Modular F.R.L. Units



Modular Design with Uniform Body Style

Better visibility & environmental resistance



The bowl is covered with a transparent bowl guard!

* Body sizes 30 and larger

- The inside is visible from 360°.
- The bowl is completely protected from the environment, allowing for improved safety.



Material: Polycarbonate

Transparent bowl guard

Material: Polycarbonate





New A right angle square type pressure gauge and a cross adapter attachment have been added.

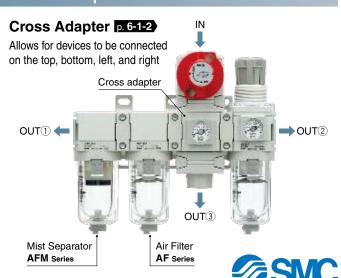
Right Angle Square Type Pressure Gauge p. 6-1-1

Allows for pressure confirmation from the knob side



Right angle square type pressure gauge

AC Series

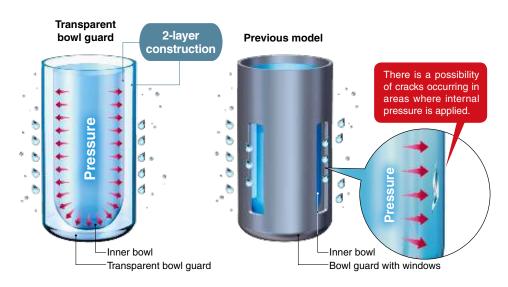


CAT.ES40-69C ©

Transparent bowl guard

Better environmental resistance: The transparent bowl guard protects the inner bowl!

The bowl guard with windows has been replaced with a polycarbonate transparent bowl guard. Now, even if the environment changes and the bowl is exposed to corrosive chemical or oil splash, the foreign matter will not come into direct contact with the pressurized bowl. This can reduce the risk of bowl breakage.

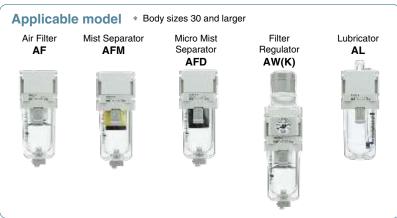




■ Better visibility: 360°

The transparent bowl guard allows for easy checking of the condensate level inside the filter bowl and the remaining oil amount in the lubricator from any direction.





No tools are required.

Easier replacement of the element * AF20-D to AF40-D only







Selection of pressure gauges



(Right angle) Square embedded type pressure gauge



Round type pressure gauge



Digital pressure switch

Open/close type gauge cover

Open the gauge cover.



Open the gauge cover in the direction of the arrow with your fingertips.

2 Adjust the indicator to a specified position.



Adjust the indicator using a flat blade screwdriver.

3 Close the gauge cover.



Close the gauge cover in the direction of the arrow and push it in until it clicks in place.

Easy to handle

Easy to hold when unlocked



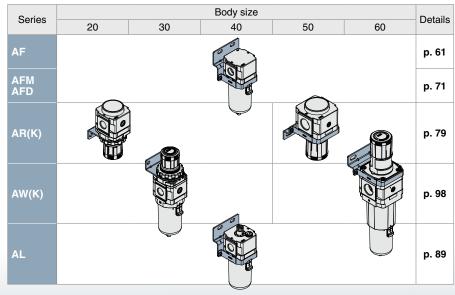
Locked



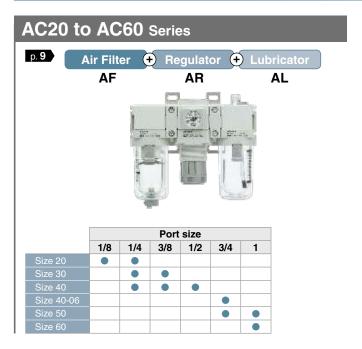
Pressure regulation while unlocked

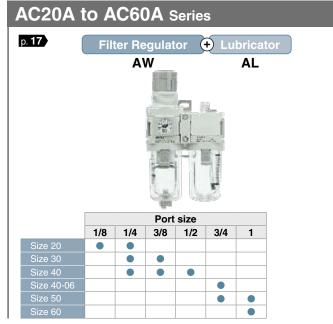
Mounting (Single unit)

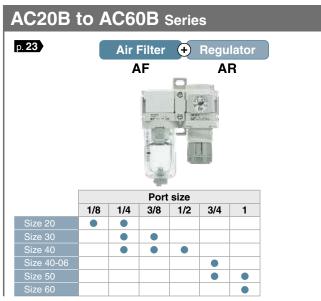
· The mounting pitch for panel mounting is interchangeable between the AR20(K)-D to AR40(K)-06-D and the AR(K)-B series and between the AW20(K)-D to AW40(K)-06-D and the AW(K)-B series. The brackets and set nuts are the same for both existing and new products.

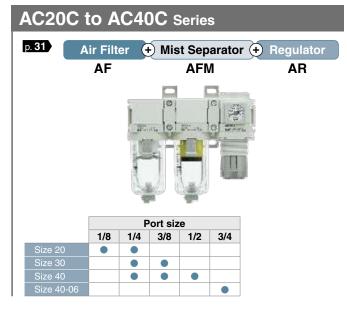


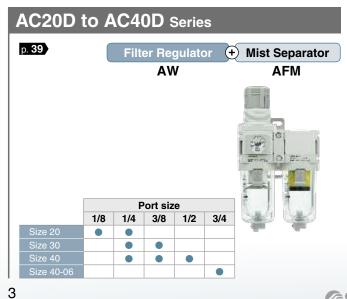
Series Configuration





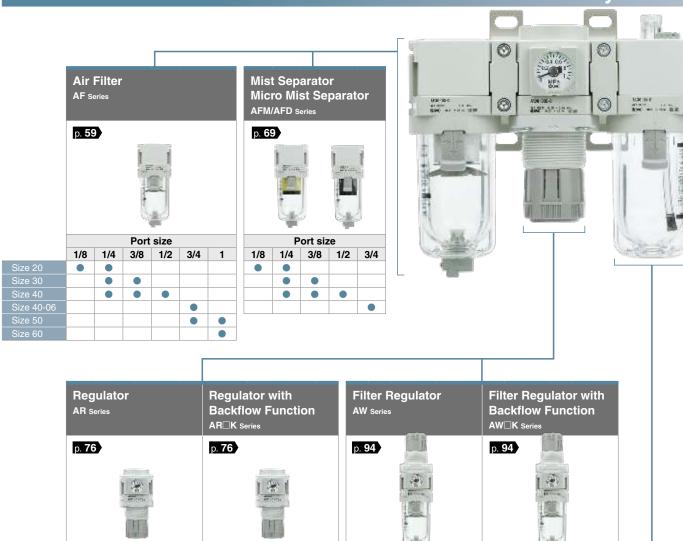






SMC

Table of Modular F.R.L. Unit Combinations for AC Assembly



Port size

1

1/8 1/4 3/8 1/2 3/4



• •

Port size

1

1/8 1/4 3/8 1/2 3/4

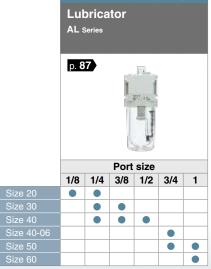
Port size

1/8 1/4 3/8 1/2 3/4 1

Size 20

Size 40

• •



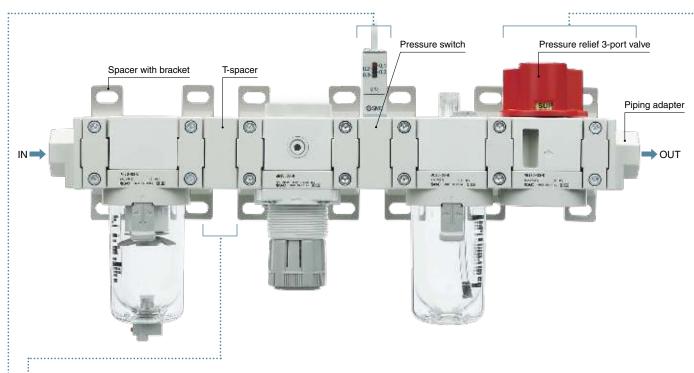
Port size

1/8 1/4 3/8 1/2 3/4

• •



Attachment List



Spacers

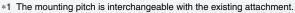
T-Spacer Y⊡10 _{Series}	Cross Y⊡4 se	Spacer eries	Spacer Y□□ Series	Spacer with Bracket Y□□T Series
Piping in 2 directions is (upward or downward).	possible Piping in p. 53	n all 4 directions is possible.	p. 48	p. 48
11	10	Front and back por		67

^{*1} The mounting pitch is interchangeable with the existing attachment.

Pressure Switches

A compact, integrated pressure switch can be easily installed to facilitate the pressure detection of the line.







Pressure Relief

Piping Adapters 3-Port Valve T-Shaped Piping Adapter E□00T _{Series} L-Shaped Piping Adapter **Pressure Relief 3-Port Valve Piping Adapter** E□00 Series E□00L Series VHS Series A piping adapter allows for the Upward or downward piping is p. **51-1** By using a pressure relief 3-port valve, installation/removal of the component possible on the inlet side and the pressure left in the line can be easily without removing the piping. outlet side of F.R.L. units. p. **49** p. **50** p. **51** New End Plate **Right Angle Adapter Reducing Adapter** New Cross Adapter E□10T Series E□10R Series E□00E Series Allows for modular connection with Allows for modular connection with Allows for devices to be connected on For blocking the unused piping ports the product rotated 90 degrees products 1 body size larger or smaller the top, bottom, left, and right on sides without a modular connection

Space-saving design and reduced piping labor

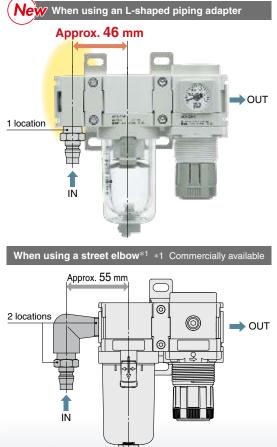


Number of screw-in

1 location ← 2 locations

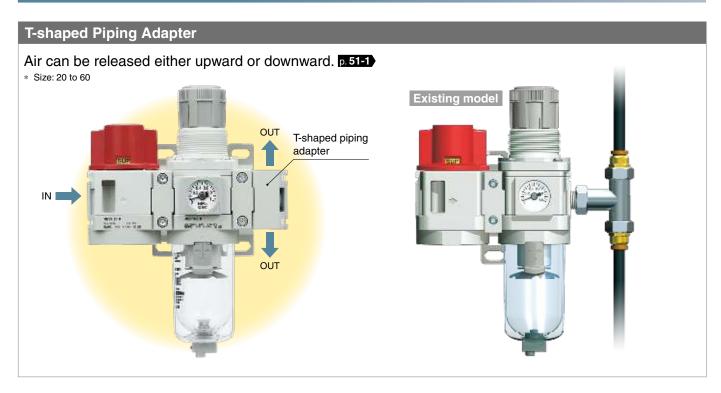
connections

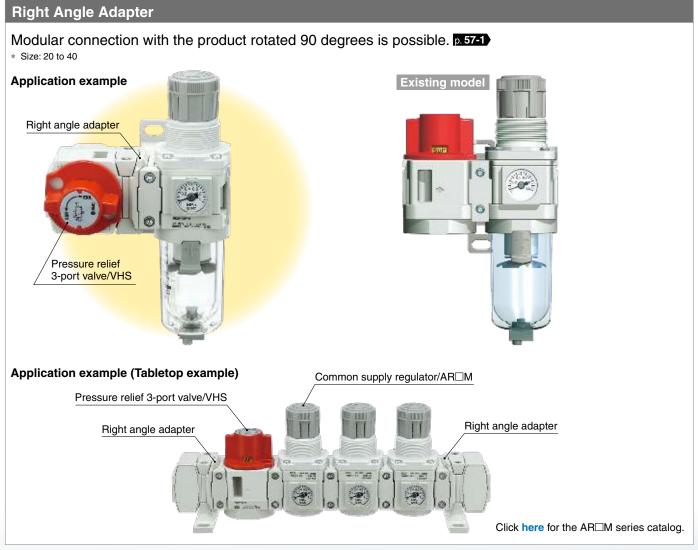
p. **57-1**





Improved piping design flexibility

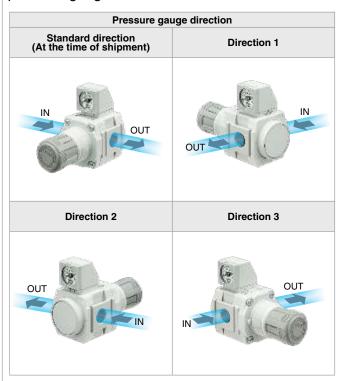


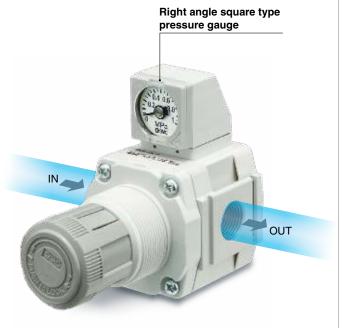


The direction the pressure gauge faces can be changed freely.

Right Angle Square Type Pressure Gauge

The direction the pressure gauge faces can be changed in 90° increments depending on where the pressure gauge needs to be viewed from.





The direction the pressure gauge scale plate faces can also be changed in 90° increments depending on the piping direction.

Scale plate	e direction
Standard direction (At the time of shipment)	Direction 1
OUT	OUT
Direction 2	Direction 3
OUT	OUT

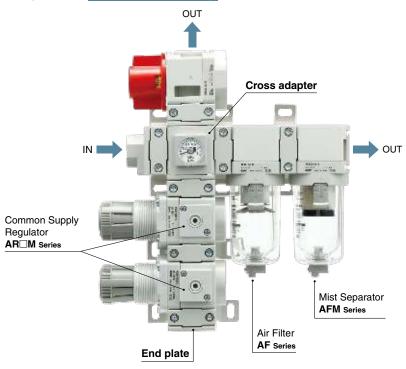


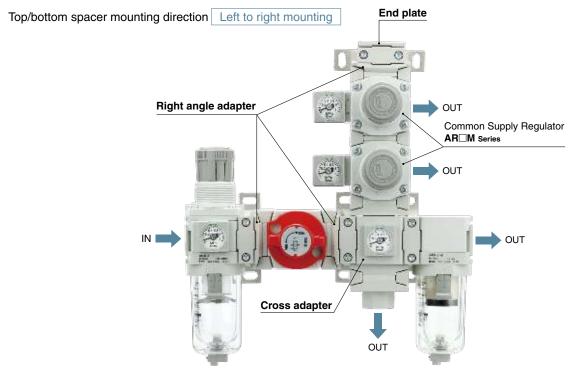
Improved piping design flexibility

Cross Adapter

Allows for devices to be connected on the top, bottom, left, and right with the use of a spacer between the product and each device 5.57-2

Top/bottom spacer mounting direction Front to back mounting





SMC

Click **here** for the AR \square M series catalog.

@ 6-1-2

Size conversion is possible Flow capacity UP Extended maintenance cycle

Reducing Adapter

Modular connection with products 1 size larger (or 1 size smaller) is possible. p. 57-1

Convertible sizes

Size 20 ← Size 30

Size 30 ← Size 40

• Example of connection with an air preparation filter 1 size larger

When using the reducing adapter AR30 + AFF40 + AM40 + AMD40

1500 L/min (ANR)*1



Existing model

AR30 + AFF30 + AM30 + AMD30

750 L/min (ANR)*1



*1 When at the max. flow capacity

Click **here** for the AFF/AM \square series catalog.

Simple Specials System

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



Short lead times

This system enables us to respond to your special needs (additional machining, accessory assembly, or the designing of a modular unit) and deliver your personalized products as quickly as standard products.

Repeat orders

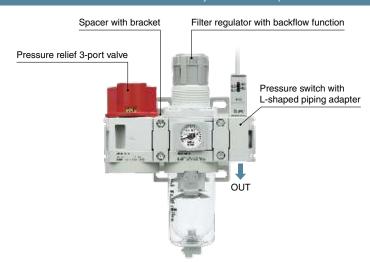
Once we receive a simple special part number from one of your previous orders, we will process the order, manufacture the product, and deliver it to you as quickly as possible.

Please contact your local sales representative for more details.

Examples of Simple Specials

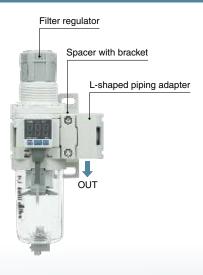
Combination example 1

* Please contact your local sales representative for ordering procedures.



Combination example 2

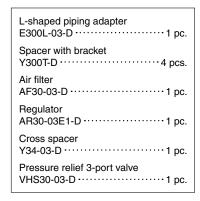
 * Please contact your local sales representative for ordering procedures.

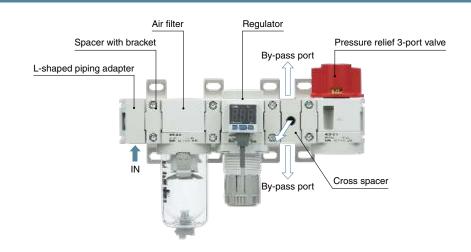




Combination example 3

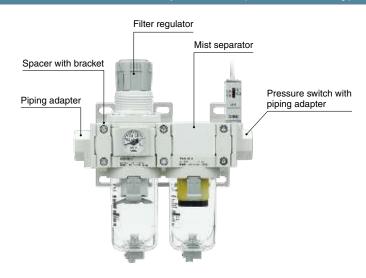
* Please contact your local sales representative for ordering procedures.





Combination example 4

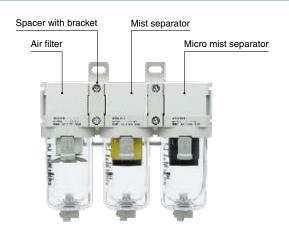
Piping adapter E300-03-D1 pc. Spacer with bracket Y300T-D 3 pcs. Filter regulator AW30-03E-D1 pc. Mist separator AFM30-03-D · · · · · · 1 pc. Pressure switch with piping adapter IS10E-30-03-D1 pc. * Please contact your local sales representative for ordering procedures.



Combination example 5

* Please contact your local sales representative for ordering procedures.

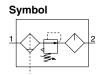
Air filter AF30-03-D ······1 pc.
Spacer with bracket Y300T-D ······2 pcs.
Mist separator AFM30-03-D ······1 pc.
Micro mist separator AFD30-03-D · · · · · · 1 pc.



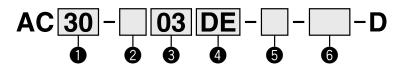


Air Filter + Regulator + Lubricator

AC20-D to AC60-D



How to Order



- · Option/Semi-standard: Select one each for a to j.
- · Option/Semi-standard symbol:

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

Example) AC30-F03DE1-16NR-D

		_						0		
				Symbol	Description		E	Body size		
						20	30	40	50	60
				Nil	Rc		•	•	•	•
2		Piı	oe thread type	N*1	NPT		•	•	•	
9		,	50 iiii 0dd iypo	F*2	G			•	•	
				+						
				01	1/8	•	_	_	_	-
				02	1/4	•	•	•	_	_
_			Davidaina	03	3/8	_	•	•	_	
8			Port size	04	1/2	_	_	•	_	_
				06	3/4	_	I —	•	•	_
				10	1	_	_	_	•	•
				+						
			Float type	Nil	Without auto drain	•	•	•	•	•
		а	Float type auto drain	C*4	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•	•	•
			adio diani	D *5	N.O. (Normally open) Drain port is open when pressure is not applied.		•	•	•	•
				+						
	<u>ش</u>			Nil	Without pressure gauge	•	•	•	•	•
4	G		Pressure gauge*6	E	Square embedded type pressure gauge (with limit indicator)	•	•	•	•	•
•	Option*3		Tressure gauge	G	Round type pressure gauge (with limit indicator)	•	•	•	•	•
		b		M	Round type pressure gauge (with color zone)	•	•	•	•	•
				E1	Output: NPN output, Electrical entry: Wiring bottom entry	•	•	•	•	•
			Digital pressure	E2	Output: NPN output, Electrical entry: Wiring top entry	•	•	•	•	•
			switch	E3	Output: PNP output, Electrical entry: Wiring bottom entry	•	•	•	•	•
				E4	Output: PNP output, Electrical entry: Wiring top entry		•	•	•	•
				+						
A	Attachment	С	Pressure relief	Nil	Without attachment	•	•	•	•	•
6	Attack		3-port valve	v	Mounting position: AF + AR + AL + V	•	•	•	•	_
				+			· ·			
			0-1*7	Nil	0.05 to 0.85 MPa setting	•	•	•	•	•
		d	Set pressure*7	1	0.02 to 0.2 MPa setting	•	•	•	•	•
				+						
				Nil	Polycarbonate bowl	•	•	•	•	•
				2	Metal bowl		•	•	•	•
			Bowl*8	6	Nylon bowl	•	•	•	•	•
	br	е	DOWI	8	Metal bowl with level gauge	_	•	•	•	•
	ng			С	With bowl guard	•	—* ⁹	—* ⁹	<u></u> *9	<u>_*9</u>
6	-sta			6C	With bowl guard (Nylon bowl)		*10	*10	*10	*10
	Semi-standard			+				r		
	Š			Nil	With drain cock	•	•	•	•	•
		f	Air filter	J*12	Drain guide 1/8	•	<u> </u>	_	_	
			drain port*11		Drain guide 1/4		•	•	•	•
				W *13	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	•	•	•	•
				+			T	1		
		g	Lubricator lubricant	Nil	Without drain cock	•	•	•	•	•
		9	exhaust port	3 *14	Lubricator with drain cock			•	•	•

Air Combination AC20-D to AC60-D Series



	\	_		Symbol	Description			O Body size	e	
						20	30	40	50	60
		L	Evhauet machanism	Nil	Relieving type	•	•	•	•	•
		h	Exhaust mechanism	N	Non-relieving type	•	•	•	•	•
	밀			+						
	standard		Flow direction	Nil	Flow direction: Left to right	•	•	•	•	•
6	sta		Flow direction	R	Flow direction: Right to left		•	•	•	•
	Semi-			+						
	Se			Nil	Unit on product label: MPa, °C, Pressure gauge in SI units: MPa	•	•	•	•	•
		j	Unit	Z *15	Unit on product label: psi, °F, Pressure gauge: MPa/psi dual scale	0*17	O*17	O*17	O*17	O*17
				ZA *16	Digital pressure switch: With unit selection function	△*1	△*18	△*18	△*18	△*18

- *1 Drain guide is NPT1/8 (applicable to the AC20-D) and NPT1/4 (applicable to the AC30-D to AC60-D). The auto drain port comes with a ø3/8" One-touch fitting (applicable to the AC30-D to AC60-D).
- Prain guide is G1/8 (applicable to the AC20-D) and G1/4 (applicable to the AC30-D to AC60-D).
 Options G and M are not assembled and supplied
- loose at the time of shipment.
- When pressure is not applied, condensate which does not start the auto drain mechanism will be left in
- the bowl. Releasing the residual condensate before ending operations for the day is recommended.

 *5 If the compressor is small (0.75 kW, discharge flow is less than 100 L/min (ANR)), air leakage from the drain cock may occur during the start of operations. N.C. type is recommended.
- *6 When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.85 MPa)
- type. 0.4 MPa pressure gauge for 0.2 MPa type. Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *8 Refer to chemical data on pages 68 and 93 for chemical resistance of the bowl.
- *9 A bowl guard is provided as standard equipment (polycarbonate).
- *10 A bowl guard is provided as standard equipment (nylon).
- The combination of float type auto drain C and D is not available.
- *12 Without a valve function
- $*13\,$ The combination of metal bowl 2 and 8 is not available. $*14\,$ When choosing with W: Air filter drain port, the drain
- cock of a lubricator will be with barb fittings. For the pipe thread type: NPT
- This product is for overseas use only according to the New Measurement Act. (The SI unit type is

provided for use in Japan.)
Cannot be used with M: Round type pressure gauge (with color zone). Available by request for special. The digital pressure switch will be equipped with the

- unit selection function, setting to psi initially. For options: E1, E2, E3, E4
 - This product is for overseas use only according to the New Measurement Act. (The SI unit is provided for use in Japan.)
- *17 O: For the pipe thread type: NPT only *18 \(\triangle:\) Select with options: E1, E2, E3, E4.

Standard Specifications

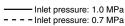
Stariuaru	Specific	audis	•													
	Model		AC20-D	AC30-D	AC40-D	AC40-06-D	AC50-D	AC60-D								
	Air Filter	[AF]	AF20-D	AF30-D	AF40-D	AF40-06-D	AF50-D	AF60-D								
Component	Regulator	[AR]	AR20-D	AR30-D	AR40-D	AR40-06-D	AR50-D	AR60-D								
-	Lubricator	[AL]	AL20-D	AL30-D	AL40-D	AL40-06-D	AL50-D	AL60-D								
Port size			1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1								
Pressure gaug	ge port size*1	[AR]			1,	/8										
Fluid					А	ir										
Ambient and	fluid tempera	atures*2			−5 to 60°C (No freezing)										
Proof pressu	ıre		1.5 MPa													
Max. operati	ng pressure				1.0	MРа										
Auto drain minii	mum N.C.	[AF]	0.1 MPa	0.1 MPa 0.15 MPa												
operating press	ure N.O.	[AF]	_			0.1 MPa										
Set pressure	range	[AR]			0.05 to 0	.85 MPa										
Nominal filtra		[AF]			5 ֈ	ım										
Compressed	l air purity cl	ass*4			ISO 8573-1:20	10 [6 : 4 : –]* ⁵										
Drain capaci	ty	[AF]	8 cm ³	8 cm ³ 25 cm ³ 45 cm ³												
Min. dripping rate*6	g flow	[AL]	15 L/min (ANR)	Port size 1/4: 30 L/min (ANR) Port size 3/8: 40 L/min (ANR)	Port size 1/4: 30 L/min (ANR) Port size 3/8: 40 L/min (ANR) Port size 1/2: 50 L/min (ANR)	50 L/min (ANR)	190 L/min (ANR)	220 L/min (ANR)								
Oil capacity		[AL]	25 cm ³ 55 cm ³ 135 cm ³													
Recommend	ed lubricant	[AL]	Class 1 turbine oil (ISO VG32)													
Bowl materia	al	[AF/AL]														
Bowl guard		[AF/AL]	Semi-standard (Steel)		Star	ndard (Polycarbon	ate)									
Construction	າ	[AR]	Relieving type													
Weight			0.38 kg	0.75 kg	1.42 kg	1.55 kg	3.34 kg	3.60 kg								
1 Pressure gaug	e connection the	reads are no	t available for FR L ur	nit with a square embe	dded type pressure ga	uge or with a digital pr	essure switch									

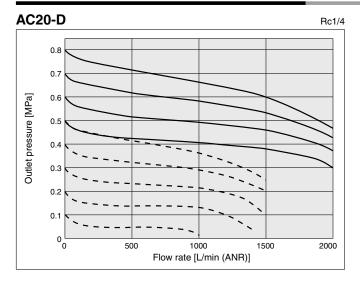
- *1 Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch.
- *2 -5 to 50°C for the products with the digital pressure switch
- For the following conditions in accordance with [Test condition: ISO 8573-4:2001 compliant, Test method ISO 12500-3:2009 compliant] Conditions: When a new element is used, and the flow capacity, inlet pressure, and the amount of solid bodies on the filter inlet side are stable
- *4 The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air Part 1: Contaminants and purity classes. For details on this standard, refer to page 110.
- *5 The compressed air quality class on the inlet side is [7:4:4].
- *6 The flow rate is 5 drops or greater/min under the following conditions: Inlet pressure of 0.5 MPa; Class 1 turbine oil (ISO VG32); Temperature at 20°C; Oil adjustment valve fully open. · For a circuit that repeatedly turns ON and OFF on the outlet side, make the adjustment so that the average air consumption per minute becomes the minimum dripping flow rate or more.

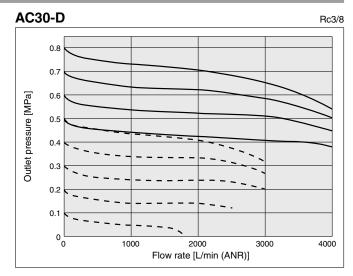


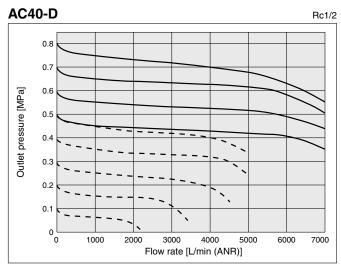
AC20-D to AC60-D Series

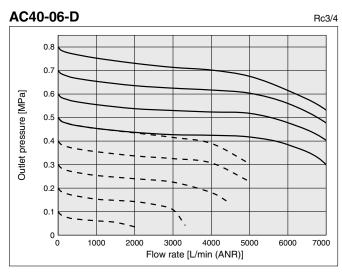
Flow Rate Characteristics (Representative values)

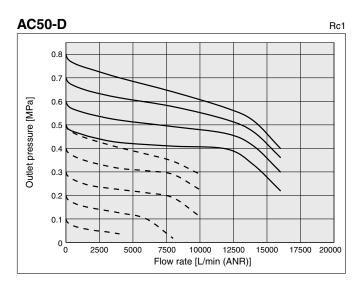


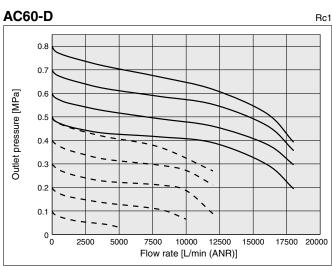














AW + AL AF + AR + AL

AF + AR

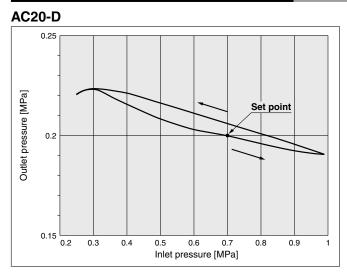
Attachments AW + AFM AF + AFM + AR

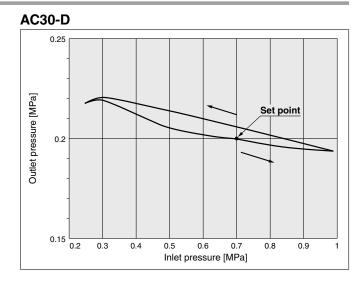
ΑF

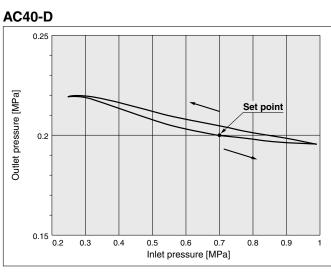
AFM / AFD

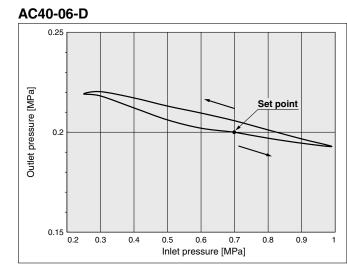
AB

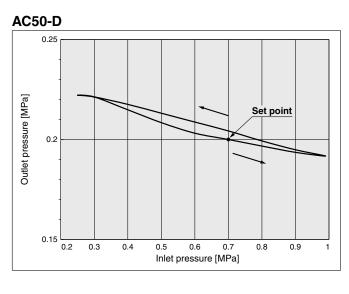
A

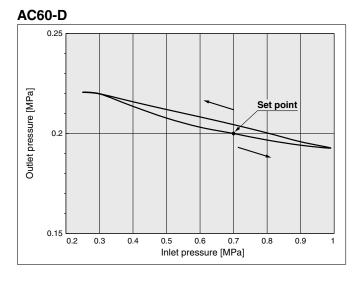






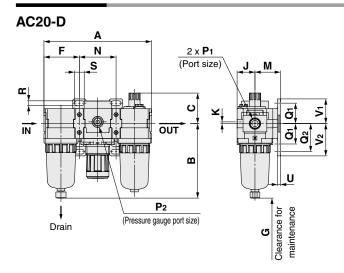


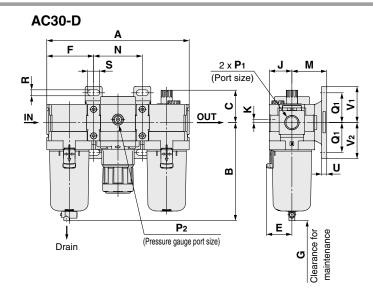




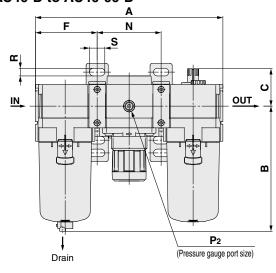
AC20-D to AC60-D Series

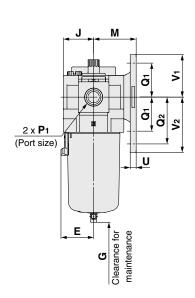
Dimensions



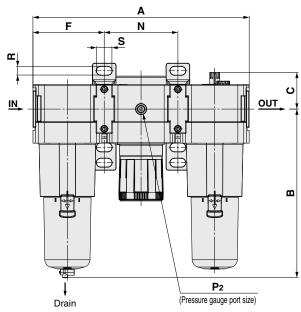


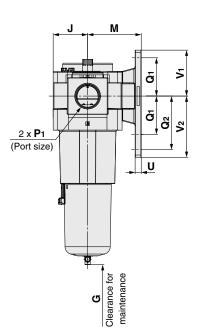
AC40-D to AC40-06-D



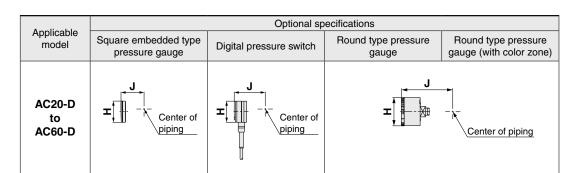


AC50-D to AC60-D









	Optional specifications			Semi-stand	dard		
Applicable		PC/PA bo	owl	Met	tal bowl	Metal bowl	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AC20-D	M5 x 0.8		1/8 Width across flats 14	B	1/8 Width across flats 14		
AC30-D to AC60-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	Width across flats 17	B	Width across flats 17	B	width across flats 17

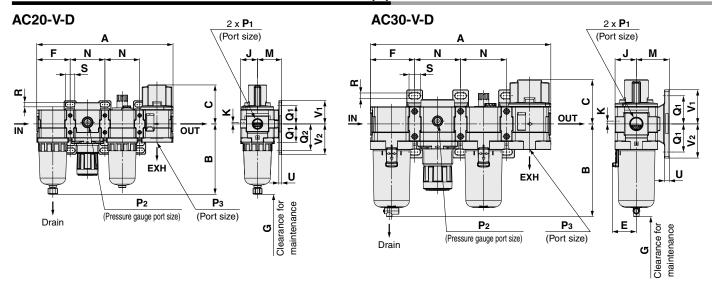
Air Combination AC20-D to AC60-D Series

							Star	ndard s	specific	ations									
Model														Bra	acket r	nount			
	P1	P ₂	Α	В	С	Е	F	G	J	K	М	N	Q1	Q ₂	R	S	U	V ₁	V ₂
AC20-D	1/8, 1/4	1/8	126.4	87.6	35.9	_	41.6	60	21	2	30	43.2	24	33	5.5	11.5	3.5	29	38
AC30-D	1/4, 3/8	1/8	167.4	115.4	38.1	30	55.1	80	26.5	3.5	41	57.2	35	_	7	14	6	42.5	42.5
AC40-D	1/4, 3/8, 1/2	1/8	220.4	147.1	44	38.4	72.6	110	35.5	_	50	75.2	40	55	9	18	7	50	65
AC40-06-D	3/4	1/8	235.4	149.1	44	38.4	77.6	110	35.5	_	50	80.2	40	55	9	18	7	50	65
AC50-D	3/4, 1	1/8	282.4	220.1	48	_	93.1	110	45	_	70	96.2	50	70	11	20	8	60	80
AC60-D	1	1/8	297.4	234.1	48	_	98.1	110	45	_	70	101.2	50	70	11	20	8	60	80

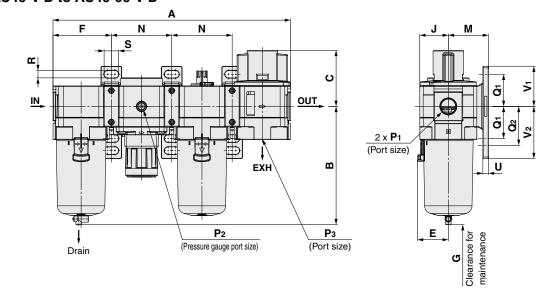
					Optiona	al speci	fications						Semi-	standard	specific		
Model	Square Properties Reported		Round	,,	Round	, ·	Round	,,	With	PC/PA	A bowl	Meta	l bowl	Metal bowl with level gauge			
Model	type pr gau		swite	ch	gauge (Semi- standard: Z)		gauge color z		auto drain	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide		
	Н	J	Н	J	Н	J	Н	H J		J	В	В	В	В	В	В	В
AC20-D	□28	27	□27.8	37.5	ø37.5	7.5 57.5 ø37.5 58.5		ø37.5	58.5	104.9	_	91.4	87.4	93.9	_	_	
AC30-D	□28	32.5	□27.8	43	ø37.5	63	ø37.5	64	ø37.5	64	157.1	123.9	122.2	117.8	122.3	137.8	142.3
AC40-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	186.9	155.6	153.9	149.5	154	169.5	174
AC40-06-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	188.9	157.6	155.9	151.5	156	171.5	176
AC50-D	□28	51	□27.8	61.5	ø42.5	82.5	ø42.5	ø42.5 82.5		82.5	259.9	228.6	226.9	222.5	227	242.5	247
AC60-D	□28	51	□27.8	61.5	ø42.5	82.5	ø42.5	82.5	ø42.5	82.5	273.9	242.6	240.9	236.5	241	256.5	261

AC20-D to AC60-D Series

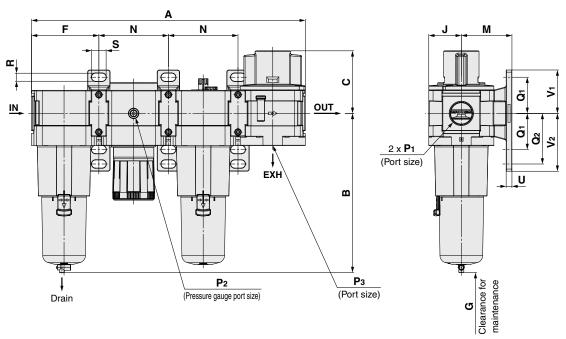
Dimensions: With Pressure Relief 3-Port Valve (V)



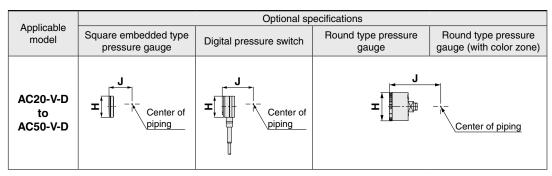
AC40-V-D to AC40-06-V-D



AC50-V-D



ΑF



	Optional specifications			Semi-stand	dard		
Applicable		PC/PA bo	owl	Met	al bowl	Metal bowl v	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AC20-V-D	M5 x 0.8		1/8 Width across flats 14	B	1/8 Width across flats 14		
AC30-V-D to AC50-V-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	1/4 Width across flats 17	B	Midth across flats 17	B	Width across flats 17

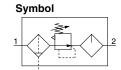
Air Combination AC20-D to AC60-D Series

								Standa	ard spe	ecificati	ions									
Model															Bra	cket n	nount			
	P1	P ₂	Рз	Α	В	С	Е	F	G	J	K	М	N	Q1	Q2	R	S	U	V ₁	V ₂
AC20-V-D	1/8, 1/4	1/8	1/8	169.6	87.6	48.5	_	41.6	60	21	2	30	43.2	24	33	5.5	11.5	3.5	29	38
AC30-V-D	1/4, 3/8	1/8	1/4	224.6	115.4	55	30	55.1	80	26.5	3.5	41	57.2	35	_	7	14	6	42.5	42.5
AC40-V-D	1/4, 3/8, 1/2	1/8	3/8	295.6	147.1	69.7	38.4	72.6	110	35.5	_	50	75.2	40	55	9	18	7	50	65
AC40-06-V-D	3/4	1/8	1/2	315.6	149.1	71.7	38.4	77.6	110	35.5	_	50	80.2	40	55	9	18	7	50	65
AC50-V-D	3/4, 1	1/8	1/2	378.6	220.1	86.5		93.1	110	45	_	70	96.2	50	70	11	20	8	60	80

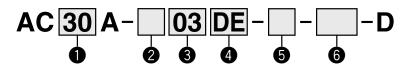
					Optiona	al speci	fications						Semi-	-standard	specific	ations	
Model	Squ		Digital pr	essure	Round		Round	, ·	Round	,,	With	PC/PA	A bowl	Meta	l bowl		owl with gauge
Model ty	,,,	type pressure gauge		ch	gau		gauge (standa		gauge color z		drain	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	Н	J	Н	J	Н	J	Н	J	Н	J	В	В	В	В	В	В	В
AC20-V-D	□28	27	□27.8	37.5	ø37.5	57.5	ø37.5	58.5	ø37.5	58.5	104.9	_	91.4	87.4	93.9	_	
AC30-V-D	□28	32.5	□27.8	43	ø37.5	63	ø37.5	64	ø37.5	64	157.1	123.9	122.2	117.8	122.3	137.8	142.3
AC40-V-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	186.9	155.6	153.9	149.5	154	169.5	174
AC40-06-V-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	ø42.5 73		73	188.9	157.6	155.9	151.5	156	171.5	176
AC50-V-D	-D □28 51 □27.8 61.5 ø42.5 82.5 ø42.5 82.		82.5	ø42.5	82.5	259.9	228.6	226.9	222.5	227	242.5	247					

Filter Regulator + Lubricator

AC20A-D to AC60A-D



How to Order



- \cdot Option/Semi-standard: Select one each for \boldsymbol{a} to $\boldsymbol{j}.$
- · Option/Semi-standard symbol:

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

Example) AC30A-F03DE1-16NR-D

	_							0		
			_	Symbol	Description			Body siz	Α	
						20	30	40	50	60
				AI:I	D:					
		D:	no through turns	Nil N*1	Rc NPT	•	•	•	•	•
2		ΡI	pe thread type	F*2			•	•	•	
				+	G					
				01	1/8					
				02	1/4			•		$\vdash \equiv \vdash$
				03	3/8					
8			Port size	03	1/2					
				06	3/4		$+ \equiv$	•	•	
				10	1	—	_			
				+	'					
				Nil	Without auto drain					
		а	Float type	C*4	N.C. (Normally closed) Drain port is closed when pressure is not applied.					
		_	auto drain	D *5	N.O. (Normally open) Drain port is open when pressure is not applied.				•	•
				+	(_		
	_			Nil	Without pressure gauge		•	•	•	
	Option*3			E	Square embedded type pressure gauge (with limit indicator)		•	•	•	•
4	ptic		Pressure gauge*6	G	Round type pressure gauge (with limit indicator)		•	•	•	•
	O			M	Round type pressure gauge (with color zone)		•	•	•	•
		b		E1	Output: NPN output, Electrical entry: Wiring bottom entry		•	•	•	•
			Digital pressure	E2	Output: NPN output, Electrical entry: Wiring top entry		•	•	•	•
			switch	E3	Output: PNP output, Electrical entry: Wiring bottom entry	•	•	•	•	•
				E4	Output: PNP output, Electrical entry: Wiring top entry		•	•	•	•
				+	3.4					
A	Attachment		Pressure relief	Nil	Without attachment	•	•	•	•	•
6	Attack	С	3-port valve	V	Mounting position: AW + AL + V	•	•	•	•	_
				+						
		d	Set pressure*7	Nil	0.05 to 0.85 MPa setting	•	•	•	•	•
		ŭ	Oct pressure	1	0.02 to 0.2 MPa setting	•	•	•	•	•
				+						
				Nil	Polycarbonate bowl	•	•	•	•	•
				2	Metal bowl	•	•	•	•	•
		е	Bowl*8	6	Nylon bowl	•	•	•	•	•
			20111	8	Metal bowl with level gauge	_	•	•	•	•
	Ģ			С	With bowl guard	•	*9	_*9	_*9	*9
	dar			6C	With bowl guard (Nylon bowl)		*10	*10	*10	*10
6	Semi-standard			+						
	ni-s			Nil	With drain cock	•	•	•	•	•
	Ser	f	Filter regulator	J*12	Drain guide 1/8	•	 -		_	
			drain port*11		Drain guide 1/4		•	•	•	•
				W*13	Drain cock with barb fitting (for ø6 x ø4 nylon tube)		•	•	•	
				+		_		-	-	
		g	Lubricator lubricant	Nil	Without drain cock	•	•	•	•	•
			exhaust port	3 *14	Lubricator with drain cock		•	•	•	
				+		-	1 -	_	_	
		h	Exhaust	Nil	Relieving type	-	•	•	•	•
			mechanism	N	Non-relieving type					

Air Combination AC20A-D to AC60A-D Series



AC30A-D

	\	_						0		
				Symbol	Description		E	Body size	е	
						20	30	40	50	60
			Flow direction	Nil	Flow direction: Left to right	•	•	•	•	•
	standard		Flow direction	R	Flow direction: Right to left	•	•	•	•	•
A	gu			+						
6	1 1			Nil	Unit on product label: MPa, °C, Pressure gauge in SI units: MPa	•	•	•	•	•
	Semi	j	Unit	Z *15	Unit on product label: psi, °F, Pressure gauge: MPa/psi dual scale	O*17	O*17	O*17	O*17	O*17
	0)			ZA *16	Digital pressure switch: With unit selection function	△*18	△*18	△*18	△*18	△*18
			is NPT1/8 (applicable /4 (applicable to the				sing with \			

- AC60A-D). The auto drain port comes with a ø3/8" One-touch fitting (applicable to the AC30A-D to AC60A-D).
- *2 Drain guide is G1/8 (applicable to the AC20A-D) and G1/4 (applicable to the AC30A-D to AC60A-D).
- *3 Options G and M are not assembled and supplied loose at the time of shipment.
- *4 When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended.
- *5 If the compressor is small (0.75 kW, discharge flow is less than 100 L/min (ANR)), air leakage from the drain cock may occur during the start of operations. N.C. type is recommended.
- type. 0.4 MPa pressure gauge for 0.2 MPa type.
- *7 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *8 Refer to chemical data on pages 93 and 109 for chemical resistance of the bowl.
- *9 A bowl guard is provided as standard equipment (polycarbonate).
- *10 A bowl guard is provided as standard equipment (nylon).
- The combination of float type auto drain C and D is not available.
- *12 Without a valve function
- *13 The combination of metal bowl 2 and 8 is not

- fittings.
- For the pipe thread type: NPT This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round type pressure gauge
 - (with color zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function, setting to psi initially. For options: E1, E2, E3, E4
- This product is for overseas use only according to the New Measurement Act. (The SI unit is provided for use in Japan.)
- *17 O: For the pipe thread type: NPT only *18 A: Select with options: E1, E2, E3, E4.

Standard Specifications

<u>Standard</u>	Specific	alions	<u> </u>					
	Model		AC20A-D	AC30A-D	AC40A-D	AC40A-06-D	AC50A-D	AC60A-D
Component	Filter Regulator	[AW]	AW20-D	AW30-D	AW40-D	AW40-06-D	AW60-D	AW60-D
Component	Lubricator	[AL]	AL20-D	AL30-D	AL40-D	AL40-06-D	AL50-D	AL60-D
Port size			1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Pressure gaug	ge port size*1	[AW]			1,	/8		
Fluid					Д	ir		
Ambient and	fluid temper	atures*2			–5 to 60°C ((No freezing)		
Proof pressu	ıre				1.5	MPa		
Max. operati	ng pressure				1.0	MPa		
Auto drain minii	mum N.C.	[AW]	0.1 MPa			0.15 MPa		
operating press	sure N.O.	[AW]	_			0.1 MPa		
Set pressure		[AW]			0.05 to 0).85 MPa		
Nominal filtra		[AW]				um		
Compressed	l air purity cl	ass*4			ISO 8573-1:20	10 [6 : 4 : –]*5		
Drain capaci	ity	[AW]	8 cm ³	25 cm ³		45	cm ³	
Min. dripping	g flow	[AL]	15 L/min (ANR)	Port size 1/4: 30 L/min (ANR) Port size 3/8: 40 L/min (ANR)	Port size 1/4: 30 L/min (ANR) Port size 3/8: 40 L/min (ANR) Port size 1/2: 50 L/min (ANR)	50 L/min (ANR)	190 L/min (ANR)	220 L/min (ANR)
Oil capacity		[AL]	25 cm ³	55 cm ³		135	cm ³	
Recommend	ed lubricant	[AL]		· ·	Class 1 turbine	oil (ISO VG32)		
Bowl materia	al	[AW/AL]			Polyca	rbonate		
Bowl guard		[AW/AL]	Semi-standard (Steel)			ndard (Polycarbon	ate)	
Construction	1	[AW]			Relievi	ng type		
Weight			0.31 kg	0.58 kg	1.12 kg	1.22 kg	2.90 kg	2.97 kg

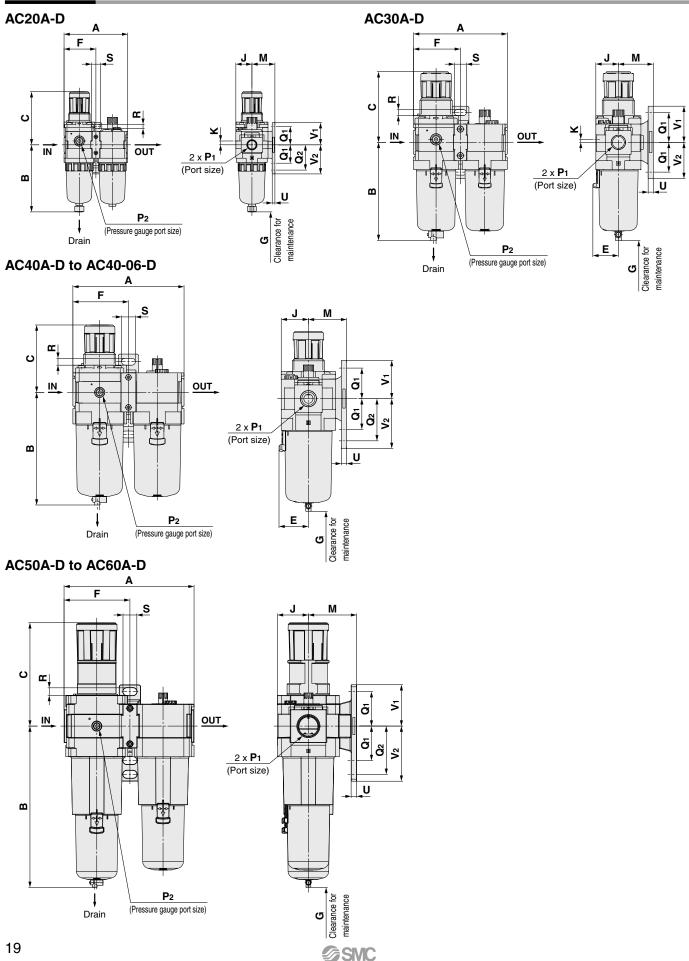
- *1 Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch.
- -5 to 50°C for the products with the digital pressure switch
- *3 For the following conditions in accordance with [Test condition: ISO 8573-4:2001 compliant, Test method ISO 12500-3:2009 compliant] Conditions: When a new element is used, and the flow capacity, inlet pressure, and the amount of solid bodies on the filter inlet side are stable
- *4 The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air Part 1: Contaminants and purity classes. For details on this standard, refer to page 110.
- *5 The compressed air quality class on the inlet side is [7:4:4].
- *6 The flow rate is 5 drops or greater/min under the following conditions: Inlet pressure of 0.5 MPa; Class 1 turbine oil (ISO VG32); Temperature at 20°C; Oil adjustment valve fully open.

 For a circuit that repeatedly turns ON and OFF on the outlet side, make the adjustment so that the average air consumption per minute becomes the minimum dripping flow rate or more.

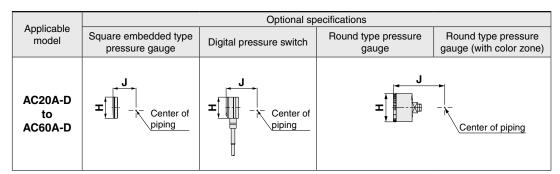


AC20A-D to AC60A-D Series

Dimensions



19



	Optional specifications			Semi-stand	dard		
Applicable		PC/PA bo	owl	Met	tal bowl	Metal bowl	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AC20A-D	M5 x 0.8		1/8 Width across flats 14	B	1/8 Width across flats 14		
AC30A-D to AC60A-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	1/4 Width across flats 17	B	Width across flats 17	B	Midth across flats 17

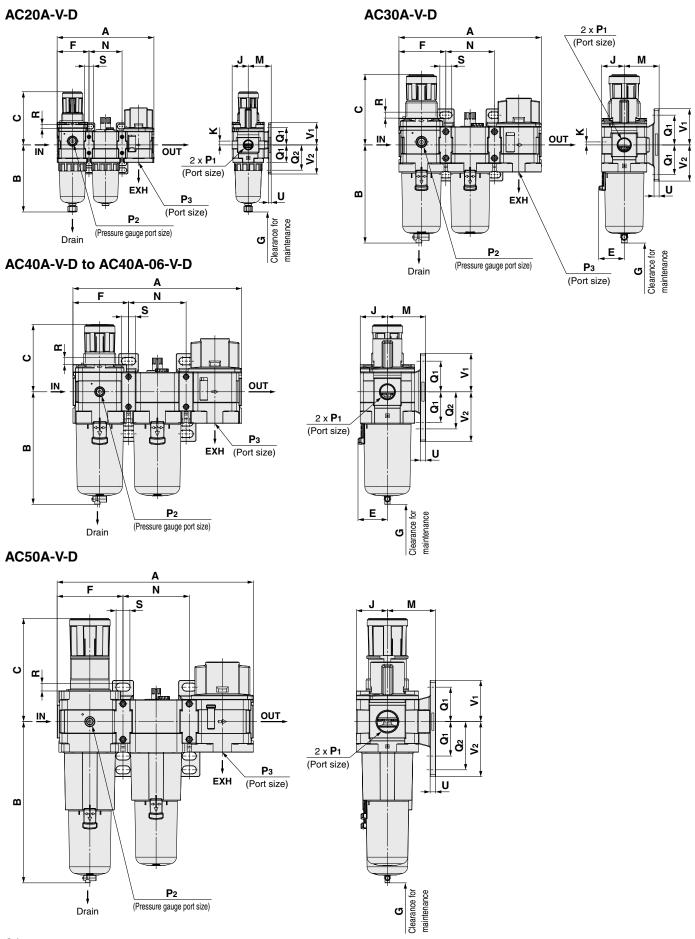
Air Combination AC20A-D to AC60A-D Series

							Standa	ırd spec	cification	ns								
Model														Brack	et mour	nt		
	P1	P ₂	Α	В	С	Е	F	G	J	K	М	Q1	Q2	R	S	U	V ₁	V ₂
AC20A-D	1/8, 1/4	1/8	83.2	87.6	71.8	_	41.6	60	21	5	30	24	33	5.5	11.5	3.5	29	38
AC30A-D	1/4, 3/8	1/8	110.2	115.3	86.5	30	55.1	80	26.5	3.5	41	35	_	7	14	6	42.5	42.5
AC40A-D	1/4, 3/8, 1/2	1/8	145.2	147.1	91.5	38.4	72.6	110	35.5	_	50	40	55	9	18	7	50	65
AC40A-06-D	3/4	1/8	155.2	149.1	93	38.4	77.6	110	35.5	_	50	40	55	9	18	7	50	65
AC50A-D	3/4, 1	1/8	191.2	234.1	155	_	98.1	110	45	_	70	50	70	11	20	8	60	80
AC60A-D	1	1/8	196.2	234.1	155	_	98.1	110	45	_	70	50	70	11	20	8	60	80

					Optiona	al speci	fications						Semi-	standard	specific	ations	
Model	Squ embe		Digital pr	essure	Round		Round	,,	Round	,,	With	PC/PA	A bowl	Meta	l bowl		owl with gauge
Model	type pr gau		swite	ch	press gau		gauge (standa		gauge color z	•		With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	Н	J	Н	J	Н	J	Н	J	Н	J	В	В	В	В	В	В	В
AC20A-D	□28	27	□27.8	37.5	ø37.5	57.5	ø37.5	58.5	ø37.5	58.5	104.9	_	91.4	87.4	93.9	_	
AC30A-D	□28	32.5	□27.8	43	ø37.5	63	ø37.5	64	ø37.5	64	157.1	123.9	122.2	117.8	122.3	137.8	142.3
AC40A-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	186.9	155.6	153.9	149.5	154	169.5	174
AC40A-06-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	188.9	157.6	155.9	151.5	156	171.5	176
AC50A-D	□28	51	□27.8	61.5	ø42.5	82.5	ø42.5	82.5	ø42.5	82.5	273.9	242.6	240.9	236.5	241	256.5	261
AC60A-D	□28	51	□27.8	61.5	ø42.5	82.5	ø42.5	82.5	ø42.5	82.5	273.9	242.6	240.9	236.5	241	256.5	261

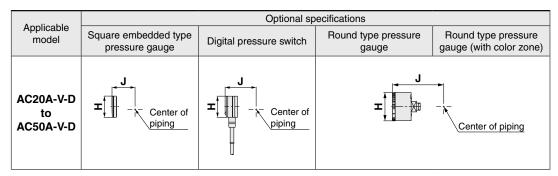
AC20A-D to AC60A-D Series

Dimensions: With Pressure Relief 3-Port Valve (V)



SMC

ΑF



	Optional specifications			Semi-stand	dard		
Applicable		PC/PA bo	owl	Met	al bowl	Metal bowl	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AC20A-V-D	M5 x 0.8		Midth across flats 14	B	1/8 Width across flats 14		
AC30A-V-D to AC50A-V-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	Width across flats 17	B	Width across flats 17	B	width across flats 17

Air Combination AC20A-D to AC60A-D Series

								Standa	rd spe	cification	ons									
Model															Bra	cket n	nount			
	P1	P ₂	Рз	Α	В	С	Е	F	G	J	K	М	N	Q1	Q ₂	R	S	U	V ₁	V ₂
AC20A-V-D	1/8, 1/4	1/8	1/8	126.4	87.6	71.8	_	41.6	60	21	5	30	43.2	24	33	5.5	11.5	3.5	29	38
AC30A-V-D	1/4, 3/8	1/8	1/4	167.4	115.3	86.5	30	55.1	80	26.5	3.5	41	57.2	35	_	7	14	6	42.5	42.5
AC40A-V-D	1/4, 3/8, 1/2	1/8	3/8	220.4	147.1	91.5	38.4	72.6	110	35.5	_	50	75.2	40	55	9	18	7	50	65
AC40A-06-V-D	3/4	1/8	1/2	235.4	149.1	93	38.4	77.6	110	35.5	_	50	80.2	40	55	9	18	7	50	65
AC50A-V-D	3/4, 1	1/8	1/2	287.4	234.1	155		98.1	110	45	_	70	96.2	50	70	11	20	8	60	80

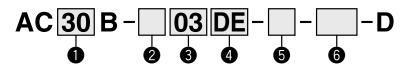
Model ty					Optiona	al speci	fications						Semi-	standard	specific	ations	
	Squ	iare edded	Digital pr	ressure	Round		Round	, ·	Round	,,	With	PC/PA	A bowl	Meta	l bowl		owl with gauge
	type pr gau	essure uge	swit	ch	gau		gauge (standa		gauge color z		drain	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	Н	J	Н	J	Н	J	Н	J	Н	J	В	В	В	В	В	В	В
AC20A-V-D	□28	27	□27.8	37.5	ø37.5	57.5	ø37.5	58.5	ø37.5	58.5	104.9	_	91.4	87.4	93.9	_	_
AC30A-V-D	□28	32.5	□27.8	43	ø37.5	63	ø37.5	64	ø37.5	64	157.1	123.9	122.2	117.8	122.3	137.8	142.3
AC40A-V-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	186.9	155.6	153.9	149.5	154	169.5	174
AC40A-06-V-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	188.9	157.6	155.9	151.5	156	171.5	176
AC50A-V-D	□28	51	□27.8	61.5	ø42.5	82.5	ø42.5	82.5	ø42.5	82.5	273.9	242.6	240.9	236.5	241	256.5	261

Air Filter + Regulator

AC20B-D to AC60B-D



How to Order



- \cdot Option/Semi-standard: Select one each for \boldsymbol{a} to $\boldsymbol{i}.$
- · Option/Semi-standard symbol:

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

Example) AC30B-F03DE1-16NR-D

	_	_					,	0		
				Symbol	Description		E	Body siz	e	
						20	30	40	50	60
				Nil	Rc		•	•	•	
2		Pi	pe thread type	N*1	NPT		•	•	•	•
	1	- 1	,,,,,	F*2	G		•	•	•	•
				+	•					
				01	1/8	•	_	_	_	_
				02	1/4	•	•	•	_	_
6			Dawk sins	03	3/8	_	•	•	_	_
3	'		Port size	04	1/2	_	_	•	_	_
				06	3/4	_	_	•	•	_
				10	1	_	_	_	•	•
				+						
			Float type	Nil	Without auto drain	•	•	•	•	•
		а	auto drain	C*4	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•	•	•
				D *5	N.O. (Normally open) Drain port is open when pressure is not applied.	_	•	•	•	
			I	+						
	ო *_			Nil	Without pressure gauge	•	•	•	•	•
4	Option*3		Pressure gauge*6	E	Square embedded type pressure gauge (with limit indicator)	•	•	•	•	•
	ob			G	Round type pressure gauge (with limit indicator)	•	•	•	•	•
		b		M	Round type pressure gauge (with color zone)		•	•	•	•
				E1	Output: NPN output, Electrical entry: Wiring bottom entry		•	•	•	•
			Digital pressure switch	E2	Output: NPN output, Electrical entry: Wiring top entry	•	•	•	•	•
			SWILCH	E3	Output: PNP output, Electrical entry: Wiring bottom entry	•	-			•
				E4	Output: PNP output, Electrical entry: Wiring top entry		•		•	
	Ħ				With out alto along out					
	mer		Pressure relief	Nil	Without attachment		_	•		
6	Attachment	С	3-port valve	V	Mounting position: AF + AR + V	•	•	•	•	
	¥			V1*7	Mounting position: V + AF + AR□K		•	•	•	_
				+				,		
		d	Set pressure*8	Nil	0.05 to 0.85 MPa setting	•	•	•	•	•
				1	0.02 to 0.2 MPa setting		•	•	•	
				+		_				
				Nil	Polycarbonate bowl		•	•	•	•
				2	Metal bowl	•	•	•	•	
		е	Bowl*9	6	Nylon bowl	_	-	•	•	
	dare			8 C	Metal bowl with level gauge With bowl guard	_	*10	*10	*10	*10
6	tanc			6C	With bowl guard (Nylon bowl)		*11	*11	*11	*11
U	Semi-standard			+	Will bowl guard (Nylon bowl)		1—			
	Sen			Nil	With drain cock		•	•	•	
			Air filter drain		Drain guide 1/8	•				
		f	port*12	J *13	Drain guide 1/4		•	•	•	•
			, , ,	W *14	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	•	•	•	
				+	3 (1 23 3)		, ,			
			Exhaust	Nil	Relieving type	•	•	•	•	•
		g	mechanism	N	Non-relieving type	•	•	•	•	•

Air Combination AC20B-D to AC60B-D Series



AC30B-D

	\	_	_					0		
				Symbol	Description		E	Body size	Э	
						20	30	40	50	60
		L	Flow direction	Nil	Flow direction: Left to right	•	•	•	•	•
	standard	h	Flow direction	R	Flow direction: Right to left	•	•	•	•	•
A	lan(+						
6	1 . 1			Nil	Unit on product label: MPa, °C, Pressure gauge in SI units: MPa	•	•	•	•	•
	Semi	i	Unit	Z *15	Unit on product label: psi, °F, Pressure gauge: MPa/psi dual scale	O*17	O*17	O*17	O*17	O*17
	0)			ZA *16	Digital pressure switch: With unit selection function	△*18	△*18	△*18	△*18	△*18
			is NPT1/8 (applicable (applicable to the AC30		- / // //	e combinate	tion of meta		nd 8 is not	available.

- The auto drain port comes with a ø3/8" One-touch fitting (applicable to the AC30B-D to AC60B-D).
- *2 Drain guide is G1/8 (applicable to the AC20B-D) and G1/4 (applicable to the AC30B-D to AC60B-D).

 *3 Options G and M are not assembled and supplied
- loose at the time of shipment.
- *4 When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended.
- *5 If the compressor is small (0.75 kW, discharge flow is less than 100 L/min (ANR)), air leakage from the drain cock may occur during the start of operations. N.C. type is recommended.
- *6 When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.85 MPa)
- this configuration. Additionally, when performing maintenance work, make sure that the outlet pressure is released to atmospheric pressure using a pressure gauge.
- *8 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *9 Refer to chemical data on page 68 for chemical resistance of the bowl.
- *10 A bowl guard is provided as standard equipment (polycarbonate).
- A bowl guard is provided as standard equipment (nvlon).
- The combination of float type auto drain C and D is not available.
- *13 Without a valve function

- This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)

Cannot be used with M: Round type pressure gauge (with color zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function, setting to psi initially.

- *16 For options: E1, E2, E3, E4 This product is for overseas use only according to the New Measurement Act. (The SI unit is provided for use in Japan.)
- *17 \bigcirc : For the pipe thread type: NPT only
- *18 \triangle : Select with options: E1, E2, E3, E4.

Standard Specifications

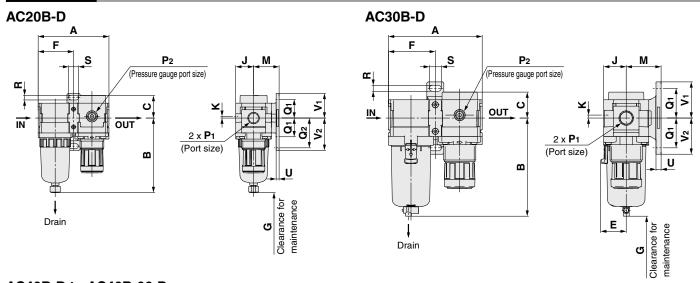
<u> </u>	Opoo	Ilications		, ,					1
	Mo	odel		AC20B-D	AC30B-D	AC40B-D	AC40B-06-D	AC50B-D	AC60B-D
Component	Air Filt	er	[AF]	AF20-D	AF30-D	AF40-D	AF40-06-D	AF50-D	AF60-D
Component	Regula	itor	[AR]	AR20-D	AR30-D	AR40-D	AR40-06-D	AR50-D	AR60-D
Port size				1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Pressure gau	ge port	size*1	[AR]			1	/8		
Fluid							Air		
Ambient and	fluid ten	nperatures*2				–5 to 60°C	(No freezing)		
Proof pressu	re					1.5	MPa		
Max. operatin	g press	ure				1.0	MPa		
Auto drain mi	uto drain minimum N.C.			0.1 MPa			0.15 MPa		
operating pre	essure	N.O.	[AF]	_			0.1 MPa		
Set pressure	range		[AR]			0.05 to (0.85 MPa		
Nominal filtra	tion rati	ng*³	[AF]			5	μm		
Compressed	air purit	y class*4				ISO 8573-1:20)10 [6 : 4 : 4]*5		
Drain capacit	y		[AF]	8 cm ³	25 cm ³		45 c	m³	
Bowl materia	I		[AF]			Polyca	rbonate		
Bowl guard			[AF]	Semi-standard (Steel)		Star	ndard (Polycarbon	ate)	
Construction			[AR]			Relievi	ing type		
Weight				0.25 kg	0.51 kg	0.95 kg	1.02 kg	2.20 kg	2.39 kg

- *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.
- *2 -5 to 50°C for the products with the digital pressure switch
- *3 For the following conditions in accordance with [Test condition: ISO 8573-4:2001 compliant, Test method ISO 12500-3:2009 compliant] Conditions: When a new element is used, and the flow capacity, inlet pressure, and the amount of solid bodies on the filter inlet side are stable
- *4 The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air Part 1: Contaminants and purity classes. For details on this standard, refer to page 110.
- *5 The compressed air quality class on the inlet side is [7:4:4].

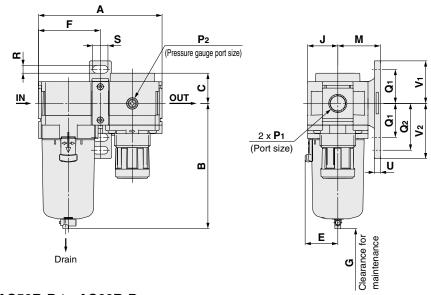


AC20B-D to AC60B-D Series

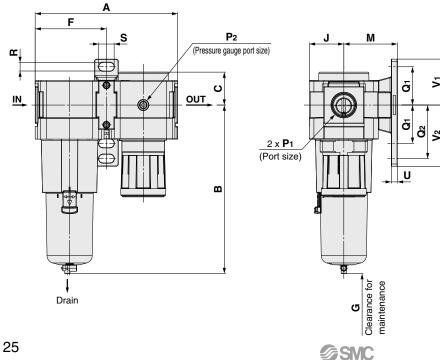
Dimensions



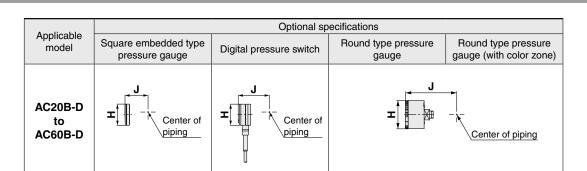
AC40B-D to AC40B-06-D



AC50B-D to AC60B-D



AL



	Optional specifications			Semi-stand	dard		
Applicable		PC/PA bo	owl	Met	tal bowl	Metal bowl	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AC20B-D	M5 x 0.8		Midth across flats 14	B	1/8 Width across flats 14		
AC30B-D to AC60B-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	Width across flats 17	B	Width across flats 17	B	Midth across flats 17

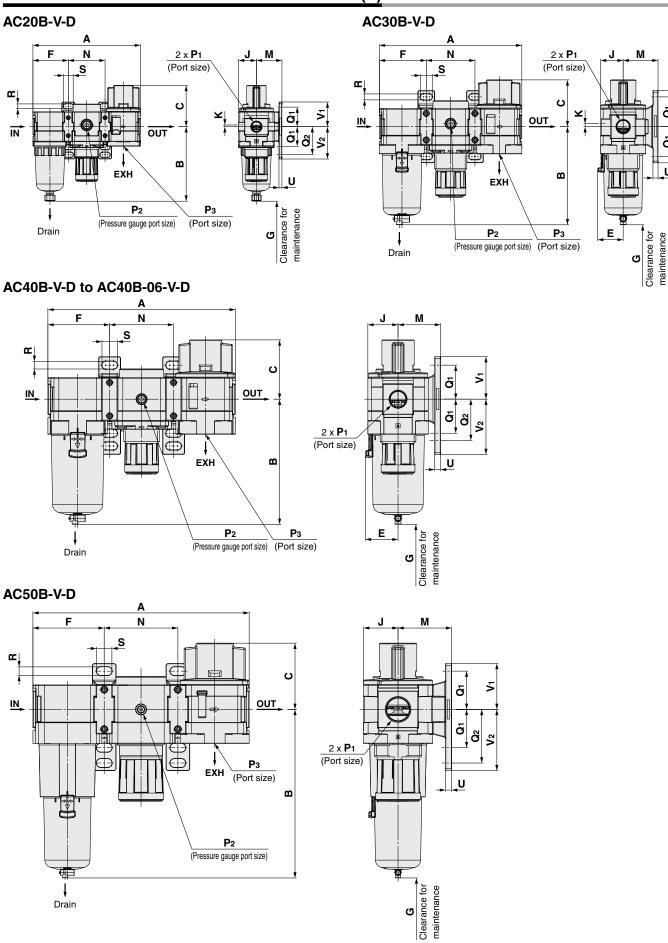
Air Combination AC20B-D to AC60B-D Series

							Standa	rd spe	cification	ns								
Model														Brack	et mou	nt		
	P ₁	P ₂	Α	В	С	Е	F	G	J	K	M	Q1	Q ₂	R	S	U	V ₁	V ₂
AC20B-D	1/8, 1/4	1/8	83.2	87.6	26.5	_	41.6	25	21	2	30	24	33	5.5	11.5	3.5	29	38
AC30B-D	1/4, 3/8	1/8	110.2	115.4	30.5	30	55.1	35	26.5	3.5	41	35	_	7	14	6	42.5	42.5
AC40B-D	1/4, 3/8, 1/2	1/8	145.2	147.1	35.5	38.4	72.6	40	35.5	-	50	40	55	9	18	7	50	65
AC40B-06-D	3/4	1/8	155.2	149.1	35.5	38.4	77.6	40	35.5	_	50	40	55	9	18	7	50	65
AC50B-D	3/4, 1	1/8	186.2	220.1	43	_	93.1	30	45	_	70	50	70	11	20	8	60	80
AC60B-D	1	1/8	196.2	234.1	45	_	98.1	30	45	_	70	50	70	11	20	8	60	80

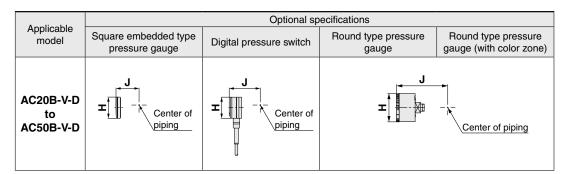
					Optiona	al speci	fications						Semi-	standard	l specific	ations	
Model .	Squ embe		Digital pr	essure	Round	,,	Round	٠, ا	Round	,,	With	PC/PA	bowl	Meta	bowl		owl with gauge
t	type pro gau	essure ige	swite	ch	press gau		gauge (standa		gauge color z			With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	Н	J	Н	J	Н	J	Н	J	Н	J	В	В	В	В	В	В	В
AC20B-D	□28	27	□27.8	37.5	ø37.5	57.5	ø37.5	58.5	ø37.5	58.5	104.9	_	91.4	87.4	93.9	_	_
AC30B-D	□28	32.5	□27.8	43	ø37.5	63	ø37.5	64	ø37.5	64	157.1	123.9	122.2	117.8	122.3	137.8	142.3
AC40B-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	186.9	155.6	153.9	149.5	154	169.5	174
AC40B-06-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	188.9	157.6	155.9	151.5	156	171.5	176
AC50B-D	□28	51	□27.8	61.5	ø42.5	82.5	ø42.5	82.5	ø42.5	82.5	259.9	228.6	226.9	222.5	227	242.5	247
AC60B-D	□28	51	□27.8	61.5	ø42.5	82.5	ø42.5	82.5	ø42.5	82.5	273.9	242.6	240.9	236.5	241	256.5	261

AC20B-D to AC60B-D Series

Dimensions: With Pressure Relief 3-Port Valve (V)



õ



	Optional specifications			Semi-stand	dard		
Applicable		PC/PA bo	owl	Met	tal bowl	Metal bowl	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AC20B-V-D	M5 x 0.8		1/8 Width across flats 14	B	1/8 Width across flats 14		
AC30B-V-D to AC50B-V-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	Width across flats 17	B	Width across flats 17	B	Midth across flats 17

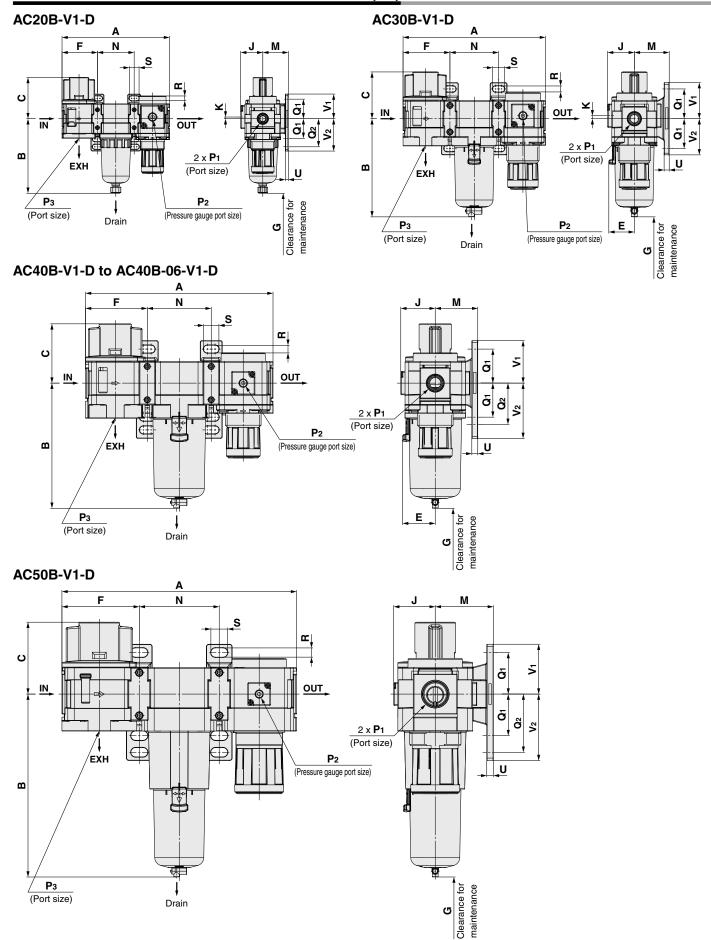
Air Combination AC20B-D to AC60B-D Series

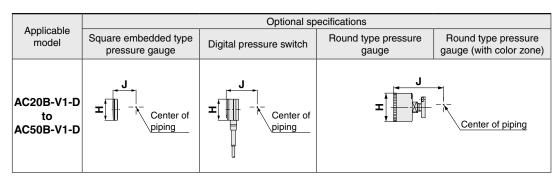
								Standa	rd sp	ecificati	ions									
Model															Bra	cket n	nount			
	P1	P ₂	Рз	Α	В	С	Е	F	G	J	K	M	N	Q1	Q2	R	S	U	V ₁	V ₂
AC20B-V-D	1/8, 1/4	1/8	1/8	126.4	87.6	48.5	_	41.6	25	21	2	30	43.2	24	33	5.5	11.5	3.5	29	38
AC30B-V-D	1/4, 3/8	1/8	1/4	167.4	115.4	55	30	55.1	35	26.5	3.5	41	57.2	35	_	7	14	6	42.5	42.5
AC40B-V-D	1/4, 3/8, 1/2	1/8	3/8	220.4	147.1	69.7	38.4	72.6	40	35.5	_	50	75.2	40	55	9	18	7	50	65
AC40B-06-V-D	3/4	1/8	1/2	235.4	149.1	71.7	38.4	77.6	40	35.5	_	50	80.2	40	55	9	18	7	50	65
AC50B-V-D	3/4, 1	1/8	1/2	282.4	220.1	86.5	_	93.1	30	45	_	70	96.2	50	70	11	20	8	60	80

					Optiona	al speci	fications			•			Semi-	standard	specific	ations	
Model t	Squ		Digital pr	essure	Round		Round	, ·	Round	,,	With	PC/PA	A bowl	Meta	l bowl		owl with gauge
	type pr gau		swite	ch	gau		gauge (standa		gauge color z		drain	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	Н	J	Н	J	Н	J	Н	J	Н	J	В	В	В	В	В	В	В
AC20B-V-D	□28	27	□27.8	37.5	ø37.5	57.5	ø37.5	58.5	ø37.5	58.5	104.9	_	91.4	87.4	93.9	_	_
AC30B-V-D	□28	32.5	□27.8	43	ø37.5	63	ø37.5	64	ø37.5	64	157.1	123.9	122.2	117.8	122.3	137.8	142.3
AC40B-V-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	186.9	155.6	153.9	149.5	154	169.5	174
AC40B-06-V-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	188.9	157.6	155.9	151.5	156	171.5	176
AC50B-V-D	□28	51	□27.8	61.5	ø42.5	82.5	ø42.5	82.5	ø42.5	82.5	259.9	228.6	226.9	222.5	227	242.5	247

AC20B-D to AC60B-D Series

Dimensions: With Pressure Relief 3-Port Valve (V1)





	Optional specifications			Semi-stand	dard		
Applicable		PC/PA bo	owl	Met	tal bowl	Metal bowl	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AC20B-V1-D	M5 x 0.8		1/8 Width across flats 14	B	1/8 Width across flats 14		
AC30B-V1-D to AC50B-V1-D		Barb fitting applicable tubing: T0604	Width across flats 17	B	Width across flats 17	B	1/4 Width across flats 17

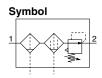
Air Combination AC20B-D to AC60B-D Series

								Standa	rd sp	ecificati	ions									
Model															Bra	cket n	nount			
	P1	P ₂	Рз	Α	В	С	Е	F	G	J	K	M	N	Q1	Q2	R	S	U	V ₁	V ₂
AC20B-V1-D	1/8, 1/4	1/8	1/8	126.4	87.6	48.5	_	41.6	25	26	2	30	43.2	24	33	5.5	11.5	3.5	29	38
AC30B-V1-D	1/4, 3/8	1/8	1/4	167.4	115.4	55	30	55.1	35	31.5	3.5	41	57.2	35	_	7	14	6	42.5	42.5
AC40B-V1-D	1/4, 3/8, 1/2	1/8	3/8	220.4	147.1	69.7	38.4	72.6	40	40.5	_	50	75.2	40	55	9	18	7	50	65
AC40B-06-V1-D	3/4	1/8	1/2	235.4	149.1	71.7	38.4	77.6	40	40.5	_	50	80.2	40	55	9	18	7	50	65
AC50B-V1-D	3/4, 1	1/8	1/2	282.4	220.1	86.5	_	93.1	30	50	_	70	96.2	50	70	11	20	8	60	80

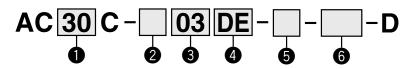
					Optiona	al speci	fications			•			Semi-	standard	Specific	ations	
Model	Squ embe		Digital pr	essure	Round		Round	, ·	Round		With	PC/PA	A bowl	Meta	bowl	Metal b	owl with gauge
iviodel	type pr gau		swite	ch	gau		gauge (standa		gauge color z		drain	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	Н	J	Н	J	Н	J	Н	J	Н	J	В	В	В	В	В	В	В
AC20B-V1-D	□28	27	□27.8	37.5	ø37.5	62.5	ø37.5	63.5	ø37.5	63.5	104.9	_	91.4	87.4	93.9	_	_
AC30B-V1-D	□28	32.5	□27.8	43	ø37.5	68	ø37.5	69	ø37.5	69	157.1	123.9	122.2	117.8	122.3	137.8	142.3
AC40B-V1-D	□28	41.5	□27.8	52	ø42.5	78	ø42.5	78	ø42.5	78	186.9	155.6	153.9	149.5	154	169.5	174
AC40B-06-V1-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	188.9	157.6	155.9	151.5	156	171.5	176
AC50B-V1-D	□28	51	□27.8	61.5	ø42.5	82.5	ø42.5	82.5	ø42.5	82.5	259.9	228.6	226.9	222.5	227	242.5	247

Air Filter + Mist Separator + Regulator

AC20C-D to AC40C-D



How to Order



- · Option/Semi-standard: Select one each for a to i.
- · Option/Semi-standard symbol:

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

Example) AC30C-F03DE1-16NR-D

	_	_					0	
				Symbol	Description		Body size	
						20	30	40
				Nil	Rc	•	•	•
2		Р	ipe thread type	N*1	NPT	•	•	•
				F*2	G	•	•	•
				+				
				01	1/8	•	_	_
				02	1/4	•	•	•
8			Port size	03	3/8		•	•
				04	1/2		_	•
				06	3/4	_	_	•
				+				
			Float type	Nil	Without auto drain	•	•	•
		а	auto drain	C*4	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•
				D *5	N.O. (Normally open) Drain port is open when pressure is not applied.		•	•
				+				
	۳ *			Nil	Without pressure gauge	•	•	•
4	<u>i</u> j.		Pressure gauge*6	E	Square embedded type pressure gauge (with limit indicator)	•	•	•
	Option*3			G	Round type pressure gauge (with limit indicator)	•	•	•
		b		M	Round type pressure gauge (with color zone)	•	•	•
				E1	Output: NPN output, Electrical entry: Wiring bottom entry	•	•	•
			Digital pressure switch	E2	Output: NPN output, Electrical entry: Wiring top entry	•	•	•
			SWILCH	E3 E4	Output: PNP output, Electrical entry: Wiring bottom entry			•
				E4	Output: PNP output, Electrical entry: Wiring top entry			•
	ent			Nil	Without attachment	•	•	•
6	Attachment	С	Pressure relief 3-port valve	V	Mounting position: AF + AFM + AR + V	•	•	•
	Atte			V1*7	Mounting position: V + AF + AFM + AR□K	•	•	•
				+				
		d	Set pressure*8	Nil	0.05 to 0.85 MPa setting	•	•	•
		u	Set pressure	1	0.02 to 0.2 MPa setting	•	•	•
				+				
				Nil	Polycarbonate bowl	•	•	•
				2	Metal bowl	•	•	•
		е	Bowl*9	6	Nylon bowl	•	•	•
	ard		20	8	Metal bowl with level gauge		•	•
	and			С	With bowl guard	•	*10	*10
6	-sts			6C	With bowl guard (Nylon bowl)	•	—* ¹¹	*11
	Semi-standa			+			-	
	S		Air filter	Nil	With drain cock	•	•	•
		f	Mist separator	J *13	Drain guide 1/8	•		
			drain port*12		Drain guide 1/4		•	•
				W*14	Drain cock with barb fitting (for ø6 x ø4 nylon tube)		•	•
				+	Delieving tone			
		g	Exhaust mechanism	Nil	Relieving type	-		•
				N	Non-relieving type	•	•	•

Air Combination AC20C-D to AC40C-D Series



	_	_		0	Description		0	
				Symbol	Description		Body size	
						20	30	40
		L	Flancisius ations	Nil	Flow direction: Left to right	•	•	•
	standard	h	Flow direction	R	Flow direction: Right to left	•	•	•
A	au			+				
0	1.1			Nil	Unit on product label: MPa, °C, Pressure gauge in SI units: MPa	•	•	•
	Semi	i	Unit	Z *15	Unit on product label: psi, °F, Pressure gauge: MPa/psi dual scale	O*17	O*17	O*17
	S			ZA *16	Digital pressure switch: With unit selection function	△*18	△*18	△*18

- *1 Drain guide is NPT1/8 (applicable to the AC20C-D) and NPT1/4 (applicable to the AC30C-D to AC40C-D). The auto drain port comes with a ø3/8" One-touch fitting (applicable to the AC30C-D to AC40C-D).
- *2 Drain guide is G1/8 (applicable to the AC20C-D) and G1/4 (applicable to the AC30C-D to AC40C-D).
- *3 Options G and M are not assembled and supplied loose at the time of shipment.
- *4 When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended.
- *5 If the compressor is small (0.75 kW, discharge flow is less than 100 L/min (ANR)), air leakage from the drain cock may occur during the start of operations. N.C. type is recommended.
- *6 When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.85 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.
- *7 The regulator is equipped with a backflow function in this configuration. Additionally, when performing maintenance work, make sure that the outlet pressure is released to atmospheric pressure using a pressure gauge.
- *8 Pressure can be set higher than the specification pressure in some cases, but use pressure within the . specification range.
- *9 Refer to chemical data on pages 68 and 75 for chemical resistance of the bowl.
- *10 A bowl guard is provided as standard equipment (polycarbonate).
- A bowl guard is provided as standard equipment (nylon). *12 The combination of float type auto drain C and D is not available.

- *13 Without a valve function
- *14 The combination of metal bowl 2 and 8 is not available.
- *15 For the pipe thread type: NPT This product is for overseas use only according to the New Measurement Act. (The SI unit type is
 - provided for use in Japan.) Cannot be used with M: Round type pressure gauge (with color zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function, setting to psi initially.
- *16 For options: E1, E2, E3, E4 This product is for overseas use only according to the New Measurement Act. (The SI unit is provided for use in Japan.)
- O: For the pipe thread type: NPT only
- *18 A: Select with options: E1, E2, E3, E4.

Standard Specifications

	Mo	odel		AC20C-D	AC30C-D	AC40C-D	AC40C-06-D
	Air Filt	er	[AF]	AF20-D	AF30-D	AF40-D	AF40-06-D
Component	Mist Se	parator	[AFM]	AFM20-D	AFM30-D	AFM40-D	AFM40-06-D
	Regula	tor	[AR]	AR20-D	AR30-D	AR40-D	AR40-06-D
Port size				1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4
Pressure gau	ge port	size*1	[AR]		1/	8	
Fluid					A	ir	
Ambient and f	luid tem	peratures*2			−5 to 60°C (l	No freezing)	
Proof pressur	re				1.5 N	MРа	
Max. operatin	g pressi	ıre			1.0 M	MРа	
Auto drain mi	nimum	N.C.	[AF/AFM]	0.1 MPa		0.15 MPa	
operating pre	ssure	N.O.	[AF/AFM]	_		0.1 MPa	
Set pressure	range		[AR]		0.05 to 0	.85 MPa	
Max. flow cap	acity*3		[AFM]	200 L/min (ANR)	450 L/min (ANR)	1100 L/m	in (ANR)
Naminal filtra	tion roti	*4	[AF]		5 μ	ım	
Nominal filtra	uon rau	ng	[AFM]		0.3 μm (99.9% filte	ered particle size)	
Outlet side oil m	ist conce	ntration*5, *6	[AFM]		Max. 1.0 mg/m	n³ (≈ 0.8 ppm)	
Compressed	air purit	y class*7			ISO 8573-1:20	10 [3 : 4 : 3]*8	
Drain capacit	у		[AF/AFM]	8 cm ³	25 cm ³	45 (cm ³
Bowl materia			[AF/AFM]		Polycar	bonate	
Bowl guard			[AF/AFM]	Semi-standard (Steel)	S	Standard (Polycarbonate)
Construction			[AR]		Relievir	ng type	
Weight				0.38 kg	0.75 kg	1.42 kg	1.54 kg

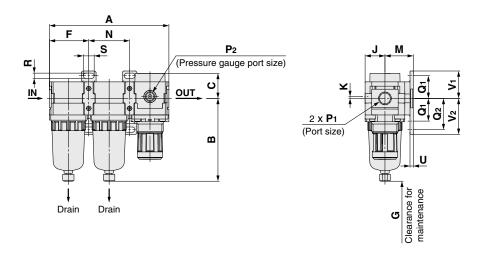
- *1 Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch.
- *2 -5 to 50°C for the products with the digital pressure switch
- Mist separator inlet pressure: 0.7 MPa. Flow at 20°C, atmospheric pressure, and 65% of the relative humidity The maximum flow capacity varies depending on the inlet pressure Keep the air flow within the maximum flow capacity to prevent an outflow of lubricant to the outlet side.
- *4 For the following conditions in accordance with [Test condition: ISO 8573-4:2001, Test method ISO 12500-3:2009 compliant] in addition to the conditions above Conditions: When a new element is used, and the flow capacity, inlet pressure, and the amount of solid bodies on the filter inlet side are stable
- The outlet side oil mist concentration for the following conditions in accordance with [Test condition: ISO 8573-2:2007, Test method ISO 12500-1:2007 compliant] in addition to the conditions above Conditions: When a new element is used, the oil mist concentration on the filter inlet side is 10 mg/m³, and the flow capacity, inlet pressure, and the oil mist concentration on the filter inlet side are stable
- *6 The bowl seal and other O-rings are slightly lubricated.
 *7 The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air Part 1: Contaminants and purity classes. For details on this standard, refer to page 110.
- *8 The compressed air quality class on the inlet side is [7:4:4].



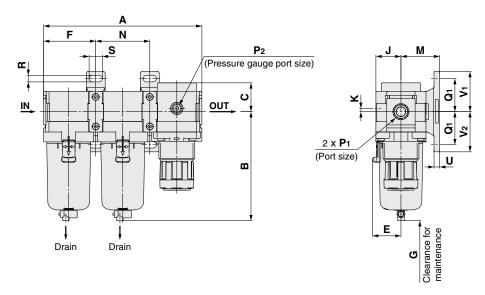
AC20C-D to AC40C-D Series

Dimensions

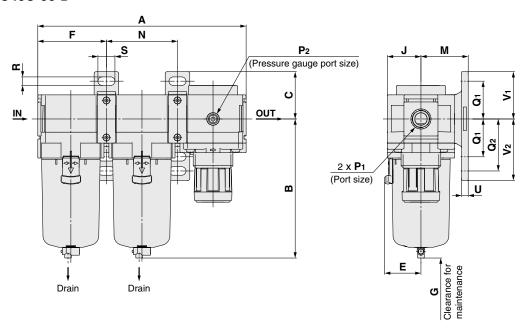
AC20C-D



AC30C-D



AC40C-D to AC40C-06-D



AB

A 15 1-1		Optional sp	ecifications	
Applicable model	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with color zone)
AC20C-D to AC40C-06-D	Center of piping	Center of piping	J	Center of piping

	Optional specifications			Semi-stand	dard		
Applicable		PC/PA bo	owl	Met	al bowl	Metal bowl v	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AC20C-D	M5 x 0.8		1/8 Width across flats 14	B	1/8 Width across flats 14		
AC30C-D to AC40C-06-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	Width across flats 17	B	Width across flats 17	B	Midth across flats 17

Air Combination AC20C-D to AC40C-D Series

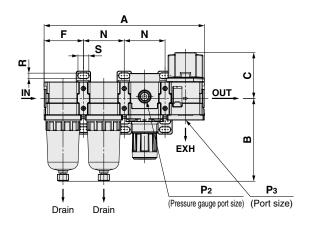
							Stan	dard	specific	ations									
Model														Bra	cket n	nount			
	P1	P ₂	Α	В	С	Е	F	G	J	K	M	N	Q ₁	Q2	R	S	U	V ₁	V ₂
AC20C-D	1/8, 1/4	1/8	126.4	87.6	26.5	_	41.6	45	21	2	30	43.2	24	33	5.5	11.5	3.5	29	38
AC30C-D	1/4, 3/8	1/8	167.4	115.4	30.5	30	55.1	50	26.5	3.5	41	57.2	35	_	7	14	6	42.5	42.5
AC40C-D	1/4, 3/8, 1/2	1/8	220.4	147.1	35.5	38.4	72.6	75	35.5	_	50	75.2	40	55	9	18	7	50	65
AC40C-06-D	3/4	1/8	235.4	149.1	35.5	38.4	77.6	75	35.5	_	50	80.2	40	55	9	18	7	50	65

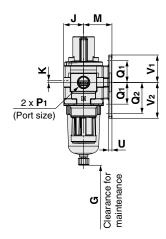
					Optiona	al speci	fications						Semi-	-standard	Specific	ations	
Model	Squ		Digital pr	essure	Round		Round	, ·	Round	,,	With	PC/PA	A bowl	Metal	l bowl		owl with gauge
Model type	type pr gau		swite	ch	press gau		gauge (standa		gauge color z		drain	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	Н	J	Н	J	Н	J	Н	J	Н	J	В	В	В	В	В	В	В
AC20C-D	□28	27	□27.8	37.5	ø37.5	57.5	ø37.5	58.5	ø37.5	58.5	104.9	_	91.4	87.4	93.9	_	_
AC30C-D	□28	32.5	□27.8	43	ø37.5	63	ø37.5	64	ø37.5	64	157.1	123.9	122.2	117.8	122.3	137.8	142.3
AC40C-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	186.9	155.6	153.9	149.5	154	169.5	174
AC40C-06-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	188.9	157.6	155.9	151.5	156	171.5	176

AC20C-D to AC40C-D Series

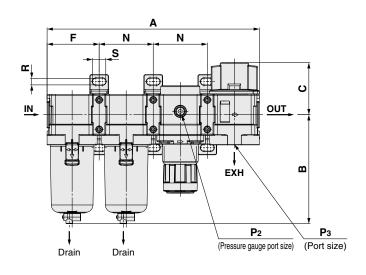
Dimensions: With Pressure Relief 3-Port Valve (V)

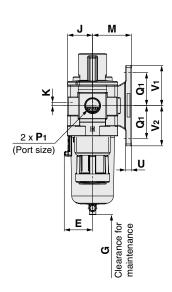
AC20C-V-D



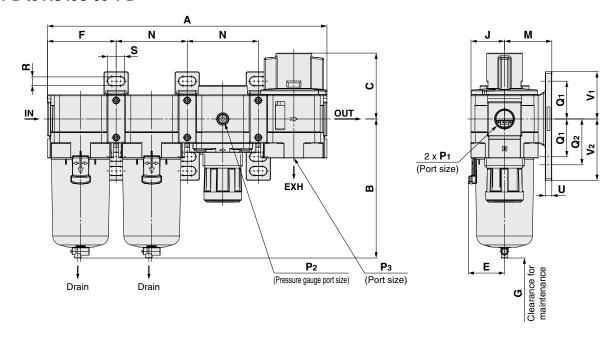


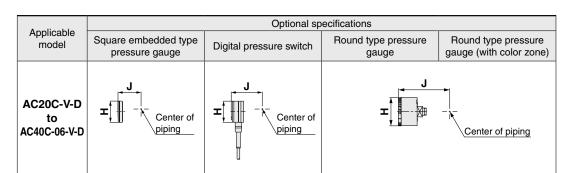
AC30C-V-D





AC40C-V-D to AC40C-06-V-D





	Optional specifications			Semi-stand	dard		
Applicable		PC/PA bo	owl	Met	al bowl	Metal bowl v	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AC20C-V-D	M5 x 0.8		1/8 Width across flats 14	B	1/8 Width across flats 14		
AC30C-V-D to AC40C-06-V-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	1/4 Width across flats 17	B	Width across flats 17	M M	Width across flats 17

Air Combination AC20C-D to AC40C-D Series

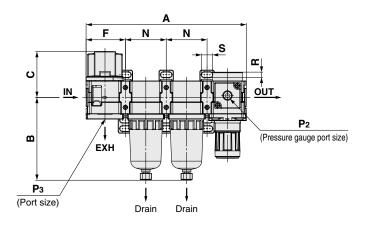
								Standa	rd spe	ecificati	ions									
Model															Bra	cket r	nount			
	P1	P ₂	Рз	Α	В	С	Е	F	G	J	K	М	N	Q1	Q2	R	S	U	V ₁	V ₂
AC20C-V-D	1/8, 1/4	1/8	1/8	169.6	87.6	48.5	_	41.6	40	21	2	30	43.2	24	33	5.5	11.5	3.5	29	38
AC30C-V-D	1/4, 3/8	1/8	1/4	224.6	115.4	55	30	55.1	50	26.5	3.5	41	57.2	35	_	7	14	6	42.5	42.5
AC40C-V-D	1/4, 3/8, 1/2	1/8	3/8	295.6	147.1	69.7	38.4	72.6	75	35.5	_	50	75.2	40	55	9	18	7	50	65
AC40C-06-V-D	3/4	1/8	1/2	315.6	149.1	71.7	38.4	77.6	75	35.5	_	50	80.2	40	55	9	18	7	50	65

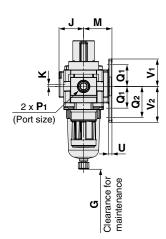
					Optiona	al speci	fications						Semi-	standard	Specific	ations	
Model	Squ		Digital pr	essure	Round		Round	, ·	Round	,,	With	PC/PA	A bowl	Metal	l bowl	Metal b	owl with gauge
type	type pr gau		swite	ch	press gau		gauge (standa		gauge color z	•	drain	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	Н	J	Н	J	Н	J	Н	J	Н	J	В	В	В	В	В	В	В
AC20C-V-D	□28	27	□27.8	37.5	ø37.5	57.5	ø37.5	58.5	ø37.5	58.5	104.9	_	91.4	87.4	93.9	_	_
AC30C-V-D	□28	32.5	□27.8	43	ø37.5	63	ø37.5	64	ø37.5	64	157.1	123.9	122.2	117.8	122.3	137.8	142.3
AC40C-V-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	186.9	155.6	153.9	149.5	154	169.5	174
AC40C-06-V-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	188.9	157.6	155.9	151.5	156	171.5	176

AC20C-D to AC40C-D Series

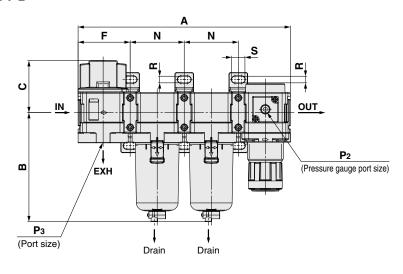
Dimensions: With Pressure Relief 3-Port Valve (V1)

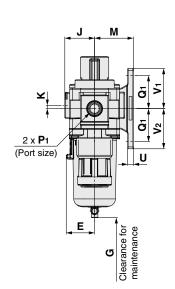
AC20C-V1-D



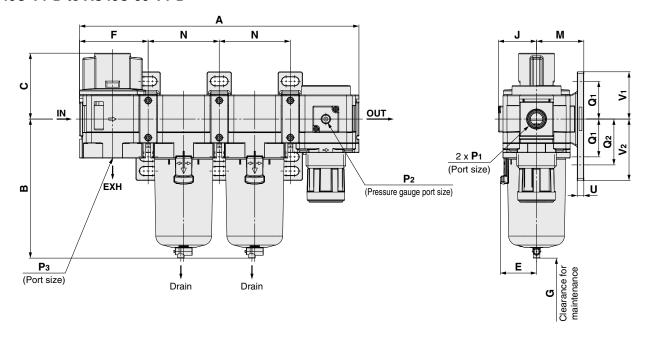


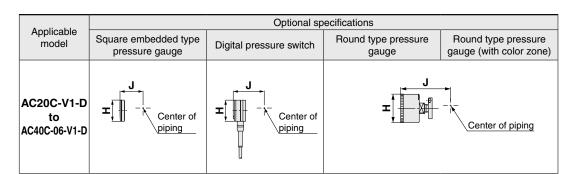
AC30C-V1-D





AC40C-V1-D to AC40C-06-V1-D





	Optional specifications			Semi-stand	dard		
Applicable		PC/PA bo	owl	Met	al bowl	Metal bowl	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AC20C-V1-D	M5 x 0.8		Midth across flats 14	B	1/8 Width across flats 14		
AC30C-V1-D to AC40C-06-V1-D		Barb fitting applicable tubing: T0604	1/4 Width across flats 17	B	Width across flats 17	a a	1/4 Width across flats 17

Air Combination AC20C-D to AC40C-D Series

								Standa	rd spe	ecificati	ions									
Model															Bra	icket r	nount			
	P ₁	P ₂	Рз	Α	В	С	Е	F	G	J	K	M	N	Q1	Q2	R	S	U	V ₁	V ₂
AC20C-V1-D	1/8, 1/4	1/8	1/8	169.6	87.6	48.5	_	41.6	40	26	2	30	43.2	24	33	5.5	11.5	3.5	29	38
AC30C-V1-D	1/4, 3/8	1/8	1/4	224.6	115.4	55	30	55.1	50	31.5	3.5	41	57.2	35	_	7	14	6	42.5	42.5
AC40C-V1-D	1/4, 3/8, 1/2	1/8	3/8	295.6	147.1	69.7	38.4	72.6	75	40.5	_	50	75.2	40	55	9	18	7	50	65
AC40C-06-V1-D	3/4	1/8	1/2	315.6	149.1	71.7	38.4	77.6	75	40.5	_	50	80.2	40	55	9	18	7	50	65

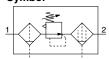
					Optiona	al speci	fications						Semi-	standard	Specific	ations	
Model er type	Squ		Digital pr	essure	Round		Round	, ·	Round	,,	With	PC/PA	A bowl	Metal	l bowl		owl with gauge
	type pr gau		swite	ch	gau		gauge (standa		gauge color z		drain	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	Н	J	Н	J	Н	J	Н	J	Н	J	В	В	В	В	В	В	В
AC20C-V1-D	□28	27	□27.8	37.5	ø37.5	62.5	ø37.5	63.5	ø37.5	63.5	104.9	_	91.4	87.4	93.9	_	_
AC30C-V1-D	□28	32.5	□27.8	43	ø37.5	68	ø37.5	69	ø37.5	69	157.1	123.9	122.2	117.8	122.3	137.8	142.3
AC40C-V1-D	□28	41.5	□27.8	52	ø42.5	78	ø42.5	78	ø42.5	78	186.9	155.6	153.9	149.5	154	169.5	174
AC40C-06-V1-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	188.9	157.6	155.9	151.5	156	171.5	176



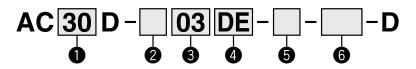
Filter Regulator + Mist Separator

AC20D-D to AC40D-D

Symbol



How to Order



- · Option/Semi-standard: Select one each for a to i.
- · Option/Semi-standard symbol:

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

Example) AC30D-F03DE1-16NR-D

	_						0	
		_		Symbol	Description			
				Symbol	Description	20	Body size	40
					_			
				Nil	Rc	•	•	•
2		Р	Pipe thread type	N*1	NPT		•	•
				F*2	G	•	•	•
				+	1/0			
				01	1/8	•	_	_
_			5	02	1/4	•	•	•
8			Port size	03	3/8		•	•
				04	1/2		_	•
				06	3/4	_		•
				+	Without out of decin			
			Float type	Nil C*4	Without auto drain N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	
		а	auto drain	D*5	N.O. (Normally open) Drain port is closed when pressure is not applied. N.O. (Normally open) Drain port is open when pressure is not applied.	<u> </u>		
				+	13.0. (Normally open) Drain port is open when pressure is not applied.		•	•
				Nil	Without pressure gauge			
	Option*3			E	Square embedded type pressure gauge (with limit indicator)	-	•	
4	otio		Pressure gauge*6	G	Round type pressure gauge (with limit indicator)	-	•	
	ŏ			М	Round type pressure gauge (with mini indicator)	-		
		b		E1	Output: NPN output, Electrical entry: Wiring bottom entry	-		
			Digital pressure	E2	Output: NPN output, Electrical entry: Wrining bottom entry	<u> </u>		
			switch	E3	Output: PNP output, Electrical entry: Wrining top entry		•	
				E4	Output: PNP output, Electrical entry: Wiring top entry	•		
				+	Calput 111 Calput, Electrical only: 111111g top only			
	ä			Nil	Without attachment	•	•	•
6	hme	С	Pressure relief	V	Mounting position: AW + AFM + V	•	•	•
	Attachment		3-port valve	V1*7	Mounting position: V + AW□K + AFM	•	•	•
				+				
				Nil	0.05 to 0.85 MPa setting	•	•	•
		d	Set pressure*8	1	0.02 to 0.2 MPa setting	•	•	•
				+				
				Nil	Polycarbonate bowl	•	•	•
				2	Metal bowl	•	•	•
			D1*9	6	Nylon bowl	•	•	•
		е	Bowl*9	8	Metal bowl with level gauge	_	•	•
	_			С	With bowl guard	•	*10	*10
	dar			6C	With bowl guard (Nylon bowl)	•	*11	*11
A	and			+				
6	Semi-standard		Filt.	Nil	With drain cock	•	•	•
	Ser	f	Filter regulator Mist separator	J *13	Drain guide 1/8	•	_	_
	0)		drain port*12		Drain guide 1/4	_	•	•
			, p	W*14	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	•	•
				+				
		g	Exhaust mechanism	Nil	Relieving type	•	•	•
		9	-Andot moonamen	N	Non-relieving type	•	•	•
				+				
		h	Flow direction	Nil	Flow direction: Left to right	•	•	•
				R	Flow direction: Right to left	•	•	•

Air Combination AC20D-D to AC40D-D Series



AC30D-D

40

O*17

____×18

	_		Symbol	Description									
dard			Nil	Unit on product label: MPa, °C, Pressure gauge in SI units: MPa									
9 Semi-standard	l	Unit	Z *15	Unit on product label: psi, °F, Pressure gauge: MPa/psi dual scale	-								
Semi			ZA *16	Digital pressure switch: With unit selection function									
	1 Drain guide is NPT1/8 (applicable to the AC20D-D) and NPT1/4 (applicable to the AC30D-D to pressure gauge will be fitted for standard (0.85 MPa) *13 Without a value pressure gauge will be fitted for standard (0.85 MPa) *14 The combi												

- pressure gauge will be fitted for standard (0.85 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.
- *7 The filter regulator is equipped with a backflow function in this configuration. Additionally, when performing maintenance work, make sure that the outlet pressure is released to atmospheric pressure using a pressure gauge.
- *8 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *9 Refer to chemical data on pages 75 and 109 for chemical resistance of the bowl.
- *10 A bowl guard is provided as standard equipment (polycarbonate).
- A bowl guard is provided as standard equipment (nylon).
- *12 The combination of float type auto drain C and D is not available.

valve function

20

O*17

__ __*18

*14 The combination of metal bowl 2 and 8 is not available *15 For the pipe thread type: NPT

Body size

30

O*17

____*18

the New Measurement Act. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round type pressure gauge (with color zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function, setting to psi initially.

This product is for overseas use only according to

- For options: E1, E2, E3, E4 This product is for overseas use only according to the New Measurement Act. (The SI unit is provided for use in Japan.)
- *17 \bigcirc : For the pipe thread type: NPT only
- *18 A: Select with options: E1, E2, E3, E4.

Standard Specifications

AC40D-D). The auto drain port comes with a Ø3/8" One-touch fitting (applicable to the AC30D-D to

*2 Drain guide is G1/8 (applicable to the AC20D-D) and

*3 Options G and M are not assembled and supplied

*4 When pressure is not applied, condensate which

ending operations for the day is recommended.

*5 If the compressor is small (0.75 kW, discharge flow is

does not start the auto drain mechanism will be left in

the bowl. Releasing the residual condensate before

less than 100 L/min (ANR)), air leakage from the

drain cock may occur during the start of operations.

G1/4 (applicable to the AC30D-D to AC40D-D).

loose at the time of shipment.

N.C. type is recommended.

AC40D-D).

	Mo	del		AC20D-D	AC30D-D	AC40D-D	AC40D-06-D
	Filter R	egulator	[AW]	AW20-D	AW30-D	AW40-D	AW40-06-D
Component	Mist Se	parator	[AFM]	AFM20-D	AFM30-D	AFM40-D	AFM40-06-D
Port size		•		1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4
Pressure gau	ge port s	size*1	[AW]		1/	8	
Fluid					A	ir	
Ambient and t	fluid temp	eratures*2			−5 to 60°C (No freezing)	
Proof pressu	re				1.5 [ЛР а	
Max. operating	g pressu	ire			1.0 l	ЛР а	
Auto drain mi		N.C.	[AW/AFM]	0.1 MPa		0.15 MPa	
operating pre	ssure	N.O.	[AW/AFM]	_		0.1 MPa	
Set pressure	range		[AW]		0.05 to 0	.85 MPa	
Max. flow cap	acity*3		[AFM]	200 L/min (ANR)	450 L/min (ANR)	1100 L/n	nin (ANR)
Nominal filtra	tion ratir	na*4	[AW]		5 μ	m	
			[AFM]		0.3 μm (99.9% filt	ered particle size)	
Outlet side oil n	nist concer	ntration*5, *6	[AFM]		Max. 1.0 mg/n	· · · · ·	
Compressed	air purity	class*7			ISO 8573-1:20	<u> </u>	
Drain capacit	у		[AW/AFM]	8 cm ³	25 cm ³	45	cm ³
Bowl materia	l		[AW/AFM]		Polycar	bonate	
Bowl guard			[AW/AFM]	Semi-standard (Steel)	S	standard (Polycarbonate	9)
Construction			[AW]		Relievir	ng type	
Weight		·	·	0.30 kg	0.58 kg	1.12 kg	1.21 kg

- *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.
- *2 -5 to 50°C for the products with the digital pressure switch
- *3 Mist separator inlet pressure: 0.7 MPa. Flow at 20°C, atmospheric pressure, and 65% of the relative humidity The maximum flow capacity varies depending on the inlet pressure.

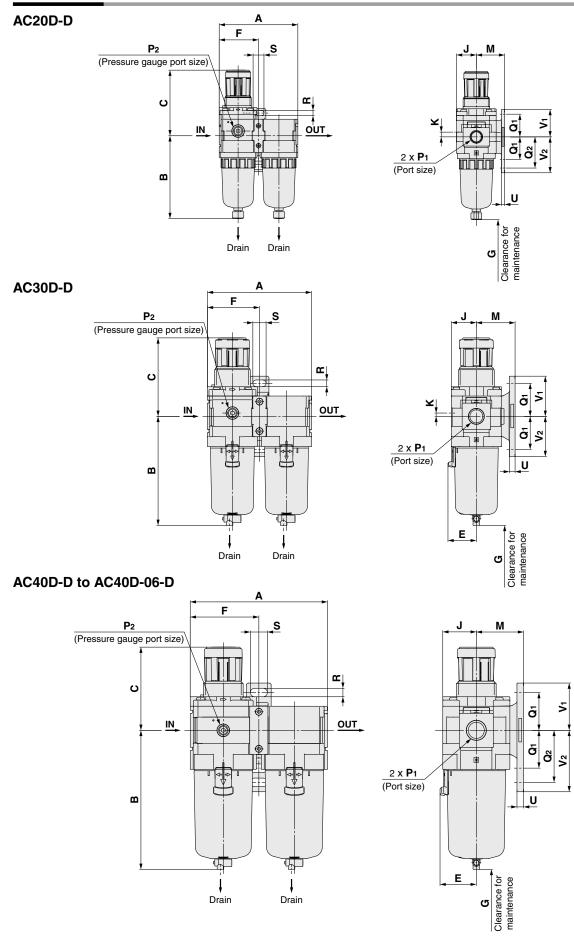
Keep the air flow within the maximum flow capacity to prevent an outflow of lubricant to the outlet side.

- For the following conditions in accordance with [Test condition: ISO 8573-4:2001, Test method ISO 12500-3:2009 compliant] in addition to the conditions above Conditions: When a new element is used, and the flow capacity, inlet pressure, and the amount of solid bodies on the filter inlet side are stable
- *5 The outlet side oil mist concentration for the following conditions in accordance with [Test condition: ISO 8573-2:2007, Test method ISO 12500-1:2007 compliant] in addition to the conditions above
 - Conditions: When a new element is used, the oil mist concentration on the filter inlet side is 10 mg/m3, and the flow capacity, inlet pressure, and the oil mist concentration on the filter inlet side are stable
- *6 The bowl seal and other O-rings are slightly lubricated.
- *7 The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air Part 1: Contaminants and purity classes. For details on this standard, refer to page 110.
- *8 The compressed air quality class on the inlet side is [7:4:4].



AC20D-D to AC40D-D Series

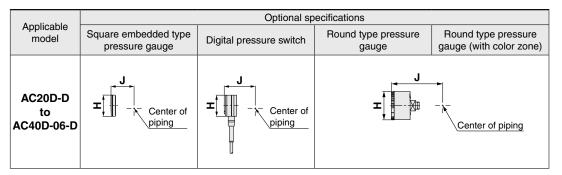
Dimensions



AB

AL

Air Combination	AC2UD-D	to AC4UD	-D Series



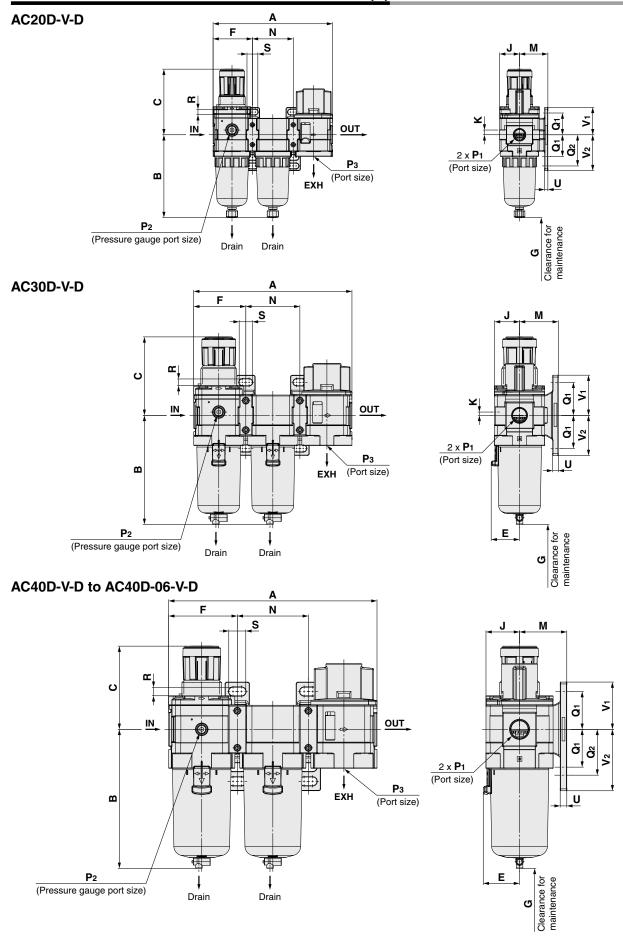
	Optional specifications			Semi-stand	dard		
Applicable		PC/PA bo	owl	Met	al bowl	Metal bowl v	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AC20D-D	M5 x 0.8		1/8 Width across flats 14	B	1/8 Width across flats 14		
AC30D-D to AC40D-06-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	Width across flats 17	B	Width across flats 17	B	Width across flats 17

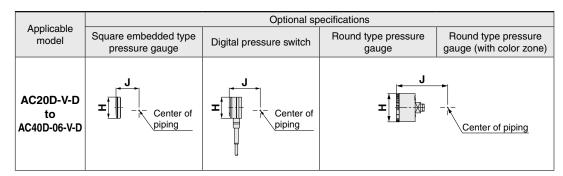
							Standar	d spe	cification	ns								
Model														Brack	et mour	nt		
	P1	P ₂	Α	В	С	Е	F	G	J	K	М	Q1	Q ₂	R	S	U	V ₁	V ₂
AC20D-D	1/8, 1/4	1/8	83.2	87.6	71.8	_	41.6	45	21	5	30	24	33	5.5	11.5	3.5	29	38
AC30D-D	1/4, 3/8	1/8	110.2	115.3	86.5	30	55.1	55	26.5	3.5	41	35	_	7	14	6	42.5	42.5
AC40D-D	1/4, 3/8, 1/2	1/8	145.2	147.1	91.5	38.4	72.6	80	35.5	_	50	40	55	9	18	7	50	65
AC40D-06-D	3/4	1/8	155.2	149.1	93	38.4	77.6	80	35.5	_	50	40	55	9	18	7	50	65

					Optiona	al speci	fications						Semi-	standard	Specific	ations	
Model	Squ embe		Digital pr	essure	Round		Round	, ·	Round	,,	With	PC/PA	A bowl	Metal	l bowl	Metal b	owl with gauge
Wodel	type pr gau		swite	ch	press gau		gauge (standa		gauge color z		drain	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	Н	J	Н	J	Н	J	Н	J	Н	J	В	В	В	В	В	В	В
AC20D-D	□28	27	□27.8	37.5	ø37.5	57.5	ø37.5	58.5	ø37.5	58.5	104.9	_	91.4	87.4	93.9	_	_
AC30D-D	□28	32.5	□27.8	43	ø37.5	63	ø37.5	64	ø37.5	64	157.1	123.9	122.2	117.8	122.3	137.8	142.3
AC40D-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	186.9	155.6	153.9	149.5	154	169.5	174
AC40D-06-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	188.9	157.6	155.9	151.5	156	171.5	176

AC20D-D to AC40D-D Series

Dimensions: With Pressure Relief 3-Port Valve (V)





	Optional specifications			Semi-stand	dard		
Applicable		PC/PA bo	owl	Met	al bowl	Metal bowl	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AC20D-V-D	M5 x 0.8		1/8 Width across flats 14	B	1/8 Width across flats 14		
AC30D-V-D to AC40D-06-V-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	Width across flats 17	B	Width across flats 17	B	width across flats 17

Air Combination AC20D-D to AC40D-D Series

								Standa	rd spe	ecificati	ions									
Model															Bra	cket r	nount			
	P1	P ₂	Рз	Α	В	С	Е	F	G	J	K	M	N	Q1	Q2	R	S	U	V ₁	V ₂
AC20D-V-D	1/8, 1/4	1/8	1/8	126.4	87.6	71.8	_	41.6	40	21	5	30	43.2	24	33	5.5	11.5	3.5	29	38
AC30D-V-D	1/4, 3/8	1/8	1/4	167.4	115.3	86.5	30	55.1	55	26.5	3.5	41	57.2	35	_	7	14	6	42.5	42.5
AC40D-V-D	1/4, 3/8, 1/2	1/8	3/8	220.4	147.1	91.5	38.4	72.6	80	35.5	_	50	75.2	40	55	9	18	7	50	65
AC40D-06-V-D	3/4	1/8	1/2	235.4	149.1	93	38.4	77.6	80	35.5	_	50	80.2	40	55	9	18	7	50	65

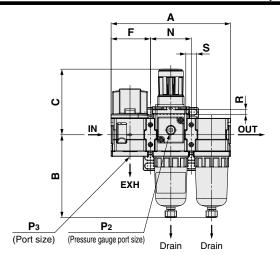
					Optiona	al speci	fications						Semi-	-standard	Specific	ations	
Model	Squ		Digital pr	essure	Round		Round	, ·	Round	,,	With	PC/PA	A bowl	Metal	l bowl		owl with gauge
Wodel	type pr gau		swite	ch	press gau		gauge (standa		gauge color z		drain	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	Н	J	Н	J	Н	J	Н	J	Н	J	В	В	В	В	В	В	В
AC20D-V-D	□28	27	□27.8	37.5	ø37.5	57.5	ø37.5	58.5	ø37.5	58.5	104.9	_	91.4	87.4	93.9	_	_
AC30D-V-D	□28	32.5	□27.8	43	ø37.5	63	ø37.5	64	ø37.5	64	157.1	123.9	122.2	117.8	122.3	137.8	142.3
	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	186.9	155.6	153.9	149.5	154	169.5	174
AC40D-06-V-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	188.9	157.6	155.9	151.5	156	171.5	176

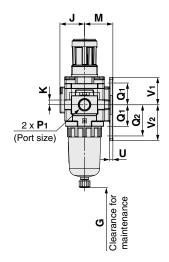


AC20D-D to AC40D-D Series

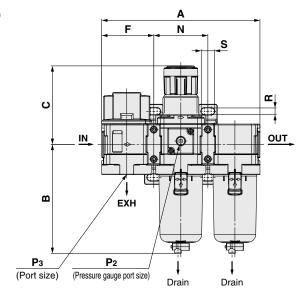
Dimensions: With Pressure Relief 3-Port Valve (V1)

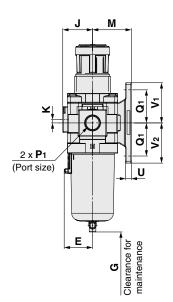
AC20D-V1-D



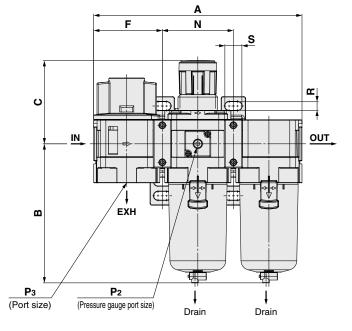


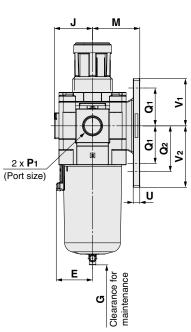
AC30D-V1-D

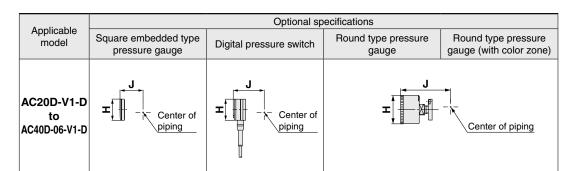




AC40D-V1-D to AC40D-06-V1-D







	Optional specifications			Semi-stand	dard		
Applicable		PC/PA bo	owl	Met	tal bowl	Metal bowl	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AC20D-V1-D	M5 x 0.8		1/8 Width across flats 14	B	1/8 Width across flats 14		
AC30D-V1-D to AC40D-06-V1-D		Barb fitting applicable tubing: T0604	1/4 Width across flats 17	B	Width across flats 17	B	Midth across flats 17

Air Combination AC20D-D to AC40D-D Series

								Standa	rd spe	ecificati	ions									
Model															Bra	cket r	nount			
	P1	P ₂	Рз	Α	В	С	Е	F	G	J	K	M	N	Q1	Q2	R	S	U	V ₁	V ₂
AC20D-V1-D	1/8, 1/4	1/8	1/8	126.4	87.6	71.8	_	41.6	40	26	5	30	43.2	24	33	5.5	11.5	3.5	29	38
AC30D-V1-D	1/4, 3/8	1/8	1/4	167.4	115.3	86.5	30	55.1	55	31.5	3.5	41	57.2	35	_	7	14	6	42.5	42.5
AC40D-V1-D	1/4, 3/8, 1/2	1/8	3/8	220.4	147.1	91.5	38.4	72.6	80	40.5	_	50	75.2	40	55	9	18	7	50	65
AC40D-06-V1-D	3/4	1/8	1/2	235.4	149.1	93	38.4	77.6	80	40.5	_	50	80.2	40	55	9	18	7	50	65

					Optiona	al speci	fications					Semi-standard specifications					
Model	Square embedded type pressure gauge		Digital pressure switch		Round type pressure gauge		Round type pressure gauge (Semi- standard: Z)		Round type pressure gauge (with color zone)		With auto drain	PC/PA bowl		Metal bowl		Metal bowl with level gauge	
												With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	Н	J	Н	J	Н	J	Н	J	Н	J	В	В	В	В	В	В	В
AC20D-V1-D	□28	27	□27.8	37.5	ø37.5	62.5	ø37.5	63.5	ø37.5	63.5	104.9	_	91.4	87.4	93.9	_	_
AC30D-V1-D	□28	32.5	□27.8	43	ø37.5	68	ø37.5	69	ø37.5	69	157.1	123.9	122.2	117.8	122.3	137.8	142.3
AC40D-V1-D	□28	41.5	□27.8	52	ø42.5	78	ø42.5	78	ø42.5	78	186.9	155.6	153.9	149.5	154	169.5	174
AC40D-06-V1-D	□28	41.5	□27.8	52	ø42.5	73	ø42.5	73	ø42.5	73	188.9	157.6	155.9	151.5	156	171.5	176

AC-D Series **Option / Accessory / Attachment** Part No. List

							Dox	.			
		_			For AC20-D	For AC30-D	For AC40-D	t no. For AC40-06-D	For AC50-D	For AC60-D	
				Model	For AC20A-D	For AC30A-D	For AC40A-D	For AC40A-06-D	For AC50A-D	For AC60A-D	
Section					For AC20B-D	For AC30B-D	For AC40B-D	For AC40B-06-D	For AC50B-D	For AC60B-D	
					For AC20C-D	For AC30C-D	For AC40C-D	For AC40C-06-D	TOT ACCOUNT	TOT ACOUD-D	
	Desc	ription			For AC20C-D	For AC30D-D	For AC40D-D	For AC40D-06-D			
			Ctor	ndard	G36-1		FOI AC40D-D	G46-1		_	
		Round type		MPa setting							
	*1	Daniel Arma			G36-4			G46-4			
	Pressure	Round type		ndard		G36-10-□01-L G46-10-□01-L G36-4-□01-L G46-4-□01-L					
	gauge	(with color zone)		MPa setting	G36-4-		AO D [100150A (D				
		Square		ndard				ressure gauge cov	7/1		
Option		embedded type*2		MPa setting				ressure gauge cove			
•				ring bottom entry				5-N-25-M (Switch b			
		pressure		Viring top entry				5-R-25-M (Switch b			
	switch			ring bottom entry				5-N-65-M (Switch b			
				/iring top entry			-MLA-X523 [ISE35	5-R-65-M (Switch b			
	Float t			.C.	AD27-D	AD37-D		AD4			
	auto d		N.	.0	_	AD38-D		AD4			
Accessory	Space			p. 48	Y200-D	Y300-D	Y400-D	Y500-D	Y60		
Accessor y	Space	r with bracke	t	p. 48	Y200T-D	Y300T-D	Y400T-D	Y500T-D	Y60	DT-D	
					VH600 □01 D	VH630 □00 D	VHS40-□02-D		VHSEO DOS D		
	Pressu	re relief 3-port	valve*5, *6	p. 49	VHS20-□01-D	VHS30-□02-D	VHS40-□03-D	VHS40-□06-D	VHS50-□06-D	_	
		-			VHS20-□02-D	VHS30-□03-D	VHS40-□04-D		VHS50-□10-D		
					E000 = 2 : 5	E000 = 00 E	E400-□02-D		E600-[□06-D	
	.		:		E200-□01-D	E300-□02-D	E400-□03-D	E500-□06-D	E600-[
	Piping	adapter*5, *6	1	p. 50	E200-□02-D	E300-□03-D	E400-□04-D	E500-□10-D		⊒12-D	
					E200-□03-D	E300-□04-D	E400-□06-D		E600-[
	L-shaped piping adapter*5, *6				E300L-□01-D	E400L-□02-D		E600L-			
			p. 51	E200L-□01-D	E300L-□02-D	E400L-□03-D	E500L-□04-D	E600L-			
			9. 01	E200L-□02-D	E300L-□02-D	E400L-□04-D	E500L-□06-D	E600L-			
						E300E-□03-D	E400T-□02-D		E600T-		
	Tabar	ed piping ad	antar*5 *6		E200T-□01-D	E300T-□02-D	E400T-□02-D	E500T-□04-D	E600T-		
	1-Silap	eu pipilig au	apiei -, -	p. 51-1	E200T-□02-D	E300T-□02-D	E400T-□04-D	E500T-□06-D	E600T-		
			-			E3001-□03-D	E4001-L04-D	V540 □00 D	E0001-	⊔10-D	
					V040 □04 D	Y310-□01-D	Y410-□02-D	Y510-□02-D	Y610-	□03-D	
				Standard	Y210-□01-D	Y310-□02-D	Y410-□03-D	Y510-□03-D	Y610-	□04-D	
					Y210-□02-D	Y310-□03-D	Y410-□04-D	Y510-□04-D	Y610-	□06-D	
	T-spac	er* ^{5, *6}	p. 52					Y510-□06-D			
					<u>_</u>			<u>_</u>			
				Slim type	Y210-□01-1-D	Y310-□01-1-D	Y410-□02-1-D	Y510-□02-1-D	Y610-□		
				71.	Y210-□02-1-D	Y310-□02-1-D	Y410-□03-1-D	Y510-□03-1-D	Y610-□	l04-1-D	
Attachment						Y34-□01-D	Y44-□02-D	Y54-□02-D	Y64-□]03-D	
				Standard	Y24-□01-D	Y34-□02-D	Y44-□03-D	Y54-□03-D			
					Y24-□02-D	Y34-□03-D	Y44-□04-D	Y54-□04-D	Y64-□04-D Y64-□06-D		
	Cross	spacer*5, *6	p. 53				0	Y54-□06-D	104		
				Front and		Y34-□01-1-D	Y44-□02-1-D	Y54-□03-1-D			
				back port	Y24-□01-1-D	Y34-□02-1-D	Y44-□03-1-D	Y54-□04-1-D	_	_	
				selectable type	Y24-□02-1-D	Y34-□03-1-D	Y44-□04-1-D	Y54-□06-1-D			
				oolootablo typo		101 = 00 1 5	111 = 011 5	101 = 00 1 5			
				Standard	IS10M-20-D	IS10M-30-D	IS10M-40-D	IS10M-50-D	IS10M	I-60-D	
	Pressi	ıre switch*6	p. 54	Otaridard	1010111 20 0	10 TOW 00 B	10 TOWN 40 B	10 TOW 50 B	10 1010	1 00 B	
			Slim type	IS10M-20-1-D	IS10M-30-1-D	IS10M-40-1-D	IS10M-50-1-D	IS10M-	60-1-D		
				Jamin type	13 10W 20-1-D	10 10W1-00-1-D	10 10W1-40-1-D		10 10101-		
						IS10T-30-□01-D	IS10T-40-□02-D	IS10T-50-□02-D	IS10T-60	ე-□03-□	
		ıre switch		p. 55	IS10T-20-□01-D	IS10T-30-□02-D		IS10T-50-□03-D	IS10T-60		
	with T-spacer*5, *6			9.00	IS10T-20-□02-D		IS10T-40-□03-D	IS10T-50-□04-D	IS10T-60		
						10 10 1-3003-D	10 101-40-104-D	IS10T-50-□06-D	13101-00	. □00-D	
	Pressi	ıre switch	-		18101 20 □01 □	IS10L-30-□01-D	IS10L-40-□02-D	19101 50 704 0	IS10L-60)-□04-D	
	with L	-shaped pipir	ng	p. 56	IS10L-20-□01-D		IS10L-40-□03-D	IS10L-50-□04-D	IS10L-60		
	adapte		-		IS10L-20-□02-D		IS10L-40-□04-D	IS10L-50-□06-D	IS10L-60		
					10.105.05.55.5		IS10E-40-□02-D		IS10E-6		
	Pressu	ıre switch				IS10E-30-□02-D		IS10E-50-□06-D	IS10E-6		
		iping adapter	*5, *6	p. 57		IS10E-30-□03-D	IS10E-40-□04-D		IS10E-6		
	"				IS10E-20-∐03-D	IS10E-30-□04-D	IS10E-40-□06-D		IS10E-6		
	<u> </u>							nressure: N.O. tv			

 $^{*1\ \}square$ in part numbers for a round type pressure gauge indicates a pipe thread type. 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.

^{*6} Separate spacers are required for modular units.



^{*2} Including one O-ring and 2 mounting screws
*3 Lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screws (2 pcs.) are attached. []: Switch body only Regarding how to order the digital pressure switch, refer to the Web Catalog.

^{*4} Minimum operating pressure: N.O. type-0.1 MPa; N.C. type-0.1 MPa (AD27-D) and 0.15 MPa (AD37-D/AD47-D). Please contact SMC separately for psi and °F unit display specifications.

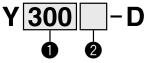
*5 □ in attachment part numbers indicates a pipe thread type. No indication is

necessary for Rc thread; however, indicate N for NPT thread, and F for G

AC-D Series

Accessories (Spacer / Spacer with Bracket)

Spacer / Spacer with Bracket



•	2	
	Symbol	Description

Nil

Spacer Spacer with bracket

	0											
Body size [Applicable AC size]												
200 [AC20]	300 [AC30]	400 [AC40]	500 [AC40-06]	600 [AC50/AC60]								
•	•	•	•	•								
•	•	•	•	•								

Spacer (Y□-D)

Spacer with bracket (Y□T-D)





Standard Specifications

Bracket

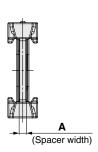
Fluid	Air
Ambient and fluid temperatures	−5 to 60°C (No freezing)
Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa

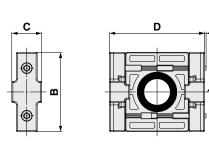
Replacement Parts

			Part no.								
Description	Material	Y200-D Y200T-D	Y300-D Y300T-D	Y400-D Y400T-D	Y500-D Y500T-D	Y600-D Y600T-D					
Seal	HNBR	Y220P-050S	Y320P-050S	Y420P-050S	Y520P-050S	Y620P-050S					

Dimensions

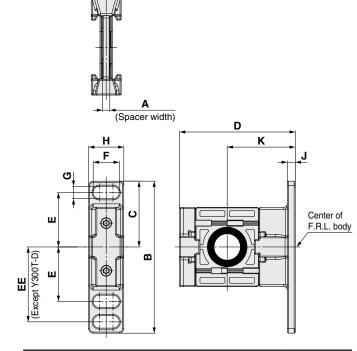
Spacer





Y200-D 3.2 35 13.2 42 0.6 AC20-D Y300-D 4.2 43 16.2 53 — AC30-D Y400-D 5.2 51 19.2 71 — AC40-D								
Y300-D 4.2 43 16.2 53 — AC30-D Y400-D 5.2 51 19.2 71 — AC40-D	/lodel	Model	Α	В	С	D	E	Applicable size
Y400-D 5.2 51 19.2 71 — AC40-D	200-D	Y200-D	3.2	35	13.2	42	0.6	AC20-D
1100 = 1 110 10 =	300-D	Y300-D	4.2	43	16.2	53	_	AC30-D
	100-D	Y400-D	5.2	51	19.2	71	_	AC40-D
Y500-D 5.2 54 21.2 71 — AC40-06-D	500-D	Y500-D	5.2	54	21.2	71	_	AC40-06-D
Y600-D 6.2 64 27.2 90 — AC50-D AC60-D	600-D	Y600-D	6.2	64	27.2	90	_	

Spacer with bracket



Model	Α	В	С	D	Е	EE	F	G	Н	J	K	Applicable size
Y200T-D	3.2	67	29	51	24	33	11.5	5.5	15.5	3.5	30	AC20-D
Y300T-D	4.2	85	42.5	67.5	35	_	14	7	20	6	41	AC30-D
Y400T-D	5.2	115	50	85.5	40	55	18	9	26	7	50	AC40-D
Y500T-D	5.2	115	50	85.5	40	55	18	9	26	7	50	AC40-06-D
Y600T-D	6.2	140	60	115	50	70	20	11	31.2	8	70	AC50-D AC60-D

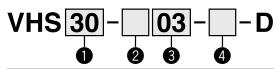
Center of

F.R.L. body

AC-D Series **Attachments**

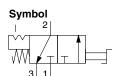
Pressure Relief 3-Port Valve: (V, V1)

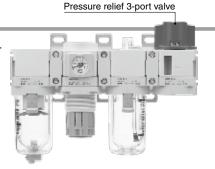
· By using a pressure relief 3-port valve, pressure left in the line can be easily exhausted.



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

Example) VHS30-N03-RZ-D







					3 1				
	_						0		
			Symbol	Description		Body	size [Applicable A0	C size]	
					20 [AC20]	30 [AC30]	40 [AC40]	40 [AC40-06]	50 [AC50/AC60]*4
			Nil	Rc*1	•	•	•	•	•
2		Pipe thread type	N	NPT	•	•	•	•	•
			F	G	•	•	•	•	•
			+						
			01	1/8	•	_	_	_	_
			02	1/4	•	•	•	_	_
8		Port size	03	3/8	_	•	•	_	_
O		FUIT SIZE	04	1/2	_	_	•	_	
			06	3/4	_	_	_	•	•
			10	1	_	_	_	_	•
			+						
	5	a Flow direction	Nil	Flow direction: Left to right	•	•	•	•	•
	월	a Flow direction	R	Flow direction: Right to left	•	•	•	•	•
4	sta		+						·
	Semi-standard	b Unit	Nil	Unit on product label: MPa	•	•	•	•	•
	Se	b Onit	Z *2	Unit on product label: psi	○*3	○*3	○*3	○*3	○*3

- *1 The pipe thread type for the EXH port is G.
- *2 For the pipe thread type: NPT only. This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)
- *3 \bigcirc : For the pipe thread type: NPT only
- *4 The VHS50 can be connected to the AC60.

Standard Specifications

Fluid	Air
Ambient and fluid temperatures	−5 to 60°C (No freezing)
Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa

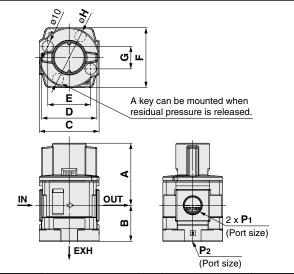
Flow Rate Characteristics

	Port s	size		Flow rate characteristics								
Model			IN -	→ OUT		$OUT \rightarrow EXH$						
Model	IN, OUT	EXH	C (dm³/s·bar)	b	Cv	C (dm ³ /s·bar)	b	Cv				
VHS20	1/8	1/8	4.0	0.41	1.1	3.7	0.42	1.1				
VH320	1/4	1/0	5.8	0.31	1.4	3.8	0.42	1.1				
VHS30	1/4	1/4	8.8	0.44	2.4	8.0	0.46	2.3				
VII 330	3/8	1/4	14.1	0.28	3.5	7.8	0.46	2.2				
	1/4		9.5	0.49	2.8	13.3	0.47	3.6				
VHS40	3/8	3/8	17.2	0.47	4.8	13.6	0.47	3.7				
	1/2		26.7	0.29	6.3	13.4	0.43	3.7				
VHS40-06	3/4	1/2	34.0	0.22	7.6	16.1	0.41	4.4				
VHS50	3/4	1/2	45.0	0.26	10.6	23.0	0.49	6.4				
V11330	1	1/2	53.3	0.36	13.5	22.8	0.49	6.3				

Caution on Mounting

- · Use an air filter on the inlet side for operating protection.
- \cdot When mounting a silencer, etc., on the EXH port, refer to the operation manual.

Dimensions



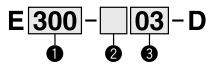
Model	P ₁	P ₂	Α	В	С	D	Applicable size
VHS20-D	1/8, 1/4	1/8	48.5	23	40	37	AC20-D
VHS30-D	1/4, 3/8	1/4	55	32	53	49	AC30-D
VHS40-D	1/4, 3/8, 1/2	3/8	69.7	41.3	70	63	AC40-D
VHS40-06-D	3/4	1/2	71.7	43.3	75	63	AC40-06-D
VHS50-D	3/4, 1	1/2	86.5	44.5	90	80	AC50-D/AC60-D

Model	E	F	G	н	Applicable size
VHS20-D	28	42	17.5	40	AC20-D
VHS30-D	38	53	20	53	AC30-D
VHS40-D	52	71	29	70	AC40-D
VHS40-06-D	52	71	29	70	AC40-06-D
VHS50-D	72	90	33	90	AC50-D/AC60-D

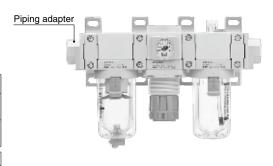


Piping Adapter: 1/8, 1/4, 3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2

· Using on the inlet side or the outlet side of F.R.L. units makes it easier to perform maintenance, as the component can be installed/ removed without removing the piping.



						0		
		Symbol	Description			Body size		
				200	300	400	500	600
				[AC20]	[AC30]	[AC40]	[AC40-06]	[AC50, AC60]
		Nil	Rc	•	•	•	•	•
2	Pipe thread type	N	NPT	•	•	•	•	•
		F	G	•	•	•	•	•
		+						
		01	1/8	•	_	_	_	
		02	1/4	•	•	•	_	_
		03	3/8	•	•	•	_	_
8	Port size	04	1/2	_	•	•	_	_
O	FUIT SIZE	06	3/4	_	_	•	•	•
		10	1		_	_	•	•
		12	1 1/4	_	_	_	_	•
		14	1 1/2		_	_	_	•
			/_			<u> </u>		_

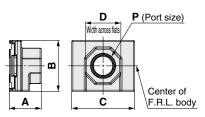




Standard Specifications

Fluid	Air				
Ambient and fluid temperatures	−5 to 60°C (No freezing)				
Proof pressure	1.5 MPa				
Max. operating pressure	1.0 MPa				

Dimensions



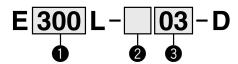
Model	Р	Α	В	С	D	Applicable AC size
E200-D	1/8, 1/4, 3/8	24	35	42	24	AC20-D
E300-D	1/4, 3/8, 1/2	27	43	53	30	AC30-D
E400-D	1/4, 3/8, 1/2, 3/4	30	51	71	36	AC40-D
EFOO D	3/4	0.1	54	74	36	4040 0C D
E500-D	1	31	54	71	46	AC40-06-D
E600-D	3/4, 1	39	64	00	46	AC50-D
E000-D	1 1/4, 1 1/2	42	04	90	63	AC60-D

Caution on Mounting

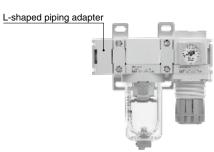
Pipe threads are not provided on the face which connects with the other components. For use, a separate spacer (or spacer with bracket) is required.

L-Shaped Piping Adapter: 1/8, 1/4, 3/8, 1/2, 3/4, 1

- · Upward/downward piping is possible on the inlet side and the outlet side of F.R.L. units.
- · Ideal for space-saving and reducing piping labor
- · Using on the inlet side or the outlet side of F.R.L. units makes it easier to perform maintenance, as the component can be installed/removed without removing the piping.



						0		
		Symbol	Description			Body size icable AC		
				200 [AC20]	300 [AC30]	400 [AC40]	500 [AC40-06]	600 [AC50, AC60]
		Nil	Rc	•	•	•	•	•
2	Pipe thread type	N	NPT	•	•	•	•	•
		F	G	•	•	•	•	•
		+						
		01	1/8	•	•	_	_	_
		02	1/4	•	•	•		_
8	Port size	03	3/8	_	•	•	_	_
9	FULL SIZE	04	1/2		_	•	•	•
		06	3/4		_	_	•	•
		10	1	_	_	_	_	•

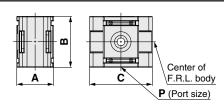




Standard Specifications

Fluid	Air
Ambient and fluid temperatures	-5 to 60°C (No freezing)
Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa

Dimensions



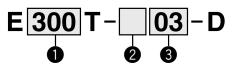
Model	P	Α	В	С	Applicable AC size
E200L-D	1/8, 1/4	28	35	42	AC20-D
E300L-D	1/8, 1/4, 3/8	31	43	53	AC30-D
E400L-D	1/4, 3/8, 1/2	39	51	71	AC40-D
E500L-D	1/2, 3/4	47	54	71	AC40-06-D
Econ D	1/0 0/4 1	60	64	00	AC50-D
E600L-D	1/2, 3/4, 1	62	64	90	AC60-D

Caution on Mounting

Pipe threads are not provided on the face which connects with the other components. For use, a separate spacer (or spacer with bracket) is required.

T-Shaped Piping Adapter: 1/8, 1/4, 3/8, 1/2, 3/4, 1

- · Both upward and downward piping are possible on the inlet and outlet sides of F.R.L. units.
- · Ideal for space-saving and reducing piping labor
- · Using on the inlet side or the outlet side of F.R.L. units makes it easier to perform maintenance, as the component can be installed/removed without removing the piping.



						0		
		Symbol	Description			Body size icable AC		
				200 [AC20]	300 [AC30]	400 [AC40]	500 [AC40-06]	600 [AC50, AC60]
		Nil	Rc	•	•	•	•	•
2	Pipe thread type	N	NPT	•	•	•	•	•
		F	G	•	•	•	•	•
		+						
		01	1/8	•	•	_	_	_
		02	1/4	•	•	•	_	_
8	Port size	03	3/8	_	•	•	_	
9	Port size	04	1/2	_	_	•	•	•
		06	3/4		_	_	•	
		10	1		_	_	_	•

Standard Specifications

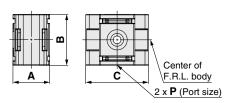
Fluid	Air
Ambient and fluid temperatures	-5 to 60°C (No freezing)
Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa

T-shaped piping adapter



	Port size
IN	_
OUT	8

Dimensions



Model	Р	Α	В	С	Applicable AC size
E200T-D	1/8, 1/4	28	35	42	AC20-D
E300T-D	1/8, 1/4, 3/8	31	43	53	AC30-D
E400T-D	1/4, 3/8, 1/2	39	51	71	AC40-D
E500T-D	1/2, 3/4	47	54	71	AC40-06-D
E600T-D	1/0 0/4 1	62	64	00	AC50-D
E0001-D	1/2, 3/4, 1	02	64	90	AC60-D

Caution on Mounting

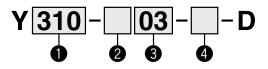
Pipe threads are not provided on the face which connects with the other components. For use, a separate spacer (or spacer with bracket) is required.



AFM / AFD

T-Spacer: 1/8, 1/4, 3/8, 1/2, 3/4

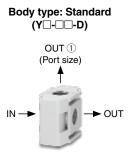
· Using a T-spacer facilitates the branching of air flow.

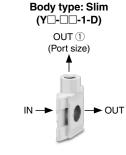


						O			
		Symbol	Description	Body size [Applicable AC size]					
				210 [AC20]	310 [AC30]	410 [AC40]	510 [AC40-06]	610 [AC50, AC60]	
		Nil	Rc	•	•	•	•	•	
2	Pipe thread type	N	NPT	•	•	•	•	•	
		F	G	•	•	•	•	•	
		+							
		01	1/8	•	•	_	_	_	
	Dank alaa	02	1/4	•	•	•	•	_	
8	Port size (OUT ①)	03	3/8	_	0	•	•	•	
	(001①)	04	1/2	_	_	0	0	•	
		06	3/4	_	_	_	0	0	
		+							
	Body type	Nil	Standard	•	•	•	•	•	
U	Body type	1	Slim	•	•	•	•	•	

 $[\]ast \; \bigcirc :$ Only applicable to the standard type body

T-spacer





	Port size
IN	_
OUT	_
OUT ①	8

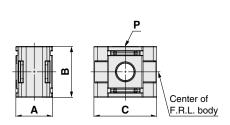
	Port size
IN	_
OUT	_
OUT ①	6

Standard Specifications

otaniaana opoomoanono						
Fluid	Air					
Ambient and fluid temperatures	-5 to 60°C (No freezing)					
Proof pressure	1.5 MPa					
Max. operating pressure	1.0 MPa					

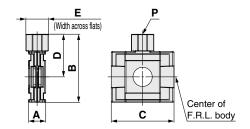
Dimensions

Body type: Standard



Model	P	Α	В	С	Applicable AC size
Y210-D	1/8, 1/4	28	35	42	AC20-D
Y310-D	1/8, 1/4, 3/8	31	43	53	AC30-D
Y410-D	1/4, 3/8, 1/2	39	51	71	AC40-D
Y510-D	1/4, 3/8, 1/2, 3/4	47	54	71	AC40-06-D
Y610-D	3/8, 1/2, 3/4	62	64	90	AC50-D, AC60-D

Body type: Slim



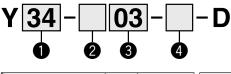
Model	P	Α	В	С	D	Е	Applicable AC size
Y210-1-D	1/8, 1/4	14.6	48.5	42	31	19	AC20-D
Y310-1-D	1/8, 1/4	14.6	57.5	53	36	19	AC30-D
Y410-1-D	1/4, 3/8	18.6	67	71	41.5	24	AC40-D
Y510-1-D	1/4, 3/8	18.6	70	63	43	24	AC40-06-D
Y610-1-D	3/8, 1/2	22	87	90	55	30	AC50-D, AC60-D

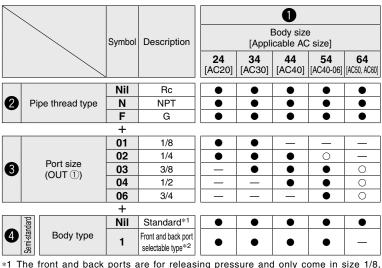
- · Pipe threads are not provided on the face which connects with the other components. For use, a separate spacer (or spacer with bracket) is required.
- · The backflow of oil may occur when a spacer is used on the inlet side of the lubricator. Attach a check valve between the lubricator and the product to prevent backflow.
- · When the slim body type is to be mounted to a wall using a spacer with bracket, use a spacer on only one side.

AC-D Series

Cross Spacer: 1/8, 1/4, 3/8, 1/2, 3/4

· The piping can be branched upward/downward (OUT ①) or forward/backward (OUT ②).



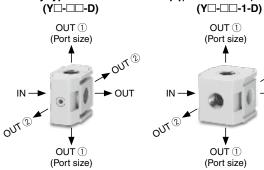


- *1 The front and back ports are for releasing pressure and only come in size 1/8, irrespective of the 1 port size. The minimum port size is 1.4 mm.
- *2 The front and back ports come in the same size as the 3 port size.
- *3 "O" indicates that only the standard body type is applicable.

Standard Specifications

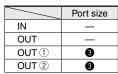
Fluid	Air
Ambient and fluid temperatures	-5 to 60°C (No freezing)
Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa





Port size
_
_
8
1/8

Body type: Standard



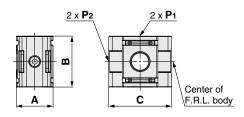
Body type: Front and back port selectable

→OUT®

► OUT

Dimensions

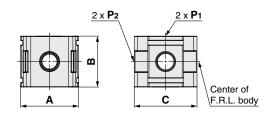
Body type: Standard



Model	P ₁	P2*1	Α	В	С	Applicable AC size
Y24-D	1/8, 1/4	1/8	28	35	42	AC20-D
Y34-D	1/8, 1/4, 3/8	1/8	31	43	53	AC30-D
Y44-D	1/4, 3/8, 1/2	1/8	39	51	71	AC40-D
Y54-D	1/4, 3/8, 1/2, 3/4	1/8	47	54	71	AC40-06-D
Y64-D	3/8, 1/2, 3/4	1/8	62	64	90	AC50-D, AC60-D

^{*1} A resin plug is attached to the P2 port and shipped together with the product.

Body type: Front and back port selectable



Model	P1, P2*1	Α	В	С	Applicable AC size
Y24-1-D	1/8, 1/4	40	35	42	AC20-D
Y34-1-D	1/8, 1/4, 3/8	49	43	53	AC30-D
Y44-1-D	1/4, 3/8, 1/2	60	51	71	AC40-D
Y54-1-D	3/8, 1/2, 3/4	72	54	71	AC40-06-D

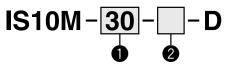
^{*1} Two hexagon socket head plugs the same size as the P₁ and P₂ ports are shipped together with the product.

- · Pipe threads are not provided on the face which connects with the other components. For use, a separate spacer (or spacer with bracket) is required.
- The backflow of oil may occur when a spacer is used on the inlet side of the lubricator. Attach a check valve between the lubricator and the product to prevent backflow.



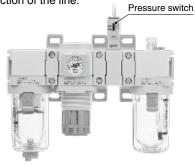
Pressure Switch

 \cdot A compact, integrated pressure switch can be easily installed to facilitate the pressure detection of the line.



- · Semi-standard: Select one each for a to d.
- · Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) IS10M-30-6LP-D

							0				
		Symbol	Description	Body size [Applicable AC size]							
					20 [AC20]	30 [AC30]	40 [AC40]	50 [AC40-06]	60 [AC50, AC60]		
				Set pressure	Nil	0.1 to 0.4 MPa	•	•	•	•	•
		L	а	range	6*1	0.1 to 0.6 MPa	0	0	0	0	0
	+										
	 			Lead wire	Nil	0.5 m	•	•	•	•	•
	gal		b	length	L	3 m	•	•	•	•	•
2	au	lengui		Z	5 m	•	•	•	•	•	
4	<u> -</u>				+						
	Semi-standard		С	Pressure unit of	Nil	MPa	•	•	•	•	•
	0		the scale plate		P *2	MPa/psi dual scale	0	0	0	0	0
					+						
			d	Body type	Nil	Standard	•	•	•	•	•
			u	Body type	1	Slim	•	•	•	•	•



Body type: Standard (IS10M-□□-D)

Body type: Slim (IS10M-□□-1-D)





Without restrictions
 With restrictions (Refer to *1 and *2.)

- *1 The set pressure range for the 6P is 0.2 to 0.6 MPa (30 to 90 psi).
- *2 This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)

Standard Specifications

Fluid	Air					
Ambient and fluid temperatures	-5 to 60°C (No freezing)					
Proof pressure	1.0 MPa					
Max. operating pressure	0.7 MPa					
Set pressure range (when OFF)	0.1 to 0.4 MPa					
Hysteresis	0.08 MPa or less					
Contact point configuration	1a					

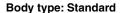
Switch Characteristics

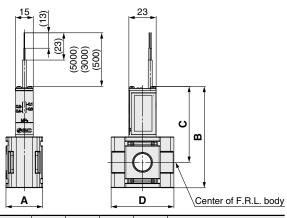
Symbol

Max. contact point capacity	2 VA (AC), 2 W (DC)
Operating voltage: AC, DC	100 V or less
Max. operating current	24 VAC, DC or less: 50 mA 48 VAC, DC or less: 40 mA 100 VAC, DC or less: 20 mA

* For detailed specifications of the IS10 series, refer to the IS10 series section on the SMC website: https://www.smcworld.com

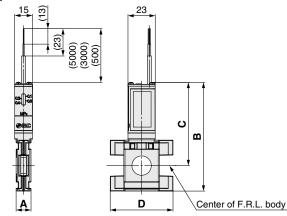
Dimensions





Model	Α	В	С	D	Applicable AC size
IS10M-20-D	28	77.6	60.1	42	AC20-D
IS10M-30-D	31	85.6	64.1	53	AC30-D
IS10M-40-D	39	93.6	68.1	71	AC40-D
IS10M-50-D	47	96.6	69.6	71	AC40-06-D
IS10M-60-D	62	106.6	74.6	90	AC50-D, AC60-D

Body type: Slim

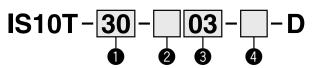


Model	Α	В	С	D	Applicable AC size
IS10M-20-1-D	10.6	83.8	66.3	42	AC20-D
IS10M-30-1-D	12.6	91.8	70.3	53	AC30-D
IS10M-40-1-D	14.6	97.8	72.3	58.6	AC40-D
IS10M-50-1-D	16.6	100.8	73.8	59.3	AC40-06-D
IS10M-60-1-D	22	110.8	78.8	90	AC50-D, AC60-D

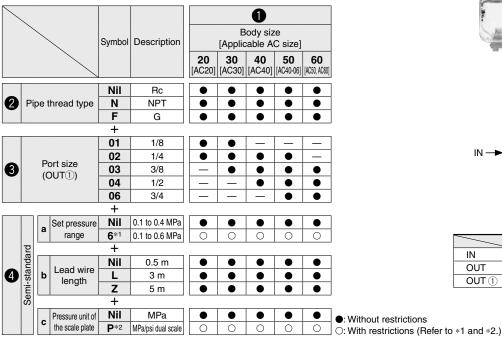
- · Pipe threads are not provided on the face which connects with the other components. For use, a separate spacer (or spacer with bracket) is required.
- · When the slim body type is to be mounted to a wall using a spacer with bracket, use a spacer on only one side.

Pressure Switch with T-Spacer

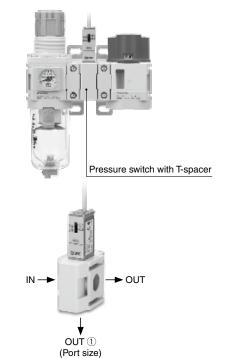
· A compact, integrated pressure switch can be easily installed to facilitate the pressure detection of the line.



- · Semi-standard: Select one each for a to c.
- \cdot Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) IS10T-30-N03-<u>6LP-D</u>







	Port size
IN	_
OUT	_
OUT ①	8

- 1 The set pressure range for the 6P is 0.2 to 0.6 MPa (30 to 90 psi).
- *2 For the pipe thread type: NPT only

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

Standard Specifications

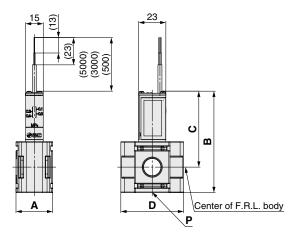
Fluid	Air
Ambient and fluid temperatures	−5 to 60°C (No freezing)
Proof pressure	1.0 MPa
Max. operating pressure	0.7 MPa
Set pressure range (when OFF)	0.1 to 0.4 MPa
Hysteresis	0.08 MPa or less
Contact point configuration	1a

Switch Characteristics

Max. contact point capacity	2 VA (AC), 2 W (DC)				
Operating voltage: AC, DC	100 V or less				
Max. operating current	24 VAC, DC or less: 50 mA 48 VAC, DC or less: 40 mA 100 VAC, DC or less: 20 mA				

 For detailed specifications of the IS10 series, refer to the IS10 series section on the SMC website: https://www.smcworld.com

Dimensions



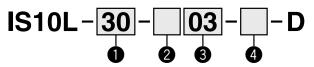
Model	Р	Α	В	С	D	Applicable AC size
IS10T-20-D	1/8, 1/4	28	77.6	60.1	42	AC20-D
IS10T-30-D	1/8, 1/4, 3/8	31	85.6	64.1	53	AC30-D
IS10T-40-D	1/4, 3/8, 1/2	39	93.6	68.1	71	AC40-D
IS10T-50-D	1/4, 3/8, 1/2, 3/4	47	96.6	69.6	71	AC40-06-D
IS10T-60-D	3/8, 1/2, 3/4	62	106.6	74.6	90	AC50-D, AC60-D

- · Pipe threads are not provided on the face which connects with the other components. For use, a separate spacer (or spacer with bracket) is required.
- · The backflow of oil may occur when a spacer is used on the inlet side of the lubricator. Attach a check valve between the lubricator and the product to prevent backflow.

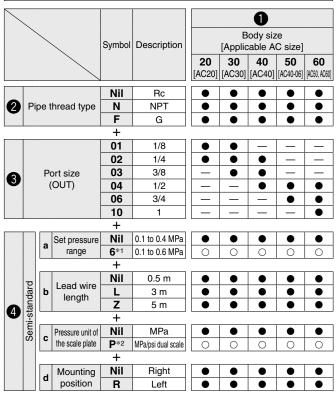


Pressure Switch with L-Shaped Piping Adapter

- · A compact, integrated pressure switch can be easily installed to facilitate the pressure detection of the line.
- · Using on the inlet side or the outlet side of F.R.L. units allows the component to be installed/removed without removing the piping.



- · Semi-standard: Select one each for a to d.
- \cdot Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) IS10L-30-N03-6LP-D



- ●: Without restrictions ○: With restrictions (Refer to *1 and *2.)
- *1 The set pressure range for the 6P is 0.2 to 0.6 MPa (30 to 90 psi).
- *2 For the pipe thread type: NPT only

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

Standard Specifications

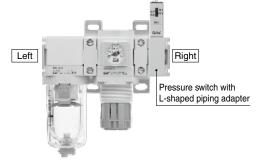
Fluid	Air
Ambient and fluid temperatures	−5 to 60°C (No freezing)
Proof pressure	1.0 MPa
Max. operating pressure	0.7 MPa
Set pressure range (when OFF)	0.1 to 0.4 MPa
Hysteresis	0.08 MPa or less
Contact point configuration	1a

Switch Characteristics

Max. contact point capacity	2 VA (AC), 2 W (DC)				
Operating voltage: AC, DC	100 V or less				
Max. operating current	24 VAC, DC or less: 50 mA 48 VAC, DC or less: 40 mA 100 VAC, DC or less: 20 mA				

 For detailed specifications of the IS10 series, refer to the IS10 series section on the SMC website: https://www.smcworld.com

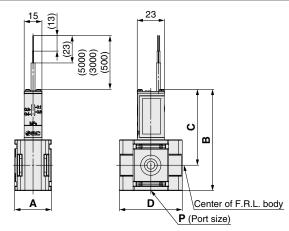
Symbol





	Port size
IN	_
OUT	8

Dimensions

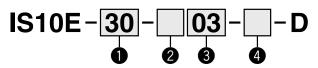


Model	Р	Α	В	С	D	Applicable AC size
IS10L-20-D	1/8, 1/4	28	77.6	60.1	42	AC20-D
IS10L-30-D	1/8, 1/4, 3/8	31	85.6	64.1	53	AC30-D
IS10L-40-D	1/4, 3/8, 1/2	39	93.6	68.1	71	AC40-D
IS10L-50-D	1/2, 3/4	47	96.6	69.6	71	AC40-06-D
IS10L-60-D	1/2, 3/4, 1	62	106.6	74.6	90	AC50-D, AC60-D

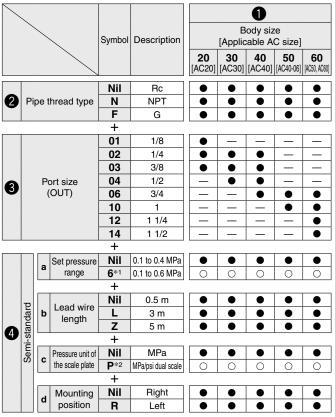


Pressure Switch with Piping Adapter

· A compact, integrated pressure switch can be easily installed to facilitate the pressure detection of the line.



- · Semi-standard: Select one each for a to d.
- \cdot Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) IS10E-30-N03-<u>6LP-D</u>



- ●: Without restrictions ○: With restrictions (Refer to *1 and *2.)
- *1 The set pressure range for the 6P is 0.2 to 0.6 MPa (30 to 90 psi).
- *2 For the pipe thread type: NPT only This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)

Standard Specifications

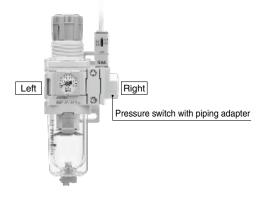
Fluid	Air			
Ambient and fluid temperatures	−5 to 60°C (No freezing)			
Proof pressure	1.0 MPa			
Max. operating pressure	0.7 MPa			
Set pressure range (when OFF)	0.1 to 0.4 MPa			
Hysteresis	0.08 MPa or less			
Contact point configuration	1a			

Switch Characteristics

Max. contact point capacity	2 VA (AC), 2 W (DC)				
Operating voltage: AC, DC	100 V or less				
Max. operating current	24 VAC, DC or less: 50 mA 48 VAC, DC or less: 40 mA 100 VAC, DC or less: 20 mA				

 For detailed specifications of the IS10 series, refer to the IS10 series section on the SMC website: https://www.smcworld.com

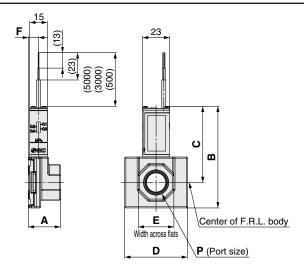






	Port size
IN	_
OUT	6

Dimensions



Model	Р	Α	В	С	D	Е	F	Applicable AC size
IS10E-20-D	1/8, 1/4, 3/8	24	77.8	60.3	42	24		AC20-D
IS10E-30-D	1/4, 3/8, 1/2	27	85.8	64.3	53	30		AC30-D
IS10E-40-D	1/4, 3/8, 1/2, 3/4	30	93.8	68.3	71	36	8.5	AC40-D
IS10E-50-D	3/4	31	96.8	69.8	71	36		AC40-06-D
19105-90-0	1	31			′ '	46		AC40-06-D
IS10E-60-D	3/4, 1	39	106.8	74.8	90	46	9.5	AC50-D,
1910E-00-D	1 1/4, 1 1/2	42	100.8	/4.8	90	63	9.5	AC60-D

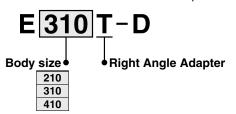
Caution on Mounting

Pipe threads are not provided on the face which connects with the other components. For use, a separate spacer (or spacer with bracket) is required.

AW + AFM

Right Angle Adapter

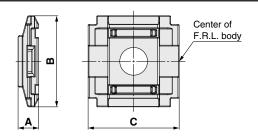
· Allows for modular connection with the product rotated 90 degrees

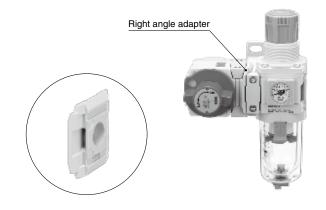


Standard Specifications

Fluid	Air
Ambient and fluid temperatures	–5 to 60°C (No freezing)
Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa

Dimensions





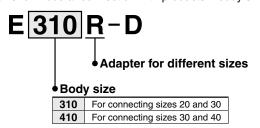
Model	Α	В	С	Applicable AC size
E210T-D	9	42	42	AC20-D
E310T-D	12	53	53	AC30-D
E410T-D	15	71	71	AC40-D

Caution on Mounting

- · Pipe threads are not provided on the face which connects with the other components. For use, a separate spacer (or spacer with bracket) is required.
- · When mounting to a wall using a spacer with bracket, use a spacer on only one side.

Reducing Adapter

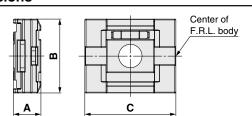
· Allows for modular connection with products 1 body size larger or smaller



Standard Specifications

Fluid	Air
Ambient and fluid temperatures	-5 to 60°C (No freezing)
Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa

Dimensions





Model	Α	В	С	Applicable AC size
E310R-D	16	43	53	AC20-D, AC30-D
E410R-D	20	51	71	AC30-D, AC40-D

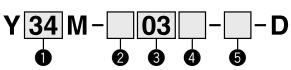
- · Pipe threads are not provided on the face which connects with the other components. For use, a separate spacer (or spacer with bracket) is required.
- · When mounting to a wall using a spacer with bracket, use a spacer on only one side.



AC-D Series

Cross Adapter: 1/4, 3/8, 1/2

· Allows for devices to be connected on the top, bottom, left, and right with a spacer



S						Symbol	Description		Body size cable AC 34 [AC30]	
				Nil	Rc	•	•	•		
2	F	Pipe 1	thread type	N	NPT	•	•	•		
				F	G	•	•	•		
	+									
			02	1/4	•	_	_			
8	Port size		03	3/8	_	•	_			
			04	1/2	_	_	•			
+										
•	Option	Des		В	Without pressure gauge (Double-sided blanking plate)	•	•	•		
U	o	Pressure gauge		E	Square embedded type pressure gauge (with limit indicator)	•	•	•		
				+						
	ard		Top/bottom spacer	Nil	Front to back mounting	•	•	•		
6	B a mounting		Α	Left to right mounting	•	•	•			
	Ę			+						
	Se	b	Unit	Nil	Pressure gauge in SI units: MPa	•	•	•		
	Unit		Z *2	Pressure gauge: MPa/psi dual scale	○*3	○*3	○*3			

- *1 It is possible to change the mounting direction of the spacer (From front to back to left to right). For details on how to do so, refer to the operation manual.

 *2 For the pipe thread type: NPT. This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)

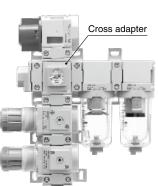
 *3 O: For the pipe thread type: NPT only

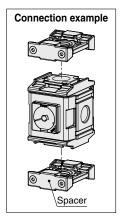
Standard Specifications

Fluid	Air
Ambient and fluid temperatures	−5 to 60°C (No freezing)
Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa

Top/bottom spacer mounting direction: Front to back mounting (Nil)



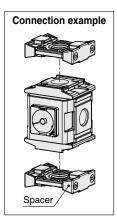




Top/bottom spacer mounting direction: Left to right mounting (A)



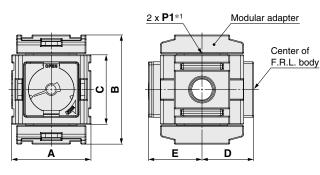
Cross adapter



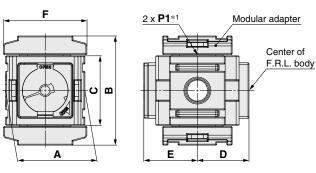
- · Pipe threads are not provided on the face which connects with the other components. For use, a separate spacer (or spacer with bracket) is required.
- · The backflow of oil may occur when a spacer is used on the inlet side of the lubricator. Attach a check valve between the lubricator and the product to prevent backflow.

Dimensions

Top/bottom spacer mounting direction: Front to back mounting



Top/bottom spacer mounting direction: Left to right mounting

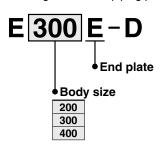


					Optional sp	nacitications	Semi-standard specifications		
Model		Star	ndard specificat	ions		Square embedded type pressure gauge		Applicable AC size	
	P1*1	Α	В	С	E	E	F		
Y24M-D	1/4	40	55	35	26	26	27	42	AC20-D
Y34M-D	3/8	53	63	43	31.5	31.5	32.5	53	AC30-D
Y44M-D	1/2	70	77	51	40.5	40.5	41.5	71	AC40-D

^{*1} By removing the modular adapter, the female threads on the top and bottom surfaces can be used as piping ports for air release.

End Plate

 \cdot For blocking the unused piping ports on sides without a modular connection



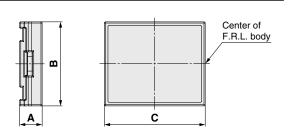


End plate

Standard Specifications

Standard Specifications	
Fluid	Air
Ambient and fluid temperatures	−5 to 60°C (No freezing)
Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa

Dimensions



ent

Model	Α	В	С	Applicable AC size
E200E-D	9.4	35	42	AC20-D
E200E-D	9.4	43	53	AC30-D
E400E-D	12.4	51	71	AC40-D

[·] Pipe threads are not provided on the face which connects with the other components. For use, a separate spacer (or spacer with bracket) is required.







AC-D Series Specific Product Precautions

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

Air Supply

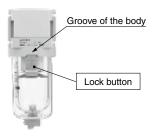
⚠ Caution

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 pressure relief 3-port valve on the inlet side.

Mounting / Adjustment

⚠ Caution

1. When the bowl is installed on the air filter, filter regulator, lubricator, mist separator, or micro mist separator (AC30-D to AC60-D), install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.



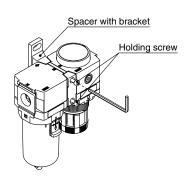
Tighten the 2 holding screws on the spacer with bracket or spacer evenly.

Tighten them to the recommended tightening torque. Insufficient tightening torque may result in loosening or sealing failure. Excessive tightening torque may damage the thread, etc.

Recommended Torque

Unit: N⋅m

teoonimenaca rorque									
Applicable model	AC20□ AC30□ AC40□		AC40□	AC40□-06	AC50□ AC60□				
Spacer with bracket part no.	Y200T-D	Y300T-D	Y400T-D	Y500T-D	Y600T-D				
Spacer part no.	Y200-D	Y300-D	Y400-D	Y500-D	Y600-D				
Torque	0.36 ±0.036	1.2 ±0.05	1.2 ±0.05	1.4 ±0.05	2.0 ±0.1				



Selection

⚠ Warning

1. Piping load and moment

Avoid any torsional or bending moments other than those caused by the equipment's own weight as failure to do so may result in damage.

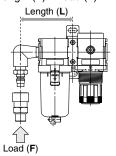
Support external piping separately. If moment application is unavoidable during operation, the moment should be lower than the max. moment shown below.

Piping materials without flexibility, such as steel tube piping, are prone to being affected by excess moment loads or vibrations from the piping side. Use flexible tubing in between to avoid such effects.

Unit: N·m

Applicable model	AC20□	AC30□	AC40□	AC40□-06	AC50□ AC60□
Max. moment (M)	14.5	16	19.5	35	45

Max. moment (M) = Length (L) x Load (F)



2. Float type auto drain

Operate under the following conditions to avoid a malfunction.

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 AD27-D: 0.1 MPa or more
 Operating pressure for AD37-D/AD47-D: 0.15 MPa or more
- 3. Use a regulator or filter regulator with backflow function when mounting a pressure relief 3-port valve on the inlet 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-spacer on the inlet side of the lubricator, lubricant may backflow. 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 pressure relief 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. Do not use it in this manner.
- **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.
- 4. When operating at an inlet pressure lower than the inlet pressure used in the flow rate characteristics graph, the pressure drop on the outlet side may be greater. Therefore, be sure to conduct testing using the actual equipment.

For air combination selection, refer to page 99 in the "Product Selection Guide."



Modular Type Air Filter AF Series

Air Filter AF Series	Model	Port size	Filtration [µm]	Options
	AF20-D	1/8, 1/4		
100 mm - 100 g	AF30-D	1/4, 3/8		
	AF40-D	1/4, 3/8, 1/2	5	Bracket
	AF40-06-D	3/4		Float type auto drain
	AF50-D	3/4, 1		
p. 60 to 68	AF60-D	1		

Air Filter

AF20-D to AF60-D

Symbol

Air Filter

Air Filter with Auto Drain

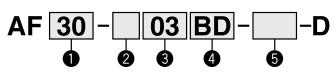






How to Order

AF30-D



- Option/Semi-standard: Select one each for a to g
- Option/Semi-standard symbol:

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

Example) AF30-03BD-R-D

	_	_						0		
Syr					Description			Body siz	е	
						20	30	40	50	60
				Nil	Rc	•			•	•
2		Pir	e thread type	N	NPT	•	•			
•	Fipe tillead type				G	•	•	•		•
				+	<u> </u>					
				01	1/8	•	I —	l —	_	
				02	1/4	•	•	•	_	
_			03	3/8		•	•	_		
8			Port size	04	1/2		_	•	_	
				06	3/4	_	_	•	•	_
				10	1	_	—		•	•
				+					•	
			Mannethe	Nil	Without mounting option	•	•	•	•	•
		а	Mounting	B*1	With bracket	•	•	•	•	•
_	Option			+						
4	힏	b	Float type auto	Nil	Without auto drain	•	•	•	•	•
				C*3	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•	•	•
			drain ^{∞2}	D *4	N.O. (Normally open) Drain port is open when pressure is not applied.	_	•	•	•	•
				+						
				Nil	Polycarbonate bowl	•	•	•	•	
				2	Metal bowl	•	•	•	•	•
			Dl*5	6	Nylon bowl	•	•	•	•	•
		С	Bowl*5	8	Metal bowl with level gauge	_	•	•	•	•
				С	With bowl guard	•	*6	*6	*6	*6
				6C	With bowl guard (Nylon bowl)	•	<u>_*</u> *7	*7	<u>*</u> 7	—* ⁷
				+	, , ,					
	ا ص	الم	Indicator	Nil	Without indicator	•	•	•	•	•
	g	d	Indicator	L	With element service indicator*14	•	•	*12	•	•
A	a l			+					•	
6	Semi-standard			Nil	With drain cock	•	•	•	•	•
	E		Dua: *8	J *9	Drain guide 1/8	•	_	_		_
	ကြ	е	Drain port*8	J*°	Drain guide 1/4	_	•	•	•	•
				W *10	Drain cock with barb fitting	_	•	•	•	•
				+	<u> </u>					
		ء	Flour direction	Nil	Flow direction: Left to right	•	•	•	•	
		f	Flow direction	R	Flow direction: Right to left	•	•	•	•	•
				+						
			l lait	Nil	Unit on product label: MPa, °C	•	•	•	•	•
		g	Unit	Z *11	Unit on product label: psi, °F	O*13	O*13	O*13	O*13	O*13
		-								

- *1 Option B is included in the package with the product but does not come assembled. The assembly consists of 2 types of the bracket and 2 mounting screws.

 *2 The auto drain port is ø10 One-touch fitting (② Pipe thread type: Rc, G) or ø3/8" One-touch fitting (② Pipe thread type: NPT)
- *3 When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended
- *4 If the compressor is small (0.75 kW, discharge flow is less than 100 L/min (ANR)), air leakage from the drain cock may occur during the start of operations. N.C. type is recommended.
- *5 Refer to chemical data on page 68 for chemical resistance of the bowl.
- *6 A bowl guard is provided as standard equipment (polycarbonate).
- *7 A bowl guard is provided as standard equipment (nylon).
- *8 The combination of float type auto drain C and D is not available.
- *9 Without a valve function. The mounting screws are the same as the thread of 2.
- *10 The combination of metal bowl 2 and 8 is not available.
- *11 For the pipe thread type: NPT. This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)
- *12 Excludes port size "06"
- *13 O: For the pipe thread type: NPT only
- *14 A special body type is required to mount the element service indicator. It cannot be mounted on a standard body.



AF20-D to AF60-D Series

Standard Specifications

Mo	del	AF20-D	AF30-D	AF40-D	AF40-06-D	AF50-D	AF60-D	
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1	
Fluid	ıid Air							
Ambient and fluid	l temperatures			−5 to 60°C (No freezing)			
Proof pressure				1.5	MPa			
Max. operating pr	essure	1.0 MPa						
Auto drain minimum	N.C.	0.1 MPa 0.15 MPa						
operating pressure	N.O.	— 0.1 MPa						
Nominal filtration	rating*1	5 μm						
Compressed air p	urity class*2			ISO 8573-1:20	ISO 8573-1:2010 [6 : 8 : 4]*3			
Drain capacity		8 cm ³	8 cm ³ 25 cm ³ 45 cm ³					
Bowl material		Polycarbonate						
Bowl guard		Semi-standard (Steel) Standard (Polycarbonate)						
Weight		0.09 kg	0.17 kg	0.35 kg	0.39 kg	0.85 kg	0.92 kg	

^{*1} For the following conditions in accordance with [Test condition: ISO 8573-4:2001 compliant, Test method ISO 12500-3:2009 compliant] Conditions: When a new element is used, and the flow capacity, inlet pressure, and the amount of solid bodies on the filter inlet side are stable

Bowl Assembly/Part Nos.

Bowl	Drain discharge	Ducin mout	Other	Model					
material	mechanism	Drain port	Other	AF20-D	AF30-D	AF40-D AF40-06-D AF50-D AF60-D			
		With drain cock	_	C2SF-D	_	_			
Polycarbonate		VVIIII GIAIII COCK	With bowl guard	C2SF-C-D	C3SF-D	C4SF-D			
	Manual	Drain cock with barb fitting	With bowl guard	_	C3SF-W-D	C4SF-W-D			
		With drain guide		C2SF□-J-D	_	_			
rolycarbonate		(without valve function)	With bowl guard	C2SF□-CJ-D	C3SF□-J-D	C4SF□-J-D			
	Automatic*1	Normally closed (N.C.)		AD27-D	_	_			
		, , ,	With bowl guard	AD27-C-D	AD37□-D	AD47□-D			
	(Auto drain)	Normally open (N.O.)	With bowl guard	_	AD38□-D	AD48□-D			
	Manual	With drain cock	_	C2SF-6-A	_	-			
		With drain cock	With bowl guard	C2SF-6C-A	C3SF-6-A	C4SF-6-A			
		Drain cock with barb fitting	With bowl guard	_	C3SF-6W-A	C4SF-6W-A			
Nylon		With drain guide		C2SF□-6J-A	_	_			
INVIOL		(without valve function)	With bowl guard	C2SF□-6CJ-A	C3SF□-6J-A	C4SF□-6J-A			
	Automatic*1 (Auto drain)	Normally closed (N.C.)	1	AD27-6-A	_				
			With bowl guard	AD27-6C-A	AD37□-6-A	AD47□-6-A			
		Normally open (N.O.)	With bowl guard		AD38□-6-A	AD48□-6-A			
		With drain cock	_	C2SF-2-A	C3SF-2-A	C4SF-2-A			
	Manual		With level gauge		C3LF-8-A	C4LF-8-A			
	Iviariuai	With drain guide			C3SF□-2J-A	C4SF□-2J-A			
Metal		(without valve function)	With level gauge		C3LF□-8J-A	C4LF□-8J-A			
ivictal		Normally closed (N.C.)		AD27-2-A	AD37□-2-A	AD47□-2-A			
	Automatic*1	INDITION COSEC (N.C.)	With level gauge	_	AD37□-8-A	AD47□-8-A			
	(Auto drain)	Normally open (N O)	_		AD38□-2-A	AD48□-2-A			
		Normally open (N.O.)	With level gauge	_	AD38□-8-A	AD48□-8-A			

^{*1} The bowl assembly comes with a bowl seal.

Option/Part Nos.

Optional		Model								
specifications	AF20-D	AF30-D	AF40-D	AF40-06-D	AF50-D AF60-D					
Bracket	AF24P-	AF34P-	AF44P-	AF49P-	AF54P-070AS					
assembly*1	070AS	070AS	070AS	070AS	AF54P-070A5					
Auto drain		Refer to "Bowl Assembly/Part Nos."								

^{*1} The assembly consists of a bracket A/B and 2 mounting screws.

Replacement Parts

Description	Part no.								
Description	AF20-D	AF30-D	AF40-D	AF40-06-D	AF50-D	AF60-D			
Filter element	AF20P-	AF30P-	A E 40F	AE40D 0000		AF60P-			
riiter element	060S	060S	AF40P-060S		060S	060S			
Baffle	AF24P-	AF34P-	AF44P-040S		AF54P-	AF64P-			
Daille	040S	040S			040S	040S			
Bowl seal	C2SFP-	C32FP-	0.4050.0000		2606				
DOWI Seai	260S	260S	C42FP-260S						
Bowl		Defer to "Devel Assembly/Devt Nee"							
assembly*1, *2		Refer to "Bowl Assembly/Part Nos."							

^{*1} The bowl assembly comes with a bowl seal.

^{*2} Please contact SMC separately for psi and °F unit display specifications.



Bracket B

Air filter

Bracket A Mounting screw

Bracket assembly



^{*2} The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air - Part 1: Contaminants and purity classes.

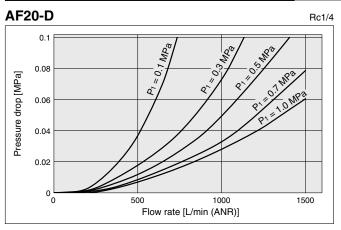
For details on this standard, refer to page 110. *3 The compressed air quality class on the inlet side is [7:9:4].

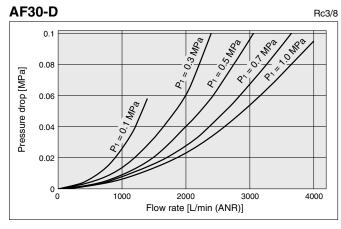
[□] in bowl assembly part numbers indicates a pipe thread type (applicable tubing for auto drain).

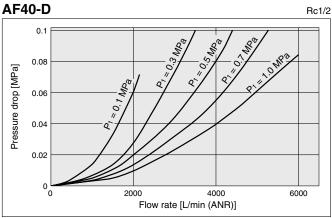
No indication is necessary for Rc thread; however, indicate N for NPT thread, and F for G thread. (For auto drain, Nil: ø10, N: ø3/8")

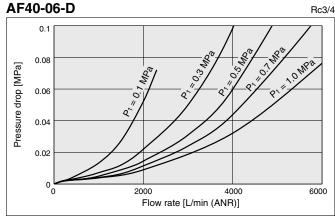
Please contact SMC separately for psi and °F unit display specifications.

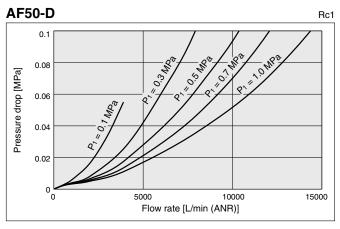
Flow Rate Characteristics (Representative values)

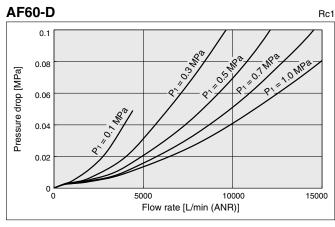












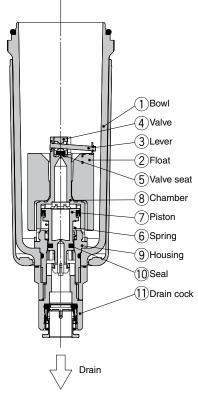
AF20-D to AF60-D Series

Working Principle: Float Type Auto Drain

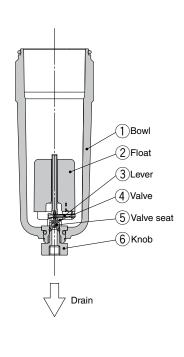
N.O. type: AD38-D, AD48-D

1 Bowl 4 Valve 3 Lever 2 Float 5 Valve seat 8 Chamber 6 Spring 7 Piston 9 Housing 10 Seal 11 Drain cock

N.C. type: AD37-D, AD47-D



Compact auto drain N.C. type: AD27-D



When pressure inside the bowl is released:

Drain

When pressure is released from the bowl 1, the piston 7 is lowered by the spring 6.

The sealing action of the seal 0 is interrupted, and the outside air flows inside the bowl 1 through the housing hole 9 and the drain cock 1

Therefore, if there is an accumulation of condensate in the bowl 1, it will drain out through the drain cock.

When pressure is applied inside the bowl:

When pressure is 0.1 MPa or more, the force of the piston ⑦ surpasses the force of the spring ⑥, and the piston goes up.

This pushes seal 10 up so that it creates a seal, and the inside of the bowl 1, is shut off from the outside air.

If there is no accumulation of condensate in the bowl 1 at this time, the float 2 will be pulled down by its own weight, causing the valve 4, which is connected to the lever 3, to seal the valve seat 5.

When there is an accumulation of condensate in the bowl:

The float ② rises due to its own buoyancy and the seal at the valve seat ⑤ is interrupted.

This allows the pressure inside the bowl ① to enter the chamber ⑧. The result is that the combined pressure inside the chamber ⑧ and the force of the spring ⑥ lowers the piston ⑦.

This causes the sealing action of the seal ① to be interrupted, and the accumulated condensate in the bowl ① drains out through the drain cock ①.

Turning the drain cock ① manually counter-clockwise lowers the piston ⑦, and causes the seal created by the seal ⑩ to be interrupted, thus allowing the condensate to drain out.

• When pressure inside the bowl is released:

Even when pressure inside the bowl ① is released, spring ⑥ keeps the piston ⑦ in its upward position

This keeps the seal created by the seal 1 in place; thus, the inside of the bowl 1 is shut off from the outside air.

Therefore, even if there is an accumulation of condensate in the bowl 1, it will not drain out.

When pressure is applied inside the bowl:

Even when pressure is applied inside the bowl 1, the combined force of the spring 6 and the pressure inside the bowl 1 keeps the piston 2 in its upward position.

This maintains the seal created by the seal 1 in place; thus, the inside of the bowl 1 is shut off from the outside air.

If there is no accumulation of condensate in the bowl 1 at this time, the float 2 will be pulled down by its own weight, causing the valve 4, which is connected to the lever 3, to seal the valve seat 5.

When there is an accumulation of condensate in the bowl:

The float ② rises due to its own buoyancy and the seal at the valve seat ⑤ is interrupted. This allows the pressure inside the bowl ① to enter the chamber ⑧.

The result is that the pressure inside the chamber \circledR surpasses the force of the spring \circledR and pushes the piston \triangledown downward.

This causes the sealing action of the seal 0 to be interrupted and the accumulated condensate in the bowl 1 drains out through the drain cock 1. Turning the drain cock 1 manually counterclockwise lowers the piston 7, and causes the seal created by the seal 1 to be interrupted, thus allowing the condensate to drain out.

When pressure inside the bowl is released:

Even when pressure inside the bowl ① is released, the weight of the float ② causes the valve ④, which is connected to the lever ③, to seal the valve seat ⑤. As a result, the inside of the bowl ① is shut off from the outside air.

Therefore, even if there is an accumulation of condensate in the bowl ①, it will not drain out.

When pressure is applied inside the howl:

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

When there is an accumulation of condensate in the bowl:

The float ② rises due to its own buoyancy and the seal at the valve seat ⑤ is interrupted.

The condensate inside the bowl ① drains out through the knob ⑥.

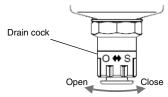
Turning the knob [®] manually counterclockwise lowers it and causes the sealing action of the valve seat [®] to be interrupted, which allows the condensate to drain out.



Operating State and Proper Use of Float Type Auto Drain

Auto drain	When pressure is not applied	When pressu	ure is applied	Minimum operating
Auto diairi	(After exhausting residual pressure)	Before condensate accumulates	When condensate accumulates	pressure
	Condensate discharged (Open)	Condensate not discharged (Close)	Condensate discharged (Open)	
N.O. Normally open	Piston			0.1 MPa or more AF30-D to AF60-D
N.C. Normally closed	Condensate not discharged (Close) Float Piston Orifice			0.1 MPa or more AF20-D 0.15 MPa or more AF30-D to AF60-D

For both N.O. and N.C., the condensate can be discharged manually by turning the drain cock to the "O" position.



,	Proper Use			Recommended
Compressor	When pressure is not applied (After exhausting residual pressure)	Cold climates		auto drain
0.75 kW or more	Condensate not accumulated Do not want to accumulate condensate generated at the inlet side when pressure is not applied.	Want to prevent troubles caused by freezing.	\Rightarrow	N.O.* ¹ Normally open
Less than 0.75 kW	Condensate accumulated		\Rightarrow	N.C. Normally closed

^{*1} For N.O. (Normally open) type, the condensate discharge passage is open when pressure is not applied. For this reason, the drain port is not closed completely in a compressor with a small supply amount (less than 0.75 kW) and the air will ceaselessly blow out.

AC

AW + AL AF + AR + AL

AF + AR AW -

AW + AFM AF + AFM + AR

Attachments

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AR AF

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AL

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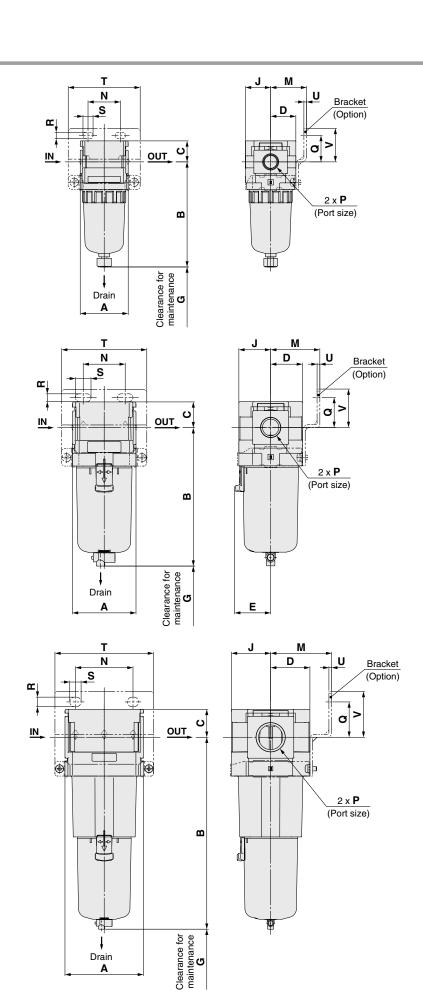
AF20-D to AF60-D Series

Dimensions

AF30-D to AF40-06-D

AF50-D to AF60-D

AF20-D



AB

Air Filter AF20-D to AF60-D Series

	Optional specifications				Semi-standard			
Applicable		PC/PA	bowl	Meta	al bowl	Metal bowl w	vith level gauge	With
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide	element service indicator
AF20-D	M5 × 0.8	Said imming	Midth across flats 14	m m	Width across flats 14		diam gales	20
AF30-D to AF60-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	Midth across flats 17	a	Width across flats 17	B	width across flats 17	5

												Option	nal spec	ification	าร		
Model	Standard specifications								Bracket mount						With auto drain		
	Р	Α	В	С	D	Е	G	J	М	N	Q	R	S	Т	U	٧	В
AF20-D	1/8, 1/4	40	87.6	17.5	21	_	25	21	30	27	22	5.4	8.4	60	2.3	28	104.9
AF30-D	1/4, 3/8	53	115.4	21.5	26.5	30	35	26.5	41	35	25	6.5	13	71	2.3	32	157.1
AF40-D	1/4, 3/8, 1/2	70	147.1	25.5	35.5	38.4	40	35.5	50	52	30	8.5	12.5	88	2.3	39	186.9
AF40-06-D	3/4	75	149.1	27	35.5	38.4	40	35.5	50	52	34	8.5	12.5	88	2.3	43	188.9
AF50-D	3/4, 1	90	220.1	32	45	_	30	45	70	66	40.5	11	13	113	3.2	52.5	259.9
AF60-D	1	95	234.1	32	45	_	30	45	70	66	40.5	11	13	113	3.2	52.5	273.9

		Semi-standard specifications										
Model	PC/PA bowl		Metal bowl			owl with gauge	With element					
	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide	service i	ndicator				
	В	В	В	В	В	В	Α	C1				
AF20-D	_	91.4	87.4	93.9	_	_	40	50.6				
AF30-D	123.9	122.2	117.8	122.3	137.8	142.3	53	54.3				
AF40-D	155.6	153.9	149.5	154	169.5	174	70	58.3				
AF40-06-D	157.6	155.9	151.5	156	171.5	176	_	_				
AF50-D	228.6	226.9	222.5	227	242.5	247	90 64.3					
AF60-D	242.6	240.9	236.5	241	256.5	261	90* ¹	64.3				

^{*1} For the type with an element service indicator, the A dimension differs from that of the standard specification.

Air Filter/AF20-D to AF60-D **Made to Order**

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



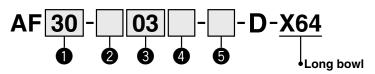
1 Long Bowl

Drain capacity is greater than that of standard models.

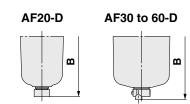
Applicable Models/Drain Capacity

Model	AF20-D	AF30-D	AF40-D	AF40-06-D	AF50-D	AF60-D
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Drain capacity [cm ³]	19	43		8	8	
B dimension [mm]*1	108.1	137.4	167.2	169.2	240.2	254.2

^{*1} For polycarbonate bowls. Please contact SMC for other bowl materials.



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



	\	_						0		
				Symbol	Description			Body size		
						20	30	40	50	60
				Nil	Rc	•	•	•	•	•
2		Pipe	thread type	N	NPT	•	•	•	•	•
				F	G	•	•	•	•	•
				+						
				01	1/8	•	_	_		_
				02	1/4	•	•	•	_	
8			Port size	03	3/8	_	•	•	_	_
			FOIT SIZE	04	1/2	_	_	•	_	_
				06	3/4	_	_	•	•	_
				10	1		_	_	•	•
				+						
4	١.,	Ontid	on (Mounting)	Nil	Without mounting option	•	•	•	•	•
U		Optile	ir (wourting)	B*1	With bracket	•	•	•	•	•
				+				,		
				Nil	Polycarbonate bowl	•	•	•	•	•
				2	Metal bowl	•	•	•	•	•
		а	Bowl*2	6	Nylon bowl	•	•	•	•	•
				С	With bowl guard	•	—* ³	_*3	_*3	_*3
				6C	With bowl guard (Nylon bowl)		_*4	*4	*4	_*4
	ا م			+						
	dar			Nil	With drain cock	•	•	•	•	•
6	Semi-standard	b	Drain port	J *5	Drain guide 1/8	•	_	_	_	
	'			_	Drain guide 1/4		•	•	•	•
	Ser			W*6	Drain cock with barb fitting	_	•	•	•	•
				+	- u u a a a a a a a a a a a a a a a a a			_	_	
	c Flow di		Flow direction	Nil	Flow direction: Left to right	•	•	•	•	
				R	Flow direction: Right to left		•	•	•	
				+						
		d	Unit	Nil	Unit on product label: MPa, °C	0 *8	● ○ *8	● ○ *8	• **	0 *8
				Z *7	Unit on product label: psi, °F	O*8	0*8	O*8	O*8	0*8

- *1 Option B is included in the package with the product but does not come assembled. The assembly consists of 2 types of the bracket and 2 mounting screws.
- *2 Refer to chemical data on page 68 for chemical resistance of the bowl.
- *3 A bowl guard is provided as standard equipment (polycarbonate). *4 A bowl guard is provided as standard equipment (nylon).
- *5 Without a valve function. The mounting screws are the same as the thread of 2
- *6 The combination of metal bowl 2 is not available.
- *7 For the pipe thread type: NPT. This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)
- *8 O: For the pipe thread type: NPT only



Air Filter/AF20-D to AF60-D Made to Order





② Clean Series

For details, refer to the Clean Series/Low Particle Generation section of the Web Catalog.





3 Copper, Fluorine and Silicone-free + Low Particle Generation

For details, refer to the Clean Series/Low Particle Generation section of the Web Catalog.

21 - Standard model no.

Copper, fluorine and silicone-free + Low particle generation



AΕ



AF-D Series Specific Product Precautions

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

Design / Selection

⚠ Warning

 The bowl material of the standard air filter is polycarbonate. Do not use in an environment where they are exposed to or come in contact with organic solvents, chemicals, cutting oil, synthetic oil, alkali, and thread lock solutions.

Chemical resistance of polycarbonate or nylon bowl

			Material			
Туре	Chemical name	Application examples	Polycar- bonate	Nylon		
Acid	Hydrochloric acid Sulfuric acid Phosphoric acid Chromic acid	Acid washing liquid for metals	Δ	×		
Alkaline	Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Sodium carbonate	Degreasing of metals Industrial salts Water-soluble cutting oil	×	0		
Inorganic salts	Sodium sulfide Potassium nitrate Sodium sulfate	_	×	Δ		
Chlorine solvents	Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride	Cleansing liquid for metals Printing ink Dilution	×	Δ		
Aromatic series	Benzene Toluene Paint thinner	Coatings Dry cleaning	×	Δ		
Ketone	Acetone Methyl ethyl ketone Cyclohexane	Photographic film Dry cleaning Textile industries	×	×		
Alcohol	Ethyl alcohol IPA Methyl alcohol	Antifreeze Adhesives	Δ	×		
Oil	Gasoline Kerosene	_	×	0		
Ester	Phthalic acid dimethyl Phthalic acid diethyl Acetic acid	Synthetic oil Anti-rust additives	×	0		
Ether	Methyl ether Ethyl ether	Brake oil additives	×	0		
Amino	Methyl amino	Cutting oil Brake oil additives Rubber accelerator	×	×		
Others	Thread-lock fluid Seawater Leak tester	_	×	Δ		

- * When the above factors are present, or there is some doubt, use a metal bowl for safety.
- The display window material for the semi-standard type with an element service indicator is nylon.

Maintenance

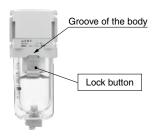
⚠ Warning

 Replace the element every 2 years or when the pressure drop becomes 0.1 MPa, whichever comes first, to prevent damage to the element.

Mounting / Adjustment

⚠ Caution

1. When the bowl is installed on the air filter (AF30-D to AF60-D), install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.



Handling

∧ Caution

- 1. The element service indicator (Semi-standard: L) is used to check the pressure differential between the IN and OUT sides. When operating at a flow rate with a pressure differential exceeding 0.025 MPa, the element service indicator may operate even when the element is in its initial state.
- 2. For models with an element service indicator, adjust the flow rate in the direction that increases the flow rate.
 If the designated flow rate is exceeded, reset the flow rate to zero and readjust it until the designated flow rate is reached.
- 3. For models with an element service indicator, as the element becomes more clogged, the indicator will display an increasing level of red. Be sure to replace the element before the level of red reaches the top of the indicator.

Modular Type Mist Separator/Micro Mist Separator AFN/AFD Series

Mist Separator AFM Series	Model	Port size	Filtration [μm]	Options
i i	AFM20-D	1/8, 1/4		
A TELEVISION OF THE PERSON OF	AFM30-D	1/4, 3/8	0.3	Bracket
	AFM40-D	1/4, 3/8, 1/2	0.5	Float type auto drain
p. 70 to 75	AFM40-06-D	3/4		
Micro Mist Separator AFD Series	AFD20-D	1/8, 1/4		
En al la	AFD30-D	1/4, 3/8	0.01	Bracket
	AFD40-D	1/4, 3/8, 1/2	0.01	Float type auto drain
p. 70 to 75	AFD40-06-D	3/4		



Mist Separator

AFM20-D to AFM40-D **Micro Mist Separator** AFD20-D to AFD40-D

Symbol

Mist Separator

Micro Mist Separator





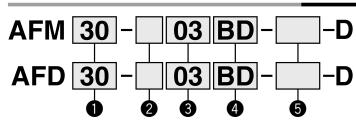
How to Order





AFM30-D

AFD30-D



- Option/Semi-standard: Select one each for a to g.
- Option/Semi-standard symbol:

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

Example) AFM30-03BD-R-D

	_					0	
			Symbol	Description		Body size	
					20	30	40
			Nil	Rc	•	•	•
	Pi	pe thread type	N	NPT	•	•	•
			F	G	•	•	•
			+				
			01	1/8	•	_	_
			02	1/4	•	•	•
		Port size	03	3/8	_	•	•
			04	1/2	_	_	•
			06	3/4	_	_	•
			+				
		Marratin	Nil	Without mounting option	•	•	•
	а	Mounting	B*1	With bracket	•	•	•
Option			+			'	,
ğ		-	Nil	Without auto drain	•	•	•
	b Float type auto drain*2		C*3	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•
		drain*²	D *4	N.O. (Normally open) Drain port is open when pressure is not applied.		•	•
			+				
			Nil	Polycarbonate bowl	•	•	•
			2	Metal bowl	•	•	
		- 1×E	6	Nylon bowl	•	•	•
	С	Bowl*5	8	Metal bowl with level gauge		•	•
			C	With bowl guard	•	*6	*6
			6C	With bowl guard (Nylon bowl)	•	*7	*7
			+	J			!
 			Nil	Without indicator	•	•	•
Jar	d	Indicator	L	With element service indicator*14	•	•	*12
Semi-standard			+				
-sta			Nil	With drain cock	•	•	•
Ë				Drain guide 1/8	•	† <u> </u>	
Se	е	Drain port*8	J *9	Drain guide 1/4		•	•
			W *10	Drain cock with barb fitting		•	
			+	2.a ooa. mar barb mang			
				FI P P 1 1 6 1 1 1 1			
			Nil	Flow direction: Left to right	-	_	
	f	Flow direction	Nil R	Flow direction: Left to right Flow direction: Right to left	•	•	
	f	Flow direction	R	Flow direction: Left to right Flow direction: Right to left	•	•	•
	f	Flow direction Unit			•	•	

- *1 Option B is included in the package with the product but does not come assembled. The assembly consists of 2 types of the bracket and 2 mounting screws.
 *2 The auto drain port is ø10 One-touch fitting (② Pipe thread type: Rc, G) or ø3/8" One-touch fitting (② Pipe thread type: NPT)
- *3 When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended. *4 If the compressor is small (0.75 kW, discharge flow is less than 100 L/min (ANR)), air leakage from the drain cock may occur during the start of operations. N.C. type is recommended.
- *5 Refer to chemical data on page 75 for chemical resistance of the bowl.
- *6 A bowl guard is provided as standard equipment (polycarbonate).
- *7 A bowl guard is provided as standard equipment (nylon).
- *8 The combination of float type auto drain C and D is not available.
- *9 Without a valve function. The mounting screws are the same as the thread of 2
- *10 The combination of metal bowl 2 and 8 is not available.
- *11 For the pipe thread type: NPT. This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)
- *12 Excludes port size "06"
- *13 O: For the pipe thread type: NPT only
- *14 A special body type is required to mount the element service indicator. It cannot be mounted on a standard body.



AFM20-D to AFM40-D Series AFD20-D to AFD40-D Series

Standard Specifications

Model		AFM20-D/AFD20-D	AFM30-D/AFD30-D	AFM40-D/AFD40-D	AFM40-06-D/AFD40-06-D				
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4				
Fluid			Α	ir					
Ambient and fluid tempera	itures		−5 to 60°C (No freezing)					
Proof pressure		1.5 MPa							
Max. operating pressure			1.0	MPa					
Min. operating pressure			0.05	MPa					
Auto drain minimum N.C.		0.1 MPa		0.15 MPa					
operating pressure N.O.		_		0.1 MPa					
Max. flow capacity*1	[AFM]	200 L/min (ANR)	450 L/min (ANR)	1100 L/r	min (ANR)				
wax. now capacity	[AFD]	120 L/min (ANR) 240 L/min (ANR) 600 L/min (ANR)							
Nominal filtration rating*2	[AFM]	0.3 μm (99.9% filtered particle size)							
Nominal intration rating	[AFD]		0.01 μm (99.9% fil	tered particle size)					
Outlet side oil mist	[AFM]	Max. 1.0 mg/m³ (≈ 0.8 ppm)							
concentration*3, *4	[AFD]	Max. 0.1 mg/m³ (Before saturated with oil 0.01 mg/m³ or less ≈ 0.008 ppm)							
Compressed air purity	[AFM]			10 [3 : 7 : 3]* ⁶					
class*5	[AFD]		ISO 8573-1:20	10 [1 : 7 : 2]* ⁷					
Drain capacity		8 cm ³	25 cm ³	45	cm ³				
Bowl material			Polycai	rbonate					
Bowl guard		Semi-standard (Steel)		Standard (Polycarbonate)	·				
Weight		0.10 kg	0.18 kg	0.37 kg	0.40 kg				

^{*1} Inlet pressure: 0.7 MPa. Flow at 20°C, atmospheric pressure, and 65% of the relative humidity The maximum flow capacity varies depending on the inlet pressure. Keep the air flow within the maximum flow capacity to prevent an outflow of lubricant to the outlet side.

ISO 8573-2:2007, Test method ISO 12500-1:2007 compliant] in addition to the conditions above Conditions: When a new element is used, the oil mist concentration on the filter inlet side is 10 mg/m³,

Bowl Assembly/Part Nos.

Bowl	Drain discharge	71 dititooi	0.11		Mo	del
material	mechanism	Drain port	Other	AFM20-D/AFD20-D	AFM30-D/AFD30-D	AFM40-D/AFD40-D AFM40-06-D/AFD40-06-D
		With drain cock	_	C2SF-D	_	_
		With drain cock	With bowl guard	C2SF-C-D	C3SF-D	C4SF-D
	Manual	Drain cock with barb fitting	With bowl guard	_	C3SF-W-D	C4SF-W-D
Polycarbonate		With drain guide	_	C2SF□-J-D	_	_
Folycarbonate		(without valve function)	With bowl guard	C2SF□-CJ-D	C3SF□-J-D	C4SF□-J-D
	A	Normally closed (N.C.)	_	AD27-D	_	_
	Automatic*1 (Auto drain)	Normally closed (N.C.)	With bowl guard	AD27-C-D	AD37□-D	AD47□-D
	(Auto diairi)	Normally open (N.O.)	With bowl guard	_	AD38□-D	AD48□-D
		With drain cock	_	C2SF-6-A	_	_
		With drain cock	With bowl guard	C2SF-6C-A	C3SF-6-A	C4SF-6-A
	Manual	Drain cock with barb fitting	With bowl guard	_	C3SF-6W-A	C4SF-6W-A
Nylon		With drain guide	_	C2SF□-6J-A	_	_
INVIOL		(without valve function)	With bowl guard	C2SF□-6CJ-A	C3SF□-6J-A	C4SF□-6J-A
	Automatic*1	Normally closed (N.C.)	_	AD27-6-A	_	_
	(Auto drain)		With bowl guard	AD27-6C-A	AD37□-6-A	AD47□-6-A
	(Auto diairi)	Normally open (N.O.)	With bowl guard	_	AD38□-6-A	AD48□-6-A
		With drain cock	_	C2SF-2-A	C3SF-2-A	C4SF-2-A
	Manual	With drain cock	With level gauge	_	C3LF-8-A	C4LF-8-A
	Ivialiuai	With drain guide	_	C2SF□-2J-A	C3SF□-2J-A	C4SF□-2J-A
Metal		(without valve function)	With level gauge	_	C3LF□-8J-A	C4LF□-8J-A
ivietai		Normally closed (N.C.)	_	AD27-2-A	AD37□-2-A	AD47□-2-A
	Automatic*1	Normally closed (N.C.)	With level gauge	_	AD37□-8-A	AD47□-8-A
	(Auto drain)	Normally apan (N.O.)	_	_	AD38□-2-A	AD48□-2-A
		Normally open (N.O.)	With level gauge	_	AD38□-8-A	AD48□-8-A

^{*1} The bowl assembly comes with a bowl seal. □ in bowl assembly part numbers indicates a pipe thread type (applicable tubing for auto drain). No indication is necessary for Rc thread; however, indicate N for NPT thread, and F for G thread. (For auto drain, Nil: ø10, N: ø3/8")
Please contact SMC separately for psi and °F unit display specifications.

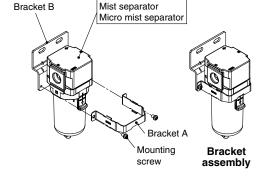
Option/Part Nos.

•								
	Model							
Optional specifications	AFM20-D AFD20-D	AFM30-D AFD30-D	AFM40-D AFD40-D	AFM40-06-D AFD40-06-D				
Bracket assembly*1	AF24P-070AS	AF34P-070AS	AF44P-070AS	AF49P-070AS				
Auto drain	Refer to "Bowl Assembly/Part Nos."							

^{*1} The assembly consists of a bracket A/B and 2 mounting screws.

Replacement Parts

		Part no.								
Des	cription	AFM20-D AFD20-D	AFM30-D AFD30-D	AFM40-D AFD40-D	AFM40-06-D AFD40-06-D					
Element	AFM20 to 40-D	AFM20P-060AS	AFM30P-060AS	AFM40P-060AS						
assembly	AFD20 to 40-D	AFD20P-060AS	AFD30P-060AS	AFD40F	P-060AS					
Bowl seal		C2SFP-260S	C32FP-260S	C42FF	P-260S					
Bowl asse	embly*1, *2	Refer to "Bowl Assembly/Part Nos."								





For the following conditions in accordance with [Test condition: ISO 8573-4:2001, Test method ISO 12500-3:2009 compliant] in addition to the conditions above Conditions: When a new element is used, and the flow capacity, inlet pressure, and the amount of solid bodies on the filter inlet side are stable

^{*3} The outlet side oil mist concentration for the following conditions in accordance with [Test condition:

Conditions: When a new element is used, the oil mist concentration on the filter inlet side is 10 mg/r and the flow capacity, inlet pressure, and the oil mist concentration on the filter inlet side are stable *4 The bowl seal and other O-rings are slightly lubricated.

*5 The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air – Part 1: Contaminants and purity classes. For details on this standard, refer to page 110.

*6 The compressed air quality class on the inlet side is [6 : 8 : 4].

*7 The compressed air quality class on the inlet side is [3 : 7 : 3].

^{*1} The bowl assembly comes with a bowl seal. *2 Please contact SMC separately for psi and °F unit display specifications.

SMC

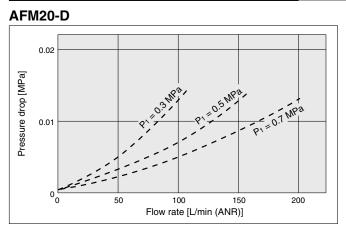


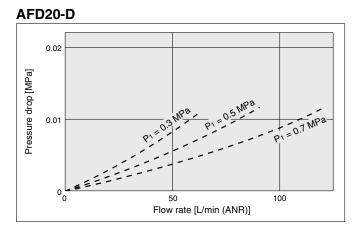
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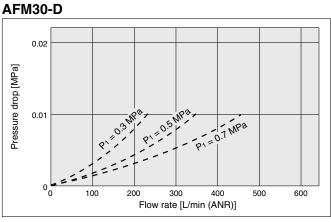
AW + AL AF + AR + AL

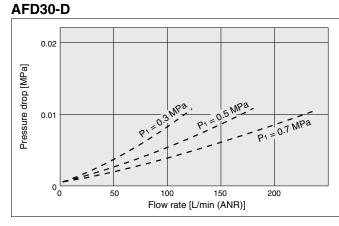
AF + AR

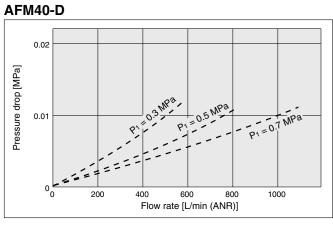
Attachments | AW + AFM | AF + AFM + AR

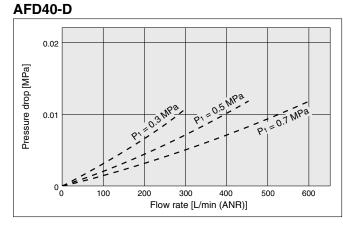








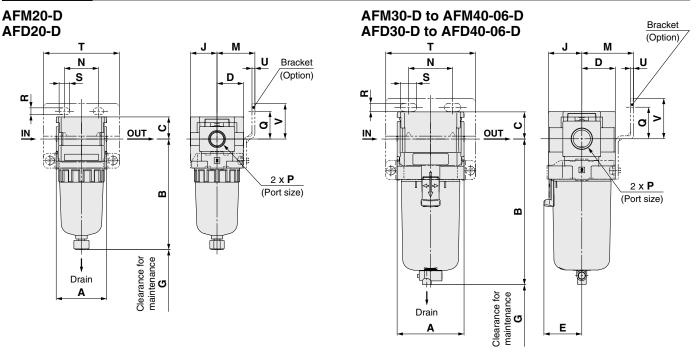




ΑF

AFM20-D to AFM40-D Series AFD20-D to AFD40-D Series

Dimensions



	Optional specifications				Semi-standard			
Applicable		PC/PA	A bowl	Meta	al bowl	Metal bowl w	vith level gauge	With
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide	element service indicator
AFM20-D AFD20-D	M5 x 0.8		Midth across flats 14	a	Width across flats 14			5
AFM30-D to AFM40-06-D AFD30-D to AFD40-06-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	m 1/4 Width across flats 17	B	Midth across flats 17	B	Midth across flats 17	5

												Option	al spec	ificatio	ns		
Model		S	standard	specific	ations				Bracket mount						With auto drain		
	Р	Α	В	С	D	Е	G	J	М	N	Q	R	S	Т	U	٧	В
AFM20-D/AFD20-D	1/8, 1/4	40	87.6	17.5	21	_	45	21	30	27	22	5.4	8.4	60	2.3	28	104.9
AFM30-D/AFD30-D	1/4, 3/8	53	115.4	21.5	26.5	30	50	26.5	41	35	25	6.5	13	71	2.3	32	157.1
AFM40-D/AFD40-D	1/4, 3/8, 1/2	70	147.1	25.5	35.5	38.4	75	35.5	50	52	30	8.5	12.5	88	2.3	39	186.9
AFM40-06-D/AFD40-06-D	3/4	75	149.1	27	35.5	38.4	75	35.5	50	52	34	8.5	12.5	88	2.3	43	188.9

			Semi-sta	ndard spec	cifications		
Model	PC/PA	A bowl	Metal	bowl	Metal belg	With element	
Model	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide	service indicator
	В	В	В	В	В	В	C1
AFM20-D/AFD20-D	_	91.4	87.4	93.9	_	_	50.6
AFM30-D/AFD30-D	123.9	122.2	117.8	122.3	137.8	142.3	54.3
AFM40-D/AFD40-D	155.6	153.9	149.5	154	169.5	174	58.3
AFM40-06-D/AFD40-06-D	157.6	155.9	151.5	156	171.5	176	_

Mist Separator/AFM20-D to AFM40-06-D Micro Mist Separator/AFD20-D to AFD40-06-D

Made to Order

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



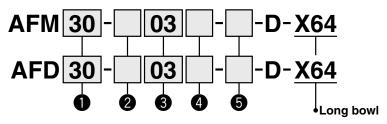
1 Long Bowl

Drain capacity is greater than that of standard models.

Applicable Models/Drain Capacity

Model	AFM20-D/AFD20-D	AFM30-D/AFD30-D	AFM40-D/AFD40-D	AFM40-06-D/AFD40-06-D
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4
Drain capacity [cm ³]	19	43	8	8
B dimension [mm]*1	108.1	137.4	167.2	169.2

^{*1} For polycarbonate bowls. Please contact SMC for other bowl materials.





- · Semi-standard: Select one each for a to d.
- $\cdot \ \, \text{Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.}$ Example) AFM30-03B-2R-D-X64

	_	_	_	Cumbal	Depariation		0	
				Symbol	Description	20	Body size	40
						20	00	70
				Nil	Rc	•	•	•
2		Pipe	thread type	N	NPT	•	•	•
				F	G	•	•	•
				+				
				01	1/8	•	_	
_				02	1/4	•	•	•
8			Port size	03	3/8		•	•
				04	1/2	_	_	•
				06	3/4			•
	1			+		_	_	
4		Optio	on (Mounting)	Nil	Without mounting option	•	•	•
				B *1	With bracket	•	•	•
				+				
				Nil	Polycarbonate bowl	•	•	•
			*2	2	Metal bowl	•	•	•
		а	Bowl*2	6	Nylon bowl	•	*3	*3
				С	With bowl guard	•	_	— *3 *4
				6C	With bowl guard (Nylon bowl)	•	*4	*4
	힏			+		_	_	
	g			Nil	With drain cock	•	•	•
6	star	b	Drain port	J*5	Drain guide 1/8	•	_	_
	Semi-standard				Drain guide 1/4	_	•	•
	Ser			W *6	Drain cock with barb fitting	_	•	•
	S			+			_	1
		С	Flow direction	Nil	Flow direction: Left to right	_	•	•
				R	Flow direction: Right to left		•	•
				+				
		d	Unit	Nil	Unit on product label: MPa, °C	0 *9	0 *9	•
				Z *7	Unit on product label: psi, °F	O*8	○*8	○*8

- *1 Option B is included in the package with the product but does not come assembled.
- The assembly consists of 2 types of the bracket and 2 mounting screws.

 *2 Refer to chemical data on page 75 for chemical resistance of the bowl.
- *3 A bowl guard is provided as standard equipment (polycarbonate).
- *4 A bowl guard is provided as standard equipment (nylon).

- *5 Without a valve function. The mounting screws are the same as the thread of 2.
- *6 The combination of metal bowl 2 is not available.
- *7 For the pipe thread type: NPT. This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)
- *8 \bigcirc : For the pipe thread type: NPT only



Mist Separator/*AFM20-D to AFM40-06-D*Micro Mist Separator/*AFD20-D to AFD40-06-D*

Made to Order

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



2 Clean Series

For details, refer to the Clean Series/Low Particle Generation section of the Web Catalog.





3 Copper, Fluorine and Silicone-free + Low Particle Generation

For details, refer to the Clean Series/Low Particle Generation section of the Web Catalog.

21 - Standard model no.

Copper, Fluorine and Silicone-free + Low Particle Generation





AFM-D/AFD-D Series Specific Product Precautions

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

Design / Selection

⚠ Warning

 The bowl material of the standard mist separator and micro mist separator is polycarbonate. Do not use in an environment where they are exposed to or come in contact with organic solvents, chemicals, cutting oil, synthetic oil, alkali, and thread lock solutions.

Chemical resistance of polycarbonate or nylon bowl

			Mat	erial						
Туре	Chemical name	Application examples	Polycar- bonate	Nylon						
Acid	Hydrochloric acid Sulfuric acid Phosphoric acid Chromic acid	Acid washing liquid for metals	Δ	×						
Alkaline	Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Sodium carbonate	Degreasing of metals Industrial salts Water-soluble cutting oil	×	0						
Inorganic salts	Sodium sulfide Potassium nitrate Sodium sulfate	_	×	Δ						
Chlorine solvents	Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride	Cleansing liquid for metals Printing ink Dilution	×	Δ						
Aromatic series	Benzene Toluene Paint thinner	Coatings Dry cleaning	×	Δ						
Ketone	Acetone Methyl ethyl ketone Cyclohexane	Photographic film Dry cleaning Textile industries	×	×						
Alcohol	Ethyl alcohol IPA Methyl alcohol	Antifreeze Adhesives	Δ	×						
Oil	Gasoline Kerosene	_	×	0						
Ester	Phthalic acid dimethyl Phthalic acid diethyl Acetic acid	Synthetic oil Anti-rust additives	×	0						
Ether	Methyl ether Ethyl ether	Brake oil additives	×	0						
Amino	Methyl amino	Cutting oil Brake oil additives Rubber accelerator	×	×						
Others	Thread-lock fluid Seawater Leak tester	_	×	Δ						
Leak tester ○: Essentially safe										

- When the above factors are present, or there is some doubt, use a metal bowl for safety.
- * The display window material for the semi-standard type with an element service indicator is nylon.

Air Supply

⚠ Caution

- 1. Install an air filter (AF series) as a pre-filter on the inlet side of the mist separator to prevent premature clogging.
- **2.** Install a mist separator (AFM series) as a pre-filter on the inlet side of the micro mist separator to prevent premature clogging.
- **3.** Do not install on the inlet side of the dryer as this can cause premature clogging of the element.

Maintenance

⚠ Warning

 Replace the element every 2 years or when the pressure drop becomes 0.1 MPa, whichever comes first, to prevent damage to the element.

Mounting / Adjustment

⚠ Caution

 When the bowl is installed on the mist separator (AFM30-D/AFM40-D), or micro mist separator (AFD30-D/AFD40-D), install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.



Design

⚠ Caution

1. Design the system so that the mist separator or micro mist separator is installed in a pulsation-free location. The difference between internal and external pressure inside the element should be kept within 0.1 MPa, as exceeding this value could cause damage.

Selection

∧ Caution

- 1. Do not allow air flow that exceeds the rated flow. If the air flow is allowed outside the range of the rated flow even momentarily, drainage and lubricant may splash at the outlet side or cause damage to the component.
- 2. Do not use in a low pressure application (such as a blower). An F.R.L. unit has its own minimum operating pressure depending on the equipment and is designed specifically to function with compressed air. If used below the minimum operating pressure, a loss of performance and malfunction can occur. Please contact SMC if an application under such conditions cannot be avoided.

Handling

∧ Caution

- 1. The element service indicator (Semi-standard: L) is used to check the pressure differential between the IN and OUT sides. When operating at a flow rate with a pressure differential exceeding 0.025 MPa, the element service indicator may operate even when the element is in its initial state.
- 2. For models with an element service indicator, adjust the flow rate in the direction that increases the flow rate. If the designated flow rate is exceeded, reset the flow rate to zero and readjust it until the designated flow rate is reached.
- 3. For models with an element service indicator, as the element becomes more clogged, the indicator will display an increasing level of red. Be sure to replace the element before the level of red reaches the top of the indicator.



Modular Type Regulator AR Series

Regulator AR Series	Model	Port size	Set pressure	Options
	AR20(K)-D	1/8, 1/4		Bracket Set nut
	AR30(K)-D	1/4, 3/8		(for panel mount) Square embedded type pressure gauge
And Andrews	AR40(K)-D	1/4, 3/8, 1/2	0.05 to 0.85 MPa	Right angle square type pressure gauge
	AR40(K)-06-D	3/4	0.02 to 0.2 MPa	Digital pressure switch Round type pressure gauge
Village 19	AR50(K)-D	3/4, 1		Bracket Square embedded type pressure gauge
p. 77 to 86	AR60(K)-D	1		Digital pressure switch Round type pressure gauge

Regulator

AR20-D to AR60-D Regulator with Backflow Function AR20K-D to AR60K-D



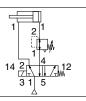
Symbol

Regulator with Backflow Function



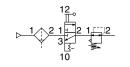
• Models with the backflow function include a mechanism which allows for the air pressure in the outlet side to be released to the inlet side.

Example 1)
When the pressure in the rear and the front of the cylinder differs:

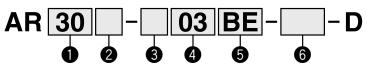


Example 2)

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



How to Order



- · Option/Semi-standard: Select one each for a to g.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
 Example) AR30K-03BE-1NR-D

	\	_		Symbol	Description		F	1 Body size	<u> </u>	
	Nil					20	30	40	50	60
A		<i>1</i> :41- 1	backflow function	Nil	Without backflow function	•	•	•	•	•
2	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	vitn	backflow function	K *1	With backflow function	•	•	•	•	•
				+						
				Nil	Rc	•	•	•	•	•
8		Pi	pe thread type	N	NPT	•	•	•	•	•
				F	G	•	•	•	•	•
	+									
				01	1/8	•	_	_	_	_
				02	1/4	•	•	•	_	
4			Port size	03	3/8	_	•	•	_	_
•			1 011 0120	04	1/2		_	•	_	_
				06	3/4	_	_	•	•	_
				10	1	_	_		•	
				+			, ,		,	
				Nil	Without mounting option	•	•	•	•	•
		а	Mounting	B *3	With bracket	•	•	•	•	•
				Н	With set nut (for panel mount)	•	•	•	_	_
				+			, ,		,	
				Nil	Without pressure gauge	•	•	•	•	•
	Option*2			E	Square embedded type pressure gauge (with limit indicator)	•	•	•	•	•
6	읉		Pressure gauge*4	G	Round type pressure gauge (with limit indicator)	•	•	•	•	•
	$ \bar{o} $			J *5,*6	Right angle square type pressure gauge (with limit indicator)	•	•	•	_	_
		b		M	Round type pressure gauge (with color zone)	•	•	•	•	•
				E1	Output: NPN output, Electrical entry: Wiring bottom entry	•	•	•	•	•
			Digital pressure	E2	Output: NPN output, Electrical entry: Wiring top entry	•	•	•	•	•
			switch*7	E3	Output: PNP output, Electrical entry: Wiring bottom entry	•	•	•	•	•
				E4	Output: PNP output, Electrical entry: Wiring top entry	•		•	•	

Regulator AR20-D to AR60-D Series Regulator with Backflow Function AR20K-D to AR60K-D Series



AR30-D

	_	_						0						
	S			Symbol Description				Body size						
						20	30	40	50	60				
			Set pressure*8	Nil	0.05 to 0.85 MPa setting	•	•	•	•	•				
		С	Set pressure.	1	0.02 to 0.2 MPa setting	•	•	•	•	•				
				+										
		d	Exhaust	Nil	Relieving type	•	•	•	•	•				
		u	mechanism	N	Non-relieving type	•	•	•	•	•				
	ard			+										
	nd	е	Flow direction	Nil	Flow direction: Left to right	•	•	•	•	•				
6	sta		I low direction	R	Flow direction: Right to left	•	•	•	•					
	Semi-standard			+										
	S	f	Knob	Nil	Downward	•	•	•	•	•				
		•	KIIOD	Υ	Upward	•	•	•	•	•				
				+										
				Nil	Unit on product label: MPa, Pressure gauge in SI units: MPa	•	•	•	•	•				
		g	Unit	Z *9	Unit on product label: psi, Pressure gauge: MPa/psi dual scale	O*11	O*11	O*11	O*11	O*11				
				ZA *10	Digital pressure switch: With unit selection function	△*12	△*12	△*12	△*12	△*12				

- *1 Set the inlet pressure to at least 0.05 MPa higher than the set pressure.
- *2 Options B, G, H, and M are not assembled and supplied loose at the time of shipment.
- *3 The assembly consists of a bracket and set nuts (applicable to the AR20(K)-D to AR40(K)-D). For the AR50(K)-D and AR60(K)-D, the assembly consists of 2 types of the bracket and 2 mounting screws.
- *4 When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.85 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.
- *5 Cannot be selected for the type with a set nut (option "H")
- *6 The direction the pressure gauge scale plate faces is from the knob side.
 *7 When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring top entry" for the electrical entry. (Select "wiring bottom entry" when the semi-standard Y is chosen simultaneously.)
- *8 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *9 For the pipe thread type: NPT

This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round type pressure gauge (with color zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function, setting to psi initially.

- *10 For options: E1, E2, E3, E4
- This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)
- *11 O: For the pipe thread type: NPT only
- *12 A: Select with options: E1, E2, E3, E4.

AR20-D to AR60-D Series AR20K-D to AR60K-D Series

Standard Specifications

Model	AR20(K)-D	AR30(K)-D	AR40(K)-D	AR40(K)-06-D	AR50(K)-D	AR60(K)-D				
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1				
Pressure gauge port size*1			1	/8						
Fluid			A	Air						
Ambient and fluid temperatures*2	−5 to 60°C (No freezing)									
Proof pressure	1.5 MPa									
Max. operating pressure	1.0 MPa									
Set pressure range			0.05 to (0.85 MPa						
Construction	Relieving type									
Weight	0.14 kg	0.27 kg	0.48 kg	0.51 kg	1.13 kg	1.25 kg				

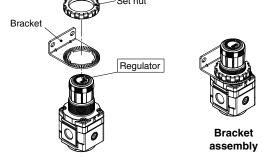
^{*1} Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch.

Option/Part Nos.

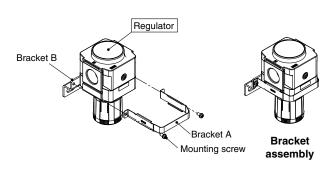
	Intional anasifica	tions			Me	odel				
	Optional specifica	uions	AR20(K)-D	AR30(K)-D	AR40(K)-D	AR40(K)-06-D	AR50(K)-D	AR60(K)-D		
Bracket as	sembly*1		AR23P-270AS	AR33P-270AS	AR43F	P-270AS	AR54P	-270AS		
Set nut			AR23P-260S	AR33P-260S	AR43	P-260S	_	.*2		
		Standard	G36-1	0-□01		G46-1	0-□01			
	Round type	0.02 to 0.2 MPa setting	G36-4	1-□01		G46-4	I- □01			
	Round type	Standard	G36-10)-□01-L	G46-10-□01-L					
Pressure	(with color zone)	0.02 to 0.2 MPa setting	G36-4-	-□01-L			.□01-L			
gauge*3	Square	Standard		GC3-10A	S-D [136150A (F	Pressure gauge co	over only)]			
	embedded type*4	0.02 to 0.2 MPa setting	GC3-4AS-D [136150A (Pressure gauge cover only)]							
	Right angle	Standard	GC3-10AS-J-D [GC3-10AS-JA-D] —							
	square type*5	0.02 to 0.2 MPa setting		GC3-4AS-J-D [GC3-4AS-JA-D]		_	_		
		NPN output, Wiring bottom entry		ISE35-N-25-N	/ILA-X523 [ISE3	5-N-25-M (Switch	body only)]*6			
Digital pro	ssure switch	NPN output, Wiring top entry		ISE35-R-25-N	/ILA-X523 [ISE3	5-R-25-M (Switch	body only)]*6			
Digital pre	SSUIC SWILCII	PNP output, Wiring bottom entry		ISE35-N-65-N	/ILA-X523 [ISE3	5-N-65-M (Switch	body only)]*6			
		PNP output, Wiring top entry	(SE35-R-65-M) A-Y523 [ISE35-R-65-M (Switch body only)]*6							

^{*1} The assembly consists of a bracket and set nuts. For the AR50(K)-D and AR60(K)-D, the assembly consists of a bracket A/B and 2 mounting screws.

AR20(K)-D to AR40(K)-06-D



AR50(K)-D/AR60(K)-D



Replacement Parts

Dagar	intion			Part	no.		
Descr	iption	AR20(K)-D	AR30(K)-D	AR40(K)-D	AR40(K)-06-D	AR50(K)-D	AR60(K)-D
Valve assemb	oly	AR24P-060AS	AR34P-060AS	AR44P-060AS	AR49P-060AS	AR54P-060AS	AR64P-060AS
Diaphragm	Relieving type	AR24P-150AS	AR34P-150AS	AR44P	-150AS	AR54P	-150AS
assembly	Non-relieving type	AR24P-150AS-N	AR34P-150AS-N	AR44P-1	I50AS-N	AR54P-	150AS-N
Valve guide a	ssembly	AR24P-050AS	AR34P-050AS	AR44P	-050AS	AR54P	-050AS
Check valve a	assembly*1			AR24KF	P-020AS		

^{*1} The check valve assembly is applicable for a regulator with backflow function (AR20K-D to AR60K-D) only. The assembly consists of a check valve cover, check valve body assembly, and 2 mounting screws.

^{*2 -5} to 50°C for the products with the digital pressure switch

^{*2} Please contact SMC regarding the set nuts for the AR50(K)-D and AR60(K)-D.

 ^{*3} in part numbers for a round pressure gauge indicates a pipe thread type. No indication is necessary for R; however, indicate N for NPT. Please contact SMC regarding the pressure gauge supply for both MPa and psi unit specifications.
 *4 Including one O-ring and 2 mounting screws. []: Pressure gauge cover only

^{*5} The right angle square type pressure gauge only includes the pressure gauge body. The pressure gauge body comes with 1 O-ring and 2 mounting screws. In addition, the part number in brackets includes a pressure gauge with a right angle adapter as well as an adapter, lock pin, 1 O-ring, and 2 mounting screws.

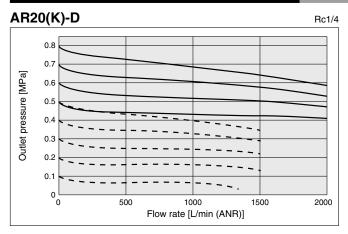
^{*6} In addition to the pressure switch body, lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screws (2 pcs.) are attached.

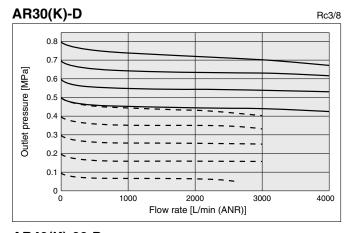
^{[]:} Switch body only (For the digital pressure switch specifications, refer to the **Web Catalog**.)

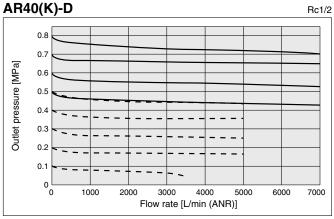
Regulator AR20-D to AR60-D Series Regulator with Backflow Function AR20K-D to AR60K-D Series

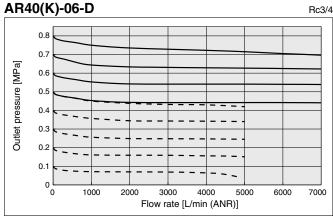
Flow Rate Characteristics (Representative values)

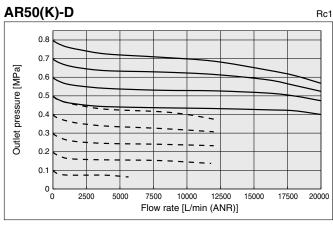
Inlet pressure: 1.0 MPa

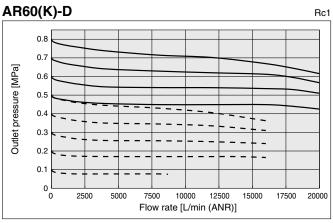












AC

AW + AL | AF + AR + AL

AF + AR AF + AFM + AR

AW + AFM

Attachments

AF

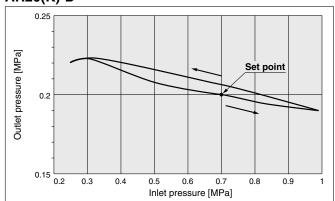
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AR20-D to AR60-D Series AR20K-D to AR60K-D Series

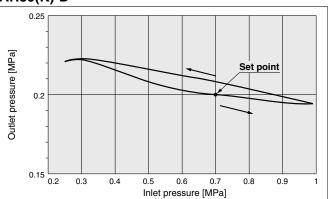
Pressure Characteristics (Representative values)

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

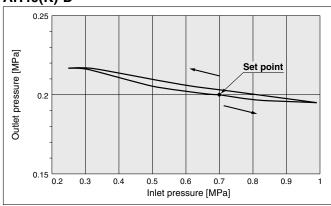
AR20(K)-D



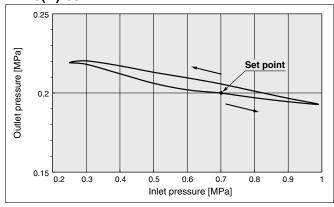
AR30(K)-D



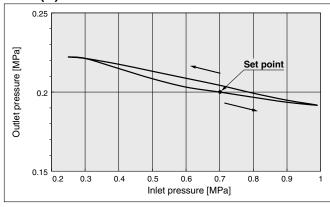
AR40(K)-D



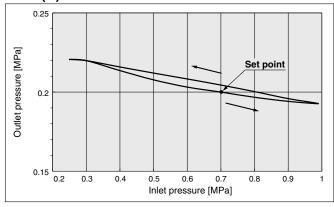
AR40(K)-06-D



AR50(K)-D



AR60(K)-D

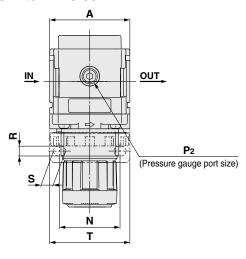


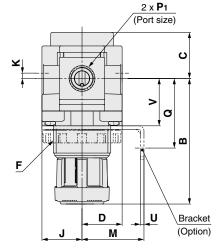
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Regulator AR20-D to AR60-D Series Regulator with Backflow Function AR20K-D to AR60K-D Series

Dimensions

Standard (Round Type Pressure Gauge) AR20-D to AR40-06-D





Panel cutout dimensions

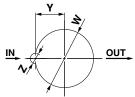
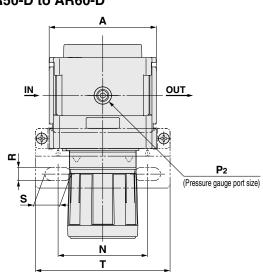
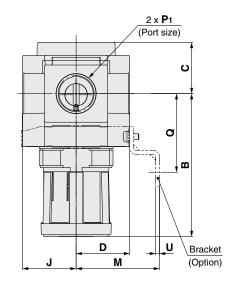
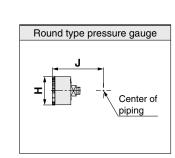


Plate thickness AR20-D to AR30-D : Max. 3.5 AR40-D to AR40-06-D: Max. 5

AR50-D to AR60-D







											O	otional sp	ecificatio	ns	
Model			5	Standard	specific	ations				Round		Round type pressure gauge (Semi-standard: Z)		Round type pressure gauge (with color zone)	
	P1	P ₂	Α	B*1	С	D	F	J	K	Н	J	Н	J	Н	J
AR20-D	1/8, 1/4	1/8	40	66.8	26.5	21	M28 x 1	21	2	ø37.5	57.5	ø37.5	58.5	ø37.5	58.5
AR30-D	1/4, 3/8	1/8	53	86.5	30.5	26.5	M38 x 1.5	26.5	3.5	ø37.5	63	ø37.5	64	ø37.5	64
AR40-D	1/4, 3/8, 1/2	1/8	70	91.5	35.5	35.5	M42 x 1.5	35.5	_	ø42.5	73	ø42.5	73	ø42.5	73
AR40-06-D	3/4	1/8	75	93	35.5	35.5	M42 x 1.5	35.5	_	ø42.5	73	ø42.5	73	ø42.5	73
AR50-D	3/4, 1	1/8	90	125	43	45	_	45	_	ø42.5	82.5	ø42.5	82.5	ø42.5	82.5
AR60-D	1	1/8	95	155	45	45	_	45	_	ø42.5	82.5	ø42.5	82.5	ø42.5	82.5

					Optiona	al specifi	ications				
Model			Bra	acket mo	ount				Panel	mount	
	М	N	Q	R	S	Т	U	٧	W	Υ	Z
AR20-D	30	34	43.9	5.4	15.4	55	2.3	24.7	28.5	14	6
AR30-D	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7
AR40-D	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7
AR40-06-D	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7
AR50-D	70	75	66	11	22	113	3.2	_	_	_	_
AR60-D	70	75	66	11	22	113	3.2	_	_	_	_
AR50-D	70 70	75 75	66	11	22	113	3.2	3/ — —	42.5 — —	— — —	- -

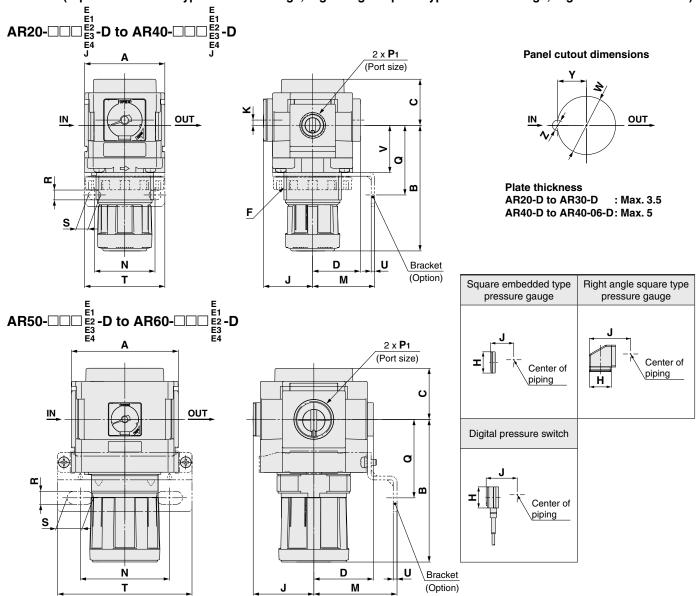
^{*1} The dimension of B is the length when the regulator knob is unlocked.



AR20-D to AR60-D Series AR20K-D to AR60K-D Series

Dimensions

Standard (Square Embedded Type Pressure Gauge, Right Angle Square Type Pressure Gauge, Digital Pressure Switch)



									Op	otional s	oecificat	ons	
Model		S	Standard	specific	ations			- 4	mbedded ure gauge	Right and type press		Digital pressure switch	
	P1	Α	B *1	С	D	K	Н	J	Н	J	Н	J	
AR20-D	1/8, 1/4	40	66.8	26.5	26	M28 x 1	2	□28	27	□28	54.3	□27.8	37.5
AR30-D	1/4, 3/8	53	86.5	30.5	31.5	M38 x 1.5	3.5	□28	32.5	□28	59.8	□27.8	43
AR40-D	1/4, 3/8, 1/2	70	91.5	35.5	40.5	M42 x 1.5	_	□28	41.5	□28	68.8	□27.8	52
AR40-06-D	3/4	75	93	35.5	40.5	M42 x 1.5	_	□28	41.5	□28	68.8	□27.8	52
AR50-D	3/4, 1	90	125	43	50	_	_	□28	51	_	_	□27.8	61.5
AR60-D	1	95	155	45	50	_	_	□28	51	_	_	□27.8	61.5

					Optiona	al specifi	cations					
Model			Bra	acket mo	unt				Panel	mount		
	М	N	Q	R	S	Т	U	V	W	Υ	Z	
AR20-D	30	34	43.9	5.4	15.4	55	2.3	24.7	28.5	14	6	
AR30-D	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7	
AR40-D	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	
AR40-06-D	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7	
AR50-D	70	75	66	11	22	113	3.2	_	_	_	_	
AR60-D	70	75	66	11	22	113	3.2	_	_	_	_	

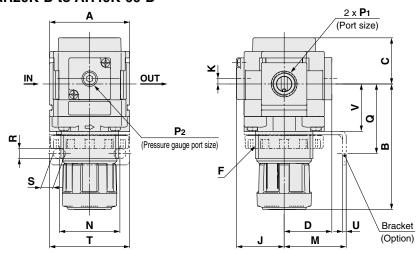
^{*1} The dimension of B is the length when the regulator knob is unlocked.

Regulator AR20-D to AR60-D Series Regulator with Backflow Function AR20K-D to AR60K-D Series

Dimensions

With Backflow Function (Round Type Pressure Gauge, Square Embedded Type Pressure Gauge, Right Angle Square Type Pressure Gauge, Digital Pressure Switch)

AR20K-D to AR40K-06-D



Panel cutout dimensions

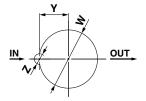
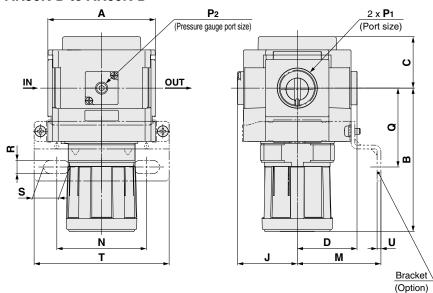
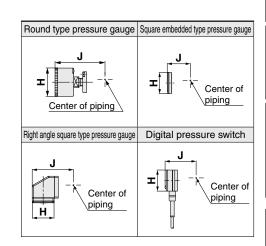


Plate thickness AR20K-D to AR30K-D : Max. 3.5 AR40K-D to AR40K-06-D: Max. 5

AR50K-D to AR60K-D





											0	otional spe	ecificatio	cations		
Model			5	Standard	specific	ations				Round	,,	Round type pre (Semi-star		Round type pressure gauge (with color zone)		
	P1	P1										Н	J	Н	J	
AR20K-D	1/8, 1/4	1/8	40	66.8	26.5	26	M28 x 1	26	2	ø37.5	62.5	ø37.5	63.5	ø37.5	63.5	
AR30K-D	1/4, 3/8	1/8	53	86.5	30.5	3.5	ø37.5	68	ø37.5	69	ø37.5	69				
AR40K-D	1/4, 3/8, 1/2	1/8	70	91.5	35.5	40.5	M42 x 1.5	40.5	_	ø42.5	78	ø42.5	78	ø42.5	78	
AR40K-06-D	3/4	1/8	75	93	35.5	40.5	M42 x 1.5	40.5	_	ø42.5	78	ø42.5	78	ø42.5	78	
AR50K-D	3/4, 1	1/8	90	125	43	50	_	50	_	ø42.5	87.5	ø42.5	87.5	ø42.5	87.5	
AR60K-D	1	1/8	95	155	45	50	_	50	_	ø42.5	87.5	ø42.5	87.5	ø42.5	87.5	

								Optiona	l specifi	cations							
Model	Square e		Right and	le square ure gauge	Digital pr				Bra	icket mo	unt				Panel	mount	
	Н	J	Н	J	Н	J	М	N	Q	R	S	Т	U	V	W	Υ	Z
AR20K-D	□28	27	□28	54.3	□27.8	37.5	30	34	43.9	5.4	15.4	55	2.3	24.7	28.5	14	6
AR30K-D	□28	32.5	□28	59.8	□27.8	43	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7
AR40K-D	□28	41.5	□28	68.8	□27.8	52	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7
AR40K-06-D	□28	41.5	□28	68.8	□27.8	52	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7
AR50K-D	□28	51	_	_	□27.8	61.5	70	75	66	11	22	113	3.2	_		_	_
AR60K-D	□28	51	_	_	□27.8	61.5	70	75	66	11	22	113	3.2	_	_	_	_

^{*1} The dimension of B is the length when the regulator knob is unlocked.



Regulator/AR20-D to AR60-D Regulator with Backflow Function/AR20K-D to AR60K-D

Made to Order

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



10.4 MPa Setting

The setting specification is 0.4 MPa. When a pressure gauge is included, the display will show a range from 0 to 0.7 MPa.

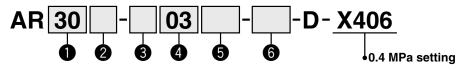
Specifications

Made-to-order part no.	-X406
Proof pressure [MPa]	1.5
Max. operating pressure [MPa]	1.0
Set pressure range [MPa]*1	0.05 to 0.4

^{*1} Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range

Applicable Models

Model	AR20(K)-D	AR30(K)-D	AR40(K)-D	AR40(K)-06-D	AR50(K)-D	AR60(K)-D
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1



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

in alphabetic order.

Example) AR30K-03BE-<u>NR</u>-D-X406

0 Symbol Description Body size 20 30 50 60 Nil Without backflow function With backflow function K* With backflow function Nil Ro 8 NPT Pipe thread type N F G 01 1/8 02 1/4 03 3/8 4 Port size 04 1/2 06 3/4 10 Without mounting option Nil Mounting **B***3 With bracket With set nut (for panel mount) Nil Without pressure gauge Square embedded type pressure gauge (with limit indicator) Option³ 6 Pressure gauge*4 Round type pressure gauge (with limit indicator) Right angle square type pressure gauge (with limit indicator) b M Round type pressure gauge (with color zone) Output: NPN output, Electrical entry: Wiring bottom entry E2 Output: NPN output, Electrical entry: Wiring top entry Digital pressure switch*7 **E**3 Output: PNP output, Electrical entry: Wiring bottom entry Output: PNP output, Electrical entry: Wiring top entry E4 Nil Relieving type С Exhaust mechanism N Non-relieving type Nil Flow direction: Left to right d Flow direction Semi-standard R Flow direction: Right to left 6 Nil Downward Upward *10 Nil Unit on product label: MPa, Pressure gauge in SI units: MPa 10 ×10 Unit Unit on product label: psi, Pressure gauge: MPa/psi dual scale _∆*11 △*11 <u>^*11</u> **ZA***9 Digital pressure switch: With unit selection function Δ

- *1 Set the inlet pressure to at least 0.05 MPa higher than the set pressure.
- *2 Options B, G, H, and M are not assembled and supplied loose at the time of shipment.
- *3 The assembly consists of a bracket and set nuts (applicable to the AR20(K)-D to AR40(K)-D). The AR50(K)-D and AR60(K)-D assemblies include 2 types of brackets and 2
 - The AR50(K)-D and AR60(K)-D assemblies include 2 types of brackets and 2 mounting screws.
- *4 A 0.7 MPa pressure gauge will be fitted.
- *5 Cannot be selected for the type with a set nut (option "H")
- *6 The direction the pressure gauge scale plate faces is from the knob side.
- *7 When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring top entry" for the electrical entry. (Select "wiring bottom entry" when the semi-standard Y is chosen simultaneously.)
- *8 For the pipe thread type: NPT
 - This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round type pressure gauge (with color zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function, setting to psi initially.
- *9 For options: E1, E2, E3, E4. This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)
- *10 O: For the pipe thread type: NPT only
- *11 △: Select with options: É1, E2, E3, É4.



Regulator/AR20-D to AR60-D Regulator with Backflow Function/AR20K-D to AR60K-D

Made to Order

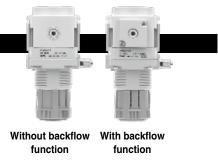
Please contact SMC for detailed dimensions, specifications, and lead times.



2 Clean Series

For details, refer to the Clean Series/Low Particle Generation section of the Web Catalog.





3 Copper, Fluorine and Silicone-free + Low Particle Generation

For details, refer to the Clean Series/Low Particle Generation section of the Web Catalog.

Standard model no.

Copper, Fluorine and Silicone-free + Low Particle Generation

AC

AW + AL AF + AR + AL

AF + AR

AW + AFM | AF + AFM + AR

Attachments

₹





AR(K)-D Series **Specific Product Precautions**

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

Design / Selection

∕∿ Warning

1. Residual pressure disposal (outlet pressure removal) is not possible for the AR20-D to AR60-D even though the inlet pressure is exhausted. When the residual pressure disposal is performed, use the regulator with a backflow function (AR20K-D to AR60K-D).

∕!∖ Caution

1. When operating at an inlet pressure lower than the inlet pressure used in the flow rate characteristics graph, the pressure drop on the outlet side may be greater. Therefore, be sure to conduct testing using the actual equipment.

For pressure control equipment selection, refer to page 123 in the "Product Selection Guide."

Maintenance

∕ Warning

1. When using the regulator with backflow function between a solenoid valve and an actuator, check the pressure gauge periodically. Sudden pressure fluctuations may shorten the durability of the pressure gauge. A digital pressure gauge is recommended for such situation or as deemed necessary.

Mounting / Adjustment

∕ Marning

- 1. Set the regulator while verifying the displayed values of the inlet and outlet pressure gauges. Turning the regulator knob excessively can cause damage to the internal parts.
- 2. Do not use tools on the pressure regulator knob as this may cause damage. It must be operated manually.
- 3. Before replacing or changing the mounting direction of the pressure gauge, or changing the direction of the scale plate, be sure to release the inlet and outlet pressure completely.

It is dangerous to replace or change the mounting direction of the pressure gauge, or change the direction of the scale plate, while it is under pressure.

∕∖∖ Caution

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



Piping

⚠ Warning

1. To screw the pressure gauge and piping materials into the pressure gauge port on the product, tighten to the recommended torque (3 to 5 N·m) while securely holding the AR(K)-D in place. Additionally, when mounting a One-touch fitting to the pressure gauge port, refer to the Fittings and Tubing Precautions.



Modular Type Lubricator AL Series

Lubricator AL Series	Model	Port size	Options
T Mana	AL20-D	1/8, 1/4	
Local Section 10	AL30-D	1/4, 3/8	
	AL40-D	1/4, 3/8, 1/2	Bracket
NA SANCIENTA NA SA	AL40-06-D	3/4	Diacket
	AL50-D	3/4, 1	
p. 88 to 93	AL60-D	1	

Lubricator

AL20-D to AL60-D

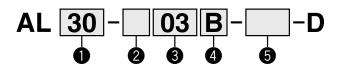
Symbol





How to Order

AL30-D



- \cdot Option/Semi-standard: Select one each for \boldsymbol{a} to $\boldsymbol{d}.$
- · Option/Semi-standard symbol:

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

Example) AL30-03B-3RW-D

	_	_						0		
				Symbol	Description		E	Body size	 e	
						20	30	40	50	60
				Nil	Rc	•	•	•	•	•
2		Pi	pe thread type	N	NPT	•	•	•	•	•
				F	G	•	•	•	•	•
				+						
				01	1/8	•	-	_	_	_
				02	1/4	•	•	•	_	_
<u>_</u>			Doub alex	03	3/8	_	•	•	_	_
8			Port size	04	1/2	_	l —	•	_	_
				06	3/4	_	—	•	•	_
				10	1	_	_	_	•	•
				+						
<u> </u>		0-	tion (Manustina)	Nil	Without mounting option	•	•	•	•	•
4		Op	tion (Mounting)	B*1	With bracket	•	•	•	•	•
				+						
				Nil	Polycarbonate bowl	•	•	•	•	•
				2	Metal bowl	•	•	•	•	•
			Bowl*2	6	Nylon bowl	•	•	•	•	•
		а	BOMI	8	Metal bowl with level gauge	_	•	•	•	•
				С	With bowl guard	•	*3	*3	*3	—*3
				6C	With bowl guard (Nylon bowl)	•	*4	*4	*4	*4
	darc			+						
A	and			Nil	Without drain cock	•	•	•	•	•
6	<u>-</u> -st	b	Lubricant exhaust	3	With drain cock	•	•	•	•	•
	Semi-standard		port	3W*5	Drain cock with barb fitting	_	•	•	•	•
	(တ			+	-					
			Flour direction	Nil	Flow direction: Left to right	•	•	•	•	•
		С	Flow direction	R	Flow direction: Right to left	•	•	•	•	•
				+						
			Lloit	Nil	Unit on product label: MPa, °C	•	•	•	•	•
		d	Unit	Z *6	Unit on product label: psi, °F	O*7	O*7	O*7	O*7	O*7

- *1 Option B is included in the package with the product but does not come assembled. The assembly consists of 2 types of the bracket and 2 mounting screws.
- *2 Refer to chemical data on page 93 for chemical resistance of the bowl.
- *3 A bowl guard is provided as standard equipment (polycarbonate).
- *4 A bowl guard is provided as standard equipment (nylon)
- *5 The combination of metal bowl 2 and 8 is not available
- *6 For the pipe thread type: NPT

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

*7 O: For the pipe thread type: NPT only



AL20-D to AL60-D Series

Standard Specifications

Model	AL20-D	AL30-D	AL40-D	AL40-06-D	AL50-D	AL60-D		
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1		
Fluid	Air							
Ambient and fluid temperatures	−5 to 60°C (No freezing)							
Proof pressure	1.5 MPa							
Max. operating pressure	1.0 MPa							
Min. dripping flow rate*1	15 L/min (ANR)	Port size 1/4: 30 L/min (ANR) Port size 3/8: 40 L/min (ANR)	Port size 1/4: 30 L/min (ANR) Port size 3/8: 40 L/min (ANR) Port size 1/2: 50 L/min (ANR)	50 L/min (ANR)	190 L/min (ANR)	220 L/min (ANR)		
Oil capacity	25 cm ³	55 cm ³ 135 cm ³						
Recommended lubricant	Class 1 turbine oil (ISO VG32)							
Bowl material	Polycarbonate							
Bowl guard	Semi-standard (Steel)	ni-standard (Steel) Standard (Polycarbonate)						
Weight	0.10 kg	0.18 kg 0.37 kg 0.41 kg 0.92 kg 0.99 kg				0.99 kg		

^{*1} The flow rate is 5 drops or greater/min under the following conditions: Inlet pressure of 0.5 MPa; Class 1 turbine oil (ISO VG32); Temperature at 20°C; Oil adjustment valve fully open. For a circuit that repeatedly turns ON and OFF on the outlet side, make the adjustment so that the average air consumption per minute becomes the minimum dripping flow rate or more.

Bowl Assembly/Part Nos.

Bowl	Lubricant exhaust	0.11			odel				
material	port	Other	AL20-D	AL30-D	AL40-D	AL40-06-D	AL50-D	AL60-D	
Without drain cock	_	C2SL-D	_	_					
	With bowl guard	C2SL-C-D	C3SL-D	C4SL-D					
Polycarbonate	With drain cock	_	C2SL-3-D	_	_				
rolycarbonale	Willi diaili cock	With bowl guard	C2SL-3C-D	C3SL-3-D	C4SL-3-D				
Drain cock with barb fitting		With bowl guard	_	C3SL-3W-D	C4SL-3W-D				
	Male and desire and	_	C2SL-6-A	_	_				
	Without drain cock	With bowl guard	C2SL-6C-A	C3SL-6-A	C4SL-6-A				
Nixlon	No. 1	_	C2SL-36-A	_	_				
Nylon With drain cock Drain cock with barb fitting	With bowl guard	C2SL-36C-A	C3SL-36-A	C4SL-36-A					
	With bowl guard	_	C3SL-36W-A	C4SL-36W-A					
Metal Without drain cock With drain cock	_	C2SL-2-A	C3SL-2-A	C4SL-2-A					
	Williout drain cock	With level gauge	_	C3LL-8-A	C4LL-8-A				
	Mith drain ands	_	C2SL-23-A	C3SL-23-A	C4SL-23-A				
	vviui uiaiii cock	With level gauge		C3LL-38-A	C4LL-38-A				

Bracket B

Lubricator

Mounting screw

Bracket assembly

Option/Part Nos.

Optional	Model					
specifications	AL20-D	AL30-D	AL40-D	AL40-06-D	AL50-D	AL60-D
Bracket assembly*1	AF24P-070AS	AF34P-070AS	AF44P-070AS	AF49P-070AS	AF54P	-070AS

^{*1} The assembly consists of a bracket A/B and 2 mounting screws.

Replacement Parts

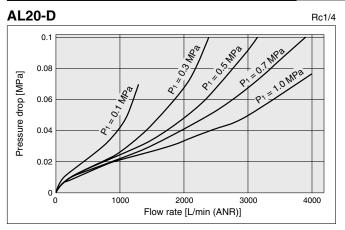
neplacement Faits								
Description	Part no.							
	AL20-D	AL30-D	AL40-D	AL40-06-D	AL50-D	AL60-D		
Sight dome assembly	AL20P-080AS							
Lubrication plug assembly	AL24P-060AS	AL34P-060AS	AL44P-060AS					
Damper retainer assembly	AL20P-030AS	AL30P-030AS	AL40P-030AS		AL54P-030AS	AL60P-030AS		
Damper assembly	AL20P-040S	AL30P-040S	AL44P-040S AL60P-040AS					
Bowl seal	C2SFP-260S	C32FP-260S	C42FP-260S					
Bowl assembly*1, *2	Refer to "Bowl Assembly/Part Nos."							

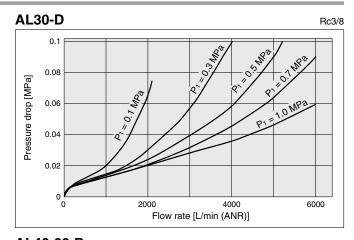
^{*1} The bowl assembly comes with a bowl seal.
*2 Please contact SMC separately for psi and °F unit display specifications.

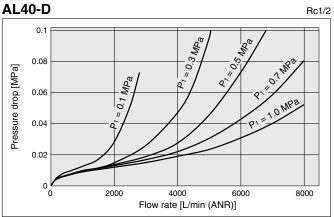


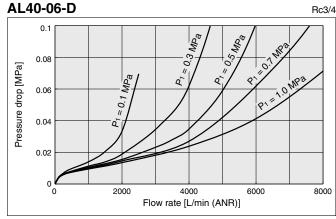
^{*1} The bowl assembly comes with a bowl seal. Please contact SMC separately for psi and °F unit display specifications.

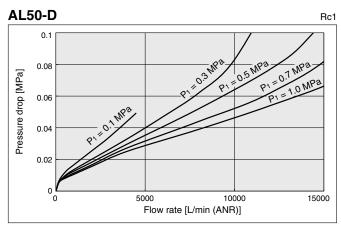
Flow Rate Characteristics (Representative values)

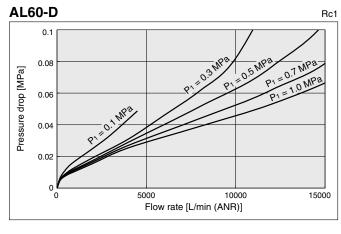










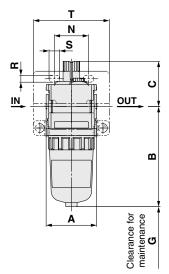


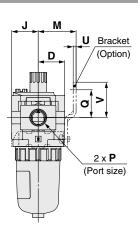
AB

AL20-D to AL60-D Series

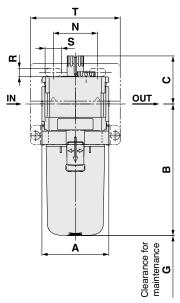
Dimensions

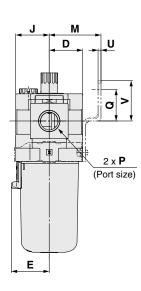
AL20-D



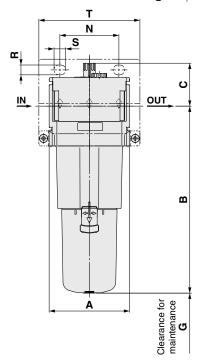


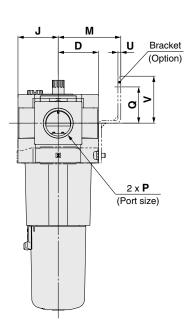
AL30-D to AL40-06-D





AL50-D to AL60-D





AB

		Semi-standard										
Applicable	PC	C/PA bowl	Metal	bowl	Metal bowl wi	th level gauge						
model	With drain cock	Drain cock with barb fitting	Without drain cock	With drain cock	Without drain cock	With drain cock						
AL20-D	B		a a	B								
AL30-D to AL60-D	a	Barb fitting applicable tubing: T0604	a	B	B	a						

Lubricator AL20-D to AL60-D Series

			Ctandard	nnosifias	tiono			Optional specifications								
Model			Standard :	specifica	uions			Bracket mount								
	P	Α	В	С	D	E	G	J	М	N	Q	R	S	Т	U	V
AL20-D	1/8, 1/4	40	79.3	35.9	21	_	60	21	30	27	22	5.4	8.4	60	2.3	28
AL30-D	1/4, 3/8	53	104.3	38.1	26.5	30	80	26.5	41	35	25	6.5	13	71	2.3	32
AL40-D	1/4, 3/8, 1/2	70	136.1	44	35.5	38.4	110	35.5	50	52	30	8.5	12.5	88	2.3	39
AL40-06-D	3/4	75	138.1	44	35.5	38.4	110	35.5	50	52	34	8.5	12.5	88	2.3	43
AL50-D	3/4, 1	90	209.1	48	45	_	110	45	70	66	40.5	11	13	113	3.2	52.5
AL60-D	1	95	223.1	48	45	_	110	45	70	66	40.5	11	13	113	3.2	52.5

		Sem	ni-standard	l specificat	ions		
Model	PC/PA	A bowl	Metal	bowl	Metal bowl with level gauge		
Model	With drain cock	With barb fitting	Without drain cock	With drain cock	Without drain cock	With drain cock	
	В	В	В	В	В	В	
AL20-D	87.6	_	84.5	87.4	_	_	
AL30-D	115.4	123.9	104.3	117.8	124.3	137.8	
AL40-D	147.1	155.6	136	149.5	156.1	169.5	
AL40-06-D	149.1	157.6	138	151.5	158.1	171.5	
AL50-D	220.1	228.6	209	222.5	229	242.5	
AL60-D	234.1	242.6	223	236.5	243	256.5	



AL-D Series Specific Product Precautions

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

Design / Selection

<u> Marning</u>

- **1.** Do not introduce air from the outlet side as this can damage the damper.
- The standard bowl and sight dome of the lubricator is polycarbonate. Do not use in an environment where they are exposed to or come in contact with organic solvents, chemicals, cutting oil, synthetic oil, alkali, and thread lock solutions.

Chemical resistance of polycarbonate bowl with sight dome and nylon bowl with sight dome

Type	Chemical name	Application examples		Material Material Nylon X </th		
туре	Chemical name	Application examples	Polycarbonate	Nylon		
Acid	Hydrochloric acid Sulfuric acid Phosphoric acid Chromic acid	Acid washing liquid for metals	Δ	×		
Alkaline	Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Sodium carbonate	Degreasing of metals Industrial salts Water-soluble cutting oil	×	0		
Inorganic salts	organic Sodium sulfide Potassium nitrate — Sodium sulfate					
Chlorine solvents	Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride	Cleansing liquid for metals Printing ink Dilution	×	Δ		
Aromatic series	Benzene Toluene Paint thinner	Coatings Dry cleaning	×	Δ		
Ketone	Acetone Methyl ethyl ketone Cyclohexane	Photographic film Dry cleaning Textile industries	×	×		
Alcohol	Ethyl alcohol IPA Methyl alcohol	Antifreeze Adhesives	Δ	×		
Oil	Gasoline Kerosene	_	×	0		
Ester	Phthalic acid dimethyl Phthalic acid diethyl Acetic acid	Synthetic oil Anti-rust additives	×	0		
Ether	Methyl ether Ethyl ether	Brake oil additives	×	0		
Amino	Methyl amino	Cutting oil Brake oil additives Rubber accelerator	×	×		
Others	Thread-lock fluid Seawater Leak tester	_	×	Δ		

When the above factors are present, or there is some doubt, use a metal bowl for safety.

Design / Selection

⚠ Caution

1. When the piping is branched on the inlet side, install a check valve to prevent the lubricant from back flowing.

Maintenance

⚠ Warning

- For the AL20-D, replenish the lubricant after releasing the inlet pressure. Lubrication cannot take place under a pressurized condition.
- Tighten the lubrication plug to the recommended tightening torque. Insufficient tightening torque may cause loosening or defective sealing. Excessive tightening torque may damage the thread, etc.

Recommended Torque

Unit: N·m

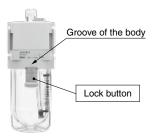
Model	AL20-D	AL30-D	AL40-D AL40-06-D AL50-D AL60-D
Torque	0.25 to 0.35	0.35 to 0.45	0.5 to 0.6

3. Adjustment of the oil regulating valve (sight dome assembly) for models from the AL20-D to AL60-D should be carried out manually. Turning it counterclockwise increases the dripping amount, and turning it clockwise reduces the dripping amount. The use of tools can result in damage to the unit. From the fully closed position, three rotations will bring it to the fully open position. Do not rotate it any further than this. Note that the numbered scale markings are guidelines for adjusting the position, and not indicators of the dripping amount.

Mounting / Adjustment

⚠ Caution

 When the lubricator bowl is installed on the AL30-D to AL60-D, install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl



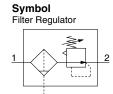
Modular Type Filter Regulator AW Series

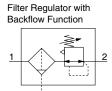
Filter Regulator AW Series	Model	Port size	Set pressure	Options
	AW20(K)-D	1/8, 1/4		
	AW30(K)-D	1/4, 3/8		Bracket Set nut (for panel mount) Float type auto drain
	AW40(K)-D	1/4, 3/8, 1/2	0.05 to 0.85 MPa 0.02 to 0.2 MPa	Square embedded type pressure gauge Digital pressure switch Round type pressure gauge
	AW40(K)-06-D	3/4		
p. 95 to 109	AW60(K)-D	3/4, 1		Bracket Float type auto drain Square embedded type pressure gauge Digital pressure switch Round type pressure gauge

Filter Regulator

AW20-D to AW60-D Filter Regulator with Backflow Function

AW20K-D to AW60K-D

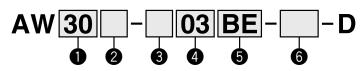




- · Integrated filter and regulator units save space and require less piping.
- Models with the backflow function include a mechanism which allows for the air pressure in the outlet side to be released to the inlet side.

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

How to Order



- · Option/Semi-standard: Select one each for a to i.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
 Example) AW30K-03BE-1NR-D

	_	_						D	
				Symbol	Description		Body	/ size	
						20	30	40	60
				Nil	Without backflow function		•	•	•
2	V	Vith	backflow function	K*1	With backflow function		•	•	
				+	THE SECTION OF THE PROPERTY OF				
				Nil	Rc	•	•	•	•
3		Pi	pe thread type	N	NPT	•	•	•	•
•		F +			G	•	•	•	•
				+					
				01	1/8	•	_	_	
				02	1/4	•	•	•	
•			Dawk aire	03	3/8	_	•	•	
4			Port size	04	1/2	_	_	•	_
				06	3/4			•	•
				10	1				•
				+					
				Nil	Without mounting option	•	•	•	•
		a	Mounting	B *3	With bracket	•	•	•	•
				Н	With set nut (for panel mount)		•	•	
				+					
	8		Float type auto	Nil	Without auto drain	•	•	•	•
		b	drain*4	C*5	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	**isze	•
				D *6	N.O. (Normally open) Drain port is open when pressure is not applied.	_	•	•	•
6	Option*2			+			,	,	
•	티			Nil	Without pressure gauge	•	•	_	•
			Pressure gauge*7	E	Square embedded type pressure gauge (with limit indicator)	•	•	•	•
				G	Round type pressure gauge (with limit indicator)		•	•	•
		С		M	Round type pressure gauge (with color zone)		•	•	•
				E1	Output: NPN output, Electrical entry: Wiring bottom entry		•	•	
			Digital pressure	E2	Output: NPN output, Electrical entry: Wiring top entry		•		•
			switch*8	E3	Output: PNP output, Electrical entry: Wiring bottom entry	•	•	_	•
				E4	Output: PNP output, Electrical entry: Wiring top entry		•		•
				+ NI:I	O OF to O OF MDs setting				
		d	Set pressure*9	Nil 1	0.05 to 0.85 MPa setting 0.02 to 0.2 MPa setting	•	•		_
				+	0.02 to 0.2 MPa setting				
				Nil	Polycarbonate bowl				_
				2	Metal bowl				
	ard			6	Nylon bowl				
	lug	е	Bowl*10	8	Metal bowl with level gauge				
6	-sta			C	With bowl guard		*11	*11	*11
	Ë			6C	With bowl guard (Nylon bowl)		*12		*12
	Semi-standard			+	zo gadia (itylon zom)		1		
				Nil	With drain cock		•		•
					Drain guide 1/8	•		_	
		f	Drain port*13	J *14	Drain guide 1/4		•	•	•
				W *15	Drain cock with barb fitting	_	•	•	•
					_ :: : - : - : - : - : - : -			_	

₹

Filter Regulator AW20-D to AW60-D Series Filter Regulator with Backflow Function AW20K-D to AW60K-D Series



AW30-D

	_	_)	
	Sym			Symbol	Description		Body	size	
						20	30	40	60
		_	Experient mechanism	Nil	Relieving type	•	•	•	•
		g	Exhaust mechanism	N	Non-relieving type	•	•	•	•
	밀			+					
	喧	h	Flow direction	Nil	Flow direction: Left to right	•	•	•	•
6	-standard	"	Flow direction	R	Flow direction: Right to left	•	•	•	
	Semi-			+					
	Se			Nil	Unit on product label: MPa, °C, Pressure gauge in SI units: MPa	•	•	•	•
		i	Unit	Z *16	Unit on product label: psi, °F, Pressure gauge: MPa/psi dual scale	○*18	○*18	○*18	○*18
				ZA *17	Digital pressure switch: With unit selection function	△*19	△*19	△*19	△*19

- *1 Set the inlet pressure to at least 0.05 MPa higher than the set pressure.
 *2 Options B, G, H, and M are not assembled and supplied loose at the time of shipment.
- *3 The assembly consists of a bracket and set nuts (applicable to the AW20(K)-D to For the AW60(K)-D, the assembly consists of 2 types of the bracket and 2
- mounting screws
- *4 The auto drain port is ø10 One-touch fitting (③ Pipe thread type: Rc, G) or ø3/8" One-touch fitting (⑤ Pipe thread type: NPT)

 *5 When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before
- ending operations for the day is recommended. *6 If the compressor is small (0.75 kW, discharge flow is less than 100 L/min (ANR)), air leakage from the drain cock may occur during the start of operations. N.C. type
- *7 When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.85 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.
 *8 When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring bottom entry" for the electrical entry.

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

 **10 Refer to chemical data on page 109 for chemical resistance of the bowl.

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

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

 **13 The combination of float type auto drain C and D is not available.

 **14 Without a valve function. The mounting screws are the same as the thread of **2.

 **15 The combination of metal bowl 2 and 8 is not available.

 **16 For the pipe thread type: NPT. This product is for overseas use only according to the New Measurement Act. (The Sl unit type is provided for use in Japan.) Cannot be used with M: Round type pressure gauge (with color zone). Available by request for special. The digital pressures witch will be equipped with the unit selection function, setting to psi initially.

 **17 For options: E1, E2, E3, E4

 This product is for overseas use only according to the New Measurement Act.
- This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)

 *18 O: For the pipe thread type: NPT only

 *19 \(\triangle \): Select with options: E1, E2, E3, E4.

Standard Specifications

Me	odel	AW20-D	AW30-D	AW40-D	AW40-06-D	AW60-D			
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1			
Pressure gauge port	size*1			1/8					
Fluid				Air					
Ambient and fluid ten	nperatures*2		-5	to 60°C (No freezing	ng)				
Proof pressure 1.5 MPa									
Max. operating press	ure			1.0 MPa					
Auto drain minimum	N.C.	0.1 MPa		0.15	MPa				
operating pressure	N.O.	_	— 0.1 MPa						
Set pressure range		0.05 to 0.85 MPa							
Nominal filtration rati	ng* ³			5 μm					
Compressed air purit	y class*4		ISO	8573-1:2010 [6 : 4	: 4]* ⁵				
Drain capacity		8 cm ³	25 cm ³		45 cm ³				
Bowl material				Polycarbonate					
Bowl guard		Semi-standard (Steel) Standard (Polycarbonate)							
Construction				Relieving type					
Weight		0.18 kg	0.34 kg	0.64 kg	0.69 kg	1.76 kg			

Bowl Assembly/Part Nos.

Bowl	Drain discharge	Dunin u aut	Other and			Model			
material	mechanism	Drain port	Other	AW20-D	AW30-D	AW40-D	AW40-06-D	AW60-D	
		With drain cock	_	C2SF-D	_		_		
		with drain cock	With bowl guard	C2SF-C-D	C3SF-D		C4SF-D		
	Manual	Drain cock with barb fitting	With bowl guard	_	C3SF-W-D		C4SF-W-D		
Polycarbonate		With drain guide	_	C2SF□-J-D	_		_		
rolycalbollate	Automatic*1 (Auto drain)	(without valve function)	With bowl guard	C2SF□-CJ-D	C3SF□-J-D		C4SF□-J-D		
		Normally closed	_	AD27-D	_		_		
		(N.C.)	With bowl guard	AD27-C-D	AD37□-D		AD47□-D		
		Normally open (N.O.)	With bowl guard	_	AD38□-D		AD48□-D		
		With drain cock	_	C2SF-6-A	_		_		
		With drain cock	With bowl guard	C2SF-6C-A	C3SF-6-A	C4SF-6-A			
	Manual	Drain cock with barb fitting	With bowl guard	_	C3SF-6W-A	C4SF-6W-A			
Nylon		With drain guide	_	C2SF□-6J-A	_		_		
INVIOR		(without valve function)	With bowl guard	C2SF□-6CJ-A	C3SF□-6J-A		C4SF□-6J-A		
		Normally closed	_	AD27-6-A	_		_		
	Automatic*1	(N.C.)	With bowl guard	AD27-6C-A	AD37□-6-A		AD47□-6-A		
	(Auto drain)	Normally open (N.O.)	With bowl guard	_	AD38□-6-A		AD48□-6-A		
		Mith due e e els	_	C2SF-2-A	C3SF-2-A		C4SF-2-A		
	Manual	With drain cock	With level gauge	_	C3LF-8-A		C4LF-8-A		
	Iviariuai	With drain guide	_	C2SF□-2J-A	C3SF□-2J-A		C4SF□-2J-A		
Metal		(without valve function)	With level gauge	_	C3LF□-8J-A		C4LF□-8J-A		
IVIELAI		Normally closed	_	AD27-2-A	AD37□-2-A		AD47□-2-A		
	Automatic*1	(N.C.)	With level gauge	_	AD37□-8-A		AD47□-8-A		
	(Auto drain)	Normally open			AD38□-2-A		AD48□-2-A		
		(N.O.)	With level gauge	_	AD38□-8-A		AD48□-8-A		

^{*1} The bowl assembly comes with a bowl seal.



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.

*2 −5 to 50°C for the products with the digital pressure switch

*3 For the following conditions in accordance with [Test condition: ISO 8573-4:2001 compliant, Test method ISO 12500-3:2009 compliant]

Conditions: When a new element is used, and the flow capacity, inlet pressure, and the amount of solid bodies on the filter inlet side are stable

*4 The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air − Part 1: Contaminants and purity classes.

For details on this standard, refer to page 110.

*5 The compressed air quality class on the inlet side is [7 : 4 : 4].

[□] in bowl assembly part numbers indicates a pipe thread type (applicable tubing for auto drain).

No indication is necessary for Rc thread; however, indicate N for NPT thread, and F for G thread. (For auto drain, Nil: ø10, N: ø3/8")

Please contact SMC separately for psi and °F unit display specifications.

Filter Regulator AW20-D to AW60-D Series Filter Regulator with Backflow Function AW20K-D to AW60K-D Series

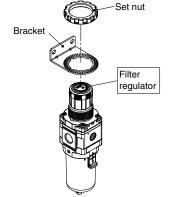
Option/Part Nos.

_	Outional anasitisatis				Model			
	Optional specification	ons	AW20(K)-D	AW30(K)-D	AW40(K)-D	AW40(K)-06-D	AW60(K)-D	
Bracket as	sembly*1		AW23P-270AS	AR33P-270AS	AR43P	AR54P-270AS		
Set nut			AR23P-260S	AR23P-260S AR33P-260S AR43P-260S			*2	
		Standard	G36-10-□01			G46-10-□01		
	Round type	0.02 to 0.2 MPa setting	G36-4-□01		G46-4-□01			
D	Davind true	Standard	G36-10	-□01-L		G46-10-□01-L		
gauge*3	Round type (with color zone)	0.02 to 0.2 MPa setting	G36-4-	-□01-L	G46-4-□01-L			
	C	Standard	GC3-10AS-D [136150A (Pressure gauge cover only)]					
	Square embedded type*4	0.02 to 0.2 MPa setting	GC3-4AS-D [136150A (Pressure gauge cover only)]					
		NPN output, Wiring bottom entry	IS	SE35-N-25-MLA-X5	23 [ISE35-N-25-M	(Switch body only)]	*5	
Digital pro	oouro owitob	NPN output, Wiring top entry	15	SE35-R-25-MLA-X5	23 [ISE35-R-25-M	(Switch body only)]	* 5	
Digital pre	igital pressure switch PNP output, Wiring bottom entry PNP output, Wiring top entry		IS	SE35-N-65-MLA-X5	23 [ISE35-N-65-M	(Switch body only)]	*5	
		ISE35-R-65-MLA-X523 [ISE35-R-65-M (Switch body only)]*5						

- *1 The assembly consists of a bracket and set nuts.
- *2 For the AW60(K)-D, the assembly consists of a bracket A/B and 2 mounting screws. Please contact SMC regarding the set nuts for the AW60(K)-D.
 *3 ☐ in part numbers for a round type pressure gauge indicates a pipe thread type. No indication is necessary for R; however, indicate N for NPT. Please contact SMC regarding the pressure gauge supply for both MPa and psi unit specifications.
- *4 Including one O-ring and 2 mounting screws. []: Pressure gauge cover only
- *5 In addition to the pressure switch body, lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screws (2 pcs.) are attached.

 []: Switch body only (Regarding how to order the digital pressure switch, refer to the **Web Catalog**.)

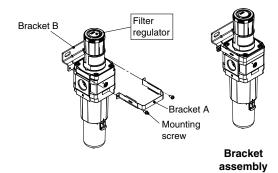
AW20(K)-D to AW40(K)-06-D







AW60(K)-D



Replacement Parts

ricpiacen	ient i arts					
Des				Part no.		
Des	cription	AW20(K)-D	AW30(K)-D	AW40(K)-D	AW40(K)-06-D	AW60(K)-D
Valve assemb	oly	AW24P-060AS	AW34P-060AS	AW44P-060AS AW49P-060AS		AW64P-060AS
Filter element		AF20P-060S	AF30P-060S	AF40F	P-060S	AW60P-060S
Baffle		AF24P-040S	AF34P-040S	AF44P-040S		AW64P-030S
Diaphragm	Relieving type	AR24P-150AS	AR34P-150AS	AR44P	-150AS	AR54P-150AS
assembly	Non-relieving type	AR24P-150AS-N	AR34P-150AS-N	AR44P-	150AS-N	AR54P-150AS-N
Bowl seal		C2SFP-260S	C32FP-260S		C42FP-260S	
Bowl assembly*1, *2			Refer	o "Bowl Assembly/Par	t Nos."	
Check valve a	assembly*3			AR24KP-020AS		

- *1 The bowl assembly comes with a bowl seal.

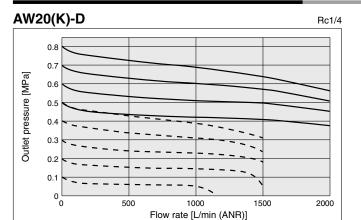
 *2 Please contact SMC separately for psi and °F unit display specifications.

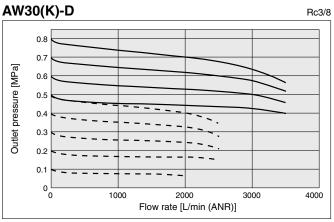
 *3 The check valve assembly is applicable for a filter regulator with backflow function (AW20K-D to AW60K-D) only. The assembly consists of a check valve cover, check valve body assembly, and 2 mounting screws.

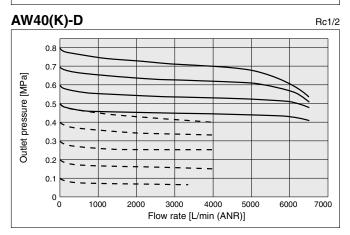


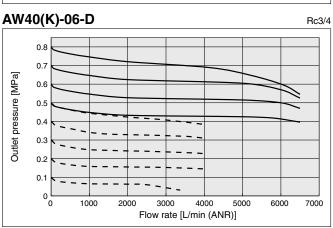
Flow Rate Characteristics (Representative values)

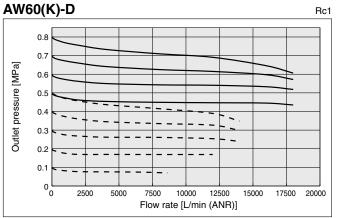
Inlet pressure: 1.0 MPa











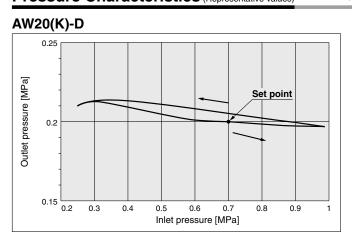


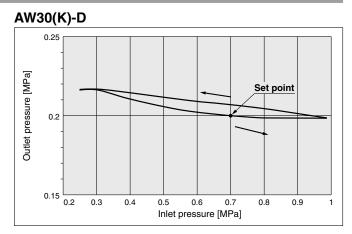


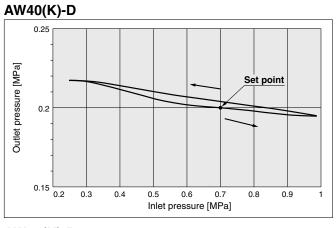
AW + AL AF + AR + AL

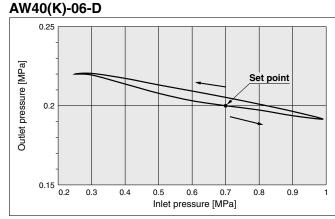
AF + AR

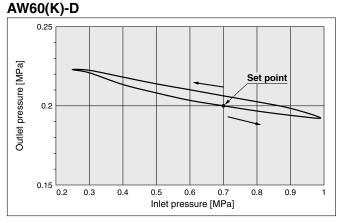
Attachments | AW + AFM | AF + AFM + AR





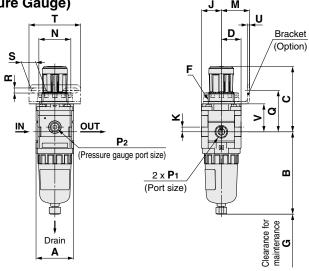






Dimensions

Standard (Round Type Pressure Gauge)



Panel cutout dimensions

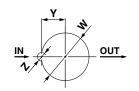
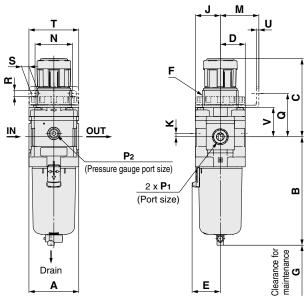


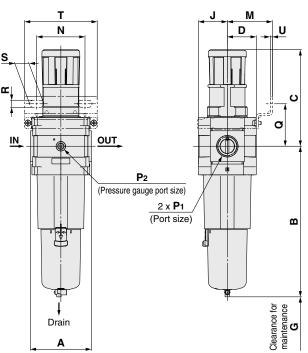
Plate thickness

AW20-D to AW30-D : Max. 3.5 AW40-D to AW40-06-D: Max. 5

AW30-D to AW40-06-D



AW60-D

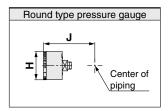


SMC

AB

A

Filter Regulator AW20-D to AW60-D Series Filter Regulator with Backflow Function AW20K-D to AW60K-D Series



	Optional specifications			Semi-stand	dard		
Applicable model	With auto drain	PC/PA bo	owl	Met	al bowl	Metal bowl v	with level gauge
model	vviin auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AW20-D	M5 x 0.8		1/8 Width across flats 14	B	1/8 Width across flats 14		
AW30-D to AW60-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	Midth across flats 17	B	Midth across flats 17	B	1/4 Width across flats 17

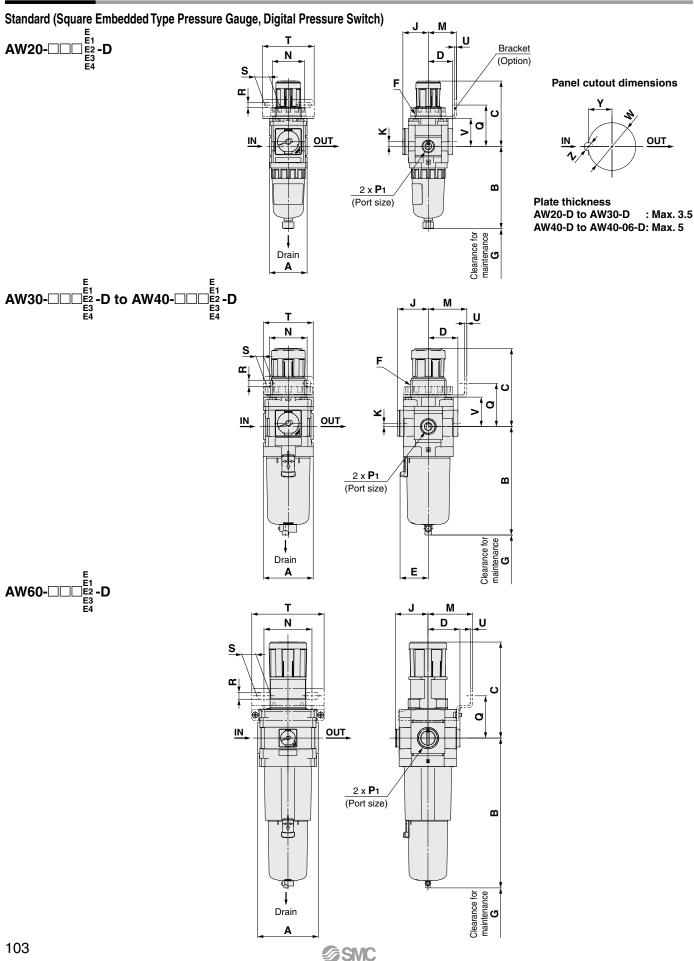
													Opt	tional sp	ecificati	ons	
Model				Sta	andard :	specific	ations					Round		Round type gauge (Semi-		Round type gauge (with	
	P1	P ₂	Α	В	C*1	D	Е	F	G	J	K	Н	J	Н	J	Н	J
AW20-D	1/8, 1/4	1/8	40	87.6	71.8	21	_	M28 x 1	40	21	5	ø37.5	57.5	ø37.5	58.5	ø37.5	58.5
AW30-D	1/4, 3/8	1/8	53	115.3	86.5	26.5	30	M38 x 1.5	55	26.5	3.5	ø37.5	63	ø37.5	64	ø37.5	64
AW40-D	1/4, 3/8, 1/2	1/8	70	147.1	91.5	35.5	38.4	M42 x 1.5	80	35.5	_	ø42.5	73	ø42.5	73	ø42.5	73
AW40-06-D	3/4	1/8	75	149.1	93	35.5	38.4	M42 x 1.5	80	35.5	_	ø42.5	73	ø42.5	73	ø42.5	73
AW60-D	3/4, 1	1/8	95	234.1	155	45	_	_	30	45	_	ø42.5	82.5	ø42.5	82.5	ø42.5	82.5

					Opt	ional s	pecific	ations							Semi-s	tandard		
Model			Bro	cket mo	ount				Panel m	ount		With	PC/P/	A bowl	Meta	tal bowl ain With drain guide B 4 93.9		owl with gauge
Wiodei			Dia	CKEL III	Juni				i anemi	ount		drain	With barb fitting	With drain guide	With drain cock		With drain cock	With drain guide
	M	N	Q	R	S	Т	U	V	W	Υ	Z	В	В	В	В	В	В	В
AW20-D	30	34	43.9	5.4	15.4	55	2.3	29.7	28.5	14	6	104.9	_	91.4	87.4	93.9	_	_
AW30-D	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7	157	123.9	122.2	117.8	122.3	137.8	142.3
AW40-D	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	186.9	155.6	153.9	149.5	154	169.5	174
AW40-06-D	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7	188.9	157.6	155.9	151.5	156	171.5	176
AW60-D	70	75	66	11	22	113	3.2	_	_	_	_	273.9	242.6	240.9	236.5	241	256.5	261

^{*1} The dimension of C is the length when the filter regulator knob is unlocked.

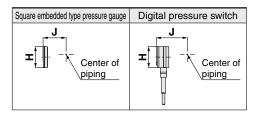


Dimensions



AB

Filter Regulator AW20-D to AW60-D Series Filter Regulator with Backflow Function AW20K-D to AW60K-D Series



	Optional specifications			Semi-stand	dard		
Applicable model	With auto drain	PC/PA bo	owl	Met	al bowl	Metal bowl v	with level gauge
model	with auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AW20-D	M5 x 0.8		1/8 Width across flats 14	a	1/8 Width across flats 14		
AW30-D to AW60-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	width across flats 17	B	Midth across flats 17	B	m 1/4 Width across flats 17

										Op	tional sp	ecificatio	ns
Model			9	Standard	l specific	ations				Square e type press	mbedded ure gauge	Digital p	
	P1	Α	В	C*1	D	E	F	G	K	Н	J	Н	J
AW20-D	1/8, 1/4	40	87.6	71.8	26	_	M28 x 1	40	5	□28	27	□27.8	37.5
AW30-D	1/4, 3/8	53	115.3	86.5	31.5	30	M38 x 1.5	55	3.5	□28	32.5	□27.8	43
AW40-D	1/4, 3/8, 1/2	70	147.1	91.5	40.5	38.4	M42 x 1.5	80	_	□28	41.5	□27.8	52
AW40-06-D	3/4	75	149.1	93	40.5	38.4	M42 x 1.5	80	_	□28	41.5	□27.8	52
AW60-D	3/4, 1	95	234.1	155	50	_	_	30	_	□28	51	□27.8	61.5

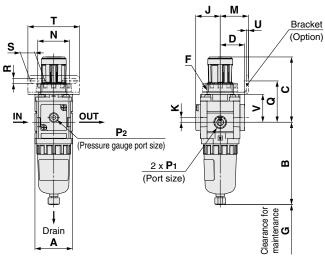
					Opt	ional s	pecific	ations							Semi-s	tandard		
Model			Bra	cket mo	ount				Panel m	ount		With	PC/PA	A bowl	Meta	l bowl		owl with gauge
Model			Dia	CKEL III	Juni				i aneim	ount		drain	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	М	N	Q	R	S	Т	U	٧	W	Υ	Z	В	В	В	В	В	В	В
AW20-D	30	34	43.9	5.4	15.4	55	2.3	29.7	28.5	14	6	104.9	_	91.4	87.4	93.9	_	_
AW30-D	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7	157	123.9	122.2	117.8	122.3	137.8	142.3
AW40-D	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	186.9	155.6	153.9	149.5	154	169.5	174
AW40-06-D	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7	188.9	157.6	155.9	151.5	156	171.5	176
AW60-D	70	75	66	11	22	113	3.2	_	_	_	_	273.9	242.6	240.9	236.5	241	256.5	261

^{*1} The dimension of C is the length when the filter regulator knob is unlocked.



Dimensions

With Backflow Function (Round Type Pressure Gauge, Square Embedded Type Pressure Gauge, Digital Pressure Switch)



Panel cutout dimensions

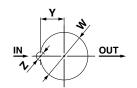
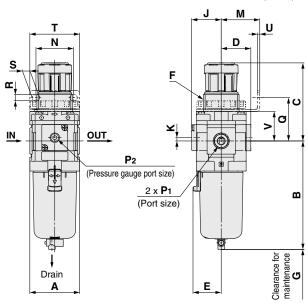
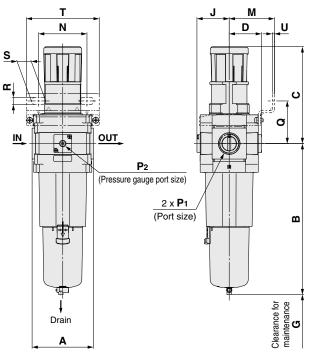


Plate thickness AW20K-D to AW30K-D : Max. 3.5 AW40K-D to AW40K-06-D: Max. 5

AW30K-D to AW40K-06-D

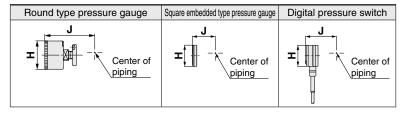


AW60K-D



AB

Filter Regulator AW20-D to AW60-D Series Filter Regulator with Backflow Function AW20K-D to AW60K-D Series



A 11 11	Optional specifications			Semi-stand	dard		
Applicable model	With auto drain	PC/PA bo	wl	Met	al bowl	Metal bowl v	with level gauge
model	with auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AW20K-D	M5 x 0.8		1/8 Width across flats 14	a	1/8 Width across flats 14		
AW30K-D to AW60K-D	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing: T0604	Midth across flats 17	B	Midth across flats 17	B	m 1/4 Width across flats 17

														Opt	ional s	pecificati	ons		
Model				Sta	andard	specifi	cations	5				Square e type press	mbedded ure gauge	Digital pr		Round pressure		Round type gauge (Semi-s	
	P ₁	P ₂	Α	В	C*1	D	Е	F	G	J	K	Н	J	Н	J	Н	J	Н	J
AW20K-D	1/8, 1/4	1/8	40	87.6	71.8	26	_	M28 x 1	40	26	5	□28	27	□27.8	37.5	ø37.5	62.5	ø37.5	63.5
AW30K-D	1/4, 3/8	1/8	53	115.3	86.5	31.5	30	M38 x 1.5	55	31.5	3.5	□28	32.5	□27.8	43	ø37.5	68	ø37.5	69
AW40K-D	1/4, 3/8, 1/2	1/8	70	147.1	91.5	40.5	38.4	M42 x 1.5	80	40.5	_	□28	41.5	□27.8	52	ø42.5	78	ø42.5	78
AW40K-06-D	3/4	1/8	75	149.1	93	40.5	38.4	M42 x 1.5	80	40.5	_	□28	41.5	□27.8	52	ø42.5	78	ø42.5	78
AW60K-D	3/4, 1	1/8	95	234.1	155	50	_	_	30	50	_	□28	51	□27.8	61.5	ø42.5	87.5	ø42.5	87.5

						Optio	nal spe	cifica	tions								Semi-s	tandard		
Model	Round				Droc	ket m	ount				anel m	ount		With	PC/PA	A bowl	Meta	l bowl	Metal b	owl with gauge
woder	(with o				ыас	KEL III	ount			·	anem	ount		auto drain	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
	Н	J	M	N	Q	R	S	Т	U	٧	W	Υ	Z	В	В	В	В	В	В	В
AW20K-D	ø37.5	63.5	30	34	43.9	5.4	15.4	55	2.3	29.7	28.5	14	6	104.9	_	91.4	87.4	93.9	_	_
AW30K-D	ø37.5	69	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7	157	123.9	122.2	117.8	122.3	137.8	142.3
AW40K-D	ø42.5	78	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	186.9	155.6	153.9	149.5	154	169.5	174
AW40K-06-D	ø42.5	78	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7	188.9	157.6	155.9	151.5	156	171.5	176
AW60K-D	ø42.5	87.5	70	75	66	11	22	113	3.2	_	_	_	_	273.9	242.6	240.9	236.5	241	256.5	261

^{*1} The dimension of C is the length when the filter regulator knob is unlocked.



Filter Regulator/AW20-D to AW60-D Filter Regulator with Backflow Function/AW20K-D to AW60K-D

Made to Order

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



1 0.4 MPa Setting

The setting specification is 0.4 MPa.

When a pressure gauge is included, the display will show a range from 0 to 0.7 MPa.

Specifications

Made-to-order part no.	-X406
Proof pressure [MPa]	1.5
Max. operating pressure [MPa]	1.0
Set pressure range [MPa]*1	0.05 to 0.4

*1 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

Applicable Models

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

2 Long Bowl

Drain capacity is greater than that of standard models.

Applicable Models/Drain Capacity

Model	AW20(K)-D	AW30(K)-D	AW40(K)-D	AW40(K)-06-D	AW60(K)-D
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1
Drain capacity [cm³]	19	43		88	
B dimension [mm]*1	108.1	137.3	167.2	169.2	254.2

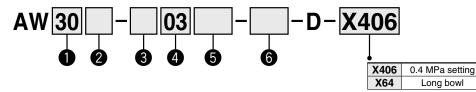
*1 For polycarbonate bowls. Please contact SMC for other bowl materials.

AW20-D





How to Order



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

0.4 MPa Setting

Long Bowl

Example) AW30K-03DE-2N-D-X406														
Symbol Description							0				0			
				Symbol	Description	Body size				Body size				
						20	30	40	60	20	30	40	60	
2	V V (; 1	h h	kflow function	Nil	Without backflow function	•	•	•	•	•	•	•	•	
	VVII	n bac	Kilow function	K *1	With backflow function	•	•	•	•	•	•	•	•	
				+										
				Nil	Rc		•	•	•	•	•	•	•	
3	- 1	Pipe	thread type	N	NPT	•	•	•	•	•	•	•	•	
				F	G	•	•	•	•	•	•	•	•	
				+										
				01	1/8	•	_	_	_	•	_	_	_	
				02	1/4	•	•	•	_	•	•	•		
		ь	ort size	03	3/8	_	•	•	_	_	•	•	_	
U	FOIL SIZE			04	1/2	_	_	•	_	_	_	•	_	
				06	3/4		_	•	•	_	_	•	•	
				10	1		_	_	•	_	_	_	•	
				+										
			Mounting	Nil	Without mounting option	•	•	•	•	•	•	•	•	
		а		B *3	With bracket	•	•	•	•	•	•	•	•	
				Н	With set nut (for panel mount)		•	•	_	•	•	•	_	
				+										
			Float type auto	Nil	Without auto drain	•	•	•	•	_	_	_	_	
		b	drain*4	C*5	Float type auto drain (N.C.): Drain port is closed when pressure is not applied.	•	•	•	•	_	_	-	_	
	ũ		urairi	D *6	Float type auto drain (N.O.): Drain port is open when pressure is not applied.	_	•	•	•	_	_	_		
6	Option*2	+												
U	bţ		_	Nil	Without pressure gauge	•	•	•	•	•	•	•	•	
	0	c	Pressure	E	Square embedded type pressure gauge (with limit indicator)	•	•	•	•	•	•	•	•	
			gauge*7	G	Round type pressure gauge (with limit indicator)	•	•	•	•	•	•	•	•	
				М	Round type pressure gauge (with color zone)	•	•	•	•	•	•	•	•	
			Digital	E1	Output: NPN output, Electrical entry: Wiring bottom entry	•	•	•	•	•	•	•	•	
			pressure	E2	Output: NPN output, Electrical entry: Wiring top entry	•	•	•	•	•	•	•	•	
			switch*8	E3	Output: PNP output, Electrical entry: Wiring bottom entry	•	•	•	•	•	•	•	•	
		Switch		E4	Output: PNP output, Electrical entry: Wiring top entry	•	•	•	•	•	•	•	•	

- *1 Set the inlet pressure to at least 0.05 MPa higher than the set pressure.

 *2 Options B, G, H, and M are not assembled and supplied loose at the time of shipment.

 *3 The assembly consists of a bracket and set nuts (applicable to the AW20(K)-D to AW40(K)-D).

 The AR60(K)-D assembly includes 2 types of brackets and 2 mounting screws.

 *4 The auto drain port is ø10 One-touch fitting (⑤ Pipe thread type: Rc, G) or ø3/8"

 One-touch fitting (⑥ Pipe thread type: NPT)

 *5 When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended. ending operations for the day is recommended.
- *6 If the compressor is small (0.75 kW, discharge flow is less than 100 L/min (ANR)), air leakage from the drain cock may occur during the start of operations. N.C. type is recommended.
- *7 When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.85 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type. 0.7 MPa pressure gauge for 0.4 MPa type (-X406).
 *8 When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring bottom entry" for the electrical entry.



Filter Regulator AW20-D to AW60-D Series Filter Regulator with Backflow Function AW20K-D to AW60K-D Series

					U.	4 IVIPa	Setti	iig		Long	DOWI	
	_			5		((
	Symbol Description				Body size				Body size			
					20	30	40	60	20	30	40	60
			Nil	0.05 to 0.85 MPa setting	_	T -	I —	_	•	•	•	•
	d	Set pressure*9	1	0.02 to 0.2 MPa setting	_	_	_	_	•	•	•	•
	1		+									
			Nil	Polycarbonate bowl	•	•	•	•	•	•	•	•
			2	Metal bowl	•	•	•	•	•	•	•	•
	e	Bowl*10	6	Nylon bowl	•	•	•	•	•	•	•	•
	•		8	Metal bowl with level gauge	_	•	•	•	—	_	_	_
			С	With bowl guard	•	*11	*11	*11	•	*11	*11	*11
			6C	With bowl guard (Nylon bowl)	•	*12	*12	*12	•	*12	*12	*12
9			+									
gal			Nil	With drain cock	•	•	•	•	•	•	•	•
stan	4	Drain port*13	J*14	Drain guide 1/8	•	_	_	_	•	_	_	_
<u>ું</u> ા	11.	Dialii poit.	J. 17	Drain guide 1/4	_	•	•	•	_	•	•	•
Semi-standard			W *15	Drain cock with barb fitting	_	•	•	•	_	•	•	•
ြလ												
	g	Exhaust	Nil	Relieving type	•	•	•	•	•	•	•	•
	9	mechanism	N	Non-relieving type	•	•	•	•		•	•	•
			+			,			,		,	
	h	Flow direction	Nil	Flow direction: Left to right	•	•	•	•		•	•	•
		1 1011 411 0011011	R	Flow direction: Right to left	•	•	•				•	•
		1	+						1			
			Nil	Unit on product label: MPa, °C, Pressure gauge in SI units: MPa	•	•	•	•	•	•	•	•
	i	Unit	Z *16	Unit on product label: psi, °F, Pressure gauge: MPa/psi dual scale	O*18	O*18	O*18	O*18	O*18	O*18	O*18	O*18
			ZA *17	Digital pressure switch: With unit selection function	△*19	∆*19	△*19	∆*19	△*19	△*19	△*19	∆*19

- pressure within the specification range.
- *10 Refer to chemical data on page 109 for chemical resistance of the bowl. *11 A bowl guard is provided as standard equipment (polycarbonate).

*11 A bowl guard is provided as standard equipment (polycarbonate).
*12 A bowl guard is provided as standard equipment (nylon).
*13 The combination of float type auto drain C and D is not available.
*14 Without a valve function. The mounting screws are the same as the thread of .
*15 The combination of metal bowl 2 and 8 is not available.
*16 For the pipe thread type: NPT
This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round type pressure gauge (with color zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function setting to digital pressure switch will be equipped with the unit selection function, setting to psi initially.

- This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)

 *18 ○: For the pipe thread type: NPT only

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

Filter Regulator/AW20-D to AW60-D Filter Regulator with Backflow Function/AW20K-D to AW60K-D

Made to Order

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



③ Clean Series

For details, refer to the Clean Series/Low Particle Generation section of the Web Catalog.

Standard model no.

Clean Series



Without backflow With backflow

function function

4 Copper, Fluorine and Silicone-free + Low Particle Generation

For details, refer to the Clean Series/Low Particle Generation section of the Web Catalog.

Standard model no.

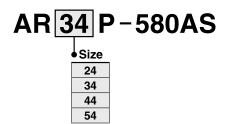
Copper, Fluorine and Silicone-free + Low Particle Generation



AR-D/AW-D Series Option

Knob Cover

Can be mounted on the knob of a regulator or filter regulator in order to prevent the accidental operation of the knob

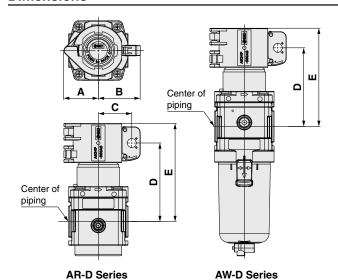




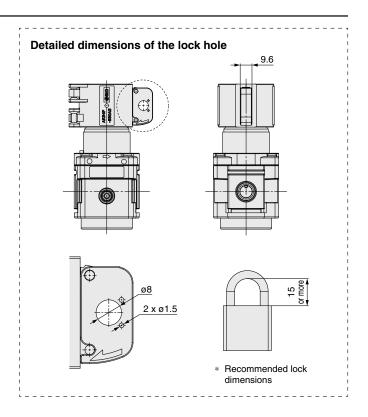
Ambient temperature	–5 to 60°C
,	0.000



Dimensions



Part no.	Α	В	С	D	E	Applicable model
AR24P-580AS	22 E	20.1	24.5	53.1	69.1	AR20-D
AN24F-300A3	23.5	32.1	24.5	58.1	74.1	AW20-D
AR34P-580AS	30.7	37.4	29.8	70	87.5	AR30-D, AW30-D
AR44P-580AS	20.0	39.4	31.8	74.5	97	AR40-D, AW40-D
AR44P-300AS	32.0	39.4	31.0	76	98.5	AR40-06-D, AW40-06-D
AR54P-580AS	42	48.9	41.3	99.6	133.6	AR50-D
AD347-580A5	42	46.9	41.3	129 6	163.6	AR60-D AW60-D



Mounting Precautions

Before mounting the knob cover, confirm that the knob is in the locked state (in which the orange line is not visible). Mount the cover in accordance with the mounting instructions below.

Mount the knob cover on the knob.



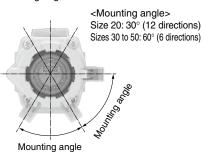
2 Close the lock cover.



Secure with a lock (provided by the customer).



The knob cover can be mounted facing each mounting angle in relation to the knob.









AW(K)-D Series Specific Product Precautions

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

Design / Selection

<u> Marning</u>

- Residual pressure disposal (outlet pressure removal) is not possible for the AW20-D to AW60-D even though the inlet pressure is exhausted. When the residual pressure disposal is performed, use the filter regulator with backflow function (AW20K-D to AW60K-D).
- The bowl material of the standard filter regulator is polycarbonate. Do not use in an environment where they are exposed to or come in contact with organic solvents, chemicals, cutting oil, synthetic oil, alkali, and thread lock solutions.

Chemical resistance of polycarbonate or nylon bowl

			Mate	erial				
Type	Chemical name	Application examples	Polycarbonate	Nylon				
Acid	Hydrochloric acid Sulfuric acid Phosphoric acid Chromic acid	Acid washing liquid for metals	Δ	×				
Alkaline	Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Sodium carbonate	Degreasing of metals Industrial salts Water-soluble cutting oil	×	0				
Inorganic salts	Sodium sulfide Potassium nitrate Sodium sulfate	_	×	Δ				
Chlorine solvents	Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride	×	Δ					
Aromatic series	Benzene Toluene Paint thinner	Coatings Dry cleaning	×	Δ				
Ketone	Acetone Methyl ethyl ketone Cyclohexane	Photographic film Dry cleaning Textile industries	×	×				
Alcohol	Ethyl alcohol IPA Methyl alcohol	Antifreeze Adhesives	Δ	×				
Oil	Gasoline Kerosene	_	×	0				
Ester	Phthalic acid dimethyl Phthalic acid diethyl Acetic acid	Synthetic oil Anti-rust additives	×	0				
Ether	Methyl ether Ethyl ether	Brake oil additives	×	0				
Amino	Methyl amino	Cutting oil Brake oil additives Rubber accelerator	×	×				
Others	Thread-lock fluid Seawater Leak tester	_	×	Δ				
O: Essentially safe △: Some effects may occur. ×: Effects will occur.								

When the above factors are present, or there is some doubt, use a metal bowl for safety.

1. When operating at an inlet pressure lower than the inlet pressure used in the flow rate characteristics graph, the pressure drop on the outlet side may be greater. Therefore, be sure to conduct testing using the actual equipment.

For pressure control equipment selection, refer to page 123 in the "Product Selection Guide."

Maintenance

⚠ Warning

 Replace the element every 2 years or when the pressure drop becomes 0.1 MPa, whichever comes first, to prevent damage to the element.

Mounting / Adjustment

⚠ Warning

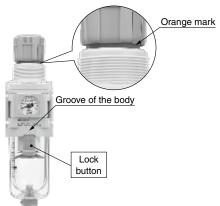
- Set the filter regulator while verifying the displayed values of the inlet and outlet pressure gauges. Turning the regulator knob excessively can cause damage to the internal parts.
- Do not use tools on the pressure regulator knob as this may cause damage. It must be operated manually.

⚠ Caution

1. Be sure to unlock the knob before adjusting the pressure and lock it after setting the pressure.

Failure to follow this procedure can cause damage to the knob and the outlet pressure may fluctuate.

- Pull the pressure regulator knob to unlock. (You can visually verify this with the "orange mark" that appears in the gap.)
- Push the pressure regulator knob to lock. When the knob is not easily locked, turn it left and right a little and then push it (when the knob is locked, the "orange mark", i.e., the gap will disappear).



2. When the bowl is installed on the AW30-D to AW60-D, install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.

Piping

∧ Warning

1. To screw the pressure gauge and piping materials into the pressure gauge port on the product, tighten to the recommended torque (3 to 5 N·m) while securely holding the AW(K)-D in place. Additionally, when mounting a One-touch fitting to the pressure gauge port, refer to the Fittings and Tubing Precautions.



International Standard ISO 8573-1:2010 Compressed Air Purity Classes

Compressed air is used in a variety of manufacturing processes. In this age, compressed air with a high degree of purity is becoming increasingly necessary.

For this reason, it is necessary to remove contaminants from systems which supply compressed air and to secure the quality. The standard which stipulates the class according to the quantities of contaminants in compressed air is ISO 8573-1.

[Outline]

Stipulates the purity class of contaminants (particles, water, oil) mixed in with the compressed air

[Scope]

Can be used in various places in compressed air systems

[Terms and Definitions]

- Purity class: An index assigned for each classification obtained by dividing the concentration of each contaminant into ranges
- · Particle: Small discrete mass of solid or liquid matter
- Humidity and liquid water: Water vapor (gas), Water droplets
- · Oil: Liquid oil, Oil mist, Vapor

rn:4	. 011
Purity	Classes]

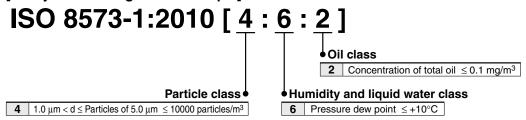
_												
		Part	icles	Humidity and	Oil							
Class	Maximum number of partic	eles per cubic meter as a fun-	ction of particle size d [µm]	Mass concentration Cp	Pressure dew point	Concentration of liquid water Cw	Concentration of total oil					
	$0.1 < d \le 0.5$	$0.5 < d \le 1.0$	$1.0 < d \le 5.0$	[mg/m ³]	[°C]	[g/m ³]	[mg/m ³]					
0		As specified by the equipment user or supplier and more stringent than class 1										
1	≤ 20000	≤ 400	≤ 10	_	≤ –70	_	≤ 0.01					
2	≤ 400000	≤ 6000	≤ 100	_	≤ −40	_	≤ 0.1					
3	_	≤ 90000	≤ 1000	_	≤ –20	_	≤1					
4	_	_	≤ 10000	_	≤ +3	_	≤ 5					
5		_	≤ 100000	_	≤ +7	_	_					
6	_	_	_	0 < Cp ≤ 5	≤ +10	_	_					
7		_	_	5 < Cp ≤ 10		Cw ≤ 0.5	_					
8	_	_	_	_	_	$0.5 < Cw \le 5$	_					
9	_	_	_	_	_	5 < Cw ≤ 10	_					
х	_	_	_	Cp > 10		Cw > 10	> 5					

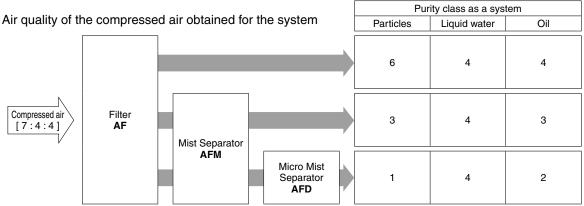
[How to Perform a Test to Check the Performance]

ISO 12500, which sets out the test method to be used in order to check the filter performance for each of the three kinds of contaminants, is indicated below.

- Particle: ISO 12500-3:2009
- · Liquid water: ISO 12500-4:2009
- · Oil: ISO 12500-1:2007
- * Measured using a dedicated evaluation system which has been certified according to ISO 12500-□ and also by a third party (Certified)

[Purity Class Designation Example]





The class indicates the compressed air purity according to ISO 8573-1:2010 (JIS B 8392-1:2012) and indicates the maximum purity class which can be obtained using that system. Note, however, that this value will differ according to the inlet air conditions.



⚠ Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of "Caution," "Warning" or "Danger." They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

Caution: Caution indicates a hazard with a low level of risk which, If not avoided, could result in minor or moderate injury.

Warning: Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

⚠ Danger: Danger if not avoided, will result in death or serious injury. **Danger** indicates a hazard with a high level of risk which, *1) ISO 4414: Pneumatic fluid power - General rules relating to systems.

ISO 4413: Hydraulic fluid power – General rules relating to systems.

IEC 60204-1: Safety of machinery - Electrical equipment of machines. (Part 1: General requirements)

ISO 10218-1: Manipulating industrial robots - Safety.

⚠Warning

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

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.

- 1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
- 2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
- 3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.
- 4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.
 - 1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
 - 2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
 - 3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
 - 4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

⚠ Caution

1. The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries.

If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary. If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/ **Compliance Requirements**

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".

Read and accept them before using the product.

Limited warranty and Disclaimer

- 1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
 - Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
- 2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided. This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
- 3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.
 - 2) Vacuum pads are excluded from this 1 year warranty.

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.

Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

- 1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
- 2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

⚠ Caution

SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

Revision History

Edition B * Attachments have been added.

* Number of pages has been increased from 72 to 104.

- Edition C * Sizes 40-06, 50, and 60 have been added to the AC series.
 - * Sizes 40-06, 50, and 60 have been added to the AF, AR(K), and AL.
 - * The VHS40-06 and 50 have been added.
 - * Size 40-06 has been added to the AFM/AFD.
 - * Sizes 40-06 and 60 have been added to the AW(K).
 - * Made to order options have been added.
 - * Number of pages has been increased from 104 to 112.

↑ Safety Instructions Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.