prevost

COALESCING FILTRATION OF AIR

PURE, UNADULTERATED AIR

MICRO AIR FILTERS

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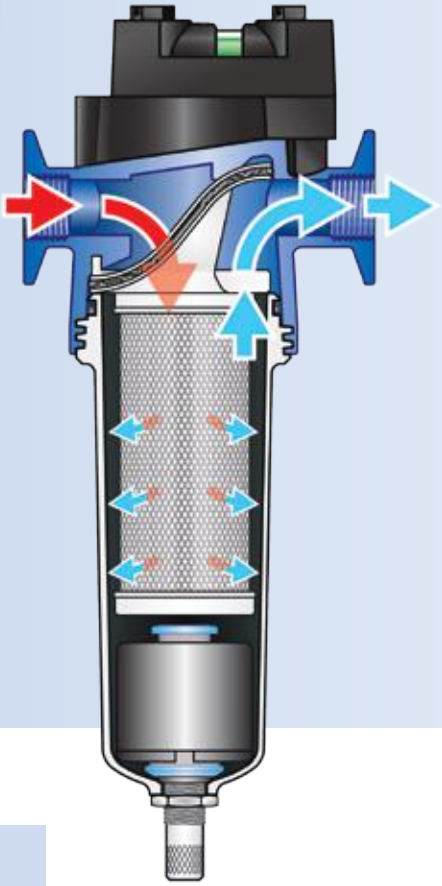
MICRO AIR filters eliminate various harmful agents, solid particles, liquid particles and oil aerosols contained in compressed air, with a filtration efficiency greater than **99.99**%.
They guarantee high-quality air with low pressure drops.



Micro Air filters are designed and constructed to:

- Deliver the level of filtration required to ensure quality work
- Extend element service life
- Lower pressure drops
- Ease installation and maintenance

Range of flow rates: 34 m^3/h to 2,549 m^3/h
G 1/4 to G 3 tapped connections
Micro Air filters are made using **100% silicone-free materials**

The combination of oil, dust and water in compressed air is extremely corrosive.
These contaminants can damage air systems,
pneumatic tools, and the resulting quality of work.

1 Quality filter media

The filter element medium consists of several components:

- The **pleated** main medium is made of HEPA-grade borosilicate glass microfibre and has a filtration surface area 4.5 times larger than that of conventional media
- Compared with conventional elements, it reduces pressure drops by 50% and offers 96% more retention capacity
- The bowl guard is made of stainless steel
- The polymer needle felt drainage sleeve ensures **complete coalescence** and is **highly resistant to compressor oils**

2 Easy filter element replacement

- The nitrile seal between the screw-on bowl and the end cap resists even the most aggressive chemicals
- The shoulder inside the end cap prevents rotation and the insertion of elements of other shapes
- Maximum safety: an audible alarm sounds if an attempt is made to remove the bowl under pressure
- The moulded aluminium housing and filter head are protected by a dual-layer coating

3 Patented Venturi filter element

- The specially designed nesting system facilitates turbulence-free flows of air entering and exiting the filter
  - **Smoother** air flows
  - **Optimised flow rate**
  - **Reduced pressure drop**

- The element nests inside the filter head
- The nitrile seal guarantees an airtight push-fit connection, even when subjected to temperature variations or vibrations
- The unique reinforced glass fibre end cap is colour-coded for easy identification of the element grade.
  - **White**: 1 µ filtration
  - **Green**: 0.01 µ filtration
  - **Black**: activated carbon

4 High-accuracy pressure gauges fitted as standard

The pressure gauges indicate pressure drops and enable at-a-glance filter element condition checks.

The needle moves to the red area when the filter element is completely clogged and requires changing *(pressure drop equivalent to at least 400 mb)*.

- Pressure slide indicator **MPI 1** ..... for G 1/4 to G 3/4 models

- Differential pressure gauge **MPI 2** ..... for G 1 to G 3 models

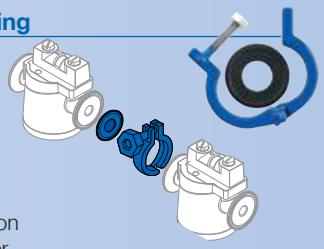
5 Efficient automatic condensate drains

Condensate drainage without any loss of compressed air

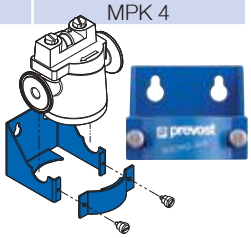
- Automatic float drain **MPD** for G 1/4 to G 2 models G 1/8 female port on bowl bottom
- Electronic level-controlled drain **MPD X3** for G 2 □ to G 3 models G 1/2 female port on bowl bottom

6 Quick assembly and fastening

- Connector clamp **MPA**
  - Ensures quick, easy connection of filters in series
  - Nitrile side seals ensure a tight fit
- Wall bracket **MPK**
  - For easy and quick filter installation
    One bracket required for one filter
    Two brackets required for two or more filters



Assemblies	MPA assemblies	MPK brackets
G 1/4, G 3/8, G 1/2	MPA 1	MPK 1
G 3/4, G 1	MPA 2	MPK 2
G 1 □, G 2	MPA 3	MPK 3
G 2 □, G 3	MPA 4	MPK 4



OPERATION

MFM **FILTERS**

Mechanical filtration

The filter removes suspended particles, traps them in the filter media and directs them into the bowl to be drained.

- ► Automatic float drain ..... G 1/4 to G 2 models
- ► Electronic level-controlled drain ..... G 2 ☐ to G 3 models

Model G 3/4 to G 1

MFM filter:

- Traps all liquid and solid particles of a size greater than **1 µ**
- Removes over 99.999% of solid particles and over 80% of suspended oils
- Ensures a residual oil content of less than 2 mg per m^3 at 20°C and 1 bar absolute, **oil content ≤ 0.5 ppm**
- Quality classes
  - Particles: Class 2
  - Oil: Class 4

MFM microfilter applications:

- General preparation at the head-end of the system
- Prefiltration for submicron filters
- Postfiltration for adsorption dryers *(dust filter)*

MFB **FILTERS**

Submicron coalescing filtration

Coalescing filtration consists of two phases.

- In the first phase, contaminants are mechanically separated and solid particles of a particular size are trapped.
- In the second phase, fine droplets of oil and water suspended in the air flow are mixed together, or coalesced. This coalescence phase is carried out by the sleeve, which discharges the mixture to the drain at the bottom of the filter.

- ► Automatic float drain ..... G 1/4 to G 2 models
- ► Electronic level-controlled drain ..... G 2 ☐ to G 3 models

Model G 3/4 to G 1

MFB submicron filter:

- Traps all liquid and solid particles of a size greater than **0.01 µ**
- Removes over 99.999% of solid particles and over 99.9% of suspended oils
- Ensures a residual oil content of less than 0.01 mg per m^3 at 20°C and 1 bar absolute, **oil content ≤ 0.01 ppm**
- Quality classes:
  - Particles: Class 1
  - Oil: Class 1

MFB submicron filter applications:

- Prefilter for membrane dryers
- Prefilter for activated carbon filters
- Prefilter for adsorption dryers
- Breathing air purification systems

MFC **FILTERS**

Activated carbon filtration

Odours and tastes are concentrated and absorbed on the surface of the activated carbon filter.

Model G 3/4 to G 1

MFC filter:

- Traps solid particles of a size greater than **0.01 µ**
- Ensures a residual oil content of less than 0.004 mg per m^3 *(oil vapour)* at 20°C and 1 bar absolute, **oil content ≤ 0.003 ppm**
- Eliminates odours carried by the air flow
- Quality classes:
  - Particles: Class 1
  - Oil: Class 1

MFC activated carbon filter applications:

- Contact with food products
- Contact with pharmaceutical products
- Air used for technical and testing purposes
- Air used for paint spraying (HVLP)
- Breathing air purification systems

A submicron oil removal prefilter must be fitted upstream of the activated carbon filter.
The activated carbon filter element must be changed when the submicron prefilter element is changed.
This filter does not remove methane, carbon monoxide, carbon dioxide and other toxic gases and vapours.

TECHNICAL SPECIFICATIONS

Properties \ Filter types	MFM filters Mechanical filtration	MFB filters Submicron coalescing filtration	MFC filters Activated carbon - Adsorption filtration
Particle size*	1 µ	0.01 µ	0.01 µ
ISO 8573-1:2009 air quality class	Solid particles: 2 Oil: 4	Solid particles: 1 Oil: 1	Solid particles: 1 Oil: 1
Particle retention	99.999 %	99.999 %	99.999 %
Oil retention	80 %	99.9 %	-
Residual oil content at 20°C and 1 bar absolute	2 mg/m³	<0.01 mg/m³	<0.004 mg/m³ *(oil vapour)*
Residual oil content in ppm	≤ 0.5 ppm	≤ 0.01 ppm	≤ 0.003 ppm
Min./max. temperature	1°C to 66°C	1°C to 66°C	1°C to 66°C
Minimum working pressure	2 bar	2 bar	2 bar
Maximum operating pressure	16 bar 11 bar from G 2 ☐ model	16 bar 11 bar from G 2 ☐ model	16 bar 11 bar from G 2 ☐ model
Inlet differential pressure: Δ P Dry air Δ P Wetted air	 0.04 bar 0.1 bar	 0.04 bar 0.12 bar	 0.07 bar -
Element colour	White	Green	Black
Condensate draining	Automatic float drain, Electronic drain from G 2 ☐ model	Automatic float drain, Electronic drain from G 2 ☐ model	-
Filter element replacement	Replacement frequency: once every 6,000 hours or once a year Replace if 400 mb differential pressure registered	Replacement frequency: once every 3,000 hours or once a year Replace if 400 mb differential pressure registered	Replacement frequency: once every 1,000 hours or once a year Replace prefilter at same time *(at 20°C air inlet temp.)*
**Liquid particles of 0.01 µ to 5 µ - Oil inlet concentration: 10 mg/m³*			

- The Micro Air line is tested and certified to ISO 12500
- The stated values were measured in accordance with ISO 12500 (parts 1, 2 and 3)
- The air quality classes are those defined in ISO 8573-1:2009

Correction factors:

The handled flow rates stated for the **MFM**, **MFB** and **MFC** ranges are for a system pressure of **7 bar**.

The correction factors to be applied for different system pressures are given in the table below *(flow rates provided starting on page 8).*

Pressure (bar)

2	3	4	5	6	**7**	8	9	10	11	12	13	14	15	16
0.38	0.52	0.63	0.75	0.88	**1**	1.13	1.26	1.38	1.52	1.65	1.76	1.87	2	2.14

Correction factor

FILTRATION ASSEMBLIES

FOR BODY SHOPS: **MBR – MBC – MBCR**

(product codes on pages 9-10)

To obtain a quality paint finish, air must be free of dust, oil and silicone.

Special filtration assemblies for water-based paint spray guns:

- Excellent filtration for quality paint finishes
- Contaminants flushed out by automatic float drain
- Assemblies delivered sealed with:
  - wall bracket
  - air outlet quick couplings

Depending on the model:

- pressure regulator with pressure gauge
- activated carbon filter

The regulator adjusts the pressure supplied to the gun.
It is fitted with a pressure gauge with a glass dial for protection against damage from solvents or other diluents.

New waterborne paints are highly sensitive to contaminants such as water, oil vapour and fine dust. Activated carbon is the best way to handle these contaminants and eliminate them down to residual levels of 0.004 mg/m^3 of air.

MBR

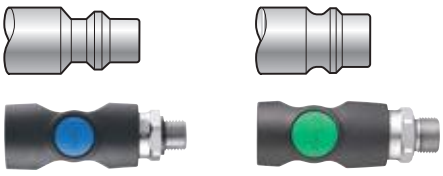
MBC

MBCR

Assemblies with couplings prevoSI

Available with the following coupling profiles:

ISO B 7.2, 7.4 mm



- antistatic
- silicone-free
- ATEX 2
- no-scratch
- anti-hose whip
- lightweight, high flow

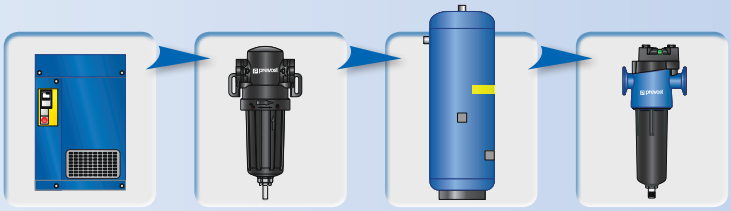
To avoid any risk of contamination between the filters and the spray guns, install the MBR and MBCR filtration assemblies as close to paint booths as possible.
They may be installed directly inside paint booths.

APPLICATIONS

Typical standard shops

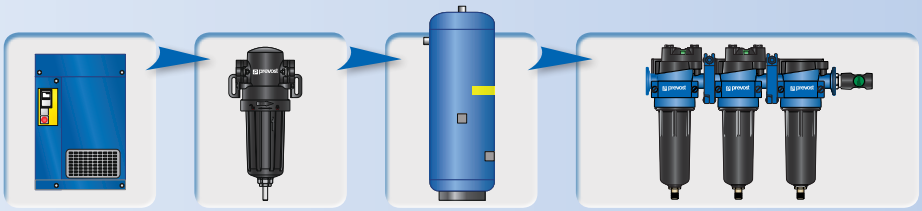
Compressor Tank | SPC moisture separator | MFM microfilter

Standard small-industry and auto repair shops



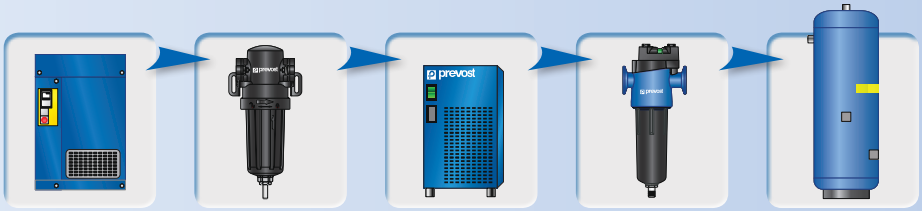
Compressor | SPC moisture separator | Tank | MFM microfilter

Paint and body shops



Compressor | SPC moisture separator | Tank | MBC Filtration assembly

Protection of refrigerated dryers/Storage of dry, dust-free air



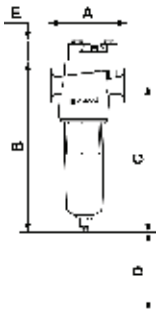
Compressor | SPC moisture separator | ALF refrigerated dryer | MFM microfilter | Tank

Protection of adsorption dryers/Storage of air free of dust, water and oil

Compressor | SPC moisture separator | MFM microfilter | MFB submicron oil removal filter | ALC adsorption dryer | MFM microfilter | Tank

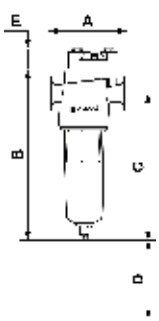
MFM SERIES - MICRON FILTER

Filtration	Efficient	Clog indicator	Pressure
1 μ	**99,999 %**		**P.N. 16 bar**

		A	B	C	D	E	Flow rate at 7 bar m³/h	Female thread	Replacement filter cartridge	REFERENCE
MFM basic filtration - Filtration threshold : 1 μ										
							Filtration threshold : 1 μ Oil separation < 0,5 ppm			
		113,6	205,5	171,4	102,0	30,0	34	G 1/4	MFMC 101	MFM 101
		113,6	205,5	171,4	102,0	30,0	59	G 3/8	MFMC 102	MFM 102
		113,6	252,0	216,4	102,0	30,0	85	G 1/2	MFMC 103	MFM 103
		132,0	262,1	219,8	127,0	30,0	127	G 3/4	MFMC 104	MFM 104
		132,0	262,1	219,8	127,0	30,0	175	G 3/4	MFMC 105	MFM 105
		132,0	326,1	238,8	127,0	60,0	267	G 1	MFMC 106	MFM 106
		200,0	336,7	276,1	178,0	60,0	437	G 1 1/2	MFMC 107	MFM 107
		200,0	433,7	373,1	178,0	60,0	612	G 1 1/2	MFMC 108	MFM 108
		200,0	566,0	505,4	178,0	60,0	681	G 2	MFMC 109	MFM 109
		230,8	634,4	550,0	204,0	60,0	993	G 2 1/2	MFMC 110	MFM 110
		230,8	634,4	550,0	204,0	60,0	1317	G 2 1/2	MFMC 111	MFM 111
		230,8	634,4	550,0	204,0	60,0	1750	G 2 1/2	MFMC 112	MFM 112
		230,8	817,1	732,7	204,0	60,0	2039	G 3	MFMC 113	MFM 113
		230,8	1085,1	1000,7	204,0	60,0	2549	G 3	MFMC 114	MFM 114

MFB SERIES - SUB-MICRON FILTER

Filtration	Efficient	Clog indicator	Pressure
0,01 μ	**99,999 %**		**P.N. 16 bar**

		A	B	C	D	E	Flow rate at 7 bar m³/h	Female thread	Replacement filter cartridge	REFERENCE
MFB Submicron filter - Coalescing filter 0.01 μ										
							Filtration threshold : 0,01 μ Oil separation: 0,01 ppm			
		113,6	205,5	171,4	102,0	30,0	34	G 1/4	MFBC 201	MFB 201
		113,6	205,5	171,4	102,0	30,0	59	G 3/8	MFBC 202	MFB 202
		113,6	252,0	216,4	102,0	30,0	85	G 1/2	MFBC 203	MFB 203
		132,0	262,1	219,8	127,0	30,0	127	G 3/4	MFBC 204	MFB 204
		132,0	262,1	219,8	127,0	30,0	175	G 3/4	MFBC 205	MFB 205
		132,0	326,1	238,8	127,0	60,0	267	G 1	MFBC 206	MFB 206
		200,0	336,7	276,1	178,0	60,0	437	G 1 1/2	MFBC 207	MFB 207
		200,0	433,7	373,1	178,0	60,0	612	G 1 1/2	MFBC 208	MFB 208
		200,0	566,0	505,4	178,0	60,0	681	G 2	MFBC 209	MFB 209
		230,8	634,4	550,0	204,0	60,0	993	G 2 1/2	MFBC 210	MFB 210
		230,8	634,4	550,0	204,0	60,0	1317	G 2 1/2	MFBC 211	MFB 211
		230,8	634,4	550,0	204,0	60,0	1750	G 2 1/2	MFBC 212	MFB 212
		230,8	817,1	732,7	204,0	60,0	2039	G 3	MFBC 213	MFB 213
		230,8	1085,1	1000,7	204,0	60,0	2549	G 3	MFBC 214	MFB 214

MFC SERIES - ACTIVATED CARBON FILTER

Oil separation	Efficient	Adsorbs and eliminates	Pressure
0,004 mg / m³	**99,999 %**	**odours, tastes and oil vapour**	**P.N. 16 bar**

		A	B	C	D	Flow rate at 7 bar m³/h	Female thread	Replacement filter cartridge	REFERENCE
MFC activated carbon filtration									
		Filters and deodorises compressed air For use with MFM - MFB upline Oil separation: 0,003 ppm							
		113,6	205,5	171,4	102,0	34	G 1/4	MFCC 301	MFC 301
		113,6	205,5	171,4	102,0	59	G 3/8	MFCC 302	MFC 302
		113,6	252,0	216,4	102,0	85	G 1/2	MFCC 303	MFC 303
		132,0	262,1	219,8	127,0	127	G 3/4	MFCC 304	MFC 304
		132,0	262,1	219,8	127,0	175	G 3/4	MFCC 305	MFC 305
		132,0	326,1	238,8	127,0	267	G 1	MFCC 306	MFC 306
		200,0	336,7	276,1	178,0	437	G 1 1/2	MFCC 307	MFC 307
		200,0	433,7	373,1	178,0	612	G 1 1/2	MFCC 308	MFC 308
		200,0	566,0	505,4	178,0	681	G 2	MFCC 309	MFC 309
		230,8	634,4	550,0	204,0	993	G 2 1/2	MFCC 310	MFC 310
		230,8	634,4	550,0	204,0	1317	G 2 1/2	MFCC 311	MFC 311
		230,8	634,4	550,0	204,0	1750	G 2 1/2	MFCC 312	MFC 312
		230,8	817,1	732,7	204,0	2039	G 3	MFCC 313	MFC 313
		230,8	1085,1	1000,7	204,0	2549	G 3	MFCC 314	MFC 314

COMBINATION FILTER / REGULATOR
BODY REPAIR WORKSHOP APPLICATION

Dual-stage filtration	Efficient	Clog indicator	Pressure	Use	**Automatic drain**	With coupling
1µ - 0.01µ	**99,999%**		**2 - 12 bar**	**Painting**		

		Flow rate in m³/h at 7 bar	Pressure nominal in bar	Female thread BSP Gas	With coupling	REFERENCE
Combination filter regulator						
		Combination fitted sealed with : - 1 MFM micron filter - 1 µ - 1 MFB sub-micron filter- 0,01 µ - 1 regulator with gauge - 1 safety quick coupling - 1 wall bracket Flter-regulator unit eliminates silicon cratering, microbubbles, and other surface defects, ensuring quality spray painting.				
		50	2 - 12	G 3/8	ISI 06	MBR 38IS
		59	2 - 12	G 3/8	ESI 07	MBR 38ES
		50	2 - 12	G 1/2	ISI 06	MBR 12IS
		85	2 - 12	G 1/2	ESI 07	MBR 12ES

COMBINATION FILTER / REGULATOR
BODY REPAIR WORKSHOP APPLICATION

Dual-stage filtration **1µ - 0.01µ**	Efficient **99,999%**	Clog indicator	Pressure **2 - 12 bar**	Use **Painting**	**Automatic drain**	With coupling

		Flow rate in m³/h at 7 bar	Pressure nominal in bar	Female thread BSP Gas	With coupling	REFERENCE
Combination filter regulator						
		Combination fitted sealed with : - 1 MFM micron filter - 1 µ - 1 MFB sub-micron filter- 0,01 µ - 1 MFC activated carbon filter - Efficiency : 99.999 % Oil separation : 0.004 mg/m³ - 1 wall bracket - 1 safety quick-coupling Filter-regulator unit eliminates silicon cratering, microbubbles, and other surface defects, ensuring quality spray painting.				
		50	2 - 12	G 1/2	ISI 06	MBC 12IS
		85	2 - 12	G 1/2	ESI 07	MBC 12ES
Combination Submicron filters						
		Combination fitted sealed with : - 1 MFM micron filter - 1 µ - 1 MFB sub-micron filter- 0,01 µ - 1 MFC activated carbon filter - Efficiency : 99.999 % Oil separation : 0.004 mg/m³ - 1 regulator with gauge - 1 wall bracket - 2 safety quick-couplings Filter regulator unit eliminates silicon cratering, microbubbles, and other surface defects, ensuring quality spray painting.				
		59	2 - 12	G 3/8	ISI 06	MBCR 38IS
		59	2 - 12	G 3/8	ESI 07	MBCR 38ES
		85	2 - 12	G 1/2	ISI 06	MBCR 12IS
		85	2 - 12	G 1/2	ESI 07	MBCR 12ES

ACCESSORIES AND PARTS

		DESCRIPTION	REFERENCE
Assembly kit			
		For filters G 1/4 to G 1/2	MPA 1
		For filters G 3/4 to G 1	MPA 2
		For filters G 1 1/2 to G 2	MPA 3
		For filters G 2 1/2 to G 3	MPA 4
Wall bracket			
		For filters G 1/4 to G 1/2	MPK 1
		For filters G 3/4 to G 1	MPK 2
		For filters G 1 1/2 to G 2	MPK 3
		For filters G 2 1/2 to G 3	MPK 4
Spare parts: Float drain			
		For filters G 1/4 to G 2	MPD
Spare part: Electric drain			
		For filters G 2 1/2 to G 3	MPD X3
		Maintenance kit for electric drain	MPD X3KIT
Spare parts: Clog indicator			
		Clogging indicator for filters G 1/4 to G 3/4	MPI 1
		Differential pressure gauge for filters G 1 to G 3	MPI 2

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