

# Gas filter series FE

Gas filters of series FE, with **CE** product identification number, are approved according to EN126 and designed in accordance with gas directive 2009/142/CE and 97/23/CE (PED), are particularly suitable for gases belonging to the first, second and third family, biogas up to 0,1% max. volume of dry H<sub>2</sub>S, neutral gases and of air.

FE Filters, group 2, withhold the passage of dust or debris particles brought by the gas to protect regulating and safety devices.

They are suitable in several versions: threaded, ranging from Rp 1/2 to Rp 2, and flanged with connections from DN 32 to DN 200. Cleaning and replacement of the cartridge, made of washable synthetical material, are easy and quick, thanks to special O-Ring sealing, resistant to third gas family.



## TECHNICAL FEATURES

<b>Body</b>	Die cast aluminium
<b>Threaded connections</b>	Rp 1/2 ÷ Rp 2 EN 10226
<b>Flanged connections</b>	from DN 32 to DN 200 PN 16 ISO 7005
<b>On request</b>	ANSI 150
<b>Temperature max.</b>	-20 °C ÷ +70 °C
<b>Filter insert</b>	Synthetical washable material
<b>Gasket</b>	NBR rubber (UNI 7702)
<b>Pressure max.</b>	2 or 6 bar
<b>Filtering capacity</b>	50 µm
<b>On request</b>	10 µm o 20 µm

## FEATURES

- Installation in any position
- Group 2 mechanical resistance
- Filtering capacity 10, 20 or 50 µm
- Easy replacement of filter cartridge
- Pressure test points 1/4" at inlet, on request mounted on by both sides also on outlet
- On request manometer for differential pressure measurement

# MODELS

**FE** = Filter



**Max. pressure**

**2** = 2 bar

**6** = 6 bar



**Nominal diameter**

**Threaded**

**15** = Rp 1/2

**20** = Rp 3/4

**25** = Rp 1

**32** = Rp 1.1/4

**40** = Rp 1.1/2

**50** = Rp 2

**Flanged**

**32** = DN 32

**40** = DN 40

**50** = DN 50

**65** = DN 65

**80** = DN 80

**100** = DN 100

**125** = DN 125

**150** = DN 150

**200** = DN 200



**Version**

**F** = Flanged

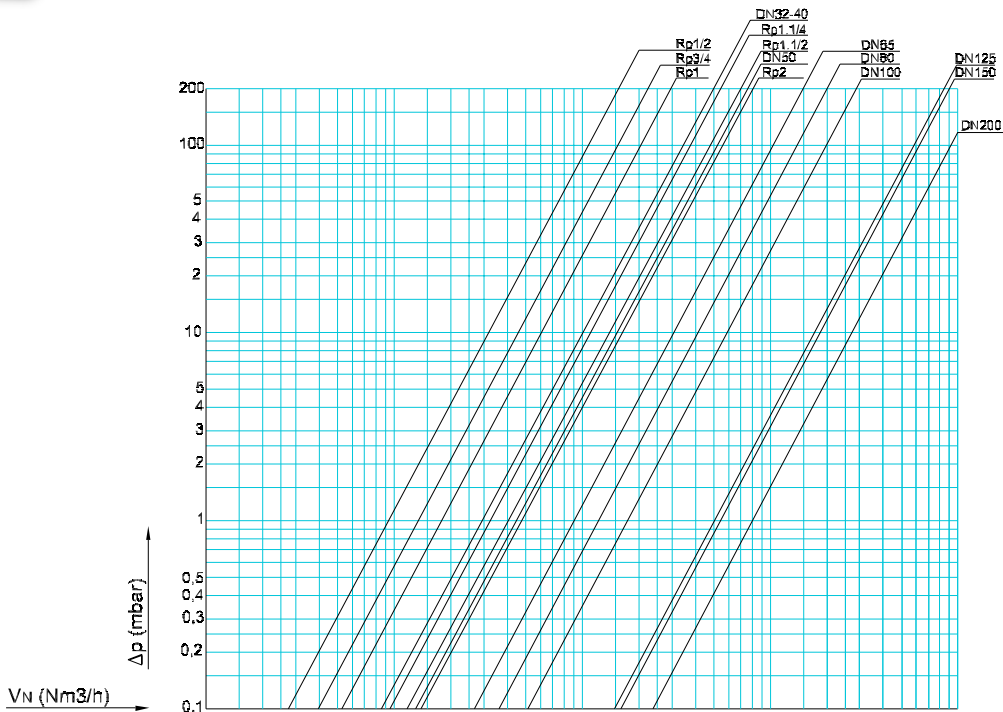
**BG** = Biogas

**/20** = 20 micron

**/10** = 10 micron

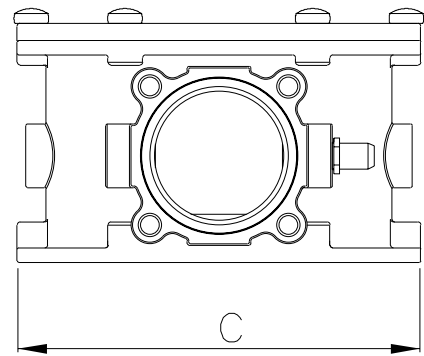
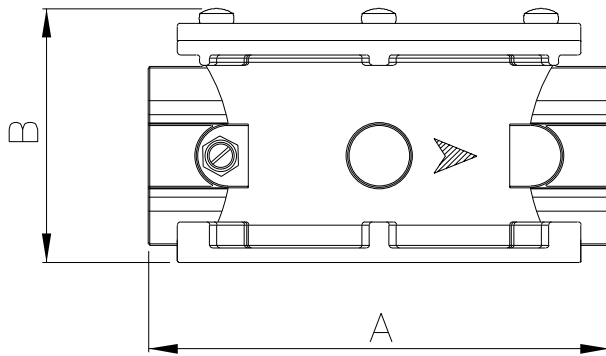


# FLOW CHART

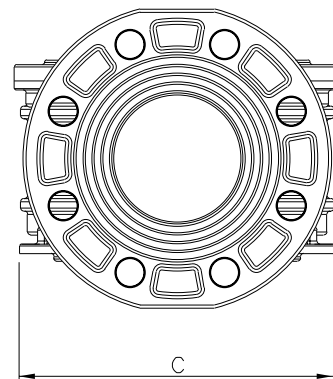
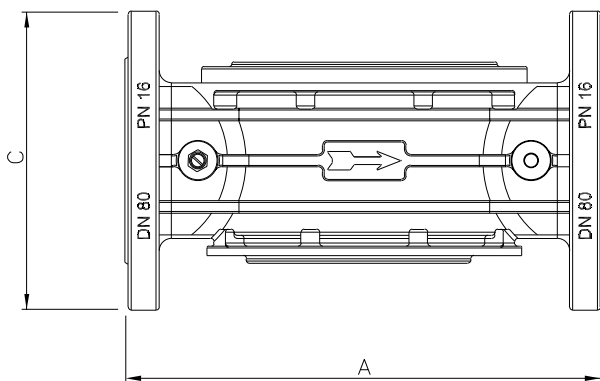


Metano	dv=0,64	1 2 3 4 5 6 8 10 2 3 4 5 6 8 100 2 3 4 5 6 8 1000 2 3 4 5 6 8 10000
Methane		
Aria	dv=1	1 2 3 4 5 6 8 10 2 3 4 5 6 8 100 2 3 4 5 6 8 1000 2 3 4 5 6 8 10000
Air		
Gas di città	dv=0,45	1 2 3 4 5 6 8 10 2 3 4 5 6 8 100 2 3 4 5 6 8 1000 2 3 4 5 6 8 10000
Town gas		
Propano	dv=1,56	1 2 3 4 5 6 8 10 2 3 4 5 6 8 100 2 3 4 5 6 8 1000 2 3 4 5 6 8
Propane		
Butano	dv=2,09	1 2 3 4 5 6 8 10 2 3 4 5 6 8 100 2 3 4 5 6 8 1000 2 3 4 5 6 8
Butane		
G.P.L.	dv=1,70	1 2 3 4 5 6 8 10 2 3 4 5 6 8 100 2 3 4 5 6 8 1000 2 3 4 5 6 8
L.F.G.		

## DIMENSIONS



Threaded connections	Rp	Dimensions (mm)			Weight (Kg)	Filtering surface (mm <sup>2</sup> )
		A	B	C		
FE	1/2	120	72	94	0,5	4560
FE	3/4	120	72	94	0,5	4560
FE	1	120	72	94	0,5	4560
FE	1 1/4	160	87	140	1,2	19040
FE	1 1/2	160	87	140	1,2	19040
FE	2	160	110	140	1,35	26770



Flanged connections	DN	Dimensions (mm)			Weight (Kg)	Filtering surface (mm <sup>2</sup> )
		A	B	C		
FE...F	32	230	150	165	2,5	10650
FE...F	40	230	150	165	2,5	10650
FE...F	50	230	150	165	2,5	10650
FE...F	65	290	180	198	5,3	39240
FE...F	80	310	195	198	5,7	39240
FE...F	100	350	211	254	15*	76250
FE...F	125	480	302	328	25	198000
FE...F	150	480	302	328	26,2	198000
FE...F	200	600	380	450	50	--

\*Weight FE....F DN 100 kg. 9,80 2 bar version / kg. 15,00 6 bar version.



## 1. WARNING

Installation, adjustment, and maintenance of the filter must be carried out exclusively by skilled and authorized service technicians. Non-proper installation, changes, use and maintenance may cause damages to the personnel or to the equipment. Consequently, it is necessary to respect strictly the following instructions and local prescriptions for gas systems.

## 2. INSTALLATION

Check that the installation is performed according to the rules and good technical standards for LPG, Natural Gas and not corrosive gas application.

Check that data indicated on the label of the regulator do correspond to the required range of the downstream equipment and that the line pressure should not exceed the value reported on the plate.

The filter can be installed in different positions, even usually located upstream the regulation and/or shut-off devices on horizontal or vertical piping and with the arrow towards the user, provided the vertical position of the cover for easy clean of the filter cartridge. Keep an adequate area for maintenance and the cartridge replacement. Pressure test points are provided on the external body of the filter.

Before installing check following points:

- an upstream and downstream valve is installed
- the gas supply is shut off
- the filter does not suffer any mechanical strength due to unaligned pipelines
- the flow of the gas follows the arrow indicated on the cover
- the part of pipeline between the filter and the equipment is perfectly clean
- all the screw and bolts are closed and fixed
- the equipment is fully tight

According to filter type, check carefully:

**FE** the length of the pipeline thread would not be so long to affect the body of device, when screwing.

**FE...F** the filter does not suffer any mechanical strength due to unaligned counter flanges [inlet and outlet]. Provide also the place for fitting the sealing.

Once fitted the gaskets, do not try to close the wide gap by over-bighting the filter bolts.

Once the filter is installed, check carefully the tightness of the system.

## 3. REPLACEMENT OF THE CARTRIDGE

Check periodically the clogging level of the cartridge with due instruments, and replace the cartridge once a year, at least, and each time the differential pressure would be  $\geq 20$  mbar. When the drop pressure exceeds the value established by the system supervisor, replace the cartridge. Before any maintenance operation, check that valves installed before and after the filter are closed and the pressure had been discharged with the drain plug. Keep out the drain plug, remove the cover by unscrewing the bolts, extract the cartridge and replace it with a new one, placing it as indicated inside the body. Replace the O-ring with the new one. Re-assembly the body and check that the cartridge comes inside correctly on the cover. Fix the screw with cross sequence. Open slowly the inlet valve, check the tightness on the cover and on the drain plug with a soapy solution. After this inspection, open slowly the downstream valve