

Micro-Mist Separator Regulator

AWD20/30/40

Series AWD is a component made up of a regulator and a micro-mist separator that are integrated to provide optimum results in applications such as ultraclean air blow operations.

Filtration: 0.01μm

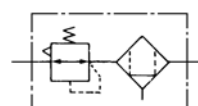


AWD20



AWD40

Symbol



How to Order

AWD 30 — F 03 BE — 1N

Micro-mist separator regulator

Body size

20 30 40

Thread type

Nil	Rc
N Note 1)	NPT
F Note 2)	G



Note 1) Drain guide is for NPT1/4 (applicable to AWD30 and AWD40), and the exhaust port for auto drain comes with ø3/8" One-touch fitting (applicable to AWD30 and AWD40).

Note 2) Drain guide is G1/4 (applicable to AWD30 and AWD40).

Port size

Symbol	Port size	Body size		
		20	30	40
01	1/8	●	—	—
02	1/4	●	●	●
03	3/8	—	●	●
04	2/1	—	—	●

Optional specifications

Symbol	Description	Applicable model
1 Note 4)	0.05 to 0.2MPa setting	AWD20 to 40
2	Metal bowl	AWD20 to 40
6	Nylon bowl	AWD20 to 40
8	Metal bowl with level gauge	AWD30, 40
C	With bowl guard	AWD20
J Note 5)	Drain guide 1/4	AWD30, 40
N	Non-relieving	AWD20 to 40
R	Flow direction: Right to left	AWD20 to 40
W	Drain cock with barb fitting: ø6 x ø4 nylon tubing	AWD30, 40
Z Note 6)	Name plate, caution plate for bowl, and pressure gauge in imperial units (PSI, °F)	AWD20 to 40



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

Note 4) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2MPa or more.

Note 5) Without a valve function.

Note 6) For NPT thread type.

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

Accessories Note 3)

Symbol	Description	Applicable model
Nil	—	—
B	With bracket	AWD20 to 40
C	Float type auto drain (N.C.) Note 4)	AWD20 to 40
D	Float type auto drain (N.O.) Note 4)	AWD30, 40
E	With square embedded type pressure gauge (with limit indicator)	AWD20 to 40
G	With round pressure gauge (with limit indicator)	AWD20 to 40
H	With set nut (for panel mount)	AWD20 to 40



Note 3) Optional parts are not assembled and are supplied loose at the time of shipment (except for options C, D and E).
Note 4) Applicable tube O.D for auto drain connection should be ø3/8" in case NPT thread port is chosen.

Accessory/Optional specification combinations

⊙ : Combination available

□ : Combination not available

○ : Varies depending on the model

△ : Available only with NPT thread

Combination		Symbol	Accessory						Optional specification										Applicable micro-mist separator regulator	
			Accessory/Optional specifications																	
B	C		D	E	G	H	1	2	6	8	C	J	N	R	W	Z				
Accessories	With bracket (with set nut)	B		○	○	○	○		○	○	○	○	○	○	○	○	△	○	○	
	Float type auto drain (N.C.)	C	○			○	○	○	○	○	○	○		○	○		△	○	○	
	Float type auto drain (N.O.)	D	○			○	○	○		○	○			○	○		△		○	
	Square embedded type pressure gauge	E	○	○	○			○	○	○	○	○	○	○	○	○	△	○	○	
	Round pressure gauge	G	○	○	○			○	○	○	○	○	○	○	○	○	△	○	○	
	Panel mount (with set nut)	H		○	○	○	○		○	○	○	○	○	○	○	○	△	○	○	
Optional specifications	0.05 to 0.2MPa setting	-1	○	○	○	○	○		○	○	○	○	○	○	○	○	△	○	○	
	Metal bowl	-2	○	○	○	○	○	○					○	○	○		△	○	○	
	Nylon bowl	-6	○	○	○	○	○	○					○	○	○	○	△	○	○	
	Metal bowl with level gauge	-8	○	○	○	○	○	○					○	○	○		△		○	
	With bowl guard	-C	○	○		○	○	○					○	○			△	○		
	Drain guide 1/4	-J	○			○	○	○	○	○			○	○			△		○	
	Non-relieving type	-N	○	○	○	○	○	○	○	○	○	○		○	○	○	△	○	○	
	Flow direction: Right to left	-R	○	○	○	○	○	○	○	○	○	○	○			○	△	○	○	
	Drain cock with barb fitting: ø6 x ø4 nylon tubing	-W	○			○	○	○	○		○			○	○		△		○	
	Name plate, caution plate for bowl, and pressure gauge in imperial units (PSI, °F)	-Z	△	△	△	△	△	△	△	△	△	△	△	△	△			△	△	

Standard specifications

Model	AWD20	AWD30	AWD40
Port sizes	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2
Fluid	Air		
Proof pressure	1.5MPa		
Maximum operating pressure	1.0MPa		
Set pressure range	0.05 to 0.85MPa		
Pressure gauge port size ^{Note 1)}	Rc, NPT, G 1/8	Rc, NPT, G 1/8	Rc, NPT, G 1/4
Ambient and fluid temperature	-5 to 60°C (with no freezing)		
Nominal filtration rating	0.01μm (95% filtered particle size)		
Outlet side oil mist concentration	Max. 0.1mg/m ³ (ANR) ^{Note 2) Note 3)} (before saturated with hydraulic fluid: 0.01mg/m ³ (ANR) or less, approx. 0.008ppm)		
Rated flow L/min (ANR) ^{Note 4)}	90	180	450
Bowl material	Polycarbonate		
Bowl guard	Option	Standard	
Drain capacity (cm ³)	8	25	45
Construction	Relieving type		
Weight (kg)	0.44	0.59	1.25



Note 1) Pressure gauge connection threads are not required for the regulator with a square embedded type pressure gauge (AWD20 to 40).

Note 2) When the compressor oil mist discharge concentration is 30mg/m³ (ANR).

Note 3) Bowl O-ring and other O-rings are slightly lubricated.

Note 4) When the outlet pressure is 0.5MPa. (The rated flow varies depending on the set pressure.)
Keep the air flow within the rated flow to prevent an outflow of lubricant to the outlet side.

Accessory part no.

Applicable model							
Accessory			AWD20	AWD30		AWD40	
Bracket assembly Note 1)			AW20P-270AS	AR30P-270AS		AR40P-270AS	
Set nut			AR20P-260S	AR30P-260S		AR40P-260S	
Note 2) Pressure gauge	1.0MPa	Round	G36-10-□01	G36-10-□01		G46-10-□02	
		Note 3) Square embedded type	GC3-10AS	GC3-10AS		GC3-10AS	
	0.2MPa	Round	G36-2-□01	G36-2-□01		G46-2-□02	
		Note 3) Square embedded type	GC3-2AS	GC3-2AS		GC3-2AS	
Note 4) Float type auto drain			N.O.	—	AD38	AD38N Note)	
			N.C.	AD27	AD37	AD37N Note)	



Note 1) Assembly includes a bracket and set nuts.

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

Note 3) Includes one O-ring and 2 mounting screws.

Note 4) Minimum operating pressure: N.O. type-0.1MPa; N.C. type-0.1MPa (AD27) and 0.15MPa (AD37/47). Set the pressure to allow a pressure drop when the fluid flows. Contact SMC regarding the specifications for PSI unit and "F".

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

Specific Product Precautions

Be sure to read before handling. Refer to pages 75 through 78 for safety instructions, F.R.L. unit precautions.

Selection

Warning

- Residual pressure release (outlet pressure release) is not complete by releasing inlet pressure. Contact SMC regarding the residual pressure release.

Air Supply

Caution

- Install an air filter (Series AFM) as a preliminary filter on the inlet side of the micro-mist separator to prevent premature clogging.

Maintenance

Warning

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

Mounting & Adjustment

Warning

- Set the regulator while checking the displayed values of the inlet and outlet pressure gauges. Turning the knob excessively can cause damage to the internal parts.
- The pressure gauge included with micro-mist separator regulator for 0.05 to 0.2MPa setting is for up to 0.2MPa only. Exceeding 0.2MPa 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" will disappear).



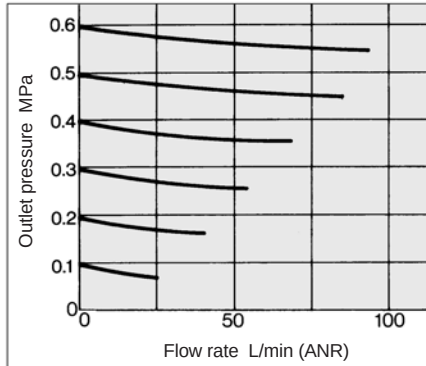
- A knob cover is available to prevent careless operation of the knob. Refer to Features 1 for details.

AWD20/30/40

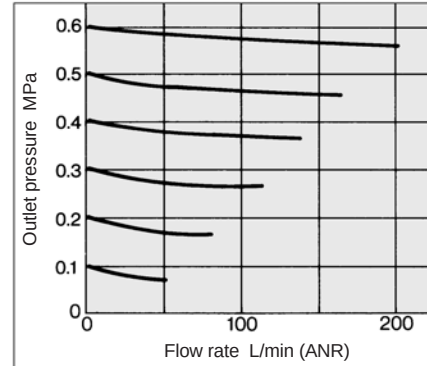
Flow Characteristics (Representative value)

Condition: Inlet pressure 0.7MPa

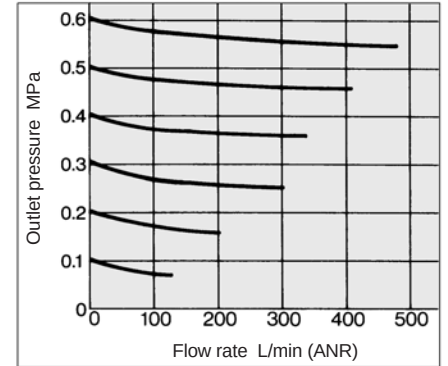
AWD20 1/4



AWD30 3/8



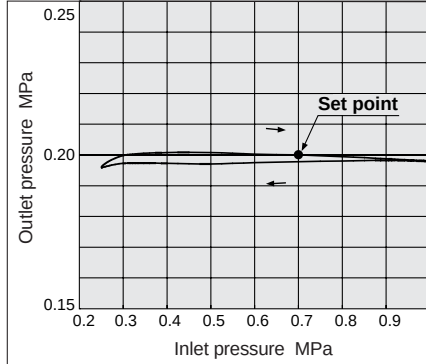
AWD40 1/2



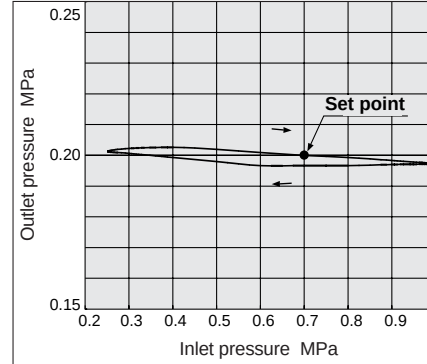
Pressure Characteristics (Representative value)

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

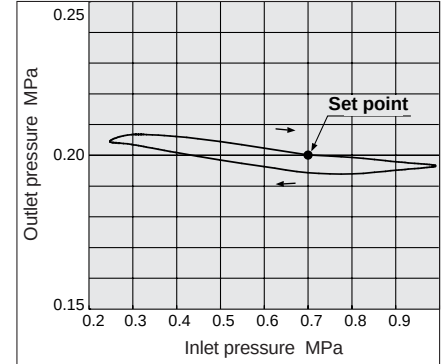
AWD20



AWD30

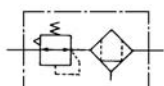


AWD40

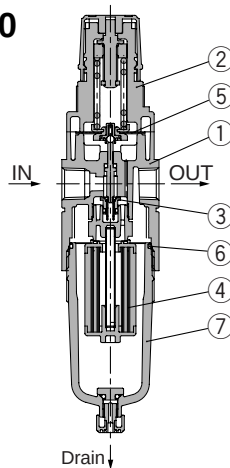


Construction

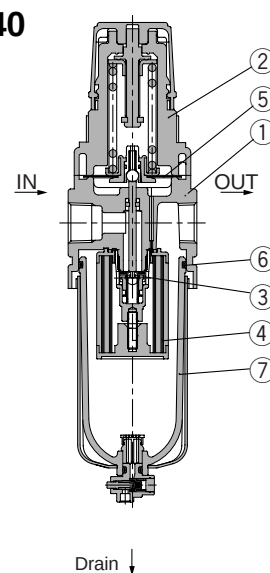
JIS symbol



AWD20



AWD30, 40



Parts list

No.	Description	Material			Note
		AWD20	AWD30	AWD40	
1	Body	Zinc die-cast	Aluminum die-cast	Aluminum die-cast	Platinum silver
2	Bonnet	Polyacetal			Black

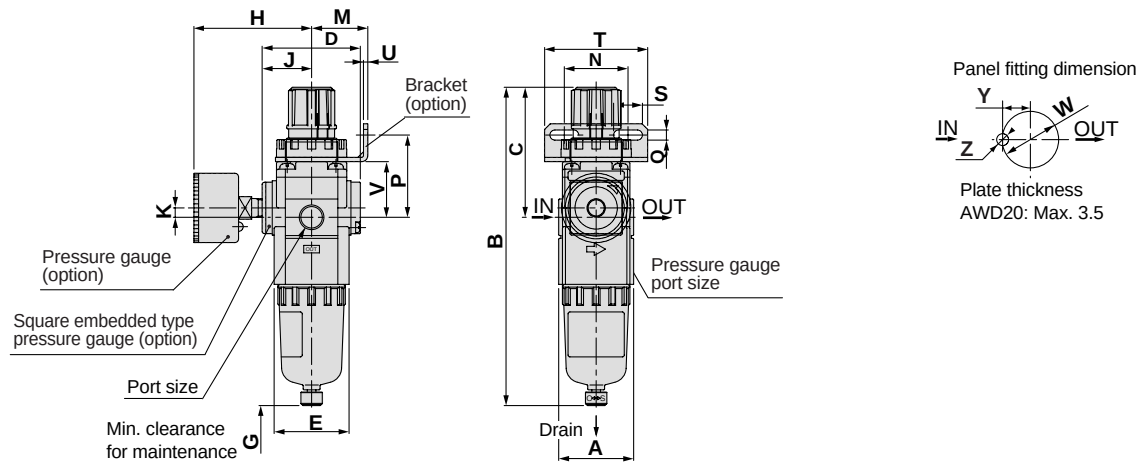
Replacement parts

No.	Description	Materials	Parts no.		
			AWD20	AWD30	AWD40
3	Valve assembly	Brass, HNBR	AWM20P-090AS	AWM30P-090AS	AWM40P-090AS
4	Element assembly	—	AFD20P-060AS	AFD30P-060AS	AFD40P-060AS
5	Diaphragm assembly	Weatherability NBR	AR20P-150AS	AR30P-150AS	AR40P-150AS
6	Bowl O-ring	NBR	C2SFP-260S	C3SFP-260S	C4SFP-260S
7	Bowl assembly Note 1)	PC	C2SF	C3SF Note 2)	C4SF Note 2)

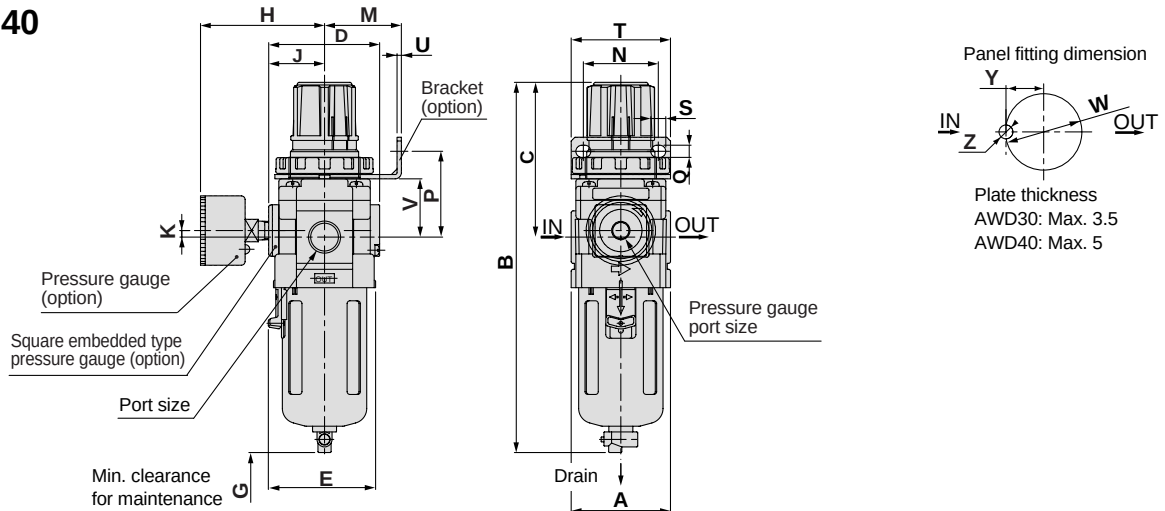
Note 1) Including O-Ring. Contact SMC regarding the bowl assembly supply for PSI and °F unit specifications.
Note 2) Bowl assembly for AWD30 and AWD40 comes with a bowl guard (steel band material).

Dimensions

AWD20



AWD30, 40



Applicable model	AFD20		AWD30, AWD40				
Optional specifications	With auto drain (N.C.)	Metal bowl	With auto drain (N.O./N.C.)	Metal bowl	Metal bowl with level gauge	With drain guide	Drain cock with barb fitting

Model	Port size	Standard specification						Accessory specification														
		A	B	C	D	E	G	With pressure gauge			Bracket mounting size						Panel mount					With auto drain
								H	J	K	M	N	P	Q	S	T	U	V	W	Y	Z	
AWD20	1/8, 1/4	40	173	73	52	40	45	63	27	5	30	34	44	5.4	15.4	55	2.3	30	28.5	14	6	190
AWD30	1/4, 3/8	53	201	86	59	57	50	66	30.5	3.5	41	40	46	6.5	8	53	2.3	31	38.5	19	7	242
AWD40	1/4, 3/8, 1/2	70	239	92	75	73	70	76	38.5	1.5	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	278

Model	Optional specification			
	With barb fitting	With drain guide	Metal bowl	Metal bowl with level gauge
	B	B	B	B
AWD20	—	—	173	—
AWD30	209	208	214	234
AWD40	247	246	252	272