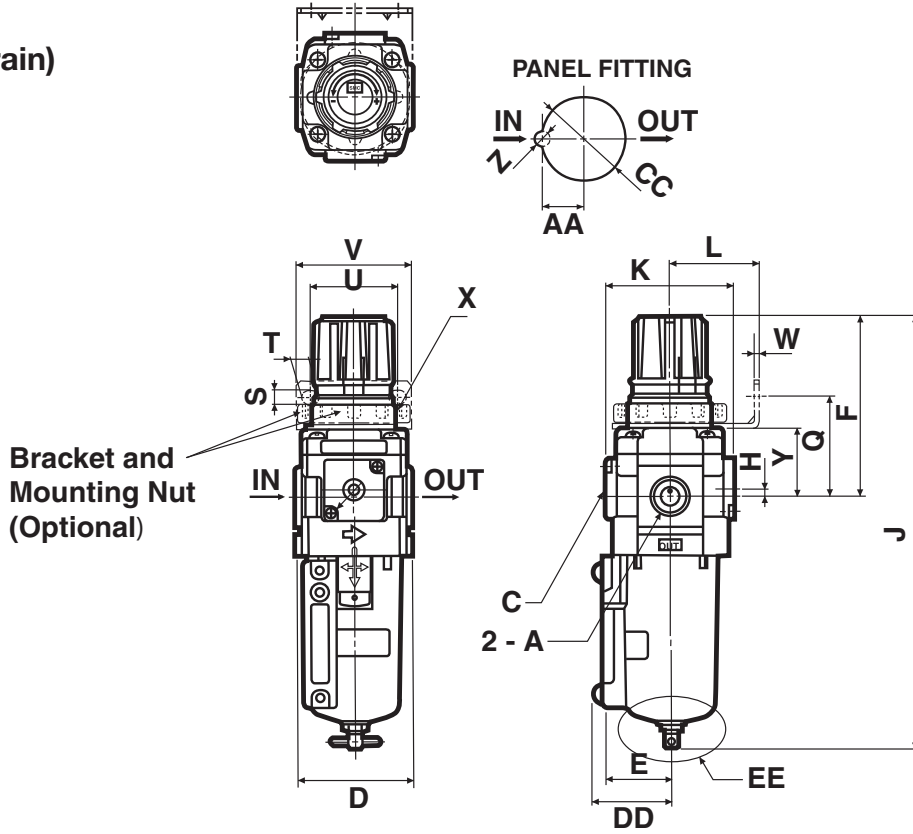
## Standard

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

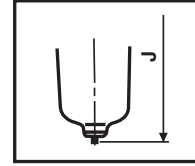
## Auto Drain

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

Standard  
(Manual Drain)

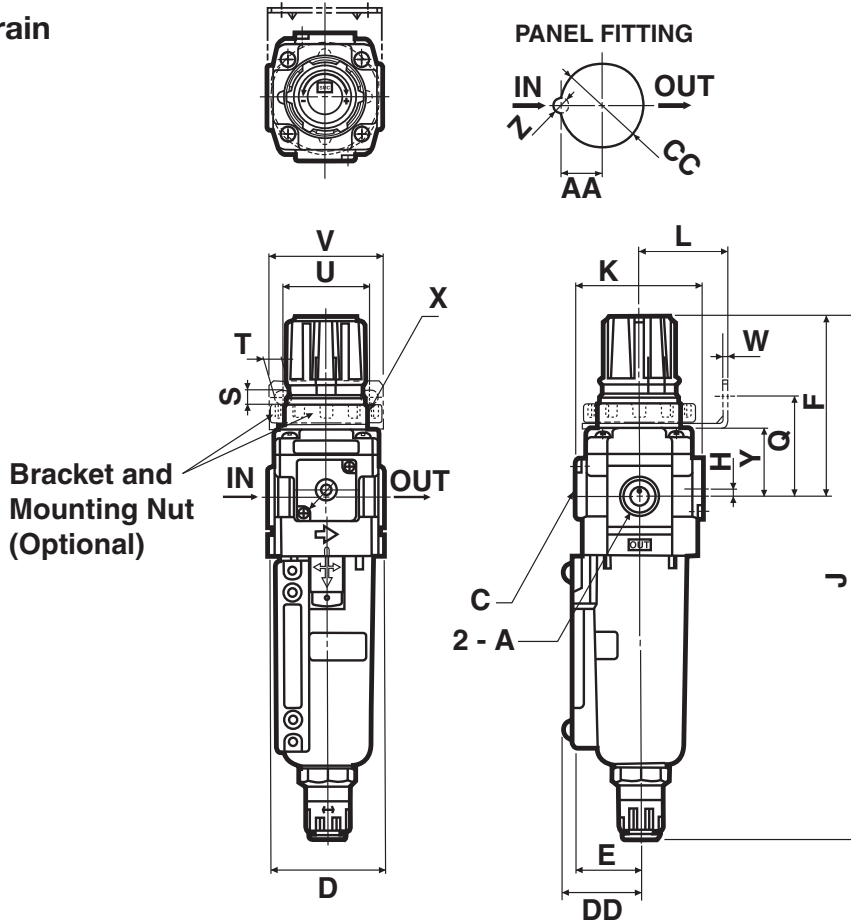


Bowl Detail EE  
(AW20)



Note: Sight glass not applicable to AW20.

With Auto Drain



## How To Order

**AR 20 - N 02 B - Y Z - X48**

Regulator

Body Size

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

NPT Threads

Port Size

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

• With External Epoxy Coating, Stainless Fasteners

• Name Plate, Caution Plate On Bowl in psi, °F

• Handle Orientation

Symbol	Description
Nil	Handle Down
Y	Handle Up

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

• Accessories

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

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



## Specifications

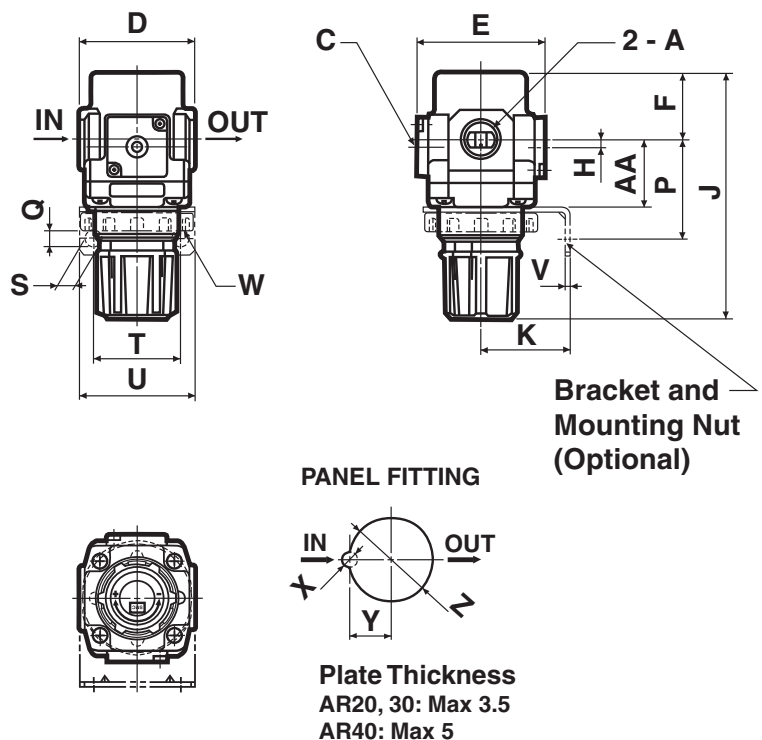
Body size	20	30	40
Operating specifications	Same as standard - see catalog ES40-42D or NC160A		
Port size	1/4" NPT	3/8" NPT	1/2" NPT
Body material	Die cast aluminum		
Body, Bowl surface treatment	Epoxy resin coating		
Bonnet	Polyacetal		
Individual mounting brackets	Epoxy coated steel		
Panel mount nut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

## Dimensions

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

## Accessories

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



## How To Order

**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.

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



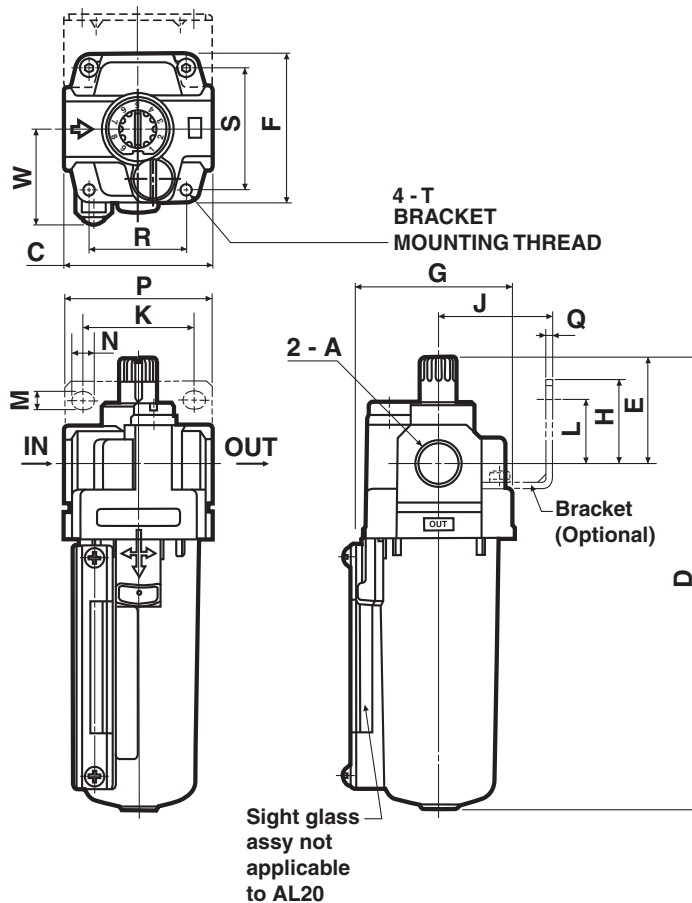
## Specifications

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

## Dimensions

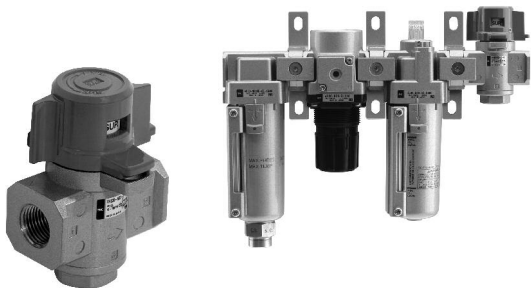
mm

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

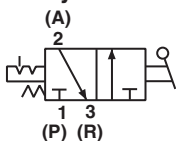


## Residual Pressure Relief 3 Port Valve (V)

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



### JIS Symbol



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

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

## How To Order

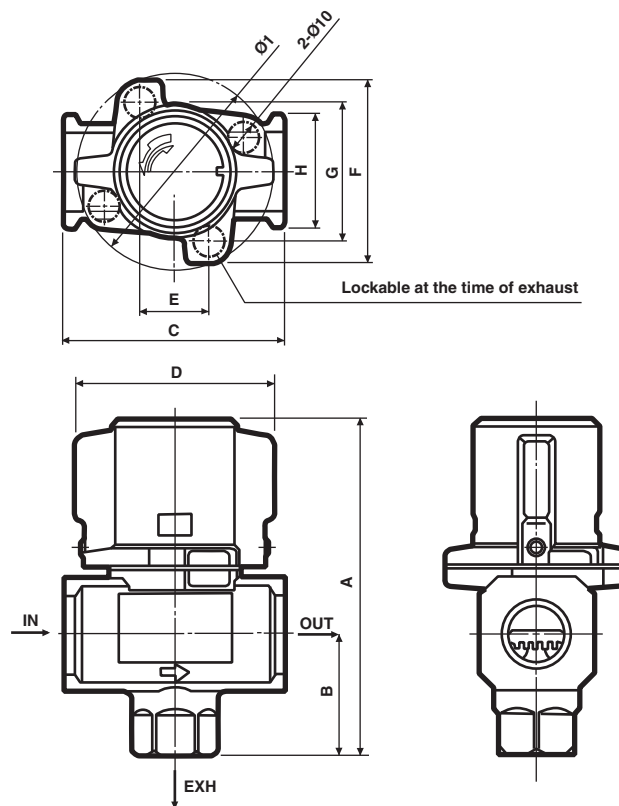
**VHS 30 - N 02 - Z - X513**

- Residual Pressure Relief 3 Port Valve
- Body Size: 30
- Thread Type: N
- Symbol: 02
- Symbol: Z
- Symbol: X513
- With External Epoxy Coating, Stainless Fasteners
- Name Plate In Imperial Units (PSI, °F)

Symbol	Applicable Model
20	AC21
30	AC31
40	AC41

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

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



### Dimensions

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

## Caution

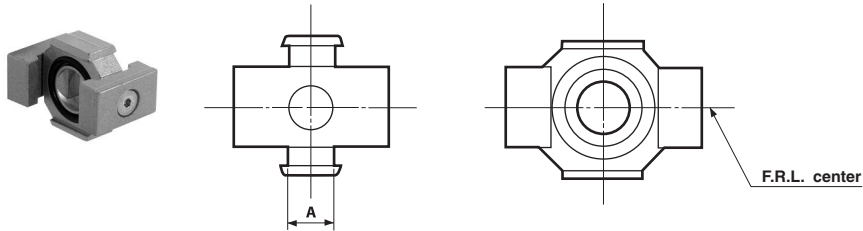
- If a stop valve or a silencer is connected to the exhaust port of VHS20/30, the effective sectional area should be larger than the figure indicated in the following table, to prevent malfunction caused by back pressure. (This is not applicable to VHS40)

Model	Effective area (mm <sup>2</sup> )
VHS20	5
VHS30	5

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

## Spacer

Epoxy Coated Aluminum,  
Stainless Screws,  
NBR Seals

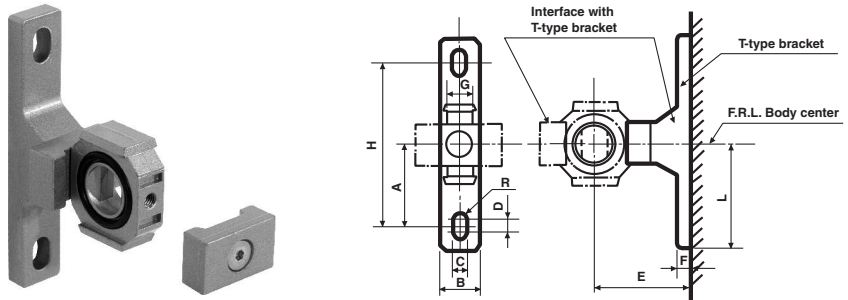


### Dimensions

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

## Interface With T Bracket

Epoxy Coated Aluminum, Stainless Screws,  
NBR Seals



### Dimensions

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

## Other Available Air Line Products with Epoxy Coating/Stainless Hardware

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

Please contact SMC for ordering information

# Salt Spray Test Results (for reference)

## 1. Test Conditions

- 1) **Method:** In compliance with ASTM B117-07a (JIS Z 2371), leave parts in a salt spray test chamber, and compare rust generation.
- 2) **Conditions:** Temperature: 95°F (35°C) Salt Water Concentration: 5%
- 3) **Time:** 1000 hours [Frequency: 0hr, 24hrs, 48hrs, 72hrs, 96hrs, 168hrs, 240hrs, 480hrs, 720hrs, 1000hrs]
- 4) **Samples:** Parts for AF and AW30 (See Figure 1.)
  - Part descriptions: 4 parts (1) Body (2) Drain cock (3) Small screw for level gauge (4) Bonnet screw
  - Types: 2 Types A) Standard B) Special X480 (Coated with epoxy resin [External metal parts are made of SUS])
  - Refer to Table 1 for part materials and treatments. \*Quantity; 2 pieces for each

## 2. Test Results Table 1 Salt spray resistance test results

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

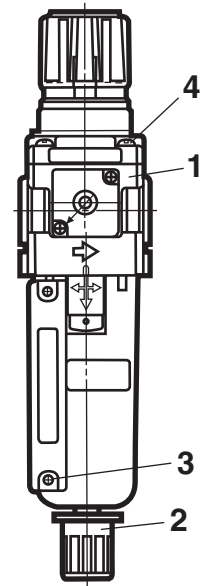
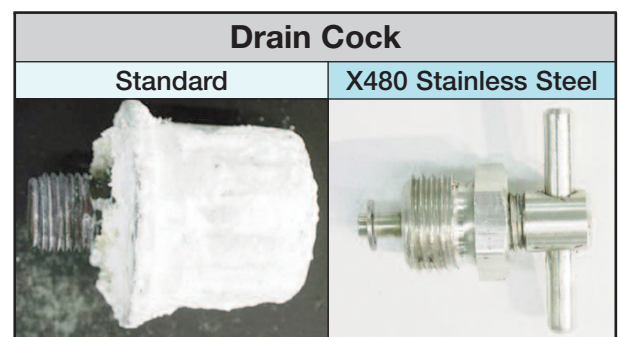
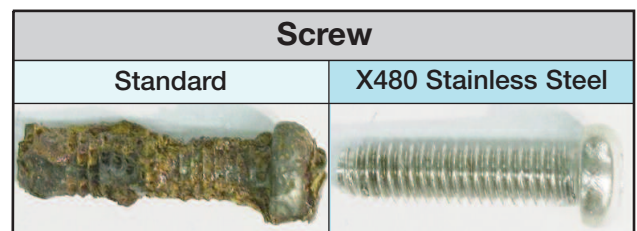
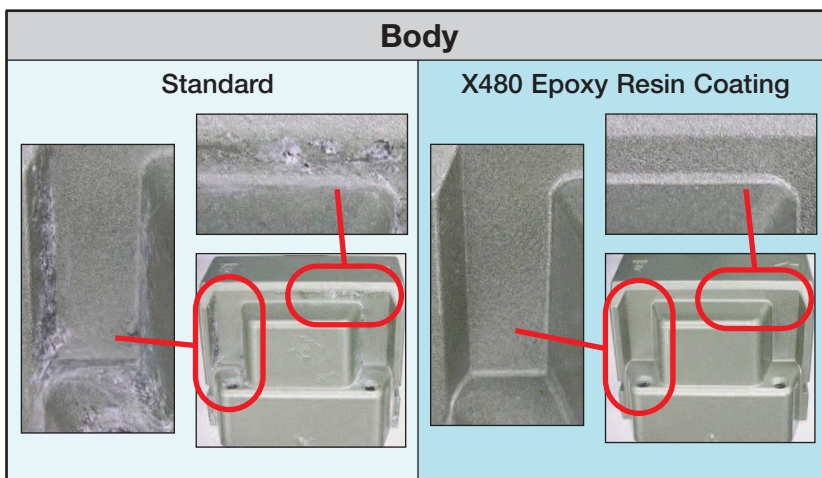


Figure 1



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