

Serie IFRM...



DESCRIPTION

Gas pressure closing filter regulator for small users.

- Pmax = 100 mbar**
- Pmax = 200 mbar**
- Pmax = 300 mbar**
- Pmax = 400 mbar**
- Pmax = 500 mbar**

- EC certified according to EN 88-1
- In conformity with the 2009/142/EC Directive (Gas Directive)

IDENTIFICATION

IFRM 1 02N MA B

Gas pressure closing regulator series IFRM...

B = biogas

Pmax

- 1 = Pmax 100 mbar
- 2 = Pmax 100 ÷ 200 mbar
- 3 = Pmax 200 ÷ 300 mbar
- 4 = Pmax 300 ÷ 400 mbar
- 5 = Pmax 400 ÷ 500 mbar

Settings: *see next page*

- MA = spring setting (mbar)
- MB = spring setting (mbar)
- MC = spring setting (mbar)

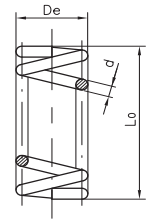
Connections

Threaded			
Code	GAS	Code NPT	NPT
02	DN 15 (G 1/2")	02N	DN 15 (NPT 1/2")
03	DN 20 (G 3/4")	03N	DN 20 (NPT 3/4")
04	DN 25 (G 1")	04N	DN 25 (NPT 1")

**NOTE: not all combinations are possible
Please contact the technical department.**

SPRING SETTINGS

Connections	Setting (mbar)	Pmax	Spring code	Dimensions (mm) (d x De x Lo x it)
DN 15	13,7 ÷ 30	1	MA	1x17x70x10
			MB	1,3x17x70x11
	16 ÷ 30	2	MA	1x17x70x10
			MB	1,3x17x70x11
	16 ÷ 60	3	MA	1,3x17x70x11
			MC	2x17x54x9
	16 ÷ 60	4	MB	1,3x17x70x11
			MC	2x17x54x9
	16 ÷ 60	5	MB	1,3x17x70x11
			MC	2x17x54x9
DN 20	13,7 ÷ 30	1	MA	1x17x70x10
			MB	1,3x17x70x11
	16 ÷ 60	2	MB	1,3x17x70x11
			MB	1,3x17x70x11
	60 ÷ 180	3	MC	2x17x54x9
			MC	2x17x54x9
	16 ÷ 60	4	MB	1,3x17x70x11
			MC	2x17x54x9
	16 ÷ 60	5	MB	1,3x17x70x11
			MC	2x17x54x9
DN 25	13,7 ÷ 30	1	MA	1x17x70x10
			MB	1,3x17x70x11
	16 ÷ 70	2	MB	1,3x17x70x11
			MB	1,3x17x70x11
	60 ÷ 180	3	MC	2x17x54x9
			MC	2x17x54x9
	16 ÷ 60	4	MB	1,3x17x70x11
			MC	2x17x54x9
	16 ÷ 60	5	MB	1,3x17x70x11
			MC	2x17x54x9



Dimension Legend

d=diameter
De = external diameter
Lo= length
it = total number of turns

GENERAL DATA

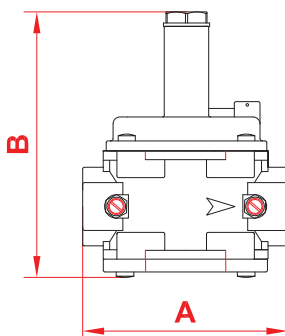
TECHNICAL DATA

- Use: not aggressive gases of the 3 families (dry gases)
- Threaded connections Rp: (DN 15 - DN 20 - DN 25) according to EN 10226
- On request ANSI 150 flanged connections
- Max. working pressure:
 - 100 mbar (A version)
 - 100 ÷ 200 mbar (B version)
 - 200 ÷ 300 mbar (C version)
 - 300 ÷ 400 mbar (D version)
 - 400 ÷ 500 mbar (E version)
- Environment temperature: -15 ÷ +60 °C
- Class: A
- Group: 2
- Filtration: 50 µm (on request other filtration)
- Filtration class: G 2 (according to EN 779)

MATERIALS

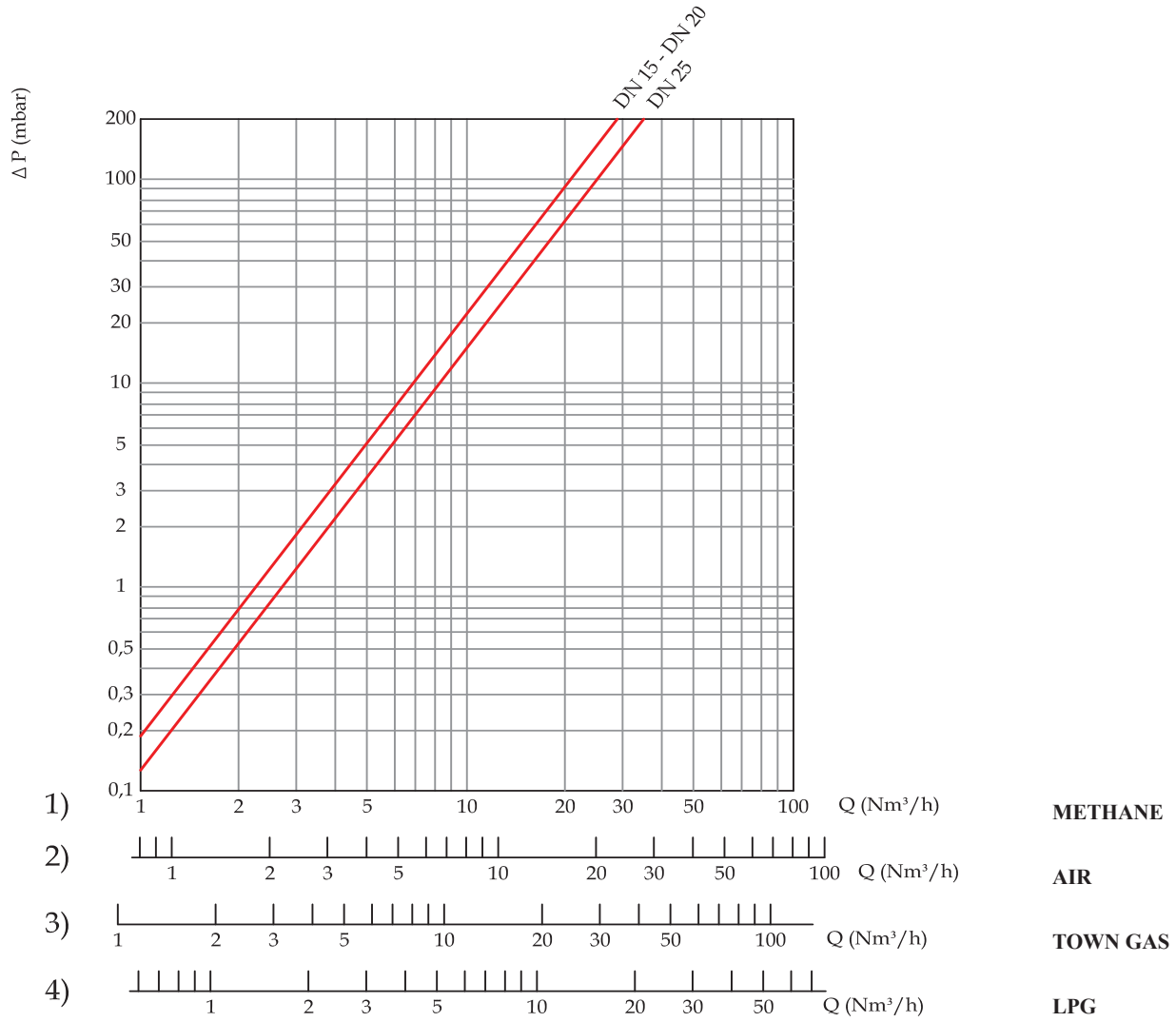
- Die-cast aluminium (UNI EN 1706)
- OT-58 brass (UNI EN 12164)
- 11S aluminium (UNI 9002-5)
- NBR rubber (UNI 7702)
- Nylon 30% glass fibre (UNI EN ISO 11667)
- Viledon

DIMENSIONS



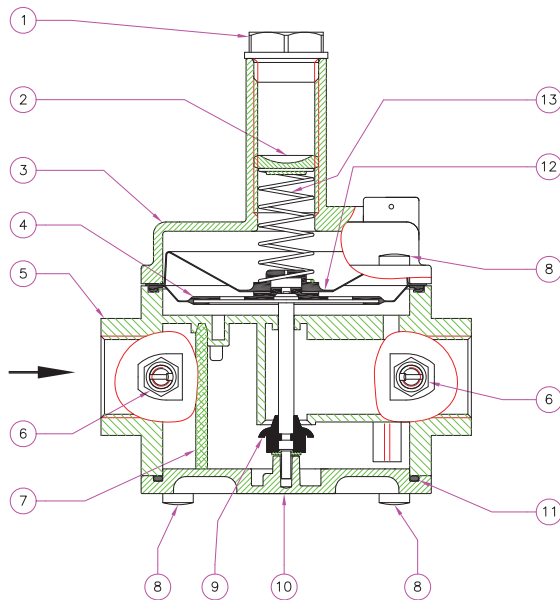
Connections	A	B	Weight (Kg)	Filtrating area (mm ²)
DN 15	120	152	0,7	4560
DN 20	120	152	0,7	4560
DN 25	120	152	0,7	4560

PRESSURE DROP DIAGRAM



COMPONENTS

fig. 1



LEGEND

- 1 - Closing cap
- 2 - Setting regulation screw
- 3 - Funnel
- 4 - Working diaphragm/ central pin
- 5 - Body regulator
- 6 - Pressure tap
- 7 - Filtering component
- 8 - Fixing screws
- 9 - Obturator
- 10 - Bottom
- 11 - Bottom seal O-Ring
- 12 - Safety diaphragm
- 13 - Regulation spring

INSTALLATION



Installation must be in compliance with local legislation in force!

**WARNING: Read carefully the instruction sheet of each product before installing.
Installation and maintenance operations must be carried out by qualified personnel.**

- The gas supply must be shut off before installation.
- Check that the line pressure **DOES NOT EXCEED** the maximum pressure stated on the product label.
- The regulator is normally installed before the user. It must be installed with the arrow (on the body (5)) towards the user.
- It can be installed in any position but it is preferable the installation with the spring (13) in vertical position (see fig. 1). Outside the regulator, downstream of it, there is a checking pressure-tap (6) for the control of the regulation pressure.
- During installation take care not to allow debris or scraps of metal to enter the device.
- Check that the pipeline thread is not too long; overlong threads may damage the body of the device when screwed into place.
- Do not use the spring casing for leverage when screwing into place; use the appropriate tool.
- Always check that the system is gas-tight after installation.

CALIBRATION

Before starting the system, pay attention that the standard regulation spring (13) is suitable with the needed regulation pressure. After removing the cap (1), calibrate the regulator (2) at the minimum setting (completely unscrewed), then start the system and checking the regulation pressure, screw the regulator (2) up to the needed pressure.

OFF SERVICE

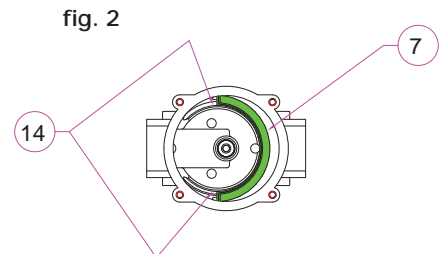
Unscrew the cap (1) and screw the regulator (2) to its end.

MAINTENANCE

Before disassembling the device make sure that there is no pressured gas inside.

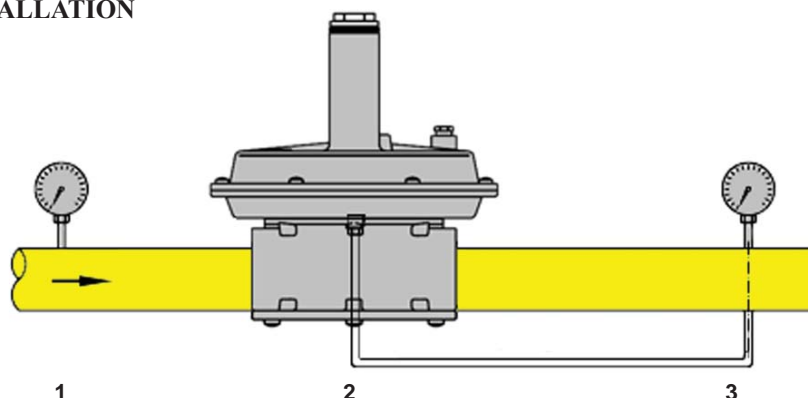
- Check the closing obturator (9) unscrew the fixing screws (8) and remove the bottom cover (10), check that obturator (9) is in good working conditions and if necessary change the rubber seal (9). Then reassemble doing backward the same operation.
- Check the filtering component (7) conditions unscrew the fixing screws (8) and remove the bottom cover (10). Remove the filtering component (7) clean it with water and soap, blow it with compressed air or substitute it if necessary.

Reassemble it in its original position, checking it is set in its special guides (14) (see fig. 2).



EXAMPLE OF INSTALLATION

1. high pressure manometer
2. regulator IR
3. low pressure manometer



FOR FORWARD INFORMATION PLEASE CONTACT OUR TECHNICAL OFFICE.

CALIBRATION

Before starting the system, pay attention that the standard regulation spring is suitable with the needed regulation pressure.

After removing the cap (1), calibrate the regulator (2) at the minimum (completely unscrewed), then start the system and checking the regulation pressure, screw the regulator (2) up to the needed pressure.

OFF SERVICE

Unscrew the cap (1) and screw the regulator (2) to its end.

MAINTENANCE

Before disassembling the device make sure that there is no pressured gas inside.

Check or substitute the diaphragms: (see fig. 1, 2 and 3)

unscrew the fixing screws (7) and remove the funnel (4), take off the safety diaphragm (6), unscrew the central nut (25) that fixes the working diaphragm (22) (between two discs) to the central pin (9).

Reassemble doing backward the same operation, paying attention when tightening the nut (25) not to turn the diaphragms (stop the disc (21) on the diaphragm (22) with the free hand).

Check the filtering organ (11) on threaded body: (see fig. 1 and 2)

unscrew the fixing screws (15) and remove the bottom cover (14).

Remove the filtering component (11), clean it with water and soap, blow it with compressed air or substitute it if is necessary. Reassemble it in its original position in its special guide (as in the picture below).

Reassemble the bottom (14) being sure that the central pin (9) is centred in the bottom hole (14).

Check the filtering organ (11) on flanged body: (see fig. 3)

unscrew the fixing screws (15) and remove the bottom cover (14).

Remove the filtering component (11), clean it with water and soap, blow it with compressed air or substitute it if is necessary.

Reassemble it in its original position being sure, when reassembling the bottom (14), that the filter (11) is positioned inside the special guides of the same bottom (14) (see fig. 3).

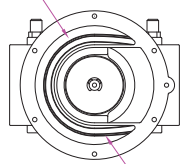
Assembling the bottom (14), pay attention to the teflon ring (17), it must be put inside the special guide (18).



All operations must be carried out only by qualified technicians.

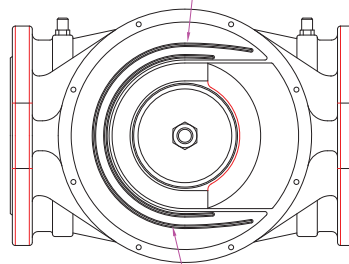
VIEW: threaded body without bottom

Filtering organ guides



Filtering organ must be put inside these guides

Filtering organ guides



Filtering organ must be put inside these guides

THE CHOICE OF THE REGULATOR

The choice of a regulator is very important; first of all you need to know:

1. The available input pressure (P1) in the distribution net.
2. The output pressure (P2) necessary at the starting of the burner's ramp to grant the required (Q) potential (Kcal or m³/h).

Then an ideal filter regulator should be chosen considering that the flux speed mustn't exceed 30 m/s (see ideal maximum values in following table).

If you need to exceed these flows we suggest to install an overflow valve.

Connections	Q. max (Nm ³ /h)	Flux speed
DN 15	~ 19	~ 30 m/s
DN 20	~ 34	~ 30 m/s
DN 25	~ 53	~ 30 m/s
DN 32	~ 87	~ 30 m/s
DN 40	~ 136	~ 30 m/s
DN 50	~ 212	~ 30 m/s
DN 65	~ 358	~ 30 m/s
DN 80	~ 543	~ 30 m/s
DN 100	~ 848	~ 30 m/s

- From the diagram ΔP - FLOW of regulators you must choose the smallest regulator assuring the necessary flow (Q) a load loss ΔP lower than the difference between the net pressure (P1) and the necessary pressure at the starting of the burner's ramp (P2).

FOR FURTHER INFORMATION PLEASE CONTACT OUR TECHNICAL OFFICE.