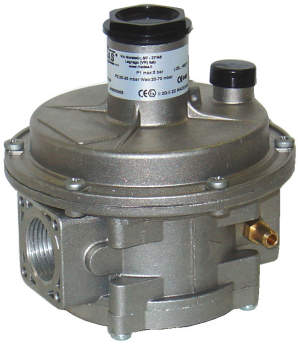
REGOLATORE DI PRESSIONE PER GAS
GAS PRESSURE REGULATOR
REGULATEUR DE PRESSION POUR GAZ
REGULADOR DE PRESIÓN PARA GAS



FRG/2MCC



FRG/2MCS

CE Ex II 2G - II 2D
CE 0497
MADE IN ITALY

	IT	EN	FR	ES
Range pressione di esercizio Operating pressure range Plage de pression de fonctionnement Rango de la presión de funcionamiento	**Pe: 0,5÷3 bar** **0,5÷5 bar**			
Attacchi filettati / Threaded connections Raccords filetés / Conexiones roscadas	**DN 15 - DN 20 - DN 25**			
Attacchi flangiati/ Flanged connections Raccords à brides / Conexiones embridadas	**DN 25***			
	* 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 88-2			
In conformità a In conformity with Conforme a Conforme	Direttiva PED 2014/68/UE	PED Directive 2014/68/EU	Directive PED 2014/68/UE	Directiva PED 2014/68/UE

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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 at the address and phone numbers provided on the last page.

1.1 - DESCRIPTION

Device which supplies a preset and constant "downstream" pressure value (Pa) (within the intended operating limits) according to variations in the inlet pressure (Pe) and/or the flow rate (Q). The compensated obturator ensures precision when adjusting the outlet pressure (Pa) even with high and sudden variations in the inlet pressure.
These regulators are used in both civil and industrial installations where natural gas, LPG or other non-corrosive gases (dry gases) are used. The **2MCC** versions (COMPACT) are preferable for small applications (up to 25 m^3/h).
Reference standards: EN 88-2 – EN 13611.

They can be equipped with the following safety devices and accessories according to the system requirements:

- **relief valve:** discharges small gas flows outwards if overpressure occurs downstream of the regulator. This discharge can be conveyed outwards if the installation is in a poorly ventilated environment. They can also be supplied without the relief valve.
- **outlet pressure socket.**

1.2 - KEY TO SYMBOLS



DANGER: In the event of inobservance, this may cause damage to tangible goods.



DANGER: In the event of inobservance, this may cause damage to tangible goods, 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;
- Have first-aid training.



1.4 - USING NON-ORIGINAL SPARE PARTS

- To perform maintenance or replace spare parts (e.g. spring, filter element, etc.) **ONLY** manufacturer-recommended parts can be used. Using different parts not only voids the product warranty, it could compromise correct device operation.
- 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 provided on the rating plate must not, under any circumstances, be exceeded. The end user or installer is in charge of implementing correct systems to protect the device, which prevent the maximum pressure indicated on the rating plate from being 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)	: -20 ÷ +60°C
• Minimum operating pressure	: 0.5 bar
• Max operating pressure	: 3 or 5 bar (see product label)
• Allowable pressure PS	: 3 or 5 bar (see product label)
• Safety lock closing time	: < 1 s
• Accuracy class	: AC=10 - (Pa ± 10%)
• Closing pressure class	: SG=30
• Relief valve	: tested according to the indications in EN 334
• Connecting the vent	: G 1/4
• Mechanical strength	: Group 2 (according to EN 13611)
• Rp threaded connections	: (DN 15 - DN 20 - DN 25) according to EN 10226
• NPT Threaded connections	: on request
• Flanged connections that can couple with PN 16 flanges	: on request DN 25 with swivel flanges
• Standard filter element	: filtering 50µm (on FRG... versions)
• In compliance with	: PED Directive 2014/68/EU - ATEX Directive 2014/34/EU

2.1 - MODEL IDENTIFICATION (for configurations see page 41 - 47)

FRG/2MCC:	Pressure regulator with filter	- Compact version (up to 25 m^3/h)
RG/2MCC:	Pressure regulator without filter	- Compact version (up to 25 m^3/h)
FRG/2MCS:	Pressure regulator with filter	- Standard version
RG/2MCS:	Pressure regulator without filter	- Standard version

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;
- Protective caps (if any) must be removed prior to installation;
- The pipes and inside of the device must be clear of any foreign bodies;

• IMPORTANT:

- to avoid possible pumping and/or disturbances in the gas flow, a straight pipe section equal to at least 5 DN must be installed (downstream of the regulator);
- install manual gas closing devices (e.g. ball valves) upstream and downstream of the regulator to protect it from any pipe leak test;
- do consider that if the regulator is equipped with a relief valve, the latter is suitable for small quantities of gas to be discharged and CANNOT replace the relief valve installed separately as a specific device;

IT

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;

- 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 regulator is installed near other devices or as part of an assembly, compatibility between the regulator and these devices must be evaluated beforehand;
- Provide protection against impact or accidental contact if the device is accessible to unqualified personnel.



3.2 - INSTALLATION (see example in 3.4)

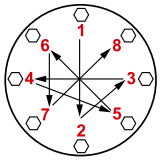
EN

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;
- Do not use the neck of the top cover (**3**) as a lever to help you screw it on, but only use the specific tool;
- The arrow, shown on the body (**14**) 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 the said gap by excessively tightening the bolts of the device;
- The arrow, shown on the body (**14**) 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 at the side);
- Tighten them, first by 30%, then by 60% and finally 100% of the maximum torque (see the example alongside, according to EN 13611);



Diameter	DN 25
Max. torque (N.m)	30

- Tighten each nut and bolt again clockwise at least once, until the maximum torque has been achieved uniformly;

FR

Common procedures (threaded and flanged devices):

- The regulator is normally positioned before the application. Previously evaluate the possibility of installing the regulator as shown in the installation example in 3.4;
- It can be installed in any position even if the installation shown in 3.4 (installation example) is preferred. A pressure outlet (**15**) can be found outside the regulator, downstream from it, to control the regulation pressure (Pa);
- In STANDARD versions, it is recommended to connect the pulse outlet with a G 1/8 connection downstream of the regulator (see installation example) if the gas flow exceeds 40 Nm^3/h. To do so, remove the cap (**21**);
- Drain the relief valve (if any) outwards (as shown in 3.4) by removing the dust cap (**18**);
- It is always recommended to install a compensation joint;
- During installation, avoid debris or metal residues from getting into the device;
- To guarantee assembly free of any mechanical tension, we recommend using compensating joints, which also adjust to the pipe's thermal expansion;

ES

- If the device is to be installed in a ramp, it is the installer's responsibility to provide suitable supports or correctly sized supports, to properly 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, after installation check the tightness of the system, without subjecting the diaphragm of the regulator (therefore, the downstream pipe section) to a pressure higher than 300 mbar (valid only for versions with standard working diaphragm). For versions with reinforced diaphragm, check the tightness with a pressure equal to 1.5 times the regulator setting pressure.

3.3 - INSTALLATION IN PLACES WHERE THERE IS THE RISK OF EXPLOSION (DIRECTIVE 2014/34/EU)

The regulator complies with Directive 2014/34/EU (formerly 94/9/EC) as group II equipment, category 2G and as group II equipment, category 2D; consequently, it is suited for installation in zones 1 and 21 (in addition to zones 2 and 22) as classified in Annex I of Directive 99/92/EC. The regulator is not suited for use in zones 0 and 20 as defined in the aforementioned Directive 99/92/EC. To determine the qualification and size of the danger zones, please refer to standard IEC EN 60079-10-1.

If installed and subject to maintenance in full compliance with all conditions and technical instructions provided in this manual, the device does not pose a source of specific hazards: in particular, under conditions of normal operation, the regulator is expected to emit a flammable substance into the atmosphere only occasionally, and specifically:

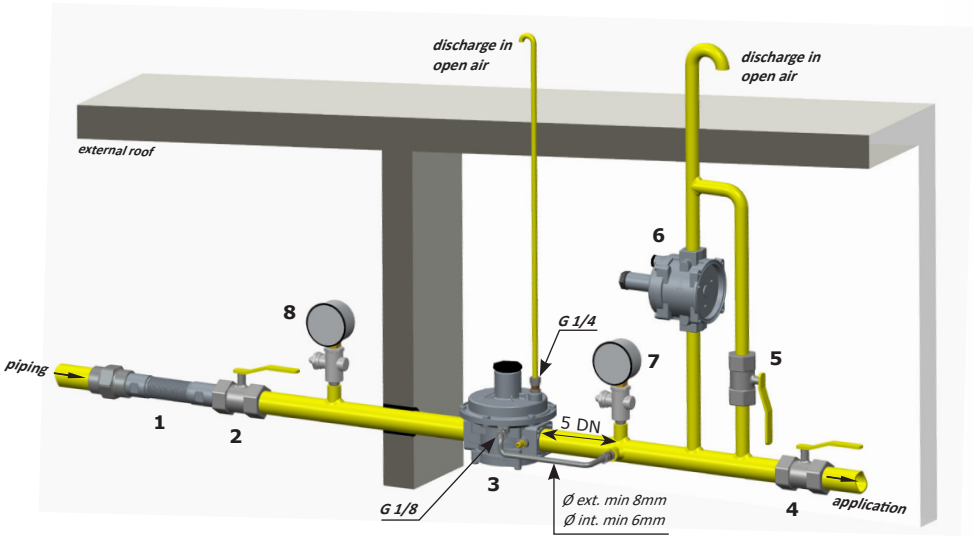
The regulator can be dangerous with respect to the presence of other devices nearby if the integrated relief valve is triggered or if the working diaphragm (**17**). If the diaphragm fails, the regulator becomes a source of explosive atmosphere emission of continuous degree and, as such, it can generate hazardous areas 0 as defined in Directive 99/92/EC.

In particularly critical installation conditions (unattended areas, poor maintenance or poor ventilation) and especially if there are potential sources of ignition and/or hazardous equipment near the regulator in regular operation, as they may generate electric arcs or sparks, a preliminary assessment of the compatibility between the regulator and such equipment must be carried out.

In any case, every useful precaution must be adopted so as to prevent the regulator from generating zones 0: for example, annually verify regular operation, possibility of changing the degree of emission of the source or intervening on the explosive substance discharge by directing it outwards. To do so, simply remove the dust cap (**18**) by connecting the specific pipe (G 1/4) conveyed to the outside (see example of installation in 3.4).

3.4 - GENERIC EXAMPLE OF AN INSTALLATION

1. Expansion joint/anti-vibration mount
2. Upstream ball valve
3. **FRG/2MCS pressure regulator filter**
4. Ball valve downstream of the regulator
5. Vent valve
6. Relief valve MVS/1
7. Low pressure gauge and relative button
8. High pressure gauge and relative button



NOTE: The 5DN pipe connection can only be carried out on STANDARD versions (2MB).

4.0 - FIRST START-UP

Before commissioning, verify that:
- all of the instructions on the rating plate, including the direction of flow, are observed;
- the hole of the dust cap (**18**) is not clogged;

- **IMPORTANT:** The leak test of the piping must be performed without subjecting the diaphragm of the regulator (therefore, the downstream pipe section) to a pressure higher than 300 mbar (for reinforced diaphragm 1.5 times the regulator setting pressure). Use special manual gas closing devices to avoid damaging the regulator;
- The pressurisation manoeuvre of the equipment must be carried out very slowly so as to avoid possible damage. **NOTE:** under no circumstances should a blind cap be placed instead of the dust cap (**18**) as the regulator may not work;
- Open the downstream vent valve partially;
- Slowly open the upstream shut-off devices (e.g. solenoid valves, OPSO shut-off valve, etc.);
- Wait until the downstream pressure stabilises at the calibration value Pa of the spring (indicated on the rating plate);
- Close the vent valve;
- Check the tightness of all the system gaskets and check the internal/external tightness of the regulator;
- Open the downstream shut-off valve very slowly;
- Check the operation of the regulator.

5.0 - CALIBRATION

Before carrying out the operations, make sure that the supplied spring/s is/are suitable for the desired Pa and differential relief valve fields.

5.1 - Adjusting the relief valve (differential DfRv)

NOTE: The relief valve (if any) in these regulators is differential, therefore the range value (DfRv) indicated must be added to the range value of the outlet pressure (Pa).

Example: Pa=20**-**30 mbar - DfRv=10**-**60 mbar.

Means that the relief valve can be calibrated from: (Pa min + DfRv min) = 20+10=30 mbar to: (Pa max + DfRv max) = 30+60=90 mbar

Therefore the effective range of the relief valve (in this case) is 30**-**90 mbar.

- Start the system and set the shut off as described in point 4.0;
- Slowly close the valve downstream of the regulator;
- Loosen and remove the cap (**1**);
- Use the 8 mm socket spanner (see fig. 1 and 2) to fully tighten the nut (**20**);
- Use the 8 mm socket spanner to press the adjustment nut (**20**) and increase the pressure Pa, reading it on the pressure gauge, up to the desired setting value;
- Without pressing further, slowly loosen the adjustment nut (**20**) until the pressure Pa begins to decrease, shown on the pressure gauge;
- In this case, the relief valve is set to the desired value;
- Remove the socket spanner and close the cap (**1**).

5.2 - Adjusting the outlet pressure (Pa)

The outlet pressure Pa (unless specifically requested) is factory-set with the regulator installed as indicated in 3.4 and with the adjustment screw (**2**) set approximately at the minimum setting value. The relief valve is set accordingly.

If the regulator is installed in different positions, check and reset the outlet pressure Pa, and consequently the devices incorporated in the regulator;

Adjust the outlet pressure as follows:

- Unscrew the cap (**1**);
- Unscrew the adjustment screw (**2**) and set it to the minimum setting allowed (threaded end of the top cover (**3**));
- Start the system or make sure there is a minimum flow downstream of the regulator;
- To increase the pressure calibration downstream of the regulator, tighten the adjustment screw (**2**) to the desired value. Perform the reading with a calibrated pressure gauge, installed downstream of the regulator to at least 5 DN (see example in 3.4);
- Screw the cap (**1**) back on and if necessary, seal it in that position using the appropriate seal holes (if any);
- Use pressure outlets (**15**) on the device only for zero flow or very low flow measurements.

6.0 - RECOMMENDED PERIODIC CHECKS

- Use a suitable calibrated 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 of the regulator/relief valve;

The final user or installer is responsible for defining the frequency of these checks based on the severity of the service conditions.

6.1 - CHECK THAT THE RELIEF VALVE IS WORKING PROPERLY

- Start the system as described in point 4.0;
- Slowly close the valve downstream of the regulator;
- Loosen and remove the cap (**1**);
- Use an 8 mm socket spanner to press the adjustment nut (**20**) to increase the pressure Pa above the preset value. Use a calibrated pressure gauge for the reading;
- Remove the socket spanner. The generated overpressure will be discharged outwards and the Pa will begin to decrease to the relief valve setting value. Relief valve operation is verified;
- Close the cap (**1**);
- Open the relief valve to discharge the created overpressure;
- Close the relief valve (the regulator goes to the closing pressure) and open the ball valve downstream of the regulator.

7.0 - MAINTENANCE

- No maintenance operations need to be carried out inside the device. If operations must be carried out inside the device (changing the spring, replacing the filter, etc.), it is advisable to contact the Technical Department. In any case, before carrying out any dismantling operation on the device, make sure that there is no pressurised gas inside.

8.0 - 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 must be disposed of in compliance with the legislation in force in the country where this operation is performed.

9.0 - WARRANTY

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

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 parts or non-original spare parts, making changes to the device and natural wear.

10.0 - RATING PLATE DATA



The rating plate data (see examples above) includes the following:

- Manufacturer's name/logo and address (possible distributor name/logo)
- Mod.: = name/model of the device followed by the connection diameter
- PS = Allowable pressure
- Pe = Maximum pressure or inlet pressure range that product operation is guaranteed at
- TS = Temperature range within which product operation is guaranteed
- Pa = Outlet pressure range
- CE-51BT3739 (if any) = certification pin number
- AC = Accuracy class Pa
- SG = Closing pressure class
- EN 88-2 = Product reference regulation
- DfRv = Differential relief valve range with respect to Pa
- year = Year of manufacture

- Lot = Product serial number (see explanation below)
  - U1823 = Lot issued in year 2018 in the 23rd week
  - 14216 = progressive job order number for the indicated year
  - 00001 = progressive number referring to the quantity of the lot
- CE Ex = In compliance with ATEX Dir. followed by the protection mode
- CE 0051 (if applicable) = Compliance with (EU) Regulation 2016/426 followed by the no. of the Notified Body
- CE 0497 = In compliance with PED directive followed by the no. of the Notified Body

Tabella 1 - Table 1 - Tableau 1 - Tabla 1

PORTATE REGOLATORI / CAPACITIES OF REGULATORS / DÉBIT DES RÉGULATEURS / CAUDAL DE LOS REGULADORES

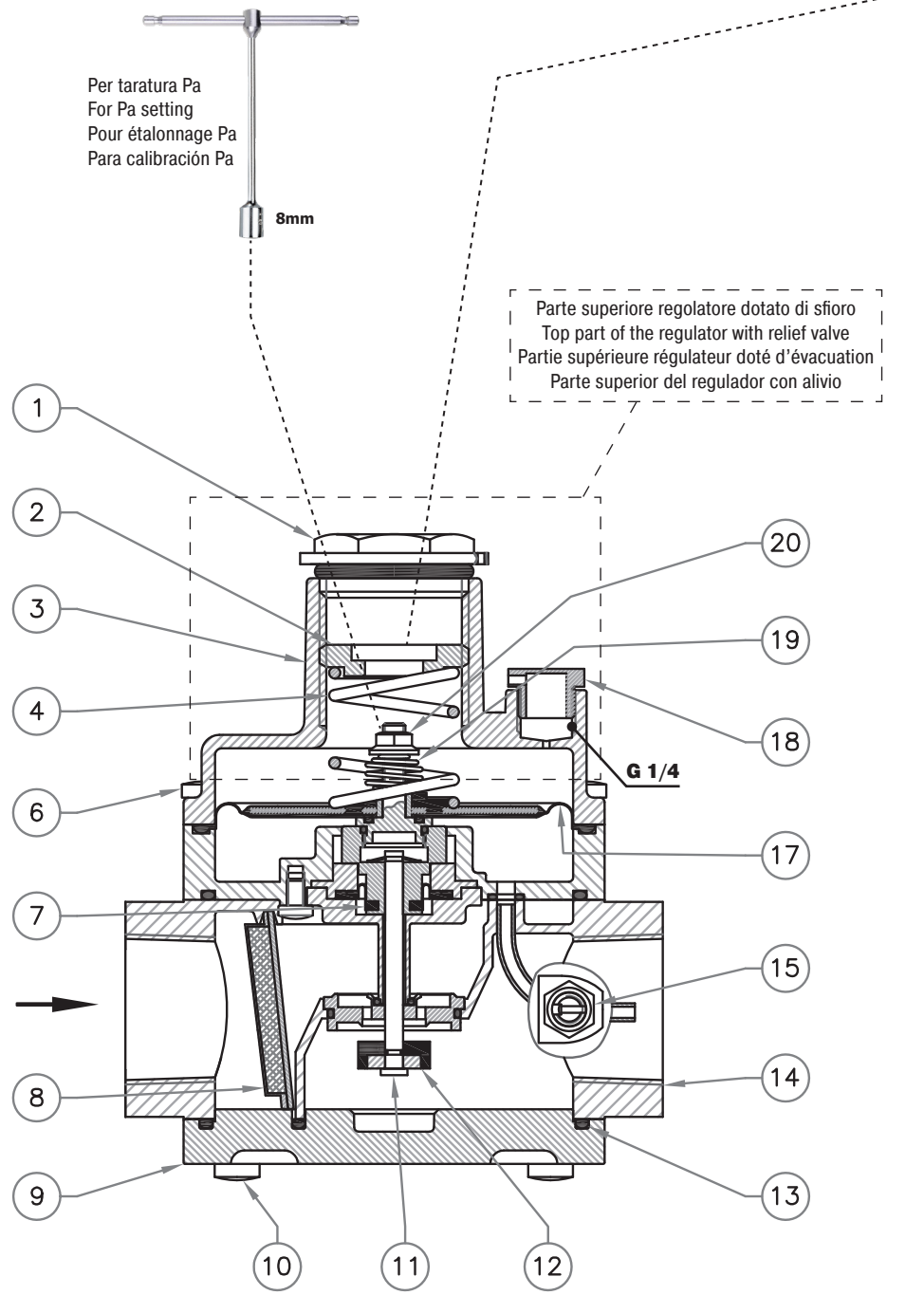
(Nm^3/h) Gas naturale - Natural Gas - Gaz naturel - Gas natural

Modello Model Modèle Modelo	Pa (mbar)	Pressione di ingresso - Inlet Pressure - Pression d'entrée - Presión de entrada				
		0,5 bar	1 bar	2 bar	3 - 4 bar	5 bar
2MCC COMPACT DN 15 - DN 20 - DN 25	20	25	25	25	25	25
	30	25	25	25	25	25
	50	25	25	25	25	25
	100	25	25	25	25	25
	200	25	25	25	25	25
*** 2MCS STANDARD** DN 15	20	25	27	30	30	37
	30	37	37	37	39	39
	50	50	50	50	50	50
	100	60	62	62	62	62
	200	85	85	85	85	85
	300	70	100	100	100	100
	350	40	75	90	90	90
	400	40	90	100	100	100
*** 2MCS STANDARD** DN 20	20	42	42	50	50	50
	30	50	50	55	55	55
	50	70	70	70	70	70
	100	100	100	100	100	100
	200	80	100	100	100	100
	300	80	100	100	100	100
	350	70	120	120	120	120
	400	65	120	120	120	120
*** 2MCS STANDARD** DN 25	20	100	100	100	100	100
	30	100	100	100	100	100
	50	100	100	100	100	100
	100	100	100	100	100	100
	200	80	100	100	100	100
	300	80	100	100	100	100
	350	75	120	120	120	120
	400	70	120	120	120	120

* Dati ricavati CON L'UTILIZZO del tubetto sensore esterno.
* Data obtained USING the external sensor tube.
* Données obtenues AVEC L'UTILISATION du tube capteur extérieur.
* Datos obtenidos USANDO el tubo sensor externo.

Aria - Air - Air - Aire	= 0,806
Gas naturale - Natural Gas - Gaz naturel - Gas natural	= 1
Gas di città - Town gas - Gaz de ville - Gas de ciudad	= 1.177
GPL - LPG - Gaz de pétrole liquéfié - Gas líquido	= 0.62

fig. 1 - COMPACT
FRG/2MCC - RG 2MCC
(Q max = 25 m^3/h)



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RG-FRG/2MCC... (COMPACT)		
Utensile necessario per taratura Pa / Required tool for setting Pa Outil nécessaire pour régler Pa / Herramienta requerida para calibración de Pa		
Pa Range (mbar)	con sfioro / with relief avec évacuation / con alivio	senza sfioro / without relief sans évacuation / sin alivio
10 ÷ 25		
25 ÷ 35		
35 ÷ 80		
80 ÷ 120		
110 ÷ 200		

Parte superiore regolatore senza sfioro
Top part of the regulator without relief valve
Partie supérieure régulateur sans évacuation
Parte superior del regulador sin alivio

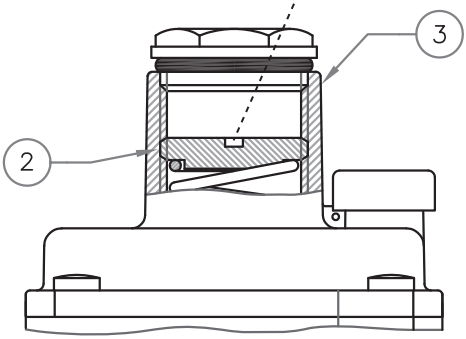
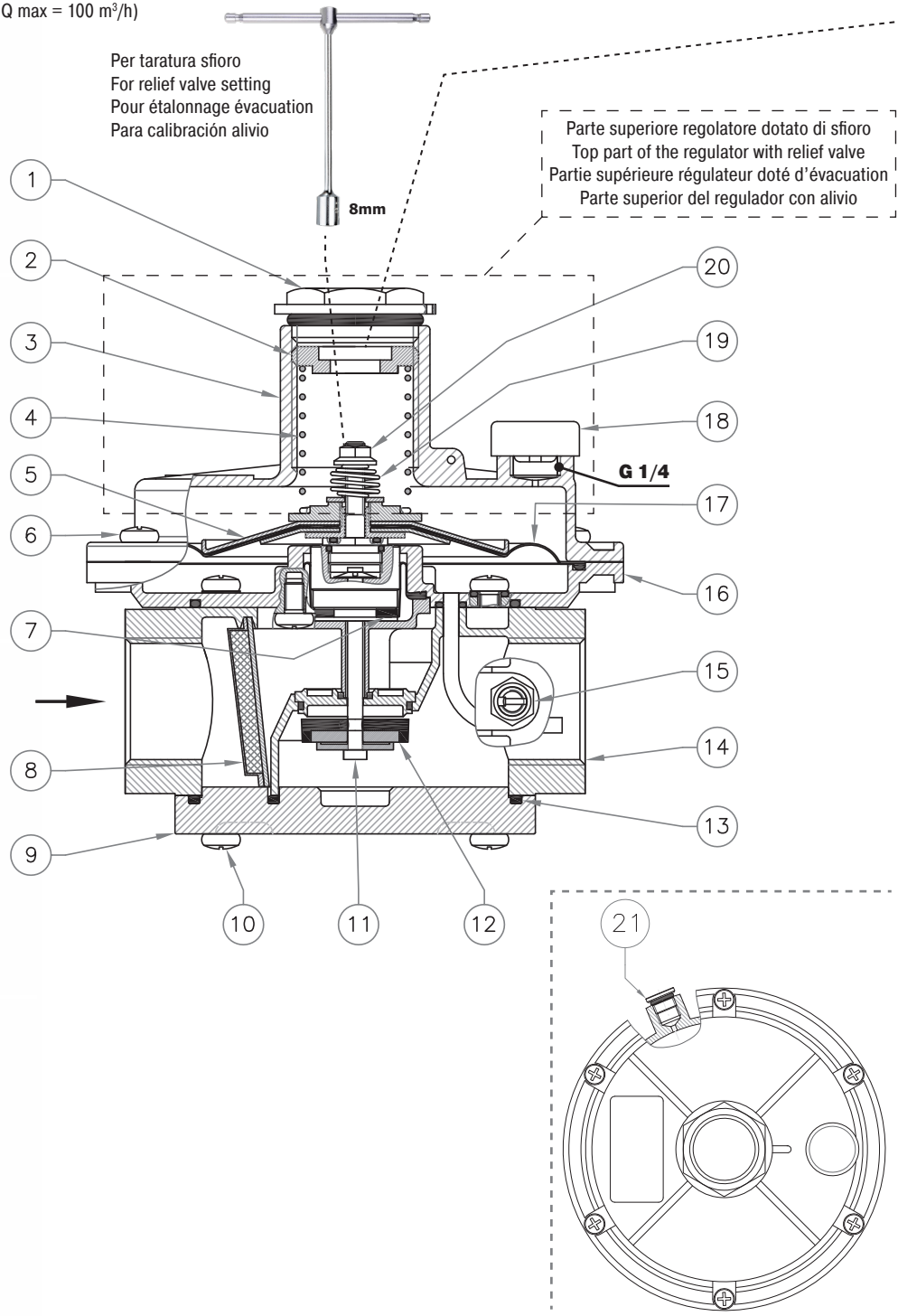


fig. 2 - STANDARD
FRG/2MCS - RG 2MCS
(Q max = 100 m³/h)



RG-FRG/2MCS... (STANDARD)		
Utensile necessario per taratura Pa / Required tool for setting Pa Outil nécessaire pour régler Pa / Herramienta requerida para calibración de Pa		
Pa Range (mbar)	con sfioro / with relief avec évacuation / con alivio	senza sfioro / without relief sans évacuation / sin alivio
10 ÷ 25		
20 ÷ 30		
30 ÷ 60		
60 ÷ 90		
90 ÷ 170		
110 ÷ 180		

Parte superiore regolatore senza sfioro
Top part of the regulator without relief valve
Partie supérieure régulateur sans évacuation
Parte superior del regulador sin alivio

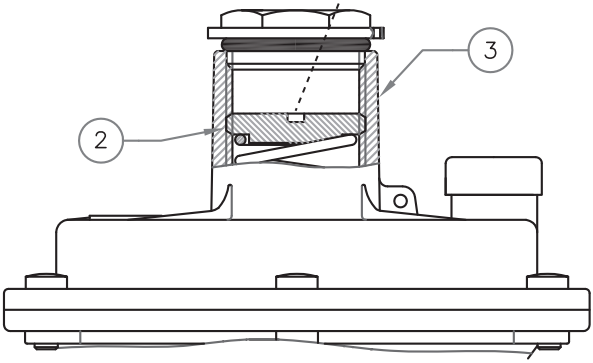
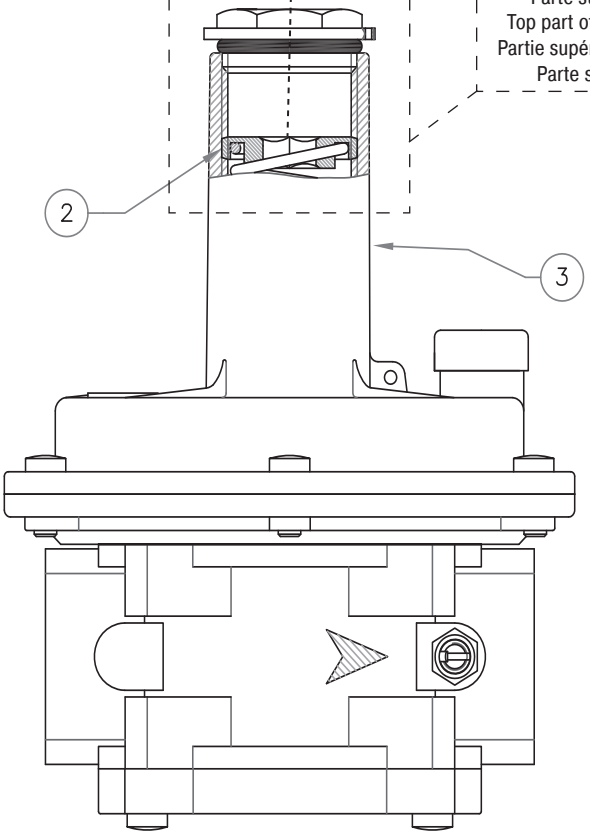


fig. 3 - STANDARD

Versione con membrana rinforzata
Version with reinforced diaphragm
Version avec membrane renforcée
Versión con membrana reforzada

FRG/2MCS
RG/2MCS
DN 15 - DN 20 - DN 25
(Q max = 120 Nm^3/gas)

RG-FRG/2MCS... (STANDARD)		
Utensile necessario per taratura Pa / Required tool for setting Pa Outil nécessaire pour régler Pa / Herramienta requerida para calibración de Pa		
Pa Range (mbar)	con sfioro / with relief avec évacuation / con alivio	senza sfioro / without relief sans évacuation / sin alivio
170 ÷ 400*		
300 ÷ 650*		
600 ÷ 900*		



IT

fig. 1, 2 e 3

1. Tappo di chiusura
2. Vite di regolazione Pa
3. Coperchio superiore
4. Molla di taratura Pa
5. Disco superiore per membrana
6. Viti di fissaggio coperchio superiore
7. Membrana di compensazione
8. Organo filtrante (solo su FRG...)
9. Fondello
10. Viti di fissaggio fondello
11. Perno centrale
12. Otturatore
13. O-Ring di tenuta fondello
14. Corpo
15. Presa di pressione (optional)
16. Flangia (solo su versioni 2MCS)
17. Membrana di funzionamento
18. Tappo antipolvere
19. Molla di taratura sfioro
20. Regolazione sfioro
21. Tappo G 1/8 (presa impulso esterna, solo su 2MCS)

EN

fig. 1, 2 and 3

1. Closing cap
2. Pa adjustment screw
3. Top cover
4. Pa Setting spring
5. Top disk for diaphragm
6. Top cover clamping screws
7. Compensation diaphragm
8. Filter element (only on FRG...)
9. Bottom
10. Bottom fastening screws
11. Centre pin
12. Obturator
13. Bottom sealing O-Ring
14. Body
15. Pressure test nipple (optional)
16. Flange (only on 2MCS versions)
17. Working diaphragm
18. Dust cap
19. Relief valve setting spring
20. Relief valve regulation
21. Cap G 1/8 (external pulse outlet, only on 2MCS)

FR

fig. 1, 2 et 3

1. Bouchon de fermeture
2. Vis de réglage de Pa
3. Couvercle supérieur
4. Ressort d'étalonnage Pa
5. Disque supérieur pour membrane
6. Vis de fixation du couvercle supérieur
7. Membrane de compensation
8. Organe filtrant (uniquement sur FRG…)
9. Fond
10. Vis de fixation du fond
11. Pivot central
12. Obturateur
13. Joint torique d'étanchéité fond
14. Corps
15. Prise de pression (en option)
16. Bride (uniquement sur les versions 2MCS)
17. Membrane de fonctionnement
18. Bouchon anti-poussière
19. Ressort d'étalonnage évacuation
20. Réglage évacuation
21. Bouchon G 1/8 (prise impulsion externe, uniquement sur 2MCS)

ES

fig. 1, 2 y 3

1. Tapón de cierre
2. Tornillo de regulación Pa
3. Tapa superior
4. Muelle de calibración Pa
5. Disco superior para membrana
6. Tornillos de fijación de la tapa superior
7. Membrana de compensación
8. Cartucho filtrante (solo en FRG…)
9. Tapa inferior
10. Tornillos de fijación de la tapa inferior
11. Perno central
12. Obturador
13. Junta tórica de estanqueidad de la tapa inferior
14. Cuerpo
15. Toma de presión (opcional)
16. Brida (solo en versiones 2MCS)
17. Membrana de funcionamiento
18. Tapón antipolvo
19. Muelle de calibración alivio
20. Regulación alivio
21. Tapón G 1/8 (toma de impulso exterior, solo en 2MCS)

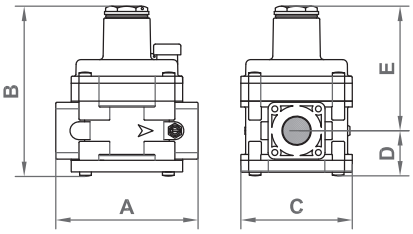
Tabella 2 - Table 2 - Tableau 2 - Tabla 2

Dimensioni di ingombro in mm - Overall dimensions in mm - Mesures d'encombrement en mm - Dimensiones en mm

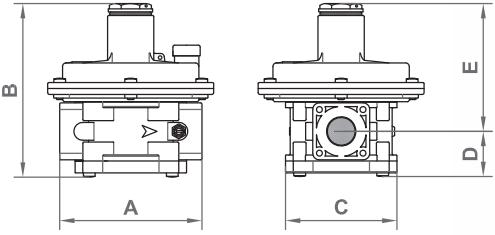
Attacchi filettati / Threaded connections / Raccords filetés / Conexiones roscadas en línea

Versioni compact (2MCC) Compact versions (2MCC) Versions compact (2MCC) Versiones compact (2MCC)	Versioni standard (2MCS) Standard versions (2MCS) Versions standard (2MCS) Versiones standard (2MCS)	A	B=(D+E)	C	D	E
Rp DN 15 - Rp DN 20 - Rp DN 25	-	120	147	94	38,5	108,5
-	Rp DN 15 - Rp DN 20 - Rp DN 25	120	147*	140	38,5	108,5

Compact (2MCC)



Standard (2MCS)

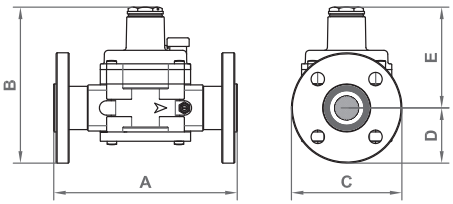


* Nelle versioni 2MCS con Pa > 200 mbar, B = 194, E = 154,5 / On 2MCS with Pa > 200 mbar versions, B = 194, E = 154.5
Sur les versions 2MCS avec Pa> 200 mbar, B = 194, E = 154,5 / En 2MCS con Pa> versiones de 200 mbar, B = 194, E = 154,5

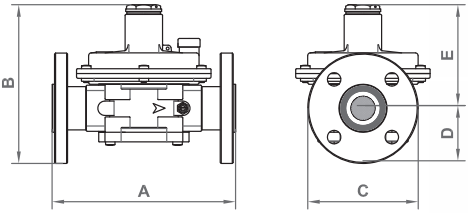
Attacchi flangiati / Flanged connections / Raccords à bride / Conexiones embridadas

Versioni compact (2MCC) Compact versions (2MCC) Versions compact (2MCC) Versiones compact (2MCC)	Versioni standard (2MCS) Standard versions (2MCS) Versions standard (2MCS) Versiones standard (2MCS)	fori holes trous orificios	A	B=(D+E)	C	D	E
DN 25 FL	-	4	191	163	115	57,5	105,5
-	DN 25 FL	4	191	166*	140	57,5	108,5

Compact (2MCC)



Standard (2MCS)



* Nelle versioni 2MCS con Pa > 200 mbar, B = 212, E = 154,5 / On 2MCS with Pa > 200 mbar versions, B = 212, E = 154.5
Sur les versions 2MCS avec Pa> 200 mbar, B = 212, E = 154,5 / En 2MCS con Pa> versiones de 200 mbar, B = 212, E = 154,5

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

IT EN FR ES

IT

EN

FR

ES

Tabella 3 - Table 3 - Tableau 3 - Tabla 3

Caratteristiche molle di regolazione - Regulation springs data
Caractéristiques ressorts de réglage - Características de los muelles de regulación

COMPACT FRG/2MCC - RG/2MCC

DN 15 - DN 20 - DN 25

Molle di taratura Pa / Pa Setting springs
Ressorts d'étalonnage Pa / Muelles de calibración Pa

Range (mbar)	Codice molla Spring code Code ressort Código muelle	dimensioni in mm dimensions in mm mesures en mm dimensiones en mm (**d** x **De** x **Lo** x **it**)
10 ÷ 25	MO-0403	1,5x29x46x6
25 ÷ 35	MO-0410	1,5x29x58x7
35 ÷ 80	MO-0430	2x29x49x7
80 ÷ 120	MO-0460	2x29x66x7
110 ÷ 200	MO-0520	2,5x29x50x7

Molle differenziale sfioro / Differential relief valve springs
Ressorts différentiel évacuation / Muelle diferencial de alivio

5 ÷ 12	MO-0153	0,9x17x45x7
10 ÷ 60	MO-1950	0,9x11x5x20,5x8
60 ÷ 110	MO-2205	1,1x8x15x6

STANDARD FRG/2MCS - RG/2MCS

DN 15 - DN 20 - DN 25

Molle di taratura Pa / Pa Setting springs
Ressorts d'étalonnage Pa / Muelles de calibración Pa

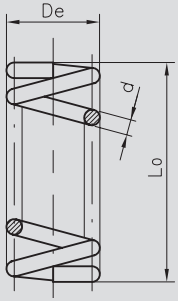
Range (mbar)	Codice molla Spring code Code ressort Código muelle	dimensioni in mm dimensions in mm mesures en mm dimensiones en mm (**d** x **De** x **Lo** x **it**)
10 ÷ 25	MO-0403	1,5x29x46x6
20 ÷ 30	MO-0410	1,5x29x58x7
30 ÷ 60	MO-0430	2x29x49x7
60 ÷ 90	MO-0460	2x29x66x7
90 ÷ 170	MO-0520	2,5x29x50x7
110 ÷ 180	MO-0540	2,5x29x60x7,75
170 ÷ 400*	MO-1320	3,5x29,8x64x9
300 ÷ 650*	MO-1305	3,5x29,8x98x11,5
600 ÷ 1500*	MO-2550	4x29x98x8

Molle differenziale sfioro / Differential relief valve springs
Ressorts différentiel évacuation / Muelle diferencial de alivio

5 ÷ 10	MO-0153	0,9x17x45x7
10 ÷ 60	MO-1950	0,9x11x5x20,5x8
60 ÷ 110	MO-2205	1,1x8x15x6
40 ÷ 200*	MO-2155	2x17x29x6

* = versioni con membrana rinforzata. Le tarature contrassegnate con * non sono intercambiabili con le versioni standard (quelle senza *).
* = versions with reinforced diaphragm. Settings marked with * are not interchangeable with standard settings (the one without *).
* = versions avec membrane renforcée. Les étalonnages marqués avec * ne sont pas interchangeables avec les versions standards (ceux sans *).
* = versiones con membrana reforzada. Las calibraciones marcadas con * no son intercambiables con las versiones estándar (sin *).

it= numero di spire totali
it= total number of turns
it= nombre total de spires
it= número total de espiras



Codifica prodotto / Product encoding / Codification du produit / Codificación del producto

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

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

IT	EN	FR	ES	
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. FCS04**N** .... FCS04**N**0000 ....

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 disponibilidad

IT	EN	FR	ES	
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. FCS25**A** .... FCS25**A**0000 ....

BIOGAS

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

IT	EN	FR	ES	
Aggiungere la lettera "**B**" dopo la lettera indicante gli attacchi	Add the letter "**B**" after the letter denoting the connection	Ajouter la lettre "**B**" après la lettre indiquant les connexions	Añadir la letra "**B**" a continuación de la letra que indica los diámetros de conexión	Es. / E.g. / Ex. / Ej. FCS04**B** .... FCS04**B**0000 ....

ELASTOMERI IN FKM (Viton) / ELASTOMERS IN FKM (Viton)
ÉLASTOMÈRES EN FKM (Viton) / ELASTÓMEROS DE FKM (Viton)

IT	EN	FR	ES	
Aggiungere la lettera "**V**" dopo la lettera indicante gli attacchi per avere rondella tenuta e membrana di compensazione in FKM.	Add the letter "**V**" after the letter denoting the connection to get the sealing washer and compensation diaphragm in FKM.	Ajouter la lettre "**V**" après la lettre indiquant les connexions pour obtenir rondelle de tenue et membrane de compensation en FKM.	Añadir la letra "**V**" a continuación de la letra que indica los diámetros de conexión para obtener arandela de estanquidad y membrana de compensación en FKM.	Es. / E.g. / Ex. / Ej. FCS04**V** .... FCS04**V**0000 .... FCS04**W** .... FCS04**W**0000 ....
Aggiungere la lettera "**W**" dopo la lettera indicante gli attacchi per avere rondella tenuta, membrana di compensazione e membrana di funzionamento in FKM.	Add the letter "**W**" after the etter denoting the connection to get the sealing washer, compensation diaphragm and working diaphragm in FKM.	Ajouter la lettre "**W**" après la lettre indiquant les connexions pour obtenir rondelle de tenue, membrane de compensation et membrane de fonctionnement en FKM.	Añadir la letra "**W**" a continuación de la letra que indica los diámetros de conexión para obtener arandela de estanquidad, membrana de compensación y membrana de trabajo en FKM.	

CATAFORESI / CATAPHORESIS
CATAPHORÈSE / CATAFORESIS

IT	EN	FR	ES	
Aggiungere la lettera "**K**" dopo la lettera indicante gli attacchi	Add the letter "**K**" after the letter denoting the connection	Ajouter la lettre "**K**" après la lettre indiquant les connexions	Añadir la letra "**K**" a continuación de la letra que indica los diámetros de conexión	Es. / E.g. / Ex. / Ej. FCS04**K**0000 .... FCS04**K**0000 ....

COMBINAZIONI POSSIBILI / POSSIBLE COMBINATIONS
COMBINAISONS POSSIBLES / POSIBLES COMBINACIONES

IT	EN	FR	ES	
È possibile combinare tra di loro le versioni. Non serve indicare "**BV**" in quanto "**B**" include "**V**"	It is possible to combine the above mentioned versions. It is not needed to state "**BV**" as the letter "**B**" includes "**V**" too	Les versions peuvent être combinées entre elles. Il n'est pas nécessaire d'indiquer "**BV**" car "**B**" comprend "**V**"	Es posible combinar las versiones entre sí. No es necesario indicar "**BV**", dado que "**B**" incluye "**V**"	Es. / E.g. / Ex. / Ej. FCC04**BK** .... FCC04**BK**0000 ....

NOTA: É possibile che alcuni modelli non siano disponibili nelle versioni suddette sia singole e/o combinate. É consigliato chiedere SEMPRE la fattibilità.

NOTE: It is possible certain models are not available on the above mentioned versions, both singles and/or combined too. We suggest to ask ALWAYS for the feasibility.

NOTE: Il est possible que certains modèles ne soient pas disponibles dans les versions uniques et / ou combinées susmentionnées. Il est recommandé de TOUJOURS demander la faisabilité.

NOTA: Puede suceder que algunos modelos no estén disponibles en las versiones citadas, ya sean individuales o combinadas. Se aconseja consultar SIEMPRE la viabilidad.

Codifica prodotto / Product encoding / Codification du produit / Codificación del producto

Tabella costruzione codici RG-FRG modelli 2MCC
Code table construction RG-FRG 2MCC models
Tableau construction code RG-FRG modèles 2MCC
Tabla de construcción de códigos RG-FRG modelos 2MCC

Modello Model Modèle Modelo	Attacchi Connections Raccords Conexiones	Versioni Versions Versions Versiones	Pa spring No.	OPSO spring No.	UPSO spring No.	RELIEF spring No.
FCC	**03**		**1**	**X**	**X**	**2**
Modello Compact con filtro Compact model with filter Modèle Compact avec filtre Modelo Compact con filtro	DN 20	Pe= 0,5 ÷ 3 bar	10 ÷ 25 mbar	senza OPSO without OPSO sans OPSO sin OPSO	senza UPSO without UPSO sans UPSO sin UPSO	10 ÷ 60 mbar
FCC	**04**	**0000**	**3**	**X**	**X**	**X**
Modello Compact con filtro Compact model with filter Modèle Compact avec filtre Modelo Compact con filtro	DN 25	Pe= 0,5 ÷ 5 bar	35 ÷ 80 mbar	senza OPSO without OPSO sans OPSO sin OPSO	senza UPSO without UPSO sans UPSO sin UPSO	senza sfioro without relief sans évacuation sin alivio
RCC	**02**		**2**	**X**	**X**	**2**
Modello Compact senza filtro Compact model without filter Modèle Compact sans filtre Modelo Compact sin filtro	DN 15	Pe= 0,5 ÷ 3 bar	25 ÷ 35 mbar	senza OPSO without OPSO sans OPSO sin OPSO	senza UPSO without UPSO sans UPSO sin UPSO	10 ÷ 60 mbar
RCC	**04**		**5**	**X**	**X**	**X**
Modello Compact senza filtro Compact model without filter Modèle Compact sans filtre Modelo Compact sin filtro	DN 25	Pe= 0,5 ÷ 5 bar	110 ÷ 200 mbar	senza OPSO without OPSO sans OPSO sin OPSO	senza UPSO without UPSO sans UPSO sin UPSO	senza sfioro without relief sans évacuation sin alivio

Codifica prodotto / Product encoding / Codification du produit / Codificación del producto

IT

In tabella sono riportati alcuni esempi per illustrare come è possibile combinare tra di loro le molle di taratura.
Per i modelli compact "2MCC":

- versioni con Pe= 0,5÷3 bar o Pe = 0,5÷5 bar (codice 0000);
- non possono essere presenti OPSO e UPSO (quindi molle n°2 e n°3 sempre indicate con "X");
- si può omettere lo sfioro contrassegnando con una "X" il campo molla corrispondente (n° 4), in tal caso il prezzo non subisce variazioni;

Non tutte le combinazioni sono possibili, devono essere funzionalmente compatibili. Si consiglia di contattare il nostro ufficio commerciale per la conferma della fattibilità.

EN

Table shows some examples to illustrate how you can combine the setting springs.
For compact "2MCC" models:

- versions with Pe = 0.5 to 3 bar or Pe = 0.5 to 5 bar (code 0000);
- OPSO and UPSO are not present (then springs No. 2 and No. 3 always marked with "X");
- you may omit the relief valve marking with an "X" the corresponding spring range (n ° 4), in this case the price will not change;

Not all combinations are possible, they must be functionally compatible. It is advisable to contact our sales department for confirmation of feasibility.

FR

Le tableau reporte quelques exemples pour illustrer les possibilités de combinaison des ressorts d'étalonnage entre eux.
Pour les modèles compact « 2MCC » :

- versions avec Pe= 0,5÷3 bar ou Pe = 0,5÷5 bar (code 0000) ;
- OPSO et UPSO ne peuvent pas être présents (donc ressorts n° 2 et n° 3 toujours indiqués avec « X ») ;
- il est possible d'exclure l'évacuation en marquant avec un « X » le champ ressort correspondant (n° 4), dans ce cas le prix ne subit pas de variations ;

Pas toutes les combinaisons sont possibles, elles doivent être fonctionnellement compatibles. Il est conseillé de contacter notre bureau commercial pour la confirmation de la faisabilité.

ES

En la tabla aparecen algunos ejemplos para ilustrar cómo se pueden combinar entre ellos los muelles de calibración.
Para los modelos compact "2MCC":

- versiones con Pe= 0,5÷3 bar o Pe = 0,5÷5 bar (código 0000);
- no pueden estar presentes OPSO y UPSO (muelles n°2 y n°3 indicados con "X");
- se puede omitir la desaireación marcando con una "X" el campo muelle correspondiente (n° 4), en ese caso el precio no cambia;

No todas las combinaciones son posibles, deben ser funcionalmente compatibles. Se recomienda contactar con nuestra oficina comercial para confirmar la factibilidad.

IT

EN

FR

ES

Tabella 4 - Table 4 - Tableau 4 - Tabla 4

Codifica prodotto / Product encoding / Codification du produit / Codificación del producto

FRG-RG/2MCC

Attacchi Connections Raccords Conexiones	N°	Pa (mbar)	N°	DfRv (mbar)	Codice filtroregolatore Code filter regulator Code filtre régulateur Código filtro regulador		Codice regolatore Code regulator Code régulateur Código regulador	
					Pe: 0,5 ÷ 3 bar	Pe: 0,5 ÷ 5 bar	Pe: 0,5 ÷ 3 bar	Pe: 0,5 ÷ 5 bar
DN 15	1	10 ÷ 25	1	5 ÷ 12	FCC02 1XX1	FCC020000 1XX1	RCC02 1XX1	RCC020000 1XX1
	1	10 ÷ 25	2	10 ÷ 60	FCC02 1XX2	FCC020000 1XX2	RCC02 1XX2	RCC020000 1XX2
	2	25 ÷ 35	2	10 ÷ 60	FCC02 2XX2	FCC020000 2XX2	RCC02 2XX2	RCC020000 2XX2
	3	35 ÷ 80	2	10 ÷ 60	FCC02 3XX2	FCC020000 3XX2	RCC02 3XX2	RCC020000 3XX2
	4	80 ÷ 120	2	10 ÷ 60	FCC02 4XX2	FCC020000 4XX2	RCC02 4XX2	RCC020000 4XX2
	5	110 ÷ 200	2	10 ÷ 60	FCC02 5XX2	FCC020000 5XX2	RCC02 5XX2	RCC020000 5XX2
	5	110 ÷ 200	3	60 ÷ 110	FCC02 5XX3	FCC020000 5XX3	RCC02 5XX3	RCC020000 5XX3
DN 20	1	10 ÷ 25	1	5 ÷ 12	FCC03 1XX1	FCC030000 1XX1	RCC03 1XX1	RCC030000 1XX1
	1	10 ÷ 25	2	10 ÷ 60	FCC03 1XX2	FCC030000 1XX2	RCC03 1XX2	RCC030000 1XX2
	2	25 ÷ 35	2	10 ÷ 60	FCC03 2XX2	FCC030000 2XX2	RCC03 2XX2	RCC030000 2XX2
	3	35 ÷ 80	2	10 ÷ 60	FCC03 3XX2	FCC030000 3XX2	RCC03 3XX2	RCC030000 3XX2
	4	80 ÷ 120	2	10 ÷ 60	FCC03 4XX2	FCC030000 4XX2	RCC03 4XX2	RCC030000 4XX2
	5	110 ÷ 200	2	10 ÷ 60	FCC03 5XX2	FCC030000 5XX2	RCC03 5XX2	RCC030000 5XX2
	5	110 ÷ 200	3	60 ÷ 110	FCC03 5XX3	FCC030000 5XX3	RCC03 5XX3	RCC030000 5XX3
DN 25	1	10 ÷ 25	1	5 ÷ 12	FCC04 1XX1	FCC040000 1XX1	RCC04 1XX1	RCC040000 1XX1
	1	10 ÷ 25	2	10 ÷ 60	FCC04 1XX2	FCC040000 1XX2	RCC04 1XX2	RCC040000 1XX2
	2	25 ÷ 35	2	10 ÷ 60	FCC04 2XX2	FCC040000 2XX2	RCC04 2XX2	RCC040000 2XX2
	3	35 ÷ 80	2	10 ÷ 60	FCC04 3XX2	FCC040000 3XX2	RCC04 3XX2	RCC040000 3XX2
	4	80 ÷ 120	2	10 ÷ 60	FCC04 4XX2	FCC040000 4XX2	RCC04 4XX2	RCC040000 4XX2
	5	110 ÷ 200	2	10 ÷ 60	FCC04 5XX2	FCC040000 5XX2	RCC04 5XX2	RCC040000 5XX2
	5	110 ÷ 200	3	60 ÷ 110	FCC04 5XX3	FCC040000 5XX3	RCC04 5XX3	RCC040000 5XX3

* = versioni con membrana rinforzata. Le tarature contrassegnate con * non sono intercambiabili con le versioni standard (quelle senza *).
* = versions with reinforced diaphragm. Settings marked with * are not interchangeable with standard settings (the one without *).
* = versions avec membrane renforcée. Les étalonnages marqués avec * ne sont pas interchangeables avec les versions standards (ceux sans *).
* = versiones con membrana reforzada. Las calibraciones marcadas con * no son intercambiables con las versiones estándar (sin *).

In tabella sono indicati i codici delle versioni più comuni e con sfioro incorporato. Per altre combinazioni vedere indicazioni a pag. 41÷43.
The table shows the codes of the more common versions with built-in relief valve. For other combinations see the instructions on page 41-43.
Dans le tableau sont indiqués les codes des versions les plus courantes avec évacuation incorporée. Pour d'autres combinaisons, voir les indications aux pages 41÷43.
En la tabla se indican los códigos de las versiones más conocidas y con alivio incorporado. Para otras combinaciones, consulte las indicaciones de las páginas 41÷43.

Codifica prodotto / Product encoding / Codification du produit / Codificación del producto

Tabella costruzione codici RG-FRG modelli 2MCS
Code table construction RG-FRG 2MCS models
Tableau construction code RG-FRG modèles 2MCS
Tabla de construcción de códigos RG-FRG modelos 2MCS

Modello Model Modèle Modelo	Attacchi Connections Raccords Conexiones	Versioni Versions Versions Versiones	Pa spring No.	OPSO spring No.	UPSO spring No.	RELIEF spring No.
FCS	**03**		**2**	**X**	**X**	**2**
Con filtro With filter Avec filtre Con filtro	DN 20	Pe= 0,5 ÷ 3 bar	20 ÷ 30 mbar	senza OPSO without OPSO sans OPSO sin OPSO	senza UPSO without UPSO sans UPSO sin UPSO	10 ÷ 60 mbar
FCS	**04**	**0000**	**4**	**X**	**X**	**X**
Con filtro With filter Avec filtre Con filtro	DN 25	Pe= 0,5 ÷ 5 bar	60 ÷ 90 mbar	senza OPSO without OPSO sans OPSO sin OPSO	senza UPSO without UPSO sans UPSO sin UPSO	senza sfioro without relief sans évacuation sin alivio

IT

In tabella sono riportati alcuni esempi per illustrare come è possibile combinare tra di loro le molle di taratura.
Per i modelli "2MCS":

- versioni con Pe= 0,5÷3 bar o Pe = 0,5÷5 bar (codice 0000);
- non possono essere presenti OPSO e UPSO (quindi molle n°2 e n°3 sempre indicate con "X");
- si può omettere lo sfioro contrassegnando con una "X" il campo molla corrispondente (n° 4), in tal caso il prezzo non subisce variazioni;

Non tutte le combinazioni sono possibili, devono essere funzionalmente compatibili. Si consiglia di contattare il nostro ufficio commerciale per la conferma della fattibilità.

EN

Table shows some examples to illustrate how you can combine the setting springs.
For "2MCS" models:

- versions with Pe = 0.5 to 3 bar or Pe = 0.5 to 5 bar (code 0000);
- OPSO and UPSO are not present (then springs No. 2 and No. 3 always marked with "X");
- you may omit the relief valve marking with an "X" the corresponding spring range (n ° 4), in this case the price will not change;

Not all combinations are possible, they must be functionally compatible. It is advisable to contact our sales department for confirmation of feasibility.

FR

Le tableau reporte quelques exemples pour illustrer les possibilités de combinaison des ressorts d'étalonnage entre eux.
Pour les modèles « 2MCS » :

- versions avec Pe= 0,5÷3 bar ou Pe = 0,5÷5 bar (code 0000) ;
- OPSO et UPSO ne peuvent pas être présents (donc ressorts n° 2 et n° 3 toujours indiqués avec « X ») ;
- il est possible d'exclure l'évacuation en marquant avec un « X » le champ ressort correspondant (n° 4), dans ce cas le prix ne subit pas de variations ;

Pas toutes les combinaisons sont possibles, elles doivent être fonctionnellement compatibles. Il est conseillé de contacter notre bureau commercial pour la confirmation de la faisabilité.

ES

En la tabla aparecen algunos ejemplos para ilustrar cómo se pueden combinar entre ellos los muelles de calibración.
Para los modelos "2MCS":

- versiones con Pe= 0,5÷3 bar o Pe = 0,5÷5 bar (código 0000);
- no pueden estar presentes OPSO y UPSO (muelles n°2 y n°3 indicados con "X");
- se puede omitir la desaireación marcando con una "X" el campo muelle correspondiente (n° 4), en ese caso el precio no cambia;

No todas las combinaciones son posibles, deben ser funcionalmente compatibles. Se recomienda contactar con nuestra oficina comercial para confirmar la factibilidad.

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Tabella 5a - Table 5a - Tableau 5a - Tabla 5a

Codifica prodotto / Product encoding / Codification du produit / Codificación del producto

FRG-RG/2MCS

Attacchi Connections Raccords Conexiones	N°	Pa (mbar)	N°	DfRv (mbar)	Codice filtroregolatore Code filter regulator Code filtre régulateur Código filtro regulador		Codice regolatore Code regulator Code régulateur Código regulador	
					Pe: 0,5 ÷ 3 bar	Pe: 0,5 ÷ 5 bar	Pe: 0,5 ÷ 3 bar	Pe: 0,5 ÷ 5 bar
DN 15	1	10 ÷ 25	1	5 ÷ 10	FCS02 1XX1	FCS020000 1XX1	RCS02 1XX1	RCS020000 1XX1
	1	10 ÷ 25	2	10 ÷ 60	FCS02 1XX2	FCS020000 1XX2	RCS02 1XX2	RCS020000 1XX2
	2	20 ÷ 30	1	5 ÷ 10	FCS02 2XX1	FCS020000 2XX1	RCS02 2XX1	RCS020000 2XX1
	2	20 ÷ 30	2	10 ÷ 60	FCS02 2XX2	FCS020000 2XX2	RCS02 2XX2	RCS020000 2XX2
	3	30 ÷ 60	2	10 ÷ 60	FCS02 3XX2	FCS020000 3XX2	RCS02 3XX2	RCS020000 3XX2
	4	60 ÷ 90	2	10 ÷ 60	FCS02 4XX2	FCS020000 4XX2	RCS02 4XX2	RCS020000 4XX2
	5	90 ÷ 170	2	10 ÷ 60	FCS02 5XX2	FCS020000 5XX2	RCS02 5XX2	RCS020000 5XX2
	6	110 ÷ 180	3	60 ÷ 110	FCS02 6XX3	FCS020000 6XX3	RCS02 6XX3	RCS020000 6XX3
	7	170 ÷ 400*	4	40 ÷ 200*	FCS02 7XX4	FCS020000 7XX4	RCS02 7XX4	RCS020000 7XX4
	8	300 ÷ 650*	4	40 ÷ 200*	FCS02 8XX4	FCS020000 8XX4	RCS02 8XX4	RCS020000 8XX4
	9	600 ÷ 1500*	4	40 ÷ 200*	FCS02 9XX4	FCS020000 9XX4	RCS02 9XX4	RCS020000 9XX4
DN 20	1	10 ÷ 25	1	5 ÷ 10	FCS03 1XX1	FCS030000 1XX1	RCS03 1XX1	RCS030000 1XX1
	1	10 ÷ 25	2	10 ÷ 60	FCS03 1XX2	FCS030000 1XX2	RCS03 1XX2	RCS030000 1XX2
	2	20 ÷ 30	1	5 ÷ 10	FCS03 2XX1	FCS030000 2XX1	RCS03 2XX1	RCS030000 2XX1
	2	20 ÷ 30	2	10 ÷ 60	FCS03 2XX2	FCS030000 2XX2	RCS03 2XX2	RCS030000 2XX2
	3	30 ÷ 60	2	10 ÷ 60	FCS03 3XX2	FCS030000 3XX2	RCS03 3XX2	RCS030000 3XX2
	4	60 ÷ 90	2	10 ÷ 60	FCS03 4XX2	FCS030000 4XX2	RCS03 4XX2	RCS030000 4XX2
	5	90 ÷ 170	2	10 ÷ 60	FCS03 5XX2	FCS030000 5XX2	RCS03 5XX2	RCS030000 5XX2
	6	110 ÷ 180	3	60 ÷ 110	FCS03 6XX3	FCS030000 6XX3	RCS03 6XX3	RCS030000 6XX3
	7	170 ÷ 400*	4	40 ÷ 200*	FCS03 7XX4	FCS030000 7XX4	RCS03 7XX4	RCS030000 7XX4
	8	300 ÷ 650*	4	40 ÷ 200*	FCS03 8XX4	FCS030000 8XX4	RCS03 8XX4	RCS030000 8XX4
	9	600 ÷ 1500*	4	40 ÷ 200*	FCS03 9XX4	FCS030000 9XX4	RCS03 9XX4	RCS030000 9XX4

* = versioni con membrana rinforzata. Le tarature contrassegnate con * non sono intercambiabili con le versioni standard (quelle senza *).
* = versions with reinforced diaphragm. Settings marked with * are not interchangeable with standard settings (the one without *).
* = versions avec membrane renforcée. Les étalonnages marqués avec * ne sont pas interchangeables avec les versions standards (ceux sans *).
* = versiones con membrana reforzada. Las calibraciones marcadas con * no son intercambiables con las versiones estándar (sin *).

In tabella sono indicati i codici delle versioni più comuni e con sfioro incorporato. Per altre combinazioni vedere indicazioni a pag. 41 e 45.
The table shows the codes of the more common versions with built-in relief valve. For other combinations see the instructions on page 41 and 45.
Dans le tableau sont indiqués les codes des versions les plus courantes avec évacuation incorporée. Pour d'autres combinaisons, voir les indications aux pages 41 et 45.
En la tabla se indican los códigos de las versiones más conocidas y con alivio incorporado. Para otras combinaciones, consulte las indicaciones de las páginas 41 y 45.

Tabella 5b - Table 5b - Tableau 5b - Tabla 5b

Codifica prodotto / Product encoding / Codification du produit / Codificación del producto

FRG-RG/2MCS

Attacchi Connections Raccords Conexiones	N°	Pa (mbar)	N°	DfRv (mbar)	Codice filtroregolatore Code filter regulator Code filtre régulateur Código filtro regulador		Codice regolatore Code regulator Code régulateur Código regulador	
					Pe: 0,5 ÷ 3 bar	Pe: 0,5 ÷ 5 bar	Pe: 0,5 ÷ 3 bar	Pe: 0,5 ÷ 5 bar
	1	10 ÷ 25	1	5 ÷ 10	FCS04 1XX1	FCS040000 1XX1	RCS04 1XX1	RCS040000 1XX1
	1	10 ÷ 25	2	10 ÷ 60	FCS04 1XX2	FCS040000 1XX2	RCS04 1XX2	RCS040000 1XX2
	2	20 ÷ 30	1	5 ÷ 10	FCS04 2XX1	FCS040000 2XX1	RCS04 2XX1	RCS040000 2XX1
	2	20 ÷ 30	2	10 ÷ 60	FCS04 2XX2	FCS040000 2XX2	RCS04 2XX2	RCS040000 2XX2
	3	30 ÷ 60	2	10 ÷ 60	FCS04 3XX2	FCS040000 3XX2	RCS04 3XX2	RCS040000 3XX2
DN 25	4	60 ÷ 90	2	10 ÷ 60	FCS04 4XX2	FCS040000 4XX2	RCS04 4XX2	RCS040000 4XX2
	5	90 ÷ 170	2	10 ÷ 60	FCS04 5XX2	FCS040000 5XX2	RCS04 5XX2	RCS040000 5XX2
	6	110 ÷ 180	3	60 ÷ 110	FCS04 6XX3	FCS040000 6XX3	RCS04 6XX3	RCS040000 6XX3
	7	170 ÷ 400*	4	40 ÷ 200*	FCS04 7XX4	FCS040000 7XX4	RCS04 7XX4	RCS040000 7XX4
	8	300 ÷ 650*	4	40 ÷ 200*	FCS04 8XX4	FCS040000 8XX4	RCS04 8XX4	RCS040000 8XX4
	9	600 ÷ 1500*	4	40 ÷ 200*	FCS04 9XX4	FCS040000 9XX4	RCS04 9XX4	RCS040000 9XX4

* = versioni con membrana rinforzata. Le tarature contrassegnate con * non sono intercambiabili con le versioni standard (quelle senza *).
* = versions with reinforced diaphragm. Settings marked with * are not interchangeable with standard settings (the one without *).
* = versions avec membrane renforcée. Les étalonnages marqués avec * ne sont pas interchangeables avec les versions standards (ceux sans *).
* = versiones con membrana reforzada. Las calibraciones marcadas con * no son intercambiables con las versiones estándar (sin *).

In tabella sono indicati i codici delle versioni più comuni e con sfioro incorporato. Per altre combinazioni vedere indicazioni a pag. 41 e 45.
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En la tabla se indican los códigos de las versiones más conocidas y con alivio incorporado. Para otras combinaciones, consulte las indicaciones de las páginas 41 y 45.

IT EN FR ES

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We reserve the right to any technical and construction changes.
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