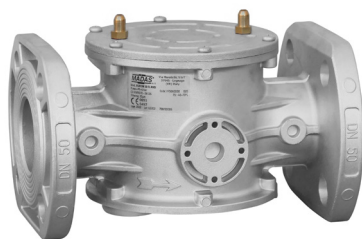


FILTRO PER GAS / GAS FILTER / FILTRE POUR GAZ / FILTRO PARA GAS



CE-51AR1070

CE 0051
0497

MADE IN ITALY

	IT	EN	FR	ES
Pressione massima di esercizio Maximum operating pressure Pression maximum de fonctionnement Presión máxima de funcionamiento	2 - 6 bar			
Attacchi filettati Threaded connections Raccords à filets Conexiones roscadas	DN 15 - DN 20 - DN 25 - DN 32 - DN 40 - DN 50			
Attacchi flangiati Flanged connections Raccords à brides Conexiones embreadas	DN 25* - DN 32 - DN 40 - DN 50			
	* su richiesta con flange girevoli	* with swivel flanges on request	* sur demande avec brides tournantes	* bajo petición con bridas locas
Norma di riferimento Reference standard Norme de référence Patrón de referencia	EN 126			
In conformità a In conformity with Conforme a Conforme	Regolamento (UE) 2016/426 Direttiva PED 2014/68/UE	Regulation (EU) 2016/426 PED Directive 2014/68/EU	Règlement (UE) 2016/426 Directive PED 2014/68/UE	Reglamento (UE) 2016/426 Directiva PED 2014/68/UE

1.0 - GENERAL INFORMATION

This manual shows you how to safely install, operate and use the device.

The instructions for use **ALWAYS** need to be available in the facility where the device is installed.

ATTENTION: installation/maintenance needs to be carried out by qualified staff (as explained in section 1.3) by using suitable personal protective equipment (PPE).

For any information pertaining to installation/maintenance or in case of problems that cannot be solved with the instructions, contact the manufacturer by using the address and phone numbers provided on the last page.

1.1 - DESCRIPTION

A device that retains dust particles conveyed by the gas and protects the elements in danger (burners, counters, boilers, pressure regulators, etc.) from rapid clogging.

It consists of a filter cartridge made of washable synthetic material and can be entirely removed for full inspection, cleaning and/or replacement.

It can be supplied equipped with:

- pressure test nipples and/or connections to control the pressure and/or differential pressure.
- cap or drain valve for condensation drainage.

Only FGM versions:

- clogging indicator differential pressure gauge installation set-up;
- clogging indicator differential pressure gauge already installed.

Reference standards: EN 126 – EN 13611.

1.2 - KEY TO SYMBOLS



DANGER: Failure to observe this may cause damage to tangible goods.



DANGER: Failure to observe this may cause damage to tangible goods, injury to people and/or pets.



ATTENTION: Attention is drawn to the technical details intended for qualified staff.

1.3 - QUALIFIED STAFF

These are people who:

- Are familiar with product installation, assembly, start-up and maintenance;
- Know the regulations in force in the region or country pertaining to installation and safety;
- Are trained in first aid.



1.4 - USING NON-ORIGINAL SPARE PARTS

- To perform maintenance or change spare parts (e.g. filter element, O-ring, etc.) **ONLY USE** manufacturer-recommended parts. Using different parts not only voids the product warranty, it could compromise correct operation of the device.
- The manufacturer is not liable for malfunctions caused by unauthorised tampering or use of non-original spare parts.



1.5 - IMPROPER USE

- The product must only be used for the purpose it was built for.
- It is not allowed to use fluids other than those expressly stated.
- The technical data set forth on the rating plate must not, under any circumstances, be exceeded. The end user or installer is in charge of implementing proper systems to protect the device, which ensure the maximum pressure indicated on the rating plate is not exceeded.
- The manufacturer is not responsible for any damage caused by improper use of the device.

2.0 - TECHNICAL DATA

• Use	: non-aggressive gases of the three families (dry gases)
• Ambient temperature (TS)	: -40 ÷ +70°C
• Maximum operating pressure	: 2 or 6 bar (see product label)
• Mechanical strength	: Group 2 (according to EN 13611)
• Rp threaded connections	: (DN 15 - DN 20 - DN 25 - DN 32 - DN 40 - DN 50) according to EN 10226
• Flanged connections that can be coupled to PN 16 flanges	: (DN 25* - DN 32 - DN 40 - DN 50) ISO 7005 / EN 1092-1
• NPT threaded or ANSI 150 flanged connections	: on request
• Filter element	: Filtering 10-20-50 µm
• In compliance with	: Regulation (EU) 2016/426 (Appliances burning gaseous fuels) PED Directive 2014/68/EU

* DN 25 with swivel flanges.

2.1 - MODEL IDENTIFICATION

FM: Standard Filter (with winding cartridge)	- Max P = 2 or 6 bar
FGM: Filter with central cartridge flat surface	- Max P = 2 or 6 bar

3.0 - COMMISSIONING THE DEVICE



3.1 - OPERATIONS PRIOR TO INSTALLATION

- It is necessary to close the gas upstream of the device prior to installation;
- Make sure that the line pressure **DOES NOT EXCEED** the maximum pressure declared on the product label;
- Any protective caps (if any) must be removed prior to installation;
- The pipes and inside of the device must be clear of any foreign bodies;
 - If the device is threaded:
 - make sure that the pipe thread is not too long, to prevent damaging the body of the device when screwing it on;
 - If the device is flanged:
 - make sure the inlet and outlet counter-flanges are perfectly coaxial and parallel in order to prevent unnecessary mechanical stress to the body. Also calculate the space to insert the seal gasket;
 - With regard to tightening operations, equip yourself with one or two calibrated torque wrenches or other controlled locking tools;

Common procedures (threaded and flanged devices):

- Consider the clearance requirements to replace the filter element;
- With outdoor installation, it is advisable to install a protective roof to prevent rain from oxidising or damaging parts of the device.



- According to the plant geometry, check the risk of an explosive mixture arising inside the piping;
- If the filter is installed near other devices or as part of an assembly, compatibility between the filter and these devices must be evaluated beforehand;
- Provide a protection against impacts or accidental contacts if the device is accessible to unqualified personnel.



3.2 - INSTALLATION (see example in 3.4)

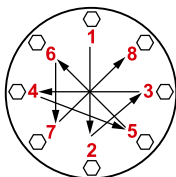
Threaded devices:

- Assemble the device by screwing it, with the due seals, onto the plant with pipes and/or fittings whose threads are consistent with the connection being attached.
- The arrow, shown on the body (3) of the device, needs to be pointing towards the application;

Flanged devices:

- Assemble the device by flanging it, with the due seals, onto the plant with pipes whose flanges are consistent with the connection being attached. The gaskets must be free from defects and must be centred between the flanges;

- If, after installing the gaskets, there is still an excessive space in between, do not try to reduce said gap by excessively tightening the bolts of the device;
- The arrow, shown on the body (**3**) of the device, needs to be pointing towards the application;
- Insert the relative washers inside the bolts in order to prevent damage to the flanges during tightening;
- When tightening, be careful not to "pinch" or damage the gasket;
- Tighten the nuts or bolts gradually, in a "cross" pattern (see the example below);
- Tighten them, first by 30%, then by 60% and finally 100% of the maximum torque (see the table below according to EN 13611);

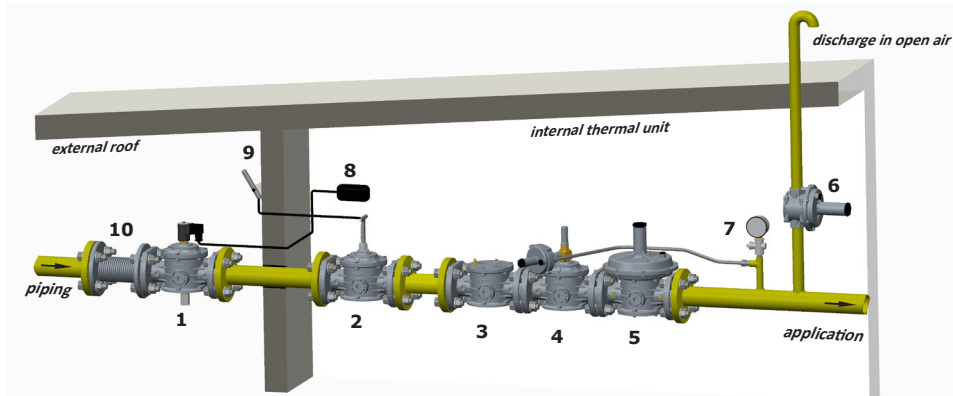


Diameter	DN 25	DN 32	DN 40	DN 50
Max. torque (N.m)	30	50	50	50

- Tighten each nut and bolt again clockwise at least once, until the maximum torque has been achieved uniformly;
- Common procedures (threaded and flanged devices):
 - The filter can be installed in any position as long as the arrow, indicated on the body (**3**) of the appliance, faces the application;
 - During installation, avoid debris or metal residues from getting into the device;
 - To guarantee mechanical tension-free assembly, we recommend using compensating joints, which also adjust to the pipe's thermal expansion;
 - If the device is to be installed in a ramp, it is the installer's responsibility to provide suitable or correctly sized supports to hold and secure the assembly. Never, for any reason whatsoever, leave the weight of the ramp only on the connections (threaded or flanged) of the individual devices;
 - In any case, following installation, check the tightness of the plant;

3.4 - GENERIC EXAMPLE OF AN INSTALLATION

1. M16/RM N.C. Manual reset solenoid valve
2. SM jerk ON/OFF valve
- 3. FM gas filter**
4. OPSO series MVB/1 MAX shut off valve
5. RG/2MC pressure regulator
6. MVS/1 relief valve
7. Pressure gauge and relative button
8. Gas detector
9. SM remote jerk ON/OFF valve lever control
10. Expansion joint/anti-vibration mount





4.0 - FIRST START-UP



- Before start-up make sure that all of the instructions on the rating plate, including the direction of flow, are observed;
- After having gradually pressurised the system, check the tightness and operation of the filter.



4.1 - RECOMMENDED PERIODIC CHECKS

- Use a suitable calibration tool to ensure the bolts are tightened as indicated in 3.2;
- Check the tightness of the flanged/threaded connections on the system;
- Check the tightness and operation/efficiency of the filter;

It is the responsibility of the final user or installer to define the frequency of these checks based on the severity of the service conditions.



5.0 - MAINTENANCE



- Before carrying out any dismantling operation on the device, make sure that there is no pressurised gas inside.



REPLACING THE FILTER ELEMENT (2)

- Remove the cover **(1)** by loosening the fastening screws **(5)**;
- Extract the filter element and check its conditions. Blow it and clean it and, if necessary, replace it.
- Reassemble it in its initial position, checking that it is placed between the special guides **(4)** (see Fig. 1-2-3-4);
- Check the conditions of the sealing O-Ring **(6)** of the cover **(1)**, and replace it if necessary (recommended);
- Make sure the O-Ring **(6)** of the cover **(1)** is inside the provided groove;
- Reassemble the cover and secure it in its original position, being very careful not to “pinch” or damage the O-ring during tightening;
- Tighten the screws **(5)** gradually, following a “cross” pattern, until the torque (tolerance -15%) indicated in the table at the side is reached. Use a calibrated torque wrench to do this.
- Check the body/cover seal;

Screw	M5	
	Galvanised	Stainless Steel
Max. torque (N.m)	6	4.5

6.0 - TRANSPORT, STORAGE AND DISPOSAL

- During transport the material needs to be handled with care, avoiding any impact or vibrations to the device;
- If the product has any surface treatments (ex. painting, cataphoresis, etc) it must not be damaged during transport;
- The transport and storage temperatures must observe the values provided on the rating plate;
- If the device is not installed immediately after delivery it must be correctly placed in storage in a dry and clean place;
- In humid facilities, it is necessary to use driers or heating to avoid condensation.
- At the end of its service life, the product is to be disposed of in compliance with the legislation in force in the country where this operation is performed.

7.0 - WARRANTY

The warranty conditions agreed with the manufacturer at the time of the supply apply.

For damage caused by:

- Improper use of the device;
- Failure to observe the requirements described in this document;
- Failure to observe the regulations pertaining to installation;
- Tampering, modification and use of non-original spare parts;

are not covered by the rights of the warranty or compensation for damage.

The warranty also excludes maintenance work, the assembly of devices of other manufacturers, making changes to the device and natural wear.

8.0 - RATING PLATE DATA

The rating plate data (see example provided here) includes the following:

- Manufacturer’s name/logo and address (possible distributor name/logo)
- Mod.: = device name/model followed by the connection diameter
- CE-51AR1070 = certification pin number
- EN 126 = Product reference regulation
- P. max = Maximum pressure at which product operation is guaranteed
- PS = Allowable maximum pressure
- Filtering = Filtering
- TS = Temperature range within which product operation is guaranteed
- 0051 = Conformity with Regulation (EU) 2016/426 followed by Notified Body No.
- 0497 = In compliance with PED directive followed by the no. of the Notified Body
- year = Year of manufacture
- Lot = Product serial number (see explanation below)
 - U1812 = Lot issued in year 2018 in the 12th week
 - 7634 = progressive job order number for the indicated year
 - 00001 = progressive number referring to the quantity of the lot



Via Moratello, 5/7 - 37045
Legnago (VR) - Italy
www.madas.it

Mod.: FM DN 50
CE-51AR1070 - EN 126
Filtering: 50 micron

P. max=PS=6 bar
TS: -40+70 °C

0051
0497

year: 2018 Lot:U1812 7634/00001

9.0 - FILTER SIZING EXAMPLE

Usage data
 $Q_n = 270 \text{ [Nm}^3\text{/h]}$ Methane
 $P_i = 2.6 \text{ [bar]}$

To use the diagram, you have to convert the usage data to the diagram conditions ($P_i=0$) and vice versa.

- Conversion to the flow rate at the diagram conditions:

$$Q_d \text{ [Nm}^3\text{/h]} = \left(\frac{Q_n \text{ [Nm}^3\text{/h]}}{P_i + 1 \text{ [bar]}} \right) = \left(\frac{270 \text{ [Nm}^3\text{/h]}}{2.6 + 1 \text{ [bar]}} \right) = 75 \text{ [m}^3\text{/h]}$$

- Choosing the filter diameter:

Maximum flow rates in m³/h of methane gas considering a max flow speed through the pipes of 20 m/s					
DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
13.0 m³/h	23.1 m³/h	36.1 m³/h	59.2 m³/h	92.5 m³/h	145 m³/h

- Identify the Q_d flow rate on the Gas line used and go up with a vertical line until you cross the straight line for the selected diameter (see example diagram on page 32);
- From this newly identified point, move left until you cross the graph axis and read the ΔP_d
- Converting the ΔP_d measured on the diagram at the system conditions:

$$\Delta P_r \text{ [mbar]} = \Delta P_d \text{ [mbar]} \times (P_i + 1) \text{ [bar]} = 1.5 \text{ [mbar]} \times (2.6 + 1) \text{ [bar]} = 5.4 \text{ [mbar]}$$

- Follow the same procedure in the diagrams on pages 32 and 33 to calculate the pressure drop of the filters to the various filtering points (50 μm -20 μm -10 μm).

KEY

- Q_n : Usage flow rate [Nm³/h]
- Q_d : Flow rate at the diagram conditions [m³/h]
- P_i : System pressure
- ΔP_d : ΔP measured on the diagram
- ΔP_r : ΔP normalised to the system condition
- P_i : Diagram tracing pressure

10.0 - DIFFERENTIAL PRESSURE GAUGE CLOGGING INDICATOR

10.1 - DESCRIPTION

The differential pressure gauge used to point the clogging degree of the cartridge filters.

It is equipped of adjust maximum index (red arrow) able to supply the best ΔP value occurred.

Can be supplied already mounted **ONLY on the filter FGM series** (as in figure 6 and 7) or as accessory to be mounted later.

Generally it is supplied (on request) mounted on filters as indicated in fig. 6, namely:

- arrow on the filter body left to right;
- readable dial frontally;
- + mark on the back left

It is possible to supply it even as stated in in fig. 7 (reverse type "R"), namely:

- arrow on the filter body left to right;
- readable dial from the back;
- + mark on the left (in this case the marks + and – are specified with proper labels).

Both versions can be supplied with a built in proximity sensor too to transmit a maximum differential pressure signal from remote ("S" type).

The sensore is normally open type and supplies a signal when the ΔP pointer reaches 100 mbar point.

Different settings on request.



10.2 - INSTALLATION

If the differential pressure gauge is supplied as accessory it is necessary to close the gas before installation.

We suggest the pressure gauge installation on filters with premounting connections then with 2 G 1/8 threaded holes (distance between them 55 mm) already present on the cover (see fig. 6 and 7).

If the filter do not have this premounting connections you must do a connection as show in fig. 8 using pipes and/or connections having matching threads with the connection to be connected and suitable for gas use.

The filter on which the pressure gauge have to be mount must be equipe at least with an inlet and outlet pressure test point.

After mounting make a working and a leak test.

Once the filter is mounted, before the plant start up, reset the red arrow.

Check the ΔP with new filter and with flow in the plant.

We recommend replacing the cartridge when the differential pressure is doubled comparing the original value obtained with new filter.

10.3 - TECHNICAL DATA

- Gauge P. max: 20 bar
- Standard maximum ΔP : 150 mbar (different ΔP on request)
- Environment temperature: $-40 \div +60$ °C

Proximity sensor features

- Maximum voltage: 30 Vdc
- Maximum power: 100 mA
- Protection degree: IP55
- Protection way: EEx ia IIC T6
- Cable length: 2 m

fig. 1 - FM

Rp (DN 15 - DN 20 - DN 25)

fig. 2 - FM

Rp (DN 25M - DN 32 - DN 40 - DN 50)

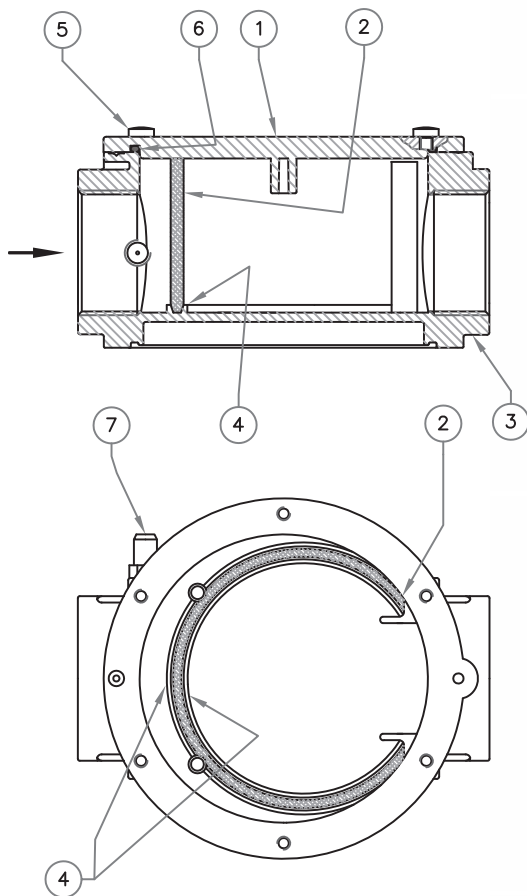
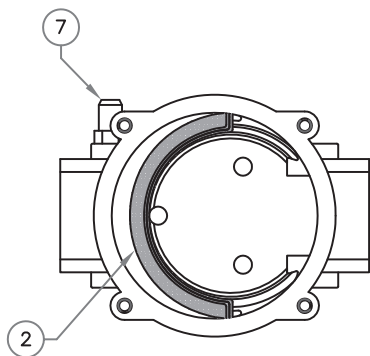
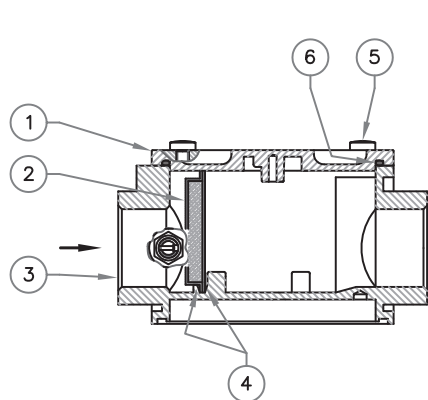
DN 25M =

attacchi DN 25 con corpo DN 32

DN 25 connections with DN 32 body

fixations DN 25 avec corps DN 32

roscas DN 25 con cuerpo DN 32



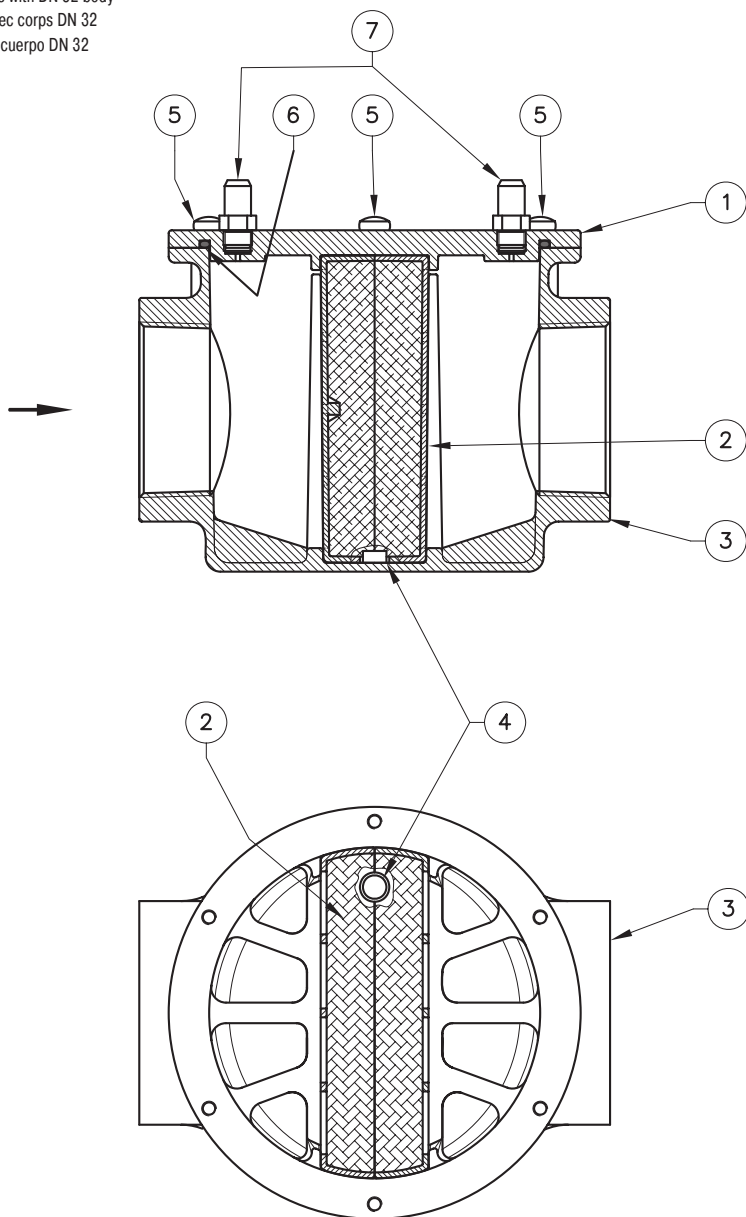
vista dall'alto senza coperchio
view from above without cover
vue du haut sans couvercle
vista superior sin tapa

fig. 3 - FGM

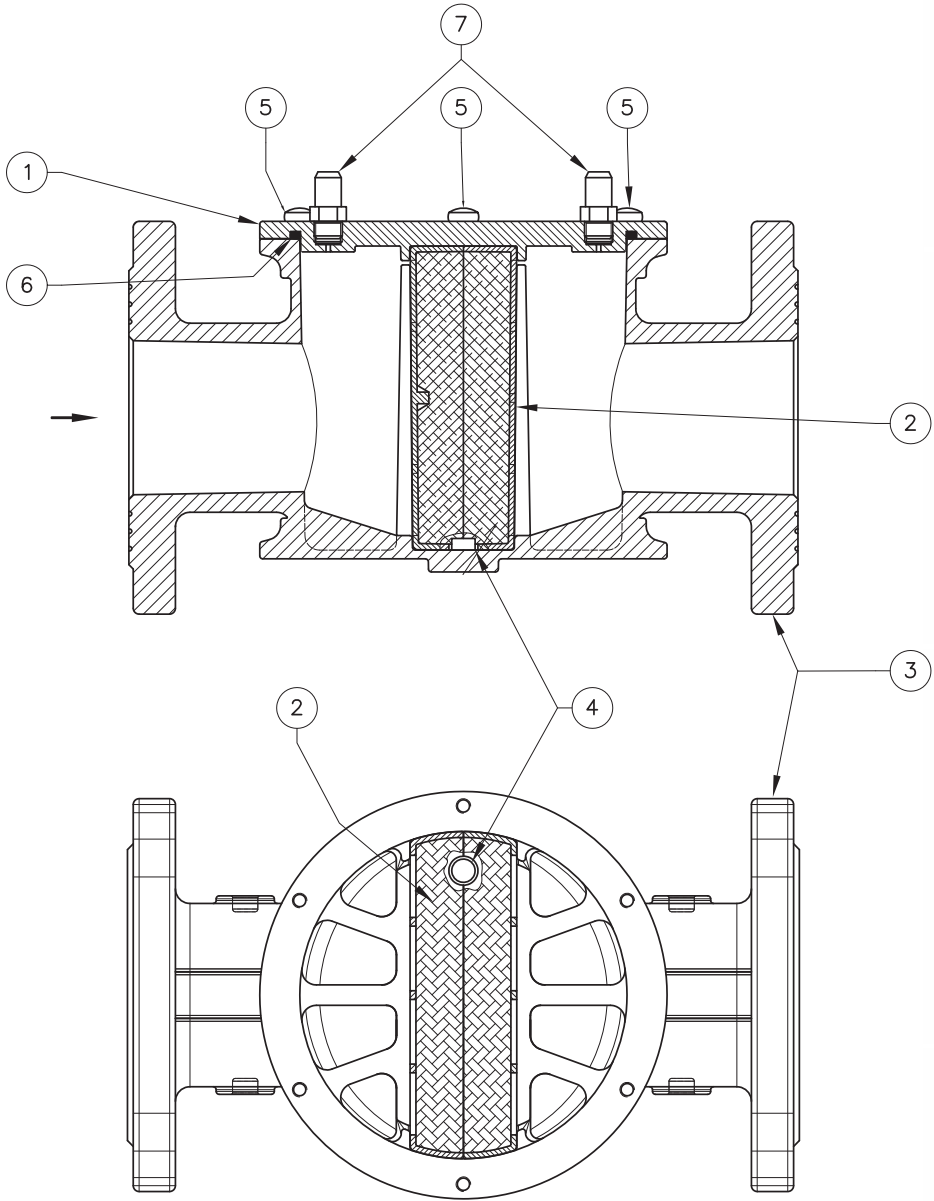
Rp (DN 25M - DN 32 - DN 40 - DN 50)

DN 25M =

attacchi DN 25 con corpo DN 32
DN 25 connections with DN 32 body
fixations DN 25 avec corps DN 32
roscas DN 25 con cuerpo DN 32



vista dall'alto senza coperchio
view from above without cover
vue du haut sans couvercle
vista superior sin tapa



vista dall'alto senza coperchio
view from above without cover
vue du haut sans couvercle
vista superior sin tapa

IT

fig. 1, 2, 3 e 4

- 1 - Coperchio
- 2 - Organo filtrante
- 3 - Corpo
- 4 - Guide per organo filtrante
- 5 - Viti di fissaggio coperchio
- 6 - O-Ring di tenuta coperchio
- 7 - Presa di pressione (optional)

EN

fig. 1, 2, 3 and 4

- 1 - Cover
- 2 - Filter element
- 3 - Body
- 4 - Filter element guides
- 5 - Cover fastening screws
- 6 - Cover sealing O-Ring
- 7 - Pressure test nipple (optional)

FR

fig. 1, 2, 3 et 4

- 1 - Couverture
- 2 - Organe filtrant
- 3 - Corps
- 4 - Guides pour organe filtrant
- 5 - Vis de fixation du couvercle
- 6 - Joint torique d'étanchéité du couvercle
- 7 - Prise de pression (en option)

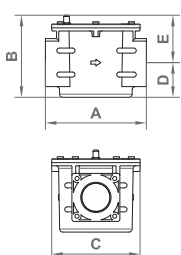
ES

fig. 1, 2, 3 y 4

- 1 - Tapa
- 2 - Cartucho filtrante
- 3 - Cuerpo
- 4 - Guías para el cartucho filtrante
- 5 - Tornillos de fijación de la tapa
- 6 - Junta tórica de estanqueidad de la tapa
- 7 - Toma de presión (opcional)

Tabella 1 - Table 1 - Tableau 1 - Tabla 1

Dimensioni di ingombro in mm - Overall dimensions in mm - Mesures d'encombrement en mm - Medidas de estorbo en mm

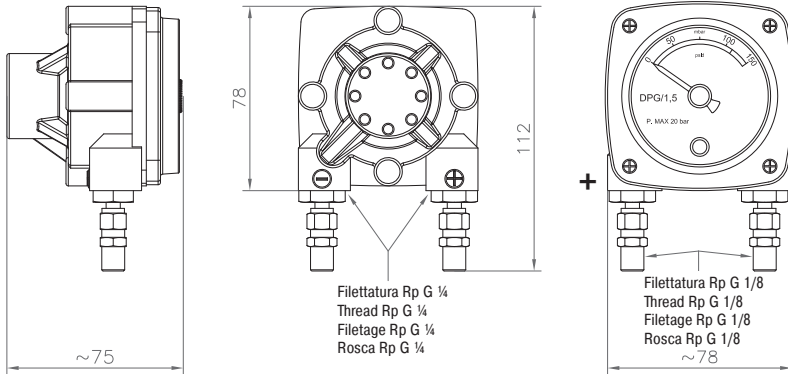
Attacchi filettati Rp Rp threaded connections Fixations filetees Rp Conexiones roscadas Rp	Attacchi flangiati Flanged connections Fixations bridees Conexiones de brida	P. max (bar)	A	B	C min	D	E	
FM DN 15 - DN 20 - DN 25	-	2	120	71	94	29,5	41,5	
FM DN 15 - DN 20 - DN 25	-	6	120	75	94	29,5	45,5	
-	FM DN 25	2 - 6	191	115	115	57,5	57,5	
-	FM DN 25M	2 - 6	230	115	140	57,5	57,5	
-	FGM DN 25M	2 - 6	230	135,5	140	57,5	78	
FM DN 25M - DN 32 - DN 40	-	2 - 6	160	87	140	37	50	
FGM DN 25M - DN 32 DN 40 - DN 50	-	2 - 6	160	133	140	55	78	
-	FGM DN 32 FL - DN 40 FL DN 50 FL	2 - 6	230	152	165	67,5	84,5	
FM DN 50	-	2 - 6	160	113	140	45,5	67,5	

Le dimensioni sono indicative, non vincolanti - The dimensions are provided as a guideline, they are not binding
 Les dimensions sont indicatives et non contractuelles - Las dimensiones son indicativas, no vinculantes

Manometro differenziale indicatore di intasamento
Differential pressure gauge clogging indicator
Manometre différentiel indicateur d'obstruction
Manómetro diferencial indicador de obstrucción

Dimensioni di ingombro in mm - Overall dimensions in mm - Mesures d'encombrement en mm - Medidas de estorbo en mm

fig. 5



Nelle versioni con sensore di prossimità questa quota misura 90 mm
 In the proximity sensor version this measure is 90 mm
 Dans les versions avec capteur de proximité, cette valeur mesure 90 mm.
 En las versiones con sensor de proximidad esta altura es de 90 mm

fig. 6

Configurazione Standard
 Standard configuration
 Configuration Standard
 Configuración Estándar

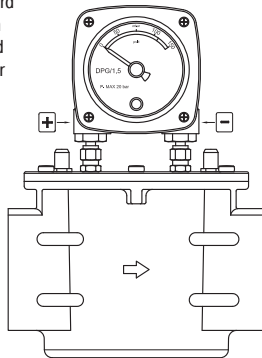


fig. 7

Configurazione "R" reverse
 Reverse "R" configuration
 Configuration Reverse "R"
 Versión Reverse "R"

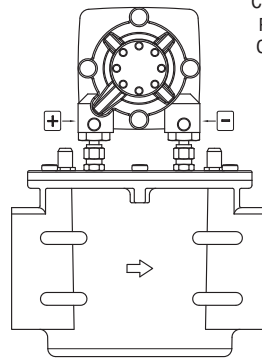
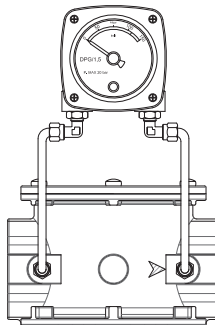


fig. 8

Installazione su filtro senza predisposizione
 Filter installation without premounting
 Installation du filtre sans prédisposition
 Instalación del filtro sin preparación.



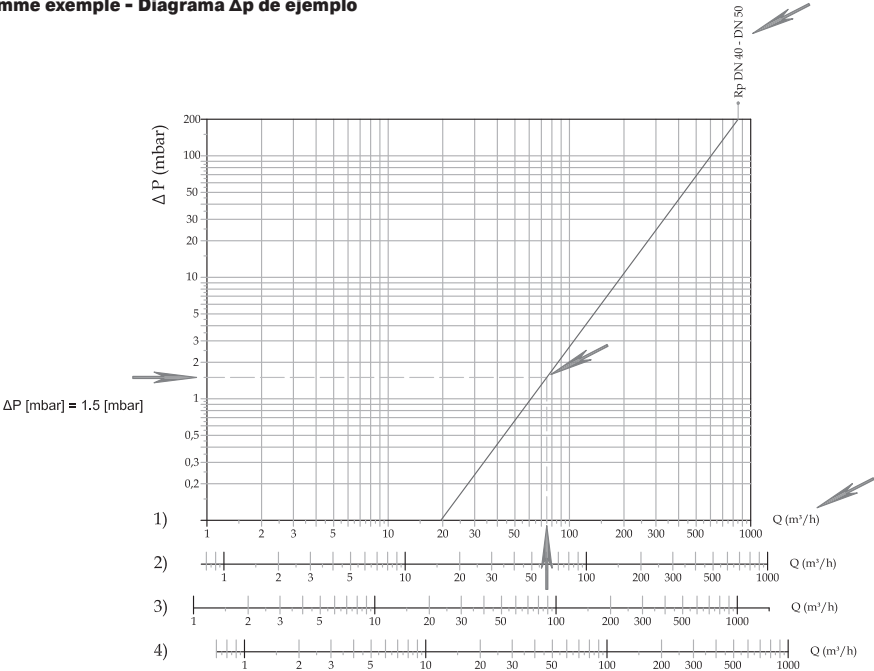
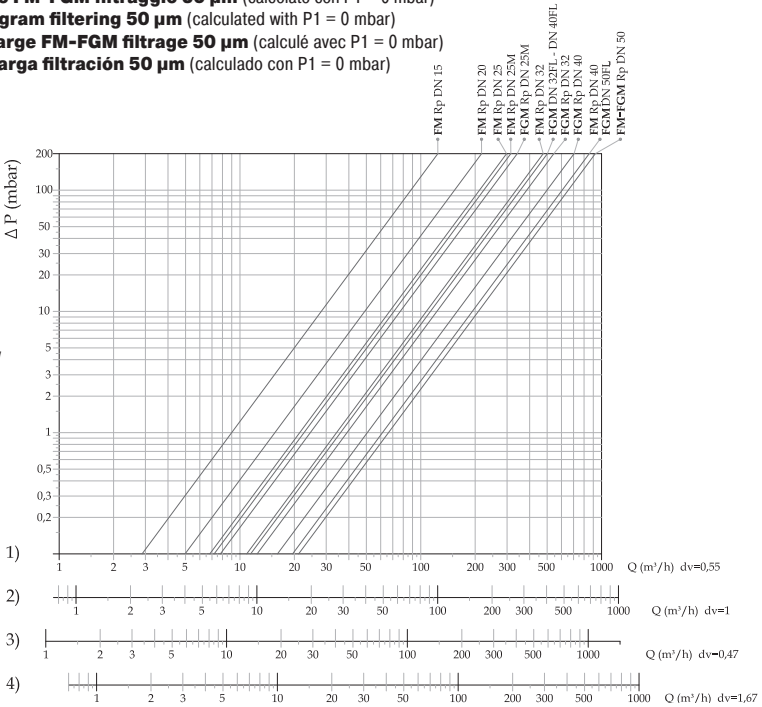


Diagramma perdite di carico FM-FGM filtraggio 50 μm (calcolato con P1 = 0 mbar)
FM-FGM pressure drop diagram filtering 50 μm (calculated with P1 = 0 mbar)
Diagramme de perte de charge FM-FGM filtrage 50 μm (calculé avec P1 = 0 mbar)
Diagrama de pérdidas de carga filtración 50 μm (calculado con P1 = 0 mbar)



DN 25M =
attacchi DN 25 con corpo DN 32
DN 25 connections with DN 32 body
fixations DN 25 avec corps DN 32
rosclas DN 25 con cuerpo DN 32

- 1) metano - methane
méthane - metano
- 2) aria - air - air - aire
- 3) gas di città - town gas
gaz de ville - gas ciudad
- 4) gpl - lpg - gas liquido
gas líquido

Diagramma perdite di carico FM-FGM filtraggio 20 µm (calcolato con P1 = 0 mbar)
FM-FGM pressure drop diagram filtering 20 µm (calculated with P1 = 0 mbar)
Diagramme de perte de charge FM-FGM filtrage 20 µm (calculé avec P1 = 0 mbar)
Diagrama de pérdidas de carga filtración 20 µm (calculado con P1 = 0 mbar)

DN 25M =

attacchi DN 25 con corpo DN 32
DN 25 connections with DN 32 body
fixations DN 25 avec corps DN 32
roscas DN 25 con cuerpo DN 32

- 1) metano - methane
méthane - metano
- 2) aria - air - air - aire
- 3) gas di città - town gas
gaz de ville - gas ciudad
- 4) gpl - lpg -gaz liquide
gas líquido

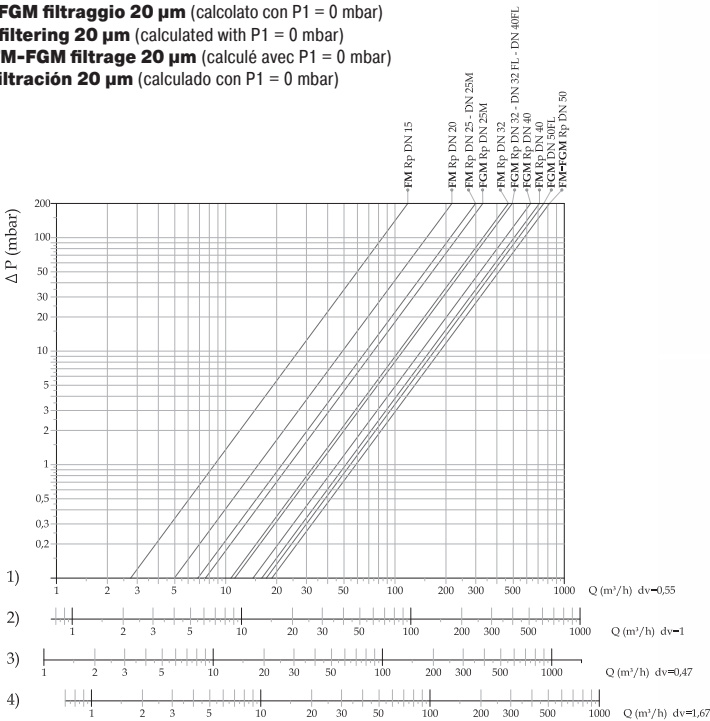
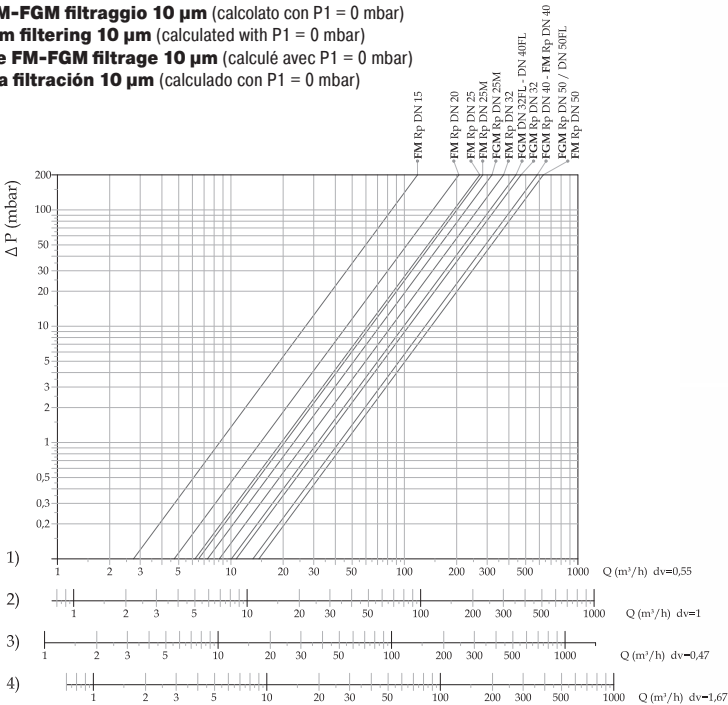


Diagramma perdite di carico FM-FGM filtraggio 10 µm (calcolato con P1 = 0 mbar)
FM-FGM pressure drop diagram filtering 10 µm (calculated with P1 = 0 mbar)
Diagramme de perte de charge FM-FGM filtrage 10 µm (calculé avec P1 = 0 mbar)
Diagrama de pérdidas de carga filtración 10 µm (calculado con P1 = 0 mbar)

DN 25M =

attacchi DN 25 con corpo DN 32
DN 25 connections with DN 32 body
fixations DN 25 avec corps DN 32
roscas DN 25 con cuerpo DN 32

- 1) metano - methane
méthane - metano
- 2) aria - air - air - aire
- 3) gas di città - town gas
gaz de ville - gas ciudad
- 4) gpl - lpg -gaz liquide
gas líquido



ATTACCHI FILETTATI NPT / NPT THREADED CONNECTIONS
RACCORDS FILETÉS NPT / CONEXIONES ROSCADAS NPT

richiedere fattibilità / request feasibility / demander la faisabilité / consulte la disponibilité

Aggiungere la lettera
"N" dopo le cifre
indicanti gli attacchi

Add the letter "N" after
figures denoting the
connection

Ajouter la lettre "N"
après les chiffres
indiquant les connexions

Añadir la letra "N" a continuación
de las cifras que indican los
diámetros de conexión

Es. / E.g. / Ex. / Ej.
FGM07**N** B20

ATTACCHI FLANGIATI ANSI 150 / ANSI 150 FLANGED CONNECTIONS
RACCORDS À BRIDES ANSI 150 / CONEXIONES EMBRIDADAS ANSI 150

richiedere fattibilità / request feasibility / demander la faisabilité / consulte la disponibilité

Aggiungere la lettera
"A" dopo le cifre
indicanti gli attacchi

Add the letter "A" after
figures denoting the
connection

Ajouter la lettre "A"
après les chiffres
indiquant les connexions

Añadir la letra "A" a continuación
de las cifras que indican los
diámetros de conexión

Es. / E.g. / Ex. / Ej.
FF50**A** B50

BIOGAS *

richiedere fattibilità / request feasibility / demander la faisabilité / consulte la disponibilité

Versioni idonee al
BIOGAS: A-F-H-J-Q

BIOGAS versions:
BIOGAS: A-F-H-J-Q

Versions BIOGAS:
A-F-H-J-Q

Versiones BIOGAS:
A-F-H-J-Q

Es. / E.g. / Ex. / Ej.
FGM07 A20

CATAFORESI / CATAPHORESIS / CATAPHORÈSE / CATAFORESIS

Aggiungere la lettera
"K" dopo le cifre
indicanti gli attacchi

Add the letter "K" after
figures denoting the
connection

Ajouter la lettre "K"
après les chiffres
indiquant les connexions

Añadir la letra "K" a continuación
de las cifras que indican los
diámetros de conexión

Es. / E.g. / Ex. / Ej.
FGM07**K** B20

TAPPO PER SCARICO CONDENSA / CONDENSATION DRAIN CAP
BOUCHON POUR ÉVACUATION CONDENSATION / TAPÓN PARA LA DESCARGA DE CONDENSACIÓN

Aggiungere la lettera
"T" dopo il modello

Add the letter "T" after
model

Ajouter la lettre "T"
après le modèle

Añadir la letra "T" a continuación
del modelo

Es. / E.g. / Ex. / Ej.
FGM**T**07 B20

RUBINETTO PER SCARICO CONDENSA / CONDENSATION DRAIN VALVE
ROBINET POUR ÉVACUATION CONDENSATION / GRIFO PARA LA DESCARGA DE CONDENSACIÓN

Aggiungere la lettera
"R" dopo il modello

Add the letter "R" after
model

Ajouter la lettre "R"
après le modèle

Añadir la letra "R" a
continuación del modelo

Es. / E.g. / Ex. / Ej.
FGM**R**07 B20

MANOMETRO DIFFERENZIALE INDICATORE DI INTASAMENTO / DIFFERENTIAL PRESSURE GAUGE CLOGGING INDICATOR
MANOMETRE DIFFERENTIEL INDICATEUR D'OBSTRUCTION / MANÓMETRO DIFERENCIAL INDICADOR DE OBSTRUCCIÓN

Aggiungere le lettere
"MD" o "MDR" o
"MDS" o "MDSR"
dopo il modello
(vedere pag. 40).

Add the letters "MD"
or "MDR" or "MDS"
or "MDSR" after
model (see pag. 40).

Ajouter les lettres
"MD" ou "MDR" ou
"MDS" ou "MDSR"
après le modèle (voir
pag. 40).

Añadir las letras "MD" o
"MDR" o "MDS" o "MDSR" a
continuación del modelo (véase
pag. 40).

Es. / E.g. / Ex. / Ej.
FGM**MD**07 D20

* Versioni senza manometro differenziale indicatore di intasamento / Versions without differential pressure gauge clogging indicator
Versions sans manometre différentiel indicateur d'obstruction / Versiones sin manómetro diferencial indicador de obstrucción

PREDISPOSIZIONE INSTALLAZIONE MANOMETRO DIFFERENZIALE INDICATORE INTASAMENTO
CLOGGING INDICATOR DIFFERENTIAL PRESSURE GAUGE INSTALLATION SET-UP
PRÉDISPOSITION INSTALLATION MANOMÈTRE DIFFÉRENTIEL INDICATEUR OBSTRUCTION
PREDISPOSICIÓN PARA INSTALACIÓN DEL MANÓMETRO DIFERENCIAL INDICADOR DE OBSTRUCCIÓN

Aggiungere le lettere
"PM" dopo il modello

Add the letters **"PM"**
 after model

Ajouter les lettres
"PM" après le modèle

Añadir las letras **"PM"** a
 continuación del modelo

Es. / E.g. / Ex. / Ej.
 FGM**PM**07 B20

COMBINAZIONI POSSIBILI / POSSIBLE COMBINATIONS
COMBINAISONS POSSIBLES / POSIBLES COMBINACIONES

È possibile combinare
 tra di loro le versioni.

It is possible to combine
 the above mentioned
 versions.

Les versions peuvent
 être combinées entre
 elles.

Es posible combinar las
 versiones entre sí.

Es. / E.g. / Ex. / Ej.
 FF50**AK** B50

NOTA: È consigliato chiedere SEMPRE la fattibilità. / **NOTE:** We suggest to ask ALWAYS for the feasibility.

NOTE: Il est recommandé de TOUJOURS demander la faisabilité. / **NOTA:** Se aconseja consultar SIEMPRE la viabilidad.

MODELLI / MODELS / MODELES / VERSIONES

IT

A = Senza prese di pressione o tappi
 B = 1 Presa di pressione G 1/8 in entrata
 C = 1 Presa di pressione G 1/4 in entrata
 D = Presa di pressione G 1/8 in entrata e uscita
 F = 1 Tappo G 1/8 in entrata
 H = Tappo G 1/8 in entrata e uscita
 I = 4 Tappi G 1/4
 J = Tappo G 1/4 in entrata e uscita
 L = 2 Prese di Pressione + 2 Tappi G 1/8
 M = Presa di pressione G 1/4 in entrata e uscita
 N = 4 Prese di pressione G 1/4
 O = 2 Prese di Pressione + 2 Tappi G 1/4
 Q = Tappo G 1/4 in entrata

EN

A = Without pressure nipples or caps
 B = Inlet G 1/8 pressure nipple
 C = Inlet G 1/4 pressure nipple
 D = Inlet and outlet G 1/8 pressure nipple
 F = Inlet G 1/8 cap
 H = Inlet and outlet G 1/8 cap
 I = 4 G 1/4 caps
 J = Inlet and outlet G 1/4 cap
 L = 2 G 1/8 pressure nipples and 2 G 1/8 caps
 M = Inlet and outlet G 1/4 pressure nipple
 N = 4 G 1/4 pressure nipples
 O = 2 G 1/4 pressure nipples and 2 G 1/4 caps
 Q = Inlet G 1/4 cap

FR

A = Sans prises de pression ou bouchons
 B = Prise de pression G 1/8 en 'entrée
 C = Prise de pression G 1/4 en 'entrée
 D = Prise de pression G 1/8 en entrée/sortie
 F = 1 Bouchon G 1/8 en entrée
 H = Bouchon G 1/8 en entrée/sortie
 I = 4 Bouchons G 1/4
 J = Bouchon G 1/4 en entrée/sortie
 L = 2 Prises de Pression + 2 Bouchons G 1/8
 M = Prise de pression G 1/4 en entrée/sortie
 N = 4 Prises de pression G 1/4"
 O = 2 Prises de pression + 2 Bouchons G 1/4
 Q = Bouchon G 1/4 en entrée

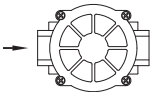
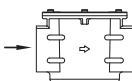
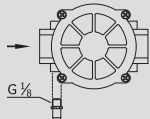
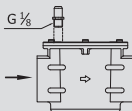
ES

A = Sin tomas de presión o tapones
 B = 1 Toma de presión G 1/8 en entrada
 C = 1 Toma de presión G 1/4 en entrada
 D = Toma de presión G 1/8 en entrada/salida
 F = 1 Tapón G 1/8 en entrada
 H = Tapón G 1/8 en entrada/salida
 I = 4 Tapones G 1/4
 J = Tapón G 1/4 en entrada/salida
 L = 2 Tomas de presión + 2 Tapones G 1/8
 M = Toma de presión G 1/4 en entrada/salida
 N = 4 Tomas de presión G 1/4
 O = 2 Tomas de presión + 2 Tapones G 1/4
 Q = Tapón G 1/4 en entrada

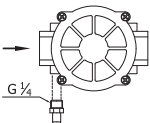
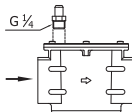
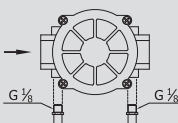
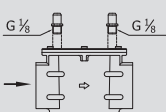
IT

Modelli Models Modèles Modelos			Attacchi / Connections / Raccords / Conexiones			
			FM DN 15 - DN 20 - DN 25	FM DN 25M - DN 32 DN 40 - DN 50	FGM DN 25M - DN 32 DN 40 - DN 50	FGM DN 32 FL - DN 40 FL - DN 50 FL
Tipo Type Type Tipo	FM	FGM				

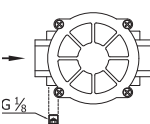
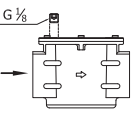
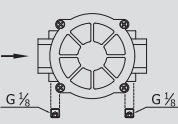
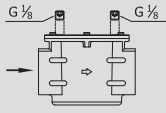
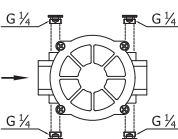
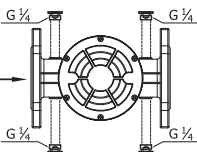
EN

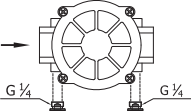
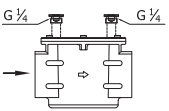
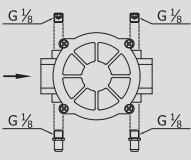
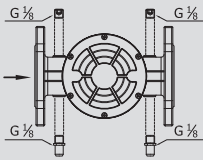
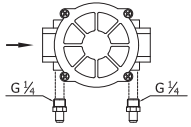
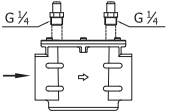
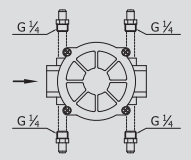
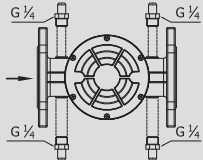
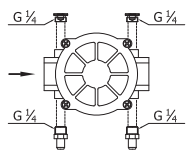
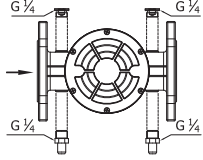
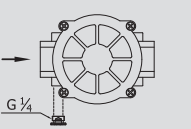
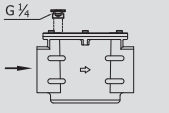
A			✓	✓	✓	✓
B			✓	✓	✓	✓

FR

C			✓	✓	✓	✓
D			✓	✓	✓	✓

ES

F			✓	✓	✓	✓
H			✓	✓	✓	✓
I			✓	✓	✗	✓

Modelli Models Modèles Modelos			Attacchi / Connections / Raccords / Conexiones			
Tipo Type Type Tipo	FM	FGM	FM DN 15 - DN 20 - DN 25	FM DN 25M - DN 32 DN 40 - DN 50	FGM DN 25M - DN 32 DN 40 - DN 50	FGM DN 32 FL - DN 40 FL - DN 50 FL
J			✓	✓	✓	✓
L			✓	✓	✗	✓
M			✓	✓	✓	✓
N			✓	✓	✗	✓
O			✓	✓	✗	✓
Q			✓	✓	✓	✓

IT

EN

FR

ES

IT

P. max 2 bar**Attacchi filettati / Threaded connections / Raccords filetés / Conexiones roscadas**

Attacchi Connections Raccords Conexiones	Filtraggio 50 micron 50 micron Filtering Filtrage 50 micron Filtración 50 micron		Filtraggio 20 micron 20 micron Filtering Filtrage 20 micron Filtración 20 micron		Filtraggio 10 micron 10 micron Filtering Filtrage 20 micron Filtración 20 micron	
	Codice / Code / Code / Código		Codice / Code / Code / Código		Codice / Code / Code / Código	

DN 15	FM02	<u>B</u> 50	FM02	<u>B</u> 20	FM02	<u>B</u> 10
DN 20	FM03	<u>B</u> 50	FM03	<u>B</u> 20	FM03	<u>B</u> 10
DN 25	FM04	<u>B</u> 50	FM04	<u>B</u> 20	FM04	<u>B</u> 10
DN 25M	FM04M	<u>B</u> 50	FM04M	<u>B</u> 20	FM04M	<u>B</u> 10
DN 32	FM05	<u>B</u> 50	FM05	<u>B</u> 20	FM05	<u>B</u> 10
DN 40	FM06	<u>B</u> 50	FM06	<u>B</u> 20	FM06	<u>B</u> 10
DN 50	FM07	<u>B</u> 50	FM07	<u>B</u> 20	FM07	<u>B</u> 10
DN 25M	FGM04M	<u>B</u> 50	FGM04M	<u>B</u> 20	FGM04M	<u>B</u> 10
DN 32	FGM05	<u>B</u> 50	FGM05	<u>B</u> 20	FGM05	<u>B</u> 10
DN 40	FGM06	<u>B</u> 50	FGM06	<u>B</u> 20	FGM06	<u>B</u> 10
DN 50	FGM07	<u>B</u> 50	FGM07	<u>B</u> 20	FGM07	<u>B</u> 10

EN

FR

Attacchi flangiati / Flanged connections / Raccords à brides / Conexiones embridadas

DN 25	FM25	<u>B</u> 50	FM25	<u>B</u> 20	FM25	<u>B</u> 10
DN 25M	FM25M	<u>B</u> 50	FM25M	<u>B</u> 20	FM25M	<u>B</u> 10
DN 25M	FGM25M	<u>B</u> 50	FGM25M	<u>B</u> 20	FGM25M	<u>B</u> 10
DN 32	FF32	<u>B</u> 50	FF32	<u>B</u> 20	FF32	<u>B</u> 10
DN 40	FF40	<u>B</u> 50	FF40	<u>B</u> 20	FF40	<u>B</u> 10
DN 50	FF50	<u>B</u> 50	FF50	<u>B</u> 20	FF50	<u>B</u> 10

ES

NOTA: Codici riferiti alla configurazione standard MADAS. Sostituire la lettera sottolineata "B" dei codici indicati in tabella con la lettera corrispondente alla versione voluta (vedere pag. 35, 36 e 37).

NOTE: Codes referred to the standard MADAS configuration. Replace the underlined letter "B" of the codes indicated in the table with the letter for the required version (see pages 35, 36 and 37).

REMARQUE : Codes se référant à la configuration standard MADAS. Remplacer la lettre soulignée « B » des codes indiqué dans le tableau avec la lettre correspondante à la version souhaitée (voir les pages 35, 36 et 37).

NOTA: Códigos referidos a la configuración estándar MADAS. Sustituya la letra subrayada "B" de los códigos indicados en la tabla con la letra correspondiente a la versión deseada (véase las pág. 35, 36 y 37).

P. max 6 bar

Attacchi filettati / Threaded connections / Raccords filetés / Conexiones roscadas

Attacchi Connections Raccords Conexiones	Filtraggio 50 micron 50 micron Filtering Filtrage 50 micron Filtración 50 micron	Filtraggio 20 micron 20 micron Filtering Filtrage 20 micron Filtración 20 micron	Filtraggio 10 micron 10 micron Filtering Filtrage 20 micron Filtración 20 micron
	Codice / Code / Code / Código	Codice / Code / Code / Código	Codice / Code / Code / Código
DN 15	FM020000 <u>B</u> 50	FM020000 <u>B</u> 20	FM020000 <u>B</u> 10
DN 20	FM030000 <u>B</u> 50	FM030000 <u>B</u> 20	FM030000 <u>B</u> 10
DN 25	FM040000 <u>B</u> 50	FM040000 <u>B</u> 20	FM040000 <u>B</u> 10
DN 25M	FM04M0000 <u>B</u> 50	FM04M0000 <u>B</u> 20	FM04M0000 <u>B</u> 10
DN 32	FM050000 <u>B</u> 50	FM050000 <u>B</u> 20	FM050000 <u>B</u> 10
DN 40	FM060000 <u>B</u> 50	FM060000 <u>B</u> 20	FM060000 <u>B</u> 10
DN 50	FM070000 <u>B</u> 50	FM070000 <u>B</u> 20	FM070000 <u>B</u> 10
DN 25M	FGM04M0000 <u>B</u> 50	FGM04M0000 <u>B</u> 20	FGM04M0000 <u>B</u> 10
DN 32	FGM050000 <u>B</u> 50	FGM050000 <u>B</u> 20	FGM050000 <u>B</u> 10
DN 40	FGM060000 <u>B</u> 50	FGM060000 <u>B</u> 20	FGM060000 <u>B</u> 10
DN 50	FGM070000 <u>B</u> 50	FGM070000 <u>B</u> 20	FGM070000 <u>B</u> 10

Attacchi flangiati / Flanged connections / Raccords à brides / Conexiones embridadas

DN 25	FM250000 <u>B</u> 50	FM250000 <u>B</u> 20	FM250000 <u>B</u> 10
DN 25M	FM25M0000 <u>B</u> 50	FM25M0000 <u>B</u> 20	FM25M0000 <u>B</u> 10
DN 25M	FGM25M0000 <u>B</u> 50	FGM25M0000 <u>B</u> 20	FGM25M0000 <u>B</u> 10
DN 32	FF320000 <u>B</u> 50	FF320000 <u>B</u> 20	FF320000 <u>B</u> 10
DN 40	FF400000 <u>B</u> 50	FF400000 <u>B</u> 20	FF400000 <u>B</u> 10
DN 50	FF500000 <u>B</u> 50	FF500000 <u>B</u> 20	FF500000 <u>B</u> 10

NOTA: Codici riferiti alla configurazione standard MADAS. Sostituire la lettera sottolineata "B" dei codici indicati in tabella con la lettera corrispondente alla versione voluta (vedere pag. 35, 36 e 37).

NOTE: Codes referred to the standard MADAS configuration. Replace the underlined letter "B" of the codes indicated in the table with the letter for the required version (see pages 35, 36 and 37).

REMARQUE : Codes se référant à la configuration standard MADAS. Remplacer la lettre soulignée « B » des codes indiqué dans le tableau avec la lettre correspondante à la version souhaitée (voir les pages 35, 36 et 37).

NOTA: Códigos referidos a la configuración estándar MADAS. Sustituya la letra subrayada "B" de los códigos indicados en la tabla con la letra correspondiente a la versión deseada (véase las pág. 35, 36 y 37).

IT

EN

FR

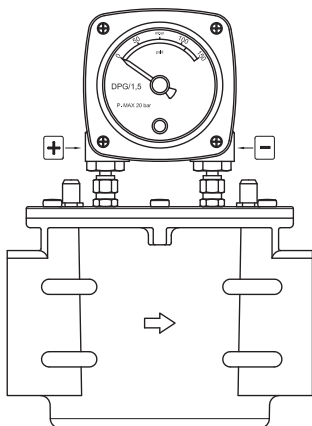
ES

FGM

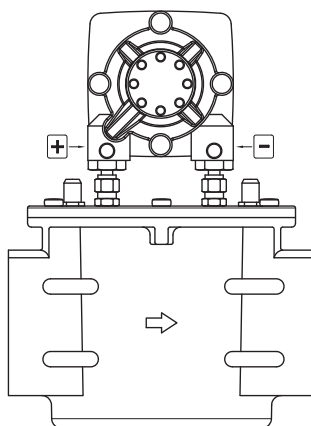
CON INDICATORE DI INTASAMENTO - WITH CLOGGING INDICATOR
 AVEC L'INDICATEUR D'OBSTRUCTION - CON INDICADOR DE OBSTRUCCIÓN
 (ΔP max 150 mbar)

standard

- FFMD...
- FFMS...

**reverse**

- FFMDR...
- FFMSR...

**IT**

MD = Manometro con quadrante lato destro corpo filtro
MDR = Manometro con quadrante lato sinistro corpo filtro
MDS = Manometro con quadrante lato destro corpo filtro + microswitch
MDSR = Manometro con quadrante lato sinistro corpo filtro + microswitch

EN

MD = Pressure gauge with dial on right side of filter body
MDR = Pressure gauge with dial on left side of filter body
MDS = Pressure gauge with dial on right side of filter body + microswitch
MDSR = Pressure gauge with dial on left side of filter body + microswitch

FR

MD = Manomètre avec cadran côté droit corps filtre
MDR = Manomètre avec cadran côté gauche corps filtre
MDS = Manomètre avec cadran côté droit corps filtre + micro-interrupteur
MDSR = Manomètre avec cadran côté gauche corps filtre + micro-interrupteur

ES

MD = Manómetro con cuadrante lado derecho del cuerpo del filtro
MDR = Manómetro con cuadrante lado izquierdo del cuerpo del filtro
MDS = Manómetro con cuadrante lado derecho del cuerpo del filtro + microinterruptor
MDSR = Manómetro con cuadrante lado izquierdo del cuerpo del filtro + microinterruptor

P. max 2 bar

Attacchi filettati / Threaded connections / Raccords filetés / Conexiones roscadas

Attacchi Connections Raccords Conexiones	Filtraggio 50 micron 50 micron Filtering Filtrage 50 micron Filtración 50 micron	Filtraggio 20 micron 20 micron Filtering Filtrage 20 micron Filtración 20 micron	Filtraggio 10 micron 10 micron Filtering Filtrage 20 micron Filtración 20 micron
	Codice / Code / Code / Código	Codice / Code / Code / Código	Codice / Code / Code / Código
FGM DN 25M	FGMMD04M <u>D</u> 50	FGMMD04M <u>D</u> 20	FGMMD04M <u>D</u> 10
FGM DN 32	FGMMD05 <u>D</u> 50	FGMMD05 <u>D</u> 20	FGMMD05 <u>D</u> 10
FGM DN 40	FGMMD06 <u>D</u> 50	FGMMD06 <u>D</u> 20	FGMMD06 <u>D</u> 10
FGM DN 50	FGMMD07 <u>D</u> 50	FGMMD07 <u>D</u> 20	FGMMD07 <u>D</u> 10

Attacchi flangiati / Flanged connections / Raccords à brides / Conexiones embridadas

FGM DN 25M	FGMMD25M <u>D</u> 50	FGMMD25M <u>D</u> 20	FGMMD25M <u>D</u> 10
FGM DN 32	FFMD32 <u>D</u> 50	FFMD32 <u>D</u> 20	FFMD32 <u>D</u> 10
FGM DN 40	FFMD40 <u>D</u> 50	FFMD40 <u>D</u> 20	FFMD40 <u>D</u> 10
FGM DN 50	FFMD50 <u>D</u> 50	FFMD50 <u>D</u> 20	FFMD50 <u>D</u> 10

P. max 6 bar

Attacchi filettati / Threaded connections / Raccords filetés / Conexiones roscadas

FGM DN 25M	FGMMD04M0000 <u>D</u> 50	FGMMD04M0000 <u>D</u> 20	FGMMD04M0000 <u>D</u> 10
FGM DN 32	FGMMD050000 <u>D</u> 50	FGMMD050000 <u>D</u> 20	FGMMD050000 <u>D</u> 10
FGM DN 40	FGMMD060000 <u>D</u> 50	FGMMD060000 <u>D</u> 20	FGMMD060000 <u>D</u> 10
FGM DN 50	FGMMD070000 <u>D</u> 50	FGMMD070000 <u>D</u> 20	FGMMD070000 <u>D</u> 10

Attacchi flangiati / Flanged connections / Raccords à brides / Conexiones embridadas

FGM DN 25M	FGMMD25M0000 <u>D</u> 50	FGMMD25M0000 <u>D</u> 20	FGMMD25M0000 <u>D</u> 10
FGM DN 32	FFMD320000 <u>D</u> 50	FFMD320000 <u>D</u> 20	FFMD320000 <u>D</u> 10
FGM DN 40	FFMD400000 <u>D</u> 50	FFMD400000 <u>D</u> 20	FFMD400000 <u>D</u> 10
FGM DN 50	FFMD500000 <u>D</u> 50	FFMD500000 <u>D</u> 20	FFMD500000 <u>D</u> 10

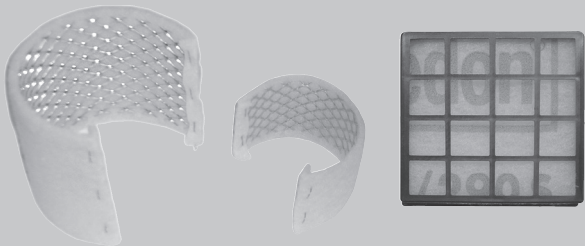
NOTA: Codici riferiti alla configurazione standard MADAS. Sostituire la lettera sottolineata "D" dei codici indicati in tabella con la lettera corrispondente alla versione voluta (vedere pag. 35, 36 e 37).

NOTE: Codes referred to the standard MADAS configuration. Replace the underlined letter "D" of the codes indicated in the table with the letter for the required version (see pages 35, 36 and 37).

REMARQUE : Codes se référant à la configuration standard MADAS. Remplacer la lettre soulignée « D » des codes indiqué dans le tableau avec la lettre correspondante à la version souhaitée (voir les pages 35, 36 et 37).

NOTA: Códigos referidos a la configuración estándar MADAS. Sustituya la letra subrayada "D" de los códigos indicados en la tabla con la letra correspondiente a la versión deseada (véase las pág. 35, 36 y 37).

Cartucce filtranti - Filter cartridges - Cartouches filtrantes - Cartuchos filtrantes



Attacchi
 Connections
 Raccords
 Conexiones

50 µm
 Codice / Code / Code / Código

20 µm
 Codice / Code / Code / Código

10 µm
 Codice / Code / Code / Código

FM
 DN 15 - DN 20 - DN 25

OF-0240

OF-0242

OF-0241

FM
 DN 25M - DN 32 - DN 40

OF-0260

OF-0262

OF-0261

FGM
 DN 25M - DN 32 - DN 40 - DN 50
 DN 32 FL - DN 40 FL - DN 50 FL

OF-0033

OF-0038

OF-0034

FM
 DN 50

OF-0270

OF-0272

OF-0271

Manometro differenziale indicatore di intasamento
Differential pressure gauge clogging indicator
Manometre différentiel indicateur d'obstruction
Manómetro diferencial indicador de obstrucción



(ΔP max 150 mbar*)

Codice / Code / Code / Código	Tipo manometro Pressure gauge type Type manomètre Tipo de manómetro
KIT-MD DPG 1.5	Standard
KIT-MDR DPG 1.5	Reverse
KIT-MDS DPG 1.5	Standard + microswitch
KIT-MDSR DPG 1.5	Reverse + microswitch

altri range su richiesta; si prega di contattare il nostro ufficio commerciale
 # different ranges on request; please contact our sales department
 # autres plages sur demande ; veuillez contacter notre service commercial
 # otros rangos bajo pedido; por favor, póngase en contacto con nuestro departamento comercial