

Modular F.R.L. Unit



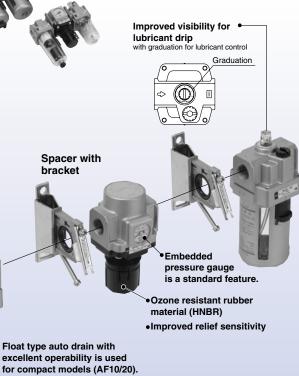
Spacer with bracket .

Drain cock is easy-to-use

rotary type.

Modular F.R.L. Unit

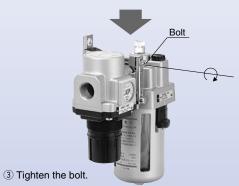
Series AC



Improved installation



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



New Round type pressure gauge (with colour zone) type

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







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



Regulator AR20(K) to 60(K)



AC20 to 60 (AF + AR + AL) AC20A to 60A (AW + AL) AC20B to 60B (AF + AR) AC20C to 40C (AF + AFM + AR) AC20D to 40D (AW + AFM)

Series Configuration

	Dura durad					Port size	e			
	Product	Model	M5	1/8	1/4	3/8	1/2	3/4	1	Page
	Air Filter + Regulator + Lubricator	AC10	0							
	AF AR AL	AC20		0	0					
		AC25			•	0				
		AC30			•	0				
	Ψ = Ψ	AC40			•	•	•			1
		AC40-06						•		
		AC50						•	•	
		AC55							•	
	• •	AC60								
	Filter Regulator + Lubricator	AC10A	0							
	AW AL	AC20A		0	•					
		AC30A			•	•				
		AC40A			•	•				7
		AC40A-06						•		
	Y 4 [] []	AC50A						•	•	
io	*	AC60A							•	
Air Combination	Air Filter + Regulator	AC10B	•							
Com	AF AR	AC20B		•	•					
Air		AC25B			•	•				
		AC30B			•					
	1.55	AC40B			•	•	•			11
		AC40B-06						•		
		AC50B						0	•	
	•	AC55B							•	
		AC60B							•	
	Air Filter + Mist Separator + Regulator AF AFM AR	AC20C		•	•					
	AF AFIVI AN	AC25C			•	•				
		AC30C			•	•				15
		AC40C			0	0	0			
	77	AC40C-06						•		
	Filter Regulator + Mist Separator	AC20D		•	•					
	AW AFM	AC30D			•	•				19
		AC40D			•	•	•			וש
	ii min	AC40D-06						•		

Series Configuration

	P. J. J.					Port size	9			_
	Product	Model	M5	1/8	1/4	3/8	1/2	3/4	1	Page
	AF	AF10	0							
		AF20		•	•					
<u>0</u>	- Maria	AF30			•	0				
Air Filter		AF40			•	•	•			29
Ē	Taxaning 2 American State Control of the Control of	AF40-06						•		
		AF50						0	•	
	- 4	AF60							•	
to	AFM	AFM20		•	•					
Mist Separator		AFM30			•	•				39
st Se		AFM40			•	•	•			39
Z Sig	7 7	AFM40-06						•		
	AFD	AFD20		0						
Micro Mist Separator	B-550.	AFD30			•	•				39
//icro		AFD40			•	•	•			39
207	Ψ Ψ	AFD40-06						•		
	AR	AR10	0							
	-	AR20		•	•					•
_		AR25			•	•				
lato		AR30			•	0				47
Regulator		AR40			•	•				47
_		AR40-06						•		
		AR50						0	0	
		AR60								
	AR□K	AR20K		0	•					
r io	00000	AR25K			•	•				
Regulator with Backflow Function		AR30K			•	0				
ulato ow F		AR40K			0	0	0			47
Regu		AR40K-06						0		
Ba		AR50K						0	•	.
		AR60K							•	

Series Configuration

	Duaduat	Madal				Port size)			
	Product	Model	M5	1/8	1/4	3/8	1/2	3/4	1	Page
	AL	AL10	0							
		AL20		•	•					
ţ	648-44 22,722 p	AL30			•	•				
Lubricator	(-M2.	AL40			•	•	•			59
3		AL40-06						•		
		AL50						•	•	
	IEI	AL60							0	
	AW	AW10	0							
ator	1 4	AW20		•						
l l l l		AW30			•	•				67
Filter Regulator		AW40			•	•	•			"
분	¥ 111	AW40-06						0		
	*	AW60						•		
vith	AW□K	AW20K		•	•					
Filter Regulator with Backflow Function	1 4	AW30K			•	•				
egula		AW40K			•	•	•			67
ter R	6 1	AW40K-06						•		
E B	. •	AW60K						•	•	
t o	AWM _	AWM20		•						
Mist Separator Regulator		AWM30				•				79
Se	Ţ Ų	AWM40			•	0	0			
ist	AWD 💂 💄	AWD20		0						
Micro Mist Separator Regulator		AWD30			•	•				79
Mic Ser Reg	Ÿ W	AWD40			0	0	•			

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, such as additional machining, accessory assembly, or modular unit, and deliver such special products as quickly as standard products.

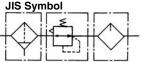
Repeat orders

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



Air Filter + Regulator + Lubricator

AC10 to AC60



How to Order

Air Filter Regulator Lubricator

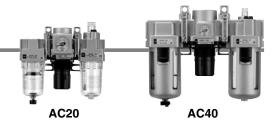
• Option/Attachment/Semi-standard symbol: When more than one $\dot{\rm s}$ specification is required, indicate in ascending alphanumeric order.

• Option/Semi-standard: Select one each for a to m.

Example) AC30-F03DE1-KSTV-136NR

								4				
			Symbol	Description								
			Symbol	υεοσημιστί	10	00	0.5		size	FO	FF	00
					10	20	25	30	40	50	55	60
				Metric thread (M5)		_	_	_	_	_	_	_
2	т	araad tura		Rc	_	•	•	•	•		•	
9	11	nread type	N Note 1)	NPT	_	•	•	•	•	•	•	
			F Note 2)	G	_	•	•	•	•	•	•	
			+									
			M5	M5		_	_	_	_	_	_	_
			01	1/8	_	•	_	-	_	_	_	_
			02	1/4	_	•	•	•	•	_	_	_
3		Port size	03	3/8		_	•	•	•		_	_
			04	1/2	_		_	_	•	_	_	_
			06	3/4		_		_	•	•	_	-
			10	1			_	_		•	•	•
			+	•				1			_	_
				Without auto drain								
	а	Float type	С	Float type auto drain (N.C.)		•		•		•		
	"	auto drain	D	Float type auto drain (N.O.)								
			+	riout typo duto diam (iv.o.)			_			_	_	_
				Without pressure gauge								
Note 3)			E					•				
Option		Pressure		Square embedded type pressure gauge (with limit indicator)								
) jtd		gauge	G	Round type pressure gauge (without limit indicator)				_				
ľ				Round type pressure gauge (with limit indicator)		•		•		•		
	b		M	Round type pressure gauge (with colour zone)		•		•	•	•	•	
		Digital	E1	Output: NPN output / Electrical entry: Wiring bottom entry	_	•	•	•	•	•	•	
		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								
			+					T			1	
	С	Check valve	_	Without attachment		•	•	•	•	•	•	
		Oncok varve	K	Mounting position: AF+AR+ K +AL					Note 4)	_	_	_
			+									
1_	ام	Pressure	_	Without attachment		•	•	•	•	•	•	
Je	d	switch	S Note 5)	Mounting position: AF+AR+S+AL	_	•	•	•	•	•	•	
ttachment			+					•	•		•	
ttac		T intenton	_	Without attachment	•	•	•	•	•		•	
⋖	е	T-interface	T Note 5)	Mounting position: AF+ T +AR+AL	•	•	•	•	•	•	•	•
			+									
		3-port valve for	_	Without attachment				•	•			
	f	residual pressure release	V	Mounting position: AF+AR+AL+V	_	•	•	•	•		_	-
			+	3 p								
				0.05 to 0.85 MPa setting		•	•	•	•	•	•	•
	g	Set pressure	1 Note 6)	0.02 to 0.2 MPa setting				•				
О			+			_	_		_			
dar				Polycarbonate bowl								
stance			2	Metal bowl		•	•	•	•	•	•	
ii-st			6	Nylon bowl				•				
Semi-standard	h	Bowl	8	-								_
S				Metal bowl with level gauge	<u> </u>							•
			С	With bowl guard	\vdash	•					_	-
			6C	Nylon bowl with bowl guard	$_{\rm I}$ $-$			L	-	ı —	-	I -

Air Combination Series AC10 to AC60



									(
				Symbol	Description				Body	size			
						10	20	25	30	40	50	55	60
				_	With drain cock		•	•	•	•	•	•	•
			Filter	J Note 8)	Drain guide 1/8	_	•	_	_	_		_	
		•	drain port Note 7)	J,	Drain guide 1/4	_	_	•	•	•	•	•	•
				W Note 9)	Drain cock with barb fitting: For ø6 x ø4 nylon tube	_	_	•	•	•	•	•	
				+									
			Lubricator Iubricant	_	Without drain cock	•	•	•	•	•	•	•	•
	ard	J	exhaust port	3 Note 10)	Lubricator with drain cock		•	•			•	•	
	Semi-standard			+									
6	sta	k	Exhaust	_	Relieving type	•	•	•	•	•	•	•	•
	Ë	,	mechanism	N	Non-relieving type		•	•		•	•	•	
	Se			+									
			Flow direction	_	Flow direction: Left to right		•	•		•	•	•	
		•	1 low direction	R	Flow direction: Right to left		•			•		•	
				+									
				_	Name plate and pressure gauge in imperial units: MPa		•	•	•	•	•	•	
		m	Pressure unit	Z Note 11)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, $^{\circ}\text{F}$	O ^{Note 13)}	Note 13)						
				ZA Note 12)	Digital pressure switch: With unit conversion function	L	Note 14)	Note 14)	△Note 14)	△Note 14)	△Note 14)	△Note 14)	△Note 14)

- Note 1) Drain guide is NPT1/8 (applicable to the AC20) and NPT1/4 (applicable to the AC25 to AC60). The auto drain port comes with a ø3/8" one-touch fitting (applicable to the AC25 to AC60).
- Note 2) Drain guide is G1/8 (applicable to the AC20) and G1/4 (applicable to the AC25 to AC60).

 Note 3) Option G and M are not assembled and supplied
- loose at the time of shipment.
- Note 4) Not available with piping port size: 06.
- Note 5) The bracket position varies depending on the T-interface or pressure switch mounting.
- Note 6) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is
- attached, a 0.2 MPa pressure gauge will be fitted.

 Note 7) Float type auto drain: The combination between C or D is not available with the drain port option.
- Note 8) Without a valve function
- Note 9) Metal bowl: The combination of 2 and 8 cannot be selected with W.
- Note 10) Filter drain port: When choosing with W, the drain cock of a lubricator will be with barb fittings.
- Note 11) For thread type: M5 and NPT. This product is for overseas use only according to the new
 Measurement Law. (The SI unit type is provided for use in Japan.) The digital pressure switch will be equipped with the unit conversion function, setting to psi initially.
 - MPa and psi are shown together on the pressure unit.
- Note 12) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)
- Note 13) O: For thread type: M5 and NPT only Note 14) △: Select with options: E1, E2, E3, E4.

Standard Specifications

Mod	lel	AC10	AC20	AC25	AC30	AC40	AC40-06	AC50	AC55	AC60			
	Air filter	AF10	AF20	AF30	AF30	AF40	AF40-06	AF50	AF60	AF60			
Component	Regulator	AR10	AR20	AR25	AR30	AR40	AR40-06	AR50	AR50	AR60			
	Lubricator	AL10	AL20	AL30	AL30	AL40	AL40-06	AL50	AL60	AL60			
Port size		M5	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1	1			
Pressure gauge	port size Note 1)	1/16		1/8				1/4					
Fluid						Air							
Ambient and fluid	temperature Note 2)				-5 to 60	O°C (with no fr	eezing)						
Proof press	sure					1.5 MPa							
Max. operatii	ng pressure					1.0 MPa							
Set pressu	re range	0.05 to 0.7 MPa 0.05 to 0.85 MPa											
Relief pres	sure		5	Set pressure	+ 0.05 MPa ^N	ote 3) [at relief fl	ow rate of 0.1	ℓ/min (ANR)]					
Nominal filtr	ation rating												
Recommend	ed lubricant	Class 1 turbine oil (ISO VG32)											
Bowl mater	rial				I	Polycarbonate)						
Bowl guard — Semi-standard Standard													
Regulator co	onstruction					Relieving type	;						
Mass (kg)		0.27	0.73	0.91	1.00	1.74	1.95	4.17	4.25	4.34			

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

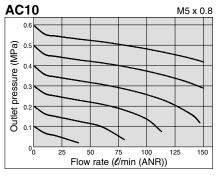
Note 3) Not applicable to the AC10.

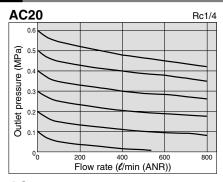


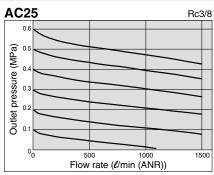
Series AC10 to AC60

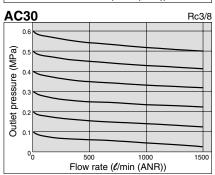
Flow Characteristics (Representative values)

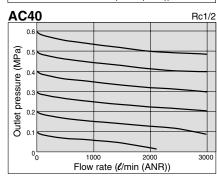
Condition: Inlet pressure 0.7 MPa

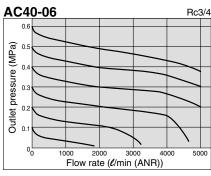


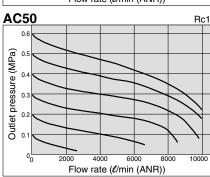


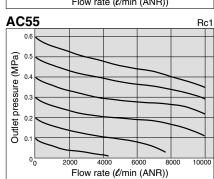


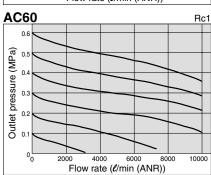






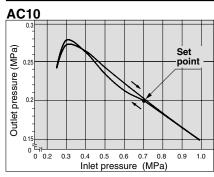


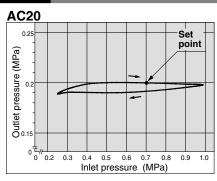


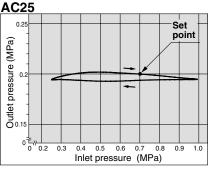


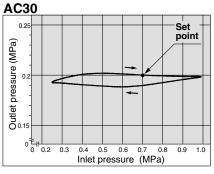
Pressure Characteristics (Representative values)

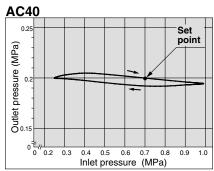
Conditions: Inlet pressure 0.7 MPa, Outlet pressure 0.2 MPa, Flow rate 20 t/min (ANR)

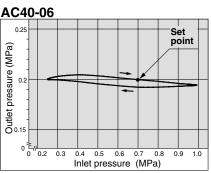






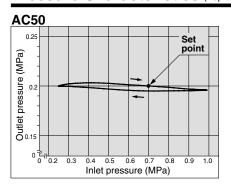


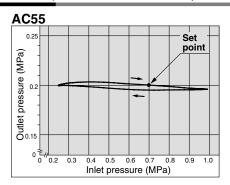


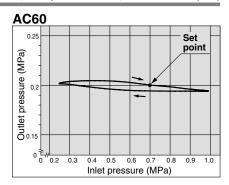


Pressure Characteristics (Representative values)

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







⚠ Specific Product Precautions

Mounting and Adjustment

 A knob cover is available to prevent careless operation of the knob. Refer to page 90 for details.

Piping

Marning

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

Air Supply

⚠ Caution

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

Selection

Marning

1. Float type auto drain

Operate under the following conditions to avoid malfunction.

<N.O. type>

• Operating compressor: 0.75 kW (100 t/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 t/min (ANR)) of the compressor capacity is required.

• Operating pressure: 0.1 MPa or more.

<N.C. type>

- Operating pressure for AD17/27: 0.1 MPa or more.
- Operating pressure for AD37/47: 0.15 MPa or more.
- 2. Use a regulator or filter regulator with backflow function when mounting a 3-port valve for residual pressure release on the IN side to ensure the release of the residual pressure. Otherwise, residual pressure will not be fully released.

⚠ Caution

 When releasing air at the intermediate position using a Tinterface on the inlet side of the lubricator, lubricant may back flow. Therefore, releasing air that does not contain traces of lubricant is not possible.

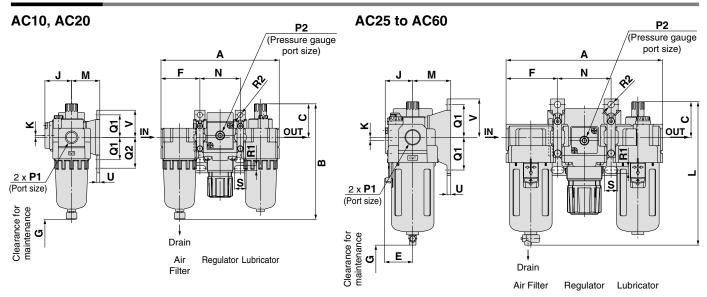
To release air that does not contain traces of lubricant, use a check valve (AKM series) on the inlet side of the lubricator to prevent a backflow of the lubricant.

- 2. If a residual pressure-release 3-port valve is mounted on the inlet side of the lubricator, causing a backflow of air, it can result in a backflow of oil or damage to internal parts. Please do not use it in this fashion.
- 3. An F.R.L. unit shipped from the plant has its model number labeled. However, components that are combined together during the distribution process do not have a label on them.



Series AC10 to AC60

Dimensions



Applicable model	AC20 to AC	C60	AC10 to AC60	AC20 to AC60
Option	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with colour zone)
Dimensions	Centre of piping	Centre of piping	±	Centre of piping

Applicable model		AC20	AC20			AC25 to AC60		
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting
Dimensions	M 5	B		N.O.: Black N.C.: Gray e10 one-touch fitting	8	a a	Midth across flats 17	Barb fitting Applicable tubing: T0604

				011		.6							Op	tional sp	ecificatio	ns		
Model				Stand	ard spe	cification	าร					re type re gauge	Dig	ital e switch	Roun	d type e gauge	Round type gauge (with	e pressure colour zone)
	P1	P2	Α	В	С	Е	F	G	J	K	Н	J	Н	J	Н	J	Н	J
AC10	M5 x 0.8	1/16	87	85	26	_	28	35	13	0	_	_	_	-	ø26	26	_	_
AC20	1/8, 1/4	1/8	126	123	36	_	41.5	60	28.5	2 ^{Note)}	□28	29.5	□27.8	40	ø37.5	65	ø37.5	65
AC25	1/4, 3/8	1/8	167	153	38	30	55	80	27.5	0	□28	28.5	□27.8	39	ø37.5	64	ø37.5	64
AC30	1/4, 3/8	1/8	167	153	38	30	55	80	29.5	3.5	□28	30.5	□27.8	41	ø37.5	66	ø37.5	66
AC40	1/4, 3/8, 1/2	1/4	220	187	40	38	72.5	110	34	3.5	□28	35	□27.8	45	ø42.5	74	ø42.5	74
AC40-06	3/4	1/4	235	187	38	38	77.5	110	34	3	□28	35	□27.8	45	ø42.5	74	ø42.5	74
AC50	3/4, 1	1/4	282	264	43	45	93	110	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84
AC55	1	1/4	292	279	45	47.5	98	110	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84
AC60	1	1/4	297	280	46	47.5	98	110	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84

					Optional	specificat	ions					Semi-standard	specification	s
Model				Br	acket mo	unt				With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge
	М	N	Q1	Q2	R1	R2	S	U	٧	В	В	В	В	В
AC10	25	31	20	27	4.5	ø4.5	7	2.8	24.5	104	_	_	85	_
AC20	30	43	24	33	5.5	ø5.5	12	3.2	29	141	_	127	123	_
AC25	41	57	35	_	7	ø7	14	4	41	194	161	160	166	186
AC30	41	57	35	_	7	ø7	14	4	41	194	161	160	166	186
AC40	50	75	40	_	9	ø9	18	4	48	226	195	194	200	220
AC40-06	50	80	40	_	9	ø9	18	4.6	48	226	195	194	200	220
AC50	70	96	50	_	11	ø11	20	6.4	60	303	272	271	276	296
AC55	70	96	50	_	11	ø11	20	6.4	60	318	287	286	292	312
AC60	70	101	50	_	11	ø11	20	6.4	60	319	288	287	293	313

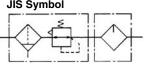
Note) For the AC20 only, the position of the pressure gauge is above the centre of the piping.





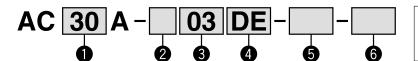
Filter Regulator + Lubricator

AC10A to AC60A



How to Order

Filter Regulator Lubricator



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

	_	_									
				Symbol	Description			Body	/ size		
						10	20	30	40	50	60
					Metric thread (M5)	•	_	_	_		
				_	Rc	_	•	•	•	•	•
2		11	nread type	N Note 1)	NPT	_	•	•	•	•	•
				F Note 2)	G	_	•	•	•	•	•
				+			•				
				M5	M5		_	_	_	_	_
				01	1/8	_	•	_	_		_
				02	1/4	_	•	•	•		_
8			Port size	03	3/8	_	_	•	•		
				04	1/2		_	_	•		_
				06	3/4		_	_	•	•	_
				10	1					•	
				+							
			Float type		Without auto drain		•	•	•	•	•
		а	auto drain	С	Float type auto drain (N.C.)	•	•	•	•	•	•
				D	Float type auto drain (N.O.)					•	
				+	fithout pressure gauge				_		
	Note 3)				Without pressure gauge		•	•	•	•	•
	Option		Pressure	E	Square embedded type pressure gauge (with limit indicator)	_	•	•	•	•	•
4	[B		gauge	G	Round type pressure gauge (without limit indicator)				_		
					Round type pressure gauge (with limit indicator)		•	•	•	•	•
		b		M	Round type pressure gauge (with colour zone)	_	•	•	•	•	•
			Digital	E1	Output: NPN output / Electrical entry: Wiring bottom entry	_	•	•	•	•	•
			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					•	
					Without attachment						
		С	Check valve	K	Mounting position: AW+ K +AL				Note 4)		
	<u>+</u> _			+	Mounting position. AW+ K +AL						
	Attachment		Draggira	Nil	Without attachment					_	
6	냥	d	Pressure switch	S Note 5)	Mounting position: AW+S+AL						
	\tta		OWITOH	+	Modifiling position. AW+3+AL						
			3-port valve for	<u> </u>	Without attachment					_	
		е	residual pressure release	٧	Mounting position: AW+AL+ V						
			i cicase	+	meaning poolion received						
				Ė	0.05 to 0.85 MPa setting	•	•	•	•	•	
		f	Set pressure	1 Note 6)	0.02 to 0.2 MPa setting		•	•	•	•	
				+							
				_	Polycarbonate bowl		•	•	•	•	
	_			2	Metal bowl	•	•	•	•	•	•
	larc		5 .	6	Nylon bowl	•	•	•	•	•	•
	Semi-standard	g	Bowl	8	Metal bowl with level gauge	_	_	•	•	•	•
6	i-st			С	With bowl guard	_	•	_	_	_	
	em			6C	Nylon bowl with bowl guard	_	•	_	_	_	_
	S			+							
				_	With drain cock	•	•	•	•	•	•
		h	Filter regulator	Note 8)	Drain guide 1/8	_	•	_			
		"	drain port Note 7)	J/	Drain guide 1/4	_	_	•	•	•	•
				W Note 9)	Drain cock with barb fitting: For ø6 x ø4 nylon tube		_	•	•	•	•

Air Combination Series AC10A to AC60A



	_	_							(
				Symbol	Description				Body	size		
						•	10	20	30	40	50	60
		i	Lubricator lubricant	_	Without drain cock		•	•	•	•	•	•
		1	exhaust port	3	Lubricator with drain cock		•	•	•	•	•	•
				+								
			Exhaust	_	Relieving type		•	•	•	•	•	•
	dar	J	mechanism	N	Non-relieving type		•	•	•	•	•	•
6	Semi-standard			+								
U	i-st	k	Flow direction	_	Flow direction: Left to right		•	•	•	•	•	•
	è	,	riow direction	R	Flow direction: Right to left		•	•	•	•	•	•
	0)			+								
				_	Name plate and pressure gauge in imperial units: MPa		•	•	•	•	•	•
		ı	Pressure unit	Z Note 10)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	0	Note 12)	ONote 12)	O Note 12)	ONote 12)	O Note 12)	Note 12)
				ZA Note 11)	Digital pressure switch: With unit conversion function		_	△ Note 13)				

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

- fitting (applicable to the AC30A to AC60A).

 Note 2) Drain guide is G1/8 (applicable to the AC20A) and G1/4 (applicable to the AC30A to AC60A).
- Note 3) Option G, M are not assembled and supplied loose at the time of shipment.
- Note 4) Not available with piping port size: 06. Note 5) The bracket position varies depending on the
- Note 5) The bracket position varies depending on the pressure switch mounting.
- Note 6) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.2 MPa pressure gauge will be fitte
- attached, a 0.2 MPa pressure gauge will be fitted.

 Note 7) Float type auto drain: The combination between C or D is not available with the drain port option.
- Note 8) Without a valve function
- Note 9) Metal bowl: The combination of 2 and 8 cannot be selected with W.

Note 10) For thread type: M5 and NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) The digital pressure switch will be equipped with the unit conversion function, setting to psi initially.

MPa and psi are shown together on the pressure unit.

Note 11) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)

Note 12) O: For thread type: M5 and NPT only Note 13) A: Select with options: E1, E2, E3, E4.

Standard Specifications

	Model	AC10A	AC20A	AC30A	AC40A	AC40A-06	AC50A	AC60A
0	Filter regulator	AW10	AW20	AW30	AW40	AW40-06	AW60	AW60
Component	Lubricator	AL10	AL20	AL30	AL40	AL40-06	AL50	AL60
Port size		M5	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Pressure gau	ige port size Note 1)	1/16	1/	8		1/	' 4	
Fluid					Air			
Ambient and	fluid temperature Note 2)			–5 to 6	60°C (with no fre	eezing)		
Proof pressu	re				1.5 MPa			
Maximum op	erating pressure				1.0 MPa			
Set pressure	range	0.05 to 0.7 MPa			0.05 to 0).85 MPa		
Relief pressu	ire		Set pressur	e + 0.05 MPa	Note 3) [at relief flo	ow rate of 0.1 ℓ/r	min (ANR)]	
Nominal filtra	ation rating				5 μm			
Recommende	ed lubricant			Class 1	turbine oil (ISC) VG32)		
Bowl materia	ıl				Polycarbonate			
Bowl guard		_	Semi-standard			Standard		
Regulator co	nstruction				Relieving type			
Mass (kg)		0.20	0.59	0.75	1.41	1.46	3.33	3.40

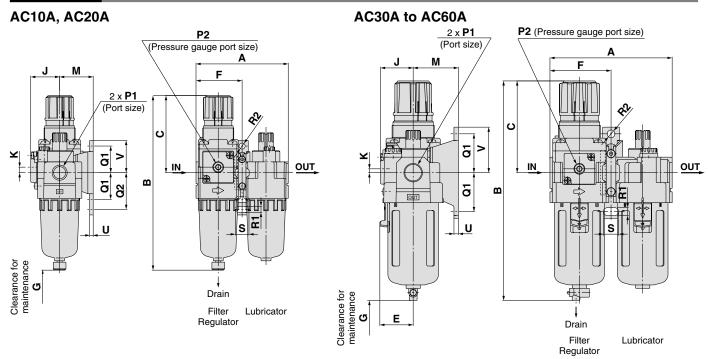
Note 1) Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch (AC20A to AC60A). Note 2) –5 to 50°C for the products with the digital pressure switch

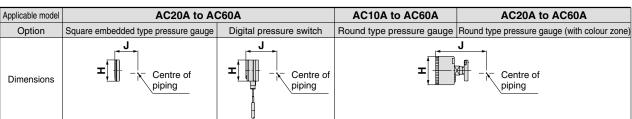
Note 3) Not applicable to the AC10A.



Series AC10A to AC60A

Dimensions





Applicable model			AC20A		,	AC30A to AC60A	4	
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting
Dimensions	M 5		1/8	N.O.: Black N.C.: Gray e10 one-louch fitting	8	8	m 1/4 Width across flats 17	Barb fitting Applicable tubing: T0604

AC10A AC20A AC30A				04		_!£! 1!							Op	tional sp	ecificatio	ns		
Model				Stand	ard spe	cification	15					re type re gauge	Dig pressure		Round		Round typ gauge (with	e pressure colour zone)
	P1	P2	Α	B Note)	С	Е	F	G	J	K	Н	J	Н	J	Н	J	Н	J
AC10A	M5 x 0.8	1/16	56	108	48	_	28	35	13	0	_	_	_		ø26	26	_	
AC20A	1/8, 1/4	1/8	83	160	73	_	41.5	60	26	5	□28	27	□27.8	37.5	ø37.5	63	ø37.5	63
AC30A	1/4, 3/8	1/8	110	201	86	30	55	80	29.5	3.5	□28	30.5	□27.8	41	ø37.5	66	ø37.5	66
AC40A	1/4, 3/8, 1/2	1/4	145	239	92	38	72.5	110	37.5	1.5	□28	38.5	□27.8	49	ø42.5	76	ø42.5	76
AC40A-06	3/4	1/4	155	242	93	38	77.5	110	37.5	1.2	□28	38.5	□27.8	49	ø42.5	76	ø42.5	76
AC50A	3/4, 1	1/4	191	409	175	_	98	110	43.5	3.2	□28	44.5	□27.8	61.5	ø42.5	84	ø42.5	84
AC60A	1	1/4	196	409	175	_	98	110	43.5	3.2	□28	44.5	□27.8	61.5	ø42.5	84	ø42.5	84

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

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

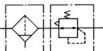




Air Filter + Regulator

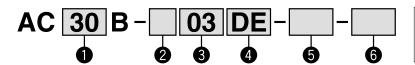
AC10B to AC60B





Regulator

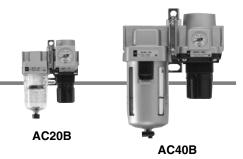
How to Order



- Option/Attachment/Semi-standard symbol: When more than one
- specification is required, indicate in ascending alphanumeric order. Example) AC30B-F03DE1-SV-16NR

	\	_							(
				Symbol	Description					size			
						10	20	25	30	40	50	55	60
					Metric thread (M5)	•	_	_	_		_	_	_
2		TL	araad tura		Rc	_	•	•	•	•	•	•	•
9		11	read type	Note 1)	NPT	_	•	•	•	•	•	•	•
				F Note 2)	G	_	•	•	•	•	•		
				+									
				M5	M5		_	_	_	_	_		
				01	1/8	_	•	_	_	_	_		
				02	1/4		•	•	•	•	_		
8		١	Port size	03	3/8		_	•	•	•		_	
				04	1/2	_	_	_	_	•	_	_	
				06	3/4	_	_	_	_	•	•		
				10	1				_		•	•	
				+									
			Float type	_	Without auto drain								
		а	auto drain	С	Float type auto drain (N.C.)				•	•	•		
				D	Float type auto drain (N.O.)				•				
				+	NACAL COLD TO THE								
	Note 3)			_	Without pressure gauge				•		•		
	Option		Pressure	E	Square embedded type pressure gauge (with limit indicator)	-	•		•	•	•		
4	5 bt		gauge	G	Round type pressure gauge (without limit indicator)								
		L .		М	Round type pressure gauge (with limit indicator)	-	•		•				
		b		E1	Round type pressure gauge (with colour zone) Output: NPN output / Electrical entry: Wiring bottom entry								
			Digital	E2	Output: NPN output / Electrical entry: Wiring bottom entry Output: NPN output / Electrical entry: Wiring top entry	$\vdash \equiv$							
			pressure	E3	Output: PNP output / Electrical entry: Wiring top entry Output: PNP output / Electrical entry: Wiring bottom entry	_							
			switch	E4	Output: PNP output / Electrical entry: Wiring bottom entry Output: PNP output / Electrical entry: Wiring top entry	<u> </u>							
				+	Output. FIVE output / Liectrical entry. Willing top entry								
			Pressure	_	Without attachment								
		С	switch	S Note 4)	Mounting position: AF+S+AR								
	ent		T-interface	T Note 4)	Mounting position: AF+ T +AR			•					
6	l H		1 mioriado	+	Modriting position. 7 to 7 t								
	Attachment		3-port valve for	Nil	Without attachment		•	•	•	•	•	•	
	A	d	residual pressure	٧	Mounting position: AF+AR+V		•	•	•	•	•		
				V1 Note 5)	Mounting position: V +AF+AR□K		•	•	•	•	•	_	
				+	5.1								
			Cod mark a surre	_	0.05 to 0.85 MPa setting	•	•	•	•	•	•	•	•
		е	Set pressure	1 Note 6)	0.02 to 0.2 MPa setting	•	•	•	•	•	•	•	•
				+									
				_	Polycarbonate bowl	•	•	•	•	•	•	•	•
	٥			2	Metal bowl		•	•	•	•	•	•	•
	Semi-standard	f	Bowl	6	Nylon bowl		•	•	•	•	•	•	•
6	tan	•	DOWI	8	Metal bowl with level gauge			•	•	•	•	•	•
•	ni-s			С	With bowl guard		•	_		_	_		
	Sen			6C	Nylon bowl with bowl guard								
				+									
				_	With drain cock		•	•	•	•	•		
		g	Filter	J Note 8)	Drain guide 1/8		•		_	_	_	_	
		9	drain port Note 7)	•	Drain guide 1/4	<u> </u>		•	•	•	•	•	
				W Note 9)	Drain cock with barb fitting: For ø6 x ø4 nylon tube								

Air Combination Series AC10B to AC60B



		_							(
				Symbol	Description				Body	size			
						10	20	25	30	40	50	55	60
		h	Exhaust	_	Relieving type		•	•	•	•	•	•	•
		n	mechanism	N	Non-relieving type	•	•	•	•	•	•	•	•
	rd la			+									
	lde		Flow direction	_	Flow direction: Left to right		•	•	•	•	•	•	•
6	stal		riow direction	R	Flow direction: Right to left	•	•	•	•	•	•	•	•
	Semi-standard			+									
	Se			_	Name plate and pressure gauge in imperial units: MPa		•	•	•	•	•	•	•
		j	Pressure unit	Z Note 10)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	Note 12)	\cup	O ^{Note 12)}		\cup		O ^{Note 12)}	O ^{Note 12)}
				ZA Note 11)	Digital pressure switch: With unit conversion function		△Note 13)	△Note 13)	△Note 13)	△Note 13)	△Note 13)	△Note 13)	△Note 13)

- Note 1) Drain guide is NPT1/8 (applicable to the AC20B) and NPT1/4 (applicable to the AC25B to AC60B) The auto drain port comes with a ø3/8" one-touch
- fitting (applicable to the AC25B to AC60B).

 Note 2) Drain guide is G1/8 (applicable to the AC20B) and G1/4 (applicable to the AC25B to AC60B). Note 3) Option G, M are not assembled and supplied
- loose at the time of shipment.

 Note 4) The bracket position varies depending on the Tinterface or pressure switch mounting.
- Note 5) The regulator is equipped with a backflow function in this configuration. Additionally, for safety purposes, please check that the pressure in the outlet side is turned to the atmospheric pressure once the pressure in the outlet side is exhausted, by using a pressure gauge, etc.
- Note 6) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is
- attached, a 0.2 MPa pressure gauge will be fitted. Note 7) Float type auto drain: The combination between C or D is not available with the drain port option.
- Note 8) Without a valve function
- Note 9) Metal bowl: The combination of 2 and 8 cannot be selected with W.
- Note 10) For thread type: M5 and NPT. This product is for overseas use only according to the new
 Measurement Law. (The SI unit type is provided
 for use in Japan.) The digital pressure switch will
 be equipped with the unit conversion function, setting to psi initially. MPa and psi are shown together on the pressure
- unit. Note 11) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)
- Note 12) O: For thread type: M5 and NPT only Note 13) \triangle : Select with options: E1, E2, E3, E4.

Standard Specifications

ı	Model	AC10B	AC20B	AC25B	AC30B	AC40B	AC40B-06	AC50B	AC55B	AC60B
0	Air filter	AF10	AF20	AF30	AF30	AF40	AF40-06	AF50	AF60	AF60
Component	Regulator	AR10	AR20	AR25	AR30	AR40	AR40-06	AR50	AR50	AR60
Port size		M5	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1	1
Pressure gau	uge port size Note 1)	1/16		1/8				1/4		
Fluid						Air				
Ambient and fl	uid temperature Note 2)				-5 to 60	°C (with no f	reezing)			
Proof pressu	ire					1.5 MPa				
Maximum op	erating pressure					1.0 MPa				
Set pressure	range	0.05 to 0.7 MPa				0.05 to 0	.85 MPa			
Relief pressu	ıre		Set	pressure +	0.05 MPa ^{No}	ote 3) [at relief	flow rate of 0	.1 <i>l</i> /min (AN	IR)]	
Nominal filtra	ation rating					5 μm				
Bowl materia	ıl				F	Polycarbonat	е			
Bowl guard		_	Semi-standard				Standard			
Regulator co	nstruction				ı	Relieving typ	e			
Mass (kg)		0.16	0.51	0.55	0.63	1.12	1.16	2.44	2.45	2.54

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

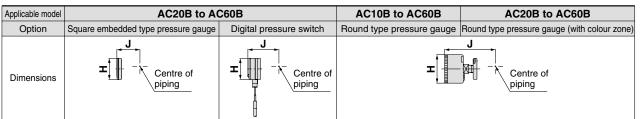
Note 3) Not applicable to the AC10B.



Series AC10B to AC60B

Dimensions

AC10B, AC20B AC25B to AC60B P2 **P2** (Pressure (Pressure gauge port size) gauge port size) ၓ ن TUO, OUT <u>IN</u> ဗ m 2 x P1 (Port size) Ω 2 x **P1** (Port size) Clearance for maintenance Clearance for maintenance Drain Air Filter Regulator Drain Air Filter Regulator



Applicable model		AC20B	AC20B		,	AC25B to AC60E	3	
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting
Dimensions	M 5			N.O.: Black N.C.: Gray e10 one-touch fitting		a a	1/4 Width across flats 17	Barb fitting Applicable tubing: T0604

				٥									Op	tional sp	ecificatio	ns		
Model				Stand	ard spe	cification	าร					re type re gauge	Dig pressure		Round		Round type gauge (with	
	P1	P2	Α	В	С	Е	F	G	J	K	Н	J	Н	J	Н	J	Н	J
AC10B	M5 x 0.8	1/16	56	71	11	_	28	25	13	0	_	_	_	I	ø26	26	_	_
AC20B	1/8, 1/4	1/8	83	114	26.5	_	41.5	40	28.5	2 Note)	□28	29.5	□27.8	40	ø37.5	65	ø37.5	65
AC25B	1/4, 3/8	1/8	110	143	28	30	55	50	27.5	0	□28	28.5	□27.8	39	ø37.5	64	ø37.5	64
AC30B	1/4, 3/8	1/8	110	146	31	30	55	50	29.5	3.5	□28	30.5	□27.8	41	ø37.5	66	ø37.5	66
AC40B	1/4, 3/8, 1/2	1/4	145	183	36	38	72.5	75	34	3.5	□28	35	□27.8	45	ø42.5	74	ø42.5	74
AC40B-06	3/4	1/4	155	185	36	38	77.5	75	34	3	□28	35	□27.8	45	ø42.5	74	ø42.5	74
AC50B	3/4, 1	1/4	186	263	43	45	93	20	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84
AC55B	1	1/4	191	277	43	47.5	98	20	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84
AC60B	1	1/4	196	280	46	47.5	98	20	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84

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

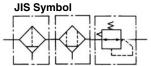
Note) For the AC20B only, the position of the pressure gauge is above the centre of the piping.





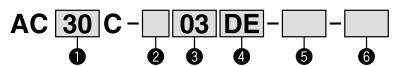
Air Filter + Mist Separator + Regulator

AC20C to AC40C



How to Order

Air Filter Mist Separator Regulator



- Option/Semi-standard: Select one each for **a** to **j**.
 Option/Attachment/Semi-standard symbol: When more than o
- Option/Attachment/Semi-standard symbol: When more than one specification is required, indicate in ascending alphanumeric order. Example) AC30C-F03DE1-SV-16NR

	_						6		
		_	_	Symbol	Description		Body		
				Cymbol	Becomption	20	25	30	40
				_	Rc	•	•	•	•
2		Th	nread type	N Note 1)	NPT	•	•	•	•
				F Note 2)	G	•	•	•	•
				+					
				01	1/8			_	_
				02	1/4		•	•	•
8			Port size	03	3/8		•	•	•
				04	1/2		<u> </u>		•
				06	3/4	_	†	_	•
				+	***				
					Without auto drain		•	•	•
		а	Float type	С	Float type auto drain (N.C.)	•	•	•	•
		-	auto drain	D	Float type auto drain (N.O.)		•	•	•
				+	75 ()				
	Note 3)				Without pressure gauge			•	
	u		Pressure	E	Square embedded type pressure gauge (with limit indicator)				
4	Option		gauge	G	Round type pressure gauge (with limit indicator)				
	0	b	995	M	Round type pressure gauge (with colour zone)				
				E1	Output: NPN output / Electrical entry: Wiring bottom entry				
			Digital	E2	Output: NPN output / Electrical entry: Wiring bottom entry				
			pressure	E3	Output: PNP output / Electrical entry: Wiring bottom entry				
			switch	E4	Output: PNP output / Electrical entry: Wring bottom entry				
				+	Output: 1 Wi Output / Electrical Critis. Writing top critis				
			Pressure		Without attachment				
		С	switch	S Note 4)	Mounting position: AF+AFM+S+AR				
	ent		T-interface	T Note 4)	Mounting position: AF+AFM+ T +AR			<u> </u>	
6	Ĕ		T-IIIICIIACC	+	Mounting position. At the Mitter				
U	Attachment			•	Without attachment				
	¥	d	3-port valve for residual pressure		Mounting position: AF+AFM+AR+V				
		u	release	V1 Note 5)	Mounting position: V+AF+AFM+AR□K				
				+	Modifiling position. V+Ar+Ar M+An□N				
				T	0.05 to 0.85 MPa setting				
		е	Set pressure	1 Note 6)	0.02 to 0.2 MPa setting				
				+	0.02 to 0.2 MFa setting				
				T	Polycarbonate bowl				
				2	Metal bowl			-	•
				6	Nylon bowl				
	0	f	Bowl		Metal bowl with level gauge				
	Semi-standard			8 C	With bowl guard				
6	tan			6C	Nylon bowl with bowl guard		+		_
J	i-Si			+	Trylon bowl with bowl gualu				
	Sen				With drain cock				
	0)		Filter		Drain guide 1/8				
		g	Mist separator	J Note 8)	Drain guide 1/4		•	•	•
			drain port Note 7)	W Note 9)	Drain cock with barb fitting: For ø6 x ø4 nylon tube			•	•
				+	Drain cook with bail fitting. I of 90 x 94 hylon tube				
			Enhancet	r —	Relieving type	•		_	
		h	Exhaust mechanism						
			meenament	N	Non-relieving type				

Air Combination Series AC20C to AC40C



		_		Symbol	Description		Body s	size	
					·	20	25	30	40
			Eleccidica di ca	_	Flow direction: Left to right	•	•	•	•
	-standard	ı	Flow direction	R	Flow direction: Right to left	•	•	•	•
6	lau l			+					
v	i-st			_	Name plate and pressure gauge in imperial units: MPa	•	•	•	•
	Semi	j	Pressure unit	Z Note 10)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	Note 12)	Note 12)	Note 12)	Note 12)
	(O)			ZA Note 11)	Digital pressure switch: With unit conversion function	△ Note 13)	△Note 13)	△Note 13)	△Note 13)

- Note 1) Drain guide is NPT1/8 (applicable to the AC20C) and NPT1/4 (applicable to the AC30C to AC40C). The auto drain port comes with a ø3/8" one-touch fitting (applicable to the AC30C to AC40C).
- Note 2) Drain guide is G1/8 (applicable to the AC20C) and G1/4 (applicable to the AC30C to AC40C).
- Note 3) Option G, M are not assembled and supplied loose at the time of shipment.
- Note 4) The bracket position varies depending on the Tinterface or pressure switch mounting.
- Note 5) The regulator is equipped with a backflow function in this configuration. Additionally, for safety purposes, please check that the pressure in the outlet side is turned to the atmospheric pressure once the pressure in the outlet side is exhausted, by using a pressure gauge, etc.
- Note 6) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.2 MPa pressure gauge will be fitted.
- Note 7) Float type auto drain: The combination between C or D is not available with the drain port option.
- Note 8) Without a valve function
- Note 9) Metal bowl: The combination of 2 and 8 cannot be selected with W.
- Note 10) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) The digital pressure switch will be equipped with the unit conversion function, setting to psi initially.
 - MPa and psi are shown together on the pressure unit.
- Note 11) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)
- Note 12) O: For thread type: NPT only
 Note 13) \triangle : Select with options: E1, E2, E3, E4.

Standard Specifications

	Model	AC20C	AC25C	AC30C	AC40C	AC40C-06						
	Air filter	AF20	AF30	AF30	AF40	AF40-06						
Component	Mist separator	AFM20	AFM30	AFM30	AFM40	AFM40-06						
	Regulator	AR20	AR25	AR30	AR40	AR40-06						
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4						
Pressure gau	ige port size Note 1)		1/8		1/	4						
Fluid				Air								
Ambient and	fluid temperature Note 2)		−5 t	o 60°C (with no freez	ing)							
Proof pressu	re	1.5 MPa										
Maximum op	erating pressure	1.0 MPa										
Minimum ope	erating pressure			0.05 MPa								
Set pressure	range	0.05 to 0.85 MPa										
Relief pressu	re	Set pressure + 0.05 MPa [at relief flow rate of 0.1 ℓ/min (ANR)]										
Nominal filtra	ation rating		AF: 5 μm, AFM	: 0.3 μm (99.9% filtere	ed particle size)							
Outlet side o	il mist concentration		Max. 1.0 mg	y/m³ (ANR) (≈ 0.8 ppn	n) Note 4) Note 5)							
Rated flow (d	min (ANR)) Note 3)	200	450	450	1100	1100						
Bowl materia	I	Polycarbonate										
Bowl guard		Semi-standard Standard										
Regulator co	nstruction	Relieving type										
Mass (kg)		0.74	0.88	0.95	1.76	1.83						

Note 1) Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch (AC20C to AC40C). Note 2) –5 to 50°C for the products with the digital pressure switch.

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

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



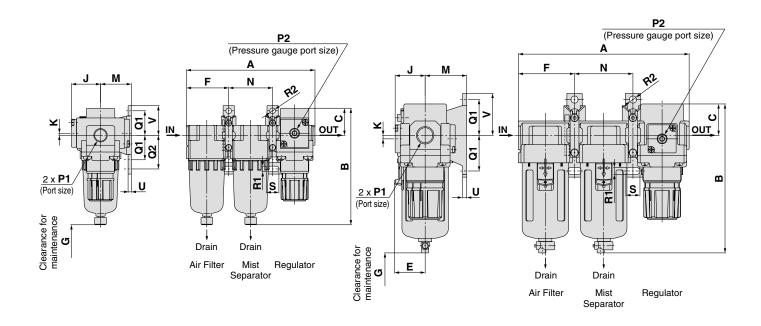
Note 3) Conditions: Mist separator inlet pressure: 0.7 MPa; The rated flow varies depending on the inlet pressure. Keep the air flow within the rated flow to prevent an outflow of lubricant to the outlet side.

Series AC20C to AC40C

Dimensions

AC20C

AC25C to AC40C-06



Applicable i	nodel		AC20C	to AC40C-06	
Optio	n S	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with colour zone)
Dimensi	ons	Centre of piping	Centre of piping	H	Centre of piping

Applicable model		AC20C			AC	C25C to AC40C-	06	
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting
Dimensions	M 5	a	1/8 Width across flats 14	N.O.: Black N.C.: Gray e10 one-louch fitting	a		1/4 Width across flats 17	Barb fitting Applicable tubing: T0604

		Standard specifications											Op	tional sp	ecificatio	ns		
Model				Stand	ard spec	cificatioi	าร				Square type pressure gauge		Digital pressure switch		Round	d type e gauge	Round type pressure gauge (with colour zone)	
	P1	P2	Α	В	С	Е	F	G	J	K	Н	J	Н	J	Н	J	Н	J
AC20C	1/8, 1/4	1/8	126	114	26.5	I	41.5	45	28.5	2 Note)	□28	29.5	□27.8	40	ø37.5	65	ø37.5	65
AC25C	1/4, 3/8	1/8	167	143	28	30	55	50	27.5	0	□28	28.5	□27.8	39	ø37.5	64	ø37.5	64
AC30C	1/4, 3/8	1/8	167	146	31	30	55	50	29.5	3.5	□28	30.5	□27.8	41	ø37.5	66	ø37.5	66
AC40C	1/4, 3/8, 1/2	1/4	220	183	36	38	72.5	75	34	3.5	□28	35	□27.8	45	ø42.5	74	ø42.5	74
AC40C-06	3/4	1/4	235	185	36	38	77.5	75	34	3	□28	35	□27.8	45	ø42.5	74	ø42.5	74

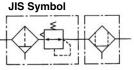
					Optional	specificat	tions				Semi-standard specifications					
Model				Br	acket mo	unt				With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge		
	М	N	Q1	Q2	R1	R2	S	U	V	В	В	В	В	В		
AC20C	30	43	24	33	5.5	ø5.5	12	3.2	29	132		118	114	_		
AC25C	41	57	35	_	7	ø7	14	4	41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

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

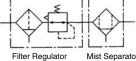




Filter Regulator + Mist Separator AC20D to AC40D



How to Order

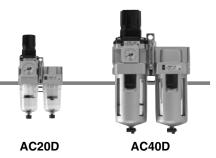


AC	30	D –	03	DE	_	-
		-	ß	4	6	a

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

						0	
			Symbol	Description		Body size	
				·	20	30	40
				_		_	
				Rc	•	•	•
2	TI	hread type	N Note 1)	NPT	•	•	•
			F Note 2)	G	•	•	•
			+		_		
			01	1/8	•	_	
_			02	1/4	•	•	•
3		Port size	03	3/8		•	•
			04	1/2		_	<u> </u>
			06	3/4		_	•
			+				
		Float type	_	Without auto drain	•	•	•
	а	auto drain	С	Float type auto drain (N.C.)	•	•	•
		auto diairi	D	Float type auto drain (N.O.)	_	•	•
			+				
Note :	'		_	Without pressure gauge	•	•	•
S G		Pressure	Е	Square embedded type pressure gauge (with limit indicator)	•	•	•
4 Option	-	gauge	G	Round type pressure gauge (with limit indicator)	•	•	•
	b		М	Round type pressure gauge (with colour zone)	•	•	•
			E1	Output: NPN output / Electrical entry: Wiring bottom entry	•	•	•
		Digital	E2	Output: NPN output / Electrical entry: Wiring top entry		•	•
		pressure	E3	Output: PNP output / Electrical entry: Wiring bottom entry		•	•
		switch E3		Output: PNP output / Electrical entry: Wiring bettern entry			
			+	Output. 1 141 Output / Electrical Chary. Willing top chary			
		Pressure		Without attachment			
<u>+</u>	С	switch	S Note 4)	Mounting position: AW+S+AFM			
4ttachment			+	Mounting position. AWTOTAL M			
5 ਤੋਂ				Without attachment			
\tta	d	3-port valve for residual pressure		Mounting position: AW+AFM+V			
`	u	release	V1 Note 5)	Mounting position: V+AW□K+AFM			
		10.00.00	+	Mounting position. V+AVV—R+AFM			
				0.05 to 0.05 MDs setting			
	е	Set pressure	1 Note 6)	0.05 to 0.85 MPa setting			
			•	0.02 to 0.2 MPa setting			
			+				
				Polycarbonate bowl			
			2	Metal bowl	•	•	•
	f	Bowl	6	Nylon bowl	•	•	
			8	Metal bowl with level gauge		•	•
Ģ.			С	With bowl guard	•	_	
dai			6C	Nylon bowl with bowl guard	•	_	
stan	I		+				
Semi-standard		Ciltor ve surlata	_	With drain cock	•	•	•
Sen		Filter regulator Mist separator	Note 8)	Drain guide 1/8	•	_	
0)	g	drain port Note 7)		Drain guide 1/4	_	•	•
			W Note 9)	Drain cock with barb fitting: For ø6 x ø4 nylon tube		•	•
			+				
	J.	Exhaust	_	Relieving type	•	•	•
	h	mechanism	N	Non-relieving type	•	•	•
			+				
				Flow direction: Left to right	•	•	•
	i	Flow direction	R	Flow direction: Right to left	•	•	•
						_	

Air Combination Series AC20D to AC40D



	Symbol —		Symbol	Description		Body size	
					20	30	40
			_	Name plate and pressure gauge in imperial units: MPa	•	•	•
6 5	j	Pressure unit	Z Note 10)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	Note 12)	Note 12)	Note 12)
Sen			ZA Note 11)	Digital pressure switch: With unit conversion function	△ Note 13)	△ Note 13)	△ Note 13)

- Note 1) Drain guide is NPT1/8 (applicable to the AC20D) and NPT1/4 (applicable to the AC30D to AC40D). The auto drain port comes with a ø3/8" one-touch fitting (applicable to the AC30D to AC40D).
- Note 2) Drain guide is G1/8 (applicable to the AC20D) and G1/4 (applicable to the AC30D to AC40D).
- Note 3) Option G, M are not assembled and supplied loose at the time of shipment.
- Note 4) The bracket position varies depending on the pressure switch mounting.
- Note 5) The regulator is equipped with a backflow function in this configuration. Additionally, for safety purposes, please check that the pressure in the outlet side is turned to the atmospheric pressure once the pressure in the outlet side is exhausted, by using a pressure gauge, etc.
- by using a pressure gauge, etc.

 Note 6) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.2 MPa pressure gauge will be fitted.
- Note 7) Float type auto drain: The combination between C or D is not available with the drain port option.

 Note 8) Without a valve function
- Note 9) Metal bowl: The combination of 2 and 8 cannot be selected with W.
- Note 10) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) The digital pressure switch will be equipped with the unit conversion function, setting to psi initially.

 MPa and psi are shown together on the pressure
 - MPa and psi are shown together on the pressure unit.
- Note 11) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)
- Note 12) ○: For thread type: NPT only Note 13) △: Select with options: E1, E2, E3, E4.

Standard Specifications

	Model	AC20D	AC30D	AC40D	AC40D-06						
Commonant	Filter regulator	AW20	AW30	AW40	AW40-06						
Component	Mist separator	AFM20	AFM30	AFM40	AFM40-06						
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4						
Pressure ga	uge port size Note 1)	1	/8	1,	/4						
Fluid			А	ir							
Ambient and	I fluid temperature Note 2)		−5 to 60°C (wi	th no freezing)							
Proof pressi	ure		1.5	МРа							
Maximum o	perating pressure	1.0 MPa									
Minimum op	erating pressure		0.05	MPa							
Set pressure	e range	0.05 to 0.85 MPa									
Relief press	ure	Set pressure + 0.05 MPa [at relief flow rate of 0.1 ℓ/min (ANR)]									
Nominal filtr	ation rating		AF: 5 μm, AFM: 0.3 μm (9	9.9% filtered particle size)							
Rated flow (//min (ANR)) Note 3)	150	330	800	800						
Outlet side of	oil mist concentration		Max. 1.0 mg/m³ (ANR)	(≈ 0.8 ppm) Note 4) Note 5)							
Bowl materia	al	Polycarbonate									
Bowl guard		Semi-standard Standard									
Regulator co	onstruction	Relieving type									
Mass (kg)		0.57	0.74	1.38	1.43						

Note 1) Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch (AC20D to AC40D). Note 2) –5 to 50°C for the products with the digital pressure switch

Note 4) When the compressor oil mist discharge concentration is 30 $\mbox{mg/m}^{3}$ (ANR).

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



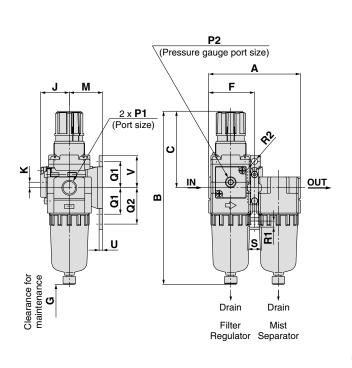
Note 3) Conditions: Mist separator inlet pressure: 0.5 MPa; The rated flow varies depending on the inlet pressure. Keep the air flow within the rated flow to prevent an outflow of lubricant to the outlet side.

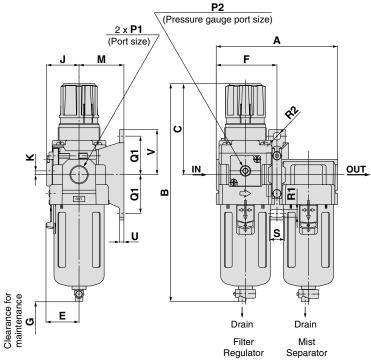
Series AC20D to AC40D

Dimensions

AC20D

AC30D to AC40D-06





Applicable model		AC20D	to AC40D-06	
Option	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with colour zone)
Dimensions	Centre of piping	Centre of piping	I	Centre of piping

Applicable model		AC20D			A	C30D to AC40D-	06	
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting
Dimensions	M5		1/8 Width across flats 14	N.O.: Black N.C.: Gray of 0 one-louch fitting		a a	1/4 Width across flats 17	Barb fitting Applicable tubing: T0604

				04		_!¢! &!					Optional specifications							
Model				Standa	ard spe	cification	15					re type re gauge	Dig pressure	jital e switch		d type e gauge	Round type pressure gauge (with colour zone)	
	P1	P2	Α	B Note)	С	Е	F	G	J	K	Н	J	Н	J	Н	J	Н	J
AC20D	1/8, 1/4	1/8	83	160	73	_	41.5	45	26	5	□28	27	□27.8	37.5	ø37.5	63	ø37.5	63
AC30D	1/4, 3/8	1/8	110	201	86	30	55	55	29.5	3.5	□28	30.5	□27.8	41	ø37.5	66	ø37.5	66
AC40D	1/4, 3/8, 1/2	1/4	145	239	92	38	72.5	80	37.5	1.5	□28	38.5	□27.8	49	ø42.5	76	ø42.5	76
AC40D-06	3/4	1/4	155	242	93	38	77.5	80	37.5	1.2	□28	38.5	□27.8	49	ø42.5	76	ø42.5	76

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

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



Air Combination Series AC **Options/Attachments**

Options/Attachments Part No.

	Juliono, Attachmicitio 1 art no.													
	_							Part no.						
_			NA1 - 2	For AC10	For AC20	For AC25	For AC30	For AC40	For AC40-06	For AC50	For AC55	For AC60		
흲			Model	For AC10A	For AC20A	_	For AC30A	For AC40A	For AC40A-06	For AC50A	_	For AC60A		
Section				For AC10B	For AC20B	For AC25B	For AC30B	For AC40B	For AC40B-06	For AC50B	For AC55B	For AC60B		
0)		Type		_	For AC20C	For AC25C	For AC30C	For AC40C	For AC40C-06	_	_	_		
				_	For AC20D	_	For AC30D	For AC40D	For AC40D-06	_	_	_		
	Ē.	Round	Standard	G27-10-R1		G36-10-□01				G46-10-□02	•			
	Note 1)	type	0.02 to 0.2 MPa setting	G27-10-R1 Note 3)		G36-2-□01		G46-2-□02						
	gauge	Round type (with colour	Standard			G36-10-□01-L		G46-10-□02-L						
	e ga	zone)	0.02 to 0.2 MPa setting	_		G36-2-□01-L				G46-2-□02-L				
_	Pressure	Square Note 2) embedded	Standard	_			GC3-10AS	GC3P-010AS (Pressure gauge cover only)]						
Option	윤	type	0.02 to 0.2 MPa setting	_			GC3-2AS [GC3P-010AS (F	ressure gauge of	cover only)]				
ğ			NPN output/Wiring bottom entry				ISE35-N-25-N	/ILA [ISE35-N-2	5-M (Switch body	y only)] Note 4)				
_	٠.,	gital essure	NPN output/Wiring top entry				ISE35-R-25-N	/ILA [ISE35-R-2	5-M (Switch body	y only)] Note 4)				
		vitch	PNP output/Wiring bottom entry	_			ISE35-N-65-N	//ILA [ISE35-N-65-M (Switch body only)] Note 4)						
			PNP output/Wiring top entry			ISE35-R-65-MLA [ISE35-R-65-M (Switch body only)] Note 4)								
	Flo	loat type Note 5)	N.O.		_	AD:	38			AD48				
	aut	to drain	N.C.	AD17	AD27	AD27 AD37				AD47				
	Spacer Y100				Y200	Y30	00	Y400	Y500		Y600			
	CL	anak walu	Note 6) Note 7)		AKM2000-□01	AKM300	0-(□01)	AKM4000-(□02)						
	Ci	Check valve Note 6) Note 7)		ı	(□02)			□03	_	_				
	Pr	essure sv	vitch Note 7)	I	IS1000M-20	IS1000	M-30	IS1000M-40	IS1000M-50		IS1000M-60	·		
	_ :	!	Note 6) Note 7)	Y110-M5	Y210-□01	□01 Y310-(□01)		Y410-(□02) Y510-(□02) Y610-□03 Y610-(□03)		(□03)				
	1-1	interrace	Note of Note 1)	Y I IU-IVIS	(□02)	`□02 [´]		□03	□03	(□04)		□04		
	3-1	nort valve	for residual		VHS20-□01	01 VHS30-□02		□02		VHS50-□06				
Ę			lease Note 7)	_	□02	******	□03	VHS40-□03	VHS40-□06	□10	_	_		
JE.	_							□04						
Attachment					□01		□02	□02						
\#a	Pi	ping adar	oter Note 7)	E100-M5	E200-□02	E300-		E400-□03	E500-□06		E600-□06			
•		ba manh		2.000	□03		□04	□04			□10			
								□06						
					□01		□02	□02						
			re switch with		IS1000E-20□02 IS1000E-30□03		IS1000E-40□03		_	_ _ .				
	piį	ping adap	oter Note 7)		□03	□03 □04		□04						
	_							□06	\/F4 = 05					
	Cr	oss spac	er Note 7)	Y14-M5	Y24-□01	Y34-		Y44-□02	Y54-□03	_	_			
		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	-	-	□02		□02	□03	□04					

Note 1) \square in part numbers for a round pressure gauge indicates a type of connection thread. No indication is necessary for R; however, indicate N for NPT. Please contact SMC regarding the connection thread NPT and pressure gauge supply for psi unit specifications.

Note 2) Including one O-ring and 2 mounting screws Note 3) Standard pressure gauge

ports are not machined.

Note 3) Standard pressure gauge

Note 4) Lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screw (2 pcs.) are attached. []: Switch body only.

Also, regarding how to order the digital pressure switch, please refer to page 89.

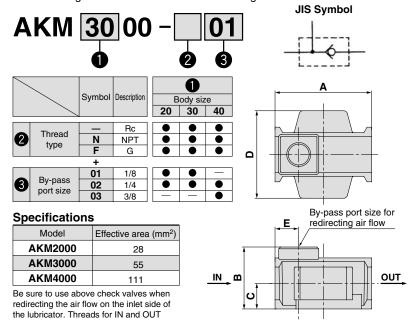
Note 5) Minimum operating pressure: N.O. type–0.1 MPa; N.C. type–0.1 MPa (AD17/27) and 0.15 MPa (AD37/47). Please contact SMC for psi and °F unit specifications.

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

Note 7) Separate interfaces are required for modular unit.

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

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





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

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

^{*} Refer to the attachment table above for standard by-pass port sizes

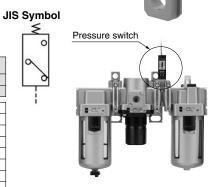
Series AC

Pressure Switch: (S)

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



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



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

Specifications

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

Switch Characteristics

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

Note) For detailed specifications, please refer to Best Pneumatics, IS1000 Series.

Center of F.R.L. body D Applicable model Model Α В С D IS1000M-20 AC20□ 28 11 76 66 IS1000M-30 AC25□, AC30□ 13 72 86 30 IS1000M-40 AC40□ 15 77 36 95 IS1000M-50 AC40□-06 17 79 99 44

68.5

53

22 Note) Separate spacers are required for modular unit.

92.5

IS1000M-60

ω

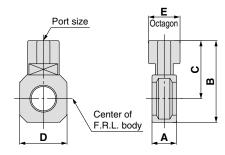
T-interface: (T) M5, 1/8, 1/4, 3/8, 1/2

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



Caution on Mounting

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



 $AC50\square$, $AC55\square$, $AC60\square$

Model	Port size	Α	В	С	D	Е	Applicable model
Y110-M5	M5	11	19	12	14	8	AC10, AC10B
Y210-□01	1/8	15	42	32	28	19	AC20, AC20B,
Y210-□02	1/4	15	42	32	20	13	AC20C
Y310-□01	1/8	15	53	39	30	19	AC25, AC25B,
Y310-□02	1/4	15	55		30	19	AC25C, AC30, AC30B, AC30C
Y410-□02	1/4	19	62	44	36	24	AC40, AC40B,
Y410-□03	3/8	19	02		30	24	AC40C
Y510-□02	1/4	19	66	46	44	24	AC40-06, AC40B-06
Y510-□03	3/8	19	66	46	44	24	AC40C-06
Y610-□03	3/8	22	81	F-7	53	20	AC50, AC55, AC60, AC50B.
Y610-□04	1/2	22	01	57	53	30	AC55B, AC60B

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

Note 2) Separate interfaces are required for modular unit.

* Refer to the attachment table on page 22 for standard port sizes when using with the AC.



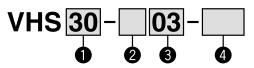
Residual Pressure Release 3 Port Valve: (V)

Symbol

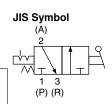
With the use of a 3-port valve for residual pressure release, pressure left in the line can be easily exhausted.

Description

Ro



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



50

Body size

40

30

20



i i	
	ullu

AA

EXH.

G

OUT

Lockable at the

time of exhaust

14	Inread type		M More)	NPI						
				F Note)	G	•	•	•		
				+						
			01	1/8	•	_	_	_		
			02	1/4	•	•	•	_		
	3 Port size	03	3/8	_	•	•	-			
9		Port size			_	_	•	_		
			06		3/4	_	_	•		
				10	1	_	_	_		
	•			+			•			
		. a		Flow direction	_	Flow direction: Left to right	•	•	•	
_	0		riow direction	R	Flow direction: Right to left	•	•	•		
[4	Semi- standard			+						
	Standard	b	Pressure unit	_	Name plate in imperial units: MPa	•	•	•		
		В	Pressure unit	Z Note)	Name plate in imperial units: psi	•	•	•		

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

Specifications

Specifications						
Madal	Port	size	Effective area (mm²) (): Cv factor			
Model	IN, OUT	EXH	IN→OUT	OUT→EXH		
VHS20	1/8	1/8	10 (0.54)	11 (0.60)		
VII320	1/4	1/0	14 (0.76)	16 (0.87)		
VHS30	1/4	1/4	16 (0.87)	14 (0.76)		
V11330	3/8	1/4	31 (1.68)	29 (1.57)		
	1/4		27 (1.46)	36 (1.95)		
VHS40	3/8	3/8	38 (2.06)	40 (2.17)		
	1/2		55 (2.98)	42 (2.28)		
VHS40-06	3/4	1/2	77 (1.73)	49 (2.66)		
VHS50	3/4	1/0	82 (4.44)	50 (2.71)		
งกรอบ	1	1/2	125 (6.78)	53 (2.87)		

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

Caution on Mounting

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

Model	Effective area (mm²)
VHS20	5
VHS30	5

Model	Α	AA	В	С	D	Е	F	G	Н
VHS20	40	34	59	20	45	33	28	_	45
VHS30	53	46	78	29	55	42	30	_	55
VHS40	70	63	107	39	58	44	36	22	63
VHS40-06	75	67	110	42	65	50	44	21	69
VHS50	90	78	134	53	76	61	54	26	81

Cross Spacer: M5, 1/8, 1/4, 3/8, 1/2

Pipings are possible in all 4 directions.

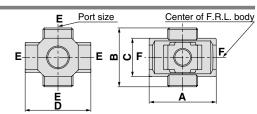
IN/OUT ports are not machined for threads.

Please contact SMC if threaded (machined) ports are required.



Caution on Mounting

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



E:	4 x Hc	
F:	Without	thread

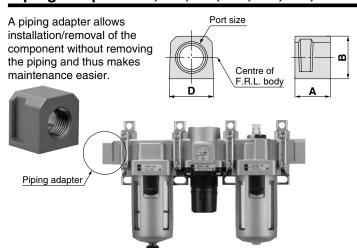
Model	Port size	Α	В	C	D	Applicable model
Y14-M5	M5	23	16	14	25	AC10□
Y24-□01	1/8	40	40	22	40	AC20□
Y24-□02	1/4	40	40	22	40	ACZUL
Y34-□01	1/8	40	40	00	40	AC25□, AC30□
Y34-□02	1/4	49	43	28	48	AC25□, AC30□
Y44-□02	1/4	60	40	00	54	AC40□
Y44-□03	3/8	00	48	36	54	AC40
Y54-□03	3/8	70	60	40	60	AC40□-06
Y54-□04	1/2	72	62	40	62	AC40□-06

- Note 1) \square in model numbers indicates a thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.
- Note 2) if threaded ports are required, they are available as a special order.

 Please contact SMC.



Piping Adapter: M5, 1/8, 1/4, 3/8, 1/2, 3/4, 1



Model Note 1)	Port size	Α	В	D	Applicable model
E100-M5	M5	10	14	14	AC10□, AW10, AF10, AR10, AL10
E200-□01	1/8				AC20□
E200-□02	1/4	30	23.5	28	AF20, AR20□, AW20□
E200-□03	3/8				AL20, AFM20, AFD20, AWM20, AWD20
E300-□02	1/4				AC25□, AC30□
E300-□03	3/8	32	30	30	AF30, AR30□, AW30□
E300-□04	1/2				AL30, AFM30, AFD30, AWM30, AWD30
E400-□02	1/4				AC40□
E400-□03	3/8	32	36	36	AF40, AR40□, AW40□
E400-□04	1/2	32	30	30	AL40, AFM40, AFD40
E400-□06	3/4				AWM40, AWD40
E500-□06	3/4	32	40	44	AC40□-06, AF40-06, AR40□-06, AW40□-06, AL40-06, AFM40-06, AFD40-06
E600-□06	3/4	35	48	53	AC50, AC55, AC60, AC50A AC60A, AC50B, AC55B
E600-□10	1	33	40	33	AC60B, AF50, AF60, AR50□ AR60□, AL50, AL60, AW60□

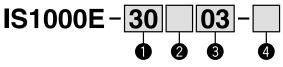
Note 1) \square in model numbers indicates a thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

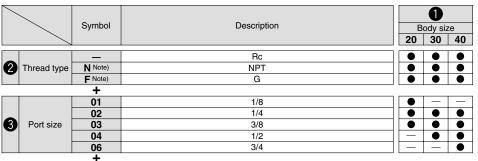
Note 2) Separate interfaces are required for modular unit.

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

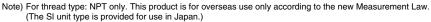
JIS Symbol

Pressure Switch with Piping Adapter





		Symbol	Lead wire length	Regulating pressure range	Pressure display	Mounting position		
		_	0.5 m	0.1 to 0.4 MPa	MPa	Right	•	
		X250	0.5 m	0.1 to 0.4 MPa	MPa	Left		•
		P Note)	0.5 m	0.1 to 0.4 MPa	MPa/psi dual scale	Right		
		X250-P Note)	0.5 m	0.1 to 0.4 MPa	MPa/psi dual scale	Left		
		X202	0.5 m	0.1 to 0.6 MPa	MPa	Right		•
		X252	0.5 m	0.1 to 0.6 MPa	MPa	Left		
		X202-P Note)	0.5 m	0.1 to 0.6 MPa	MPa/psi dual scale	Right		
4	Accessory	X252-P Note)	0.5 m	0.1 to 0.6 MPa	MPa/psi dual scale	Left		•
U	Accessory	X201	3 m	0.1 to 0.4 MPa	MPa	Right		
		X251	3 m	0.1 to 0.4 MPa	MPa	Left		
		X201-P Note)	3 m	0.1 to 0.4 MPa	MPa/psi dual scale	Right	•	
		X251-P Note)	3 m	0.1 to 0.4 MPa	MPa/psi dual scale	Left		
		X215	3 m	0.1 to 0.6 MPa	MPa	Right		
		X253	3 m	0.1 to 0.6 MPa	MPa	Left	•	
		X215-P Note)	3 m	0.1 to 0.6 MPa	MPa/psi dual scale	Right	•	
		X253-P Note)	3 m	0.1 to 0.6 MPa	MPa/psi dual scale	Left		
		NET			and a second or the second			

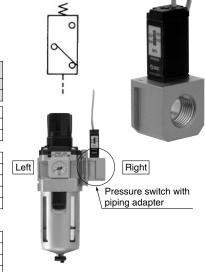


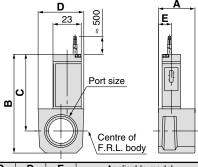


-р	
Fluid	Air
Ambient and fluid temperature	-5 to 60°C (with no freezing)
Proof pressure	1.0 MPa
Maximum operating pressure	0.7 MPa
Set pressure range (when OFF)	0.1 to 0.4 MPa
Hysteresis	0.08 MPa or less

Switch Characteristics

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





Model Note 1)	Port size	Α	В	С	D	E	Applicable model
IS1000E-20□01	1/8						AC20□
IS1000E-20□02	1/4	30	68	57	28	16	AR20□, AW20□
IS1000E-20 □ 03	3/8						AWM20, AWD20
IS1000E-30 □ 02	1/4						AC25□, AC30□
IS1000E-30 □ 03	3/8	32	74.5	60.5	30	13	AR25□, AR30□, AW30□
IS1000E-30 □ 04	1/2						AWM30, AWD30
IS1000E-40 □02	1/4						Note 2)
IS1000E-40 □ 03	3/8	-00	00.5	CO F	0.7	10.5	AC40□
IS1000E-40 □ 04	1/2	32	80.5	62.5	37	12.5	AR40□, AW40□
IS1000E-40□06	3/4						AWM40, AWD40

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

indicate N for NPT, and F for G.

Note 2) Cannot be mounted on the AC40□-06 and AW40□-06. Note 3) Separate interfaces are required for modular unit.

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

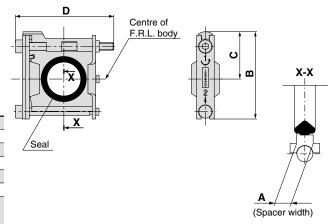


Series AC Spacers/Brackets Accessories

Spacer



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



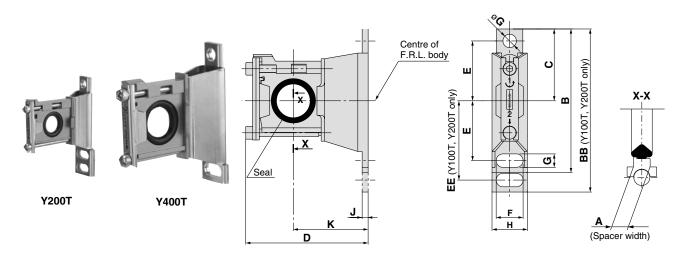
Replacement Parts

Description	Matarial			Par	t no.		
Description	Material	Y100	Y200	Y300	Y400	Y500	Y600
Seal	HNBR Note 2)	Y100P-060AS Note 1)	Y200P-061S	Y300P-060S	Y400P-060S	Y500P-060S	Y600P-060S

Note 1) Assembly includes 2 O-rings

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

Spacer with Bracket



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

Replacement Parts

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

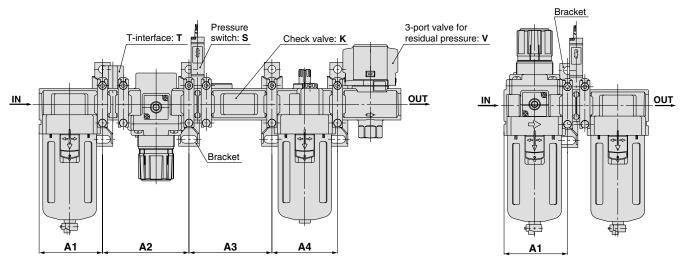
Note 1) Assembly includes 2 O-rings

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



Series AC

Mounting Position for Spacer with Bracket



Attachment		K S			3	1			V			KS			KT			KV				KST		
Model	A1	A2	A3	A1	A2	A1	A2	A1	A2	A3	A4	A1	A2	A3										
AC10	_	_	_	_	_	28	48	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_		
AC20	41.5	43	43	41.5	43	41.5	61	41.5	43	43	41.5	43	57	41.5	61	43	41.5	43	43	43	41.5	61	57	
AC25	55	57	57	55	57	55	76	55	57	57	55	57	74	55	76	57	55	57	57	57	55	76	74	
AC30	55	57	57	55	57	55	76	55	57	57	55	57	74	55	76	57	55	57	57	57	55	76	74	
AC40	72.5	75	75	72.5	75	72.5	99	72.5	75	75	72.5	75	95	72.5	99	75	72.5	75	75	75	72.5	99	95	
AC40-06	_	_	_	77.5	80	77.5	104	77.5	80	80	_	_	_	_	_	_	_	_	_	_	_	_	_	
AC50	_	_	_	93	96	93	124	93	96	96	_	_	_	_	_	_	_	_	_	_	_	_	_	
AC55	_	_	_	98	96	98	124	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_		
AC60	_	_	_	98	101	98	129	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_		

Attachment		KS	SV			K٦	ΓV			KS	TV		S	T		SV			STV			TV	
Model	A1	A2	A3	A4	A1	A2	A3	A4	A1	A2	A3	A4	A1	A2	A1	A2	A3	A1	A2	А3	A1	A2	A3
AC10	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	
AC20	41.5	43	57	43	41.5	61	43	43	41.5	61	57	43	41.5	61	41.5	43	57	41.5	61	57	41.5	61	43
AC25	55	57	74	57	55	76	57	57	55	76	74	57	55	76	55	57	74	55	76	74	55	76	57
AC30	55	57	74	57	55	76	57	57	55	76	74	57	55	76	55	57	74	55	76	74	55	76	57
AC40	72.5	75	95	75	72.5	99	75	75	72.5	99	95	75	72.5	99	72.5	75	95	72.5	99	95	72.5	99	75
AC40-06			_	_		_		_	_	_	_	_	77.5	104	77.5	80	102	77.5	104	102	77.5	104	80
AC50	_	_	_	_	_	_	_	_	_	_	_	_	93	124	93	96	124	93	124	124	93	124	96
AC55	_	_	_	_	_	_	_	_	_	_	_		98	124	_	_	_	_	_	_	_	_	_
AC60	_	_	_	_	_	_	_	_	_	_	_	_	98	129	_	_	_	_	_	_	_	_	_

Attachment	ŀ	(S		/	K	S		K۷			KSV		S	٧
Model	A1	A2	A1	A1	A2	A1	A2	A1	A2	A3	A1	A2	A3	A1	A2
AC20A	41.5	43	41.5	41.5	43	41.5	57	41.5	43	43	41.5	57	43	41.5	57
AC30A	55	57	55	55	57	55	74	55	57	57	55	74	57	55	74
AC40A	72.5	75	72.5	72.5	75	72.5	95	72.5	75	75	72.5	95	75	72.5	95
AC40A-06	_	_	77.5	77.5	80	_	_	_	_	_		_	_	77.5	102
AC50A	_	_	98	98	96	_	_	_					_	98	124
AC60A		_	98	_	_		_	_		_	_				

Attachment	S	T	\	/	V	1	S	٧	SI	/1	T	V	T\	/1
Model	A1	A1	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2
AC10B	_	28	_	_	_	_	_		_	_	_		_	_
AC20B	41.5	41.5	41.5	43	41.5	43	41.5	57	41.5	43	41.5	61	41.5	43
AC25B	55	55	55	57	55	57	55	74	55	57	55	76	55	57
AC30B	55	55	55	57	55	57	55	74	55	57	55	76	55	57
AC40B	72.5	72.5	72.5	75	72.5	75	72.5	95	72.5	75	72.5	99	72.5	75
AC40B-06	77.5	77.5	77.5	80	77.5	80	77.5	102	77.5	80	77.5	104	77.5	80
AC50B	93	93	93	96	93	96	93	124	93	96	93	124	93	96
AC55B	98	98	_	_	_	_	_	_	_	_	_	_	_	_
AC60B	98	98												

Attachment	Ş	}	1	Ī		٧			V1			SV			SV1			TV			TV1	
Model	A1	A2	A1	A2	A1	A2	А3	A1	A2	А3	A1	A2	А3	A1	A2	A3	A1	A2	A3	A1	A2	A3
AC20C	41.5	43	41.5	43	41.5	43	43	41.5	43	43	41.5	43	57	41.5	43	43	41.5	43	61	41.5	43	43
AC25C	55	57	55	57	55	57	57	55	57	57	55	57	74	55	57	57	55	57	76	55	57	57
AC30C	55	57	55	57	55	57	57	55	57	57	55	57	74	55	57	57	55	57	76	55	57	57
AC40C	72.5	75	72.5	75	72.5	75	75	72.5	75	75	72.5	75	95	72.5	75	75	72.5	75	99	72.5	75	75
AC40C-06	77.5	80	77.5	80	77.5	80	80	77.5	80	80	77.5	80	102	77.5	80	80	77.5	80	104	77.5	80	80

Attachment	∟ S_	\	/	V	1	S	V	S١	/1
Model	A1	A1	A2	A1	A2	A1	A2	A1	A2
AC20D	41.5	41.5	43	41.5	43	41.5	57	41.5	43
AC30D	55	55	57	55	57	55	74	55	57
AC40D	72.5	72.5	75	72.5	75	72.5	95	72.5	75
AC40D-06	77.5	77.5	80	77.5	80	77.5	102	77.5	80

A1: Dimensions from the end of the IN side to the center of the mounting hole for the first bracket.

A2: Mounting hole pitch between the first and the second brackets.

A3: Mounting hole pitch between the second and the third brackets.

A4: Mounting hole pitch between the third and the fourth brackets.

Modular Type Air Filters Series AF

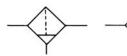
Air Filter Series AF	Model	Port size	Filtration (μm)	Options
	AF10	M5		
	AF20	1/8, 1/4		
0-22.	AF30	1/4, 3/8		
	AF40	1/4, 3/8, 1/2	5	Bracket Float type auto drain
	AF40-06	3/4		,
•	AF50	3/4, 1		
Page 29 through to 37	AF60	1		
Mist Separator Series AFM	AFM20	1/8, 1/4		
	AFM30	1/4, 3/8	0.3	Bracket
	AFM40	1/4, 3/8, 1/2	0.0	Float type auto drain
Page 39 through to 45	AFM40-06	3/4		
Micro Mist Separator Series AFD	AFD20	1/8, 1/4		
	AFD30	1/4, 3/8	0.01	Bracket
	AFD40	1/4, 3/8, 1/2	0.01	Float type auto drain
Page 39 through to 45	AFD40-06	3/4		

Air Filter AF10 to AF60

JIS Symbol

Air Filter

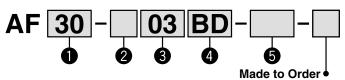
Air Filter with Auto Drain







How to Order



(Refer to page 35 through to 37 for details.)

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

 Example) AF30-03BD-2R

								(
				Symbol	Description			Body	size		
						10	20	30	40	50	60
					Metric thread (M5)	•		_		_	_
				_	Rc		•	•	•	•	•
2		ır	rread type	N Note 1)	NPT	_	•	•	•	•	•
				F Note 2)	G	_	•	•	•	•	•
				+							
				M5	M5	•		_		_	_
				01	1/8	_	•	_		_	
				02	1/4	_	•	•	•	_	_
3		- 1	Port size	03	3/8			•	•		_
				04	1/2		_		•		
				06	3/4				•	•	
				10	1	_		_		•	•
				+							
		а	Mounting		Without mounting option		•	•		•	•
		а	Mounting	B Note 3)	With bracket			•	•	•	•
4	Option			+							
•	8		Float type	_	Without auto drain		•	•	•	•	•
		b	auto drain	С	Float type auto drain (N.C.)		•	•	•	•	•
			aato aram	D	Float type auto drain (N.O.)	_		•	•	•	
				+							
				_	Polycarbonate bowl		•	•	•	•	•
				2	Metal bowl		•	•	•	•	•
		С	Bowl	6	Nylon bowl		•	•	•	•	•
			DOWI	8	Metal bowl with level gauge			•	•	•	•
				С	With bowl guard		•				
				6C	Nylon bowl with bowl guard	_	•	_		_	_
	Semi-standard			+							
	and			_	With drain cock	•	•	•	•	•	
6	-ste	d	Drain port Note 4)	Note 5)	Drain guide 1/8		•				
	m.	"	Diaili poit		Drain guide 1/4			•	•	•	•
	တြ			W Note 6)	Drain cock with barb fitting: For ø6 x ø4 nylon tube				•	•	
				+				-		-	
		е	Flow direction	_	Flow direction: Left to right		•	•	•	•	
				R	Flow direction: Right to left		•	•	•	•	
				+						_	
		f	Pressure unit		Name plate and caution plate for bowl in imperial units: MPa	• ·	•	0.000.00		•	• ·
				Z Note 7)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 8)	Note 8)	Note 8)	Note 8)	Note 8)	Note 8)

Note 1) Drain guide is NPT1/8 (applicable to the AF20) and NPT1/4 (applicable to the AF30 and AF60). The auto drain port comes with a ø3/8" one-touch fitting (applicable to the AF30 to AF60).

Note 2) Drain guide is G1/8 (applicable to the AF20) and G1/4 (applicable to the AF30 to AF60).

Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws

Note 4) Float type auto drain: The combination between C or D is not available with the drain port option.

Note 5) Without a valve function

Note 6) Metal bowl: The combination of 2 and 8 cannot be selected with W.

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

Note 8) O: For thread type: M5 and NPT only.



Standard Specifications

Model	AF10	AF20	AF30	AF40	AF40-06	AF50	AF60						
Port size	M5	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 temperature			–5 to (60°C (with no fre	eezing)								
Proof pressure		1.5 MPa											
Maximum operating pressure		1.0 MPa											
Nominal filtration rating				5 μm									
Drain capacity (cm³)	2.5	8	25		4	.5							
Bowl material	Polycarbonate												
Bowl guard	_	Semi-standard			Standard								
Mass (kg)	0.06 0.18 0.22 0.45 0.49 0.99 1.05												

Options/Part No.

Ontional anadifications					Model			
Optional specifications		AF10	AF20	AF30	AF40	AF40-06	AF50	AF60
Bracket assembly Note 1)		_	AF20P-050AS	AF30P-050AS	AF40P-050AS	AF40P-070AS	AF50P-050AS	AF50P-050AS
Floor to the state of the land to Note 2) Note 3)	N.C.	AD17	AD27	AD37				
Float type auto drain Note 2) Note 3)	N.O.	_	_	AD38		AD)48	

Semi-standard/Bowl Assembly Part No.

C	'ami atan	dard ana	oification	^		Model								
5		dard spe		5					wodei	1				
Bowl material	Float	t type drain N.O.	With drain guide	With barb fitting	With bowl guard	AF10	AF20	AF30	AF40	AF40-06	AF50	AF60		
	14.0.		_	_		_	C2SF-C	_			_			
-	•	_	_	_		_	AD27-C	_						
Polycarbonate			•				C2SF-J	C3SF-J		C4S	- :F- I			
1 Olycarbonate			_	-						C4S				
-		_		_	_	_	-	C3SF-W		U45	F-VV			
		_	•	_	•		C2SF-CJ	_		-	_			
		_	_			C1SF-6	C2SF-6	C3SF-6		C4SF-6				
	_	_	_	_	•	_	C2SF-6C	_		_				
		_	_	_	_	AD17-6	AD27-6	AD37-6		AD47-6				
Nistan	_	•	_	_	_	_	_	AD38-6		AD4	8-6			
Nylon	•	_	_	_	•	_	AD27-6C	_		_	_			
	_	_	•	_	_	_	C2SF-6J	C3SF-6J		C4S	F-6J			
	_	_	_	•	_	_	_	C3SF-6W		C4SF	-6W			
	_	_	•	_	•	_	C2SF-6CJ	_		_	_			
	_	_	_	_	_	C1SF-2	C2SF-2	C3SF-2		C4S	F-2			
	•	_	_	_	_	AD17-2	AD27-2	AD37-2		AD4	7-2			
Metal	_	•	_	_	_	_	_	AD38-2		AD4	8-2			
	_	_	•	_	_	_	C2SF-2J	C3SF-2J	C4SF-2J					
	_	_	_	_	_	_		C3LF-8	C4LF-8					
Metal bowl with	•	_	_	_	_	_	_	AD37-8	AD47-8					
level gauge		•	_	_	_	_	_	AD38-8	AD48-8					
ŭ ŭ	_	_	•	_	_	_		C3LF-8J C4LF-8J						

Note 1) Assembly of a bracket and 2 mounting screws

Note 2) Minimum operating pressure: N.O. type-0.1 MPa; N.C. type-0.1 MPa (AD17/27) and 0.15 MPa (AD37/47). Please contact SMC for psi and °F unit specifications. Note 3) Please consult SMC for details on drain piping to fit NPT or $\ensuremath{\mathsf{G}}$ port sizes.

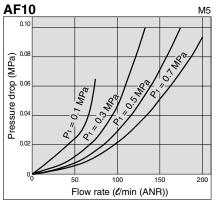


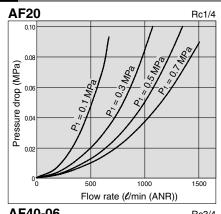
Note) • Bowl O-ring is included for the AF20 to AF60.

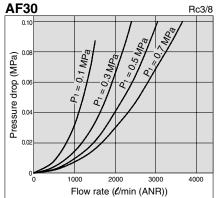
• Bowl assembly for the AF30 to AF60 models comes with a bowl guard (steel band material). (except when the bowl material is metal)

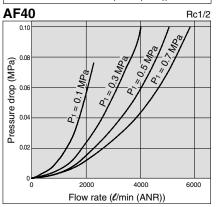
Series AF10 to AF60

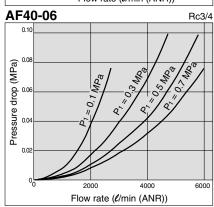
Flow Characteristics (Representative values)

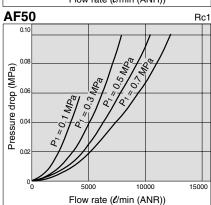


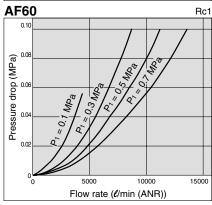












⚠ Specific Product Precautions

Be sure to read this before handling. Refer to "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Safety Instructions and F.R.L. Units Precautions.

Mounting and Adjustment

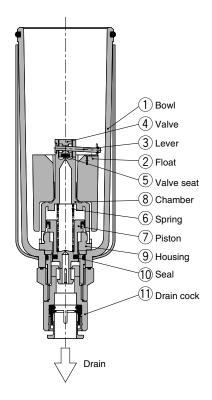
⚠ Warning

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

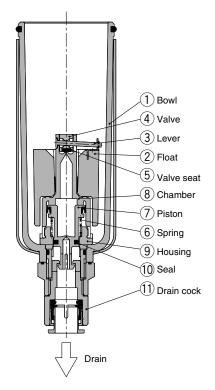


Working Principle: Float Type Auto Drain

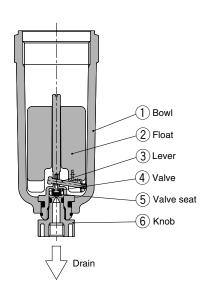
N.O. type: AD38, AD48



N.C. type: AD37, AD47



Compact auto drain N.C. type: AD17, AD27



When pressure inside the bowl is released:

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

The sealing action of seal 10 is interrupted, and the outside air flows inside the bowl (1) through housing hole 9 and drain cock 11

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 exceeds 0.1 MPa, the force of piston 7 surpasses the force of 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, float 2 will be pulled down by its own weight, causing valve 4, which is connected to lever 3, to seal valve seat 5

· When there is an accumulation of condensate in the bowl:

Float (2) rises due to its own buoyancy and pushes open the seal created by the valve seat 5. This allows the pressure inside the bowl ① to enter the chamber ⑧. The result is that the combined pressure inside chamber ® and the force of the spring ⑥ lowers the piston ⓒ

This causes the sealing action of seal 10 to be interrupted, and the accumulated condensate in the bowl ① drains out through the drain cock ①. Turning drain cock 1 manually counterclockwise lowers piston 7, which pushes open the seal created by seal 10, thus allowing the condensate to drain out.

When pressure inside the bowl is re-leased: When pressure inside the bowl is released:

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

This keeps the seal created by the seal 10 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 $\ensuremath{\mathbb{1}}$, 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 spring 6 and the pressure inside the bowl 1 keeps piston 7 in its upward position.

This maintains the seal created by the seal 10 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 float ② will be pulled down by its own weight, causing valve 4, which is connected to lever 3, to seal valve seat 5.

When there is an accumulation of condensate in the bowl:

Float ② rises due to its own buoyancy and pushes open the seal created by the valve seat ⑤. Pressure passes from the bowl to chamber 8. The result is that the pressure inside chamber

8 surpasses the force of the spring 6 and pushes piston 7 downwards.

This causes the sealing action of seal 10 to be interrupted and the accumulated condensate in the bowl ① drains out through the drain cock ①. Turning drain cock (1) manually counterclockwise lowers piston 7, which pushes open the seal created by seal 10, thus allowing the condensate to drain out.

released:

Even when pressure inside the bowl 1 is released, the weight of the float 2 causes valve 4, which is connected to lever 3, to seal 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

Even when pressure is applied inside the bowl 1), the weight of the float 2 and the differential pressure that is applied to valve 4 cause valve 4 to seal 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:

Float 2 rises due to its own buoyancy and the seal at valve seat (5) is interrupted.

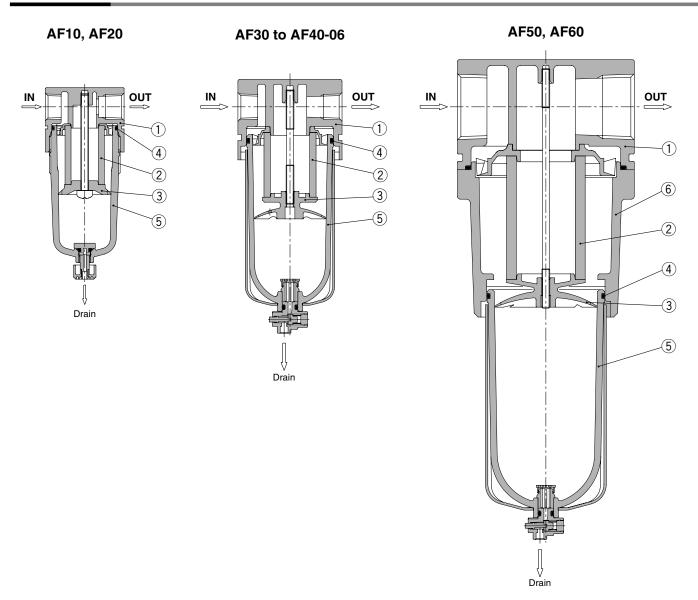
The condensate inside the bowl ① drains out through the knob 6.

Turning knob 6 manually counterclockwise lowers it and causes the sealing action of valve seat 5 to be interrupted, which allows the condensate to drain out.



Series AF10 to AF60

Construction



Component Parts

No.	Description	Material	Model	Color
-	Body	Zinc die-cast		Platinum silver
'	Войу	Aluminum die-cast	AF30 to AF60	Flatilium Silver
6	Housing	Aluminum die-cast	AF50, AF60	Platinum silver

Replacement Parts

nep	nacement Parts											
No.	Description	Material		Part no.								
INO.	Description	Material	AF10	AF20	AF30	AF40 AF40-06		AF50	AF60			
2	Filter element	Non-woven fabric	AF10P-060S	AF20P-060S	AF30P-060S	AF40F	P-060S	AF50P-060S	AF60P-060S			
3	Baffle	PBT	AF10P-040S Note 1)	AF20P-040S	AF30P-040S	AF40F	P-040S	AF50P-040S	AF60P-040S			
4	Bowl O-ring	NBR	C1SFP-260S	C2SFP-260S	C3SFP-260S		C4SFI	P-260S	_			
5	Bowl assembly Note 2)	Polycarbonate	C1SF	C2SF	C3SF Note 3)		C4SF	Note 3)	_			

Note 1) The material of the baffle for the AF10 (AF10P-040S) only is polyacetal.

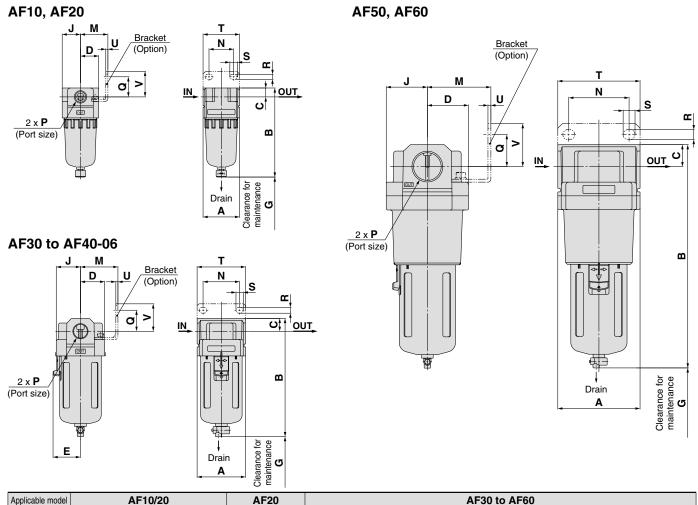
Note 2) Bowl O-ring is included. Please contact SMC regarding the bowl assembly supply for psi and °F unit specifications.

Note 3) Bowl assembly for the AF30 to AF60 models comes with a bowl guard (steel band material).



Air Filter Series AF10 to AF60

Dimensions



Applicable model			AF20	AF30 to AF60							
Optional/Semi-standard specifications	With auto drain (N.C.) Metal bowl		With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting			
Dimensions	M 5	a		N.O.: Black N.C.: Gray e10 one-touch fitting	8		1/4 Width across flats 17	Barb fitting Applicable tubing: T0604			

			Ctond	ard ana	oification	_						Opti	ional spe	cificatio	ns		
Model			Stariu	aru spec	cification	S			Bracket mount						With auto drain		
	Р	Α	В	С	D	E	G	J	M	N	Q	R	S	Т	U	٧	В
AF10	M5	25	67	7	12.5	_	25	12.5	_	_	_	_	_	_	_	_	85
AF20	1/8, 1/4	40	97	10	20	_	40	20	30	27	22	5.4	8.4	40	2.3	28	115
AF30	1/4, 3/8	53	129	14	26.5	30	50	26.5	41	40	23	6.5	8	53	2.3	30	170
AF40	1/4, 3/8, 1/2	70	165	18	35	38	75	35	50	54	26	8.5	10.5	70	2.3	35	204
AF40-06	3/4	75	169	20	35	38	75	35	50	54	25	8.5	10.5	70	2.3	34	208
AF50	3/4, 1	90	245	24	45	_	20	45	70	66	35	11	13	90	3.2	47	284
AF60	1	95	258	24	47.5	_	20	47.5	70	66	35	11	13	90	3.2	47	297

		Semi-standard	specifications	
Model	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge
	В	В	В	В
AF10	_	_	66	_
AF20	_	101	97	_
AF30	137	136	142	162
AF40	173	172	178	198
AF40-06	177	176	182	202
AF50	253	252	258	278
AF60	266	265	271	291

Air Filter AF10 to AF60 Made to Order



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

① Special Temperature Environment

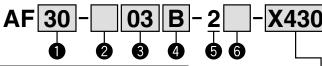
Special materials are used in the manufacturing of seals and resin parts to allow them to withstand various temperature conditions in cold or tropical (hot) climates.

Specifications

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

Applicable Model

Model	AF30	AF40	AF40-06	AF50	AF60	
Port size	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1	



• Semi-standard: Select one each for a to c. • Semi-standard symbol: When more than one specification is required, indicate in

ascending alphanumeric order. Example) AF30-03B-2R-X430

For high/low temperature

X430	Low temperature
X440	High temperature

				Cumbal	Description			<u> </u>	
				Symbol	Description			size	
						30	40	50	60
				_	Rc	•	•	•	•
2	т	hrea	ad type	N Note 1)	NPT	•	•	•	•
				F Note 2)	G	•	•	•	•
	_			+					
				02	1/4	•	•	_	_
				03	3/8	•	•	_	_
8		Por	t size	04	1/2		•	_	_
_				06	3/4	_	•	•	_
					1	_	_	•	•
				+					
	Option				Without mounting option	•	•	•	•
J	((Μοι	unting)	B Note 3)	With bracket		•	•	
_	_								
5		Bow	Note 4)	2	Metal bowl		•		
		_		+					
		а	Drain	_	With drain cock	•	•	•	•
		u	port	J Note 5)	Drain guide 1/4		•	•	
	احا								
	dar	b	Flow	_	Flow direction: Left to right		•	•	•
6	tan		direction	R	Flow direction: Right to left		•	•	
U	i-S			+					
	Semi-standard	C	Pressure	_	Name plate and caution plate for bowl in imperial units: MPa	•	•	•	•
		C	unit	Z Note 6)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 7)	Note 7)	Note 7)	Note 7)

Note 1) Drain guide is NPT1/4.

Note 2) Drain guide is G1/4.

Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws

Note 4) Only metal bowl 2 is available.

Note 5) Without a valve function

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

Note 7) O: For thread type: NPT only

2 High Pressure

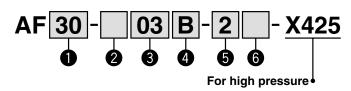
Strong materials are used in the manufacturing of air filters intended for high pressure operation.

Specifications

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

Applicable Model

Model	AF20	AF30	AF40	AF40-06	AF50	AF60
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1



- Semi-standard: Select one each for a to c.
- Semi-standard symbol: When more than one specification is required, indicate in ascending alphanumeric order.

Example) AF30-03B-2R-X425

	٠۲		711 00 00								
	_								0		
		\		Symbol	Description	l		В	ody si	ze	
							20	30	40	50	60
				_	Rc	I Г	•				
2	т	hre	ad type	N Note 1)	NPT	lŀ	÷				
9	·	0	uu 1, po	F Note 2)	G	lt	•	Ť	•	Ť	
				+	<u> </u>	L	_				
				01	1/8		•		_		
				02	1/4	lt	•	•	•	_	_
		_		03	3/8		_	•	•	_	_
8		Po	rt size	04	1/2		_	_	•	_	_
				06	3/4		_	_	•	•	
				10	1		_	_	_	•	•
				+		_					
		Option		_	Without mounting option		•	•	•	•	
U	(Мо	unting)	B Note 3)	With bracket		•	•	•	•	
				+							
6		2014	/I Note 4)	2	Metal bowl		•	•	•	•	
U		30W	VI ,	8	Metal bowl with level gauge		_	•			
				+							
			Drain	_	With drain cock		•	•	•	•	•
		а	port	. Note 5)	Drain guide 1/8	L	•	_	_	_	
			•	•	Drain guide 1/4		_				
	ard			+					_	_	
	gug	b	Flow		Flow direction: Left to right	L	•	•	•	•	•
6	Semi-standard		direction	R	Flow direction: Right to left		•		•		
	emi				Name white and another						
	S	c	Pressure	_	Name plate and caution plate for bowl in imperial units: MPa		•	•	•	•	•
			unit	Z Note 6)	Name plate and caution plate for bowl in imperial units: psi, °F	1	Note 7)				
					(annii anhi a ta tha A FOO) a			T4 /4 /	·		

- Note 1) Drain guide is NPT1/8 (applicable to the AF20) and NPT1/4 (applicable to the AF30 to AF60
- Note 2) Drain guide is G1/8 (applicable to the AF20) and G1/4 (applicable to the AF30 to AF60).
- Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws
- Note 4) Only metal bowl 2 and 8 are available.
- Note 5) Without a valve function Note 6) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
- Note 7) O: For thread type: NPT only



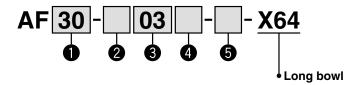
3 Long Bowl

Drain capacity is greater than that of standard models.

Applicable Model/Drain Capacity

Model	AF10	AF20	AF30	AF40	AF40-06	AF50	AF60		
Port size	M5	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1		
Drain capacity (cm ³)	9	19	43	88					

Note) Please consult SMC for dimensions.



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

10 20 30 40 50		_	_						(
Metric thread (M5)					Symbol	Description			Body	size		
Thread type Note N							10	20	30	40	50	60
Thread type N Note 1)						Metric thread (M5)	•	_	_	_	_	_]
Note 2 G			Τ.		_	Rc		•	•	•	•	•
## ## ## ## ## ## ## ## ## ## ## ## ##			11	read type	N Note 1)	NPT	_	•	•	•	•	•
M5					F Note 2)	G	_	•	30 40 50 0 0 0 0 0 0 0 0 0 0	•	•	
O1					+							
O2					M5	M5	•	_	_	_	_	
Port size					01	1/8	_	•	_	_		_
O4			Thread type		1/4	_	•	•		-		
Option (Mounting)	3			Port size	03	3/8	_	_	•	•	_	
10					04	1/2	_	_	_	•	_	_
## Option (Mounting) ## Without mounting option ## Option (Mounting) ## Without mounting option ## Option (Mounting) ## Option (Mountin					06	3/4	_	_	_	•	•	
Option (Mounting)						1	_	_	_	_	•	
Sprion (Mounting) B Note 3) With bracket					+							
British With bracket)ntic	n (Mounting)	_	Without mounting option	•	•		_		
Bowl Bowl C With bowl guard C With drain cock Drain guide 1/4 Drain guide 1/4 W Note 5 Drain cock with barb fitting: For Ø6 x Ø4 nylon tube C Flow direction: Right to left R Flow direction: Right to left C C Flow direction: Right to left C Flo			Jplic	iii (Mouriting)	B Note 3)	With bracket	_	•	•	•	•	
Bowl Bowl					+							
Bowl 6 Nylon bowl					_	Polycarbonate bowl	•	•	•	•	•	•
C With bowl guard					2	Metal bowl	•	•	•	•		
6C Nylon bowl with bowl guard + Drain port Nylon bowl with bowl guard			а	Bowl		Nylon bowl	•	•	•	•	•	
b Drain port						With bowl guard		•	_	_	_	
By Burning Prince Drain port Drain guide 1/8 Drain guide 1/4 Drain guide 1/4						Nylon bowl with bowl guard		•	_	_	_	
t c Flow direction R Flow direction: Left to right R Flow direction: Right to left	-	_										
t c Flow direction R Flow direction: Left to right R Flow direction: Right to left	-	gar			_	With drain cock	•	•	•	•	•	•
t c Flow direction R Flow direction: Left to right R Flow direction: Right to left	a.	tan	h	Drain port	Note 4)			•	_	_	_	
t c Flow direction R Flow direction: Left to right R Flow direction: Right to left		-S-	J	Diain port				_	•	•	•	•
t c Flow direction R Flow direction: Left to right R Flow direction: Right to left		ğΠ			W Note 5)	Drain cock with barb fitting: For ø6 x ø4 nylon tube	_	_	•	•		
R Flow direction: Right to left		0)			+							
R Flow direction: Right to left			_	Flow direction	_		•	•	•	•	•	•
+				I IOW GITECTION		Flow direction: Right to left	•	•	•	•		•
Mame plate and caution plate for bowl in imperial units: MPa ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■			Ч	Prossure unit	_	Name plate and caution plate for bowl in imperial units: MPa		•	•	•	•	•
The state unit and caution plate for bowl in imperial units: psi, °F Note 7)			u	i ressure unil	Z Note 6)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 7)	O Note 7)	O Note 7)	Note 7)	Note 7)	Note 7)

Note 1) Drain guide is NPT1/8 (applicable to the AF20) and NPT1/4 (applicable to the $\,$ AF30 to AF60).

Note 2) Drain guide is G1/8 (applicable to the AF20) and G1/4 (applicable to the AF30 to AF60).

Note 3) A bracket is not assembled and supplied loose at the time of shipment. Includes 2 mounting screws

Note 4) Without a valve function

Note 5) Metal bowl: The combination with 2 cannot be selected with W.

Note 6) For thread type: M5, NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Note 7) O: For thread type: M5, NPT only



Air Filter AF30 to AF60 Made to Order



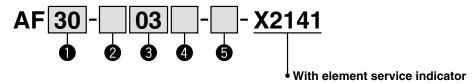
Please contact SMC for detailed dimensions, specifications, and lead times.

4 With Element Service Indicator

Clogging status of elements can be checked visually.

Applicable Model

Model	AF30	AF40	AF40-06	AF50	AF60
Port size	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1



A special body type is required to mount the clogging checker. It cannot be mounted on a standard body.

- Option/Semi-standard: Select one each for a to f.
- · Option/Semi-standard symbol: When more than one specification is required, indicate in ascending alphanumeric order. Example) AF30-03BD-2R-X2141

	_	_										
		Ì		Symbol	Description		Body	size				
						30	40	50	60			
				_	Rc	•	•	•	•			
2		T	hread type	N Note 1)	NPT	•	•	•	•			
				F Note 2)	G	•	•	•	•			
				+								
				02	1/4	•	•	_	_			
				03	3/8	•	•	_	_			
3			Port size	04	1/2	_	•	_	_			
				06	3/4	_	•	•				
				10	1	_	_	•	•			
				+								
		а	Mounting	_	Without mounting option	•	•	•	•			
		а	Mounting	B Note 3)	With bracket	•	•	•	•			
	tion			+								
•	d		Float type	_	Without auto drain	•	•	•	•			
	Option	b	auto drain	С	Float type auto drain (N.C.)	•	•	•	•			
				D	Float type auto drain (N.O.)	•	•	•	•			
				+								
				_	Polycarbonate bowl	•	•	•	•			
		С	Bowl	2	Metal bowl	•	•	•	•			
			Bowi	6	Nylon bowl	•	•	•	•			
				8	Metal bowl with level gauge	•	•	•	•			
	٦			+								
	dar			_	With drain cock	•	•	•	•			
6	tan	d		J Note 5)	Drain guide 1/4	•	•	•	•			
9	ni-s			W Note 6)	Drain cock with barb fitting: For ø6 x ø4 nylon tube	•	•	•	•			
	Semi-standard			+								
			Flow direction	_	Flow direction: Left to right	•	•	•	•			
			1 low all collons	R	Flow direction: Right to left	•	•	•	•			
				+								
		f	Pressure unit	_	Name plate and caution plate for bowl in imperial units: MPa	•	•	•	<u> </u>			
			1 1033uic uilit	Z Note 7)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 8)	Note 8)	O Note 8)	Note 8)			
			ida ia NDT4/4		Note 5 \ \After a de contra de la contra dela contra del la co							

Note 1) Drain guide is NPT1/4.

The auto drain port comes with a ø3/8" one-touch fitting.

Note 2) Drain guide is G1/4.

Note 3) Option B is not assembled and supplied loose at the time of shipment. Includes 2 mounting screws

Note 4) Float type auto drain: The combination between C or D is not available with the drain port option.

Note 5) Without a valve function
Note 6) Metal bowl: The combination of 2 and 8 cannot be selected with W.
Note 7) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Note 8) O: For thread type: NPT only.





AFM20 to AFM40 Micro Mist Separator AFD20 to AFD40

JIS Symbol Mist Separator



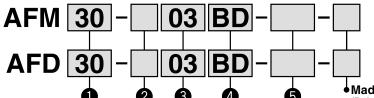




AFM20, AFD20 AFM40, AFD40

- Series AFM Nominal filtration rating: 0.3 μ m
- Series AFD Nominal filtration rating: 0.01 μm

How to Order



- Option/Semi-standard: Select one each for a to f.
- Option/Semi-standard symbol: When more than one specification is required, indicate in ascending alphanumeric order.
 Example) AFM30-03BD-2R

Made to Order

(Refer to pages 44 and 45 for details.)

						0	
			Symbol	Description		Body size	
					20	30	40
			_	Rc	•	•	•
9	TI	nread type	N Note 1)	NPT	•	•	•
			F Note 2)	G	•	•	•
			+				
			01	1/8	•	_	
			02	1/4	•	•	•
3		Port size	03	3/8	_	•	•
			04	1/2	_	_	•
			06	3/4	_	_	•
			+				
	а	Mounting	_	Without mounting option	•	•	•
_		Mounting	B Note 3)	With bracket	•	•	•
Option							
Ö		Float type	_	Without auto drain	•	•	•
	b	auto drain Note 4)	С	Float type auto drain (N.C.)	•	•	
			D	Float type auto drain (N.O.)		•	•
	1		+				
				Polycarbonate bowl	•	•	
			2	Metal bowl	•	•	•
	С	Bowl	6	Nylon bowl	•	•	•
			8	Metal bowl with level gauge	_	•	•
			С	With bowl guard	•		
			6C +	Nylon bowl with bowl guard	•	_	
darc				With during and			
anc			_	With drain cock			
Semi-standard	d	Drain port	J Note 5)	Drain guide 1/8 Drain guide 1/4		_	
Sem			W Note 6)	Drain guide 1/4 Drain cock with barb fitting: For ø6 x ø4 nylon tube	_		
0)	0			Diain Cock with Daib litting. For 90 x 94 hyron tube		•	
			+	Flow direction: Left to right			_
	е	Flow direction	R	Flow direction: Left to right Flow direction: Right to left			
			+	now anconon. I light to left	•	•	
			<u> </u>	Name plate and caution plate for bowl in imperial units: MPa		•	•
	f	Pressure unit	Z Note 7)	Name plate and caution plate for bowl in imperial units: Nin a Name plate and caution plate for bowl in imperial units: psi, °F	Note 8)	Note 8)	Note 8)
			_ `	reamo piato and caution piato for bown in imperial units. psi, T	•	•	

Note 1) Drain guide is NPT1/8 (applicable to the AFM20, AFD20) and NPT1/4 (applicable to the AFM30/40, AFD30/40).

The auto drain port comes with a ø3/8" one-touch fitting (applicable to the AFM30/40, AFD30/40).

Note 2) Drain guide is G1/8 (applicable to the AFM20, AFD20) and G1/4 (applicable to the AFM30/40, AFD30/40).

Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws

Note 4) Float type auto drain: The combination between C or D is not available with the drain port option.

Note 4) Float type auto drain: In Note 5) Without a valve function

Note 6) Metal bowl: The combination of 2 and 8 cannot be selected with W.

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

Note 8) \bigcirc : For thread type: NPT only



Mist Separator Series AFM20 to AFM40 Micro Mist Separator Series AFD20 to AFD40

Standard Specifications

Model		AFM20 AFD20	AFM30 AFD30	AFM40 AFD40	AFM40-06 AFD40-06				
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4				
Fluid		Air							
Ambient and fluid temperature	•	−5 to 60°C (with no freezing)							
Proof pressure		1.5 MPa							
Maximum operating pressure			1.0	МРа					
Minimum operating pressure		0.05 MPa							
Nominal filtration rating	AFM20 to AFM40-06	0.3 μm (99.9% filtered particle size)							
Nominal Illtration rating	AFD20 to AFD40-06	0.01 μm (99.9% filtered particle size)							
Outlet side oil mist	AFM20 to AFM40-06	Max. 1.0 mg/m ³ (ANR) ($\approx 0.8 \text{ ppm}$) Note 2) Note 3)							
concentration	AFD20 to AFD40-06	Max. 0.1 mg/m ³ (ANR) (E	(Before saturated with oil 0.001 mg/m ³ (ANR) or less \approx 0.008 ppm) Note 2) Note 3						
Rated flow (//min (ANR)) Note 1)	AFM20 to AFM40-06	200	450	1100					
nated flow (affilli (ANA))	AFD20 to AFD40-06	120	240	6	00				
Drain capacity (cm³)		8	25	4	5				
Bowl material			Polycai	rbonate					
Bowl guard		Semi-standard		Standard					
Mass (kg)		0.18	0.22	0.44	0.49				

Note 1) Conditions: Inlet pressure: 0.7 MPa; The rated flow varies depending on the inlet pressure. Keep the air flow within the rated flow to prevent an outflow of lubricant to the

Options/Part No.

		Model										
Optional specifications		AFM20 AFD20	AFM30 AFD30	AFM40 AFD40	AFM40-06 AFD40-06							
Bracket assembly Note 1)		AF20P-050AS	AF30P-050AS	AF40P-050AS	AF40P-070AS							
Float town on the duration Note 2) Note 3)	N.C.	AD27	AD37	AD)47							
Float type auto drain Note 2) Note 3)	N.O.	_	AD38	AD)48							

Semi-standard/Bowl Assembly Part No.

	Semi-st	andard sp	oecificatio	ons			Mo	del				
Bowl material	adto diairi		With drain	With barb	With	AFM20 AFD20	AFM30 AFD30	AFM40 AFD40	AFM40-06 AFD40-06			
	N.C.	N.O.	guide	fitting	guard							
	_	_	_	_	•	C2SF-C	_	_	_			
	•	_	_	_	•	AD27-C	_	_	_			
Polycarbonate	_	_	•	_	_	C2SF-J	C3SF-J	C4S	F-J			
	_ _		_	•	_	_	C3SF-W	C4S	F-W			
	_	_	•	_	•	C2SF-CJ	_	_	_			
	_	_	_	_	_	C2SF-6	C3SF-6	C4S	F-6			
	_	_	_	_	•	C2SF-6C	_	_	_			
	•	_	_	_	_	AD27-6	AD37-6	AD4	7-6			
Nixlon	_	•	_	_	_	_	AD38-6	AD4	l8-6			
Nylon	•	_	_	_	•	AD27-6C	_	_	_			
	_	_	•	_	_	C2SF-6J	C3SF-6J	C4SF-6J				
	_	_	_	•	_	_	C3SF-6W	C4SF	-6W			
	_	_	•	_	•	C2SF-6CJ	_	_	_			
	_	_	_	_	_	C2SF-2	C3SF-2	C4S	F-2			
Metal	•	_	_	_	_	AD27-2	AD37-2	AD4	17-2			
ivietai	_	•	_	_	_	_	AD38-2	AD4	l8-2			
	_	_	•	_	_	C2SF-2J	C3SF-2J	C4S	F-2J			
	_	_	_	_	_	_	C3LF-8	C4L	F-8			
Metal bowl with	•	_	_	_	_	_	AD37-8	AD4	17-8			
level gauge	_	•		_	_	_	AD38-8	AD4)48-8			
ievei gaugė –	_					_	C3LF-8J	C4LF-8J				

Note 1) Assembly of a bracket and 2 mounting screws

[•] Bowl assembly for the AFM30 to AFM40-06 models and AFD30 to AFD40-06 models comes with a bowl guard (steel band material). (except when the bowl material is metal)



Note 2) When the compressor oil mist discharge concentration is 30 mg/m³ (ANR). Note 3) Bowl O-ring and other O-rings are slightly lubricated.

Note 2) Minimum operating pressure: N.O. type–0.1 MPa; N.C. type–0.1 MPa (AD27) and 0.15 MPa (AD37/47),

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

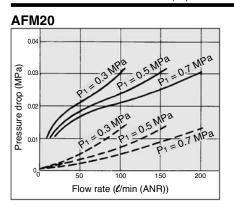
Note 3) Please consult SMC for details on drain piping to fit NPT or G port sizes.

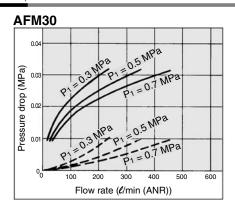
Note) • Bowl O-ring is included.

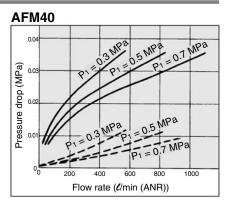
Series AFM20 to AFM40 Series AFD20 to AFD40

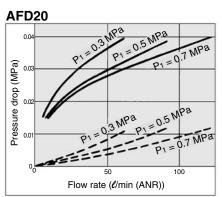
Flow Characteristics (Representative values)

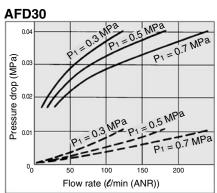
: When saturated with oil- - - : Initial state

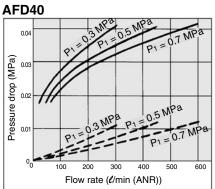












⚠ Specific Product Precautions

Be sure to read this before handling. Refer to "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Safety Instructions and F.R.L. Units Precautions.

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.
- Do not install on the inlet side of the dryer as this can cause premature clogging of the element.

Maintenance

Marning

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

Design

⚠ Caution

 Design the system so that the 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

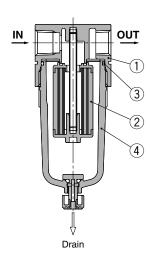
- 1. Do not allow air flow that exceeds the rated flow. If the air flow is allowed outside the range of the rated flow even momentarily, drainage and lubricant may splash at the outlet side or cause damage to the component.
- 2. Do not use in a low pressure application (such as a blower). F.R.L. unit 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.

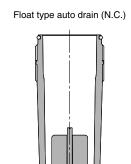


Mist Separator Series AFM20 to AFM40 Micro Mist Separator Series AFD20 to AFD40

Construction

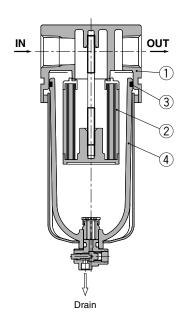
AFM20 AFD20

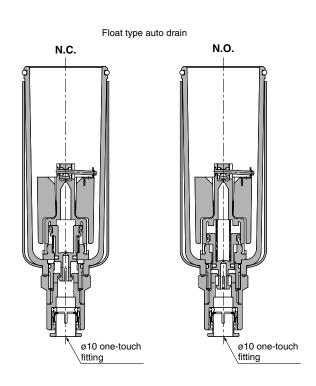




M5 x 0.8

AFM30 to AFM40-06 AFD30 to AFD40-06





Component Parts

	- Je			
No.	Description	Material	Model	Colour
4	Body	Zinc die-cast	AFM20, AFD20	Diatinum cilvar
	Body	Aluminum die-cast	AFM30 to AFM40-06, AFD30 to AFD40-06	Colour - Platinum silver

Replacement Parts

nep	lacement Parts						
					Part	no.	
No.	Description	on	Material	AFM20 AFD20	AFM30 AFD30	AFM40 AFD40	AFM40-06 AFD40-06
2	Element assembly	AFM20 to 40	_	AFM20P-060AS	AFM30P-060AS	AFM40F	P-060AS
	Element assembly	AFD20 to 40	_	AFD20P-060AS	AFD30P-060AS	AFD40F	P-060AS
3	Bowl O-ring		NBR	C2SFP-260S	C3SFP-260S	C4SFF	P-260S
4	4 Bowl assembly Note 1)		Polycarbonate	C2SF	C3SF Note 2)	C4SF	Note 2)

Note 1) Bowl O-ring is included. Please contact SMC regarding the bowl assembly supply for psi and °F unit specifications.

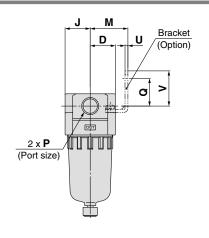
Note 2) Bowl assembly for the AFM30 to AFM40-06 models and the AFD30 to AFD40-06 models comes with a bowl guard (steel band material).

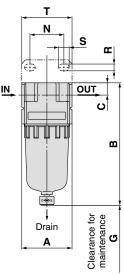


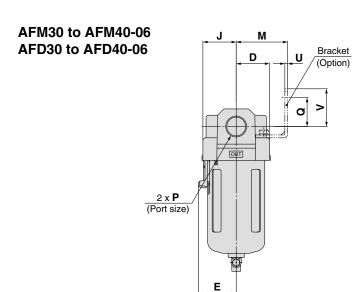
Series AFM20 to AFM40 Series AFD20 to AFD40

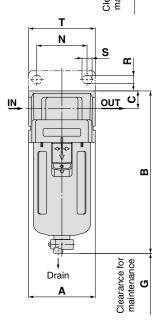
Dimensions

AFM20 AFD20









Applicable model		AFM20, AFD20	FM20, AFD20 AFM30 to AFM40-06, AFD30 to AFD40-06									
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	Drain cock with barb fitting					
Dimensions	a M5	B	dian.	N.O.: Black N.C.: Gray e10 one-louch fitting	8	8	1/4 Width across flats 17	Barto fitting Applicable tubing: T0604				

			Optional specifications														
Model		Standard specifications									Bracket mount						With auto drain
	P	Α	В	С	D	Е	G	J	М	N	Q	R	S	Т	U	٧	В
AFM20/AFD20	1/8, 1/4	40	97	10	20	_	40	20	30	27	22	5.4	8.4	40	2.3	28	115
AFM30/AFD30	1/4, 3/8	53	129	14	26.5	30	50	26.5	41	40	23	6.5	8	53	2.3	30	170
AFM40/AFD40	1/4, 3/8, 1/2	70	165	18	35	38	75	35	50	54	26	8.5	10.5	70	2.3	35	204
AFM40-06/AFD40-06	3/4	75	169	20	35	38	75	35	50	54	25	8.5	10.5	70	2.3	34	208

		Semi-standard specifications								
Model	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge						
	В	В	В	В						
AFM20/AFD20	_	101	97	_						
AFM30/AFD30	137	136	142	162						
AFM40/AFD40	173	172	178	198						
AFM40-06/AFD40-06	177	176	182	202						

Mist Separator *AFM20 to AFM40*Micro Mist Separator *AFD20 to AFD40* **Made to Order**



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

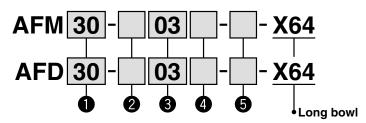
1 Long Bowl

Drain capacity is greater than that of standard models.

Applicable Model/Drain Capacity

Model	AFM20, AFD20	AFM30, AFD30	AFM40, AFD40	AFM40-06, AFD40-06
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4
Drain capacity (cm³)	19	43		88

Note) Please consult SMC for dimensions.



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

	/						0	
	5			Symbol	Description		Body size	
						20	30	40
				_	Rc	•	•	•
2		Th	rread type	N Note 1)	NPT	•	•	•
				F Note 2)	G	•	•	•
•				+				
				01	1/8	•	_	_
				02	1/4	•	•	•
 3			Port size	03	3/8	_	•	•
				04	1/2	_	_	•
				06	3/4	_	_	•
	()ntic	on (Mounting)	_	Without mounting option	•	•	•
		Jplic	on (wounting)	B Note 3)	With bracket	•	•	•
				+				
				_	Polycarbonate bowl	•	•	•
				2	Metal bowl	•	•	•
		а	Bowl	6	Nylon bowl	•	•	•
				С	With bowl guard	•	_	
				6C	Nylon bowl with bowl guard	•	_	
	٦			+				
	dar			_	With drain cock	•	•	•
6	tan	b	Drain port	Note 4)	Drain guide 1/8	•	_	
•	Semi-standard	~	Brain port		Drain guide 1/4		•	•
	Sen			W Note 5)	Drain cock with barb fitting: For ø6 x ø4 nylon tube		•	•
	0,			+				
		С	Flow direction	_	Flow direction: Left to right	•	•	•
			r low direction	R	Flow direction: Right to left	•	•	•
				+				
		d	Pressure unit	_	Name plate and caution plate for bowl in imperial units: MPa	•	•	•
		u	i ressure utilit	Z Note 6)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 7)	Note 7)	Note 7)

Note 1) Drain guide is NPT1/8 (applicable to the AFM20, AFD20) and NPT1/4 (applicable to the AFM30/40, AFD30/40).

Note 2) Drain guide is G1/8 (applicable to the AFM20, AFD20) and G1/4 (applicable to the AFM30/40). Note 3) A bracket is not assembled and supplied loose at the time of shipment. Includes 2 mounting screws

Note 4) Without a valve function

Note 5) Metal bowl: The combination with 2 cannot be selected with W.

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

Note 7) \bigcirc : For thread type: NPT only



Mist Separator *AFM30 to AFM40*Micro Mist Separator *AFD30 to AFD40* **Made to Order**



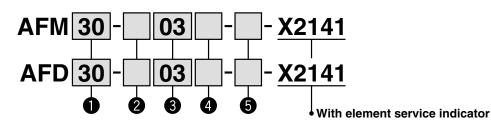
Please contact SMC for detailed dimensions, specifications, and lead times.

2 With Element Service Indicator

Clogging status of elements can be checked visually.

Applicable Model

Model	AFM30, AFD30	AFM40, AFD40	AFM40-06, AFD40-06
Port size	1/4, 3/8	1/4, 3/8, 1/2	3/4



A special body type is required to mount the clogging checker. It cannot be mounted on a standard body.

- Option/Semi-standard: Select one each for a to f.
- Option/Semi-standard symbol: When more than one specification is required, indicate in ascending alphanumeric order. Example) AF30-03BD-2R-X2141

	\	_				(
				Symbol	Description	Body	size
						30	40
				_	Rc	•	•
2		TI	hread type	Note 1)	NPT	•	•
				F Note 2)	G	•	•
				+			
				02	1/4	•	•
8			Port size	03	3/8	•	•
9			FUIT SIZE	04	1/2	_	•
				06	3/4	_	•
				+			
		а	Mounting	_	Without mounting option	•	•
	Note 3)	а	Mounting	B Note 3)	With bracket	•	•
4	O Float type			+			
	Spt		Float type	_	Without auto drain	•	•
		b	auto drain	С	Float type auto drain (N.C.)	•	•
			auto diam	D	Float type auto drain (N.O.)	•	•
				+			
				_	Polycarbonate bowl	•	•
		С	Bowl	2	Metal bowl	•	•
			Bowi	6	Nylon bowl	•	•
				8	Metal bowl with level gauge	•	•
	ō			+			
	dar			_	With drain cock	•	•
6	tan	d	Drain port Note 4)	J Note 5)	Drain guide 1/4	•	•
	ni-s			W Note 6)	Drain cock with barb fitting: For ø6 x ø4 nylon tube	•	•
	Semi-standard			+			
	•	е	Flow direction	_	Flow direction: Left to right	•	•
				R	Flow direction: Right to left	•	•
				+			
		f	Pressure unit		Name plate and caution plate for bowl in imperial units: MPa	•	•
				Z Note 7)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 8)	Note 8)

Note 1) Drain guide is NPT1/4. The auto drain port comes with a ø3/8" one-touch fitting.

Note 2) Drain guide is G1/4.

Note 3) Option B is not assembled and supplied loose at the time of shipment. Includes 2 mounting screws

Note 4) Float type auto drain: The combination between C or D is not available with the drain port option.

Note 5) Without a valve function

Note 6) Metal bowl: The combination of 2 and 8 cannot be selected with W.

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

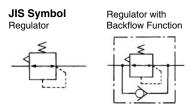
Note 8) O: For thread type: NPT only



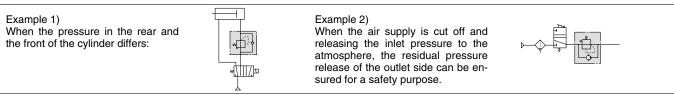
Modular Type Regulators Series AR

Regulator Series AR	Model	Port size	Options
	AR10	M5	
The same	AR20	1/8, 1/4	
	AR25	1/4, 3/8	
AND THE COLUMN TWO IS NOT THE COLUMN TWO IS	AR30	1/4, 3/8	
	AR40	1/4, 3/8, 1/2	
	AR40-06	3/4	Bracket Square embedded type
	AR50	3/4, 1	pressure gauge (except the AR10)
Page 47 through to 56	AR60	1	Round type pressure gauge
Regulator with Backflow Function Series AR□K	AR20K	1/8, 1/4	Digital pressure switch
SCHOOL AND	AR25K	1/4, 3/8	(except the AR10) Panel mount
	AR30K	1/4, 3/8	i anei mount
AMON - PA	AR40K	1/4, 3/8, 1/2	
	AR40K-06	3/4	
	AR50K	3/4, 1	
Page 47 through to 56	AR60K	1	

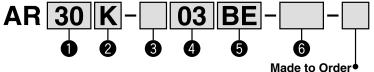
Regulator AR10 to AR60 Regulator with Backflow Function AR20K to AR60K



• With the backflow function it incorporates a mechanism to exhaust the air pressure in the outlet side reliably and quickly.



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 ascending alphanumeric order. Example) AR30K-03BE-1NR

6 Example) AR30K-03BE-1

					(Refer to pages 55 and 56 for details.)							
									0			
Syn				Symbol	Description			В	ody siz	ze		
						10	20	25	30	40	50	60
A		With	n backflow	_	Without backflow function	•	•	•	•	•	•	
2		fı	unction	K Note 1)	With backflow function	_	•	•	•	•	•	
				+							•	
					Metric thread (M5)	•	_	_	_		_	_
A		The	road tupo	_	Rc		•	•	•	•	•	•
9	Thread type		eau type	N	NPT	_	•	•			•	
				F	G		•	•	•	•	•	
				+								
				M5	M5			_	_	—	_	
				01	1/8		•		_	_	_	_
		Port size		02	1/4		•	•	•	•	_	_
4				03	3/8			•	•	•	_	_
				04	1/2		_		_	•		
				06	3/4		_	_	_	•	•	
				10	1			_	_	—		
				+								
				_	Without mounting option		•	•	•	•	•	
		a	Mounting	B Note 3)	With bracket		•	•	•	•	•	
				H	With set nut (for panel fitting)		•			•	_	
				+							_	
	Note 2)				Without pressure gauge		•	•	•	•	•	
	등		Pressure	E	Square embedded type pressure gauge (with limit indicator)		•	•	•	•	•	
6	Option		gauge	G	Round type pressure gauge (without limit indicator)		_	_	_	_	_	
					Round type pressure gauge (with limit indicator)		•	•	•	•	•	•
		b		M Note 4)	Round type pressure gauge (with colour zone)		•	•		•	•	
			Digital	E1 Note 4)	Output: NPN output / Electrical entry: Wiring bottom entry		•	•			•	
			pressure	E2 Note 4)	Output: NPN output / Electrical entry: Wiring top entry		•	•			•	
			switch	E3 Note 4)	Output: PNP output / Electrical entry: Wiring bottom entry							
				E4 Note 4)	Output: PNP output / Electrical entry: Wiring top entry							

Regulator Series AR10 to AR60

Regulator with Backflow Function Series AR20K to AR60K





AR20, AR20K

AR40, AR40K

	\	_								0				
				Symbol	Description	Body size								
							10	20	25	30	40	50	60	
			Cot proguiro	Note 5)	0.05 to 0.85 MPa setting		•	•	•	•	•	•	•	
		С	Set pressure	1 Note 6)	0.02 to 0.2 MPa setting		•	•	•	•	•	•	•	
				+										
		d	Exhaust	_	Relieving type		•	•	•	•	•	•		
		a	mechanism	N	Non-relieving type		•	•	•	•	•	•	•	
	ard			+										
	Semi-standard		Flow direction	_	Flow direction: Left to right		•	•	•	•	•	•	•	
6	sta	е	riow direction	R	Flow direction: Right to left		•	•	•	•	•	•	•	
	ΪĖ			+										
	Se	f	Knob	_	Downward		•	•	•	•	•	•	•	
		•	KIIOD	Υ	Upward		•	•	•	•	•	•	•	
				+										
				_	Name plate and pressure gauge in imperial units: MPa		•	•	•	•	•	•	•	
		g	Pressure unit	Z Note 7)	Name plate and pressure gauge in imperial units: psi	7 (Note 9)	Note 9)	ONote 9)	Note 9)	Note 9)	Note 9)	Note 9)	
				ZA Note 8)	Digital pressure switch: With unit conversion function	1	_	△Note 10)						

- Note 1) The AR10 type comes with a backflow function as a standard feature. (K is not available.) When using the AR10 type as w/ backflow function, backflow may not occur with the set pressure 0.15 MPa or less. Please set the inlet pressure to at least 0.05 MPa higher than the set pressure.
- Note 2) Option B, G, H and M are not assembled and supplied loose at the time of shipment.
- Note 3) Assembly of a bracket and set nuts (AR10, AR20(K) to AR40(K))
 Including 2 mounting screws for the AR50(K) and AR60(K)
 Note 4) When choosing with H (panel mount), the installation space for lead wires will
- be limited. In this case, select "wiring top entry" for the electrical entry. (Select "wiring bottom entry" when the semi-standard Y is chosen simultaneously.)

 Note 5) Only the AR10 has a pressure setting of 0.05 to 0.7 MPa.

- Note 6) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.2 MPa pressure gauge will be fitted.
- Note 7) For thread type: M5 and NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

 The digital pressure switch will be equipped with the unit conversion function,
- setting to psi initially.

 Note 8) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)
- Note 9) ○: For thread type: M5 and NPT only Note 10) △: Select with options: E1, E2, E3, E4.

Standard Specifications

Ctantaara opeomeanem									
Model	AR10	AR20(K)	AR25(K)	AR30(K)	AR40(K)	AR40(K)-06	AR50(K)	AR60(K)	
Port size	M5 x 0.8	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1	
Pressure gauge port size Note 1)	ort size Note 1) 1/16 Note 2) 1/8 1/4								
Fluid				Α	ir				
Ambient and fluid temperature Note 3)				–5 to 60°C (wi	th no freezing)			
Proof pressure				1.5	MPa				
Maximum operating pressure				1.0	MPa				
Set pressure range	0.05 to 0.7 MPa			0.05 to 0).85 MPa				
Relief pressure Note 4)		Se	t pressure + 0.	.05 MPa [at re	lief flow rate o	f 0.1 <i>e</i> /min (AN	R)]		
Construction		Relieving type							
Mass (kg)	0.06	0.26	0.21	0.29	0.44	0.47	1.17	1.22	

Note 1) Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge (AR20(K) to AR60(K)).

Note 2) Use a bushing (part no:131368) when connecting the R1/8 pressure gauge to the Rc1/16.

Note 3) -5 to 50°C for the products with the digital pressure switch.



Note 4) Not applicable to the AR10.

Series AR10 to AR60 Series AR20K to AR60K

Options/Part No.

Option		Model	AR10	AR20(K)	AR25(K)	AR30(K)	AR40(K)	AR40(K)-06	AR50(K)	AR60(K)	
Brack	et assem	bly Note 1)	AR10P-270AS	AR20P-270AS	AR20P-270AS AR25P-270AS AR30P-270AS AR40P-270AS			AR50P-270AS Note 2)			
Set nu	ıt		AR10P-260S	AR20P-260S	AR25P-260S	AR30P-260S	AR40F	P-260S	Note 3)	Note 3)	
	Note 4) Round	Standard	G27-10-R1		G36-10-□01			G46-1	0-□02		
		0.02 to 0.2 MPa setting	G27-10-R1 ^{Note 5)}		G36-2-□01			G46-2	2-□02		
Press- ure	Round	Standard	_		G36-10-□01-L	-	G46-10-□02-L				
gauge	type (with colour zone)	0.02 to 0.2 MPa setting	_		G36-2-□01-L			G46-2-	.□02-L		
	Square Note 6)	Standard	_	GC3-10AS [GC3P-010AS (Pressure gauge cover only)]							
	embedded type	0.02 to 0.2 MPa setting	_		GC3-2	2AS [GC3P-01	0AS (Pressur	e gauge cover	only)]		
		NPN output: Wiring bottom entry			ISE35-1	N-25-MLA [ISE	35-N-25-M (S	witch body onl	y)] Note 7)		
Digita		NPN output: Wiring top entry			ISE35-F	R-25-MLA [ISE	35-R-25-M (S	witch body onl	y)] Note 7)		
pressi		PNP output: Wiring bottom entry	_		ISE35-1	N-65-MLA [ISE	35-N-65-M (S	witch body onl	y)] Note 7)		
		PNP output: Wiring top entry			ISE35-F	R-65-MLA [ISE	35-R-65-M (S	witch body onl	y)] Note 7)		

Note 1) Assembly includes a bracket and set nuts

Note 2) Assembly includes a bracket and 2 mounting screws

Note 3) Please consult with SMC regarding the set nuts for the AR50(K) and AR60(K).

Note 4)
in part numbers for a round pressure gauge indicates a type of connection thread. No indication is necessary for R; however, indicate N for NPT. Please contact SMC regarding the connection thread NPT and pressure gauge supply for psi unit specifications.

Note 5) Pressure gauge for general purpose

Note 6) Including one O-ring and 2 mounting screws. []: Pressure gauge cover only

Note 7) Lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screw (2 pcs.) are attached. []: Switch body only Also, regarding how to order the digital pressure switch, please refer to page 89.

⚠ Specific Product Precautions

Be sure to read this before handling. Refer to "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Safety Instructions and F.R.L. Units Precautions.

Selection

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

Maintenance

M Warning

 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 and Adjustment

<u> Marning</u>

- Set the regulator while verifying the displayed values of the inlet and outlet pressure gauges. Turning the regulator knob excessively can cause damage to the internal parts.
- 2. The pressure gauge included with regulators for 0.02 to 0.2 MPa setting is for up to 0.2 MPa use only (except the AR10). Exceeding 0.2 MPa of pressure can damage the gauge.
- Do not use tools on the pressure regulator knob as this may cause damage. It must be operated manually.

⚠ Caution

- 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).



A knob cover is available to prevent careless operation of the knob. Refer to page 90 for details.

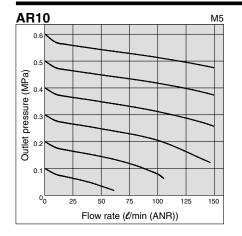


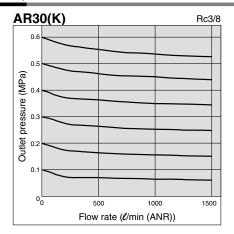
Regulator Series AR10 to AR60

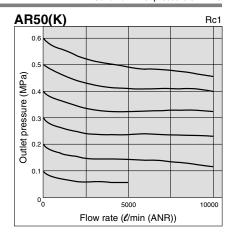
Regulator with Backflow Function Series AR20K to AR60K

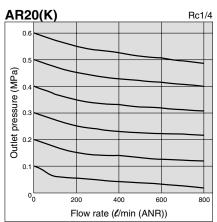
Flow Characteristics (Representative values)

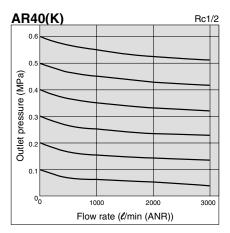
Condition: Inlet pressure 0.7 MPa

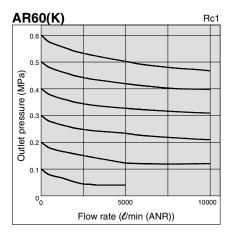


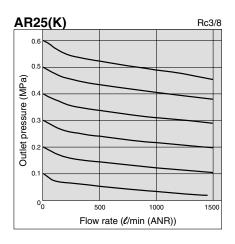


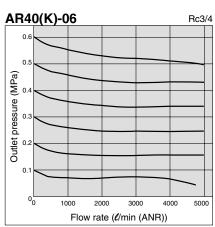








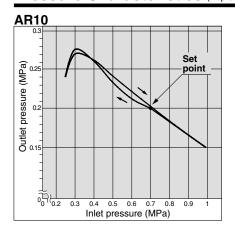


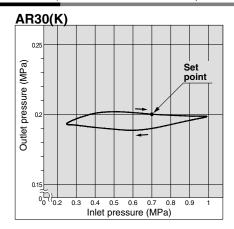


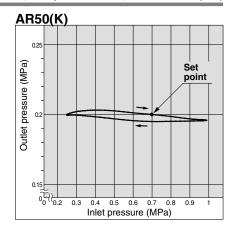
Series AR10 to AR60 Series AR20K to AR60K

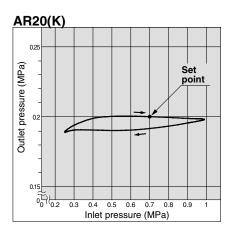
Pressure Characteristics (Representative values)

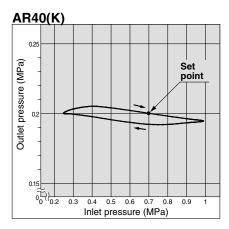
Conditions: Inlet pressure 0.7 MPa, Outlet pressure 0.2 MPa, Flow rate 20 t/min (ANR)

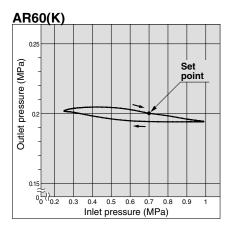


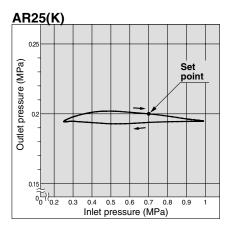


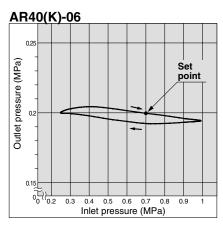










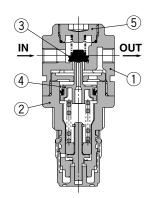


Regulator Series AR10 to AR60

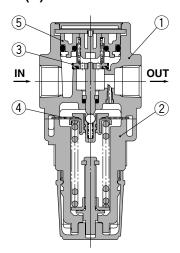
Regulator with Backflow Function Series AR20K to AR60K

Construction

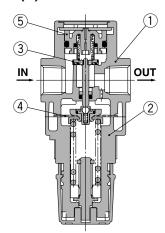
AR10



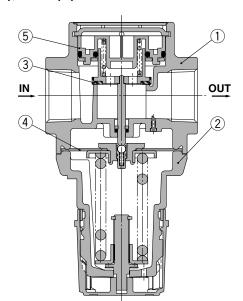
AR30(K), AR40(K)



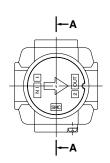
AR20(K), AR25(K)

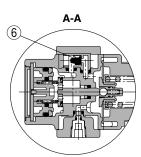


AR50(K), AR60(K)



AR20K to AR60K (Regulator with Backflow Function)





Component Parts

No.	Description	Material	Model	Color		
-	Body	Zinc die-cast	AR10, AR20(K)	Platinum silver		
	Body	Aluminum die-cast	AR25(K) to AR60(K)	Fiatilium Silver		
•	Bonnet	Polyacetal	AR10, AR20(K) to AR40(K)-06	Black		
	Donnet	Aluminum die-cast	AR50(K), AR60(K)	- Black		

Replacement Parts

No.	Description	Material		Part no.								
INO.	Description	Ivialeriai	AR10	AR20(K)	AR25(K)	AR30(K)	AR40(K)	AR40(K)-06	AR50(K)	AR60(K)		
3	Valve assembly	Brass, HNBR	AR10P-090S	AR20P-410S	AR25P-410S	AR30P-410S	AR40I	P-410S	AR50P-410S	AR60P-410S		
4	Diaphragm assembly	Weatherable NBR	AR10P-150AS Note 1)	AR20P-150AS	AR25P-150AS	AR30P-150AS	AR40F	2-150AS	AR50P-150AS			
5	Valve guide assembly	Polyacetal	131329	AR20P-050AS	AR25P-050AS	AR30P-050AS	AR40F	2-050AS	AR50P-050AS	AR60P-050AS		
6	Check valve assembly Note 2)	_	_	AR20KP-020AS								

Note 1) The AR10 is a piston type. Assembly of a piston and a seal (KSYP-13).

Note 2) Check valve assembly is applicable for a regulator with backflow function (AR20K to AR60K) only. Assembly of a check valve cover, check valve body assembly and 2 screws



Series AR10 to AR60 Series AR20K to AR60K

Working Principle (Regulator with Backflow Function)

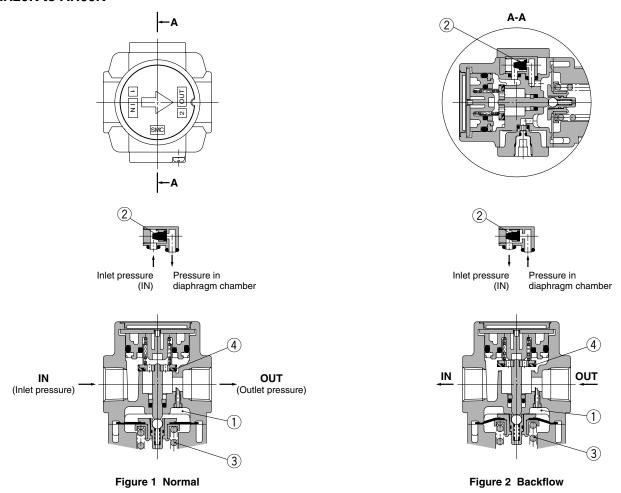


Figure 2

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

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

AR20K to AR60K



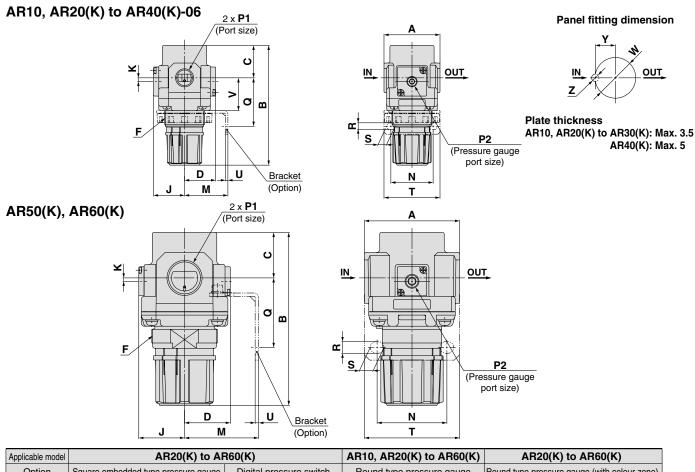
When the inlet pressure is higher than the regulating pressure, check valve ② closes and operates as a normal regulator (Figure 1). When the inlet pressure is shut off and released, check valve ② opens and the pressure in diaphragm chamber ① is released into the inlet side (Figure 2).

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

Regulator Series AR10 to AR60

Regulator with Backflow Function Series AR20K to AR60K

Dimensions



Applicable model	AR20(K) to AF	R60(K)	AR10, AR20(K) to AR60(K)	AR20(K) to AR60(K)
Option	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with colour zone)
Dimensions	Centre of piping	Centre of piping	±	Centre of piping

				04								Ор	tional sp	ecification	ns		
Model		Standard specifications									Square type Digital pressure gauge pressure switch			Round type pressure gauge		Round type pressure gauge (with colour zone)	
	P1	P2	Α	B Note 1)	С	D	F	J	K	Η	J	Н	J	Н	J	Н	J
AR10	M5 x 0.8	1/16	25	58	11	12.5	M18 x 1	13	0		_	_	-	ø26	26	_	_
AR20(K)	1/8, 1/4	1/8	40	94	26.5	28.5	M28 x 1	28.5	2 ^{Note 2)}	□28	29.5	□27.8	40	ø37.5	65	ø37.5	65
AR25(K)	1/4, 3/8	1/8	53	101	28	27.5	M32 x 1.5	27.5	0	□28	28.5	□27.8	39	ø37.5	64	ø37.5	64
AR30(K)	1/4, 3/8	1/8	53	116	31	29.5	M38 x 1.5	29.5	3.5	□28	30.5	□27.8	41	ø37.5	66	ø37.5	66
AR40(K)	1/4, 3/8, 1/2	1/4	70	128	36	34	M42 x 1.5	34	3.5	□28	35	□27.8	45	ø42.5	74	ø42.5	74
AR40(K)-06	3/4	1/4	75	129	36	34	M42 x 1.5	34	3	□28	35	□27.8	45	ø42.5	74	ø42.5	74
AR50(K)	3/4, 1	1/4	90	169	43	43.5	M62 x 1.5	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84
AR60(K)	1	1/4	95	176	46	43.5	M62 x 1.5	43.5	3.3	□28	44.5	□27.8	55	ø42.5	84	ø42.5	84

					Option	al specifi	cations						
Model			Br	acket mo	unt				Panel	mount			
	М	N	Q	R	S	Т	U	V	W	Υ	Z		
AR10	25	28	30	4.5	6.5	40	2	18	18.5	_	_		
AR20(K)	30	34	44	5.4	15.4	55	2.3	25	28.5	14	6		
AR25(K)	30	34	44	5.4	15.4	55	2.3	26	32.5	16	6		
AR30(K)	41	40	46	6.5	8	53	2.3	31	38.5	19	7		
AR40(K)	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7		
AR40(K)-06	50	54	56	8.5	10.5	70	2.3	37	42.5	21	7		
AR50(K)	70	66	65.8	11	13	90	3.2	_	_	_			
AR60(K)	70	66	65.8	11	13	90	3.2	_	_	_	_		

Note 1) The total length of B dimension is the length when the filter regulator knob is unlocked. Note 2) For the AR20 only, the position of the pressure gauge is above the centre of the piping.



Regulator AR20 to AR60 **Made to Order**



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



① Special Temperature Environment

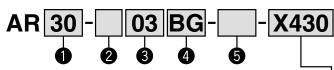
Special materials are used in the manufacturing of seals and resin parts to allow them to withstand various temperature conditions in cold or tropical (hot) climates.

Specifications

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

Applicable Model

Model	AR25	AR30	AR40	AR40-06	AR50	AR60
Port size	1/4, 3/8	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 g.
- · Option/Semi-standard symbol: When more than one specification is required, indicate in ascending alphanumeric order.

Example) AR30-03BG-1NR-X430

For high/low temperature

X430	Low temperature
X440	High temperature

	\	_		Symbol	Description		В	ody siz	ze	
						25	30	40	50	60
				_	Rc		•	•	•	•
2	Т	hrea	ad type	N	NPT	•	•	•	•	•
				F	G	•	•	•	•	•
				+		,				
				02	1/4		•	•	_	_
				03	3/8	•	•	•	_	_
3		Port	t size	04	1/2	_	_	•	_	_
				06	3/4	_	_	•	•	_
				10	1		_		•	•
	_									
					Without mounting option	•	•	•	•	•
	Note 1)	а	Mounting	B Note 2)	With bracket	•	•	•	•	•
	등	ű	Iviounting	н	With set nut					_
4	Option				(for panel fitting)					
	0									
		b	Pressure	G Note 3)	Round type pressure gauge					
			gauge		(without limit indicator)	L				
								_		_
		С	Set		0.05 to 0.85 MPa setting		•	•	•	•
			pressure	1 Note 4)	0.02 to 0.2 MPa setting					
							_	_	_	_
		d	Exhaust		Relieving type		•	•	•	•
			mechanism	N	Non-relieving type					
	p.		Floor	+	Flam discational after 2000					
	[월]	е	Flow		Flow direction: Left to right		-	-	•	-
9	Semi-standard		unection	R	Flow direction: Right to left				•	•
	<u> </u>			+	Downward					
	Sel	f	Knob				-		_	-
				+	Upward					
										l
		g	Pressure	_	Name plate and pressure gauge in imperial units: MPa	•	•	•	•	•
		9	unit	Z Note 5)	Name plate and caution plate for bowl in imperial units: psi	Note 6)				

Note 1) Option B. G. H are not assembled and supplied loose at the time of shipment. Note 2) Assembly includes a bracket and set nuts (AR25 to AR40)

Includes 2 mounting screws for the AR50 and AR60 Note 3) Mounting thread for pressure gauge: 1/8 for the AR25 to AR30; 1/4 for the AR40 to AR60. Pressure gauge type: G43

Note 4) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.2 MPa pressure gauge will be fitted.

Note 5) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) Note 6) \bigcirc : For thread type: NPT only

2 High Pressure

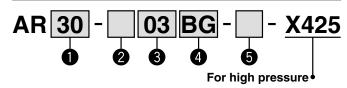
Strong materials are used in the manufacturing of air filters intended for high pressure operation. Also, construction modification allows a wider regulating pressure range.

Specifications

-					
Made-to-order part no.	-X425				
Proof pressure (MPa)	3.0				
Maximum operating pressure (MPa)	2.0				
Set pressure range (MPa)	0.1 to 1.6				
Ambient and fluid temperature (°C)	-5 to 60°C (with no freezing)				

Applicable Model

Model	AR20	AR25	AR30	AR40	AR40-06	AR50	AR60
Port size	1/8, 1/4	1/4, 3/8	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 ascending alphabetic order.

Ex	amp	ole)	AR30-03	BG- <u>NR</u>	-X425						
	\	_		Count al	December			(
				Symbol	Description			Body			
						20	25	30	40	50	60
				_	Rc		•	•	•	•	
2	Т	hrea	ad type	N	NPT	•	•	•	•	•	
				F	G				•	•	
_				+							,
				01	1/8		_	_	_	_	
				02	1/4		•	•	•	_	
8		Por	t size	03	3/8		•	•	•	_	_
9		1 01	1 3120	04	1/2		—	_	•	_	
				06	3/4		_	_	•	•	-
				10	1	_	—	—	_	•	
				+							
				_	Without mounting option		•	•	•	•	
	Mote 1)	а	Mounting	B Note 2)	With bracket		•	•	•	•	
		a	iviouriting	н	With set nut						
4				п	(for panel fitting)	•	_	•	•		-
_	0			+							
			Pressure	G Note 3)	Round type pressure switch						
		b	gauge	G Note 3)	(with limit indicator)	•	_	•	•	_	┖
				+							
			Exhaust	_	Relieving type		•	•	•	•	
		С	mechanism	N	Non-relieving type		•	•	•	•	
				+							
		d	Flow	_	Flow direction: Left to right		•	•	•	•	
	ard	a	direction	R	Flow direction: Right to left	•	•	•	•	•	•
_	Semi-standard			+							
6	sta		Knob	_	Downward		•	•	•	•	
_	=	е	KIIOD	Υ	Upward		•	•	•	•	
	Sei			+							
			Pressure	-	Name plate and pressure gauge in imperial units: MPa	•	•	•	•	•	ullet
		f	unit	Z Note 4)	Name plate and caution plate for bowl in imperial units: psi	Note 5)					

Note 1) Option B, G, H are not assembled and supplied loose at the time of shipment. Note 2) Assembly includes a bracket and set nuts (AR20 to AR40) Includes 2 mounting screws for the AR50 and AR60

Note 3) Mounting thread for pressure gauge: 1/8 for AR20 to AR30, 1/4 for AR40 to AR60. Pressure gauge type: G46-20-□
Note 4) For thread type: NPT. This product is for overseas use only according to the

new Measurement Law. (The SI unit type is provided for use in Japan.)
Note 5) O: For thread type: NPT only

Regulator AR10 to AR60 Regulator with Backflow Function AR20K to AR60K Made to Order



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

③ 0.4 MPa Setting

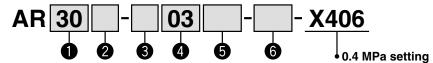
The maximum set pressure is 0.4 MPa. When a pressure gauge is included, the display will show a range from 0 to 0.4 MPa.

Specifications

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

Applicable Model

Model	AR10	AR20(K)	AR25(K)	AR30(K)	AR40(K)	AR40(K)-06	AR50(K)	AR60(K)
Port size	M5	1/8, 1/4	1/4, 3/8	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 ascending alphabetic order. Example) AR30K-03BE-NR-X406

	Syr											
		_		Symbol	Description				Body size			
						10	20	25	30	40	50	60
				_	Without backflow function		•	•	•	•	•	•
2	V	vith b	ackflow function	K Note 1)	With backflow function	-	•	•	•	•	•	•
				+					•			
					Metric thread (M5)		_	_	_	_	_	_
8		-	hread type		Rc	_		•		•	•	
9			illeau type	N	NPT	_	•	•		•	•	•
				F	G		•	•	•	•	•	
				+								
				M5	M5						_	_
				01	1/8		•				_	
				02	1/4	_	•	•	•	•	-	_
4			Port size	03	3/8		_	•	•	•	-	_
				04	1/2	-	_	_	_	•	_	_
				06	3/4		_	_	_	•	•	
				10	1]	–	-	_		•	
				+	West of the second seco	1						
					Without mounting option		•	•	•	•	•	•
		а	Mounting	B Note 3)	With bracket		•	•	•	•	•	•
				H	With set nut (for panel fitting)			•	•	•	_	
				+	Med.							
	Note 2)			E	Without pressure gauge		•	•	•	•	•	•
	Option		Pressure gauge		Square embedded type pressure gauge (with limit indicator)		•	•	-	•	•	•
6	bt			G	Round type pressure gauge (without limit indicator)		_	•	•	-	_	-
				М	Round type pressure gauge (with limit indicator)	-				_	•	
		b		E1 Note 4)	Round type pressure gauge (with colour zone) Output: NPN output / Electrical entry: Wiring bottom entry	H -				-	•	
			Digital pressure	E2 Note 4)	Output: NPN output / Electrical entry: Wiring bottom entry Output: NPN output / Electrical entry: Wiring top entry	╂	_		-	_		
			switch	E3 Note 4)	Output: PNP output / Electrical entry: Wiring top entry Output: PNP output / Electrical entry: Wiring bottom entry	╂						
			SWILCH	E4 Note 4)	Output: PNP output / Electrical entry: Wiring bottom entry Output: PNP output / Electrical entry: Wiring top entry	╟═				_		
				+	Output: 1 141 Output / Liectifical entry. Willing top entry	l			_			
			Exhaust	T _	Relieving type					•		
		С	mechanism	N	Non-relieving type						Š	
				+	Troit tollowing typo				_			
	_				Flow direction: Left to right					•	•	
	larc	d	Flow direction	R	Flow direction: Right to left						•	
	and			+								
6	esta			<u> </u>	Downward		•			•	•	
	ime	е	Knob	Υ	Upward		•	•	•	•	•	•
	Š			+	•							
					Name plate and pressure gauge in imperial units: MPa		•	•	•	•	•	
		f	Pressure unit	Z Note 5)	Name plate and pressure gauge in imperial units: psi	Note 7)	Note 7)	Note 7)	Note 7)	Note 7)	Note 7)	Note 7)
				ZA Note 6)	Digital pressure switch: With unit switching function	1 🗀	△ Note 8)	△ Note 8)	△ Note 8)	△ Note 8)	△ Note 8)	△ Note 8)
	Semi-standard	f	Knob Pressure unit	Y + — Z Note 5)	Upward Name plate and pressure gauge in imperial units: MPa Name plate and pressure gauge in imperial units: psi						\sim	\sim

- Note 1) The AR10 type comes with a backflow function as a standard feature. (K is not available.) When using the AR10 type as w/ backflow function, backflow may not occur with the set pressure 0.15 MPa or less. Please set the inlet pressure to at least 0.05 MPa higher than the set pressure
- Note 2) Option B, G and H are not assembled and supplied loose at the time of shipment.
- Note 3) Assembly of a bracket and set nuts (AR10, AR20(K) to AR40(K)) Includes 2 mounting screws for the AR50(K), AR60(K)
- Note 4) 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 simulta-
- Note 5) For thread type: M5 and NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) The digital pressure switch will be equipped with the unit conversion function, setting to psi initially.
- Note 6) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)
 Note 7) \bigcirc : For thread type: M5 and NPT only
 Note 8) \triangle : Select with options: E1, E2, E3, E4.



Modular Type Lubricators Series AL

Lubricator Series AL	Model	Port size	Option
81	AL10	M5	
	AL20	1/8, 1/4	
■ Marie → Mar	AL30	1/4, 3/8	
ol = set	AL40	1/4, 3/8, 1/2	Bracket
e []	AL40-06	3/4	
Text	AL50	3/4, 1	
Page 59 through to 64	AL60	1	

Lubricator

AL10 to **AL60**





How to Order

- Option/Semi-standard: Select one each for a to d.
- Option/Semi-standard symbol: When more than one specification is required, indicate in ascending alphanumeric order.

Example) AL30-03B-2R

JIS Symbol Lubricator

					L	Lxampic)	00 001				
	_	_									
				Symbol	Description			Body	size		
						10	20	30	40	50	60
					Metric thread (M5)						
2		Ti	nread type		Rc		•	•	•	•	•
9		• • •	nead type	N	NPT		•	•	•	•	•
				F	G		•	•	•	•	
				+							
				M5	M5		_	_	_	_	_
				01	1/8		•	_	_	_	
				02	1/4		•	•	•	_	
3			Port size	03	3/8		_	•	•	_	
				04	1/2	_	_	_	•	_	_
				06	3/4	_	_	_	•	•	_
				10	1		_	_	_	•	•
				+							
Δ	4 Option (Mounting)			_	Without mounting option		•	•	•	•	•
4				B Note 1)	With bracket		•	•	•	•	•
				+			•				
				_	Polycarbonate bowl		•	•	•	•	•
				1	1000 cm ³ tank		_	△Note 2)	△Note 2)	△Note 2)	△Note 2)
				2	Metal bowl		•	•	•	•	•
				6	Nylon bowl	•	•	•	•	•	•
		а	Bowl	8	Metal bowl with level gauge			•	•	•	•
	٦			С	With bowl guard		•	_	_	_	_
	daı			6C	Nylon bowl with bowl guard		•	_	_	_	_
6	Semi-standard			+	· ·			1	1		
	ni-s			_	Without drain cock		•	•	•	•	•
	Ser	b	Lubricant	3	With drain cock		•	•	•	•	•
			exhaust port	3W	Drain cock with barb fitting: For ø6 x ø4 nylon tube		_	•	•	•	•
				+	<u> </u>		1				
				_	Flow direction: Left to right		•	•	•	•	•
		С	Flow direction	R	Flow direction: Right to left		•	•	•	•	•
				+	3						_
			_		Name plate and caution plate for bowl in imperial units: MPa		•	•	•	•	•
		d	Pressure unit	Z Note 3)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 4)	Note 4)	(Note 4)	Note 4)	Note 4)	Note 4)
					remote printed and addition point in mapping difficulting point						\sim

Note 1) Option B is not assembled and supplied loose at the time of shipment.

Note 2) \triangle : Dedicated lubricant discharge function is equipped, and the combination with option 3 or 3W from semi-standard section b is not available.

Note 3) For thread type: M5 and NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Note 4) \bigcirc : For thread type: M5 and NPT only



Standard Specifications

Model	AL10	AL20	AL30	AL40	AL40-06	AL50	AL60				
Port size	M5	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1				
Fluid	Air										
Proof pressure	1.5 MPa										
Maximum operating pressure				1.0 MPa							
Ambient and fluid temperature	−5 to 60°C (with no freezing)										
Minimum dripping flow rate ^{Note)} [∉min (ANR)]	4	15	1/4: 30 3/8: 40	1/4: 30 3/8: 40 1/2: 50	50	190	220				
Oil capacity (cm³)	7	25	55		13	35					
Recommended lubricant			Class 1	turbine oil (ISC	VG32)						
Bowl material				Polycarbonate							
Bowl guard	_	Semi-standard		Standard							
Mass (kg)	0.07	0.20	0.24	0.47	0.52	1.06	1.13				

Note) • The flow rate is 5 drips 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 opened.

Option/Part No.

Ontional appoifications	Model									
Optional specifications	AL10	AL20	AL30	AL40	AL40-06	AL50	AL60			
Bracket assembly Note)	_	AF20P-050AS	AF30P-050AS	AF40P-050AS	AF40P-070AS	AF50P-050AS	AF50P-050AS			

Note) Assembly includes a bracket and 2 mounting screws. The part number for bracket assembly for 1000 cm3 is AF50P-050AS (applicable to the AL30 to AL60).

Semi-standard/Bowl Assembly Part No.

S	emi-standard s	pecifications					Model				
Bowl material	With drain guide	With barb fitting	With bowl guard	AL10	AL20	AL30	AL40	AL40-06	AL50	AL60	
	•	_	_	C1SL-3	C2SL-3	C3SL-3		C4SL-3			
Polycarbonate	_	_	•	_	C2SL-C	_	_		_		
Polycarbonate	•	_	•	_	C2SL-3C	_	_	_	_	_	
	•	•	_	_	_	C3SL-3W	C4SL-3W				
	_	_	_	C1SL-6	C2SL-6	C3SL-6		C4SL-6			
	•	_	_	C1SL-36	C2SL-36	C3SL-36	C4SL-36				
Nylon	_	_	•	_	C2SL-6C	_	_	_	_	_	
	•	_	•	_	C2SL-36C	_	_	_	_	_	
	•	•	_	_	_	C3SL-36W		C4SL	-36W		
Metal	_	_	_	C1SL-2	C2SL-2	C3SL-2		C4S	L-2		
ivietai	•	_	_	C1SL-23	C2SL-23	C3SL-23		C4S	L-23		
Metal bowl with	_	_	_	_	_	C3LL-8		C4L	L-8		
level gauge	•	_	_	_	_	C3LL-38		C4LI	38		
1000 cm ³ tank (Metal bowl with level gauge	_	_	_	_	_						

Note) • Bowl O-ring (or seal) is included for the AL20 to AL60.

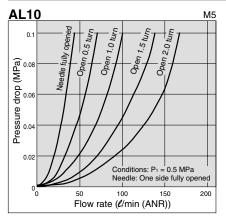
- Bowl assembly for the AL30 to AL60 models comes with a bowl guard (steel band material). (except when the bowl material is metal)
- Please consult SMC for psi and °F unit display specifications.
- When switching bowl materials from a polycarbonate or nylon product to a metal bowl with a level gauge, the oil feed tube assembly must be replaced. (Also, when switching bowl materials from a metal bowl with a level gauge to a polycarbonate or nylon product, the oil feed tube assembly must be replaced.)
 Please consult SMC separately.
- It is not possible to switch from a polycarbonate, nylon or metal bowl, or from a metal bowl with a level gauge to a 1000 cm³ tank. Please order the product separately.

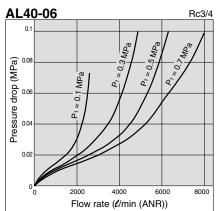


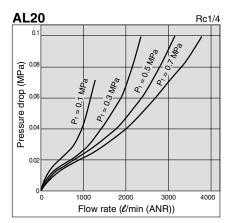
[•] Use air consumption flow rate for minimum dripping flow rate.

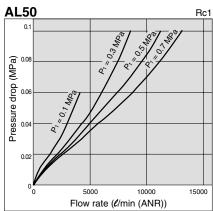
Series AL10 to AL60

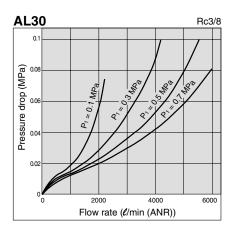
Flow Characteristics (Representative values)

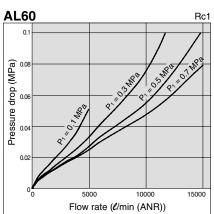


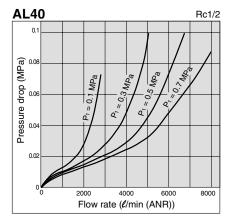




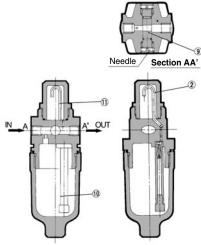








Working Principle: AL10 Type



A portion of the air introduced from the IN side pressurizes the lubricant inside the bowl. The remainder of the air passes through the needles ③, and flows to the OUT side. The pressure differential between the inside of the bowl and the inside of the sight dome ②, causes the lubricant inside the bowl into the oil passage ⑩. The lubricant drips from the dripping tube ⑪, and lubricates the OUT side. The amount of lubricant is adjusted by the needle ⑨, on the front face. Turning the needle clockwise increases the amount of the lubricant, and turning it counterclockwise until fully opened shuts off the lubricant. The needle on the side that is not used should be left fully opened.

↑ Specific Product Precautions

Be sure to read this before handling. Refer to "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Safety Instructions and F.R.L. Units Precau-

Selection

△Warning

 Do not introduce air from the outlet side as this can damage the damper.

∆ Caution

 Use a check valve (AKM series) to prevent back flow of the lubricant when redirecting the air flow before the lubricator.

Maintenance

△Warning

- For the AL10/20 type, replenish the lubricant after releasing the inlet pressure. Lubrication cannot take place under a pressurized condition.
- 2. Adjustment of the oil regulating valve for models from the AL20 to AL60 should be carried out manually. Turning it counterclockwise increases the dripping amount, and turning it clockwise reduces the dripping amount. The use of tools, etc. can result in damage to the unit. From the fully closed position, three rotations will bring it to the fully open position. Please 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.

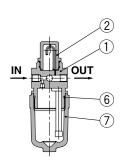
⚠ Caution

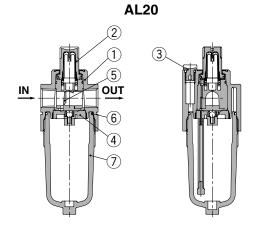
Check the dripping amount once a day. Drip failure can cause damage to the components that need lubrication.



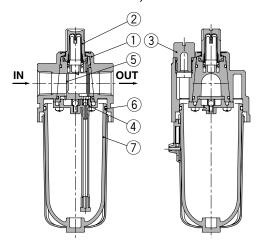
Construction



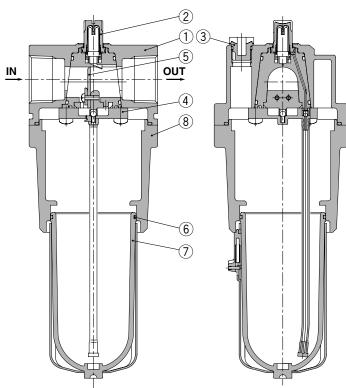




AL30, AL40







Component Parts

No.	Description	Material	Model	Colour	
1	Body	Zinc die-cast	AL10, AL20	Platinum silver	
	Бойу	Aluminum die-cast	AL30 to AL60		
8	Housing	Aluminum die-cast	AL50, AL60	Platinum silver	

Replacement Parts

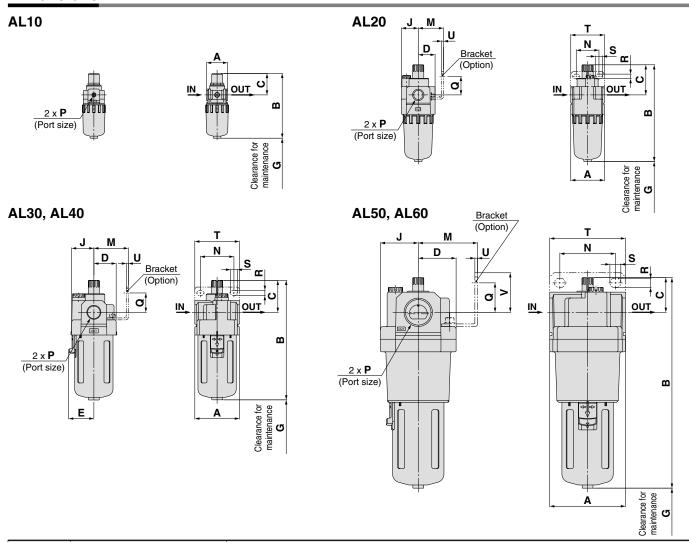
No.	Description	Material	Part no.									
INO.	Description	ivialeriai	AL10	AL20	AL30	AL40	AL40-06	AL50	AL60			
2	Sight dome assembly	Polycarbonate	AL10P-080AS			AL20P-080AS						
3	Lubrication plug assembly	_	_	AL20P-060AS	AL30P-060AS	AL40P-060AS						
4	Damper retainer assembly Note 1)	_	_	AL20P-030AS	AL30P-030AS	AL40P	-030AS	AL50P-030AS	AL60P-030AS			
5	Damper (assembly)	Synthetic resin	_	AL20P-040S	AL30P-040S	AL40F	P-040S	AL50P-040AS	AL60P-040AS			
6	Bowl O-ring	NBR	C1SFP-260S	C2SFP-260S	C3SFP-260S	C4SFP-260S						
7	Bowl assembly Note 2)	Polycarbonate	C1SL	C2SL	C3SL Note 3)	C4SL Note 3)						

Note 1) Add "-1" at the end of the part number when ordering a damper retainer assembly for 1000 cm³. Example) AL30P-030AS-1 Note 2) Bowl O-ring is included for the AL20 to AL60. Please contact SMC regarding the bowl assembly supply for psi and °F unit specifications. Note 3) Bowl assembly for the AL30 to AL60 models comes with a bowl guard (steel band material).



Series AL10 to AL60

Dimensions



Applicable model	AL1	0/20	AL30 to AL60									
Optional/Semi-standard specifications	With drain cock	Metal bowl with drain cock	Metal bowl	With drain cock	Metal bowl with level gauge	Metal bowl with drain cock	Metal bowl with drain cock & level gauge	Drain cock with barb fitting				
Dimensions	B	8		B	B	8	8	Barb fitting Applicable tubing: T0604				

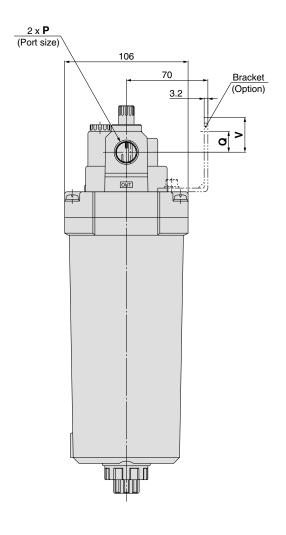
			Ctons	lard anac	ifications						Option	al specifi	cations		
Model			Staric	iaiu spec	ilications						Bracke	et mountii	ng size		
	P	Α	В	С	D	E	G	J	M	N	Q	R	S	Т	U
AL10	M5	25	77	26	12.5	_	35	12.5	_	_	_	_	_	_	_
AL20	1/8, 1/4	40	115	36	20	_	60	20	30	27	22	5.4	8.4	40	2.3
AL30	1/4, 3/8	53	142	38	26.5	30	80	26.5	41	40	23	6.5	8	53	2.3
AL40	1/4, 3/8, 1/2	70	176	40	35	38	110	35	50	54	26	8.5	10.5	70	2.3
AL40-06	3/4	75	176	38	35	38	110	35	50	54	25	8.5	10.5	70	2.3
AL50	3/4, 1	90	250	41	45	45	110	45	70	66	35	11	13	90	3.2
AL60	1	95	268	45	47.5	_	110	47.5	70	66	35	11	13	90	3.2

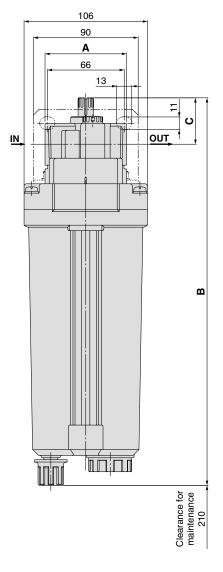
			Semi-standard	specifications		
Model	With drain cock	With barb fitting	Metal bowl	Metal bowl with drain cock	Metal bowl with level gauge	Metal bowl with drain cock & level gauge
	В	В	В	В	В	В
AL10	85	_	82	85	_	_
AL20	123	_	121	124	-	_
AL30	153	161	142	166	162	186
AL40	187	195	176	200	196	220
AL40-06	187	195	176	200	196	220
AL50	261	269	250	274	270	294
AL60	279	287	268	292	288	312



Dimensions

Semi-standard specifications: 1000 cm³ tank





Madal	P				Bracke	t mount	With float switch		
Model	P	Α	В	С	Q	V	В		
AL30	1/4, 3/8	53	324	38	25	_	374		
AL40	1/4, 3/8, 1/2	70	333	40	18	_	383		
AL40-06	3/4	75	333	38	16	_	383		
AL50	3/4, 1	90	332	41	35	47	382		
AL60	1	95	335	45	35	47	385		

Modular Type Filter Regulators Series AW

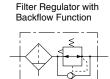
Filter Regulator Series AW	Model	Port size	Options
	AW10	M5	
	AW20	1/8, 1/4	
	AW30	1/4, 3/8	
	AW40	1/4, 3/8, 1/2	
T W	AW40-06	3/4	
Page 67 through to 78	AW60	3/4, 1	
Filter Regulator with Backflow Function Series AW□K	AW20K	1/8, 1/4	
	AW30K	1/4, 3/8	
	AW40K	1/4, 3/8, 1/2	
₩ In.	AW40K-06	3/4	Bracket Float type auto drain
Page 67 through to 78	AW60K	3/4, 1	Square embedded type pressure gauge
Mist Separator Regulator Series AWM	AWM20	1/8, 1/4	(except the AW10) Round type pressure gauge Digital pressure switch
	AWM30	1/4, 3/8	(except the AW10) Panel mount
Page 79 through to 88	AWM40	1/4, 3/8, 1/2	
Micro Mist Separator Regulator Series AWD	AWD20	1/8, 1/4	
	AWD30	1/4, 3/8	
Page 79 through to 88	AWD40	1/4, 3/8, 1/2	

Filter Regulator

AW10 to AW60

Filter Regulator with Backflow Function AW20K to AW60K

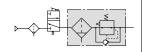




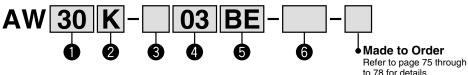
- Integrated filter and regulator units save space and require less piping.
- With the backflow function it incorporates a mechanism to exhaust the air pressure in the outlet side reliably and quickly.

Example)

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



How to Order



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

	to 78 for details.										
						0					
Symbol		Symbol	Description		Body size						
			*			20	30	40	60		
	VACUE to a stationary		i	Without backflow function							
With backflow function W Note 1)		K Note 1)	With backflow function								
				+	WHIT DECKNOW INTERIOR						
					Metric thread (M5)	•	_	_	_	_	
A				_	Rc	_	•	•	•	•	
3		Thread type		Note 2)	NPT		•	•	•	•	
				F Note 3)	G	_	•		•	•	
				+				1	1		
4		M5 01 02 Port size 03		_	M5				_	_	
					1/8	_	•	_	_	_	
					1/4	_	•	•	•	_	
					3/8	<u> </u>	_			_	
				04	1/2	_				_	
		06 10			3/4			_		•	
				+	1						
				1 -	Without mounting option		•	•	•		
		а	Mounting	B Note 5)	With bracket		•	•	•	•	
				Н	With set nut (for panel fitting)	•	•	•	•	_	
		+									
			Float type auto drain		Without auto drain	•	•	•	•	•	
	Note 4)	b		С	Float type auto drain (N.C.)	•	•	•	•	•	
				D	Float type auto drain (N.O.)	_	_				
	u				West and an arrangement of the second						
6	Option	c	Pressure gauge		Without pressure gauge			•	•		
				E	Square embedded type pressure gauge (with limit indicator)			•		_	
				G	Round type pressure gauge (without limit indicator) Round type pressure gauge (with limit indicator)		•		•	_	
				M	Round type pressure gauge (with limit indicator) Round type pressure gauge (with colour zone)					•	
			Digital pressure switch	E1 Note 6)	Output: NPN output / Electrical entry: Wiring bottom entry						
				E2 Note 6)	Output: NPN output / Electrical entry: Wiring top entry	_					
				E3 Note 6)	Output: PNP output / Electrical entry: Wiring bottom entry			•	•	•	
				E4 Note 6)	Output: PNP output / Electrical entry: Wiring top entry		•		•	•	
				a superior and a supe							
	Semi-standard	d	Set pressure	Note 7)	0.05 to 0.85 MPa setting	•	•	•	•	•	
				1 Note 8)	0.02 to 0.2 MPa setting		•	•	•		
				+							
		e	e Bowl		Polycarbonate bowl		•	•	•		
6				2	Metal bowl		•	•	•		
				6	Nylon bowl	•	•	•	•	•	
				8 C	Metal bowl with level gauge	<u> </u>	_	_	• —	<u>•</u>	
				6C	With bowl guard		•			_	
				90	Nylon bowl with bowl guard						

Filter Regulator Series AW10 to AW60

Filter Regulator with Backflow Function Series AW20K to AW60K



								0			
				Symbol	Description	Body size					
						10	20	30	40	60	
				_	With drain cock	•	•	•	•	•	
		f Drain port Note 9)		Note 10)	Drain guide 1/8	_	•	_	_	_	
				J Note 10)	Drain guide 1/4		_	•	•	•	
				W Note 11)	Drain cock with barb fitting: For ø6 x ø4 nylon tube	_	_	•	•	•	
				+			•				
	dar		Exhaust	_	Relieving type	•	•	•	•	•	
A	standard	g	mechanism	N	Non-relieving type	•	•	•	•	•	
6	i-st			+							
	Semi-	h	Flow direction	_	Flow direction: Left to right	•	•	•	•	•	
	တ	•••	riow direction	R	Flow direction: Right to left	•	•	•	•		
				+							
				_	Name plate, caution plate for bowl, and pressure gauge in imperial units: MPa						
			Pressure unit	Z Note 12)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	O Note 14)	Note 14)	O Note 14)	Note 14)	O Note 14)	
		ZA Not		ZA Note 13)	Digital pressure switch: With unit conversion function		△ Note 15)	△ Note 15)	△ Note 15)	△ Note 15)	

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

 Note 2) Drain guide is NPT1/8 (applicable to the AW20(K)) and NPT1/4 (applicable to the AW30(K) to AW60(K)). The auto drain port comes with ø3/8" one-touch fitting (applicable to the AW30(K) to AW60(K)).
- Note 3) Drain guide is G1/8 (applicable to the AW20(K)) and G1/4 (applicable to the AW30(K) to AW60(K)). Note 4) Option B, G, H and M are not assembled and supplied loose at the time of shipment.
- Note 5) Assembly of a bracket and set nuts (AW10, AW20(K) to AW40(K))
- Includes 2 mounting screws for the AW60(K)
 Note 6) When choosing with H (panel mount), the installation space for lead wires will be limited. In this case, select "wiring top entry" for the electrical entry.
- Note 7) Only the AW10 has a pressure setting of 0.05 to 0.7 MPa.
- Note 8) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is
- attached, a 0.2 MPa pressure gauge will be fitted.

 Note 9) Float type auto drain: The combination between C or D is not available with the drain port options.

- Note 10) Without a valve function
- Note 11) Metal bowl: The combination of 2 cannot be selected with W.
- Note 12) For thread type: M5 and NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) The digital pressure switch will be equipped with the unit conversion function,
- setting to psi initially. Note 13) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)
 Note 14) O: For thread type: M5 and NPT only
- Note 15) △: Select with options: E1, E2, E3, E4.

Standard Specifications

Model	AW10	AW20(K)	AW30(K)	AW40(K)	AW40(K)-06	AW60(K)				
Port size	M5 x 0.8	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1				
Pressure gauge port size Note 1)	1/16 Note 2)	1/	8	1/4						
Fluid			Α	ir						
Ambient and fluid temperature Note 3)			-5 to 60°C (wit	th no freezing)						
Proof pressure			1.5 N	MРа						
Maximum operating pressure		1.0 MPa								
Set pressure range	0.05 to 0.7 MPa			0.05 to 0.85 MPa	a					
Relief pressure Note 4)		Set pressure +	0.05 MPa [at re	lief flow rate of 0	0.1 ℓ/min (ANR)]					
Nominal filtration rating			5 <u>j</u>	um						
Drain capacity (cm³)	2.5	8	25	45	45	45				
Bowl material			Polycar	bonate						
Bowl guard	_	— Semi-standardStandard								
Construction			Relievir	ng type						
Mass (kg)	0.09	0.32	0.40	0.72	0.75	2.00				

Note 1) Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge (AW20(K) to AW60(K)). Note 2) Use a bushing (part no:131368) when connecting the R1/8 pressure gauge to the Rc1/16.

Note 3) –5 to 50°C for the products with the digital pressure switch Note 4) Not applicable to the AW10.



Series AW10 to AW60 Series AW20K to AW60K

Options/Part No.

	Ontional angeif	iaatiana			Мо	del				
	Optional specif	ications	AW10(K)	AW20(K)	AW30(K)	AW40(K)	AW40(K)-06	AW60(K)		
Bracket	assembly Note 1)		AR10P-270AS	AW20P-270AS	AR30P-270AS	AR40P	2-270AS	AW60P-270AS Note 6)		
Set nut			AR10P-260S	AR20P-260S	AR30P-260S	AR40I	P-260S	Note 7)		
	Round type Note 2)	Standard	G27-10-R1	G36-1	0-□01		G46-10-□02			
	Hourid type	0.02 to 0.2 MPa setting	G27-10-R1 Note 3)	G36-2	2-□01	G46-2-□02				
Pressure	Round type Note 2)	Standard	_	G36-10	-□01-L	G46-10-□02-L				
gauge	(with colour zone)	0.02 to 0.2 MPa setting	_	G36-2-	.□01-L	G46-2-□02-L				
990	Square embedded	Standard	_	GC3-10AS [GC3P-010AS (Pressure gauge cover only)]						
	type Note 4)	0.02 to 0.2 MPa setting	_	G	C3-2AS [GC3P-0	3-2AS [GC3P-010AS (Pressure gauge cover only)]				
		NPN output / Wiring bottom entry		IS	E35-N-25-MLA	[ISE35-N-25-M ((Switch body only	y)]		
Digital p	ressure Note 5)	NPN output / Wiring top entry		IS	E35-R-25-MLA	[ISE35-R-25-M (Switch body only	y)]		
switch		PNP output / Wiring bottom entry	_	IS	E35-N-65-MLA	[ISE35-N-65-M (Switch body only	y)]		
		PNP output / Wiring top entry		IS	E35-R-65-MLA	[ISE35-R-65-M (Switch body only)]				
	Note 8) Note 9)	N.C.	AD17	AD27	AD27 AD37		AD47			
rioat typ	e auto drain	N.O.	_	_	AD38	AD48				

Semi-standard/Bowl Assembly Part No.

S	emi-stan	dard spec	rifications	2				Mo	del		
Bowl material	Note 8) Note 9) Float type auto drain		Note 9) With drain	With barb	With	AW10(K)	AW20(K)	AW30(K)	AW40(K)	AW40(K)-06	AW60(K)
	N.C.	N.O.	guide	fitting	guard						
	_	_		_		_	C2SF-C	_			
	•	_		_		_	AD27-C	_	_		
Polycarbonate	_	_	•	_	_	_	C2SF-J	C3SF-J	C4SF-J		
	_	_		•	_	_	_	C3SF-W	C4SF-W		
	_	_	•	_	•	_	C2SF-CJ	_			
	_	_		_	_	C1SF-6	C2SF-6	C3SF-6	C4SF-6		
		_		_	•	_	C2SF-6C	_	-		
	•	_		_	_	AD17-6	AD27-6	AD37-6		AD47-6	
	_	•		_	_	_	_	AD38-6	AD48-6		
Nylon	•	_		_	•	_	AD27-6C	_	_		
	_	_	•	_	_		C2SF-6J	C3SF-6J	C4SF-6J		
	_	_		•	_	_	_	C3SF-6W		C4SF-6W	
	_	_	•	_	•	_	C2SF-6CJ	_		_	
	_	_		_	_	C1SF-2	C2SF-2	C3SF-2		C4SF-2	
N4 - 4 - 1	•	_		_	_	AD17-2	AD27-2	AD37-2		AD47-2	
Metal	_	•		_	_	_	_	AD38-2		AD48-2	
	_	_	•	_	_	_	C2SF-2J	C3SF-2J		C4SF-2J	
	_	_	_	_	_	_	_	C3LF-8		C4LF-8	
Metal bowl with	•	_	_	_	_	_	_	AD37-8		AD47-8	
level gauge	_	•	_	_	_	_	_	AD38-8		AD48-8	
	_	_	•	_	_	_	_	C3LF-8J		C4LF-8J	

Note 1) Assembly includes a bracket and set nuts

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

Note 3) Standard pressure gauge

Note 4) Including one O-ring and 2 mounting screws. []: Pressure gauge cover only
Note 5) Lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screw (2 pcs.) are attached. []: Switch body only. Also, regarding how to order the digital pressure switch, please refer to page 89. A pressure switch adapter assembly (AW60P-310AS) will be additionally required for the AW60(K) only. Use the attached mounting screw (M3 x 0.5 x 14) for mounting. The mounting screw (M3 x 0.5 x 7) attached to the digital pressure switch assembly will not be required.

Note 6) Assembly of a bracket and 2 mounting screws

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

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

Note 9) Please consult SMC for details on drain piping to fit NPT or G port sizes. Note) • Bowl O-ring is included for the AW20(K) to AW60(K).

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





Series AW10 to AW60 Series AW20K to AW60K Specific Product Precautions

Be sure to read this before handling. Refer to "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Safety Instructions and F.R.L. Units Precautions.

Selection

Marning

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

Maintenance

⚠ Warning

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

Mounting and Adjustment

⚠ Warning

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

∧ Caution

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

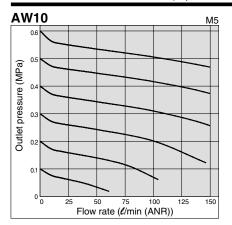


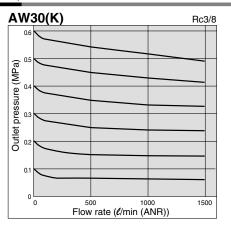
2. A knob cover is available to prevent careless operation of the knob. Refer to page 90 for details.

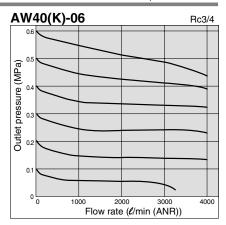
Series AW10 to AW60 Series AW20K to AW60K

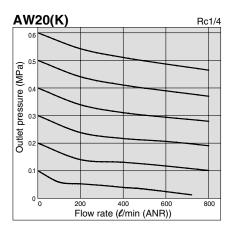
Flow Characteristics (Representative values)

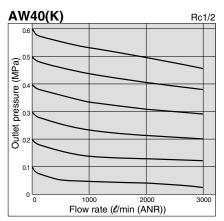
Condition: Inlet pressure 0.7 MPa

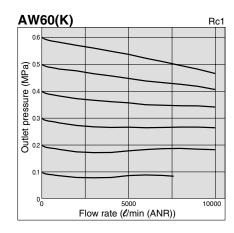






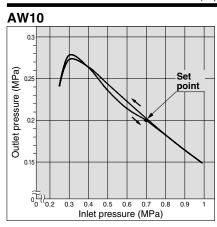


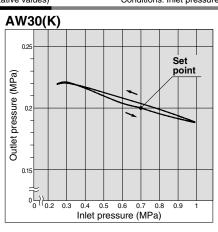


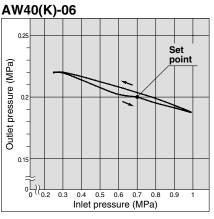


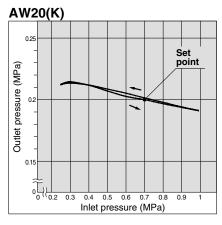
Pressure Characteristics (Representative values)

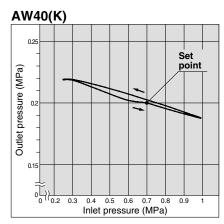
Conditions: Inlet pressure 0.7 MPa, Outlet pressure 0.2 MPa, Flow rate 20 t/min (ANR)

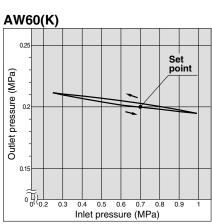








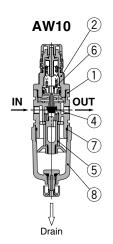




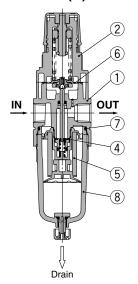
Filter Regulator Series AW10 to AW60

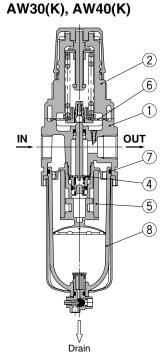
Filter Regulator with Backflow Function Series AW20K to AW60K

Construction



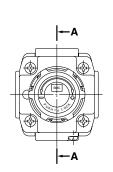
AW20(K)

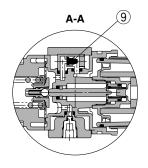


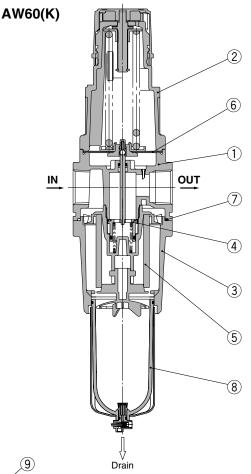


AW20K to AW60K

(Filter Regulator with Backflow Function)







Component Parts

No.	Description	Material	Model	Colour							
-	Body	Zinc die-cast	AW10, AW20	Platinum silver							
ı	Войу	Aluminum die-cast	AW30 to AW60	Fiaminin Silver							
2	Bonnet	Polyacetal	AW10 to AW40	Black							
	Donnet	Aluminum die-cast	AW60	Diack							
3	Housing	Aluminum die-cast	AW60	Platinum silver							

Replacement Parts

No.	Decemention	Motorial	Part no.								
INO.	Description	Material	AW10	AW20(K)	AW30(K)	AW40(K)	AR40(K)-06	AW60(K)			
4	Valve assembly	Brass, HNBR	AR10P-090S	AW20P-340AS	AW30P-340AS	AW40F	AW60P-090AS				
5	Filter element	Non-woven fabric	AF10P-060S	AF20P-060S	AF30P-060S	AF40P-060S		AW60P-060S			
6	Diaphragm assembly	Weatherable NBR	AR10P-150AS Note 1)	AR20P-150AS	AR30P-150AS	AR40P	-150AS	AR50P-150AS			
7	Bowl O-ring	NBR	C1SFP-260S	C2SFP-260S	C3SFP-260S		C4SFP-260S				
8	Bowl assembly Note 2)	Polycarbonate	C1SF	C2SF	C3SF Note 3)		C4SF Note 3)				
9	Check valve assembly Note 4)	_	_			AR20KP-020AS					

Note 1) The AW10 is a piston type. Assembly of a piston and a seal (KSYP-13).

Note 2) Bowl O-ring is included for the AW20(K) to AW60(K). Please contact SMC regarding the bowl assembly supply for psi and °F unit specifications.

Note 3) Bowl assembly for the AW30(K) to AW60(K) models comes with a bowl guard (steel band material).

Note 4) Check valve assembly is applicable for a filter regulator with backflow function (AW20K to AW60K) only. Assembly of a check valve cover, check valve body assembly and 2 screws







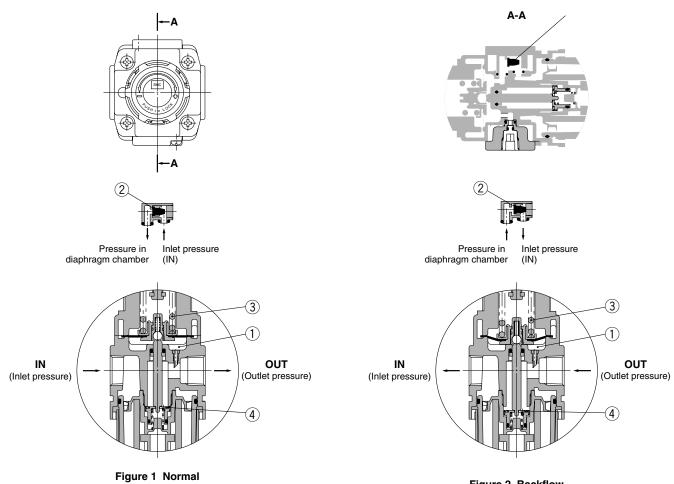
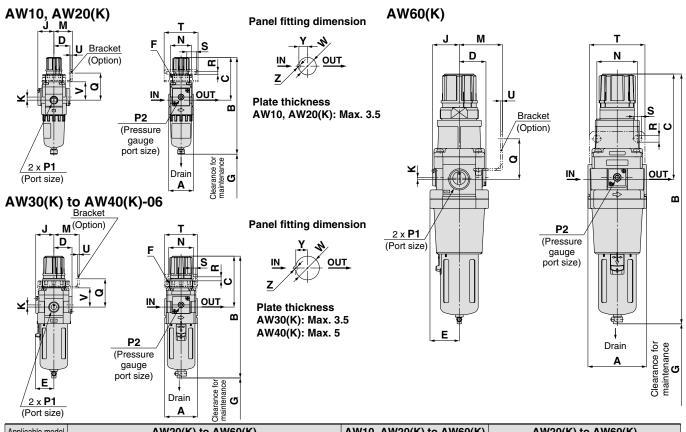


Figure 2 Backflow

Filter Regulator Series AW10 to AW60

Filter Regulator with Backflow Function Series AW20K to AW60K

Dimensions

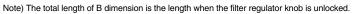


	0 9	- '		
Applicable model	AW20(K) to AV	V60(K)	AW10, AW20(K) to AW60(K)	AW20(K) to AW60(K)
Option	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge	Round type pressure gauge (with colour zone)
Dimensions	Centre of piping	Centre of piping	±	Centre of piping

Applicable model		W20(K)	AW20(K)	AW30(K) to AW60(K)							
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting			
Dimensions	M 5	a		N.O.: Black N.C.: Gray e10 one-touch fitting		a ,	1/4 Width across flats 17	Barb fitting Applicable tubing: T0604			

		Standard specifications									Optional specifications								
Model				S	itandar	a speci	rication	S				Square type pressure gauge		Digital pressure switch		Round type pressure gauge		Round type pressure gauge (with colour zone)	
	P1	P2	Α	B Note)	С	D	Е	F	G	J	K	Н	J	Н	J	Н	J	Н	J
AW10	M5	1/16	25	108	48	12.5	_	M18 x 1	25	13	0	_		_		ø26	26	_	_
AW20(K)	1/8, 1/4	1/8	40	160	73	26	_	M28 x 1	40	26	5	□28	27	□27.8	37.5	ø37.5	63	ø37.5	63
AW30(K)	1/4, 3/8	1/8	53	201	86	29.5	30	M38 x 1.5	55	29.5	3.5	□28	30.5	□27.8	41	ø37.5	66	ø37.5	66
AW40(K)	1/4, 3/8, 1/2	1/4	70	239	92	37.5	38	M42 x 1.5	80	37.5	1.5	□28	38.5	□27.8	49	ø42.5	76	ø42.5	76
AW40(K)-06	3/4	1/4	75	242	93	37.5	38	M42 x 1.5	80	37.5	1.2	□28	38.5	□27.8	49	ø42.5	76	ø42.5	76
AW60(K)	3/4, 1	1/4	95	409	175	43.5	47.5	_	20	43.5	3.2	□28	44.5	□27.8	61.5	ø42.5	84	ø42.5	84

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





Filter Regulator AW20 to AW60 **Made to Order**



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

① Special Temperature Environment

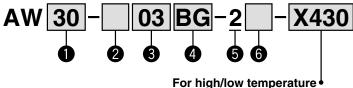
Special materials are used in the manufacturing of seals and resin parts to allow them to withstand various temperature conditions in cold or tropical (hot) climates.

Specifications

Made-to-	order part no.	-X430	-X440	
Environn	nent	Low temperature	High temperature	
Ambient to	emperature (°C)	−30 to 60°C	−5 to 80°C	
Fluid tem	perature (°C)	−5 to 60°C (wi	th no freezing)	
	Rubber parts	Special NBR	FKM	
Material	Main parts	Metal (Aluminum die-cast), etc.		

Applicable Model

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



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

r hiç	gh/low	temperature •				
	X430	Low temperature				
	X440	High temperature				

	_	_					0	
		_		Symbol	Description		Body size	
						30	40	60
				_	Rc	•	•	•
2		Th	read type	N	NPT	•	•	•
				F	G	•	•	•
				+				
				02	1/4	•	•	_
				03	3/8	•	•	
(3)	8		Port size	04	1/2	_	•	_
				06	3/4	_	•	•
				10	1	_	_	•
				+				
				_	Without mounting option	•	•	•
	Note 1)	а	Mounting	B Note 2)	With bracket	•	•	•
4	Option			Н	With set nut (for panel fitting)	•	•	_
	ဝြ			+				
		b	Pressure gauge	_	Without pressure gauge	•	•	•
			- recours gaage	G Note 3)	Round type pressure gauge (without limit indicator)	•	•	•
			· Note A	+				
6		Вс	owl Note 4)	2	Metal bowl	•	•	•
				+				
		С	Set pressure		0.05 to 0.85 MPa setting	•	•	•
				1 Note 5)	0.02 to 0.2 MPa setting	•	•	•
				+	THE STATE OF THE S		_	
		d	Drain port		With drain cock	•	•	•
	ard			J Note 6)	Drain guide 1/4	•	•	•
	Semi-standard			+	Delia de estado en la compansión de la c			
6	sta	е	Exhaust mechanism	 N	Relieving type		•	
	<u> </u>			+	Non-relieving type		•	•
	Sel				Flow direction: Left to right	_	•	
		f	Flow direction	R	Flow direction: Left to right Flow direction: Right to left			
				+	Flow direction. hight to left	•	•	•
					Name plate, caution plate for bowl, and pressure gauge in imperial units: MPa	•	•	
		g	Pressure unit	7 Note 7)	Name plate, caution plate for bowl, and pressure gauge in imperial units: NiFa Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	○ Note 8)	∩ Note 8)	Note 8)
				,	radino piato, odution piate ioi bowi, and pressure gauge in imperial dilits. psi, F	O 2.2. 2,	O,	<u> </u>

Note 1) Option B, G, H are not assembled and supplied loose at the time of shipment. Note 2) Assembly includes a bracket and set nuts (AW30 to AW40)

Includes 2 mounting screws for the AW60

Note 3) Mounting thread for pressure gauge: 1/8 for the AW30, 1/4 for the AW40 and AW60. Pressure gauge type: G43 Note 4) Only metal bowl 2 is available.

Note 5) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.2 MPa pressure gauge will be fitted.

Note 6) Without a valve function

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

Note 8) O: For thread type: NPT only



2 High Pressure

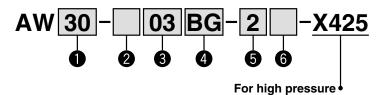
Strong materials are used in the manufacturing of air filters intended for high pressure operation. Also, construction modification allows a wider regulating pressure range.

Specifications

Made-to-order part no.	-X425				
Proof pressure (MPa)	3.0				
Maximum operating pressure (MPa)	2.0				
Set pressure range (MPa)	0.1 to 1.6				
Ambient and fluid temperature (°C)	-5 to 60°C (with no freezing)				

Applicable Model

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



AW30-03-2-X425

- ullet Option/Semi-standard: Select one each for ${f a}$ to ${f f}$.
- Option/Semi-standard symbol: When more than one specification is required, indicate in ascending alphanumeric order. Example) AW30-03BG-2N-X425

	_	_					(
				Symbol	Description		Body	size	
						20	30	40	60
_				_	Rc	•	•	•	•
2		Th	read type	N	NPT	•	•	•	•
				F	G	•	•	•	•
				+					
				01	1/8	•	_		
	2			02	1/4	•	•	•	
8			Port size	03	3/8		•	•	
9			OIT SIZE	04	1/2		_	•	
				06	3/4		_	•	•
				10	1	_	_	_	•
				+					
				_	Without mounting option	•	•	•	•
	Note 1)	а	Mounting	B Note 2)	With bracket	•	•	•	•
4	ļ ģ.			Н	With set nut (for panel fitting)	•	•	•	_
	Option			+					
		b	Pressure gauge		Without pressure gauge	•	•	•	•
			1 1033uic gauge	G Note of	Round type pressure gauge (with limit indicator)	•	•	•	•
				+					
6		D	owl Note 4)	2	Metal bowl	•	•	•	•
		ь	JWI /	8	Metal bowl with level gauge	_	•	•	•
				+					
		С	Exhaust mechanism	_	Relieving type	•	•	•	•
			Exhaust mochanism	N	Non-relieving type	•	•	•	•
				+		_			
	9			_	With drain cock	•	•	•	•
	dal	d	Drain port	. Note 5)	Drain guide 1/8	•	_	_	_
6	tau			•	Drain guide 1/4		•	•	•
	i-s			+		_			
	Semi-standard	e	Flow direction		Flow direction: Left to right	•	•	•	•
	U)		,	R	Flow direction: Right to left	•		•	
				+					
		f	Pressure unit		Name plate, caution plate for bowl, and pressure gauge in imperial units: MPa	● ○ N : : - 7\	● No. 27	O No. 170	• • • • • • • • • • • • • • • • • • •
		•	oooaro ariit	Z Note 6)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	Note 7)	ONote 7)	○ Note 7)	○ Note 7)

Note 1) Option B, G, H are not assembled and supplied loose at the time of shipment. Note 2) Assembly includes a bracket and set nuts (AW20 to AW40) Includes 2 mounting screws for the AW60

Note 3) Mounting thread for pressure gauge: 1/8 for the AW20 and AW30, 1/4 for the AW40 and AW60. Pressure gauge type: G46-20- \square Note 4) Only metal bowl 2 and 8 are available. Note 5) Without a valve function

Note 6) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) Note 7) \bigcirc : For thread type: NPT only

Filter Regulator AW10 to AW60

Filter Regulator with Backflow Function AW20K to AW60K

Made to Order

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



3 0.4 MPa Setting

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

Specifications

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

Applicable Model

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

4 Long Bowl

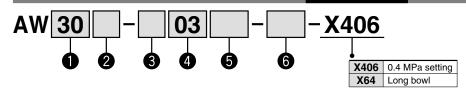
Drain capacity is greater than that of standard models.

Applicable Model/Drain Capacity

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

Note) Please consult SMC for dimensions.

How to Order



- ullet Option/Semi-standard: Select one each for ${f a}$ to ${f i}$.
- Option/Semi-standard symbol: When more than one specification is required, indicate in ascending alphanumeric order.

Example) AW30K-03BE-2N-X406

0.4 MPa Setting

Long Bowl

							0					0		
	_		Symbol	Description		E	Body siz	e			В	ody siz	e	
					10	20	30	40	60	10	20	30	40	60
2	With	backflow	_	Without backflow function	•	•	•	•	•	•	•	•	•	•
9	fu	unction	K Note 1)	With backflow function	_	•	•	•	•	_	•	•	•	•
			+											
				Metric thread (M5)	•	_	_	_	1			-	_	-
•	Thr	ead type		Rc	_	•	•	•	•	_	•	•	•	
3	1111	eau type	Note 2)	NPT	_	•	•	•	•	_	•	•	•	
			F Note 3)	G	_	•	•	•	•	_	•	•	•	
			+				•							
			M5	M5		_	_	_	_	•	_	_	_	
			01	1/8	_	•	_	_	-		•	_	_	
			02	1/4	_	•	•	•	-	_	•	•	•	
	P	ort size	03	3/8	_	_	•	•	_	_	_	•	•	
			04	1/2	_	_		•	_		-	_	•	
			06	3/4	_	_	_	•	•	_	_	_	•	-
			10	1	_		_	_	•	_	_	_	_	
			+											
				Without mounting option	•	•	•	•	•		•	•		
	а	Mounting	B Note 5)	With bracket		•	•	•	•	•	•	•	•	
			Н	With set nut (for panel fitting)	•	•	•	•	_		•	•	•	
			+											
		Float type		Without auto drain	•	•	•	•	•	_	_	_	_	
	b	auto drain	С	Float type auto drain (N.C.)	•	•	•	•	•	_	_	_	_	
Note 4		adio diaiii	D	Float type auto drain (N.O.)	_	_	•	•	•	_	_	_	_	
			+											
Option			_	Without pressure gauge	•	•	•	•	•		•	•	•	
O		Pressure	E	Square embedded type pressure gauge (with limit indicator)	_	•	•	•	•	_	•	•		
		gauge	G	Round type pressure gauge (without limit indicator)		_	_	_	_		_	_	_	
		gauge		Round type pressure gauge (with limit indicator)	_	•	•	•	•	_	•	•	•	
	С		M	Round type pressure gauge (with colour zone)	_	•	•	•	•	_	•	•	•	
		District	E1 Note 6)	Output: NPN output / Electrical entry: Wiring bottom entry	_	•	•	•	•	_	•	•	•	
		Digital	E2 Note 6)	Output: NPN output / Electrical entry: Wiring top entry	_	•	•	•	•		•	•	•	
		pressure switch	E3 Note 6)		_		•	•	•		•	•	•	
		SWILCH	E4 Note 6)	Output: PNP output / Electrical entry: Wiring top entry	_	•			•	_	•	•	•	

- Note 1) The AW10 type comes with a backflow function as a standard feature. (K is not available.) When using the AW10 type as w/ backflow function, backflow may not occur with the set pressure 0.15 MPa or less. Please set the inlet pressure to at least 0.05 MPa higher than the set pressure.
- Note 2) Drain guide is NPT1/8 (applicable to the AW20(K)) and NPT1/4 (applicable to the AW30(K) to AW60(K)). The auto drain port comes with a ø3/8" one-touch fitting (applicable to the AW30(K) to AW60(K)).
- Note 3) Drain guide is G1/8 (applicable to the AW20(K)) and G1/4 (applicable to the AW30(K) to AW60(K)).
- Note 4) Option B, G, H and M are not assembled and supplied loose at the time of shipment.
- Note 5) Assembly of a bracket and set nuts. (AW10, AW20(K) to AW40(K)). Includes 2 mounting screws for the AW60(K)
- Note 6) When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring down entry" for the electrial entry.



Filter Regulator Series AW10 to AW60 Filter Regulator with Backflow Function Series AW20K to AW60K

						C).4 M	Pa S	ettin	g		Loi	ng B	owl	
	_	_		Symbol	ymbol Description		[O Body siz	:e			E	1 Body siz	e	
						10	20	30	40	60	10	20	30	40	60
		d	Set pressure	— Note 7) 1 Note 8)	0.05 to 0.85 MPa setting 0.02 to 0.2 MPa setting	=	_	_	-	_	•	•	•	•	•
			+ 0.02 to 0.2 WiFa Setting												
				_	Polycarbonate bowl	•	•	•	•	•	•	•	•	•	
				2	Metal bowl	•	•	•	•	•		•	•	•	
		е	Bowl	6	Nylon bowl	•	•	•	•	•		•	•	•	
		-	DOWI	8	Metal bowl with level gauge	_	_	•	•	•	_	_	_	_	
				С	With bowl guard	_	•	_	_	_		•	_	=	
				6C	Nylon bowl with bowl guard	_	•			_			_	_	_
	ا ج			+											
	ga		Note 9)	_	With drain cock	•	•	•	•	•		•	•	•	
6	au	f	Drain port	Note 10)	Drain guide 1/8	_	•	_	_	_	_	•	_	_	
U	<u></u>	•	Brain port	•	Drain guide 1/4	_	_	•	•		_	_	•	•	
	Semi-standard			W Note 11)	Drain cock with barb fitting: For ø6 x ø4 nylon tube	_	_		•			_	•	•	
	\ \omega \			+											
		g	Exhaust		Relieving type	•	•	•	•	•		•	•	•	
		9	mechanism	N	Non-relieving type		•						•		
				+											
		h	Flow direction	_	Flow direction: Left to right	•	•	•	•	•		•	•	•	
				R	Flow direction: Right to left	•	•						•	•	
				+									_		
					Name plate, caution plate for bowl, and pressure gauge in imperial units: MPa		•		•	•		•	•	•	
		i	Pressure unit	Z Note 12)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	_		1	Note 14)	\sim	ONote 14)	1	0	\sim	Note 14)
				ZA Note 13)	Digital pressure switch: With unit conversion function	_	Note 15	Note 15	△ Note 15)	△ Note 15)		Note 15)	△ Note 15)	Note 15)	Note 15)

Note 7) Only the AW10 has a pressure setting of 0.05 to 0.7 MPa. Note 8) The only difference from the standard specifications is the adjusting spring for $\frac{1}{2}$

the regulator. It does not restrict the setting of 0.2 MPa or more. When the

pressure gauge is attached, a 0.2 MPa pressure gauge will be fitted.

Note 9) Float type auto drain: The combination between C or D is not available with the drain port option.

Note 10) Without a valve function

Note 10) Without a valve function

Note 11) Metal bowl: The combination of 2 and 8 cannot be selected with W.

Note 12) For thread type: M5 and NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

The digital pressure switch will be equipped with the unit conversion function, setting to psi initially.

Note 13) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)

Note 14) ○: For thread type: M5 and NPT only

Note 15) △: Select with options: E1, E2, E3, E4.



Mist Separator Regulator

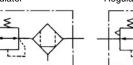
AWM20 to AWM40

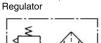
Micro Mist Separator Regulator

AWD20 to AWD40



JIS Symbol

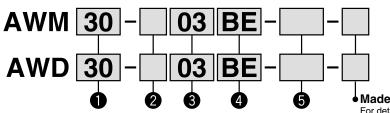




Micro Mist Separator

- The AWM series is made up of a regulator and a mist separator to provide optimum results in applications such as clean air blow operations. (Nominal filtration rating: 0.3 μm)
- The AWD series is made up of a regulator and a micro mist separator to provide optimum results in applications such as ultraclean air blow operations. (Nominal filtration rating: 0.01 μm)

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 ascending alphanumeric order.

Example) AWM30-03BE-1N

Made to Order For details, refer to pages 87 and 88. 0 Symbol Description Body size 20 30 40 • • Rc N Note 1) 2 Thread type **NPT** Note 2) G + 01 1/8 02 1/4 8 Port size 03 3/8 04 1/2 + Without mounting option B Note 4) а Mounting With bracket With set nut + Without auto drain Float type b C Float type auto drain (N.C.) auto drain D Float type auto drain (N.O.) + 4 Without pressure gauge Ε Square embedded type pressure gauge Pressure G gauge Round type pressure gauge М Round type pressure gauge (with colour zone) • C 1 Note 5) Output: NPN output / Electrical entry: Wiring bottom entry • Digital E2 Note 5 Output: NPN output / Electrical entry: Wiring top entry • • pressure E3 Note 5) Output: PNP output / Electrical entry: Wiring bottom entry • • switch **E4** Note 5) Output: PNP output / Electrical entry: Wiring top entry + Set pressure 0.05 to 0.85 MPa setting d Note 7) 0.02 to 0.2 MPa setting + Polycarbonate bowl 2 Metal bowl Semi-standard 6 Nylon bowl Bowl 8 Metal bowl with level gauge • • 6 C With bowl guard 6C Nylon bowl with bowl guard + With drain cock Drain guide 1/8 J Note 9) Drain port Note 8) Drain guide 1/4 W Note 10) Drain cock with barb fitting: For ø6 x ø4 nylon tube

Mist Separator Regulator Series AWM20 to AWM40 Micro Mist Separator Regulator Series AWD20 to AWD40





AWM20, AWD20

AWM40, AWD40

				Symbol	ymbol Description		Body size				
						20	30	40			
		_	Exhaust	_	Relieving type	•	•	•			
		g	mechanism	N	Non-relieving type	•	•	•			
	rd			+							
	nda	h	Flow direction		Flow direction: Left to right	•	•	•			
6	stal	''		R	Flow direction: Right to left	•	•	•			
	Semi-standard			+				_			
	Se				Name plate, caution plate for bowl, and pressure gauge in imperial units: MPa	•	•	•			
		i	Pressure unit	Z Note 11)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	O Note 13)	O Note 13)	O Note 13)			
				ZA Note 12)	Digital pressure switch: With unit conversion function	△ Note 14)	△ Note 14)	△ Note 14)			

- Note 1) Drain guide is NPT1/8 (applicable to the AWM20, AWD20) and NPT1/4 (applicable to the AWM30 to AWM40, AWD30 to AWD40). The auto drain port comes with a ø3/8" one-touch fitting (applicable to the AWM30 to AWM40, AWD30 to ÀWD40).
- Note 2) Drain guide is G1/8 (applicable to the AWM20, AWD20) and G1/4 (applicable to the AWM30 to AWM40, AWD30 to AWD40).
- Note 3) Option B, G, H and M are not assembled and supplied loose at the time of shipment.
- Note 4) Assembly includes a bracket and set nuts Note 5) 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.
- Note 6) Float type auto drain: when used in combination with C or D, minimum set pressure is: N.O. type–0.1 MPa; N.C. type–0.1 MPa (AD27) and 0.15 MPa (AD37/47).
- Note 7) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.2 MPa pressure gauge will be fitted.
- Note 8) Float type auto drain: The combination between C or D is not available with the drain port option.
- Note 9) Without a valve function.

- Note 10) Metal bowl: The combination of 2 and 8 cannot be selected with W.
- Note 11) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) The digital pressure switch will be equipped with the unit conversion function, setting to psi initially.
- Note 12) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)
- Note 13) ○: For thread type: NPT only Note 14) △: Select with options: E1, E2, E3, E4.

Standard Specifications

Model		AWM20 AWD20	AWM30 AWD30	AWM40 AWD40			
Port size		1/8, 1/4 1/4, 3/8 1/4, 3/8, 1/2					
Fluid			Air				
Proof pressure			1.5 MPa				
Maximum operating pressure			1.0 MPa				
Set pressure range			0.05 to 0.85 MPa				
Pressure gauge port size Note 1)		1,	/8	1/4			
Ambient and fluid temperature No	te 2)	-	-5 to 60°C (with no freezing)			
Nominal filtration rating	AWM20 to AWM40	0.3 μm (99.9% filtered particle size)					
Nonmai intration rating	AWD20 to AWD40	0.01 μm (99.9% filtered particle size)					
Outlet side oil mist	AWM20 to AWM40	Max. 1.0 mg/m³ (ANR) (≈ 0.8 ppm) Note 3) Note 4)					
concentration	AWD20 to AWD40	Max. 1.0 mg/m³ (ANR) (Before s	saturated with 0.001 mg/m³ (ANR)	or less ≈ 0.008 ppm) Note 3) Note 4)			
Rated flow (/min (ANR)) Note 5)	AWM20 to AWM40	150	330	820			
hated flow (affilit (ANh))	AWD20 to AWD40	90	180	450			
Drain capacity (cm³)		8	25	45			
Bowl material			Polycarbonate				
Bowl guard		Semi-standard Standard					
Construction		Relieving type					
Mass (kg)		0.44	0.59	1.25			

Note 1) Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge. Note 2) -5 to 50°C for the products with the digital pressure switch. Note 3) When the compressor oil mist discharge concentration is 30 mg/m³ (ANR).

Note 4) Bowl O-ring and other O-rings are slightly lubricated.

Note 5) Conditions: Mist separator inlet pressure: 0.7 MPa; outlet pressure: 0.5 MPa. The rated flow varies depending on the inlet pressure. Keep the air flow within the rated flow to prevent an outflow of lubricant to the outlet side.



Series AWM20 to AWM40 Series AWD20 to AWD40

Options/Part No.

				Model	
	Optional specifi	cations	AWM20 AWD20	AWM30 AWD30	AWM40 AWD40
Bracket as	sembly Note 1)		AW20P-270AS	AR30P-270AS	AR40P-270AS
Set nut			AR20P-260S	AR30P-260S	AR40P-260S
	Note 2)	Standard	G36-1	0-□01	G46-10-□02
-	Round type Note 2)	0.02 to 0.2 MPa setting	G36-2	2-□01	G46-2-□02
Pressure	Round type Note 2)	Standard	G36-10	G46-10-□02-L	
gauge	(with colour zone)	0.02 to 0.2 MPa setting	G36-2-	-□01-L	G46-2-□02-L
	Square embedded	Standard	GC3-10AS [G	C3P-010AS (Pressure gaug	ge cover only)]
	type Note 3)	0.02 to 0.2 MPa setting	GC3-2AS [G0	e cover only)]	
		NPN output / Wiring bottom entry	ISE35-N-25-	MLA [ISE35-N-25-M (Switc	h body only)]
Digital pro	ssure switch Note 4)	NPN output / Wiring top entry	ISE35-R-25-	MLA [ISE35-R-25-M (Switc	h body only)]
Digital pres	SSUIE SWILCH	PNP output / Wiring bottom entry	ISE35-N-65-	MLA [ISE35-N-65-M (Switc	h body only)]
		PNP output / Wiring top entry	ISE35-R-65-	MLA [ISE35-R-65-M (Switc	h body only)]
Elect type	auto drain Note 5) Note 6)	N.C.	AD27	AD37	AD47
гюат туре	auto urani	N.O.	_	AD38	AD48

Semi-standard/Bowl Assembly Part No.

Se	emi-stand	lard speci	fications				Model	
Bowl material	Float type auto drain N.C. N.O.		With drain guide	With barb fitting	With bowl guard	AWM20 AWD20	AWM30 AWD30	AWM40 AWD40
	_	_	_	_	•	C2SF-C	_	_
	•	-		_	•	AD27-C	_	_
Polycarbonate	_	_	•	_	_	C2SF-J	C3SF-J	C4SF-J
	_	_	- •		_		C3SF-W	C4SF-W
	_	_	•	_	•	C2SF-CJ	_	_
	_	-		_	_	C2SF-6	C3SF-6	C4SF-6
	_	-	_	_	•	C2SF-6C	_	_
	•	_	_	_	_	AD27-6	AD37-6	AD47-6
Nivion	_	•	_	_	_	_	AD38-6	AD48-6
Nylon	•	-		_	•	AD27-6C	_	_
	_	_	•	_	_	C2SF-6J	C3SF-6J	C4SF-6J
	_	_	_		_		C3SF-6W	C4SF-6W
	_	_	•	_	•	C2SF-6CJ	_	_
	_	-		_	_	C2SF-2	C3SF-2	C4SF-2
Metal	•	-	_	_	_	AD27-2	AD37-2	AD47-2
Metal	_	•	_	_	_	_	AD38-2	AD48-2
	_	_	•	_	_	C2SF-2J	C3SF-2J	C4SF-2J
		_	_		_	<u> </u>	C3LF-8	C4LF-8
Metal bowl with	•		_		_	<u> </u>	AD37-8	AD47-8
level gauge	_	•	_	_	_	<u> </u>	AD38-8	AD48-8
	_	_	•	_	_	_	C3LF-8J	C4LF-8J

Note 1) Assembly includes a bracket and set nuts

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

Note 3) Includes one O-ring and 2 mounting screws. []: Pressure gauge cover only

Note 4) Lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screw (2 pcs.) are attached. []: Switch body only.

Also, regarding how to order the digital pressure switch, please refer to page 89.

A separate pressure switch adapter assembly (AW60P-310AS) is required only for AW60(K). For mounting, please use the included mounting screws (M3 x 0.5 x 14). The mounting screw (M3 x 0.5 x 7) attached to the digital pressure switch assembly will not be required.

Note 5) Minimum operating pressure: N.O. type-0.1 MPa; N.C. type-0.1 MPa (AD27) and 0.15 MPa (AD37/47). Please contact SMC for psi and °F unit specifications. Note 6) Please consult SMC for details on drain piping to fit NPT or G port sizes.

Note) • Including O-ring.

• Bowl assembly for the AWM30/40, AWD30/40 comes with a bowl guard (steel band material). (except when the bowl material is metal)





Series AWM20 to AWM40 Series AWD20 to AWD40 Specific Product Precautions

Be sure to read this before handling. Refer to "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Safety Instructions and F.R.L. Units Precautions.

Selection

Marning

 Residual pressure release (outlet pressure release) is not complete by releasing inlet pressure. Please contact SMC regarding residual pressure release.

Air Supply

⚠ Caution

- 1. Install an air filter (AF series) as a pre-filter on the inlet side of the mist separator regulator to prevent premature clogging.
- Install a mist separator (AFM series) as a pre-filter on the inlet side of the micro mist separator regulator to prevent premature clogging.

Maintenance

Marning

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

Mounting and Adjustment

∧ Caution

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

Mounting and Adjustment

Marning

- 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).



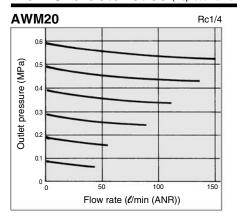
A knob cover is available to prevent careless operation of the knob. Refer to page 90 for details.

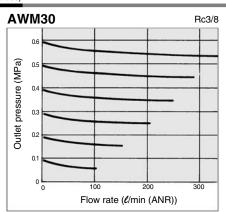


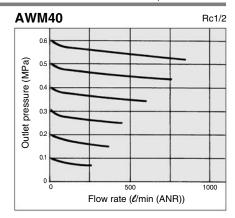
Series AWM20 to AWM40 Series AWD20 to AWD40

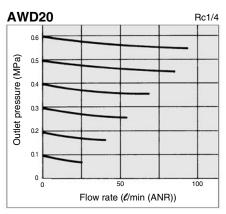
Flow Characteristics (Representative values)

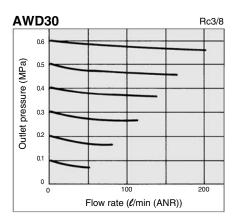
Condition: Inlet pressure 0.7 MPa

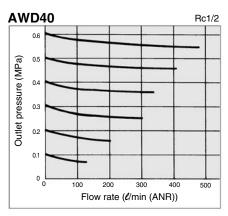






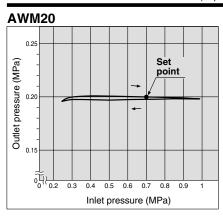


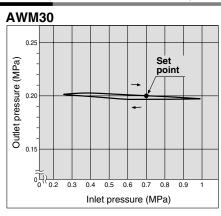


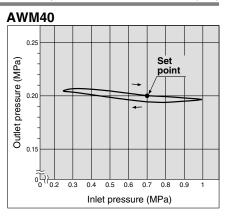


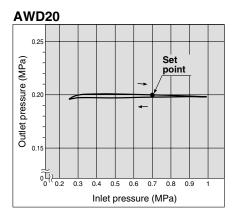
Pressure Characteristics (Representative values)

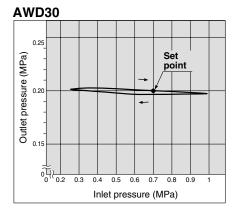
Conditions: Inlet pressure 0.7 MPa, Outlet pressure 0.2 MPa, Flow rate 20 d/min (ANR)

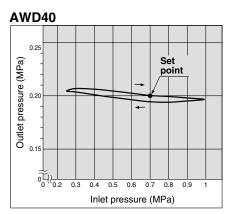








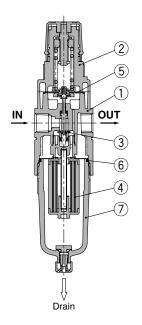




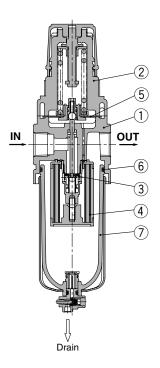
Mist Separator Regulator Series AWM20 to AWM40 Micro Mist Separator Regulator Series AWD20 to AWD40

Construction

AWM20 AWD20



AWM30, AWM40 AWD30, AWD40



Component Parts

OUI	iipoliciit i uito			
No.	Description	Material	Colour	
	Padu	Zinc die-cast	AWM20 AWD20	Diotinum eiluer
'	Body	Aluminum die-cast	AWM30, AWM40 AWD30, AWD40	Platinum silver Black
2	Bonnet	Polyacetal	AWM20 to AWM40 AWD20 to AWD40	Black

Replacement Parts

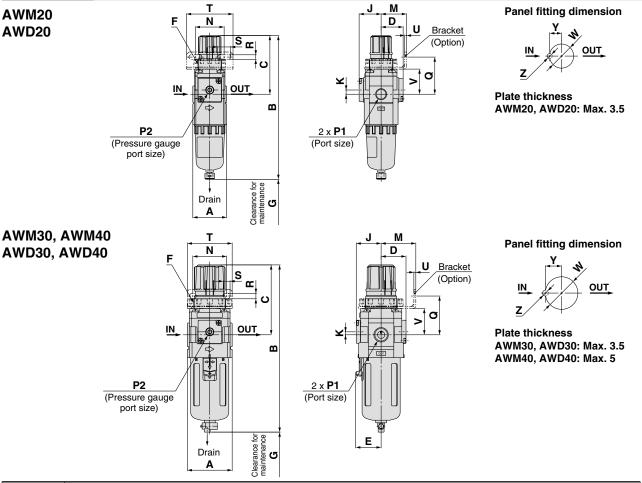
idocinicint i di to										
			Part no.							
Descript	tion	Material	AWM20 AWD20	AWM30 AWD30	AWM40 AWD40					
Valve assembly		Brass, HNBR	AWM20P-090AS	AWM30P-090AS	AWM40P-090AS					
Flammant assemble.	AWM20 to AWM40	_	AFM20P-060AS	AFM30P-060AS	AFM40P-060AS					
Element assembly	AWD20 to AWD40	_	AFD20P-060AS	AFD30P-060AS	AFD40P-060AS					
Diaphragm assembly		Weatherable NBR	AR20P-150AS	AR30P-150AS	AR40P-150AS					
Bowl O-ring		NBR	C2SFP-260S	C3SFP-260S	C4SFP-260S					
Bowl assembly Note 1)		Polycarbonate	C2SF	C3SF Note 2)	C4SF Note 2)					
	Descrip Valve assembly Element assembly Diaphragm assembly Bowl O-ring	Description Valve assembly Element assembly AWM20 to AWM40 AWD20 to AWD40 Diaphragm assembly Bowl O-ring	Description	Description	Description					

Note 1) Bowl O-ring is included. Please contact SMC regarding the bowl assembly supply for psi and °F unit specifications. Note 2) Bowl assembly for the AWM30/40, AWD30/40 comes with a bowl guard (steel band material).



Series AWM20 to AWM40 Series AWD20 to AWD40

Dimensions



Applicable model		AWM20 to AWM	140, AWD20 to AWD40
Option	Square embedded type pressure gauge	Digital pressure switch	Round type pressure gauge Round type pressure gauge (with colour zone)
Dimensions	Centre of piping	Centre of piping	Centre of piping

Applicable model		AWM20, AWD20)		AWM30/40, AWD30/40									
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting						
Dimensions	M 5		e de la composition della comp	N.O.: Black N.C.: Gray o10 one-touch fitting		a a	width across flats 17	Barb fitting Applicable tubing: T0604						

Model		Standard specifications									Optional specifications Square type Digital Round type Round type pressure pressure gauge pressure switch pressure gauge (with colour zone)								
Wiodei												pressur	e gauge	pressure	e switch	pressure	gauge	gauge (with	colour zone)
	P1	P1 P2 A BNote C D E F G J K									K	Н	J	Н	J	Н	J	H	J
AWM20/AWD20	1/8, 1/4	1/8	40	160	73	26	_	M28 x 1	40	26	5	□28	27	□27.8	37.5	ø37.5	63	ø37.5	63
AWM30/AWD30	1/4, 3/8	1/8	53	201	86	29.5	30	M38 x 1.5	55	29.5	3.5	□28	30.5	□27.8	41	ø37.5	66	ø37.5	66
AWM40/AWD40	1/4, 3/8, 1/2											□28	38.5	□27.8	49	ø42.5	76	ø42.5	76

					C	ptional	specific	ations					Semi-standard specifications			
Model			Bra	cket mo	unt			Panel mount With auto drain			With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge	
	М	N	Q	R	S	Т	U	٧	W	Υ	Z	B Note)	B Note)	B Note)	B Note)	B Note)
AWM20/AWD20	30	34	44	5.4	15.4	55	2.3	30	28.5	14	6	177	_	164	160	_
AWM30/AWD30	41	40	46	6.5	8	53	2.3	31	38.5	19	7	242	209	208	214	234
AWM40/AWD40	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	278	247	246	252	272

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





Mist Separator Regulator AWM20 to AWM40 Micro Mist Separator Regulator AWD20 to AWD40 Made to Order



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

1 0.4 MPa Setting

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

Specifications

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

Applicable Model

Madel	AWM20	AWM30	AWM40
Model	AWD20	AWD30	AWD40
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2

2 Long Bowl

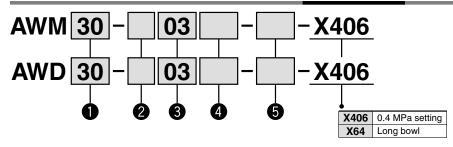
Drain capacity is greater than that of standard models.

Applicable Model/Drain Capacity

Madal	AWM20	AWM30	AWM40
Model	AWD20	AWD30	AWD40
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2
Drain capacity (cm ³)	19	43	88

Note) Please consult SMC for dimensions.

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 ascending alphanumeric order.

Exam	ple) A\	WM30-03BE-2	<u>N</u> -X406		0.T IV	a oc	ıtılığ		nig Do	
	_		Symbol	Description		1 Body size			Body size	
					20	30	40	20	30	40
			_	Rc	•	•	•	•	•	•
2	Thr	ead type	Note 1)	NPT	•	•	•	•	•	•
			F Note 2)	G	•	•	•	•	•	•
			+							
			01	1/8	•	_	_			_
3	ь	ort size	02	1/4	•	•	•	•	•	•
9	Г	OIT SIZE	03	3/8	_	•	•	_	•	•
			04	1/2	_	_		_	_	
			+		 					
				Without mounting option	•	•	•	•	•	•
	a	Mounting	B Note 4)	With bracket	•	•		•	•	•
			Н	With set nut (for panel fitting)	•	•				
	I		+		 					
		Float type		Without auto drain	•	•		_	_	_
	b	auto drain	С	Float type auto drain (N.C.)	•	•	•	_		_
Note			D	Float type auto drain (N.O.)		•	•	_	_	_
	 		+		 	_				
ح ا	5	_		Without pressure gauge	•	•	•	•	•	•
		Pressure	E	Square embedded type pressure gauge (with limit indicator)	•	•	•	•	_	•
		gauge	G	Round type pressure gauge	•	•	_	•	_	•
	l c		M	Round type pressure gauge (with colour zone)	 •	•		_		•
		Digital	E1 Note 5)	Output: NPN output / Electrical entry: Wiring bottom entry	•	•		•		•
		pressure	E2 Note 5)	Output: NPN output / Electrical entry: Wiring top entry	•	•		•	•	•
		switch	E3 Note 5)	Output: PNP output / Electrical entry: Wiring bottom entry	•	•	_	_		•
			E4 Note 5)	Output: PNP output / Electrical entry: Wiring top entry						i 🔴

Note 1) Drain guide is NPT1/8 (applicable to the AWM20, AWD20) and NPT1/4 (applicable to the AWM30 to AWM40, AWD30 to AWD40). The auto drain port comes with a ø3/8" one-touch fitting (applicable to the AWM30 to AWM40, AWD30 to AWD40)

Note 2) Drain guide is G1/8 (applicable to the AWM20, AWD20) and G1/4 (applicable to the AWM30 to AWM40, AWD30 to AWD40). Note 3) Option B, G, H and M are not assembled and supplied loose at the time of shipment.

Note 5) 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.



Mist Separator Regulator Series AWM20 to AWM40 Micro Mist Separator Regulator Series AWD20 to AWD40

						0.4 M	Pa Se	etting	Lo	ng Bo	wl
Sym		Symbol	Description	Body size 20 30 40		Body size 20 30 40					
	Semi-standard	d	Note 6) Set pressure		0.05 to 0.85 MPa setting 0.02 to 0.2 MPa setting		<u>-</u>	_	•	•	•
		е	Bowl	- 2 6 8 C 6C	Polycarbonate bowl Metal bowl Nylon bowl Metal bowl with level gauge With bowl guard Nylon bowl with bowl guard	• • • •	• • • •	• • • •	• • • •	• • • - -	• • • - -
6		f	Note 8) Drain port	+	With drain cock Drain guide 1/8 Drain guide 1/4 Drain cock with barb fitting: For ø6 x ø4 nylon tube	• • - -	• - •	• - •	• • - -	- -	- •
		g	Exhaust mechanism	+ - N +	Relieving type Non-relieving type	•	•	•	•	•	•
		h	Flow direction	— R +	Flow direction: Left to right Flow direction: Right to left	•	•	•	•	•	•
		i	Pressure unit	Z Note 11) ZA Note 12)	Name plate and caution plate for bowl in imperial units: MPa Name plate and caution plate for bowl, and pressure gauge in imperial units: psi, °F Digital pressure switch: With unit conversion function in combination with C or D, minimum set Note 12) For options: E	○ Note 13) △ Note 14)	● Note 13) △ Note 14)	● Note 13) △ Note 14)	● Note 13) △ Note 14)		

Note 6) Float type auto drain: when used in combination with C or D, minimum set pressure is: N.O. type–0.1 MPa; N.C. type–0.1 MPa (AD27) and 0.15 MPa . (AD37/47).

Note 7) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.2 MPa pressure gauge will be fitted.

Note 8) Float type auto drain: The combination between C or D is not available with the drain port option.

Note 9) Without a valve function

Note 10) Metal bowl: The combination of 2 and 8 cannot be selected with W.

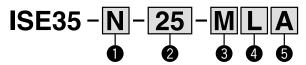
Note 11) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) The digital pressure switch will be equipped with the unit conversion function, setting to psi initially.

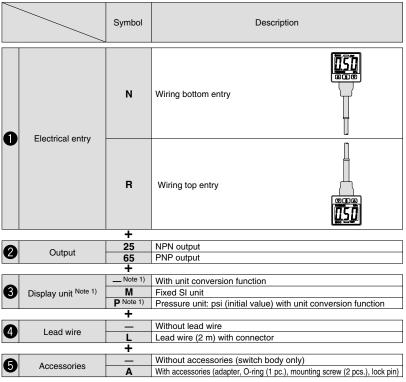
Note 12) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)

Note 13) ○: For thread type: NPT only Note 14) △: Select with options: E1, E2, E3, E4.



Option Digital Pressure Switch





Note 1) This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) Name plate is included.

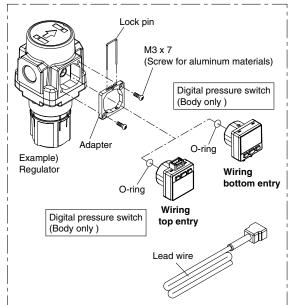
Note 2) Instruction manual is attached.

Note 3) When ordering the body only, select the symbol from 1 to 3 respectively.

Applicable Series

F.R.L. unit	AC20, AC25, AC30, AC40, AC50, AC55, AC60			
	AC20A, AC30A, AC40A, AC50A, AC60A			
	AC20B, AC25B, AC30B, AC40B,			
	AC50B, AC55B, AC60B			
	AC20C, AC25C, AC30C, AC40C			
	AC20D, AC30D, AC40D			
Dogulator	AR20(K), AR25(K), AR30(K), AR40(K),			
Regulator	AR50(K), AR60(K)			
Filter regulator	AW20(K), AW30(K), AW40(K), AW60(K)			
Mist separator regulator	AWM20, AWM30, AWM40			
Micro mist separator regulator	AWD20, AWD30, AWD40			

Diigtal Pressure Switch Details



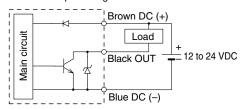
Specifications

Rated press	sure range	0 to 1 MPa		
Set pressur	e range	-0.1 to 1 MPa		
Withstand p	oressure	1.5 MPa		
Set pressur	e resolution	0.01 MPa		
Power supp	oly voltage	12 to 24 VDC, Ripple (p-p) 10% or less (with power supply polarity protection)		
Current cor	sumption	55 mA or less (at no load)		
Switch outp	out	NPN or PNP open collector 1 output		
	Max. load current	80 mA		
	Max. applied voltage	30 V (with NPN output)		
	Residual voltage	1 V or less (with load current of 80 mA)		
	Response time	1 s		
	Anti-chattering function	(Response time selections: 0.25, 0.5, 2, 3)		
	Short circuit protection	With short circuit protection		
Repeatabili	ty	±1%F.S. or less		
Hysteresis	Hysteresis mode	Variable (can be set from 0)		
Hysteresis	Window comparator mode			
Display		3-digit, 7-segment indicator, 2-color display (Red/ Green) can be interlocked with the switch output.		
Display accuracy		±2%F.S. ±1 digit (at 25°C ± 3°C)		
Indication light		Illuminates when output is turned ON. (Green)		
Environmental resistance Enclosure		IP40		
Lead wire with connector		ø3.4 3-wire 25AWG 2 m		

Output

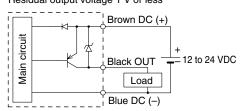
NPN open collector

Max. 30 V, 80 mA Residual output voltage 1 V or less



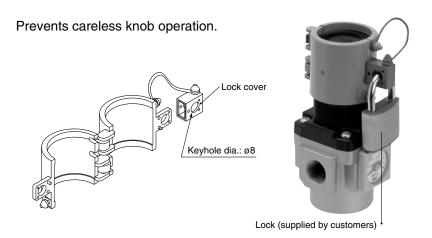
PNP open collector

Max. 80 mA Residual output voltage 1 V or less





Option Knob Cover



Part no.	Applicable model		
AR20P-580AS	AC20□, AR20(K), AW20(K). AWM20, AWD20		
AR25P-580AS	AC25□, AR25(K)		
AR30P-580AS	AC30□, AR30(K), AW3(K), AWM30, AWD30		
AR40P-580AS	AC40□(-06), AR40(K)(-06), AW40(K)(-06), AWM40, AWD40		



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), Japan Industrial Standards (JIS)*1) and other safety regulations*2).

* 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 10218-1992: Manipulating industrial robots -Safety.

JIS B 8370: General rules for pneumatic equipment.

JIS B 8361: General rules for hydraulic equipment.

JIS B 9960-1: Safety of machinery - Electrical equipment of machines. (Part 1: General requirements)

JIS B 8433-1993: Manipulating industrial robots - Safety.

etc.

* 2) Labor Safety and Sanitation Law, etc.

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

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

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

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.







EUROPEAN SUBSIDIARIES:



Austria

SMC Pneumatik GmbH (Austria). Girakstrasse 8, A-2100 Korneuburg Phone: +43 2262-622800. Fax: +43 2262-62285 E-mail: office@smc.at http://www.smc.at



Belgium

SMC Pneumatics N.V./S.A. Nijverheidsstraat 20, B-2160 Wommelgem Phone: +32 (0)3-355-1464, Fax: +32 (0)3-355-1466 E-mail: info@smcpneumatics.be http://www.smcpneumatics.be



Bulgaria

SMC Industrial Automation Bulgaria EOOD Business Park Sofia, Building 8 - 6th floor, BG-1715 Sofia Phone:+359 2 9744492, Fax:+359 2 9744519 E-mail: office@smc.bg http://www.smc.bg



Croatia

SMC Industrijska automatika d.o.o. Crnomerec 12, HR-10000 ZAGREB Phone: +385 1 377 66 74, Fax: +385 1 377 66 74 E-mail: office@smc.hr http://www.smc.hr



Czech Republic

SMC Industrial Automation CZ s.r.o. Hudcova 78a. CZ-61200 Brno Phone: +420 5 414 24611, Fax: +420 5 412 18034 E-mail: office@smc.cz http://www.smc.cz



Denmark

SMC Pneumatik A/S Egeskovvej 1, DK-8700 Horsens Phone: +45 70252900, Fax: +45 70252901 E-mail: smc@smcdk.com http://www.smcdk.com



Estonia

SMC Pneumatics Estonia OÜ Laki 12, 106 21 Tallinn Phone: +372 6510370, Fax: +372 65110371 E-mail: smc@smcpneumatics.ee http://www.smcpneumatics.ee



Finland

SMC Pneumatics Finland Oy PL72, Tiistinniityntie 4, SF-02231 ESPOO Phone: +358 207 513513, Fax: +358 207 513595 E-mail: smcfi@smc.fi http://www.smc.fi



France

SMC Pneumatique, S.A.

1, Boulevard de Strasbourg, Parc Gustave Eiffel
Bussy Saint Georges F-77607 Mame La Vallee Cedex 3
Phone: +33 (0)1-6476 1000, Fax: +33 (0)1-6476 1010
E-mail: contact@smc-france.fr http://www.smc-france.fr



Germany

SMC Pneumatik GmbH Boschring 13-15, D-63329 Egelsbach Phone: +49 (0)6103-4020, Fax: +49 (0)6103-402139 E-mail: info@smc-pneumatik.de http://www.smc-pneumatik.de



SMC Hellas EPE Anagenniseos 7-9 - P.C. 14342. N. Philadelphia, Athens Phone: +30-210-2717265, Fax: +30-210-2717766 E-mail: sales@smchellas.gr http://www.smchellas.gr



Hungary

SMC Hungary Ipari Automatizálási Kft. Torbágy út 19, H-2045 Törökbálint Phone: +36 23 511 390, Fax: +36 23 511 391 E-mail: office@smc.hu http://www.smc.hu



Ireland

SMC Pneumatics (Ireland) Ltd. 2002 Citywest Business Campus, Naas Road, Saggart, Co. Dublin Phone: +353 (0)1-403 9000, Fax: +353 (0)1-464-0500 E-mail: sales@smcpneumatics.ie http://www.smcpneumatics.ie



Italy

SMC Italia S.p.A Via Garibaldi 62, I-20061 Carugate, (Milano) Phone: +39 (0)2-92711, Fax: +39 (0)2-9271365 E-mail: mailbox@smcitalia.it http://www.smcitalia.it



Latvia

SMC Pneumatics Latvia SIA Smerla 1-705, Riga LV-1006 Phone: +371 781-77-00, Fax: +371 781-77-01 E-mail: info@smclv.lv http://www.smclv.lv



Lithuania

SMC Pneumatics Lietuva, UAB Oslo g.1, LT-04123 Vilnius

Phone: +370 5 264 81 26 Fax: +370 5 264 81 26



Netherlands

SMC Pneumatics BV De Ruyterkade 120, NL-1011 AB Amsterdam Phone: +31 (0)20-5318888, Fax: +31 (0)20-5318880 E-mail: info@smcpneumatics.nl http://www.smcpneumatics.nl



Norway

SMC Pneumatics Norway A/S Vollsveien 13 C, Granfos Næringspark N-1366 Lysaker Tel: +47 67 12 90 20, Fax: +47 67 12 90 21 E-mail: post@smc-norge.no http://www.smc-norge.no



Poland

SMC Industrial Automation Polska Sp.z.o.o. ul. Poloneza 89, PL-02-826 Warszawa, Phone: +48 22 211 9600, Fax: +48 22 211 9617 E-mail: office@smc.pl http://www.smc.pl



Portugal SMC Sucursal Portugal, S.A. Rua de Engº Ferreira Dias 452, 4100-246 Porto Phone: +351 226 166 570, Fax: +351 226 166 589 E-mail: postpt@smc.smces.es http://www.smc.eu



Romania

SMC Romania srl Str Frunzei 29, Sector 2, Bucharest Phone: +40 213205111, Fax: +40 213261489 E-mail: smcromania@smcromania.ro http://www.smcromania.ro



Russia

SMC Pneumatik LLC. 4B Sverdlovskaja nab, St. Petersburg 195009 Phone.:+7 812 718 5445, Fax:+7 812 718 5449 E-mail: info@smc-pneumatik.ru http://www.smc-pneumatik.ru



Slovakia

SIOVAKIA SMC Priemyselná Automatizáciá, s.r.o. Fatranská 1223, 01301 Teplicka Nad Váhom Phone: +421 41 3213212 - 6 Fax: +421 41 3213210 E-mail: office@smc.sk http://www.smc.sk



Slovenia

SMC industrijska Avtomatika d.o.o. Mirnska cesta 7, SI-8210 Trebnje Phone: +386 7 3885412 Fax: +386 7 3885435 E-mail: office@smc.si

http://www.smc.si



Spain

SMC España, S.A. Zuazobidea 14, 01015 Vitoria Phone: +34 945-184 100, Fax: +34 945-184 124 E-mail: post@smc.smces.es http://www.smc.eu



Sweden

SMC Pneumatics Sweden AB Ekhagsvägen 29-31, S-141 71 Huddinge Phone: +46 (0)8-603 12 00, Fax: +46 (0)8-603 12 90 E-mail: post@smcpneumatics.se http://www.smc.nu



Switzerland

SMC Pneumatik AG Dorfstrasse 7, CH-8484 Weisslingen Phone: +41 (0)52-396-3131, Fax: +41 (0)52-396-3191 E-mail: info@smc.ch http://www.smc.ch



Turkey

Entek Pnömatik San. ve Tic. A*. Perpa Ticaret Merkezi B Blok Kat: 11 No: 1625, TR-34386, Okmeydani, Islanbul Phone: +90 (0)212-444-0762, Fax: +90 (0)212-221-1519 E-mail: smc@entek.com.tr http://www.entek.com.tr



SMC Pneumatics (UK) Ltd Vincent Avenue, Crownhill, Milton Keynes, MK8 0AN Phone: +44 (0)800 1382930 Fax: +44 (0)1908-555064 E-mail: sales@smcpneumatics.co.uk http://www.smcpneumatics.co.uk



OTHER SUBSIDIARIES WORLDWIDE:

ARGENTINA, AUSTRALIA, BOLIVIA, BRASIL, CANADA, CHILE, CHINA, HONG KONG, INDIA, INDONESIA, MALAYSIA, MEXICO, NEW ZEALAND, PHILIPPINES, SINGAPORE, SOUTH KOREA, TAIWAN, THAILAND, USA, VENEZUELA

> http://www.smc.eu http://www.smcworld.com