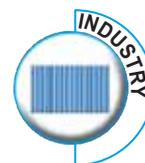




## LINE FILTERS

1 to 40 m<sup>3</sup>/min.



# The filter

Atmospheric air contains already in its origin impurities like: dust, various forms of hydrocarbons and water in form of humidity, which once sucked by the compressor is compressed and delivered to the line together with eventual oily particles. These polluting agents, interacting among each other, may generate abrasive and corrosive emulsions able to damage the distribution lines, the pneumatic devices and the product itself.

This leads inevitably to:

- **Leakages of air in the piping**
- **Greater maintenance costs for the machine using it**
- **Production decrease**
- **Loss in product quality and corporate image**

The growing automation of plants, the use of more and more sophisticated devices requires compressed air, which is much more free of those impurities it usually contains.

LINE FILTERS of MARK can hold and remove those polluting agents that can damage the regular operation of the production cycle.

## STANDARD COMPONENTS

**FIXED BODY**  
for the assembly on piping, with wide air passage and low load losses.

**MOBILE BODY**  
for containing the cartridge, easily unscrewable, with depressurisation device for a greater use safety and discharge of condensate.

**FILTERING ELEMENT**  
with double supports in stainless steel, with pressure connection to ease the replacement.

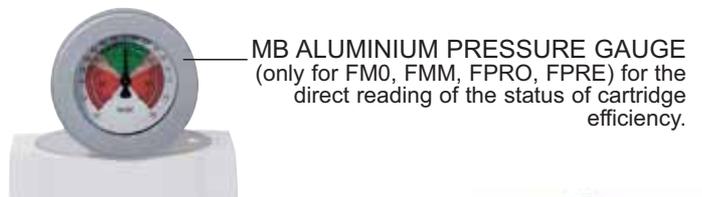
**AUTOMATIC DISCHARGE**  
for FM0, FMM, FPRO, with floating device for the draining of separated liquids.

**MANUAL DISCHARGE**  
for the series FCA-FPRE.

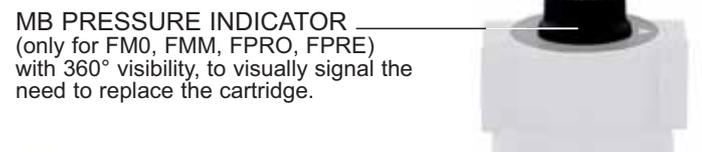
**ANTI-CORROSION TREATMENT**  
with varnishing of the surfaces for a long life of the filter body.



## ACCESSORIES UPON REQUEST



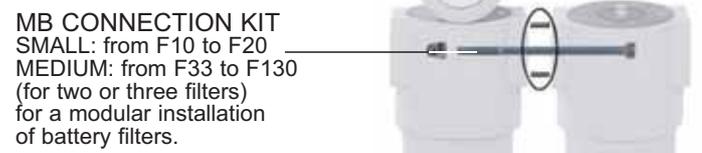
**MB ALUMINIUM PRESSURE GAUGE**  
(only for FM0, FMM, FPRO, FPRE) for the direct reading of the status of cartridge efficiency.



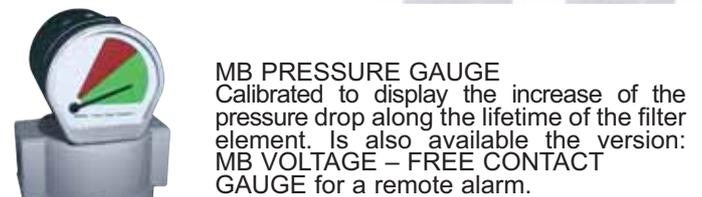
**MB PRESSURE INDICATOR**  
(only for FM0, FMM, FPRO, FPRE) with 360° visibility, to visually signal the need to replace the cartridge.



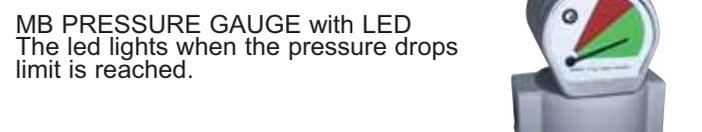
**MB WALL MOUNTING KIT**  
for an easy fixing of the filter to the wall.  
SMALL: from F10 to F20  
MEDIUM: from F33 to F130



**MB CONNECTION KIT**  
SMALL: from F10 to F20  
MEDIUM: from F33 to F130  
(for two or three filters)  
for a modular installation of battery filters.



**MB PRESSURE GAUGE**  
Calibrated to display the increase of the pressure drop along the lifetime of the filter element. Is also available the version: **MB VOLTAGE – FREE CONTACT GAUGE** for a remote alarm.



**MB PRESSURE GAUGE with LED**  
The led lights when the pressure drops limit is reached.

# FIVE filtrations for any need

The Line Filters of MARK, represent the answer to the need of having advanced compressed air able to ensure a greater efficiency and reliability also of the most sophisticated compressed air equipment.



**COALESCENCE FILTER**  
Series FMO  
Filtration 0,1 µm - Residual oil 0,1 mg/m<sup>3</sup>  
Green identification colour.

Specifically suitable as pre-filter for dryers by refrigeration, as well as for de-oiling device filters, for preventing the tear of piping, of surface treatments, etc...



**HIGH EFFICIENCY COALESCENCE FILTER**  
Series FMM  
Filtration 0,01 µm - Residual oil 0,01 mg/m<sup>3</sup>  
Red identification colour.

Specifically suitable as post-filter for dryers by refrigeration, pre-filter for filters series FCA and dryers by adsorption, pneumatic transports, painting plants, control systems, laser cutting, etc...(\*)



**PRE-FILTER**  
Series FPRO  
Filtration 3 µm  
Yellow identification colour.

Ideal as protection filter of the line with downstream accessories, in case of compressed air with high contamination of liquids and dust. Usually suggested for rough uses of compressed air in general.



**ACTIVATED CARBON FILTER**  
Series FCA  
Residual oil 0,005 mg/m<sup>3</sup>  
Silver identification colour.

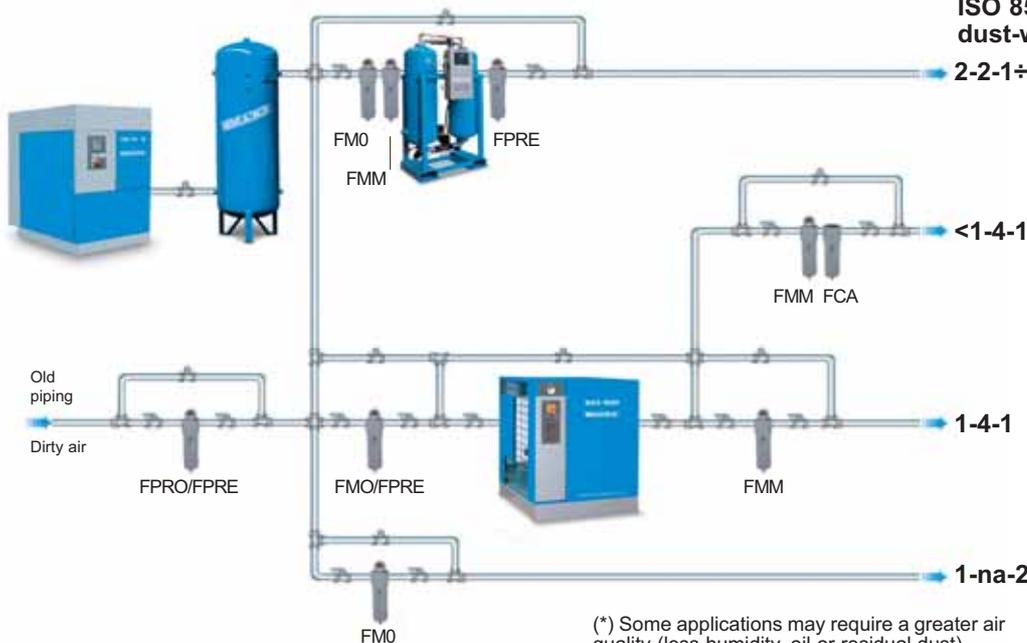
Activated carbon filter to remove steams, oil and hydrocarbons smells. Used in the pharmaceutical, foodstuffs, and chemical industry, photography labs, packaging industry, galvanic treatments, quality painting, etc...(\*)



**DUST FILTER**  
Serie FPRE  
Filtration 1 µm  
Green identification colour.

Used as a filter in a system with higher fine dust quantities, for example at the outlet of a dessicant dryer. It is indicated as on additional filtration after the FPRO prefilter or as a prefilter to the FMM series.

## THE RIGHT CHOICE FOR A BETTER PRODUCT



### ISO 8573-1 DEFINITIONS and Uses

- 2-2-1+2-1-1 DRY AIR (\*)**
  - Instrument systems
  - Measuring systems
  - Quality painting
  - etc...
- <1-4-1 OIL-LESS AIR (\*)**
  - Pharmaceutical, foodstuff, chemical, packaging industry
  - Galvanic applications
  - Painting
  - Photography labs
  - etc...
- 1-4-1 OIL-FREE AIR (\*)**
  - Pneumatic transports
  - Industrial painting
  - Control systems, laser
  - etc...
- 1-na-2 SERVICE AIR**
  - Generic tools
  - Sandblasting
  - Building sites in general
  - etc...

(\*) Some applications may require a greater air quality (less humidity, oil or residual dust). Our offices are at your service for any need.

**DEGREE OF PURITY OF AIR**

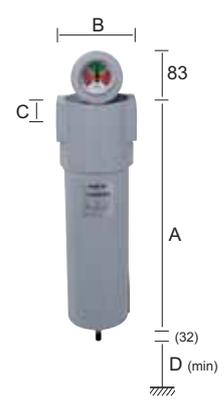
ISO 8573-1 Class	DUST		WATER		OIL
	Dimension	Concentration	Dew point	Water content	Concentration
1	0,1 µm	0,1 mg/m <sup>3</sup>	- 70 °C	0,003 g/m <sup>3</sup>	0,01 mg/m <sup>3</sup>
2	1 µm	1 mg/m <sup>3</sup>	- 40 °C	0,11 g/m <sup>3</sup>	0,1 mg/m <sup>3</sup>
3	5 µm	5 mg/m <sup>3</sup>	- 20 °C	0,88 g/m <sup>3</sup>	1,0 mg/m <sup>3</sup>
4	15 µm	8 mg/m <sup>3</sup>	+ 3 °C	6,0 g/m <sup>3</sup>	5 mg/m <sup>3</sup>
5	40 µm	10 mg/m <sup>3</sup>	+ 7 °C	7,8 g/m <sup>3</sup>	25 mg/m <sup>3</sup>
6	n.a.	n.a.	+10 °C	9,4 g/m <sup>3</sup>	n.a.

**FILTRATION FEATURES**

Series	Filtration ① µm	Efficiency %	Residual oil ① mg/m <sup>3</sup>	Loss of initial load		Class ISO 8573-1 ②	
				mbar	psi	Dust	Oil
FM0	0,1	99,9	0,1	80	1,16	1	2
FMM	0,01	99,9999	0,01	90	1,30	<1	1
FCA	-	-	0,005	120	1,74	-	<1
FPRO	3	99,9	-	40	0,58	3	-
FPRE	1	99,9	-	80	1,16	2	-

**TECHNICAL DATA**

Type	①			bar		Gas	mm				Kg
	l/1'	m <sup>3</sup> /h	cfm	bar	psi		A	B	C	D	
10	1.000	60	35	16	232	3/8"	187	88	20	60	0,7
13	1.300	78	46	16	232	1/2"	187	88	20	60	0,7
20	2.000	120	71	16	232	3/4"	257	88	20	80	0,8
33	3.300	198	117	16	232	1"	263	125	32	100	1,8
60	5.580	335	197	16	232	1"	363	125	32	120	2,5
85	8.500	510	300	16	232	1 1/2"	461	125	32	140	2,5
130	13.000	780	459	16	232	1 1/2"	640	125	32	160	3,2
170	16.600	996	586	16	232	2"	684	163	42	520	5,1
250	25.000	1.500	883	16	232	2"	935	163	42	770	7,1
400	40.000	2.400	1.413	16	174	3"	1.000	240	58	780	14



- ① Reference conditions: Pressure 7 bar (102 psi); Temperature 20°C
- ② The ISO class referred to water is not according to the filter features.
- Max. operation temperature: 66°C for series FM0 – FMM – FPRO – FPRE; 35°C for series FCA
- Min. operating temperature: 1°C
- Note: for MB wall mounting kit and for MB connection kit:
- SMALL range: from F10 to F20
- MEDIUM range: from F33 to F130

**Correction factor of the flow rate when the working pressure changes**

Working pressure (bar)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Working pressure (psi)	29	44	58	73	87	102	116	131	145	160	174	189	203	218	232
Correction factor	0,38	0,52	0,63	0,75	0,88	1,00	1,13	1,26	1,38	1,52	1,65	1,76	1,87	2,00	2,14

The new flow rate value can be obtained by dividing the real air flow rate by the correction factor related to the working pressure.

The Company reserves the right to make changes, for the purpose of continually improving its products.



Design, Manufacture, Sales and Service of air compressors, Air dryers and air filters



SOLD BY  
 Topp Trykluft A/S  
 DK-3550 Slangerup  
 Tel. +45 4733 7777  
 www.toppptrykluft.dk