PRESSURE REGULATORS AND FLOWMETERS

ALL MEDICAL GASES

PRESSURE REGULATORS FOR CYLINDERS AND FLOWMETERS



In this section we propose our pressure regulators (FM series and MU) and our Rs flowmeters for applications other than oxygen therapy. The supply of all medical gases through measurement devices requires accuracy and experience in manufacturing and development, so we underline once more that all these devices are made in full compliance with **European standards** and technical regulations, as well as requirements of Regulation (EU) MDR 2017/745 and the approval criteria set by national and international certified bodies.

LABORATORIES AND TESTS

All regulators and flowmeters are rigorously tested, both in **flow-meter™** own quality-assurance laboratories and by independent validated laboratories, to ensure that the products meet all the requirements of the medical applications in any foreseeable therapeutic condition.

hospitals

emergency

home care

The CE marking procedure is carried out according to the requirements of a complete EN ISO 13485 quality system.

FM

Pressure regulators

The single-stage FM pressure regulators are designed for direct fitting on medical gas cylinders in the different reference standards.

STRUCTURE

The single-stage **FM** pressure regulators are equipped with single gauge to check the remaining contents of the cylinder or with double gauge to check and adjust the working conditions according to the user requirements. They can be supplied with the calibration of the outlet pressure preset or adjustable through a knob.
The body is manufactured of chrome-plated brass, with a pre-calibrated overpressure safety valve to protect against any malfunction of the system. A protective silicone cover prevents gauge damages caused by possible shocks received during transport or use. Cylinder inlet connections are available for all the most commonly used medical gases, according to the various standards used in different Countries.

SPECIAL VERSION FOR AMBULANCES

A special version, made for ambulances applications, fits a pressure gauge with electric signal 4-20 mA or 0.5-4.5 V output for the continuous monitoring of the supplied pressure and with system control panel interface.

Main **information**

The **FM** pressure regulators are equipped with single or double gauge.

Calibration of the outlet is preset or adjustable through a knob (double gauge version).

Related products



Cylinder inlet connections
from p. 57

	FM single gauge		FM double gauge	
	MAX. SIZES (LxWxH)	**MAX. WEIGHT**	**MAX. SIZES (LxWxH)**	**MAX. WEIGHT**
OUTLET				
TUBING CONNECTOR Ø 6 mm	100x136x120 mm	0.95 Kg	102x136x113 mm	1.14 Kg
TERMINAL UNIT	100x137x120 mm	1.21 Kg	102x137x113 mm	1.40 Kg
THREAD ISO G. 1/4" F.	100x105x120 mm	0.92 Kg	102x105x113 mm	1.11 Kg
MAXIMUM INLET PRESSURE	200 bar (100 bar for N_2O and CO_2)			
INLET CONNECTIONS	UNI 11144 · NF-E 29-650 · BS 341-3 · DIN 477- 1 · CGA · EN 850			
TERMINAL UNIT TYPE (IF PRESENT)	AFNOR NF-S 90-116 · UNI 9507 · BS 5682 · DIN 13260-2 · SS 875 24 30			
GASES OPTIONS	O_2 · AIR · N_2O · N_2 · CO_2 · Helium · Hydrogen			

1 **Outlet for FM** pressure regulator (optional).

2 One of the several inlet connections for cylinder direct fitting.



FM
pressure regulator
with single gauge for N_2O



FM
pressure regulator
with single gauge

FM
pressure regulator
with double gauge



1



FM
pressure regulator with special gauge
for ambulances

Pressure regulator for ambulances

GASES OPTIONS	Oxygen
GAUGE ELECTRICAL FINAL	4-20 mA or 0.5-4.5 V output
OUTLET CONNECTOR	hose connector with gas specific rotating nut

MU

Pressure regulators

The MU pressure regulators are designed for direct fitting on standard medical gas cylinders.

STRUCTURE

The **MU** pressure regulators are manufactured with body of chrome-plated brass, with a pre-calibrated overpressure safety valve to protect against any malfunction of the system, with an inlet connection for O_2 or Air according to the various standards used in different Countries and with an outlet hose connector.

VERSIONS

They are available in a version with preset calibration of the outlet pressure with single gauge to check the cylinder contents, or with adjustable pressure and a flow gauge to check the flow of the supplied gas. A protective silicone cover prevents gauge damage caused by possible shocks received during transport or use.

Main **information**

The **MU** pressure regulators are equipped with single or double gauge.

It is also available the version with front or side flow gauge, to allow to check the flow of the supplied gas.

Related products



Cylinder inlet connections
from p. 57

	SIZES (LxWxH)	WEIGHT
OUTLET		
HOSE CONNECTOR Ø 6 mm	127x51x121 mm	0.56 Kg
FRONT FLOW GAUGE	135x87x121 mm	0.65 Kg
SIDE FLOW GAUGE	135x101x121 mm	0.65 Kg
MAXIMUM INLET PRESSURE	200 bar	
INLET CONNECTION	UNI 11144 · EN 850 · NF-E 29-650 · BS 341-3 · DIN 477- 1	
FLOW GAUGE END OF SCALE VALUE (IF PRESENT)	9 LPM	
FLOW GAUGE ACCURACY (IF PRESENT)	±10% read value or ±0.5 L/min. if greater	

1 **Cylinder gas** pressure gauge with colored section and double scale.

2 **Inlet connection** according to international standards.

3 **Flow adjusting knob**.



MU
pressure regulator



MU
pressure regulator
with front flow gauge



MU
pressure regulator
with side flow gauge



1



2



3

Rs

Variable area **flowmeters**

The flowmeters type Rs are instant flow measuring devices suitable for the dosage of all medical gases.

STRUCTURE

They can be produced in version with pressure compensated or not compensated and manufactured both with single or twin flow tubes in order to allow a double and independent gas supply using a single gas source. The body is manufactured in chrome-plated brass with metal fittings and the measurement group is made of high resistance polycarbonate, making them ideal for the toughest applications.

SOLUTIONS AND OPTIONS

They are also available in different solutions of pressure calibration, various options of scale, normal or extended (L version) to allow a better reading of the indicated values. Several options are proposed concerning the threaded connections, inlet or outlet, offering an endless variety of combinations to meet all application requirements.

Main **information**

Rs can be manufactured in single or twin configuration in order to allow double and separate gas supply using a single gas source.

The flowmeters type **Rs** fit a needle valve with a knob in color code for the immediate identification of the supplied gas.

Related products



Probes and Accessories for various gases
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SIZES (LxWxH)	83x33x135 mm
WEIGHT	0.23 Kg
SUPPLY MAX. PRESSURE	600 kPa
END OF SCALE VALUES	1 L/min. · 4 L/min. · 5 L/min. · 10 L/min. · 15 L/min. · 20 L/min. · 30 L/min. · 50 L/min.
FLUIDS	O_2 · AIR · N_2 · CO_2 · N_2O
ACCURACY	±10% read value or ±0.5 L/min. if greater (±10% E.O.S. value for flow E.O.S. ≤ than 1 L/min.)
INLET CONNECTION	ISO G 1/8" F. · ISO G 1/4" M. · 1/4"NPT M. · 3/8" ISO 3253 F.
OUTLET CONNECTION	1/4" ISO 3253 M. · 3/8" ISO 3253 M. · M 12x1.25 M. · 1/2" GAS M. 9/16" UNF EN 13544-2 M. · 1/2" BSF F.

1 **Rs ABS knobs**, color coded for gas specificity.



Rs twin
chrome-plated brass body
twin construction



Rs
chrome-plated brass body
single construction

1



1