

# Compressed Air Purification Filter Series

For the Economical Removal of OIL, WATER, DIRT and ODOUR from Compressed Air Systems.  
**Modular connectable, Reduced-piping man-hours! (All models)**

Using the same spacer as for the AC series F.R.L. combination.  
 Modular connectable with the AR series regulator, etc.

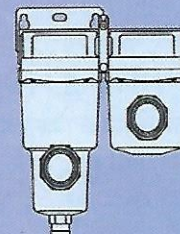


Spacer Note 1)

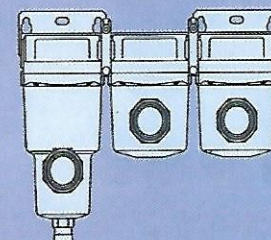
Note 1) Cannot use a spacer with bracket.  
 Use the attached bracket.



Example of modular connection



AMH+AME



AMH+AME+AMF

## Options added

Additions: **5** options

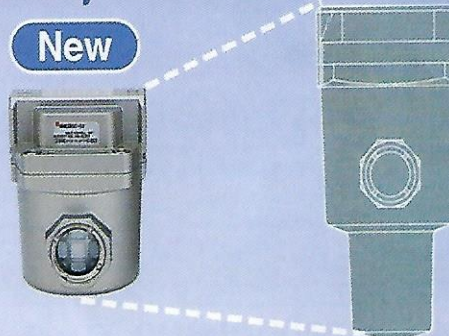
- 1.6 MPa
- Fluorine rubber
- With differential pressure switch (125 V AC, 30 V DC)
- With differential pressure switch (30 V DC)
- Degrease washing, White Vaseline



Differential pressure switch

## Compact, Lightweight (AME, AMF)

Height reduced by max. **40%**,  
 Mass reduced by max. **40%** Conventional



Element Service Indicator



### Water separation

Water separator / **AMG150C~550C**

### Solid matter / Oil separation

- Main line filter / **AFF2C~22C**
- Mist separator / **AM150C~550C**
- Micro mist separator / **AMD150C~550C**
- Micro mist separator with pre-filter / **AMH150C~550C**
- Super mist separator / **AME150C~550C**

### Deodorization

Odor removal filter / **AMF150C~550C**





## AMF Activated Carbon Filter

AMF activated carbon filters are high efficiency units which remove hydrocarbon and organic vapours from compressed air.

The AMF is always required in breathing air systems to remove odour and taste.

AMF is also available in 316 S/S.

Activated carbon filters must not operate in oil or water saturated conditions. Activated carbon filters typically operate downstream of a 0.01 micron coalescing filter.

Modular connection is possible with AMF150C to 550C.

**\*WARNING:** Activated carbon filters will not remove carbon monoxide or carbon dioxide from compressed air.

For removal of these gases contact your nearest SMC office.

Model	Flow*		Max Working Pressure	Max Temp	Port Size (BSP)	Element
	ℓ/sec	CFM				
AMF150C-02	3.3	7	1.0MPa	60°C	1/4"	AMF-EL 150
AMF250C-03	8.3	17	1.0MPa	60°C	3/8"	AMF-EL 250
AMF350C-04	16.6	35	1.0MPa	60°C	1/2"	AMF-EL 350
AMF450C-06	33.3	70	1.0MPa	60°C	3/4"	AMF-EL 450
AMF550C-10	61.6	130	1.0MPa	60°C	1"	AMF-EL 550
AMF650-14	100	212	1.0MPa	60°C	1 1/2"	AMF-EL 650
AMF850-20	200	424	1.0MPa	60°C	2"	AMF-EL 850

\*Flow at 0.7MPa

Filter performance (ISO8573.1) Particle size Cl.1

Oil content: Cl.1

## Technical Data

### Performance Corrections Factors

To Calculate the capacity of a filter at various pressures multiply its nominal flow by the correction factor.

Operating Pressure	MPa	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2
	PSI	14.5	29	44	58	72	87	101	116	130	145	174
Correction Factor		0.25	0.38	0.50	0.63	0.75	0.88	1	1.12	1.25	1.4	1.6

eg AMD550C at 0.7MPa Flow = 61.6 ℓ/sec

at 0.4MPa multiply 61.6 x 0.63 = 38.8 ℓ/S (corrected capacity)

## Accessories / Replacement Parts

Filter Model	2C 150C	4C 250C	8C 350C	11C 450C	22C 550C	37B 650	75B 850
Accessory							
Mounting Bracket	AM-BM101	AM-BM102	AM-BM103	AM-BM104	AM-BM105	BM56	BM57
DP Indicator	INA-63-280						
DP Gauge	GD40-2-01						
Drain tubing	Ø10mm TE 1075						
Auto drain with Push in fitting	AD43PA-D						AD 34PA-D



## AFF Mainline Filter

**3.0/1.0 micron filtration of oil, water and dirt particles.**

AFF grade is mounted in the main air line to remove liquid oil. Water and particles of all kinds. It is used as a prefilter before a refrigerated air dryer. It is also used together with high performance filters AM or AMD.

AFF is supplied as standard with internal auto drain and element service indicator.

AFF filters have cast aluminum bodies for up to 3" screwed pipe\*. Also available as floor standing units with flanged connections and carbon steel bodies.

**For main line removal of large particles, rust etc., 125 micron stainless steel mesh element is optional for AFF 125, 150 and 220A.**

All floor mounted models include a prefiltration chamber which ensures very low pressure drop and long element life.

Modular connection is possible with AFF2C to 22C.

Model	Flow*		Max Working Pressure	Max Temp	Port Size (BSP)	Element
	l/sec	CFM				
AFF2C-02D-T	5.0	10	1.0MPa	60°C	1/4"	AFF-EL2B
AFF4C-03D-T	12.5	26	1.0MPa	60°C	3/8"	AFF-EL4B
AFF8C-04D-T	25.0	53	1.0MPa	60°C	1/2"	AFF-EL8B
AFF11C-06D-T	36.6	73	1.0MPa	60°C	3/4"	AFF-EL11B
AFF22C-10D-T	61.6	130	1.0MPa	60°C	1"	AFF-EL22B
AFF37B-14D-T	100	212	1.0MPa	60°C	1 1/2"	AFF-EL37B
AFF75B-20D-T	200	424	1.0MPa	60°C	2"	AFF-EL75B

\*Flow at 0.7MPa

Filter performance (ISO8573.1) Particle size Cl.3

Oil content: Cl.4

## Floor Standing Unit

AFF125A-30D	367	777	1.0MPa	60°C	75 FLG	EC700-003N
AFF150A-40D	467	989	1.0MPa	60°C	100 FLG	EC800-003N
AFF220A-40D	700	1483	1.0MPa	60°C	100 FLG	EC900-003N

## AM Mist Separator

**0.3 micron liquid, particle and oil aerosol removing coalescing filter**

AM grade will remove particulate matter, liquids and oil mist larger than 0.3µm. It is ideal for oil filtration following a piston type compressor.

AM is supplied as standard with internal. N.O. auto drain and element service indicator.

Model	Flow*		Max Working Pressure	Max Temp	Port Size (BSP)	Element
	l/sec	CFM				
AM150C-02D-T	5.0	10	1.0MPa	60°C	1/4"	AM-EL 150
AM250C-03D-T	12.5	26	1.0MPa	60°C	3/8"	AM-EL 250
AM350C-04D-T	25.0	53	1.0MPa	60°C	1/2"	AM-EL 350
AM450C-06D-T	36.6	73	1.0MPa	60°C	3/4"	AM-EL 450
AM550C-10D-T	61.6	130	1.0MPa	60°C	1"	AM-EL 550
AM650-14D-T	100	212	1.0MPa	60°C	1 1/2"	AM-EL 650
AM850-20D-T	200	424	1.0MPa	60°C	2"	AM-EL 850

\*Flow at 0.7MPa

Filter performance (ISO8573.1) Particle size Cl.1

Oil content: Cl.2



## AMD Micro Mist Separator

### 0.01 micron liquid, particle and oil aerosol removal coalescing filter

AMD grade will remove particles, liquid and oil aerosols of more 0.01µm. It is used as a final filter in industrial application. It is recommended as a pre filter of the air supply to precision instruments or for clean room applications.

AMD is supplied as standard with internal auto drain and element service indicator. AMD is also available in 316 S/S.

Modular connection is possible with AMD150C-550C

Model	Flow*		Max Working Pressure	Max Temp	Port Size (BSP)	Element
	ℓ/sec	CFM				
AMD150C-02D-T	3.3	7	1.0MPa	60°C	1/4"	AMD-EL 150
AMD250C-03D-T	8.3	17	1.0MPa	60°C	3/8"	AMD-EL 250
AMD350C-04D-T	16.6	35	1.0MPa	60°C	1/2"	AMD-EL 350
AMD450C-06D-T	33.3	70	1.0MPa	60°C	3/4"	AMD-EL 450
AMD550C-10D-T	61.6	130	1.0MPa	60°C	1"	AMD-EL 550
AMD650-14D-T	100	212	1.0MPa	60°C	1 1/2"	AMD-EL 650
AMD850-20D-T	200	424	1.0MPa	60°C	2"	AMD-EL 850

\*Flow at 0.7MPa

Filter performance (ISO8573.1) Particle size Cl.1  
Oil content: Cl.1

## AMH Micro Mist Separator With Prefilter

### 0.01 micron coalescing filter with prefilter

The AMH grade filter provides the performance of a high quality 0.01µm oil removing coalescing filter with a built in prefilter.

The AMH eliminates the prefilter from a multiple filter installation resulting in

- ~ easier installation
- ~ fewer replacement filter elements
- ~ reduced total pressure drop

The AMH is supplied as standard with internal, normally open auto drain and element service indicator.

Modular connection is possible with AMH-150C-550C

Model	Flow*		Max Working Pressure	Max Temp	Port Size (BSP)	Element
	ℓ/sec	CFM				
AMH150C-02D-T	3.3	7	1.0MPa	60°C	1/4"	AMH-EL 150
AMH250C-03D-T	8.3	17	1.0MPa	60°C	3/8"	AMH-EL 250
AMH350C-04D-T	16.6	35	1.0MPa	60°C	1/2"	AMH-EL 350
AMH450C-06D-T	33.3	70	1.0MPa	60°C	3/4"	AMH-EL 450
AMH550C-10D-T	61.6	130	1.0MPa	60°C	1"	AMH-EL 550
AMH650-14D-T	100	212	1.0MPa	60°C	1 1/2"	AMH-EL 650
AMH850-20D-T	200	424	1.0MPa	60°C	2"	AMH-EL 850

\*Flow at 0.7MPa

Filter performance (ISO8573.1) Particle size Cl.1  
Oil content: Cl.1



## Air Quality Classes

An internationally recognized guide to air purification levels is ISO 8573.1. This standard quantifies contaminants into various classes and provides class recommendations for typical industrial application.

### Air Quality Classes Recommendations for Typical Applications

Application	Suggested Quality Classes			Additional Requirements
	Solids	Water	Oil	
Air bearings, Turbines, Gauging	2	2	3	
Pharmaceuticals, Food and Beverage	2	2	1	Odour removal
Instrumentation	1	3/2	3	
Abrasive blasting	-	3	3	
Spray painting	3	3/2	3	
Pneumatic actuators/Robotics	3	3	2	
Breathing air (typical)	1	3	1	Odour removal

### ISO 8573.1 Filtration Classes

Class	PARTICLE	WATER	OIL
	Max Size $\mu$ Micron	Max Pressure Dew Point °C	Max Oil Content Mg/M <sup>3</sup>
1	0.1	-70	0.01
2	1	-40	0.1
3	5	-20	1.0
4	15	+3	5
5	40	+7	25
6	-	+10	-

## SMC "A" Series Filters Performance to ISO 8573.1

The SMC "A" is a range of 6 filter grades which provide air suitable for virtually every industrial application.

Filter Model	AMG	AFF	AM	AMD	AMH	AMF
Filter Type	Water Coalescer	Coarse Filtration	Coalescing pre filter	Coalescing Micromist Filter	Coalescing Micromist with Prefilter	Odour Removal
Element Type	Resin Mesh	Cotton/Paper	Micro Fibreglass	Micro Fibreglass	Micro Fibreglass	Adsorbent Activated Carbon
Particle Size Class	6	3	1	1	1	1
Oil Content Class	6	4	2	1	1	1

### AMG Water Coalescer

AMG grade will remove 99.99% of all liquid water and mist that is present in the air line where an AMG is installed. AMG should be installed at the point of highest pressure as far from the compressor as possible. Particle and oil filters, plus pressure regulation if required, should be installed down-stream of AMG. Because of its open weave resin mesh element pressure drop across AMG is negligible and element replacement is rarely required.

AMG is supplied as standard with internal N.O. auto drain and element service indicator.

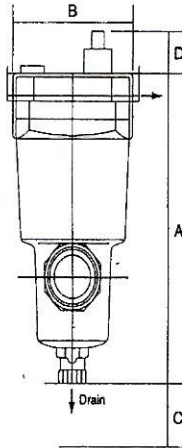
Note: AMG does not remove water vapour and the air leaving AMG will be 100% saturated. Where dehumidified air (ie: RH<100%) is required an SMC air dryer is recommended.

Model	Flow*		Max Working Pressure	Max Temp	Port Size (BSP)	Element
	l/sec	CFM				
AMG150C-02D	3.3	7	1.0MPa	60°C	1/4"	AMG-EL 150
AMG250C-03D	8.3	17	1.0MPa	60°C	3/8"	AMG-EL 250
AMG350C-04D	16.6	35	1.0MPa	60°C	1/2"	AMG-EL 350
AMG450C-06D	33.3	70	1.0MPa	60°C	3/4"	AMG-EL 450
AMG550C-10D	61.6	130	1.0MPa	60°C	1"	AMG-EL 550
AMG650-14D	100	212	1.0MPa	60°C	1 1/2"	AMG-EL 650
AMG850-20D	200	424	1.0MPa	60°C	2"	AMG-EL 850

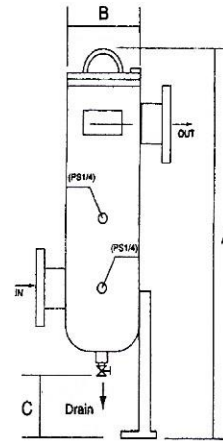
\*Flow at 700kPa



## Dimensions



**AFF2C-75B**  
**AMG150C-850**  
**AM150C-850**  
**AMD150C-850**  
**AMH150C-850**



**AFF125A**  
**AFF150A**  
**AFF220A**

## Aluminium Body - Screwed Port

Filter Models		Dimensions				Weight kg	Port Size BSP
		A (mm)	B (mm)	C (mm)	D (mm)		
2C	150C	158	63	10	37	0.38	1/4"
4C	250C	172	76	10	37	0.55	3/8"
8C	350C	204	90	10	37	0.9	1/2"
11C	450C	225	106	10	37	1.4	3/4"
22C	550C	259	122	15	37	2.1	1"
37B	650	311	160	10	37	4.2	1 1/2"
75B	850	461	220	10	37	10.5	2"

## Steel Body - Flanged Ports

Filter Models	Dimensions			Weight kg	Port Size BSP
	A (mm)	B (mm)	C (mm)		
AFF125A	1125	380	265	52.00	3"FLG*
AFF150A	1178	450	265	72.00	4"FLG
AFF220A	1291	500	325	87.00	4"FLG

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