

GENERAL CATALOGUE  
**MEDICAL LINE**



**1969-2019**

CELEBRATING 50 YEARS  
OF ENGINEERING REVOLUTION  
IN MEDICAL TECHNOLOGY

**50<sup>TH</sup>**

- 01 OXYGEN THERAPY
- 02 SUCTION OF FLUIDS
- 03 PRESSURE REGULATORS AND FLOWMETERS,  
ALL MEDICAL GASES
- 04 FLOWMETER UNITS
- 05 TERMINAL UNITS AND ACCESSORIES

**flow-meter™**  
ENGINEERING REVOLUTION IN MEDICAL TECHNOLOGY



**1969-2019**

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# A story of love, passion and innovation

Roberto and Venanzio Paratico

It can be a real challenge to share 50 years of history. You have to think back on so many anecdotes and fundamental stages of a company that has grown over the years and succeeded in opening to the international market.

Flow-Meter's story can't be told like any ordinary corporate history, simply because it depends so much on our family, the Paraticos, and on all of our employees, partners, friends and everyone who has helped us get to where we are today, helping us evolve day by day in order to stay in step with the times and with technology.

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Our history is one of family, love, passion and innovation. But most of all, it's one of people and memories, their stories that form the history of Flow-Meter and that made our parents' dreams and our own dreams come true.

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# COMPANY

Established in the year 1969, **flow-meter™** is active in the design and production of devices for measurement, control and supply of fluids, particularly for applications in the medical field. During the years, the great experience conquered in Italy and abroad created the conditions to establish strict partnerships with some of the most prestigious Groups operating in the industry of the medical gases worldwide. This made **flow-meter™** as a recognized and respected “*center of excellence*” in this field.

The company’s goal is headed to face with the complexity and the continuous technological evolution in the market of medical devices. **flow-meter™** products get applications in oxygen therapy, in suction of fluids, in anesthesia and intensive care, in ventilation therapy and, generically, in the supply of components for distribution of medical gases. This is possible only by investing in qualified human resources and developing related activities in design and technology. The strict respect of the medical field rules is absolute, receiving always from the Company management the maximum of attention.

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## QUALITY

All medical devices manufactured by **flow-meter™** respect and comply the requirements of Directive 93/42/EEC, and meet the technical specifications imposed by national and international reference standards. Before getting the official release to the production, then to the market, the developed new devices support rigorous tests, carried out both in the internal laboratory, and in qualified external centers, in order to guarantee the full compliance of all products to the foreseen conditions of use. For all medical devices manufactured by the company, the process of CE marking is carried out by applying a complete quality system EN ISO 13485.



## PRODUCTION

The components, manufactured in-house or in outsourcing by qualified subcontractors, support first accurate controls, then pass to the assembly, always made inside the factory, and finally the complete devices are subjected to a rigorous testing procedure before being released on the market. Careful packaging and an efficient shipping system allow safe and quick delivery to customers and distributors worldwide. The production times for orders fulfillment are absolutely acceptable, in application of the operational flexibility, one of the peculiarity of Italian industry excellences, well known and recognized all over the world.

## WORLDWIDE

**flow-meter™** dedicates particular attention to the after sale service. A quick answer to clients comes always in few hours in case of any, rare, incident or not compliance, as well as the supply of spare parts or full technical assistance regarding the devices delivered to the customers. The standard guarantee period of **flow-meter™** devices is 24 months. **flow-meter™** international view and perspective got the Company's distribution facilities to operate in a large

number of Countries worldwide, both in areas known as modern and advanced in terms of quality of health services, and in areas experiencing strong growth in medical field. In those Countries where specific regulations are applied to allow the import of medical devices and where **flow-meter™** presented its products, the procedures for obtaining the registration and approval at the local Ministries of Health have never resulted in any problems.

**Europe**  
**Asia - Pacific**

**Oceania**  
**Middle East**

**Africa**  
**Central and South America**



# MEDICAL LINE

The line of products dedicated to the field of devices for measurement, control and supply of medical gases in this catalogue is split into **specific sections** that show and regroup them according to their applications in **oxygen therapy** and ventilation therapies, in the **suction of fluids**, then presenting the **pressure regulators and the flowmeters for medical gases with other applications than oxygen therapy**, the **flowmeter units** with the devices for Anesthesia and Intensive Care, and, in conclusion, proposing a section dedicated to the **terminal units** system and to the **accessories** developed and manufactured to support the installation of medical gases distribution plants.



EasyVAC<sup>®</sup> PLUS DGT

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OXYGEN THERAPY

01

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SUCTION OF FLUIDS

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PRESSURE REGULATORS  
AND FLOWMETERS,  
ALL MEDICAL GASES

03

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FLOWMETER UNITS

04

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TERMINAL UNITS  
AND ACCESSORIES

05

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Again it should be noted that all medical devices manufactured by flow-meter™ reflect the Directive 93/42/EEC requirements, and meet the technical specifications imposed by national and international reference standards.



**EasyFLOW<sup>®</sup>**  
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**EasyMED<sup>®</sup> PLUS**  
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**EasyCARE<sup>®</sup> PLUS**  
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**EasySAFE<sup>®</sup> PLUS**  
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# EASY LINE

However **flow-meter™** has also recognized that, in order to be really revolutionary in engineering, it is necessary to bring new products to the market. We therefore aim to offer evolutions of existing products, or new technical solutions, before demand for them actually arises. In our opinion, this philosophy of an engineering revolution can be expressed in three main principles of project development and technical management: the ability to be **innovative** in the projects, the use of the most advanced manufacturing technologies and the constant application of intelligent design in order to obtain products which have a distinctive style and ergonomic shape while fully conforming to all safety requirements.

We gave a name to this way of thinking: **Easy**, and all the new products presented here follow this philosophy.










**EXCELLENCE IN INNOVATION**











**BREAKTHROUGH TECHNOLOGY**

**INTELLIGENT DESIGN**












## PRODUCTS OVERVIEW









01 OXYGEN THERAPY									
	<b>EasyFLOW®</b> VARIABLE AREA FLOWMETERS	<b>Qmed®</b> VARIABLE AREA OXYGEN FLOWMETERS	<b>Rs</b> VARIABLE AREA OXYGEN FLOWMETERS	<b>EasyMED® PLUS</b> CALIBRATED ORIFICES FLOWMETERS	<b>EASYMED®</b> CALIBRATED ORIFICES OXYGEN FLOWMETERS	<b>DF</b> FLOW SELECTOR FOR AEROSOL THERAPY	<b>EasyCARE® PLUS</b> PRESSURE REGULATORS	<b>EASycARE®</b> PRESSURE REGULATORS	<b>FM</b> PRESSURE REGULATORS FOR OXYGEN THERAPY
	14	16	18	20	22	24	28	30	32






									
<b>EASYSAFE®</b> SAFETY JAR	<b>EasyAIR®</b> "VENTURI SYSTEM" SUCTION UNITS	<b>AV</b> VENTURI SUCTION UNITS	<b>VA - VD</b> WATER MANOMETERS	<b>COLLECTION CONTAINERS</b> FOR SMALL QUANTITY OF FLUIDS	<b>JARS</b> LARGE CAPACITY	<b>MONOKIT®</b> DISPOSABLE CONTAINERS	<b>FLOVAC®</b> DISPOSABLE CONTAINERS	<b>SUPPORTING DEVICES</b> FOR COLLECTION JARS	<b>SUCTION TROLLEY UNITS</b>
62	64	66	68	70	72	74	76	84	86

			05 TERMINAL UNITS AND ACCESSORIES							
<b>EasyVEE®</b> FLOW DRIVER "JET"	<b>RM</b> FLOWMETERS	<b>O<sub>2</sub>+</b> FLUSH DEVICE		<b>PRODUCT</b>	<b>TERMINAL UNITS</b>	<b>PROBES</b> WITH THREADED CONNECTION	<b>PROBES</b> WITH HOSE CONNECTION	<b>OUTLET DUPLICATORS</b>	<b>EN ISO 9170-2 AGSS TYPE 1 TERMINAL UNITS</b>	<b>LOW PRESSURE HOSE</b>
106	112	114		<b>PAGE</b>	118	126	127	128	129	132



					<b>02</b> SUCTION OF FLUIDS				
<b>CH, TR, MAK</b> OXYGEN THERAPY HUMIDIFIERS	<b>EasyOX®</b> BUBBLING HUMIDIFIERS	<b>OXITER®</b> OXYGEN THERAPY SINGLE-PATIENT HUMIDIFIERS	<b>OXYGEN SUPPLY SYSTEMS</b> FOR AMBULANCES	<b>CONNECTIONS AND ACCESSORIES</b>	<b>PRODUCT</b>	<b>EasyVAC® PLUS DGT</b> DIGITAL VACUUM REGULATORS	<b>EasyVAC® PLUS</b> VACUUM REGULATORS	<b>EASYVAC®</b> VACUUM REGULATORS	<b>EasySAFE® PLUS</b> SAFETY JAR
34	36	38	46	40	<b>PAGE</b>	54	56	58	60

	<b>03</b> PRESSURE REGULATORS AND FLOWMETERS, ALL MEDICAL GASES					<b>04</b> FLOWMETER UNITS			
<b>CONNECTIONS AND ACCESSORIES</b>	<b>PRODUCT</b>	<b>FM</b> PRESSURE REGULATORS	<b>MU</b> PRESSURE REGULATORS	<b>MERCURY®</b> PRESSURE REGULATOR WITH AN INTEGRATED CYLINDER VALVE	<b>Rs</b> VARIABLE AREA FLOWMETERS	<b>PRODUCT</b>	<b>FM</b> FLOWMETERS	<b>SF</b> FLOWMETERS	<b>EasyMIX®</b> OXYGEN/AIR MIXER
80	<b>PAGE</b>	90	92	94	96	<b>PAGE</b>	100	102	104

				
<b>RAIL CLAMPING SYSTEMS AND WALL BRACKETS</b>	<b>HOSES</b> FOR MEDICAL GASES	<b>CATHETER CONTAINERS</b>	<b>JOINTED EXTENSIONS</b>	<b>PHLEBOTOMY RODS</b>
134	136	136	136	136

## CONNECTIONS AND ACCESSORIES

### 01 OXYGEN THERAPY DEVICES

OXYGEN PROBES WITH THREAD CONNECTION	40
OXYGEN PROBES WITH HOSE CONNECTION	41
FLOWMETER OUTLET HOSE CONNECTION	42
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### 02 SUCTION DEVICES

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VACUUM PROBES WITH HOSE CONNECTION	81
VACUUM REGULATOR OUTLET HOSE CONNECTION	82
RAIL CLAMPING SYSTEMS	82
WALL BRACKETS AND STAINLESS STEEL RAIL	83
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### 05 ACCESSORIES

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# 01 OXYGEN THERAPY

The line of oxygen therapy devices includes **variable area flowmeters**, **calibrated holes "dial" flowmeters**, **pressure reducers** with their cylinder connections, **humidifiers**, **flow selectors** and all the **accessories** to connect the devices to the oxygen and medical air supply sources in the hospital plants. The large range gives the possibility to select the best solution for the customer needs, allowing the creation of countless combinations meeting the various necessities of use in hospitals, emergency and home care.

50<sup>TH</sup>

On the following pages you can find simple assembly diagrams illustrating the various possible options, both in the case of connection to the medical gas plants supply points, or in case of connection to medical oxygen cylinders.

DOWNLOAD  
OXYGEN THERAPY



The devices are manufactured in full compliance with the main technical regulations, as well as the requirements of Directive 93/42/EEC.

This allows to operate in complete and absolute safety, even in the most extreme conditions of use.

## PRODUCTS

<b>EasyFLOW®</b>	VARIABLE AREA FLOWMETERS	14
<b>Qmed®</b>	VARIABLE AREA OXYGEN FLOWMETERS	16
<b>Rs</b>	VARIABLE AREA OXYGEN FLOWMETERS	18
<b>EasyMED® PLUS</b>	CALIBRATES ORIFICES FLOWMETERS	20
<b>EASYMED®</b>	CALIBRATED ORIFICES OXYGEN FLOWMETERS	22
<b>DF</b>	FLOW SELECTOR FOR AEROSOL THERAPY	24
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<b>OXYGEN SUPPLY SYSTEM FOR AMBULANCES</b>		46

flowmeters, reusable and single-patient humidifiers, pressure regulators, flow selectors and system for ambulances

## OXYGEN THERAPY

01	<b>Easy</b> EasyFLOW® variable area flowmeter	14
02	Qmed® variable area oxygen flowmeter	16
03	Rs variable area oxygen flowmeter	18
04	<b>Easy</b> EasyMED® PLUS calibrated orifices flowmeter	20
05	EASYMED® calibrated orifices oxygen flowmeter	22
06	DF flow selector for aerosol therapy	24
07	Outlet hose connector, direct fitting	42
08	<b>Easy</b> EasyOX® bubbling humidifier	36
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10	CH/200 PC oxygen therapy humidifier	34
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12	MAK/300 PC oxygen therapy humidifier	34
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## CONNECTIONS AND ACCESSORIES FOR OXYGEN THERAPY DEVICES

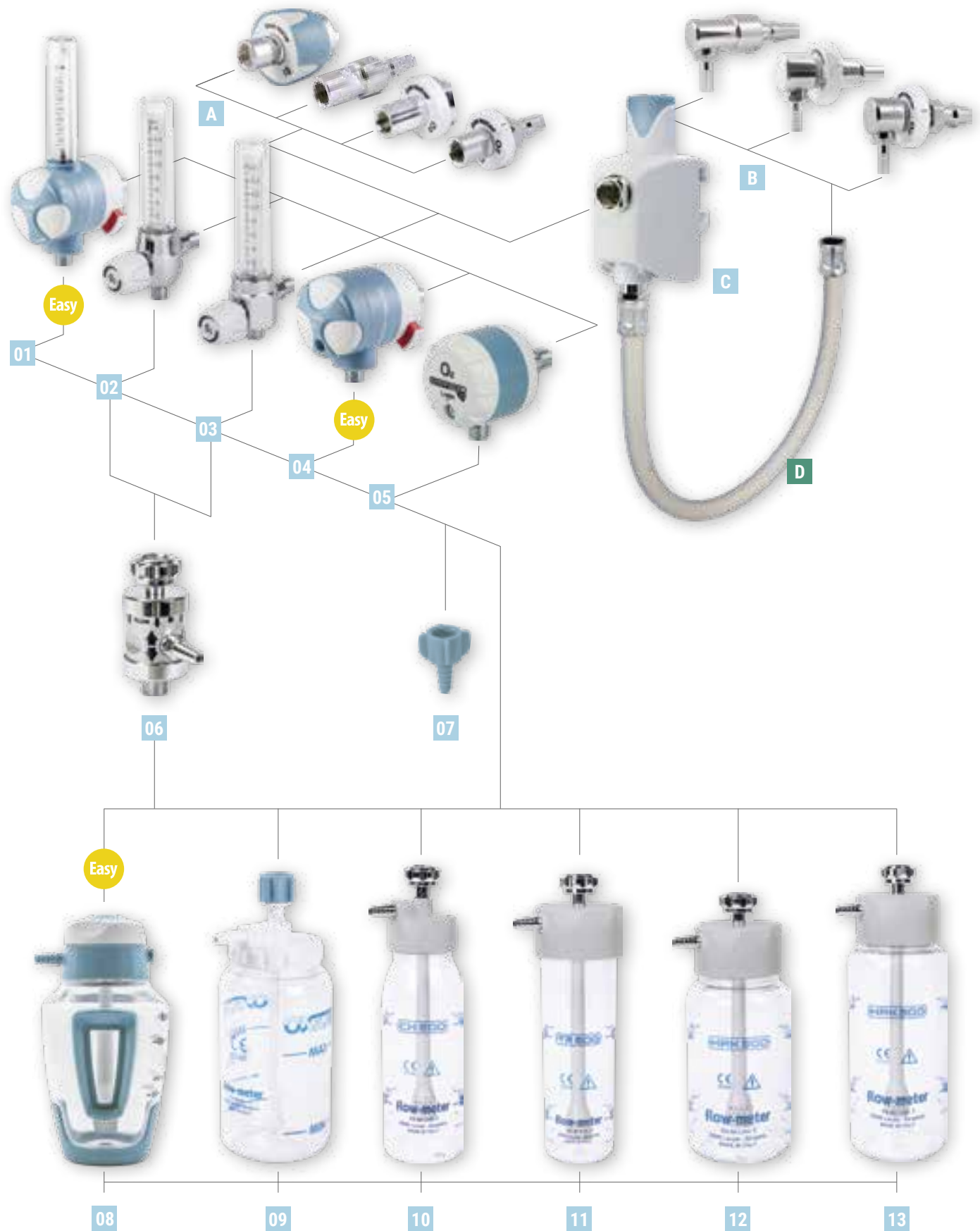
<b>A</b>	<b>OXYGEN PROBES WITH THREAD CONNECTION</b>	40
	AFNOR NF-S 90-116	
	AFNOR NF-S 90-116 EASYFIX®	
	UNI 9507	
	BS 5682	
	DIN 13260	
	SS 875 24 30	
	JIS T 7101	
	SANS 1409	
	OHMEDA	
<b>B</b>	<b>OXYGEN PROBES WITH HOSE CONNECTION</b>	41
	AFNOR NF-S 90-116 EASYFIX®	
	UNI 9507	
	BS 5682	
	DIN 13260	
	SS 875 24 30	
	JIS T 7101	
	SANS 1409	
	OHMEDA	
<b>C</b>	<b>RAIL CLAMP BRACKET</b>	42

## TERMINAL UNITS AND ACCESSORIES

<b>D</b>	Hose for medical gas (oxygen)	132
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# DIAGRAM OF OPTIONS

## MATCHING FLOWMETERS - CONNECTORS - HUMIDIFIERS





# EasyFLOW®

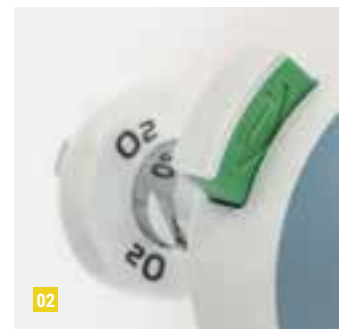
## VARIABLE AREA FLOWMETERS

The **EasyFLOW®** flowmeters are instant flow variable area measurement devices for regulating the dosage of medical gases, particularly suitable in oxygen therapy, and offered both in single or twin flowmeter execution to allow double and separate gas flows by using a single medical gas supply.

They are manufactured with an integrated pressure reducer for the supplied pressure stabilization and with an outlet nipple having two connection threads on the two ends for an easy and quick interchangeability. The operators can get two options of outlet thread by simply reversing the nipple, depending on the required applications.

The body is made of impact-resistant polymer with brass chrome-plated fittings, while the precision needle valve having a large ergonomic control knob, a Push&Lock system to keep locked the preset flow value and Soft Grip inserts allows the operator to easily adjust the gas flow at the required value, depending on the kind of therapy. In **EasyFLOW®** flowmeter the measurement tube has a lens effect to get the scale values easy reading in any condition of use.

The I/O switch button allows the operator to quickly lock and reactivate the flowmeter gas supply, keeping unchanged the previous flow preset value. The small size structure and the particular technical configuration allow the **EasyFLOW®** flowmeters to be able to supply flows of medical gas with extreme accuracy, even in the most difficult conditions, while the several options offered can satisfy any kind of use and exigencies.



01 NIPPLE WITH DOUBLE THREAD, INTERCHANGEABLE BY THE END USER

02 I/O SWITCH. QUICK PUSH SWITCH BUTTON

03 ADJUSTING KNOB WITH PUSH&LOCK SYSTEM AND SOFT GRIP INSERTS FOR EASY HANDLING



GRADUATE SCALE READING,  
MEASUREMENT TUBE  
WITH "LENS EFFECT"

#### TECHNICAL SPECIFICATIONS | EasyFLOW®

<b>SIZES (LxWxH)</b>	61x107x175 mm
<b>WEIGHT</b>	0.37 Kg
<b>GAS SUPPLY PRESSURE</b>	280÷600 kPa with an integrated pressure reducer for the stabilization of supplied pressure
<b>GASES OPTIONS</b>	O <sub>2</sub> • Air
<b>END OF SCALE VALUES</b>	5 L/min. • 10 L/min. • 15 L/min. • 30 L/min. • 40 L/min.
<b>ACCURACY</b>	±10% read value or ±0.5 L/min. (±0.2 L/min. for flows < than 1 L/min.) if greater
<b>STANDARD INLET CONNECTION</b>	ISO G 1/4" M. • 1/4"NPT M.
<b>STANDARD OUTLET CONNECTION</b>	Nipple with double thread, interchangeable by the end user: M12x1.25 M • 1/4" ISO 3253 M. 9/16" UNF EN 13544-2 M • 1/4" ISO 3253 M. M12x1.25 M • 9/16" UNF EN 13544-2 M.
<b>FLOW CALIBRATION DATA</b>	1013 mbar 23 °C



# Qmed®

## VARIABLE AREA OXYGEN FLOWMETERS

The flowmeters type **Qmed®** are instant flow measuring devices suitable for the dosage of medical gases.

They are manufactured in version with compensated or not compensated pressure and in single or twin configuration in order to allow a double and independent gas supply using a single gas source. The flowmeters type **Qmed®** fit a needle valve with a knob in color code for the immediate identification of the supplied gas. The body is made of aluminium making it extremely light and giving the possibility to obtain different finishing solutions such as chrome-plating or anodising, this last case in different customised colours.

The measure group is made of high resistance polycarbonate, a high mechanical resistance material that, together with the chrome-plated brass nipples and the aluminium body, makes this device ideal for the toughest applications. Moreover the outlet nipple can be easily manually removed and replaced by the operator, to meet any immediate application requirements.

The flowmeters type **Qmed®** are available in different solutions of pressure calibration and medical gases, various options of scale, normal or extended (L version) to allow a better reading of the indicated values and in several configurations of inlet and outlet connections offering a wide range of combinations to fit every application need.



Qmed® twin

CHROME-PLATED ALUMINIUM BODY  
TWIN CONSTRUCTION



OUTLET CONNECTION  
EASY TO REMOVE AND TO REPLACE





Qmed®

CHROME-PLATED ALUMINIUM BODY  
SINGLE CONSTRUCTION



Qmed®

ANODIZED BODY VERSION  
AVAILABLE IN DIFFERENT COLOURS

**TECHNICAL SPECIFICATIONS | Qmed®**

<b>SIZES (LxWxH)</b>	82x33x142 mm
<b>WEIGHT</b>	0.15 Kg
<b>SUPPLY MAX. PRESSURE</b>	600 kPa
<b>STANDARD END OF SCALE VALUES - 400 kPa</b>	1 L/min. • 4 L/min. • 5 L/min. • 10 L/min. • 15 L/min. • 20 L/min. • 30 L/min. • 50 L/min.
<b>ACCURACY</b>	±10% read value or ±0.5 L/min. (±0.2 L/min. for flow < than 1 L/min.) if greater
<b>STANDARD INLET CONNECTION</b>	ISO G 1/8" F. • ISO G 1/4" M. • 1/4"NPT M. • 3/8" ISO 3253 F. • M 12x1 F.
<b>STANDARD OUTLET CONNECTION</b>	1/4" ISO 3253 M. • 3/8" ISO 3253 M. • M 12x1.25 M. • 9/16" UNF EN 13544-2 M.



# Rs

## VARIABLE AREA OXYGEN FLOWMETERS

The flowmeters type **Rs** are instant flow measuring devices suitable for the dosage of medical gases, in this case oxygen and medical air.

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

The body is manufactured in chrome-plated brass with metal fittings. The measurement group is made of high resistance polycarbonate, making this device ideal for the toughest applications.

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.

The **Rs** flowmeter also offers the possibility to have a flow selector integrated in its body.



**Rs twin**

CHROME-PLATED BRASS BODY  
TWIN CONSTRUCTION



RS ABS KNOB,  
OXYGEN COLOR CODE



Rs

CHROME-PLATED BRASS BODY  
SINGLE CONSTRUCTION



Rs

RS FLOWMETER WITH INTEGRATED  
DF FLOW SELECTOR

➤ DF FLOW SELECTOR, PAGE 24

**TECHNICAL SPECIFICATIONS | Rs for oxygen**

	Rs	Rs WITH INTEGRATED DF FLOW SELECTOR
<b>SIZES (LxWxH)</b>	80x33x136 mm	82x55x180 mm
<b>WEIGHT</b>	0.24 Kg	0.38 Kg
<b>SUPPLY MAX. PRESSURE</b>	600 kPa	
<b>END OF SCALE VALUES - 350 kPa</b>	1 L/min. • 4 L/min. • 5 L/min. • 10 L/min. • 15 L/min. • 20 L/min. • 30 L/min. • 50 L/min.	
<b>ACCURACY</b>	±10% read value or ±0.5 L/min. (±0.2 L/min. for flow < than 1 L/min.) if greater	
<b>INLET CONNECTION</b>	ISO G 1/8" F. • ISO G 1/4" M. • 1/4"NPT M. • 3/8" ISO 3253 F. • M 12x1 F.	
<b>OUTLET CONNECTION</b>	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.	



# EasyMED<sup>®</sup> PLUS

## CALIBRATED ORIFICES FLOWMETERS

The **EasyMED<sup>®</sup> PLUS** flowmeters are instant flow measurement devices with calibrated orifices for medical gases supply and dosage, particularly suitable in oxygen therapy, offered both in single or twin flowmeter execution to allow double and separate gas flow by using a single medical gas supply source.

They are manufactured with an integrated pressure reducer for the supplied pressure stabilization and with an outlet nipple having two connection threads on the two ends for an easy and quick interchangeability. The operators can get two options of outlet thread by simply reversing the nipple, depending on the required applications.

The body is made of impact-resistant polymer with brass chrome-plated fittings, while a large ergonomic control knob with Soft Grip inserts allows the operator to easily adjust the gas flow among the 10 possible preset options.

The calibration of the gas flow is ensured by orifices got on a metal support with the laser technology. The I/O switch button allows the operator to quickly lock and reactivate the flowmeter gas supply, keeping unchanged the previous flow preset value.

The small size structure and the particular technical configuration allow the **EasyMED<sup>®</sup> PLUS** "dial" flowmeters to be able to supply flows of medical gas with extreme accuracy, even in the most difficult conditions, such as in emergency mobile units. They do not need, compared to conventional variable area flowmeters having vertical indicator, to be always and only used in the upright position.



01 NIPPLE WITH DOUBLE THREAD, INTERCHANGEABLE BY THE END USER

02 I/O SWITCH. QUICK PUSH SWITCH BUTTON

03 ADJUSTING KNOB WITH SOFT GRIP INSERTS FOR EASY HANDLING

### REGULATION VALUES FOR THE DIFFERENT END OF SCALE FLOWS

		STEP VALUES									
END OF SCALES	6 L/min.	0,00	0,25	0,50	1,00	1,50	2,00	3,00	4,00	5,00	6,00
	14 L/min.	0,00	0,50	1,00	2,00	4,00	6,00	8,00	10,00	12,00	14,00
	15 L/min.	0,00	0,50	1,00	2,00	3,00	4,00	6,00	9,00	12,00	15,00
	30 L/min.	0,00	1,00	2,00	4,00	8,00	12,00	16,00	20,00	25,00	30,00
	50 L/min.	0,00	1,00	2,00	3,00	6,00	9,00	12,00	15,00	30,00	50,00

**TECHNICAL SPECIFICATIONS | EasyMED® PLUS**

<b>SIZES (LxWxH)</b>	61x104x78 mm
<b>WEIGHT</b>	0.19 Kg
<b>GAS SUPPLY PRESSURE</b>	280÷600 kPa with an integrated pressure reducer for the stabilization of supplied pressure
<b>GASES OPTIONS</b>	O <sub>2</sub> • Air
<b>END OF SCALE VALUES</b>	6 L/min. • 14 L/min. • 15 L/min. • 30 L/min. • 50 L/min.
<b>ACCURACY</b>	±10% read value or ±0.5 L/min. (±0.2 L/min. for flows < than 1 L/min.) if greater
<b>STANDARD INLET CONNECTION</b>	ISO G 1/4" M. • 1/4" NPT M. Nipple with double thread, interchangeable by the end user:
<b>STANDARD OUTLET CONNECTION</b>	M12x1.25 M • 1/4" ISO 3253 M. 9/16" UNF EN 13544-2 M. • 1/4" ISO 3253 M. M12x1.25 M • 9/16" UNF EN 13544-2 M.
<b>FLOW CALIBRATION DATA</b>	1013 mbar 23 °C
<b>FLOW RATES</b>	10 (0+9 preset values)



# EASYMED®

## CALIBRATED ORIFICES OXYGEN FLOWMETERS

The flowmeters type **EASYMED®** are top-quality instant flow measurement devices with calibrated orifices for regulating the dosage of oxygen and air in medical applications.

They are manufactured with an integrated pressure reducer for the supplied pressure stabilization and with the outlet fitting with thread adapted to the various required applications.

The body is made of impact-resistant polymer with brass plated fittings, while a large ergonomic control knob allows an operator smooth drive for the selection of the gas supply value among the 10 possible options. The calibration of the flow is ensured by orifices got on a metal support with the laser technology. The small size structure and the particular technical configuration allow the **EASYMED®** "dial" flowmeters to be able to supply flows of medical gas with extreme accuracy even in the most difficult conditions, such as in emergency mobile units.

They do not need, compared to conventional variable area flowmeters having vertical indicator, to be always and only used in the upright position.

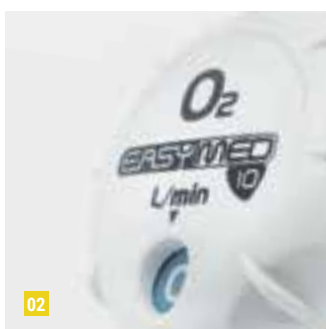


EASYMED® twin



01 FLOW INDICATOR: EASY AND IMMEDIATE READING; TEN READING VALUES, TO IMPROVE LOW FLOWS REGULATION

02 ERGONOMIC KNOB



### REGULATION VALUES FOR THE DIFFERENT END OF SCALE FLOWS

		STEP VALUES									
END OF SCALES	6 L/min.	0,00	0,25	0,50	1,00	1,50	2,00	3,00	4,00	5,00	6,00
	14 L/min.	0,00	0,50	1,00	2,00	4,00	6,00	8,00	10,00	12,00	14,00
	15 L/min.	0,00	0,50	1,00	2,00	3,00	4,00	6,00	9,00	12,00	15,00
	30 L/min.	0,00	1,00	2,00	4,00	8,00	12,00	16,00	20,00	25,00	30,00
	50 L/min.	0,00	1,00	2,00	3,00	6,00	9,00	12,00	15,00	30,00	50,00



▲  
EASYMED®



▲  
THE EASYMED® FLOWMETER FITTING A SINGLE-PATIENT HUMIDIFIER AND A PROBE FOR DIRECT CONNECTION ON WALL OUTLET. THE SYSTEM LOOKS COMPACT AND EASY TO HANDLE AND TO USE

► OXITER® OXYGEN THERAPY SINGLE-PATIENT HUMIDIFIER, PAGE 38

TECHNICAL SPECIFICATIONS   EASYMED®	
<b>SIZES (LxWxH)</b>	82x54x65 mm
<b>WEIGHT</b>	0.12 Kg
<b>SUPPLY PRESSURE</b>	280÷600 kPa with integrated pressure regulator for the supplied pressure stabilization
<b>ACCURACY</b>	±10% read value or ±0.5 L/min. (±0.2 L/min. for flow < than 1 L/min.) if greater
<b>STANDARD SUPPLY CONNECTION</b>	ISO G 1/4" M. • 1/4" NPT M.
<b>STANDARD GAS OUTLET CONNECTION</b>	M12x1.25 M • 1/4" ISO 3253 M. • 3/8" ISO 3253 M. • 9/16" UNF EN 13544-2 M.
<b>GASES OPTIONS</b>	O <sub>2</sub> • Air
<b>STANDARD FULL SCALE FLOW RATE</b>	6 L/min. • 14 L/min. • 15 L/min. • 30 L/min. • 50 L/min.
<b>FLOW RATES</b>	10 (0+9 preset values)
<b>FLOW CALIBRATION DATA</b>	1013 mbar 23 °C



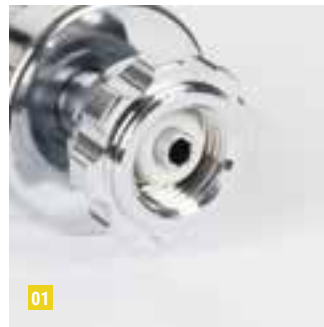
# DF

## FLOW SELECTOR FOR AEROSOL THERAPY

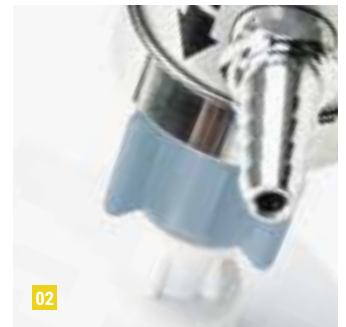
The **DF** flow selector, used in conjunction with **Rs** and **Qmed**® flowmeters, allows to divert the supplied gas through an humidifier or through a hose connector to connect devices used for aerosol therapy.

It fits a threaded ring to connect the flowmeter, while the flow can be easily directed to the humidifier for oxygen therapy, through the axial outlet, otherwise the flow can be diverted through a side hose connector for aerosol therapies.

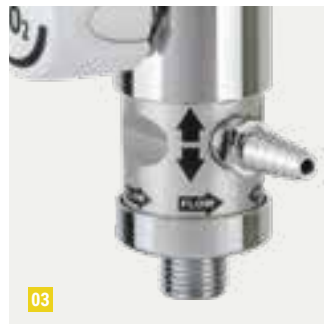
A synoptic printed on the body of the **DF** flow selector helps the operators to easily control the selected flow direction.



01



02



03

01 CONNECTION TO THE FLOWMETERS WITH DIFFERENT THREADS

02 CONNECTION TO THE HUMIDIFIERS WITH DIFFERENT THREADS

03 DF FLOW SELECTOR INTEGRATED IN THE **Rs** FLOWMETER

➤ **OXITER**® OXYGEN THERAPY SINGLE-PATIENT HUMIDIFIER, PAGE 38

➤ **Rs** VARIABLE AREA OXYGEN FLOWMETER, PAGE 18






#### TECHNICAL SPECIFICATIONS | DF

<b>SIZES (LxWxH)</b>	32x54x69 mm
<b>WEIGHT</b>	0.16 Kg
<b>SUPPLY MAX. PRESSURE</b>	500 kPa
<b>MAX. PRESSURE DROP WITH FLOW 15 L/MIN. O<sub>2</sub></b>	9.20 kPa
<b>INLET CONNECTION</b>	1/4" ISO 3253 F. M12x1.25 F. • 9/16" UNF EN 13544-2 F.
<b>OUTLET CONNECTION</b>	1/4" ISO 3253 M. M12x1.25 M. • 9/16" UNF EN 13544-2 M.
<b>HOSE CONNECTOR FOR AEROSOL CIRCUIT</b>	Ø 6÷9 mm
<b>PRESSURE DROP AT THE HUMIDIFIER SIDE WITH FLOW 20 L/min.</b>	17 kPa
<b>PRESSURE DROP AT THE AEROSOL SIDE WITH FLOW 20 L/min.</b>	34 kPa

## OXYGEN THERAPY PRESSURE REGULATORS

01	 <b>EasyCARE® PLUS</b> pressure regulator	28
02	<b>EASYCARE®</b> pressure regulator	30
03	<b>FM</b> pressure regulator for oxygen therapy	32

## OXYGEN THERAPY

04	<b>Qmed®</b> variable area oxygen flowmeter	16
05	<b>Rs</b> variable area oxygen flowmeter	18
06	Flowmeter outlet hose connector	42
07	 <b>EasyOX®</b> bubbling humidifier	36
08	<b>OXITER®</b> oxygen therapy single-patient humidifier	38
09	<b>CH/200 PC</b> oxygen therapy humidifier	34
10	<b>TR/200 PC (or PSU)</b> oxygen therapy humidifier	34
11	<b>MAK/300 PC</b> oxygen therapy humidifier	34
12	<b>MAK/500 PC</b> oxygen therapy humidifier	34

## CONNECTIONS AND ACCESSORIES FOR OXYGEN THERAPY DEVICES

<b>E</b>	<b>CYLINDER INLET CONNECTIONS FOR OXYGEN PRESSURE REGULATORS</b>	43
	Pin Index EN 850 (or CGA 870)	
	AFNOR NF-E 29-656	
	DIN 477-1	
	UNI 11144	
	BS 341-3	
	CGA 540	

## TERMINAL UNITS AND ACCESSORIES

<b>F</b>	<b>TERMINAL UNITS - COMPONENTS - OUTLETS</b>	121
	AFNOR NF-S 90-116/NF-DS 90-119	
	UNI 9507 NEO	
	BS 5682	
	DIN 13260	
	SS 875 24 30	

# DIAGRAM OF OPTIONS

MATCHING PRESSURE REGULATORS - CONNECTIONS - HUMIDIFIERS



50<sup>TH</sup>



EASY LINE

DOWNLOAD  
THE PRODUCT SHEET

# EasyCARE<sup>®</sup> PLUS

## PRESSURE REGULATORS

The **EasyCARE<sup>®</sup> PLUS** two stage pressure regulators are suitable for direct mounting on oxygen and medical air cylinders.

The structure is very compact and lightweight and they are particularly suitable for oxygen therapy. The body is made of brass and aluminium with an integrated calibrated orifices "dial" flowmeter having 10 preset medical gas flow options and it is housed inside a techno polymer shock proof shell to protect the assembly, while a large ergonomic control knob with Soft Grip inserts allows the operator to easily adjust the gas flow between the 10 possible preset options. They are equipped with a preset overpressure safety valve, and can be supplied, as an option, with a terminal unit connected to the first stage chamber which allows to get an additional and separate source of medical gas. The inlet connection is offered in several options, as per the different reference standards of the destination Countries. The outlet is through a nipple having two connection threads on the two ends for an easy and quick interchangeability. The operators can get two options of outlet thread by simply reversing the nipple, depending on the required applications.

The pressure calibration of the individual stages is fixed and a pressure gauge with easy reading colored sections allows to get view continuously of the cylinder gas level, up to minimum allowed. A protective silicone cover and a techno-polymer support prevent gauge damages caused by possible shocks received during transport or use. The gauge tilted position helps in reading even if the regulator is assembled on cylinders having small dimensions. The small size structure and the particular technical configuration allow the **EasyCARE<sup>®</sup> PLUS** pressure regulators to supply flows of medical gases like oxygen with extreme accuracy, even in the most difficult conditions, such as in mobile units of emergency. In fact, being the integrated flowmeter a calibrated orifices type, there is no need to get it always and only used in the upright position, as required in case of use of pressure regulators fitting conventional variable area flowmeters with vertical reading values scales.



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01 NIPPLE WITH DOUBLE THREAD, INTERCHANGEABLE BY THE END USER

02 GAUGE WITH EASY READING COLORED SECTIONS TO ALLOW THE CONTINUOUS CONTROL OF THE CYLINDER GAS LEVEL. GAUGE FIT IN TILTED POSITION TO HELP THE GAS LEVEL READING EVEN IF THE REGULATOR IS ASSEMBLED ON CYLINDERS HAVING SMALL DIMENSIONS

03 BIG SIZE KNOB, WITH SOFT GRIP INSERTS FOR EASY HANDLING

04 PROTECTIVE SILICONE COVER AND TECHNO-POLYMER SUPPORT

### REGULATION VALUES FOR THE DIFFERENT END OF SCALE FLOWS

		STEP VALUES									
END OF SCALES	6 L/min.	0,00	0,25	0,50	1,00	1,50	2,00	3,00	4,00	5,00	6,00
	14 L/min.	0,00	0,50	1,00	2,00	4,00	6,00	8,00	10,00	12,00	14,00
	15 L/min.	0,00	0,50	1,00	2,00	3,00	4,00	6,00	9,00	12,00	15,00
	30 L/min.	0,00	1,00	2,00	4,00	8,00	12,00	16,00	20,00	25,00	30,00
	50 L/min.	0,00	1,00	2,00	3,00	6,00	9,00	12,00	15,00	30,00	50,00

EXCELLENCE IN INNOVATION  
BREAKTHROUGH TECHNOLOGY  
INTELLIGENT DESIGN





OPTIONAL OUTLET

**TECHNICAL SPECIFICATIONS | EasyCARE® PLUS**

<b>SIZES (LxWxH)</b>	57x160x128 mm (with UNI 11144 cylinder connection and without optional terminal unit)
<b>WEIGHT</b>	0.75 Kg (without optional terminal unit)
<b>MAXIMUM GAS SUPPLY PRESSURE</b>	200 bar
<b>PRESSURE CONTROL GAUGE</b>	315 bar end of scale
<b>END OF SCALE STANDARD FLOW VALUES</b>	6 L/min. • 14 L/min. • 15 L/min. • 30 L/min. • 50 L/min.
<b>FLOW RATES</b>	10 (0+9 preset values)
<b>GASES OPTIONS</b>	O <sub>2</sub> • AIR
<b>DIAL FLOWMETER ACCURACY</b>	±10% read value or ±0.5 L/min. (±0.2 L/min. for flows < than 1 L/min.) which of the two greater
<b>PRESSURE REDUCER ASSY</b>	double stage with shutter system
<b>FLOW SETTING DATA</b>	1013 mbar 23 °C
<b>INLET CYLINDER CONNECTIONS</b>	UNI 11144 • EN 850 • NF-E 29-656 • BS 341-3 • DIN 477-1 • ISO 5145 • CGA 540 Nipple with double thread, interchangeable by the end user:
<b>OUTLET CONNECTIONS</b>	M12x1.25 M. • 1/4" ISO 3253 M. 9/16" UNF EN 13544-2 M. • 1/4" ISO 3253 M. M12x1.25 M. • 9/16" UNF EN 13544-2 M.
<b>TERMINAL UNIT (OPTIONAL)</b>	AFNOR NF-S 90-116 • UNI 9507 • BS 5682 • DIN 13260 • SS 875 24 30
<b>SUPPLY PRESSURE</b>	360÷550 kPa (with cylinder pressure between 200 and 60 bar and constant flow of 40 L/min. 23 °C)



# EASYCARE®

## PRESSURE REGULATORS

The **EASYCARE®** two stage pressure regulator is suitable for direct mounting on oxygen cylinders.

The structure is very compact and lightweight and it is particularly suitable for oxygen therapy.

The body is made of brass and chrome-plated aluminum with an integrated impact resistant polymer calibrated orifices flowmeter with 10 options of flow oxygen supply. It is equipped with a pre-calibrated overpressure safety valve, and with a terminal unit (optional) connected to the first stage chamber which allows to get an additional and separate source of oxygen or air supplied at 4 bar.

The inlet connection is offered in several options, as per the different reference standards of the destination Countries, and the outlet too is available with threads adapted to different applications. The pressure calibration of the individual stages is fixed and a pressure gauge allows to get view of the cylinder contents. A protective silicone cover prevents gauge damages caused by possible shocks received during transport or use.

The small size structure and the particular technical configuration allow the **EASYCARE®** pressure reducers to get flows of medical gases like oxygen dispensed with extreme accuracy, even in the most difficult conditions, such as in mobile units of emergency.

In fact, being the integrated flowmeter a calibrated orifices type, there is no need to get it always and only used in the upright position, as required in case of use of pressure regulator fitting conventional variable area flowmeters with vertical indicator.



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01 EASY READING OF THE O<sub>2</sub> FLOW;  
TEN READING VALUES TO IMPROVE  
LOW FLOWS REGULATION

02 DETAIL OF OPTIONAL OUTLET

03 ERGONOMIC KNOB

### REGULATION VALUES FOR THE DIFFERENT END OF SCALE FLOWS

		STEP VALUES									
END OF SCALES	6 L/min.	0,00	0,25	0,50	1,00	1,50	2,00	3,00	4,00	5,00	6,00
	14 L/min.	0,00	0,50	1,00	2,00	4,00	6,00	8,00	10,00	12,00	14,00
	15 L/min.	0,00	0,50	1,00	2,00	3,00	4,00	6,00	9,00	12,00	15,00
	30 L/min.	0,00	1,00	2,00	4,00	8,00	12,00	16,00	20,00	25,00	30,00
	50 L/min.	0,00	1,00	2,00	3,00	6,00	9,00	12,00	15,00	30,00	50,00

**TECHNICAL SPECIFICATIONS | EASYCARE®**

<b>SIZES (LxWxH)</b>	147x55x117 mm (with UNI 11144 cylinder connection and without optional terminal unit)
<b>WEIGHT</b>	0.81 Kg (without optional outlet)
<b>MAXIMUM INLET PRESSURE</b>	200 bar
<b>GASES OPTIONS</b>	O <sub>2</sub> • AIR
<b>STANDARD FLOW RANGE</b>	6 L/min. • 14 L/min. • 15 L/min. • 30 L/min. • 50 L/min.
<b>FLOW RATES</b>	10 (0+9 preset values)
<b>FLOWMETER ACCURACY</b>	±10% read value or ±0.5 L/min. (±0.2 L/min. for flow < than 1 L/min.) if greater
<b>INLET CONNECTION TO THE CYLINDER</b>	UNI 11144 • EN 850 • NF-E 29-656 • BS 341-3 • DIN 477-1 • ISO 5145 • CGA 540
<b>OUTLET CONNECTION</b>	1/4" ISO 3253 M. • 3/8" ISO 3253 M. • M12x1.25 M. • 9/16" UNF EN 13544-2 M.
<b>TERMINAL UNIT (OPTIONAL)</b>	AFNOR NF-S 90-116 • UNI 9507 • BS 5682 • DIN 13260 • SS 875 24 30



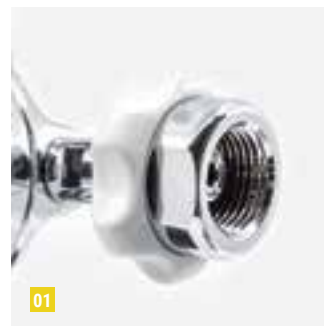
# FM

## PRESSURE REGULATORS FOR OXYGEN THERAPY

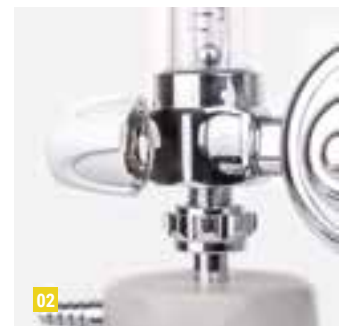
The single-stage **FM** pressure regulators, in their application in oxygen, are suitable for direct mounting on oxygen cylinders.

They are produced with oxygen cylinder connection fitting in the different reference standards of the destination Countries and with a direct connection to a **Rs** series variable area flowmeter. This is supplied in some options regarding the scale reading values and the outlet threads, suitable to connect a humidifier or a simple hose connector. The **FM** pressure regulators are designed for use with preset outlet pressure value.

The structure and the fittings are in brass and the pressure relief valve is pre-calibrated, to guarantee protection in case of any system failure. A protective silicone cover prevents gauge damages caused by possible shocks received during transport or use.



01



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- 01 EXAMPLE OF ONE OF MANY CONNECTIONS TO THE CYLINDER
- 02 DIRECT CONNECTION TO A **Rs** FLOWMETER
- 03 PROTECTIVE SILICONE COVER




**TECHNICAL SPECIFICATIONS | FM single gauge for oxygen therapy with humidifier**

	<b>MAX. SIZES (LxWxH)</b>	<b>MAX. WEIGHT</b>
<b>VERSION WITH HOSE CONNECTION ON OUTLET</b>	100x178x161 mm	1.24 Kg
<b>VERSION WITH HUMIDIFIER ON OUTLET</b>	108x180x320 mm	1.40 Kg
<b>MAXIMUM INLET PRESSURE</b>	200 bar	
<b>GASES OPTIONS</b>	O <sub>2</sub> • AIR	
<b>STANDARD FLOW RANGE</b>	5 L/min. • 10 L/min. • 15 L/min. • 30 L/min. • 50 L/min.	
<b>FLOWMETER ACCURACY</b>	±10% read value or ±0.5 L/min. (±0.2 L/min. for flow < than 1 L/min.) if greater	
<b>INLET CONNECTIONS</b>	UNI 11144 • EN 850 • NF-E 29-656 • BS 341-3 • DIN 477- 1 • ISO 5145 • CGA 540	
<b>FLOWMETER OUTLET CONNECTION</b>	1/4" ISO 3253 M. • 3/8" ISO 3253 M. • M12x1.25 M. • 9/16" UNF EN 13544-2 M.	



# CH, TR and MAK

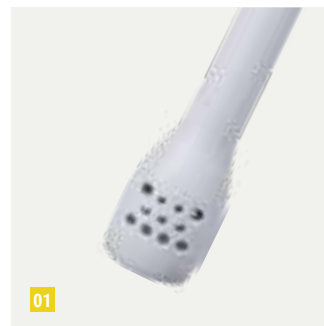
## OXYGEN THERAPY HUMIDIFIERS

The bubbling humidifiers for oxygen therapy series **CH/200**, **TR/200**, **MAK/300** and **MAK/500** are devices used to increase the relative humidity in the treatments with medical oxygen, both in hospital and at home.

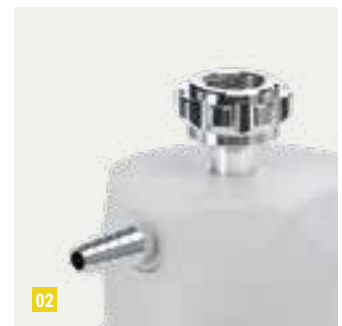
Medical oxygen, as it is normally supplied from hospital plant outlets or cylinders, has not a sufficient degree of humidity to be physiologically tolerated by the patient's airways without collateral consequences. Hence the need to add on oxygen supply devices, such as the flowmeters, suitable devices for the humidification of the gas during dispensing.

Humidifiers for oxygen series **CH/200**, **TR/200**, **MAK/300** and **MAK/500** are manufactured with both the transparent jar and the cover with bubbler in polycarbonate. All fitments are in brass and they can be sterilized in autoclave at 121 °C for 15 min. The model **TR/200** can also be realized in PSU where higher value of sterilization temperature is requested (134 °C - 18 min.). The model **TR/200**, **MAK/300** and **MAK/500** can be equipped with an optional relief valve to avoid the possible over pressure inside the humidifier.

They guarantee, in conjunction with flowmeters **EasyFLOW®**, **Rs**, **Qmed®**, **EASYMED®** and **EasyMED® PLUS**, an easy use and great versatility, combined with an extreme economy. They are supplied in different options of capacity (200 ml, 300 ml and 500 ml) and with optional threads in the input connections, this to satisfy the most varied requirements and needs.



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01 DETAIL OF THE BUBBLE DEVICE

02 DETAIL OF THE LID

03 DETAIL OF THE RELIEF VALVE  
(OPTIONAL)

### TR/200 PSU

THE MODEL TR/200 CAN ALSO  
BE REALIZED IN PSU WHERE  
HIGHER VALUE OF STERILIZATION  
TEMPERATURE IS REQUESTED  
(134 °C - 18 MIN.)



CH/200



TR/200



MAK/300



MAK/500

TECHNICAL SPECIFICATIONS	CH/200	TR/200	MAK/300	MAK/500
INNER MAX. VOLUME	210 ml	120 ml	285 ml	355 ml
SIZES (LxWxH)	55x67x200 mm	60x75x190 mm	70x81x175 mm	70x81x207 mm
WEIGHT	0.11 Kg	0.13 Kg	0.15 Kg	0.16 Kg
MAX. APPLICABLE PRESSURE VALUE	500 kPa			
MAX. APPLICABLE FLOW VALUE	10 L/min.			
INLET CONNECTION	1/4" ISO 3253 F. • 3/8" ISO 3253 F. • M 12x1.25 F. • 9/16" UNF EN 13544-2 F.			
OUTLET CONNECTION	hose connector Ø 6÷9 mm			
RELIEF VALVE (OPTIONAL)	preset at 80 kPa ±10% with a flow equal to 10 L/min.			



# EasyOX<sup>®</sup>

## BUBBLING HUMIDIFIERS

The bubbling humidifiers for oxygen therapy series **EasyOX<sup>®</sup>** are devices used to increase the relative humidity in the treatments with medical oxygen, both for hospital and homecare applications.

Medical oxygen, normally supplied from hospital plants or from cylinders, is not provided with a sufficient degree of humidity to be physiologically tolerated by the patient's airways without collateral consequences. Hence the need to equip oxygen supply devices, such as the flowmeters, with suitable systems for the gas humidification during therapies.

The humidifiers for oxygen series **EasyOX<sup>®</sup>** are completely made of polycarbonate and they can be sterilized in autoclave at 121 °C for 15 min. The advanced design, the interchangeable snap threaded nut, allowing to fit the device in any situation, and the overall ergonomics make the humidifier **EasyOX<sup>®</sup>** particularly innovative. In conjunction with flowmeters **EasyFLOW<sup>®</sup>**, **Rs**, **Qmed<sup>®</sup>**, **EASYMED<sup>®</sup>** and **EasyMED<sup>®</sup> PLUS**, this humidifier guarantees the operators an easy use and great versatility, combined with an extreme economy.

The bottle hollow shape, besides being a design unique element, offers the operator an easy and safe handling and guarantees a higher humidification efficiency.



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04

01 WITH SNAP INSERT, IDENTIFIED WITH COLOR-CODE, PROVIDED WITH DIFFERENT CONNECTIONS TO BE CHOSEN BY THE END USER

02 OPENING BY QUICK 1/12 TURN TO FACILITATE THE HUMIDIFIER FILLING AND CLEANING PROCEDURES

03 AN ERGONOMIC AND BIG SIZE ROTATING NUT ALLOWS TO EASILY CONNECT AND DISCONNECT THE HUMIDIFIER **EasyOX<sup>®</sup>** TO THE OXYGEN SUPPLY DEVICE. 360° ROLLING POSITIONING HOSE CONNECTOR Ø 6÷9 MM

04 DETAIL OF THE RELIEF VALVE

**TECHNICAL SPECIFICATIONS | EasyOX®**

<b>INNER MAXIMUM VOLUME</b>	190 ml
<b>SIZE (LxWxH)</b>	89x84x161 mm
<b>WEIGHT</b>	0.13 Kg
<b>MAXIMUM APPLICABLE PRESSURE VALUE</b>	80 kPa
<b>MAXIMUM APPLICABLE FLOW VALUE</b>	10 L/min.
<b>INLET CONNECTION</b>	9/16" UNF EN 13544-2 F. • 1/4" ISO 3253 F. M 12x1.25 F. • 3/8" ISO 3253 F.
<b>OUTLET CONNECTION</b>	hose connector $\varnothing$ 6÷9 mm



# OXITER®

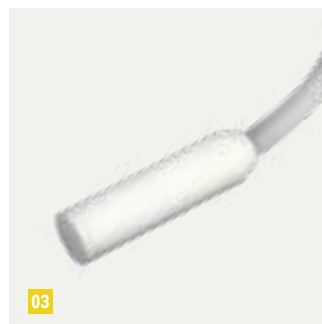
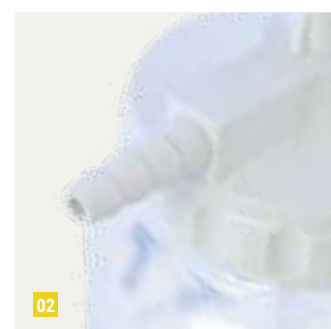
## OXYGEN THERAPY SINGLE-PATIENT HUMIDIFIERS

The **OXITER®** bubbling humidifiers are single patient devices used to increase the relative humidity in the treatments with medical oxygen both in hospital and at home.

Medical oxygen, as it is normally supplied from hospital plant outlets or cylinders, has not sufficient degree of humidity to be physiologically tolerated by the patient's airways without collateral consequences. Hence the need to add on oxygen supply devices, such as the flowmeters, suitable devices for the humidification of the gas during dispensing.

The **OXITER®** single-patient bubbling humidifiers are made of a polycarbonate jar and of a cover and remaining structure in ABS. They are supplied in packs of 20 pieces.

The bubbling device guarantees the best supplied oxygen humidification, maintaining a noise level far below the limits of the reference standard (<50 dB at 1 m) and thus giving acceptable comfort to the patient, especially in prolonged respirators treatments. They guarantee, in conjunction with flowmeters **EasyFLOW®**, **Rs**, **Qmed®**, **EASYMED®** and **EasyMED® PLUS**, an easy use and great versatility, combined with an extreme economy.



01 CONNECTIONS: EASY AND INTUITIVE;  
A COLOR CODE HIGHLIGHTS THE  
MATCH TO DIFFERENT FLOWMETER  
OUTLET THREADS

02 SCREW LID DETAIL

03 DETAIL OF THE BUBBLE DEVICE


**TECHNICAL SPECIFICATIONS | OXITER®**

<b>INNER VOLUME</b>	285 ml
<b>SIZES (LxWxH)</b>	70x83x178 mm
<b>WEIGHT</b>	0.08 Kg
<b>MAX. APPLICABLE PRESSURE VALUE</b>	500 kPa
<b>MAX. APPLICABLE FLOW VALUE</b>	10 L/min.
<b>INLET CONNECTION</b>	1/4" ISO 3253 F. • 9/16" UNF EN 13544-2 F.
<b>OUTLET CONNECTION</b>	hose connector Ø 6÷9 mm
<b>HUMIDIFICATION POWER WITH OXYGEN SUPPLY (RELATIVE HUMIDITY AT 18.7 °C)</b>	
<b>INPUT</b>	14%
<b>OUTPUT</b>	89%
<b>AFTER 2 mt. TUBE Ø 5 mm WITH MASK</b>	73%



# CONNECTIONS AND ACCESSORIES

## FOR OXYGEN THERAPY DEVICES

The flowmeters for oxygen therapy applications can be supplied completed with probes of our production for direct coupling into the terminal units.

### OXYGEN PROBES WITH THREAD CONNECTION



**AFNOR NF-S 90-116** probe, thread ISO G. 1/4" F.



**AFNOR NF-S 90-116 type EASYFIX®** probe, thread ISO G. 1/4" F.



**UNI 9507** probe, thread ISO G. 1/4" F.



**BS 5682** probe, thread ISO G. 1/4" F.



**DIN 13260** probe, thread ISO G. 1/4" F.



**SS 875 24 30** probe, thread ISO G. 1/8" M. or ISO G. 1/4" F.



**JIS T 7101** probe, thread ISO G. 1/8" M.



**SANS 1409** probe, thread ISO G. 1/4" F.



**OHMEDA** probe, thread ISO G. 1/8" M.



Otherwise, the pressure regulators are always supplied with special oxygen cylinder connections designed and made according to the various national and international standards. The oxygen flowmeter probes support frequent connections and detachments to the medical gas distribution systems, while the pressure regulators must guarantee perfect sealing

and safety, when connected to the gas cylinders. The following pages contain main information regarding the available range of probes with thread connection and hose connection, for mounting on wall rails or floor stands. The pressure regulators cylinder connections too are available in the most popular options. Detailed or specific solutions are available on request.

## OXYGEN PROBES WITH HOSE CONNECTION



**AFNOR NF-S 90-116** type **EASYFIX®** probe, hose connection Ø 6 mm.



**UNI 9507** probe, hose connection Ø 6 mm.



**BS 5682** probe, hose connection Ø 6 mm.



**DIN 13260** probe, hose connection Ø 6 mm.



**SS 875 24 30** probe, hose connection Ø 6 mm.



**JIS T 7101** probe, hose connection Ø 6 mm.



**SANS 1409** probe, hose connection Ø 6 mm.



**OHMEDA** probe, hose connection Ø 6 mm.

## FLOWMETER OUTLET HOSE CONNECTION

Polypropylene hose connector, three inlet threads (1/4" ISO 3253 F. 9/16" UNF EN 13544-2 F.M12x1.25 F.), outlet tubing Ø 6÷9 mm. (supplied in packs of 5 pieces)



## RAIL CLAMPING SYSTEMS FOR OXYGEN FLOWMETERS



Anodized aluminum clamp bracket for rail 50x10 mm, with nipple threaded ISO G. 1/4" F. and hose connector Ø 6 mm.



ABS clamp bracket for rail 30x10 mm, with nipple threaded ISO G. 1/4" F. and hose connector Ø 6 mm.



Anodized aluminum wedge for OHMEDA rail clamp bracket, with nipple threaded ISO G. 1/4" F. and hose connector Ø 6 mm.



Anodized aluminum OHMEDA rail clamp bracket.

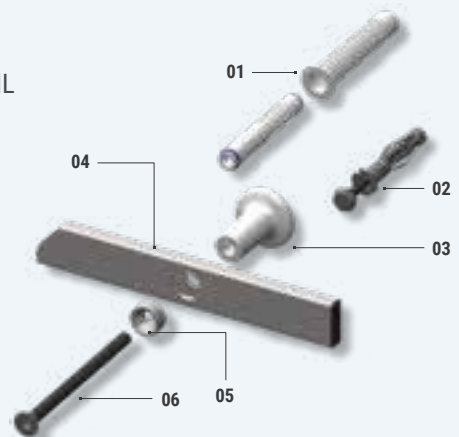
## STAINLESS STEEL RAIL



Stainless steel rail 30x10 mm, brushed, with spacers and fittings, various lengths.

### DIRECTORY - COMPONENTS DETAIL

- 01. Chemical fixings
- 02. Plasterboard fixings
- 03. Rail spacer
- 04. Rail
- 05. Bolt washer
- 06. Bolt



## CYLINDER INLET CONNECTIONS FOR OXYGEN PRESSURE REGULATORS



**EN 850 (or CGA 870)** "pin-index" yoke cylinder connection.



**AFNOR NF-E 29-656** cylinder connection.



**DIN 477-1** cylinder connection.



**UNI 11144** cylinder connection.



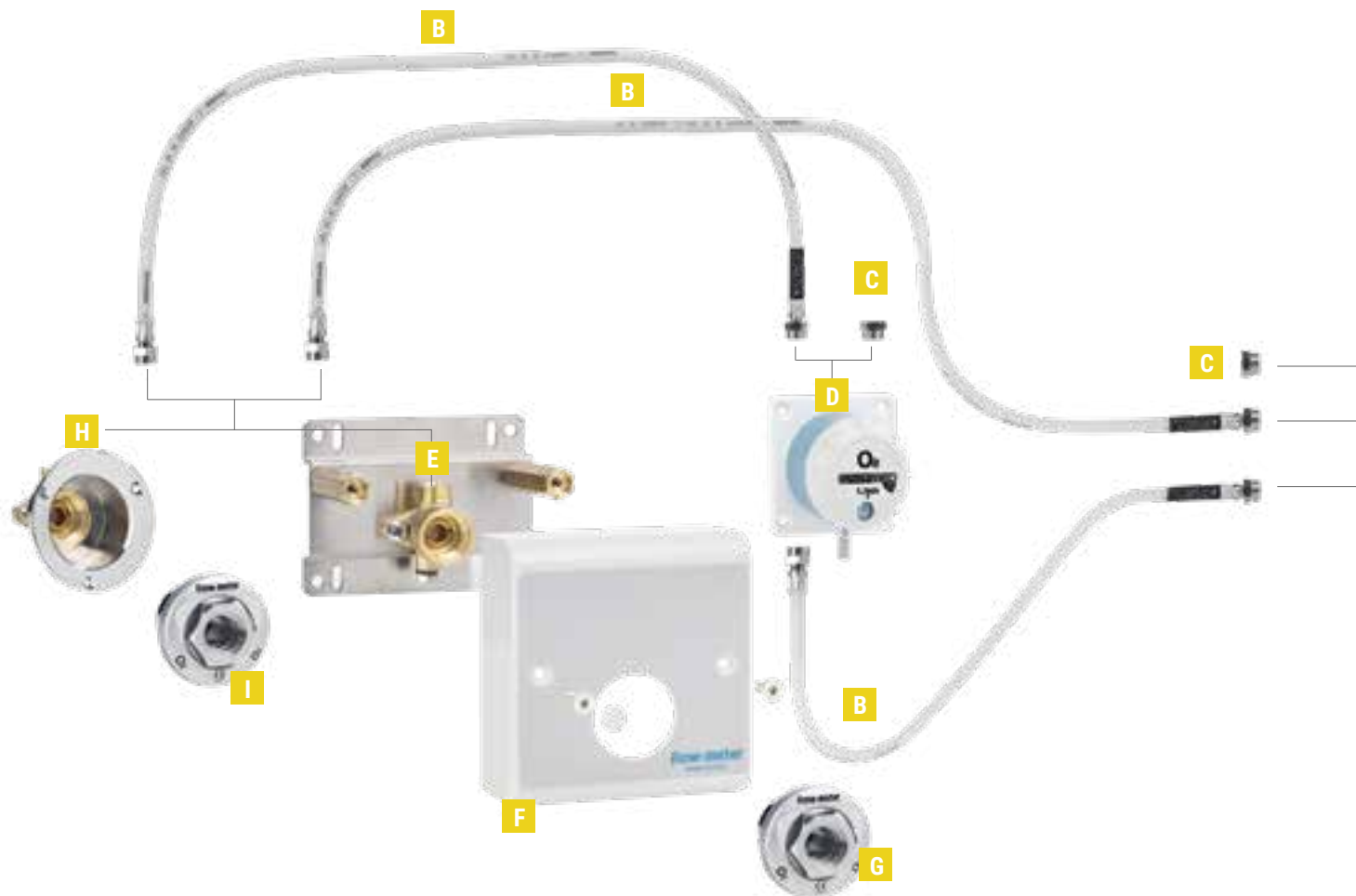
**BS 341-3** "bull nose" cylinder connection.



**CGA 540** cylinder connection.

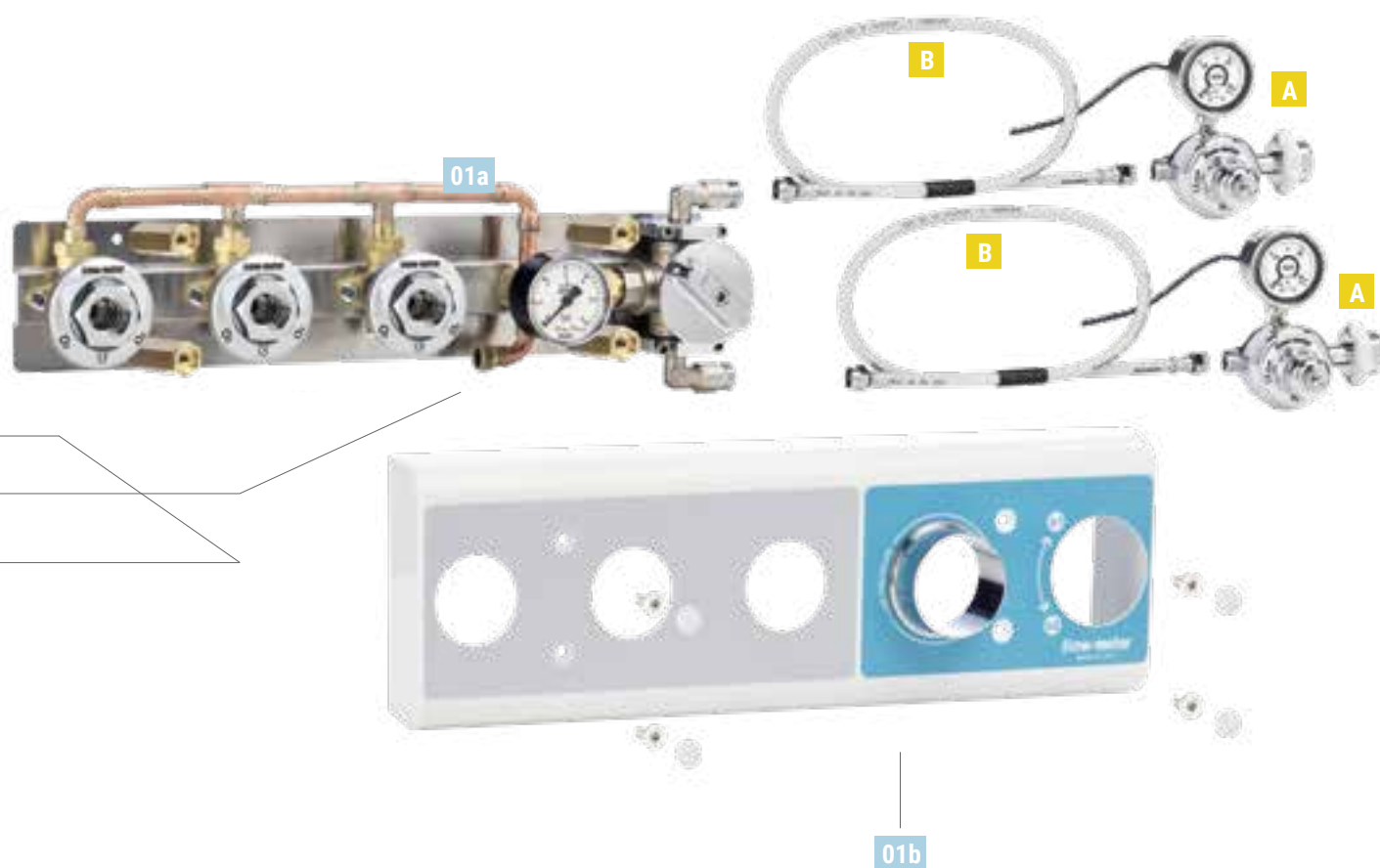
## DIAGRAM OF OPTIONS

### OXYGEN SUPPLY SYSTEM FOR AMBULANCES



### OXYGEN SUPPLY SYSTEM FOR AMBULANCES

01a	Oxygen terminal units system for ambulances	46
01b	Stainless steel cover panel	46



### CONNECTION AND ACCESSORIES FOR OXYGEN SUPPLY SYSTEM FOR AMBULANCES

A	FM pressure regulator with electrical signal	48-90
B	Low pressure hose for oxygen system for ambulances	48
C	Plug to close the system	48
D	EASYMED® calibrated orifices oxygen flowmeter with panel for ambulances	48
E	Socket for Oxygen Terminal Unit	49-122
F	Surface mounted case with stainless steel cover panel one position	49-120
G	Oxygen outlet	49-121
H	Socket with nut for panel mounting	49-122
I	Oxygen outlet	49-121



# OXYGEN SUPPLY SYSTEMS

## FOR AMBULANCES

The oxygen supply systems in ambulances allow the oxygen distribution through terminal units granting, moreover, the connection to mobile sources, such as medical gases cylinders, by means of suitable pressure regulators.

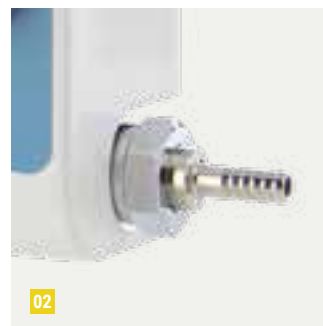
They are available in configurations of one, two or three terminal units and with 2 inlets for the connection to the cylinders that can be activated separately by a selector. Different devices necessary for ventilation therapies or for general medical applications and fitted with proper quick probes can be connected to the terminal units, available in different standards.

The O<sub>2</sub> supply systems for ambulances mainly consist of:

- a stainless steel bottom support with holes for wall fixing;
- a selector enabling the operator to switch the supply source normally consisting in a medical gas cylinder fitted with pressure regulator;
- a copper pipe, bent and welded with cadmium free silver alloy. The copper pipe is a Class II A medical device, CE marked according to 93/42/EEC Directive and following amendments and conforming to the specifications of the UNI EN 13348 standards;
- one or more oxygen terminal units. These terminal units are designed and manufactured according to the different standards and they are safe and simple to use for the operator. The terminal units are Class II B medical devices, CE marked according to 93/42/EEC Directive and following amendments and conforming to the specifications of the referenced standards;
- a gauge for the control of the line pressure, to grant the correct performance of the system and the oxygen supply continuity;
- two nipples with gas-specific threads to univocally connect the supply by means of low pressure hose assemblies properly banded and conforming to the specifications of UNI EN ISO 5359 standards (optional);
- a painted stainless steel cover panel with mounting fittings (optional).



01



02

- 01 STAINLESS STEEL BOTTOM SUPPORT WITH HOLES FOR WALL FIXING
- 02 NIPPLES WITH GAS-SPECIFIC THREADS TO UNIVOCALLY CONNECT THE SUPPLY BY MEANS OF LOW PRESSURE HOSE ASSEMBLIES PROPERLY BANDED AND CONFORMING TO THE SPECIFICATIONS OF UNI EN ISO 5359 STANDARDS (OPTIONAL)




**TECHNICAL SPECIFICATIONS | O<sub>2</sub> supply system for ambulances**

<b>SIZES (LxWxH)</b>	1 terminal unit version: 87.5x270x130 mm 2 terminal units version: 87.5x355x130 mm 3 terminal units version: 87.5x440x130 mm
<b>WORKING PRESSURE</b>	4.0 bar ±20%
<b>SUPPLY GAS</b>	oxygen
<b>LINE PRESSURE CONTROL GAUGE</b>	end of scale 6.0 bar diam. 50 mm. Cl. 2.5
<b>SUPPLY CONNECTIONS</b>	thread M16x1.25 M. (UNI 9507)
<b>TERMINAL UNITS STANDARDS</b>	AFNOR NF-S 90-116 • UNI 9507 • BS 5682 • DIN 13260 • SS 875 24 30

OXYGEN SUPPLY SYSTEM FOR AMBULANCES | ACCESSORIES FOR AMBULANCE SYSTEM



**FM** - Pressure regulator with special gauge for ambulances.

**TECHNICAL SPECIFICATIONS**

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

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.



**EASYMED®** - Calibrated orifices Oxygen flowmeter complete with panel for ambulances supplied with mounting fittings. The flowmeter is manufactured with an integrated pressure reducer for the supplied pressure stabilization. It has also a flow indicator with 10 possible options and it is available with different end of scales.

**REGULATION VALUES FOR THE DIFFERENT END OF SCALE FLOWS**

		STEP VALUES									
<b>END OF SCALES</b>	<b>6 L/min.</b>	0,00	0,25	0,50	1,00	1,50	2,00	3,00	4,00	5,00	6,00
	<b>14 L/min.</b>	0,00	0,50	1,00	2,00	4,00	6,00	8,00	10,00	12,00	14,00
	<b>15 L/min.</b>	0,00	0,50	1,00	2,00	3,00	4,00	6,00	9,00	12,00	15,00
	<b>30 L/min.</b>	0,00	1,00	2,00	4,00	8,00	12,00	16,00	20,00	25,00	30,00
	<b>50 L/min.</b>	0,00	1,00	2,00	3,00	6,00	9,00	12,00	15,00	30,00	50,00
	<b>50 L/min.</b>	0,00	1,00	2,00	3,00	6,00	9,00	12,00	15,00	30,00	50,00



FLOW INDICATOR: EASY AND IMMEDIATE READING; TEN READING VALUES, TO IMPROVE LOW FLOWS REGULATION



**LOW PRESSURE HOSES FOR OXYGEN** with gas specific connection to the ambulance system and available with following lengths: 0.75 m - 1.5 m - 2.5 m - 4.5 m

**PLUG** with gas specific thread to close the system.

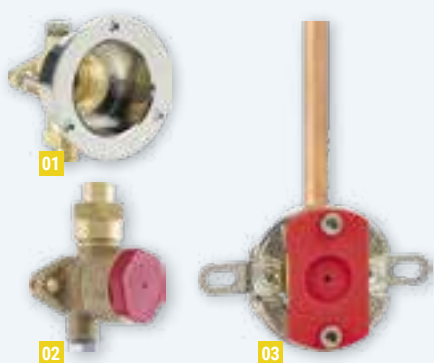






**SURFACE MOUNTED CASE** with stainless steel cover panel one position for housing **AFNOR NF-S 90-116, UNI 9507, DIN 13260, BS 5682, SS 875 24 30** outlets.

➤ TECHNICAL DETAILS ON PAGE 120



**OXYGEN SOCKET** for:

01. panel mounting with gas specific thread available for **AFNOR NF-S 90-116** and **UNI 9507** outlets only.
02. **AFNOR NF-S 90-116** and **UNI 9507** outlets with gas specific thread, complete with nut and copper welding tube nipple.
03. **DIN 13260, BS 5682, SS 875 24 30** outlets.



**OXYGEN OUTLET** type:

01. **AFNOR NF-S 90-116** with gas specific thread **UNI 9507**
02. **UNI 9507** with gas specific thread **UNI 9507**
03. **DIN 13260**
04. **BS 5682**
05. **SS 875 24 30**



**GAS IDENTIFICATION LABELS** suitable for fitting on surface mounted case for:

01. **AFNOR NF-S 90-116**
02. **DIN 13260, BS 5682, SS 875 24 30**

# 02 SUCTION OF FLUIDS

The range of devices with applications in suction of fluids includes: **vacuum regulators devices to be connected to centralized vacuum systems**, even with low scale for pediatric applications, **and the matched fluid collection containers for small volumes**, which also have function to protect the plant, the large fluid collection containers of various capacities, both reusable and disposable, the **water manometers**, the **Venturi system suction devices**, the **trolley suction systems and all related accessories**, connections and support containers systems. The wide line of products always allows to provide the best solution for client needs and the supply of countless combinations for the various requirements of use in hospitals and in emergency.

In these areas the suction of body fluids requires special attention, looking for absolute protection of patients and health professionals to prevent viral and bacterial contamination. In fact, safety is the keyword in **flow-meter™** to guide the continuous devices development and the research for new solutions.

50<sup>TH</sup>

DOWNLOAD  
SUCTION OF FLUIDS



All devices are manufactured in full compliance with the strict technical standards applied within the EU, and meet the requirements of the Directive 93/42/EEC in order to guarantee the use in complete and absolute safety, even in the most extreme conditions.

## PRODUCTS

<b>EasyVAC® PLUS DGT</b>	VACUUM REGULATORS	54
<b>EasyVAC® PLUS</b>	VACUUM REGULATORS	56
<b>EASYVAC®</b>	VACUUM REGULATORS	58
<b>EasySAFE® PLUS</b>	SAFETY JAR	60
<b>EASYSAFE®</b>	SAFETY JAR	62
<b>EasyAIR®</b>	“VENTURI SYSTEM” SUCTION UNITS	64
<b>AV</b>	VENTURI SUCTION UNITS	66
<b>VA - VD</b>	WATER MANOMETERS	68
<b>COLLECTION CONTAINERS</b>	FOR SMALL QUANTITY OF FLUIDS	70
<b>JARS</b>	LARGE CAPACITY	72
<b>MONOKIT®</b>	DISPOSABLE CONTAINERS	74
<b>FLOVAC®</b>	DISPOSABLE CONTAINERS	76
<b>SUPPORTING DEVICES</b>		84
<b>SUCTION TROLLEY UNITS</b>		86
<b>CONNECTIONS AND ACCESSORIES</b>		80

vacuum regulators, reusable and disposable containers for collection of organic liquids, venturi suction units, water manometers

## SUCTION OF FLUIDS

01	Easy EasyVAC® PLUS DGT vacuum regulator	54
02	Easy EasyVAC® PLUS vacuum regulator	56
03	EASYVAC® vacuum regulator	58
04	Easy EasyAIR® "Venturi System" suction unit	64
05	AV/500 Venturi suction unit	66
06	AV/1000 Venturi suction unit	66
07	VA water manometer	68
08	VD water manometer	68
09	Easy EasySAFE® PLUS safety jar	60
10	EASYSAFE® PSU safety jar	62
11	MAK/300 PC small volume collection jar	70
12	MAK/500 PC small volume collection jar	70
13	MAK/300 PC "Antibacteria" small volume collection jar	70
14	MAK/500 PC "Antibacteria" small volume collection jar	70
15	Outlet hose connector, direct fitting	82
16	MAK/2000 PC collection jar, direct fitting	72
17	MAK/1000 PC collection jar, direct fitting	72
18	MAK/4000 PC (or PSU) collection jar, pressure lid	72
19	MAK/1000 PC (or PSU) collection jar, screw lid	72
20	MAK/2000 PC (or PSU) collection jar, pressure lid (or screw lid)	72
21	MONOKIT® disposable container	74
22	FLOVAC® disposable container	76
23	Support basket for MAK/4000 collection jar	84
24	Support ring for MAK/1000 collection jar	84
25	Support ring for MONOKIT® and MAK/2000 collection jar	84
26	Support ring for FLOVAC® disposable container	84
27	ON-OFF tap for FLOVAC® disposable container support ring	-
28	Clip fixing 25x5 mm rings for trolleys, brackets and wall plates	84

## CONNECTIONS AND ACCESSORIES FOR SUCTION DEVICES

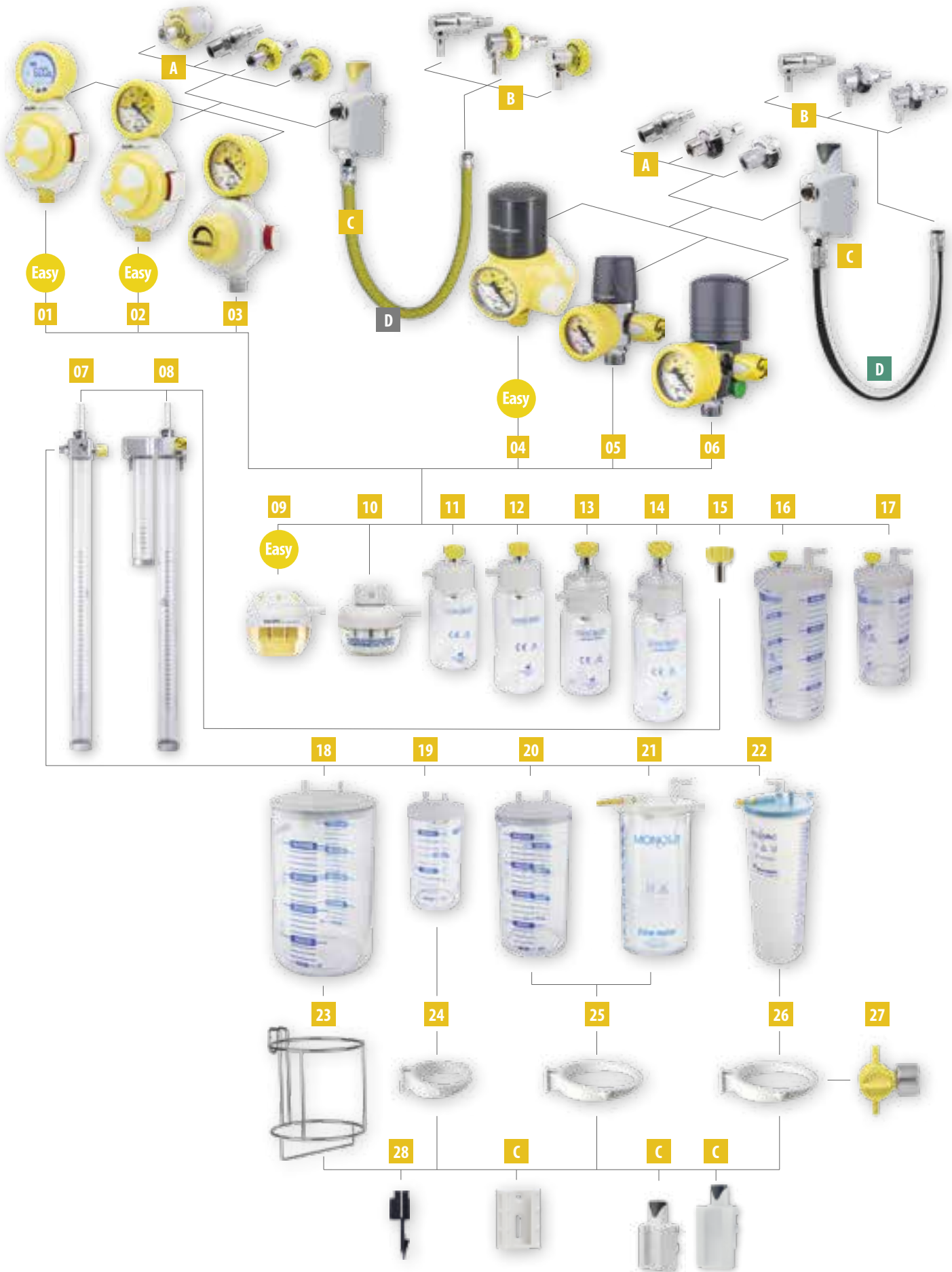
<b>A</b>	<b>VACUUM PROBES WITH THREAD CONNECTION</b>	80
	AFNOR NF-S 90-116	
	AFNOR NF-S 90-116 EASYFIX®	
	UNI 9507	
	BS 5682	
	DIN 13260	
	SS 875 24 30	
	JIS T 7101	
	SANS 1409	
	OHMEDA	
<b>B</b>	<b>VACUUM PROBES WITH HOSE CONNECTION</b>	81
	AFNOR NF-S 90-116 EASYFIX®	
	UNI 9507	
	BS 5682	
	DIN 13260	
	SS 875 24 30	
	JIS T 7101	
	SANS 1409	
	OHMEDA	
<b>C</b>	<b>RAIL CLAMPING SYSTEMS AND WALL BRACKETS</b>	82

## TERMINAL UNITS AND ACCESSORIES

<b>D</b>	Hose for medical gas (vacuum or medical air)	132
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# DIAGRAM OF OPTIONS

## MATCHING VACUUM REGULATORS - CONNECTIONS - COLLECTION JARS





# EasyVAC<sup>®</sup> PLUS DGT

## DIGITAL VACUUM REGULATORS

The **EasyVAC<sup>®</sup> PLUS DGT** continuous suction digital vacuum regulators range is suitable in all medical suction applications in hospitals and nursing homes.

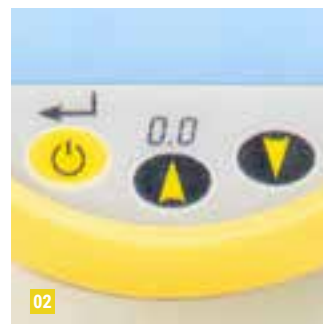
The device is made of a strong techno-polymer body, with a quick I/O switch button, a suction adjustment Soft Grip inserts knob for an easy handling with a "Push & Lock" position system and a digital vacuum control gauge with three possible end-of-scale choices: -250 mbar, -600 mbar and -1000 mbar.

The digital vacuum gauge has a monochromatic LCD back-lighting display indicating the depression supplied value settable by the end users to be read in mbar/hPa or mmHg. The frontal part of the digital gauge is equipped with 3 buttons: one to switch ON/OFF the **EasyVAC<sup>®</sup> PLUS DGT**, the other 2 for various settings. Indeed, thanks to the digital vacuum gauge, the end user is allowed to:

- set the timer for the automatic switch off of the regulator;
- select the unit scale (mbar/hPa or mmHg);
- set up a preferred vacuum value;
- fix the time of the back-lighting switch-on;
- zeroing the device at any time.

A protective silicone cover and a techno-polymer support prevent gauge damages caused by possible shocks received during transport or use. The **EasyVAC<sup>®</sup> PLUS DGT** digital vacuum regulators are manufactured with outlet threaded connection for screwing in the usual collection containers for suctioned fluids, or for direct connection to the **EasySAFE<sup>®</sup> PLUS** safety jar, through a specific quick release integrated connection. The use of the **EasySAFE<sup>®</sup> PLUS** safety jar is highly recommended to get a complete suction device able to guarantee total protection of the vacuum regulator and plant.

The quick opening of the front cover facilitates the cleaning and maintenance procedures.



01 DIGITAL VACUUM GAUGE WITH MONOCHROMATIC LCD DISPLAY AND BACK-LIGHTING TO BE ACTIVATED BY THE OPERATOR

SCALE SETTABLE IN mbar/hPa OR mmHg BY THE END USER

NUMERICAL DISPLAY OF THE VACUUM VALUE AND A SECTOR BAR PROPORTIONAL TO THE ADJUSTED DE-PRESSURE

READING RESOLUTION IS 1 mbar/hPa (1 mmHg)

02 BUTTONS FOR ON/OFF [⏻] AND SETTINGS [▲▼]

03 CHARGING AND POWER SUPPLY PORT: USB TYPE C

04 VACUUM ADJUSTING KNOB WITH PUSH&LOCK SYSTEM AND SOFT GRIP INSERTS FOR EASY HANDLING. QUICK I/O PUSH SWITCH-BUTTON

05 DE-PRESSURE EXCESS SAFETY VALVE (FOR **EasyVAC<sup>®</sup> PLUS DGT 250** AND **EasyVAC<sup>®</sup> PLUS DGT 600** ONLY) WITH ANTI-CLOGGING SYSTEM



**EasyVAC® PLUS DGT 1000**  
ADJUSTED AT -600 mbar

WITH EasySAFE® PLUS SAFETY JAR (OPTIONAL)



**EasyVAC® PLUS DGT 600**  
ADJUSTED AT -450 mbar

WITH EasySAFE® PLUS SAFETY JAR (OPTIONAL)



**EasyVAC® PLUS DGT 250**  
ADJUSTED AT -150 mbar

WITH EasySAFE® PLUS SAFETY JAR (OPTIONAL)

☉ EasySAFE® PLUS SAFETY JAR, PAGE 60

TECHNICAL SPECIFICATIONS	EasyVAC® PLUS DGT 250	EasyVAC® PLUS DGT 600	EasyVAC® PLUS DGT 1000
<b>SIZES (LxWxH)</b>	91x106x185 mm	91x106x185 mm	91x106x185 mm
<b>WEIGHT</b>	0.47 Kg	0.47 Kg	0.47 Kg
<b>MAXIMUM SUCTION FLOW</b>	50 L/min. ±5 L/min. at -220 mbar	72 L/min. ±5 L/min. at -550 mbar	115 L/min. ±5 L/min. at -950 mbar
<b>MAXIMUM AVAILABLE NEGATIVE PRESSURE EFFECTIVE VALUE</b>	-220 mbar ±20 mbar	-550 mbar ±20 mbar	-950 mbar
<b>OVER DEPRESSION PROTECTING VALVE</b>	preset with anti-clogging system	preset with anti-clogging system	N/A
<b>DIGITAL VACUUM GAUGE</b>	0 ÷ -250 mbar/hPa (0 ÷ -187 mmHg)	0 ÷ -600 mbar/hPa (0 ÷ -450 mmHg)	0 ÷ -1000 mbar/hPa (0 ÷ -750 mmHg)
	numerical display of the vacuum value and a sector bar proportional to the adjusted de-pressure		
<b>SUCTION VALUE ADJUSTMENT SYSTEM</b>	with membrane		
<b>STANDARD INLET CONNECTION</b>	ISO G. 1/4" M		
<b>OUTLET CONNECTION</b>	ISO G. 1/2" M. + quick release system for <b>EASYSAFE®</b> or <b>EasySAFE® PLUS</b> safety jar connection		
<b>I/O SWITCH</b>	quick push switch button		
<b>READING RESOLUTION</b>	1 mbar/hPa (1 mmHg)		
<b>POWER SOURCE</b>	rechargeable lithium-ion battery 3.7V - 2040mAh		
<b>CONTROL BUTTONS</b>	- ON/OFF - SETTINGS TO: <ul style="list-style-type: none"> <li>• select the unit scale (mbar/hPa or mmHg)</li> <li>• set the timer for the automatic switch off of the regulator</li> <li>• set up a preferred vacuum value</li> <li>• fix the time of the back-lighting switch-on</li> <li>• zeroing the device at any time</li> </ul>		



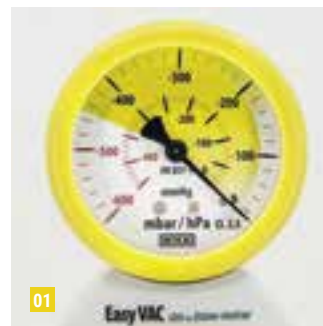
# EasyVAC<sup>®</sup> PLUS

## VACUUM REGULATORS

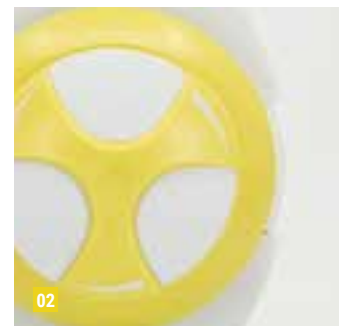
The **EasyVAC<sup>®</sup> PLUS** continuous suction vacuum regulators range is suitable in all medical suction applications in hospitals and nursing homes.

The device is made of a strong techno-polymer body, with a quick I/O switch button, a suction adjustment Soft Grip inserts knob for an easy handling with a "Push & Lock" position system and a vacuum control gauge with three possible end-of-scale choices: -250 mbar, -600 mbar and -1000 mbar. A protective silicone cover and a techno-polymer support prevent gauge damages caused by possible shocks received during transport or use. The **EasyVAC<sup>®</sup> PLUS** vacuum regulators are manufactured with outlet threaded connection for screwing in the usual collection containers for suctioned fluids, or for direct connection to the **EasySAFE<sup>®</sup> PLUS** safety jar, through a specific quick release integrated connection. The use of the **EasySAFE<sup>®</sup> PLUS** safety jar is highly recommended to get a complete suction device able to guarantee total protection of the vacuum regulator and plant.

The small sizes of the **EasyVAC<sup>®</sup> PLUS** vacuum regulators help in installing multiple sets of medical gas devices into the wall terminal units. The quick opening of the front cover facilitates the cleaning and maintenance procedures. The extreme rationality and simplicity, combined with the sophisticated technical execution, allow both operators and patients to appreciate the safety and reliability of this medical device.



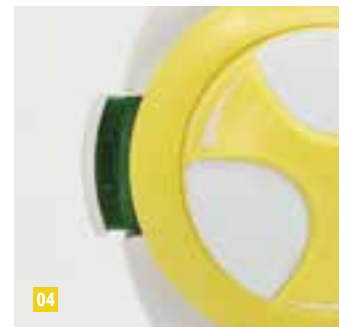
01



02



03



04



05

01 VACUUM GAUGE WITH COLORED SECTORS SCALE, FOR EASY READING OF SET VACUUM VALUES. SILICONE COVER AND ANTI SHOCK SUPPORT

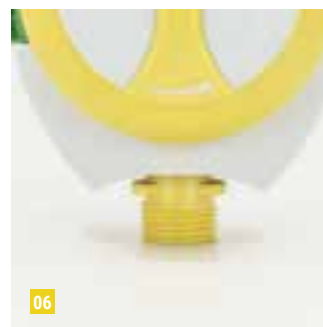
02 ADJUSTMENT ASSEMBLY QUICK RELEASE COVER 1/12 TURN

03 VACUUM ADJUSTING KNOB WITH PUSH&LOCK SYSTEM AND SOFT GRIP INSERTS FOR EASY HANDLING

04 QUICK I/O PUSH SWITCH-BUTTON

05 DE-PRESSURE EXCESS SAFETY VALVE (FOR **EasyVAC<sup>®</sup> PLUS 250** AND **EasyVAC<sup>®</sup> PLUS 600** ONLY) WITH ANTI-CLOGGING SYSTEM

06 ISO G. 1/2" M. + QUICK RELEASE SYSTEM FOR **EasySAFE<sup>®</sup> PLUS** OR **EASYSAFE<sup>®</sup>** SAFETY JAR CONNECTION



06



**EasyVAC® PLUS 1000**

WITH EasySAFE® PLUS SAFETY JAR (OPTIONAL)

**EasyVAC® PLUS 600**

WITH EasySAFE® PLUS SAFETY JAR (OPTIONAL)

**EasyVAC® PLUS 250**

WITH EasySAFE® PLUS SAFETY JAR (OPTIONAL)

➤ EasySAFE® PLUS SAFETY JAR, PAGE 60

TECHNICAL SPECIFICATIONS	EasyVAC® PLUS 250	EasyVAC® PLUS 600	EasyVAC® PLUS 1000
<b>SIZES (LxWxH)</b>	91x106x185 mm		
<b>WEIGHT</b>	0.47 Kg	0.37 Kg	0.37 Kg
<b>MAXIMUM SUCTION FLOW</b>	50 L/min. ±5 L/min. at -220 mbar	72 L/min. ±5 L/min. at -550 mbar	115 L/min. ±5 L/min. at -950 mbar
<b>MAXIMUM AVAILABLE NEGATIVE PRESSURE EFFECTIVE VALUE</b>	-220 mbar ±20 mbar	-550 mbar ±20 mbar	-950 mbar
<b>OVER DEPRESSION PROTECTING VALVE</b>	preset with anti-clogging system	preset with anti-clogging system	N/A
<b>VACUUM GAUGE</b>	0 ÷ -250 mbar	0 ÷ -600 mbar	0 ÷ -1000 mbar
<b>MAXIMUM DEPRESSION SUPPLY VALUE</b>	-950 mbar		
<b>SUCTION VALUE ADJUSTMENT SYSTEM</b>	with membrane		
<b>STANDARD INLET CONNECTION</b>	ISO G. 1/4" M		
<b>OUTLET CONNECTION</b>	ISO G. 1/2" M. + quick release system for <b>EASYSAFE®</b> or <b>EasySAFE® PLUS</b> safety jar connection		
<b>I/O SWITCH</b>	quick push switch button		



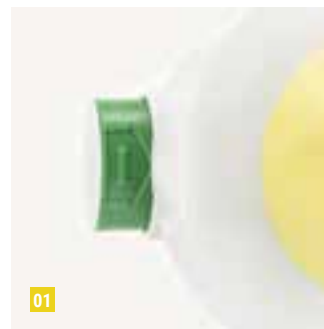
# EASYVAC®

## VACUUM REGULATORS

The **EASYVAC®** continuous suction vacuum regulator is particularly suitable for all medical suction applications in hospitals and nursing homes.

The device is made of a strong techno-polymer body, with a quick I/O switch-button, a suction adjustment knob and a control vacuum gauge with three possible end-of-scale choices: -250 mbar, -600 mbar and -1000 mbar. A protective silicone cover prevents gauge damages caused by possible shocks received during transport or use.

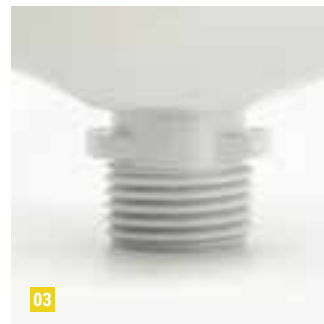
The **EASYVAC®** vacuum regulators are also designed, through a threaded connection, for connecting directly or indirectly to the normal collection containers for suctioned fluids or for direct connection to the **EASYSAFE®** safety jar, through a specific quick release integrated connection. The extreme rationality and simplicity, combined with the sophisticated technical execution, allow both operators and patients to appreciate the safety and reliability of this medical device.



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- 01 QUICK I/O PUSH SWITCH-BUTTON
- 02 DE-PRESSURE EXCESS SAFETY VALVE (FOR **EASYVAC®** 250 AND **EASYVAC®** 600 ONLY) WITH ANTI-CLOGGING SYSTEM
- 03 VACUUM OUTLET G. 1/2" THREADED CONNECTION INTEGRATED WITH QUICK-RELEASE CONNECTION FOR **EasySAFE® PLUS** OR **EASYSAFE®** SAFETY JAR



**EASYVAC®** VACUUM REGULATOR WITH **EASYSAFE®** SAFETY JAR (OPTIONAL)

➤ **EASYSAFE®** SAFETY JAR, PAGE 62



EASYVAC® 1000



EASYVAC® 600



EASYVAC® 250

TECHNICAL SPECIFICATIONS	EASYVAC® 250	EASYVAC® 600	EASYVAC® 1000
<b>SIZES (LxWxH)</b>	103x92x170 mm		
<b>WEIGHT</b>	0.42 Kg	0.37 Kg	0.37 Kg
<b>MAXIMUM SUCTION RATE</b>	50 L/min. ±5 L/min. at -220 mbar	72 L/min. ±5 L/min. at -550 mbar	115 L/min. ±5 L/min. at -950 mbar
<b>MAXIMUM ADJUSTABLE DEPRESSION</b>	-220 mbar ±20 mbar	-550 mbar ±20 mbar	-950 mbar
<b>VALVE PROTECTING AGAINST EXCESSIVE NEGATIVE PRESSURES</b>	preset with anti-clogging system	preset with anti-clogging system	N/A
<b>MAXIMUM SUPPLY DEPRESSION</b>	-950 mbar		
<b>SUCTION ADJUSTING SYSTEM</b>	with membrane		
<b>STANDARD VACUUM SUPPLY CONNECTION</b>	ISO G. 1/4" M.		
<b>OUTLET CONNECTION</b>	ISO G. 1/2" M. + quick release system for EASYSAFE® or EasySAFE® PLUS safety jar connection		
<b>I/O SWITCH</b>	quick push button type		



# EasySAFE<sup>®</sup> PLUS

## SAFETY JAR

The new **EasySAFE<sup>®</sup> PLUS** safety jar is a medical device designed and manufactured for applications of “high flow and high vacuum” joint in use with the **EasyVAC<sup>®</sup> PLUS** vacuum regulators and with **EasyAIR<sup>®</sup>** “Venturi system” suction units.

This special safety jar is used to protect the equipment and the plant upstream, should the overflow valve in the main container not be working properly. The **EasySAFE<sup>®</sup> PLUS** safety jar is made of Polysulfone and fully autoclavable (134 °C - 18 min.), having an overflow floating valve and a housing designed to fit an antibacterial filter to guarantee the complete suction system protection against any contamination.

The collecting jar of this safety device has a deliberately reduced capacity (approx. 50 ml) so that even a small presence of fluid could immediately activate the floating valve to stop the suction.

The inlet connection with a quick release snap ring, the rolling 360° position of the patient outlet hose connector and the quick locking system jar-to-lid by 1/12 turn only make simple and easy the connection and removing of the **EasySAFE<sup>®</sup> PLUS** safety jar to the **EasyVAC<sup>®</sup> PLUS** vacuum regulators and **EasyAIR<sup>®</sup>** “Venturi system” suction units. Everything is made to make simple, fast, safe and easy the use by the hospital staff.



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01 QUICK RELEASE SNAP RING FOR **EasyVAC<sup>®</sup> PLUS** AND **EasyAIR<sup>®</sup>** SUCTION DEVICES CONNECTION. PRESENCE OF SOFT GRIP INSERTS TO HELP THE HANDLING

02 360° ROLLING POSITIONING HOSE CONNECTOR  $\varnothing = 8.0 \div 9.2$  MM

03 QUICK 1/12 TURN TO SPEED UP THE JAR CLEANING AND THE ANTIBACTERIAL FILTER REPLACEMENT (IF FILTER PRESENT)

04 HOUSING FOR PLACING AN ANTIBACTERIAL FILTER (OPTIONAL)

EasyVAC® PLUS AND EasyAIR®  
FITTED WITH EasySAFE® PLUS (OPTIONAL) ▶

- ▶ EasyVAC® PLUS VACUUM REGULATOR, PAGE 56
- ▶ EasyAIR® "VENTURI SYSTEM" SUCTION UNIT, PAGE 64



#### TECHNICAL SPECIFICATIONS | EasySAFE® PLUS

<b>SIZES (LxWxH)</b>	93x76x74 mm
<b>WEIGHT</b>	0.12 Kg
<b>OVERFLOW SYSTEM</b>	floating valve
<b>PATIENT CONNECTION</b>	hose connector Ø 8.0÷9.2 mm
<b>MAXIMUM APPLICABLE VACUUM VALUE</b>	-950 mbar / 5 min.



# EASYSAFE®

## SAFETY JAR

The **EASYSAFE®** safety jar is a medical device designed and manufactured for applications of “high flow and high vacuum”.

Designed for use with the **EASYVAC®** vacuum regulators, **EASYSAFE®** is used to protect the equipment and plant upstream, should the overflow valve in the main container not be working properly. Made of a strong and reliable techno-polymer (polysulphone), the **EASYSAFE®** safety jar is autoclavable (134 °C - 18 min.), has an overflow floating valve and a housing designed to fit an antibacterial filter to guarantee the complete suction system protection against contamination.

This safety jar has a deliberately reduced capacity (approx. 50 ml) so that even a small presence of fluid can immediately activate the floating valve to stop the suction. The vacuum hose connector and the quick release connection nut make the **EASYSAFE®** simple and easy to set up and to remove from the **EASYVAC®** vacuum regulator.



01 QUICK RELEASE LOCK-UNLOCK  
NUT SYSTEM

02 HOUSING FOR ANTIBACTERIAL  
FILTER Ø 50 MM (OPTIONAL)

EXAMPLE OF COMPACTNESS  
AND SIMPLICITY: **EASYSAFE®** SAFETY JAR  
WITH ANTIBACTERIAL FILTER  
FITTED WITH **EASYVAC®** -1000 mbar  
VACUUM REGULATOR.



➤ **EASYVAC®** VACUUM REGULATOR, PAGE 58



#### TECHNICAL SPECIFICATIONS | EASYSAFE®

<b>SIZES (LxWxH)</b>	70x90x75 mm
<b>WEIGHT</b>	0.08 Kg
<b>OVERFLOW SYSTEM</b>	floating valve
<b>PATIENT CONNECTION</b>	hose connector Ø 8.0÷9.2 mm
<b>MAXIMUM APPLICABLE VACUUM VALUE</b>	-950 mbar / 5 min.



# EasyAIR®

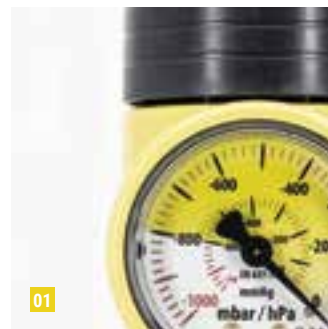
## “VENTURI SYSTEM” SUCTION UNITS

The **EasyAIR®** Venturi vacuum generating system units are particularly suitable in all hospital applications in which it is necessary to get values of vacuum up to -800 mbar and where a central facility of vacuum generation for suction is missing, often for technical choice.

As it is well known, the physical principle called “Venturi” allows to get depression from a fluid under pressure. This is obtained, in case of these devices, using medical compressed air coming from the centralized distribution plant. Such devices are made essentially of an aluminum body housed inside a techno-polymer shock proof shell to protect the unit. Inside, over the “Venturi effect” generating assembly, the needle valve for vacuum adjustment is driven by a large ergonomic control knob having a Push&Lock system, to keep locked the preset vacuum value, and Soft Grip inserts for easy handling and adjusting. The vacuum gauge is available in two end of scale options depending on model (-250 mbar or -1000 mbar) and it is housed in the structure to prevent damages caused by possible shocks received during transport or use. The **EasyAIR®** Venturi vacuum generating system units are manufactured with outlet threaded connection for screwing in the usual collection containers for suctioned fluids, or for direct connection to the **EasySAFE® PLUS** safety jar, through a specific quick release integrated connection.

The I/O switch button allows the operator to quickly stop and reactivate the suction, keeping unchanged the previous vacuum preset value.

The extreme rationality and simplicity, combined with the sophisticated technical execution, allow both operators and patients to appreciate the safety and reliability of this medical device. Being the system working with a principle where medical air under pressure goes released to the environment, the equipment has a high efficiency silencer reducing the noise to allow an adequate level of comfort for patients and operators. The system fits a special device expressly designed and realized with an one-way membrane safety valve, to protect the patient against accidental back pressures.



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01 VACUUM GAUGE WITH COLORED SECTORS SCALE, FOR EASY READING OF SET VACUUM VALUES

02 VACUUM ADJUSTING KNOB WITH PUSH&LOCK SYSTEM AND SOFT GRIP INSERTS FOR EASY HANDLING

03 I/O PUSH SWITCH BUTTON

04 QUICK RELEASE SYSTEM FOR **EasySAFE® PLUS** OR **EASYSAFE®** SAFETY JAR CONNECTION





### EasyAIR® 1000

WITH EasySAFE® PLUS  
SAFETY JAR (OPTIONAL)

➤ EasySAFE® PLUS SAFETY JAR, PAGE 60



### EasyAIR® 250

WITH EasySAFE® PLUS  
SAFETY JAR (OPTIONAL)

TECHNICAL SPECIFICATIONS	EasyAIR® 250	EasyAIR® 1000
<b>SIZES (LxWxH)</b>	89x123x141 mm	89x123x141 mm
<b>WEIGHT</b>	0.54 Kg	0.57 Kg
<b>MAXIMUM SUCTION FLOW</b>	19 L/min. ±2 L/min. at -220 mbar	27 L/min. ±2 L/min. at -775 mbar
<b>VACUUM GAUGE</b>	0 ÷ -250 mbar	0 ÷ -1000 mbar
<b>MAXIMUM ADJUSTABLE DEPRESSION (WITH PLATE PRESSURE ±10%)</b>	-220 mbar ±15 mbar	-800 mbar -25 mbar
<b>SAFETY VALVE AGAINST BACK PRESSURE EXCESS</b>	preset with anti clogging system	N/A
<b>AIR CONSUMPTION AT THE MAXIMUM SUCTION VALUE</b>	25 L/min. ±2 L/min.	60 L/min. ±2 L/min.
<b>GAS AND SUPPLIED PRESSURE</b>	compressed air 400 kPa (4.0 bar) ±10%	
<b>STANDARD INLET CONNECTIONS</b>	ISO G. 1/4" M. • 1/4" NPT M.	
<b>STANDARD OUTLET CONNECTION</b>	ISO G. 1/2" M. + quick release system for EASYSAFE® or EasySAFE® PLUS safety jar connection	



# AV

## VENTURI SUCTION UNITS

The Venturi **AV/500** and **AV/1000** vacuum generating system units are particularly suitable in all hospital applications in which it is necessary to get values of vacuum up to -850 mbar and where a central facility of vacuum generation for suction is missing, often for technical choice.

As it is well known, the physical principle called “Venturi” allows to get depression from a fluid under pressure, which is obtained, in case of these devices, using medical compressed air coming from the centralized distribution plant. Such devices are composed essentially of a brass chrome-plated body, a needle valve with vacuum adjustment knob and a vacuum gauge. The version **AV/1000** fits also a quick I/O button switch and a large gauge, while in the version **AV/500** a protective silicone cover on vacuum gauge avoids damages caused by possible impacts during transport or use.

Being the system working with a principle where medical air under pressure goes released to the environment, the equipment has a high efficiency silencer reducing the noise to allow an adequate level of comfort for patients and operators. The system fits a special device expressly designed and realized with an one-way safety valve, to protect the patient against accidental back pressures.



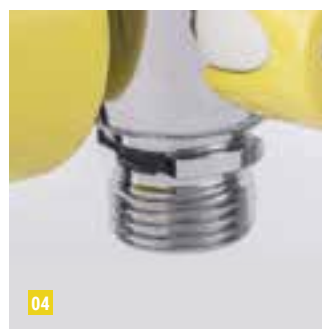
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01 THE ADJUSTING KNOB ALLOWS THE SUCTION VALUE SETTING IN A STABLE AND ACCURATE WAY

02 A QUICK I/O BUTTON SWITCH IS AVAILABLE ON **AV/1000** VENTURI UNIT FOR IMMEDIATE SUCTION ACTIVATION OR DEACTIVATION

03 ON **AV/1000** UNIT A HIGH PERFORMANCE SILENCER REDUCES THE NOISE GIVING COMFORT TO THE PATIENT AND HEALTH OPERATORS DURING THE USE

04 QUICK RELEASE SYSTEM FOR **EasySAFE® PLUS** OR **EASYSAFE®** SAFETY JAR CONNECTION



THE **AV/500** AND **AV/1000** VENTURI VACUUM GENERATING SYSTEM UNITS ARE MANUFACTURED WITH OUTLET THREADED CONNECTION FOR SCREWING IN THE USUAL COLLECTION CONTAINERS FOR SUCTIONED FLUIDS, OR FOR DIRECT CONNECTION TO THE **EasySAFE® PLUS** SAFETY JAR, THROUGH A SPECIFIC QUICK RELEASE INTEGRATED CONNECTION.



AV/500



AV/1000

TECHNICAL SPECIFICATIONS	AV/500	AV/1000
<b>SIZES (LxWxH)</b>	92x72x100 mm	104x72x132 mm
<b>WEIGHT</b>	0.50 Kg	0.83 Kg
<b>MAX. SUCTION RANGE</b>	25 L/min. $\pm 2$ L/min.	25 L/min. $\pm 2$ L/min.
<b>VACUUM GAUGE SCALE</b>	0 ÷ -1000 mbar	0 ÷ -1000 mbar
<b>MAXIMUM ADJUSTABLE DEPRESSION (WITH PLATE PRESSURE <math>\pm 10\%</math>)</b>	-800 mbar/hPa -25 mbar/hPa	-850 mbar/hPa -25 mbar/hPa
<b>GAS AND SUPPLY PRESSURE (STANDARD VERSION)</b>	compressed air 400 kPa (4.0 bar) $\pm 10\%$	
<b>ADJUSTMENT OF SUCTION LEVEL</b>	needle valve	
<b>AIR CONSUMPTION AT THE MAX. SUCTION VALUE</b>	60 L/min. $\pm 2$ L/min.	
<b>INLET CONNECTION</b>	ISO G. 1/4" M.	
<b>OUTLET CONNECTION</b>	ISO G. 1/2" M. + quick release system for <b>EASYSAFE®</b> or <b>EasySAFE® PLUS</b> safety jar connection	



# VA - VD

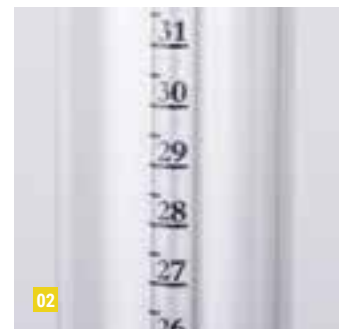
## WATER MANOMETERS

The water manometers **VA** and **VD** series are used for accurate adjustment of vacuum values in the suction in interventions of gastric and chest drainage.

The devices are made essentially of a cylinder head manufactured in anodized aluminum in which a needle valve acts for suction rate adjustments, and where a primary polycarbonate tube containing the water gets the function of measurement and calibration. Inside the tube, a graduated dipstick having scale up to 40 cm (**VA/600** and **VD/600**) or up to 70 cm (**VA/1000** and **VD/1000**) is used to adjust the hydraulic head necessary for the treatment. The **VD** series has also a secondary tube for fine adjustment of hydraulic head values, and, consequently, of the suction value, up to a maximum value of 5 cm.



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01 ANODIZED ALUMINUM UPPER BODY,  
WITH VACUUM ADJUSTING KNOB

02 GRADUATED SCALE, DETAIL



TECHNICAL SPECIFICATIONS	VA/600	VA/1000	VD/600	VD/1000
<b>SIZES (LxWxH)</b>	75x100x710 mm	75x100x1100 mm	80x126x710 mm	80x126x1100 mm
<b>WEIGHT</b>	0.58 Kg	0.75 Kg	0.91 Kg	1.10 Kg
<b>ADJUSTMENT RANGE</b>	0 ÷ -40 cm H <sub>2</sub> O	0 ÷ -70 cm H <sub>2</sub> O	0 ÷ -40 cm H <sub>2</sub> O	0 ÷ -70 cm H <sub>2</sub> O
<b>INLET MAX. DEPRESSION</b>	-950 mbar			
<b>INLET CONNECTION</b>	ISO G. 1/4" M.		hose connector Ø 8.5 mm	
<b>OUTLET CONNECTION</b>	hose connector Ø 8.5 mm			



# COLLECTION CONTAINERS

## FOR SMALL QUANTITY OF FLUIDS

The collection containers for suctioned liquids named **MAK/300** and **MAK/500**, are used for the collection of small volumes of suctioned fluids and have been designed and manufactured for applications of “high flow and high vacuum”.

The two models have capacities of 300 ml and 500 ml respectively in standard execution, or fitting a special lid for housing an antibacterial filter (Antibacteria version). These devices are generally employed or simply for the collection of suctioned fluids, or like a safety container to protect the equipment and the plant upstream of the suction source, in case the safety overflow valve of the collecting primary container does not work regularly. The jar and the lid are made in polycarbonate, with fittings in brass, with ergonomic screw nut in high-strength polycarbonate. All parts can be sterilized in an autoclave (121 °C - 15 min.).

Matched with **EASYVAC**<sup>®</sup> and **EasyVAC**<sup>®</sup> **PLUS** vacuum regulators, or with **AV** and **EasyAIR**<sup>®</sup> Venturi suction units, the collection containers **MAK** series provide simplicity of use and versatility, allowing extreme operating economy.



01 HOUSING FOR ANTIBACTERIAL  
FILTER Ø 50 MM (FOR ANTIBACTERIA  
VERSION ONLY)

02 POLYCARBONATE NUT  
FOR VACUUM REGULATOR  
CONNECTION



MAK/300



MAK/500



MAK/300 Antibacteria



MAK/500 Antibacteria

TECHNICAL SPECIFICATIONS	MAK/300	MAK/300 Antibacteria	MAK/500	MAK/500 Antibacteria
INNER VOLUME	300 ml	300 ml	500 ml	500 ml
SIZES (LxWxH)	70x84x180 mm	70x84x206 mm	70x84x212 mm	70x84x237 mm
WEIGHT	0.20 Kg	0.24 Kg	0.21 Kg	0.25 Kg
SUPPLY DEPRESSION	max -950 mbar - 5 min.			
OVERFLOW VALVE	floating valve			
INLET CONNECTION	ISO G 1/2" F.			
OUTLET CONNECTION	hose connector $\varnothing$ 8.0 ÷ 9.2 mm			

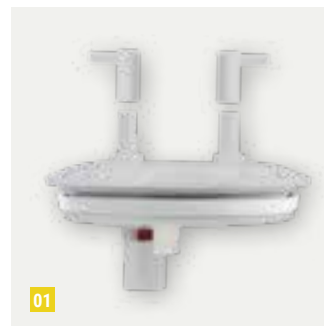


# LARGE CAPACITY COLLECTION JARS

In the range of **flow-meter™** products used in hospital suction applications, the **MAK** series large size containers for suctioned liquids has a long history, full of positive praises for their versatility, safety and economy.

These devices have been designed and manufactured for “high flow and high vacuum” applications and are available with a capacity of 1000 ml with screw cap, of 2000 ml with screw and pressure lid and 4000 ml with pressure lid. Versions having capacities 1000 ml and 2000 ml can also be supplied, as an option, with a special lid with direct thread connection to the vacuum regulator. Jar and lid are made of polycarbonate, and two straight inlet/outlet connectors are integrated into the cover (except in the above mentioned version having direct connection to the vacuum regulator that fits one chrome-plated brass nipple with polycarbonate connecting nut).

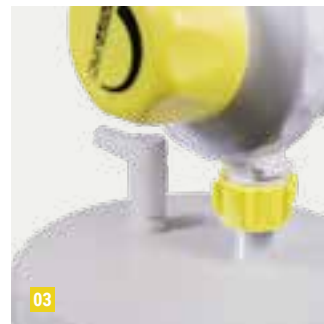
All containers are equipped with an overflow valve, are supplied with two spare elbow connectors, to set up any possible connection between the jar, the suction line and the patient, and are obviously autoclavable (121 °C - 15 min.). If higher sterilization temperatures are required, a PSU version is also available for the three sizes (134 °C - 18 min.). An external graduated scale gives indications about the level of filling. In conjunction with the various supports and accessories available on request, the **MAK** collection jars grant simplicity in use, versatility and an important operating economy.



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- 01 PRESSURE LID (**MAK/2000** AND **MAK/4000**) WITH OVERFLOW VALVE AND REMOVABLE ELBOW CONNECTORS
- 02 SCREW LID (FOR **MAK/1000** AND **MAK/2000** ONLY) SHOWING THE OVERFLOW VALVE AND THE REMOVABLE ELBOW CONNECTORS
- 03 LID VERSION FOR VACUUM REGULATOR DIRECT FITTING AND ELBOW CONNECTOR





MAK/1000



MAK/2000



MAK/4000

TECHNICAL SPECIFICATIONS	MAK/1000	MAK/2000 with screw lid	MAK/2000 with pressure lid	MAK/4000
INNER VOLUME	1000 ml	2000 ml	2000 ml	4000 ml
SIZES (LxWxH)	110x110x235 mm	135x135x285 mm	125x125x285 mm	175x175x310 mm
WEIGHT	0.38 Kg	0.49 Kg	0.49 Kg	0.99 Kg
SUPPLY DEPRESSION	max -950 mbar - 5 min			
OVERFLOW VALVE	floating valve			
INLET CONNECTION	hose connector Ø 8.0÷9.2 mm or ISO G 1/2" F. (for MAK/1000 and MAK/2000 screw lid only)			
OUTLET CONNECTION	hose connector Ø 8.0÷9.2 mm			



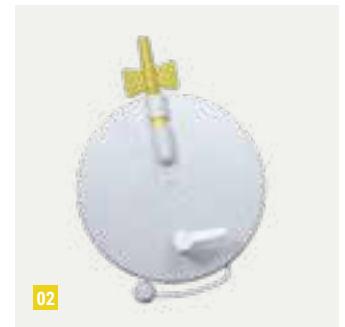
# MONOKIT®

## DISPOSABLE CONTAINERS

The disposable containers **MONOKIT®** are used for the collection of organic fluids in suction field.

Designed and manufactured for applications of “high flow and high vacuum”, the **MONOKIT®** containers represent the highest expression in terms of practicality and safety for the operators, for the hospital plant and for the environment, thanks to the use of absolutely reliable manufacturing materials. With **MONOKIT®** the use and the replacement operations are very simple, thus reducing in each application the plant stops. Moreover **flow-meter™** studied and carried out a complete accessories range to cover the greatest number of hospital applications. Thanks to their great versatility and simplicity, the **MONOKIT®** disposable containers for suctioned liquids are used with considerable success in General and Special Surgery and in Intensive Care treatments. They are made of an outer rigid reusable jar and a disposable soft liner bag which is hermetically welded to a lid. This lid has ports allowing connection to the suction line and to the patient.

An antibacterial and hydrophobic shut-off filter made of **GORE® Microfiltration Media for Surgical Suction** protects the suction equipment and/or the vacuum plant. This filter also performs the function of overflow valve, by stopping the suction when the maximum level of filling has been reached. A graduated scale, printed on the external jar, allows the monitoring of the volume of collected fluid. The hermetic lid sealing makes it particularly hygienic, simple and safe during disposal, both for the patient and for the staff charged to remove and replace the liners.



01 PRESSURE LID WITH TURNING ON-OFF BUTTERFLY CONNECTION (TO QUICKLY CONNECT OR DISCONNECT VACUUM)

02 THE PRESSURE LID HAS A TURNING ON-OFF BUTTERFLY CONNECTION (TO QUICKLY CONNECT OR DISCONNECT VACUUM)



MONOKIT®

WITH HYDROPHOBIC VALVE

TECHNICAL SPECIFICATIONS   MONOKIT®	WITH HYDROPHOBIC VALVE
<b>MAXIMUM VOLUME COLLECTED</b>	1800 ml
<b>OVERFLOW VALVE</b>	hydrophobic GORE® Microfiltration Media for Surgical Suction with NO-SMOKE® protection
<b>MAXIMUM FILTER POROSITY</b>	1µ
<b>ANTIBACTERIA PROTECTION</b>	>99.996%
<b>VACUUM PORT</b>	Ø 8.0÷9.2 mm
<b>PATIENT PORT</b>	Ø 9.8÷11.5 mm (Ø 8.0÷9.2 mm with elbow connector)
<b>MAXIMUM VACUUM VALUE</b>	750 mbar (570 mm Hg)
<b>MAXIMUM FLOW VALUE</b>	42 LPM under the recommended conditions
<b>MAXIMUM GRADUATION INTERVAL</b>	50 ml
<b>PATIENT HOSE DIMENSIONS</b>	inner Ø ≥ 6 mm - L max = 2.5 m
<b>SUPPLY HOSE DIMENSIONS</b>	inner Ø ≥ 6 mm - L max = 1.8 m



# FLOVAC®

## DISPOSABLE CONTAINERS

The **FLOVAC®** disposable containers are used for the collection of organic fluids in suction and have been designed and manufactured for applications of “high flow and high vacuum” (EN ISO 10079-1 and EN ISO 10079-3).

This system mixes simplicity and practicality, guaranteeing great safety from contamination for operators, for the suction plants and for the environment, thanks to the use of the latest manufacturing technologies and of absolutely reliable materials. The containers are made in four sizes, to be used according to the effective requirements about the volumes expected to be suctioned, and they are manufactured in two distinct versions:

**LINER VERSION** | made by a reusable support rigid container and a disposable collection system, consisting of a resistant bag hermetically welded to the cover;

**CANISTER VERSION** | fully disposable system consisting of a rigid container and a lid to be hermetically coupled before the start of the suction.

Both versions show differentiated connecting ports for connecting the collection container with the suction line, with the patient and, if necessary, with another container to increase the suctioned fluid capacity (**TANDEM** port). The **FLOVAC®** system is the result of twenty years of **flow-meter™** experience in the production of disposable devices for the collection of suctioned fluids and get the most important characteristics in its special hydrophobic filter **GORE® Microfiltration Media for Surgical Suction**. This filter protects the vacuum generating devices or the centralized suction plant from contamination, as it performs the function of overflow valve, turning off the suction when wetted by the fluid reaching the maximum level of container filling. To complete the **FLOVAC®** range **flow-meter™** has designed the configuration with mechanical overflow valve and antibacterial filter, available both for **LINER** and for **CANISTER** versions. This construction has its best use in applications when high suction flows are required and in conditions of abundant nebulisation of the suctioned fluids. **LINER** system is equipped with anti-reflux system to prevent patient and operator to come in touch with contaminated fluids in case of spillage through the ports happening during the hose disconnection. An optional non-return valve on the **PATIENT** port is also available for additional safety in the most critical applications.





SOFT BAG MATERIAL: LDPE (LOW DENSITY POLYETHYLENE), INDIVIDUALLY PACKED IN BLISTERS



JAR MATERIAL: HIGH CLARITY POLYPROPYLENE CONNECTION BETWEEN JAR AND LID THROUGH PRESSURE SEAL WITH PERMANENT FASTENING SPRING CLIPS

### FLOVAC® LINER



### FLOVAC® CANISTER



#### TECHNICAL SPECIFICATIONS | FLOVAC®

<b>LID MATERIAL</b>	HDPE (High Density Polyethylene)
<b>OVERFLOW VALVE</b>	Hydrophobic filter GORE® Microfiltration Media for Surgical Suction with antibacterial, antiviral and NO-SMOKE® protection or mechanical overflow valve with antibacterial filter
<b>VACUUM PORT</b>	conic connector, female
<b>PATIENT PORT</b>	Ø 14.0 ÷ 15.5 mm (Ø 8.0 ÷ 9.2 mm with elbow connector)
<b>TANDEM PORT</b>	Ø 8.0 ÷ 9.2 mm
<b>MAXIMUM SUCTION DEPRESSION</b>	-950 mbar/5 min.
<b>MAXIMUM GRADUATION INTERVAL</b>	50 ml
<b>PATIENT HOSE SIZES</b>	inner Ø ≥ 6 mm - L max = 2.5 m
<b>VACUUM HOSE SIZES</b>	inner Ø ≥ 6 mm - L max = 1.8 m
<b>HYDROPHOBIC FILTER GORE® MICROFILTRATION MEDIA FOR SURGICAL SUCTION</b>	
WITH ANTIBACTERIAL, ANTIVIRAL AND NO-SMOKE® PROTECTION - MAIN CHARACTERISTICS	
<b>BACTERIAL AND VIRAL FILTRATION EFFICIENCY</b>	>99.99995%
<b>MEMBRANE</b>	100% expanded PTFE GORE® Microfiltration Media for Surgical Suction
<b>PREFILTER</b>	micro fibreglass HEPA Air Filter



VISIT  
THE WEBSITE

DOWNLOAD  
THE PRODUCT SHEET

Connect the **PATIENT** hose for the suction procedure.

Plug to close the **PATIENT** port before disposal.

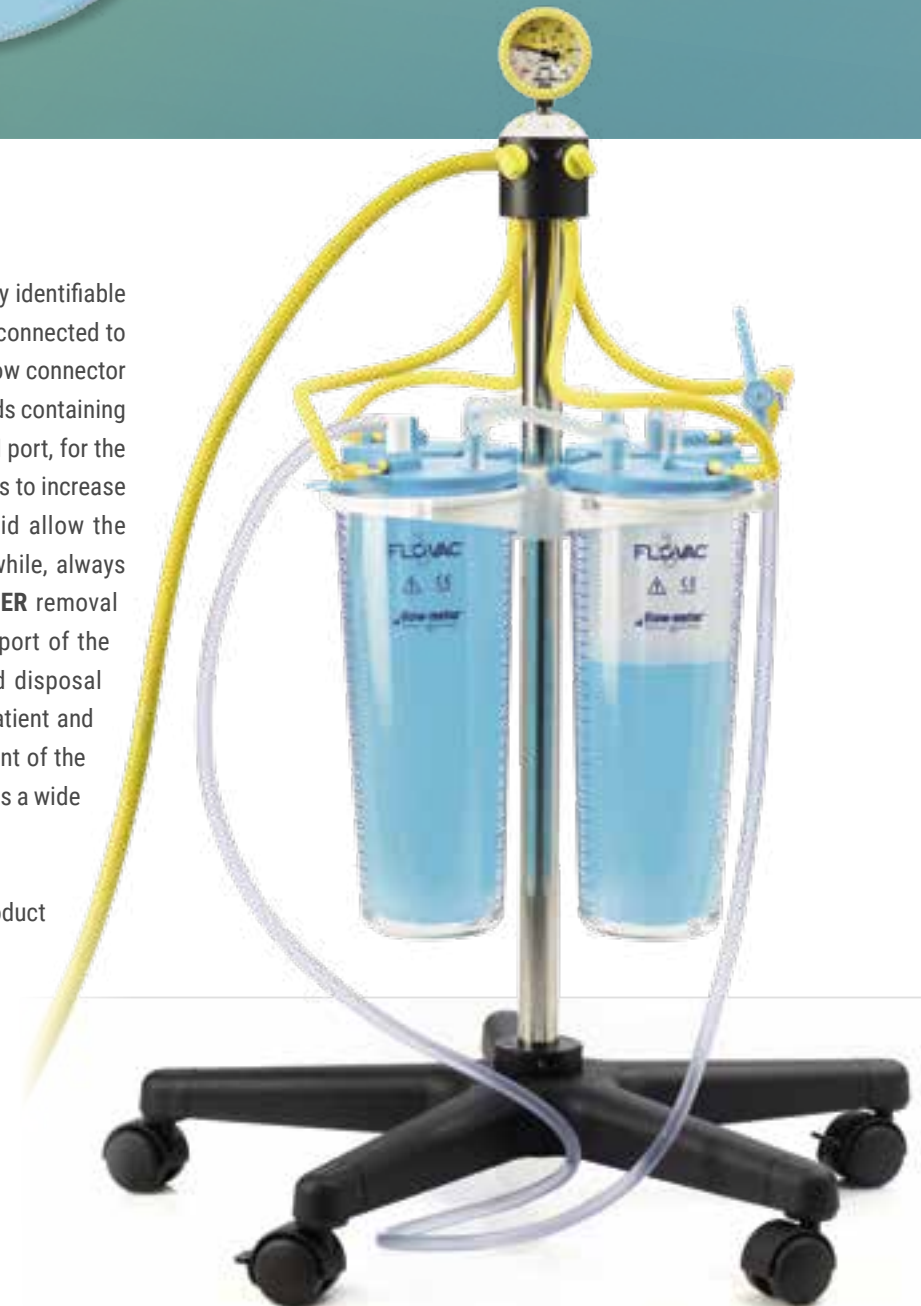
Plug to close the **TANDEM** port when only one container is in use and/or before disposal.

Connect to the suction central plant or to the electrical suction device.



The lid keeps space for all the connection ports, easily identifiable and not exchangeable each other: the **VACUUM** port, connected to the suction, the **PATIENT** port having a removable elbow connector to get larger port diameter and allowing suction of fluids containing also small parts of organic material, and the **TANDEM** port, for the connection in cascade of two or more identical devices to increase the collection capacity. Two plugs placed on the lid allow the hermetic seal of the **PATIENT** and **TANDEM** ports, while, always integrated in the cover, a handle facilitates the **LINER** removal from the support jar, as well as simplifies the transport of the container. The lid hermetic seal makes the use and disposal particularly hygienic, simple and safe, both for the patient and for the staff involved with the removal and replacement of the **LINERS** and **CANISTERS**. The **FLOVAC**® system includes a wide and complete range of accessories.

For any additional information, refer to the specific product catalogues.



**MEMBRANE FILTER** | The filter **GORE® Microfiltration Media for Surgical Suction** is the best answer to grant hygiene and safety for patients and operators in the medical suction field. The membrane filter stops the suction when the container is full of suctioned fluids, assuring a bacterial protection to the hospital vacuum plant, with an absolute efficiency.

**GORE® Microfiltration Media for Surgical Suction** is a trademark of W. L. Gore & Associates, Inc.



◀ Gellified suctioned liquid

◀ Soft bag made in LDPE (Low Density Polyethylene)

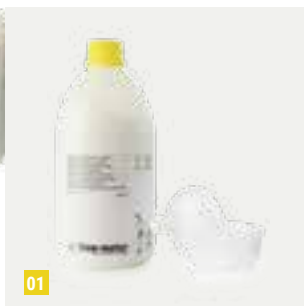
◀ Jar made of Polycarbonate

**GELLING KIT** | The gelling kit gives further safety to a highly efficient system. It is an absorbing powder that, besides an efficient germicidal action, transforms liquids in a semi-solid mass, granting higher safety for operators charged to clean, handle, transport and dispose potentially infected materials. This process allows to absorb and incorporate all liquids present in the **FLOVAC®** container and to prevent, in such a way, dangerous contamination risks for the hospital staff in case of biological fluids accidental leakage.

The gelling powder is supplied in the following configurations:

- In water-soluble pouches prefilled into the LINER version with specific part number.
- In water-soluble pouches supplied in boxes of 50 pieces to be inserted into the CANISTER version before use.
- In 500 g. bottles (boxes of 10 pcs.) with funnel/doser to be poured into LINER or CANISTER before the disposal.

**FLOVAC® MECHANICAL VALVE (OPTIONAL)**  
DISPOSABLE CONTAINERS FIT IN THE LID A FLOATING VALVE WITH INTEGRATED ANTIBACTERIAL FILTER TO PROTECT THE PLANT FROM ANY CONTAMINATION



01



02

01 GELLING POWDER IN 500 G. BOTTLES WITH FUNNEL/DOSER.

02 SPECIAL GELLING POWDER BAG FOR ALL SIZES OF CANISTER FLOVAC®.



# CONNECTIONS AND ACCESSORIES

## FOR SUCTION DEVICES

All **flow-meter™** devices used in suction applications, like vacuum regulators, Venturi suction units and water manometers, can be coupled to the terminal units through the special connections designed and made according to the various national and international standards.

### VACUUM PROBES WITH THREAD CONNECTION



**AFNOR NF-S 90-116** probe,  
thread ISO G. 1/4" F.



**AFNOR NF-S 90-116** type **EASYFIX®**  
probe, thread ISO G. 1/4" F.



**UNI 9507** probe, thread ISO G. 1/4" F.



**BS 5682** probe, thread ISO G. 1/4" F.



**DIN 13260** probe, thread ISO G. 1/4" F.



**SS 875 24 30** probe, thread  
ISO G. 1/4" F.



**JIS T 7101** probe, thread ISO G. 1/8" M.



**SANS 1409** probe, thread ISO G. 1/4" F.



**OHMEDA** probe, thread ISO G. 1/4" F.



These connections to the vacuum or medical air (for Venturi units) distribution systems, on which the user operates frequent connections and detachments, must ensure high safety when used by the health professionals. The following pages contain main information regarding the available

range of probes with thread connection, for direct coupling on outlets, and hose connection, for mounting on wall rails or floor stands. Here follows we present also various types of support systems for all our kinds of collection jars, and our catheter containers too.

## VACUUM PROBES WITH HOSE CONNECTION



**AFNOR NF-S 90-116** type **EASYFIX®** probe, hose connection  $\varnothing$  7.5 mm.



**UNI 9507** probe, hose connection  $\varnothing$  7.5 mm.



**BS 5682** probe, hose connection  $\varnothing$  7.5 mm.



**DIN 13260** probe, hose connection  $\varnothing$  7.5 mm.



**SS 875 24 30** probe, hose connection  $\varnothing$  7.5 mm.



**JIS T 7101** probe, hose connection  $\varnothing$  7.5 mm.



**SANS 1409** probe, hose connection  $\varnothing$  7.5 mm.



**OHMEDA** probe, hose connection  $\varnothing$  7.5 mm.

## VACUUM REGULATOR OUTLET HOSE CONNECTION



Connector for hose  $\varnothing$  7.5 mm,  
ISO G. 1/2" F. inlet thread.

## RAIL CLAMPING SYSTEMS

---



Anodized aluminum clamp bracket for  
rail 50x10 mm, with nipple threaded  
ISO G. 1/4" F. and hose connector  
 $\varnothing$  7.5 mm.



Anodized aluminum clamp bracket for  
rail 50x10 mm, with slide 25x5 mm,  
30x5 mm or 45x5 mm.



ABS clamp bracket for rail 30x10 mm,  
with nipple threaded ISO G. 1/4" F. and  
hose connector  $\varnothing$  7.5 mm.

---



ABS clamp bracket for rail 30x10 mm, with  
slide 25x5 mm, 30x5 mm or 45x5 mm.



Anodized aluminum wedge for OHMEDA  
rail clamp bracket, with nipple threaded  
ISO G. 1/4" F. and hose connector  
 $\varnothing$  7.5 mm.



Anodized aluminum OHMEDA rail clamp  
bracket.

---



Anodized aluminum wedge for OHMEDA  
rail clamp bracket, with slide 25x5 mm,  
30x5 mm or 45x5 mm.

## WALL BRACKETS



ABS wall bracket, slide 25x5 mm.



ABS wall bracket, slide 30x5 mm.



ABS wall bracket, slide 45x5 mm.

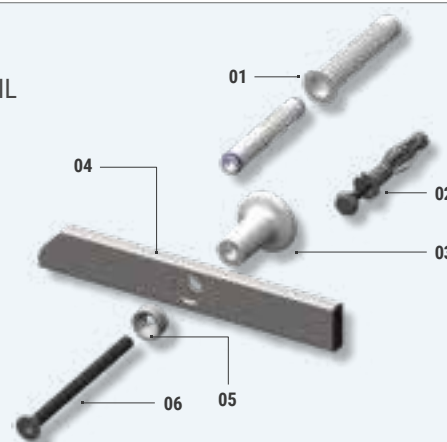
## STAINLESS STEEL RAIL



Stainless steel rail 30x10 mm, brushed, with spacers and fittings, various lengths.

### DIRECTORY - COMPONENTS DETAIL

- 01. Chemical fixings
- 02. Plasterboard fixings
- 03. Rail spacer
- 04. Rail
- 05. Bolt washer
- 06. Bolt



## CATHETER CONTAINERS

**flow-meter™** catheter containers are accessories allowing the operators to put down in a hygienic way the suction hose during their activity. They are made with tube of polycarbonate Ø 54 mm by 400 mm length, and they are fully autoclavable (121 °C - 15 min.).

Moreover these containers can be placed in a specific support ring for rail or trolley, in a single or twin construction.



SINGLE CONSTRUCTION



TWIN CONSTRUCTION



# SUPPORTING DEVICES

## FOR COLLECTION JARS

The range of jars supporting devices includes trolleys, metallic floor stands, ABS support rings and support baskets for all containers sizes and models.

Baskets and rings are manufactured with a strong and stiff hook matching with main slide sizes.



ABS SUPPORT RING FOR **MAK/1000** JAR,  
SLIDES 25x5, 30x5, 41x4,  
45x5 mm HOOK



ABS SUPPORT RING FOR **MONOKIT**<sup>®</sup>  
AND **MAK/2000** JARS, SLIDES 25x5, 30x5,  
41x4, 45x5 mm HOOK



ABS SUPPORT RING FOR **FLOVAC**<sup>®</sup> JARS,  
SLIDES 25x5, 30x5, 41x4,  
45x5 mm HOOK



METALLIC SUPPORT BASKET  
FOR **MAK/4000** JAR, SLIDE 25x5 mm



CLIP FIXING 25x5 mm RINGS FOR TROLLEYS,  
BRACKETS AND WALL PLATES



FLOOR STAND  
SINGLE BASKET FOR **MONOKIT**<sup>®</sup>  
AND **MAK/2000** JARS



5 WHEELS TROLLEY UP TO 4 DIFFERENT JARS (MAK, MONOKIT®, FLOVAC®) WITH VACUUM GAUGE AND 4 ON-OFF TAPS



5 WHEELS TROLLEY UP TO 4 DIFFERENT JARS (MAK, MONOKIT®, FLOVAC®) WITH HANDLE



5 WHEELS TROLLEY UP TO 4 DIFFERENT JARS (MAK, MONOKIT®, FLOVAC®) WITH VACUUM REGULATOR AND 4 ON-OFF TAPS



5 WHEELS TROLLEY UP TO 4 DIFFERENT JARS (MAK AND MONOKIT®) AND UP TO 12 JARS (FLOVAC®) WITH VACUUM REGULATOR AND SAFETY JAR EASYSAFE® AND 4 ON-OFF TAPS



# SUCTION TROLLEY UNITS

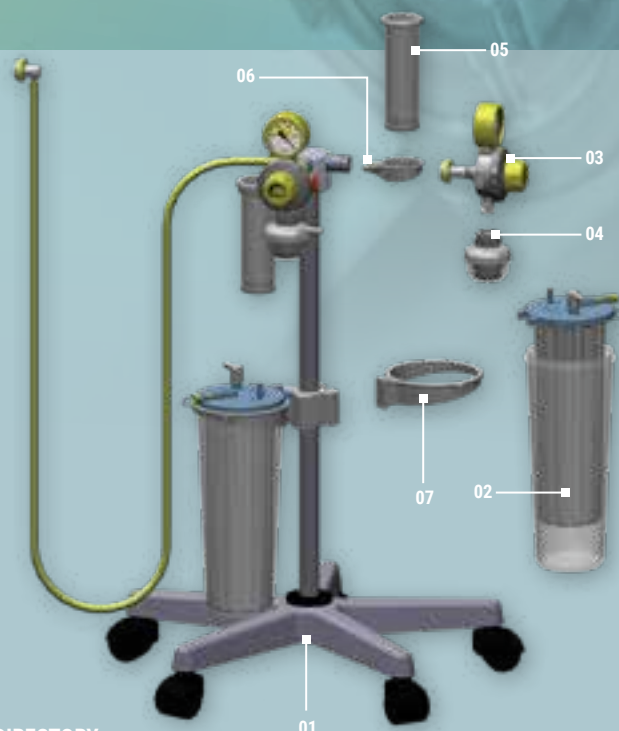
The **flow-meter™** suction trolley units allow to perform suction interventions in a rational and effective manner, as they include in one suction system all the necessary devices for a broad range of surgical and medical procedures, providing the operators with the most suitable solution of use in a hospital environment.

This suction unit system allows to connect to the terminal units fitted on the trolley head one or two **EASYVAC®** vacuum regulators, preferably completed with the relative **EASYSAFE®** safety jar. The slide bracket system on the stand allows to accommodate up to 4 supports for the collection containers of suctioned fluids, disposable or not. The trolley head fits also the catheter container support rings, one for each suction circuit. This to allow the operator to safely store the patient tube after use. The trolley unit fits five antistatic rotating castors, two of which with locking pedal, this to get always an easy, safe and rational positioning.

Please refer to the individual product data sheets to see the characteristics of the various devices associated with the trolley.

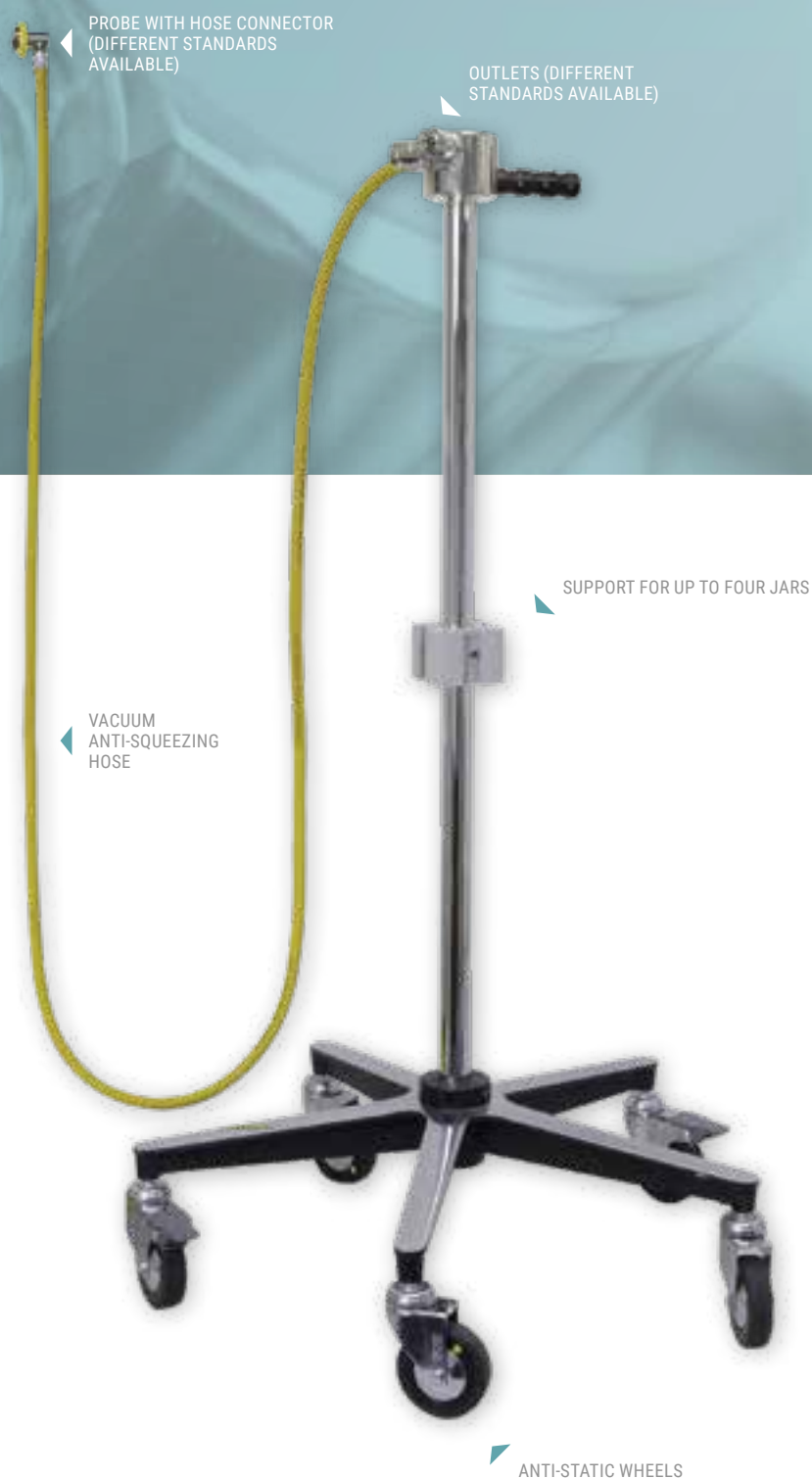


ASSEMBLY EXAMPLE



## DIRECTORY

01. **Universal trolley complete with stand, supply hose and probe**
02. **Collection container**
  - Collection jar MAK/1000 - MAK/2000 - MAK/4000
  - Canister FLOVAC® 1.0 L - 2.0 L - 3.0 L
  - Liner FLOVAC® 1.0 L - 2.0 L - 3.0 L
  - PC reusable jar for Liner FLOVAC® 1.0 L - 2.0 L - 3.0 L
  - MONOKIT® with mechanical valve
  - MONOKIT® with hydrophobic valve
  - PC reusable jar for MONOKIT®
03. **EASYVAC® vacuum regulator**
  - Vacuum regulator EASYVAC®/250 with probe according to the different standards
  - Vacuum regulator EASYVAC®/600 with probe according to the different standards
  - Vacuum regulator EASYVAC®/1000 with probe according to the different standards
04. **EASYSAFE® safety jar**
  - Safety jar EASYSAFE® for vacuum regulator EASYVAC®
05. **Catheter container**
  - Catheter container Ø 50 mm - L=200 mm
06. **Ring for catheter container**
07. **Support ring for collection container**
  - Support ring with slide 25x5 mm for collection canisters FLOVAC®
  - Support ring with slide 25x5 mm for collection jars MAK/1000
  - Support ring with slide 25x5 mm for collection jars MAK/2000 and MONOKIT®
  - Support basket with slide 25x5 mm for collection jars MAK/4000

**TECHNICAL SPECIFICATIONS | Suction trolley units**

<b>DIMENSIONS (LxWxH)</b>	580x580x870 mm
<b>WEIGHT</b>	5.0 Kg (vacuum regulators, collection jars and accessories excluded)
<b>TERMINAL UNITS FOR VACUUM REGULATORS CONNECTION</b>	2 AFNOR NF-S 90-116 / UNI 9507 / DIN 13260 / BS 5682 / SS 875 24 30 outlets
<b>VACUUM SUPPLY HOSE</b>	EN ISO 5359 yellow; length 3 m
<b>PROBE FOR UNIT CONNECTION TO VACUUM PLANT</b>	AFNOR NF-S 90-116 / UNI 9507 / DIN 13260 / BS 5682 / SS 875 24 30
<b>BRACKET SYSTEM FOR COLLECTION JAR SUPPORTS</b>	4 slides with dimensions 25x5 mm

# 03

## PRESSURE REGULATORS AND FLOWMETERS, ALL MEDICAL GASES

In this section we propose our **pressure regulators** (FM series, MU and MERCURY®) and our **Rs flowmeters for applications other than oxygen therapy** (presented in the catalogue specific section). 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 93/42/EEC Directive and the approval criteria set by national and international certified bodies.

50<sup>TH</sup>

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



DOWNLOAD  
PRESSURE REGULATORS AND  
FLOWMETERS, ALL MEDICAL GASES



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.

### PRODUCTS

FM	PRESSURE REGULATORS	90
MU	PRESSURE REGULATORS	92
MERCURY®	PRESSURE REGULATOR WITH AN INTEGRATED CYLINDER VALVE	94
Rs	VARIABLE AREA FLOWMETERS	96

pressure regulators for cylinders,  
pressure regulators with integrated  
cylinder valve and flowmeters



# FM

## PRESSURE REGULATORS

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

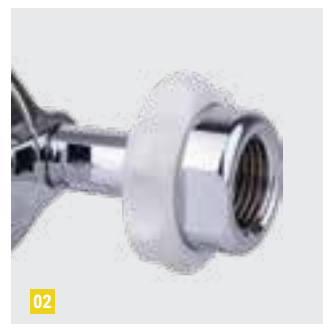
They are equipped with single gauge to check the remaining contents of the cylinder or with double gauge to check and adjust the working conditions according to the user requirements. The **FM** type pressure regulators can be supplied with the calibration of the outlet pressure preset or adjustable 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 gauges damage caused by possible shocks received during transport or use. Appropriate inlet connections are available for all the most commonly used medical gases, according to the various standards used in different Countries.

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.



01

01 OUTLET FOR FM PRESSURE  
REGULATOR (OPTIONAL)

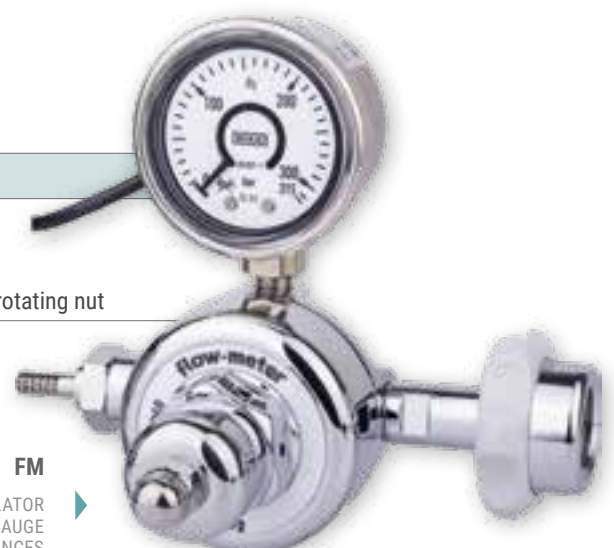
02

02 ONE OF THE SEVERAL  
INLET CONNECTIONS  
FOR CYLINDER DIRECT FITTING

### TECHNICAL SPECIFICATIONS | Pressure regulator for ambulances

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

► OXYGEN SUPPLY SYSTEMS FOR AMBULANCES, PAGE 46

**FM**PRESSURE REGULATOR  
WITH SPECIAL GAUGE  
FOR AMBULANCES

FM  
PRESSURE REGULATOR  
WITH SINGLE GAUGE  
FOR N<sub>2</sub>O



FM

PRESSURE REGULATOR  
WITH SINGLE GAUGE



FM

PRESSURE REGULATOR  
WITH DOUBLE GAUGE

TECHNICAL SPECIFICATIONS	FM SINGLE GAUGE		FM DOUBLE GAUGE	
	MAX. SIZES (LxWxH)	MAX. WEIGHT	MAX. SIZES (LxWxH)	MAX. WEIGHT
<b>OUTLET</b>				
<b>TUBING CONNECTOR Ø 6.5 mm</b>	100x136x120 mm	0.95 Kg	102x136x113 mm	1.14 Kg
<b>TERMINAL UNIT</b>	100x137x120 mm	1.21 Kg	102x137x113 mm	1.40 Kg
<b>THREAD ISO G. 1/4" F.</b>	100x105x120 mm	0.92 Kg	102x105x113 mm	1.11 Kg
<b>MAXIMUM INLET PRESSURE</b>	200 bar (100 bar for N <sub>2</sub> O and CO <sub>2</sub> )			
<b>INLET CONNECTIONS</b>	UNI 11144 • NF-E 29-650 • BS 341-3 • DIN 477-1			
<b>TERMINAL UNIT TYPE (IF PRESENT)</b>	AFNOR NF-S 90-116 • UNI 9507 • BS 5682 • DIN 13260 • SS 875 24 30			
<b>GASES OPTIONS</b>	O <sub>2</sub> • AIR • N <sub>2</sub> O • N <sub>2</sub> • CO <sub>2</sub> • Helium • Hydrogen			



# MU

## PRESSURE REGULATORS

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

They 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<sub>2</sub> or Air according to the various standards used in different Countries and with an outlet hose connector.

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 gauges damage caused by possible shocks received during transport or use.



01



02



03

01 CYLINDER GAS PRESSURE GAUGE

02 INLET CONNECTION ACCORDING TO  
INTERNATIONAL STANDARDS

03 FLOW ADJUSTING KNOB

MU

PRESSURE REGULATOR



MU

PRESSURE REGULATOR  
WITH FRONT FLOW GAUGE



MU

PRESSURE REGULATOR  
WITH SIDE FLOW GAUGE

#### TECHNICAL SPECIFICATIONS | MU

OUTLET	SIZES (LxWxH)	WEIGHT
HOSE CONNECTOR Ø 6.5 mm	127x51x121 mm	0.64 Kg
FRONT FLOW GAUGE	135x87x121 mm	0.72 Kg
SIDE FLOW GAUGE	135x101x121 mm	0.71 Kg
<b>MAXIMUM INLET PRESSURE</b>	200 bar	
<b>INLET CONNECTION</b>	UNI 11144 • EN 850 • NF-E 29-650 • BS 341-3 • DIN 477-1 • ISO 5145	
<b>FLOW GAUGE END OF SCALE VALUE (IF PRESENT)</b>	9 LPM	
<b>FLOW GAUGE ACCURACY (IF PRESENT)</b>	±10% read value or ±0.5 L/min. if greater	

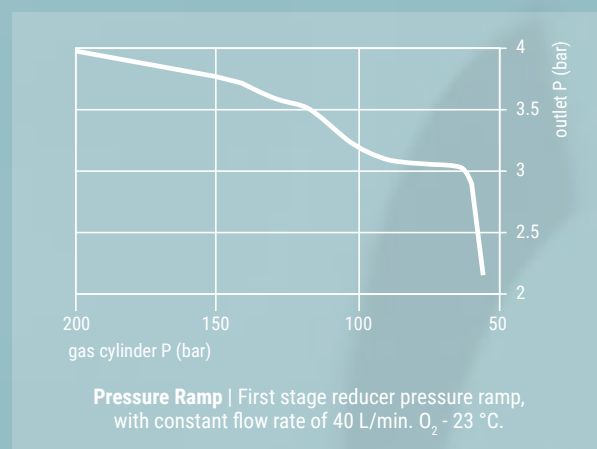


# MERCURY®

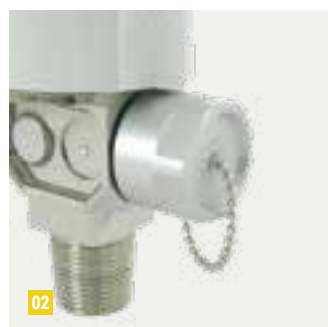
## PRESSURE REGULATOR WITH AN INTEGRATED CYLINDER VALVE

The **MERCURY®** pressure regulators, complete with an integrated cylinder valve, are suitable for direct mounting on oxygen cylinders using the threaded connector 25E (EN 629-1) or 17E (EN ISO 11116-1).

The **MERCURY®** pressure regulators have a refilling valve appropriate to the required standards of the country of destination. An ergonomic knob allows the user to quickly open and close the cylinder flow, and gives a clear indication about the status of the system (ON-OFF). This device has a double stage preset output pressure, with a control gauge to indicate the pressure in the gas cylinder. The **MERCURY®** pressure regulator has a chrome-plated brass structure and is equipped with a preset overpressure valve as a protection against any malfunction in the system. A flowmeter with calibrated orifices supplies the gas through a hose connector with flow adjustable from 2 to 14 L/min., in intervals of 2 L/min. A terminal unit (optional) can be integrated to supply emergency apparatus.



**PERFORMANCE FEATURES** | The **MERCURY®** pressure regulator may be opened and quickly and easily closed; the high pressure closure is obtained through a bistable, two-way drum valve with outlet, controlled by a knob which houses a lever directly connected to the drum enabling movement from the closed to the open position. The knob has two stable positions obtained through a ball and spring system. The rotary movement of the ring covers or uncovers the ON-OFF symbols, and the window which appears has a red background corresponding with the closed position, or a green background corresponding with the open position, enabling the status of the device to be visible at a distance. The gas cylinder is recharged through a one-way valve with a protective cap. The first stage reducer has been sized to guarantee the flow of gas to the patient and those necessary for the operation of any equipment connected to the specific gas outlet. The overpressure valve is set during manufacture and is non-modifiable. First and second stage regulations are also set during manufacture. A calibrated orifice flowmeter forms part of the regulator valve body and cannot be detached without opening and disabling the valve itself.



01 **MERCURY®** WITH EXTERNAL PROTECTION

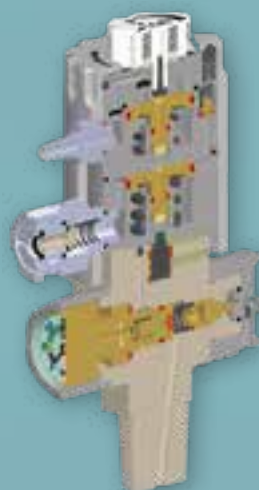
02 **CYLINDER REFILLING VALVE** WITH SCREWED PROTECTIVE CAP





**WORKING PRINCIPLE** | The **MERCURY®** pressure regulators basically consist of:

- a coupling with conical threading 25E or 17E for connection of the valves to the gas cylinder;
- a gas recharging coupling of the residual pressure type, with a shutter (dimensions comply with the different reference standards of the country of destination);
- a hose coupling for supply of the gas necessary for the therapy being performed;
- a control gauge, to display the gas cylinder pressure value, with external metal protection against accidental blows;
- a general open/close knob, with visual indication via a colored plate of the system functioning status (ON-OFF);
- an overpressure valve, pre-calibrated to a value of twice the nominal operating pressure, able to guarantee adequate protection against any system anomalies;
- a calibrated orifice flowmeter enabling regulation of the gas flow supplied through a suitably graduated adjusting knob;
- a chrome-plated brass body, within which are assembled the components necessary to reduce pressure with a piston system;
- a plant terminal unit, connected after the first stage pressure reducer (optional accessory in substitution of the appropriate stopper), enables supply of a medical device for emergency resuscitation.



The first and second stage pressure reducers on the **MERCURY®** pressure regulator ensure that the medical gas supply pressure in the cylinder is reduced and maintained within the following values:

- 400 ± 50 kPa after the first stage, to enable gas supply through the terminal unit (optional accessory);
- 200 ± 10 kPa before the flowmeter.

**TECHNICAL SPECIFICATIONS | MERCURY®**

<b>SIZES (LXWXH)</b>	without outlet: 105x65x162 mm with AFNOR NF-S 90-116 outlet: 108x65x162 mm with UNI 9507 outlet: 119x65x162 mm
<b>WEIGHT</b>	without outlet: 1.600 Kg with AFNOR NF-S 90-116 outlet: 1.680 Kg with UNI 9507 outlet: 1.72 Kg
<b>MAXIMUM OPERATING PRESSURE</b>	200 bar
<b>MANOMETER</b>	end of scale 315 bar with indication of the cylinder charge status, even when the valve is closed
<b>GAS CYLINDER COUPLING</b>	25E (EN 629-1) • 17E (EN ISO 11116-1)
<b>RECHARGE VALVE SUPPLY COUPLING</b>	UNI 11144 • NF-E 29-656 • BS 341-3 • DIN 477-1 • ISO 5145
<b>TERMINAL UNITS (OPTIONAL)</b>	AFNOR NF-S 90-116 • UNI 9507 • BS 5682 • DIN 13260 • SS 875 24 30
<b>TERMINAL UNITS SUPPLY PRESSURE (IF PRESENT)</b>	400 kPa ± 50 kPa (with cylinder pressure from 160 to 60 bar)
<b>OUTLET HOSE CONNECTOR</b>	Ø 6.5÷8.5 mm
<b>FLOWMETER</b>	standard full scale flow rate: 14 L/min. • 30 L/min. accuracy: ±10% of value read or ±0.5 L/min. if greater



# Rs

## VARIABLE AREA FLOWMETERS

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

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

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.

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.



**Rs twin**

CHROME-PLATED BRASS BODY  
TWIN CONSTRUCTION



RS ABS KNOBS, COLOR CODED  
FOR GAS SPECIFICITY





Rs

CHROME-PLATED BRASS BODY  
SINGLE CONSTRUCTION

#### TECHNICAL SPECIFICATIONS | Rs

<b>SIZES (LxWxH)</b>	80x33x136 mm
<b>WEIGHT</b>	0.24 Kg
<b>SUPPLY MAX. PRESSURE</b>	600 kPa
<b>END OF SCALE VALUES - 350 kPa</b>	1 L/min. • 4 L/min. • 5 L/min. • 10 L/min. • 15 L/min. • 20 L/min. • 30 L/min. • 50 L/min.
<b>FLUIDS</b>	O <sub>2</sub> • AIR • N <sub>2</sub> • CO <sub>2</sub> • N <sub>2</sub> O
<b>ACCURACY</b>	±10% read value or ±0.5 L/min. (±0.2 L/min. for flow < than 1 L/min.) if greater
<b>INLET CONNECTION</b>	ISO G 1/8" F. • ISO G 1/4" M. • 1/4"NPT M. • 3/8" ISO 3253 F. • M 12x1 F.
<b>OUTLET CONNECTION</b>	1/4" ISO 3253 M. • 3/8" ISO 3253 M. • M 12x1.25 M. • 9/16" UNF EN 13544-2 M. • 1/2" BSF F.

# 04 FLOWMETER UNITS

The range of anesthesia **flowmeter units series FM, SF and RM**, available in different configurations, makes it possible to offer many options to meet various requirements in the operating theatre, mobile units and field hospitals.

50<sup>TH</sup>

DOWNLOAD  
FLOWMETER UNITS



**flow-meter™** anesthesia flowmeters are manufactured in total compliance with all relevant EU standards and meet the requirements of the European Directive 93/42/EEC, ensuring that they can be relied upon for **total safety** even in the most stressful situations.

04

### PRODUCTS

FM	FLOWMETERS	100
SF	FLOWMETERS	102
EasyMIX®	OXYGEN/AIR MIXER	104
EasyVEE®	FLOW DRIVER "JET"	106
RM	FLOWMETERS	112
O <sub>2</sub> +	FLUSH DEVICE	114

flowmeter devices, by-pass systems,  
flow driver "jet"

# FM

## FLOWMETERS

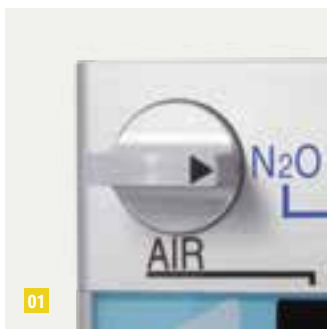
The **FM** flowmeters are devices for the supply of medical gases with two to six antistatic and graduated tubes and completed with an integrated dosage unit.

The body is made of anodized aluminum and the inlet connections for O<sub>2</sub>, Air and N<sub>2</sub>O at the bottom of the flowmeter are arranged to be connected to hospital centralized gas plants or to cylinders complete with pressure regulators.

The gas feeding unit includes a safety valve automatically blocking the N<sub>2</sub>O supply when the feeding pressure of O<sub>2</sub> drops below the value of approximately 0.4 bar. The mixtures of O<sub>2</sub> and N<sub>2</sub>O can be supplied to the patient through a dosage unit.

An incorporated mixing device proportions the N<sub>2</sub>O in such a way that a minimum of at least 30% of O<sub>2</sub> is always present in the gas mixture. At the outlet of the dosage unit, an anesthesia evaporator can be connected or the gas mixture can be supplied directly to the patient through the gas feeding unit. The O<sub>2</sub>+ flush button can be used for a quick supply of O<sub>2</sub> directly at the outlet of the mixture on the gas feeding unit.

TECHNICAL SPECIFICATIONS	FM 2200	FM 2300	FM 2500	FM 2800	FM 2900
<b>SIZES (LxWxH)</b>	148x143x318 mm	148x143x318 mm	148x143x318 mm	148x143x318 mm	148x190x318 mm
<b>WEIGHT</b>	5.52 Kg	5.57 Kg	5.64 Kg	5.69 Kg	7.20 Kg
<b>DOSAGE RANGE</b>	O <sub>2</sub> : 0.2 - 15 L/min. N <sub>2</sub> O: 0.2 - 12 L/min.	O <sub>2</sub> : 0.1 - 1 L/min. 0.2 - 15 L/min. N <sub>2</sub> O: 0.1 - 1 L/min. 0.2 - 12 L/min.	O <sub>2</sub> : 0.2 - 15 L/min. Air: 0.2 - 15 L/min. N <sub>2</sub> O: 0.2 - 12 L/min.	O <sub>2</sub> : 0.1 - 1 L/min. 0.2 - 15 L/min. Air: 0.2 - 15 L/min. N <sub>2</sub> O: 0.1 - 1 L/min. 0.2 - 12 L/min.	O <sub>2</sub> : 0.1 - 1 L/min. 0.2 - 15 L/min. Air: 0.2 - 15 L/min. N <sub>2</sub> O: 0.1 - 1 L/min. 0.2 - 12 L/min. CO <sub>2</sub> : 0.1 - 2 L/min. (limited at 1 L/min.)
<b>ACCURACY</b>	±10% read value or ±0.3 L/min. if greater (± 10% E.O.S. for flow < than 1 L/min.)				
<b>INLET PRESSURES</b>	3.5 - 5 bar ±20%				
<b>N<sub>2</sub>O BLOCKING DEVICE</b>	the supply of N <sub>2</sub> O is blocked when the O <sub>2</sub> pressure drops below 0.4 bar ±0.2 bar.				
<b>CHARGE LOSS LEVEL, SIDE UNDER PRESSURE (BEFORE THE ADJUSTING NEEDLE VALVES)</b>	less than 25 ml/min. in normal pressure conditions (ISO 5358)				
<b>CHARGE LOSS LEVEL, LOW PRESSURE SIDE (AFTER THE ADJUSTING NEEDLE VALVES, VAPORIZER EXCLUDED)</b>	less than 25 ml/min. at 30 cm H <sub>2</sub> O				
<b>HYPOXYGUARD SYSTEM</b>	at least 30% -3% O <sub>2</sub> is guaranteed in the mixture with N <sub>2</sub> O opening value equal to 0.4 L/min. (with inlet pressures of 3.5 bar)				
<b>MIXED GASES OUTLET CONNECTION</b>	conical connection 23 mm F ISO DIN 5356/1				
<b>GASES INLET CONNECTIONS</b>	hose connector Ø 6 mm				
<b>O<sub>2</sub> QUICK DOSAGE (IF FORESEEN)</b>	when pushed it can supply more than 45 L/min. O <sub>2</sub>				



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01 GAS SELECTOR DETAIL

02 O<sub>2</sub>+ FLUSH BUTTON DETAIL

03 KNOB DETAIL



# SF

## FLOWMETERS

The **SF** flowmeters are devices for the supply of medical gases particularly suitable in respiratory therapy.

They are made of anodized aluminum body, and they are available with one or more graduated tubes and a built-in dosage unit. The inlet connections are at the bottom of the unit and arranged to be connected to the hospitals centralized gas plants or to cylinders complete with pressure regulators. For veterinary use, an anesthesia evaporator can be connected at the outlet of the dosage unit.

TECHNICAL SPECIFICATIONS	SF 1	SF 2	SF 3	SF 4
<b>SIZES (LxWxH)</b>	115x73x294 mm	115x114x294 mm	115x137x294 mm	115x170x294 mm
<b>WEIGHT</b>	1.12 Kg	1.61 Kg	2.00 Kg	2.40 Kg
<b>DOSAGE RANGE</b>	O <sub>2</sub> : 0.1 - 1 L/min. 0.1 - 8 L/min. 0.2 - 15 L/min. N <sub>2</sub> O: 0.1 - 1 L/min. 0.2 - 12 L/min. Air: 0.2 - 15 L/min.			
<b>ACCURACY</b>	±10% read value or ± 0.3 L/min. if greater (±10% E.O.S. for flow < than 1 L/min.)			
<b>INLET PRESSURES</b>	3.5 - 5 bar ±20%			
<b>CHARGE LOSS LEVEL, SIDE UNDER PRESSURE (BEFORE THE ADJUSTING NEEDLE VALVES)</b>	less than 25 ml/min. in normal pressure conditions (ISO 5358)			
<b>CHARGE LOSS LEVEL, LOW PRESSURE SIDE (AFTER THE ADJUSTING NEEDLE VALVES)</b>	less than 25 ml/min. at 30 cm H <sub>2</sub> O			
<b>MIXED GASES OUTLET CONNECTION</b>	Ø 22 M. - 15 F. ISO DIN 5356-1 or conical connection 23 mm F ISO DIN 5356/1 (for veterinary use only)			
<b>GASES INLET CONNECTIONS</b>	hose connector Ø 6 mm			



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01 GAS ADJUSTING KNOBS

02 INLET HOSE CONNECTORS, DETAIL



# EasyMIX<sup>®</sup>

## OXYGEN/AIR MIXER

The oxygen/air mixer type **EasyMIX<sup>®</sup>** is a single device that can be used in oxygen therapy, aerosol therapy and CPAP therapy with the possibility to constantly monitor the oxygen concentration present in the supplied mixture through an on-line oxygen analyzer (optional).

The device is composed by two variable area flowmeter groups, one for oxygen with a dual scale 2-10 L/min. and 10-50 L/min. and one for medical air with scale 6-50 L/min, both assembled in a single body made of anodized aluminium equipped with a clamp for rail 30x10 mm with locking knob. The two independent inlet threads NIST EN ISO 5359, made of chrome-plated brass, allows a connection to the supply source through low pressure hose assemblies fitted with probes according to the user's plant and fixed in an unmovable way.

The 2-in-1 connector for the mixture outlet offers several solutions:

- the thread 9/16" UNF EN 13544-2 M. allows to screw a reusable, single patient or prefilled humidifier;
- a connector with diameter 22 M. ISO DIN 5356-1 allows the connection to a system for the CPAP therapy, through a corrugated hose;
- a metal hose connector  $\varnothing 6.0 \div 8.5$  mm, already supplied with the device, for a direct connection to the patient hose (nose catheter or hose with mask).

A single device able to satisfy different use requirements in the field of the respiratory therapy.



EasyMIX<sup>®</sup>

WITH HUMIDIFIER



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01 DETAIL OF OUTLET  
WITH HOSE CONNECTOR  
(SUPPLIED WITH THE DEVICE)

02 DETAIL OF OUTLET  
WITH CORRUGATED HOSE

03 DETAIL OF DUAL SCALE  
FOR OXYGEN

EXCELLENCE IN INNOVATION  
BREAKTHROUGH TECHNOLOGY  
INTELLIGENT DESIGN







EasyMIX®



EasyMIX®

WITH OXYGEN ANALYZER

**TECHNICAL SPECIFICATIONS | EasyMIX®**

<b>SIZES (LxWxH)</b>	110x130x157 mm
<b>WEIGHT</b>	1.0 Kg 1.2 Kg with Oxygen Analyzer (optional)
<b>SUPPLY MAX PRESSURE</b>	600 kPa (6 bar)
<b>GASES OPTIONS</b>	O <sub>2</sub> • Air
<b>STANDARD SCALES - 400 kPa (4 bar)</b>	O <sub>2</sub> dual scale 2-10 L/min. - 10-50 L/min. Air 6-50 L/min.
<b>ACCURACY</b>	±10% read value or ±0.5 L/min. if greater
<b>SUPPLY CONNECTIONS</b>	independent NIST EN ISO 5359
<b>MIXED GASES OUTLET CONNECTION</b>	9/16" UNF EN 13544-2 M. - Ø 22 M. ISO DIN 5356-1 + an incorporated metal outlet hose connector Ø 6.0 ÷ 8.5 mm

**TECHNICAL SPECIFICATIONS | Oxygen Analyzer**

<b>SENSOR TYPE</b>	electrochemical
<b>RANGE OF MEASUREMENT</b>	0÷99% Vol. oxygen
<b>DISPLAY INDICATION</b>	1% Vol.
<b>MEASUREMENT TIME</b>	1 sec.
<b>RESPONSE TIME</b>	< 5 sec.
<b>ACCURACY</b>	±3% read value



# EasyVEE®

## FLOW DRIVER "JET"

The Jet device (Venturi unit) works as a high flow driver (booster) for high flow oxygen therapy through the use of HFNC or for CPAP, and it requires the gas supply from an Oxygen source only.

For CPAP application, this device must be used only for the ventilation with the specific mask or with hood. It requires a PEEP valve placed on the outlet of the expiratory side.

The JET system is mainly indicated for:

- Acute respiratory distress syndrome (ARDS)
- Severe respiratory distress
- Post-surgery hypoxemia
- Asthma
- Chronic obstructive pulmonary disease (COPD)
- Thoracic trauma
- Prophylaxis and treatment of acute apnoea attacks
- Pulmonary oedema and atelectasis of varying origins, and for weaning from a mechanical ventilator.

In hyaline membrane diseases, the alveoli expand with difficulty during inspiration and tend to collapse during expiration. Loss of alveolar tone associated with other causes such as endoalveolar transudation, interstitial oedema, the lack of or deficient surfactants, cause a series of modifications in the respiratory mechanism and distribution of air in the lungs leading to severe and progressive respiratory distress. Alveolar distension can be partially supported with a continuous positive airway pressure (CPAP), between the respiratory tract and the outside, throughout the entire respiratory cycle.

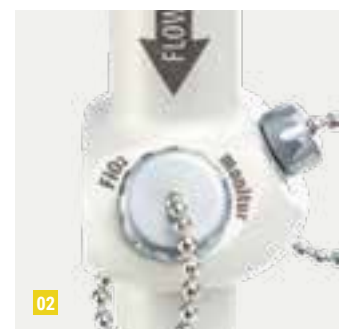
The aim of the pressure gradient is to:

- Ensure a greater opening of the alveoli during inspiration
- Prevent alveolar collapse at the end of expiration, by maintaining a PEEP level
- Reduce the effort necessary to breathe, thus avoiding hypoxemia, hypercapnia, metabolic and respiratory acidosis typical of IRDS.

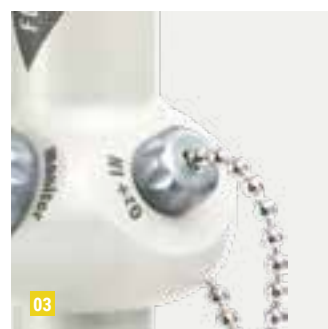
CPAP respiration, applied with any method, requires the patient's efficient spontaneous respiration (cases with frequent apnoea, or severe respiratory failure, require ventilator support). To the patient is administered a gaseous mixture, with an appropriate concentration of O<sub>2</sub>, metered in L/min. by one or two oxygen flow meters, and the CPAP is obtained by discharging through a respiratory circuit terminal (PEEP valve), the expired gases.



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01 INTAKE AMBIENT AIR INLET  
WITH ADJUSTABLE KNOB

02 FiO<sub>2</sub> MONITOR PORT

03 FiO<sub>2</sub>+ PORT

DOWNLOAD THE APP - EasyVEE®



EXCELLENCE IN INNOVATION  
BREAKTHROUGH TECHNOLOGY  
INTELLIGENT DESIGN





The **possible applications** are the following:

1. application for twin high flow flowmeter
2. application for single high flow flowmeter

#### TECHNICAL SPECIFICATIONS | EasyVEE®

<b>SIZES (LxWxH)</b>	150x100x55 mm
<b>WEIGHT</b>	0.35 Kg 0.55 Kg with oxygen analyzer (optional)
<b>SUPPLIED GAS</b>	O <sub>2</sub>
<b>SUPPLIED STANDARD PRESSURE</b>	400 kPa (4 bar) +/- 10%
<b>FiO<sub>2</sub> ADJUSTMENT</b>	from 35% to max 99%
<b>OXYGEN SUPPLY CONNECTION</b>	9/16" UNF EN 13544-2 F.
<b>INLET CONNECTION FOR THE INTAKE AMBIENT AIR</b>	Ø22 F. ISO DIN 5356-1
<b>OUTLET CONNECTION</b>	Ø22 M. - 16 F. ISO DIN 5356-1

#### TECHNICAL SPECIFICATIONS | Oxygen Analyzer

<b>SENSOR TYPE</b>	electrochemical
<b>RANGE OF MEASUREMENT</b>	0÷99% Vol. oxygen
<b>DISPLAY INDICATION</b>	1% Vol.
<b>MEASUREMENT TIME</b>	1 sec.
<b>RESPONSE TIME</b>	< 5 sec.
<b>ACCURACY</b>	±3% read value



EasyVEE® twin flowmeter

### 1. APPLICATION FOR TWIN HIGH FLOW FLOWMETER

Flowmeter [A] with end of scale 30 L/min. -  
Flowmeter [B] with end of scale 15 L/min. or 30 L/min.

In this configuration, the flow driver **EasyVEE®** is equipped with a supply connector mounted on the outlet of the first flowmeter [A], working as a "driver" source for the venturi system. Connected to Venturi Jet port through a hose, the second flowmeter [B] allows the adjustment of the O<sub>2</sub> concentration value (FiO<sub>2</sub>) present in the mixture given to the patient. In addition, the flow driver **EasyVEE®** gives the possibility to monitor constantly the oxygen concentration present in the supplied mixture through an on-line oxygen analyzer (optional), connected to the FiO<sub>2</sub> monitor port. The connector for the ambient air intake (Ø 22 F) and the mixture outlet connector (Ø 22 M - 16 F) are both in accordance with Standard ISO DIN 5356-1, enable to add an on-line antimicrobial filter assuring a protection for the patient and reducing the noise of the system, thus giving a higher comfort during the therapy.

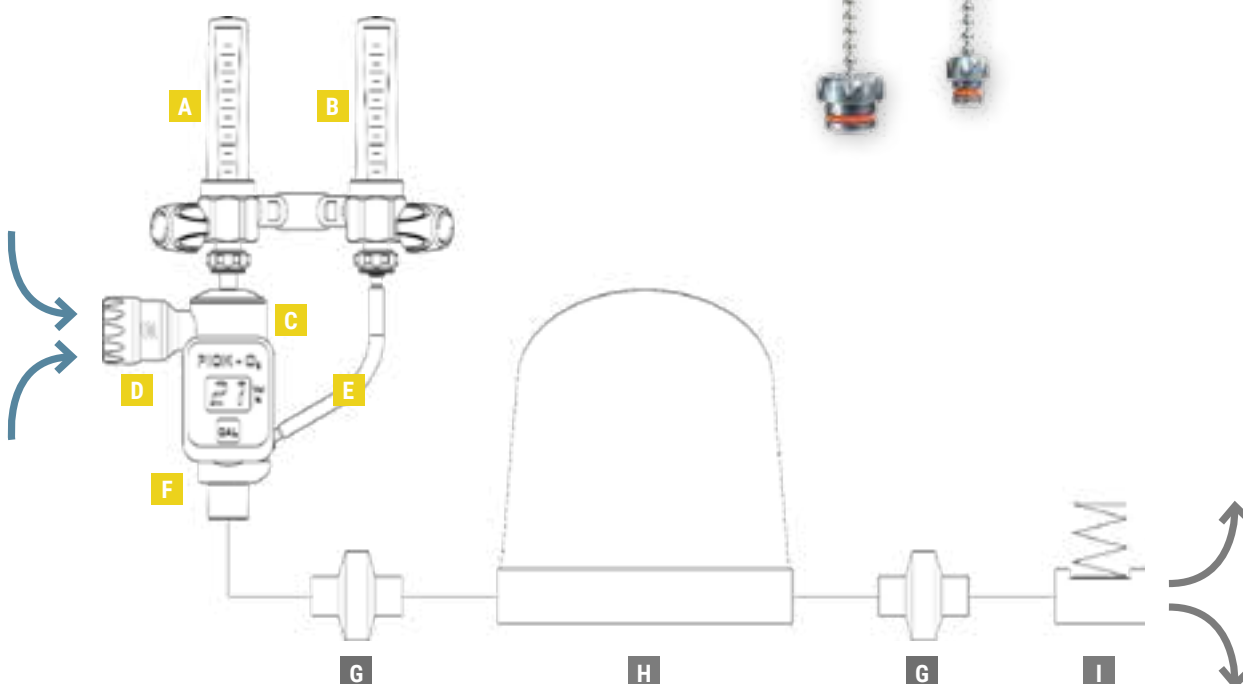
- A** High flow Oxygen flowmeter driver (30 L/min.)
- B** Flowmeter for the additional dosage of Oxygen in the respiratory mixture (adjustment of  $FiO_2$  - 15 L/min. or 30 L/min.)
- C** Jet Device (Venturi): works as a high flow driver (booster) for the non-invasive ventilation
- D** The connector for the intake ambient air with adjustable knob
- E** Hose for the connection of the  $FiO_2$  port, present on the device Jet (Venturi), with the flowmeter (B) used for the additional dosage of Oxygen in the respiratory mixture
- F** On-line oxygen analyzer (optional)

OTHER SUPPLIER:

- G** Antimicrobial filter
- H** Hood (or facial mask) for CPAP
- I** PEEP valve



EasyVEE® twin flowmeter  
WITH OXYGEN ANALYZER





EasyVEE® single flowmeter

## 2. APPLICATION FOR SINGLE HIGH FLOW FLOWMETER

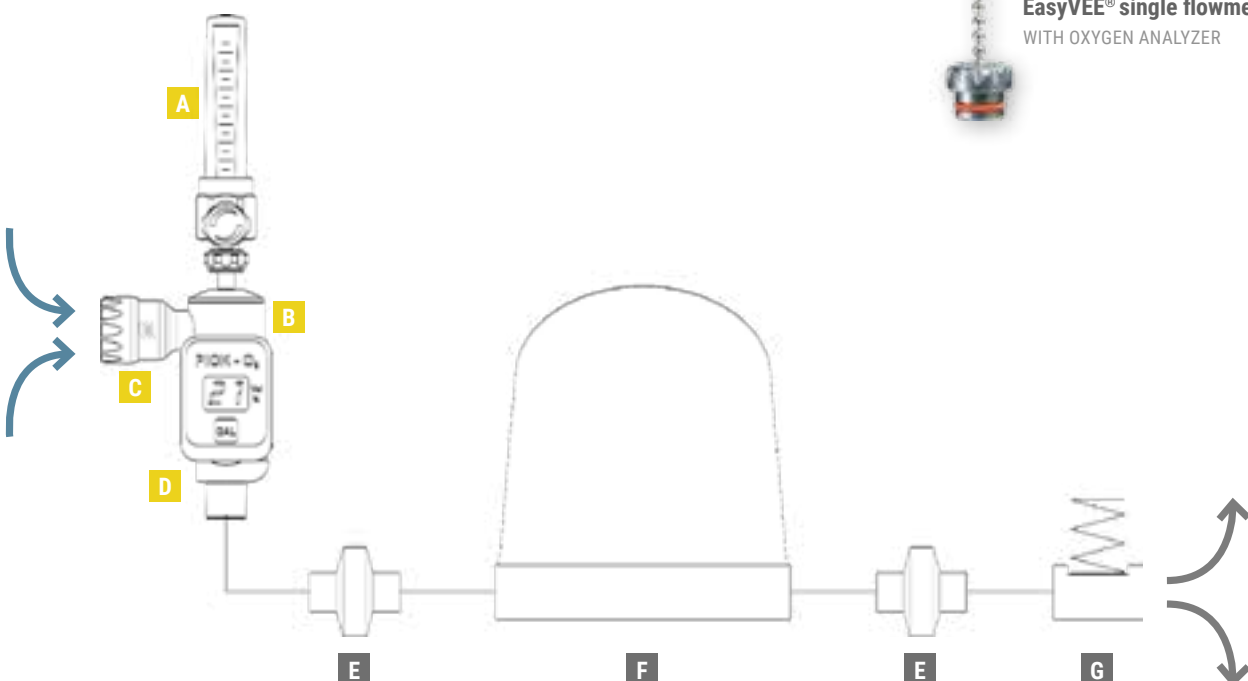
Flow range 50 L/min. with double scale:  
2÷10 L/min. and 10÷50 L/min.

The **EasyVEE®** Jet device is equipped with an inlet connection to be mounted on the outlet of the variable area flowmeter, working as a "driver" source for Venturi. The intake ambient air regulator, complete with connector Ø 22 F. - according to ISO DIN 5356-1, allows the adjustment of the oxygen concentration value (FiO<sub>2</sub>) of the mixture supplied to the patient. The Jet device gives the possibility to monitor constantly the oxygen concentration present in the supplied mixture through an on-line oxygen analyser (optional), connected to the FiO<sub>2</sub> monitor port. The mixture outlet connector (Ø 22 M - 16 F) made in accordance with Standard ISO DIN 5356-1 enables to add an on-line antimicrobial filter assuring a protection for the patient and reducing the noise of the system, thus giving a higher comfort during the therapy.

- A** Single high flow flowmeter driver (flow range 50 L/min. with double scale: 2÷10 L/min. and 10÷50 L/min.)
- B** Jet Device (Venturi): works as a high flow driver (booster) for the non-invasive ventilation
- C** The connector for the intake ambient air with adjustable knob
- D** On-line oxygen analyzer (optional)

OTHER SUPPLIER:

- E** Antimicrobial filter
- F** Hood (or facial mask) for CPAP
- G** PEEP valve



▲  
EasyVEE® single flowmeter  
WITH OXYGEN ANALYZER



# RM

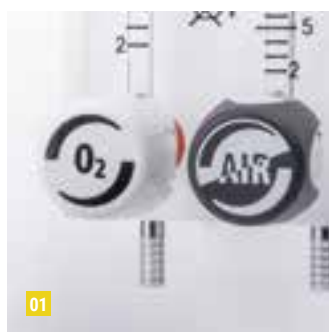
## FLOWMETERS

The flowmeters type **RM/145-2** and **RM/185-2** are devices for the supply of medical gases with two meters suitable in respiratory therapy.

The measurement tubes are made in the body of the unit and the inlet connections are at the bottom of the units and arranged to be connected to the hospitals centralized gas plants or to gas cylinders completed with pressure regulators. For veterinary use, an anesthesia evaporator can be connected at the outlet of the dosage unit.

TECHNICAL SPECIFICATIONS	RM/145-2	RM/185-2
<b>SIZES (LxWxH)</b>	99x83x164 mm	99x83x204 mm
<b>WEIGHT</b>	0.52 Kg	0.60 Kg
<b>DOSAGE RANGE O<sub>2</sub> • N<sub>2</sub>O • AIR</b>	5 L/min. • 15 L/min. • 30 L/min. • 40 L/min.	
<b>ACCURACY</b>	± 10% read value or ± 0.5 L/min. if greater (±10% E.O.S. for flow < than 1 L/min.)	
<b>INLET PRESSURES</b>	3.5 - 5 bar ±20%	
<b>CHARGE LOSS LEVEL, SIDE UNDER PRESSURE (BEFORE THE ADJUSTING NEEDLE VALVES)</b>	less than 25 ml/min. in normal pressure conditions (ISO 5358)	
<b>CHARGE LOSS LEVEL, LOW PRESSURE SIDE (AFTER THE ADJUSTING NEEDLE VALVES, VAPORIZER EXCLUDED)</b>	less than 25 ml/min. at 30 cm H <sub>2</sub> O	
<b>MIXED GASES OUTLET CONNECTION</b>	Ø 22 M. - 15 F. ISO DIN 5356-1 or conical connection 23 mm F ISO DIN 5356/1 (for veterinary use only)	
<b>GASES INLET CONNECTIONS</b>	hose connector Ø 6 mm	





01 ADJUSTING KNOBS

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# O<sub>2</sub>+

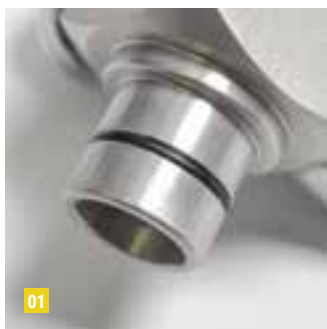
## FLUSH DEVICE

The O<sub>2</sub>+ flush device is suitable for a quick oxygen supply directly at the mixed gases outlet at the end of an anesthesia circuit.

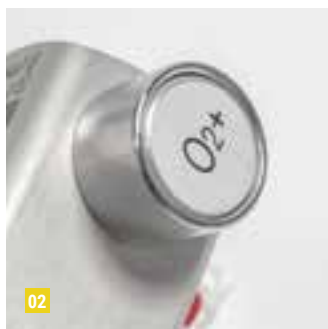
Made of anodized aluminum, it is equipped with an anesthetic mixture inlet connection, an oxygen enriched mixture outlet connection, an O<sub>2</sub> feeding connection and a supply button. Different constructions can be made on request.

### TECHNICAL SPECIFICATIONS | O<sub>2</sub>+ flush device

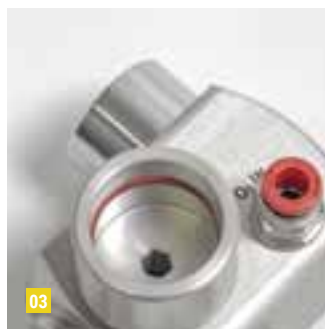
<b>SIZES (LxWxH)</b>	93x63x80 mm
<b>WEIGHT</b>	0.34 Kg
<b>MIXED GASES INLET CONNECTION</b>	conical connection 23 mm M., ISO DIN 5356/1
<b>MIXED GASES OUTLET CONNECTION</b>	conical connection 23 mm F., ISO DIN 5356/1
<b>FEEDING</b>	3.5 - 5 bar ±20%
<b>O<sub>2</sub> FEEDING CONNECTION</b>	automatic type for Ø 6 mm PA hose
<b>O<sub>2</sub> QUICK SUPPLY</b>	when pushed it can supply more than 45 L/min. O <sub>2</sub> (at 3.5 bar)



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01 INLET CONNECTION IN DETAIL

02 O<sub>2</sub>+ FLUSH BUTTON, DETAIL03 OUTLET AND O<sub>2</sub>+ FEEDING CONNECTORS, DETAIL

# 05

## TERMINAL UNITS AND ACCESSORIES

In the first part of this section we present the **terminal units for medical gases installations**, with the relevant technical information. As terminal units are intended those fixed or removable points of a medical gas distribution plant on which the user operates frequent connections and disconnections to supply the various gases for feeding the anesthesia equipment, for ventilation, oxygen therapy and medical use in general. These terminal units are designed and manufactured in accordance with various national and international standards providing operators with high standards of safety during the use. Here below the main information on terminal units range and related components are presented and illustrated, even in the special version for anesthetic gas scavenging systems or for oxygen supply in ambulances. Furthermore, we propose the probes with thread or hose connection, the outlet duplicators and the low pressure hose assemblies EN ISO 5359. Please report for a direct contact with **flow-meter™** for detailed information.

50<sup>TH</sup>

The second part **presents the range of accessories** including a wide variety of clamp brackets for rail or floor stands, ABS wall brackets with various slide dimensions, brushed stainless steel rails complete with spacers and wall or plasterboard fasteners, medical gas hoses EN ISO 5359, catheter containers, jointed extensions and phleboclysis rods. These accessories give the possibility to complete the proposals offering the best solutions for the customer requirements, according to the different using needs in hospitals and in emergencies.

DOWNLOAD  
TERMINAL UNITS AND ACCESSORIES



## PRODUCTS

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terminal units, rails, fixing devices,  
phleboclysis rods, jointed extension,  
low pressure hose assemblies

# TERMINAL UNITS

The terminal units for medical compressed gases and vacuum are the points allowing operators in hospitals to connect medical appliances to the gas distribution systems.

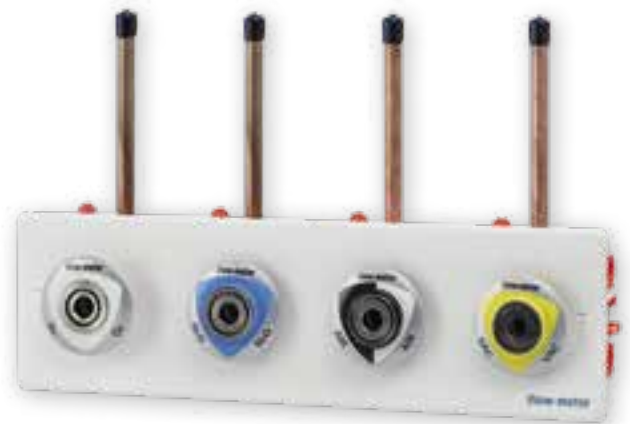
## MAIN FEATURES:

- Gas-specificity to grant safe connections
- Color code according to international standards
- Available in construction of 1 to 4 units
- According to AFNOR NF-S 90-116/NF-DS 90-119, NIST EN ISO 5359, UNI 9507, DIN 13260, BS 5682, SS 875 24 30 standards
- Possibility of surface or flush mounted installation.



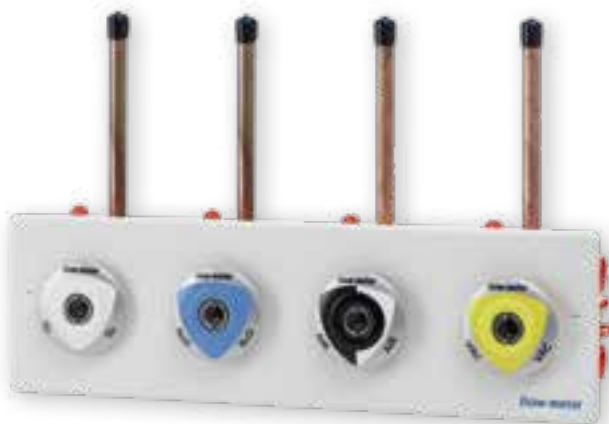
**DIN 13260 outlets**

FLUSH-MOUNTED INSTALLATION WITH DIN 13260 OUTLETS  
(SURFACE INSTALLATION ALSO AVAILABLE)



**BS 5682 outlets**

FLUSH-MOUNTED INSTALLATION WITH BS 5682 OUTLETS  
(SURFACE INSTALLATION ALSO AVAILABLE)



**SS 875 24 30 outlets**

FLUSH-MOUNTED INSTALLATION WITH SS 875 24 30  
OUTLETS (SURFACE INSTALLATION ALSO AVAILABLE)



**AFNOR NF-S 90-116/NF-DS 90-119/  
NIST EN ISO 5359 outlets**

FLUSH-MOUNTED INSTALLATION WITH  
AFNOR NF-S 90-116/NF-DS 90-119/NIST EN ISO 5359 OUTLETS

**UNI 9507 outlets**

FLUSH-MOUNTED INSTALLATION WITH  
UNI 9507 OUTLETS (SURFACE INSTALLATION  
ALSO AVAILABLE)

**AFNOR NF-S 90-116/  
NF-DS 90-119/NIST EN ISO 5359 outlets**

SURFACE INSTALLATION WITH AFNOR NF-S 90-116/  
NF-DS 90-119/NIST EN ISO 5359 OUTLETS

TERMINAL UNITS | COMPONENTS | **WALL CASES**



Modular flush-mounted case, complete with disposable panel, suitable for housing **AFNOR NF-S 90-116/NF-DS 90-119, UNI 9507, DIN 13260, BS 5682** and **SS 875 24 30** sockets and outlets.



Shiny ABS cover panel for modular flush-mounted cases for **AFNOR NF-S 90-116/NF-DS 90-119, UNI 9507, DIN 13260, BS 5682** and **SS 875 24 30** type outlets. Available with 1, 2, 3 or 4 positions.



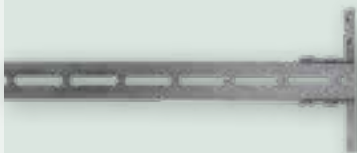
Surface mounted case, complete with varnished stainless steel cover panel, with 1, 2, 3 or 4 positions, suitable for housing **AFNOR NF-S 90-116/NF-DS 90-119, UNI 9507, DIN 13260, BS 5682** and **SS 875 24 30** sockets and outlets.



Gases identification labels for **AFNOR NF-S 90-116/NF-DS 90-119/NIST EN ISO 5359** outlets, suitable for fitting on cover panels on modular flush-mounted cases or on surface/mounted cases.



Gases identification labels for **DIN 13260, BS 5682, SS 875 24 30** outlets, suitable for fitting on cover panels on modular flush-mounted cases or on surface/mounted cases.



Plasterboard rail for modular flush-mounted cases.



TERMINAL UNITS | COMPONENTS | **OUTLETS**

Outlet type **AFNOR NF-S 90-116/NF-DS 90-119** for compressed medical gases and vacuum available in the following construction:

- with gas specific thread UNI 9507
- with thread ISO G. 1/4" M.
- with hose connector Ø 6.0 mm for compressed medical gases and with hose connector Ø 7.5 mm for vacuum.



Outlet type **NIST EN ISO 5359** for compressed medical gases and vacuum available in the following constructions:

- with gas specific thread UNI 9507
- with hose connector Ø 6.0 mm for compressed medical gases and with hose connector Ø 7.5 mm for vacuum.



Outlet type **UNI 9507 NEO** with access for simplified maintenance for compressed medical gases and vacuum available in the following constructions:

- with gas specific thread UNI 9507
- with hose connector Ø 6.0 mm for compressed medical gases and with hose connector Ø 7.5 mm for vacuum.



Outlet type **DIN 13260** for compressed medical gases and vacuum.



Outlet type **BS 5682** for compressed medical gases and vacuum.



Outlet type **SS 875 24 30** for compressed medical gases and vacuum.



Outlet type **UNI 9507** with thread for medical gases and vacuum, equipped with parking device.

TERMINAL UNITS | COMPONENTS | **SOCKETS**



Outlet socket with nut for panel mounting for compressed medical gases and vacuum with gas specific thread **UNI 9507**.



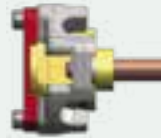
Outlet socket for compressed medical gases and vacuum with gas specific thread **UNI 9507**, complete with nut and copper welding tube nipple.



Outlet socket for compressed medical gases and vacuum for **DIN 13260, BS 5682, SS 875 24 30** outlets.



Flush-mounted case with rotating hose positioning



Back hose

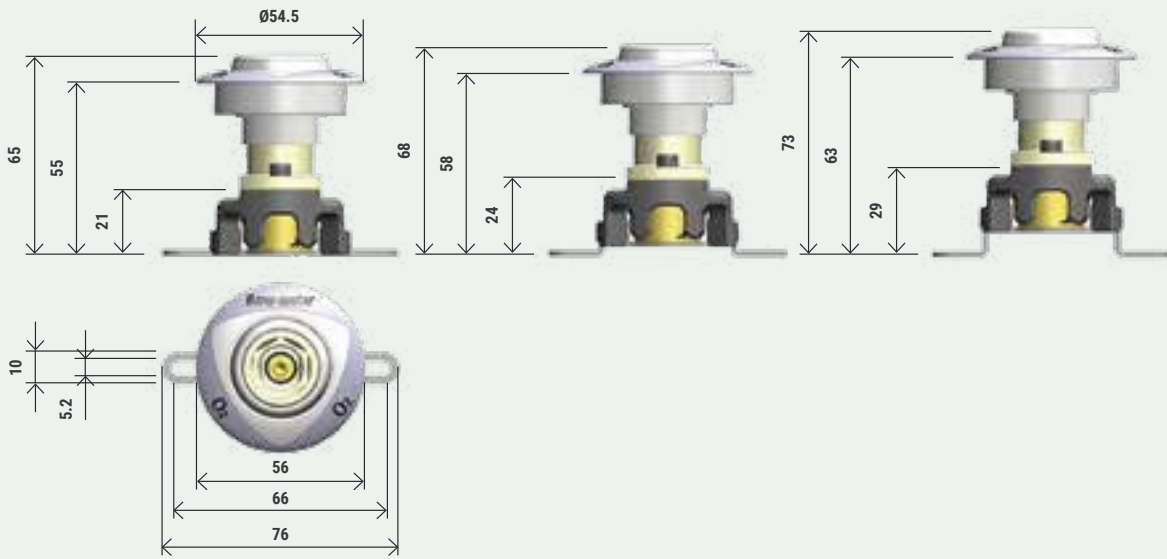


Rotating hose nozzle

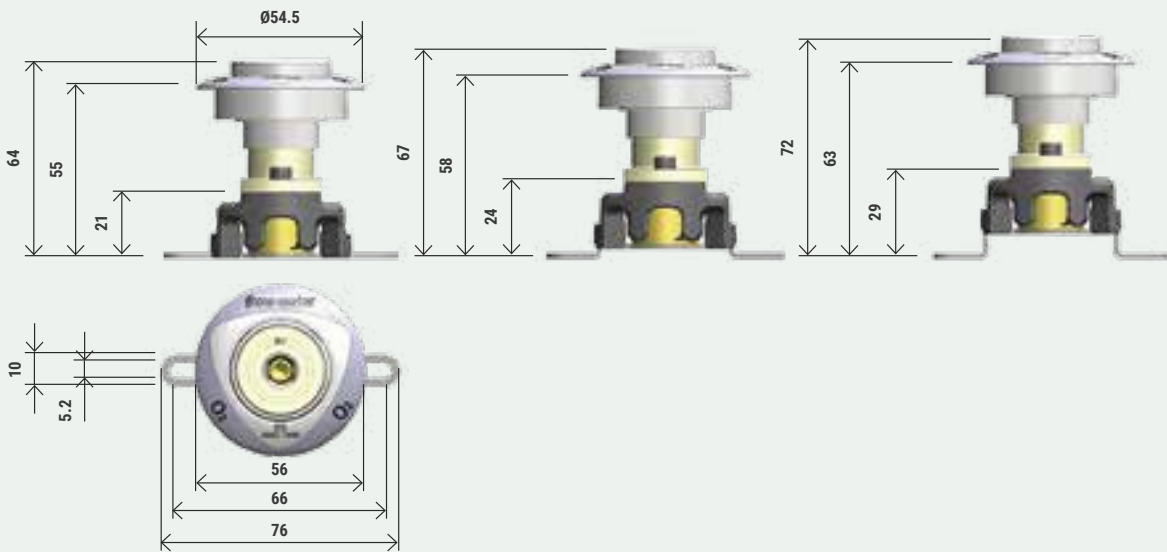


Back hose nozzle

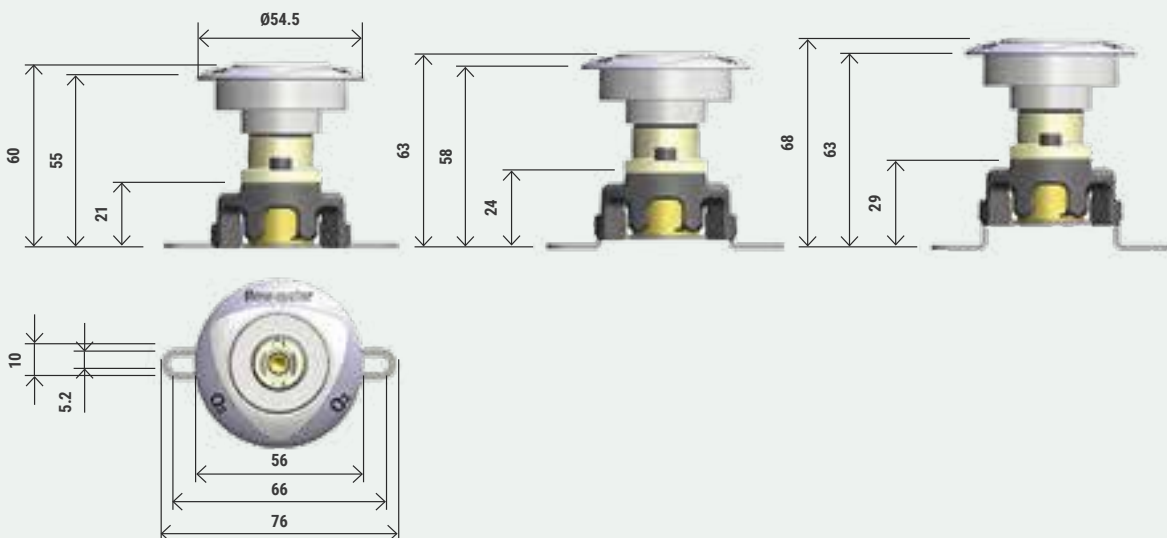
**DIN 13260 SOCKET CONFIGURATION**



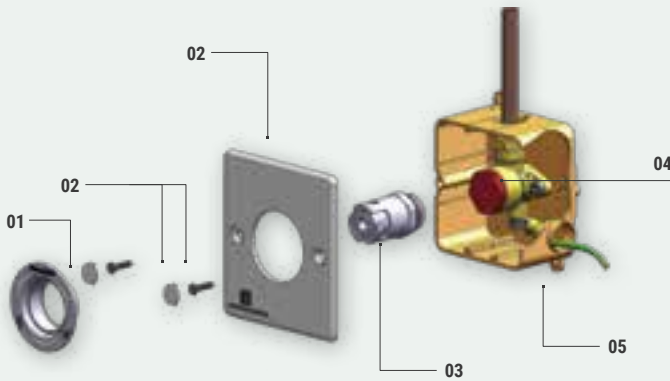
**BS 5682 SOCKET CONFIGURATION**



**SS 875 24 30 SOCKET CONFIGURATION**



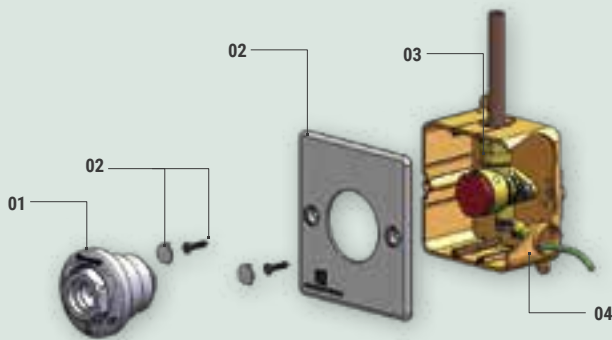
TERMINAL UNITS - DIRECTORY



FLUSH-MOUNTED INSTALLATION WITH **AFNOR NF-S 90-116/NF-DS 90-119/ NIST EN ISO 5359** OUTLETS

**DIRECTORY - COMPONENTS DETAIL**

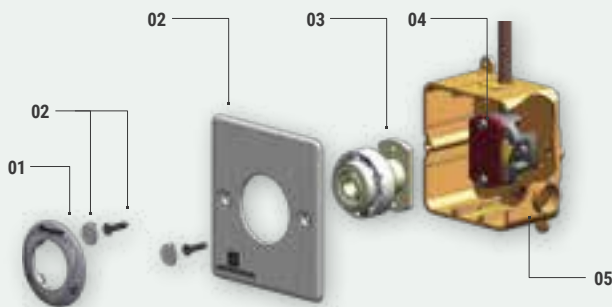
- 01. Gas identification label for AFNOR NF-S 90-116/NF-DS 90-119/ NIST EN ISO 5359 outlets
- 02. ABS panel for modular flush-mounted cases with screws
- 03. Outlet type ANOR NF-S 90-116 or NF-DS 90-119 or NIST EN ISO 5359
- 04. Socket with UNI 9507 thread
- 05. Modular flush-mounted case



FLUSH-MOUNTED INSTALLATION WITH **UNI 9507** OUTLETS

**DIRECTORY - COMPONENTS DETAIL**

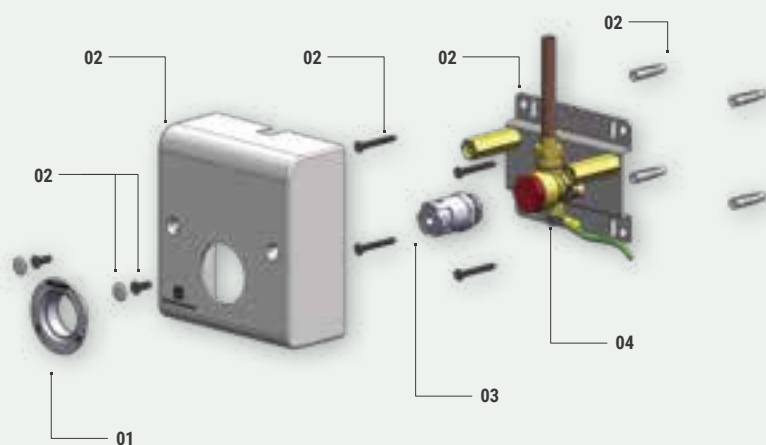
- 01. Outlet type UNI 9507
- 02. ABS panel for modular flush-mounted cases with screws
- 03. Socket with UNI 9507 thread
- 04. Modular flush-mounted case



FLUSH-MOUNTED INSTALLATION WITH **DIN 13260, BS 5682, SS 875 24 30** OUTLETS

**DIRECTORY - COMPONENTS DETAIL**

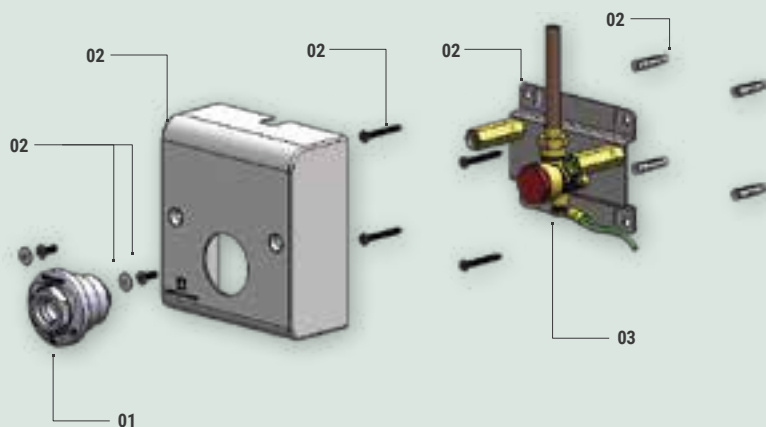
- 01. Gas identification label for DIN 13260, BS 5682, SS 875 24 30 outlets
- 02. ABS panel for modular flush-mounted cases with screws
- 03. Outlet type DIN 13260 or BS 5682 or SS 875 24 30
- 04. Socket for DIN 13260, BS 5682, SS 875 24 30 outlets
- 05. Modular flush-mounted case



**SURFACE INSTALLATION WITH  
AFNOR NF-S 90-116/NF-DS 90-119/  
NIST EN ISO 5359 OUTLETS**

**DIRECTORY - COMPONENTS DETAIL**

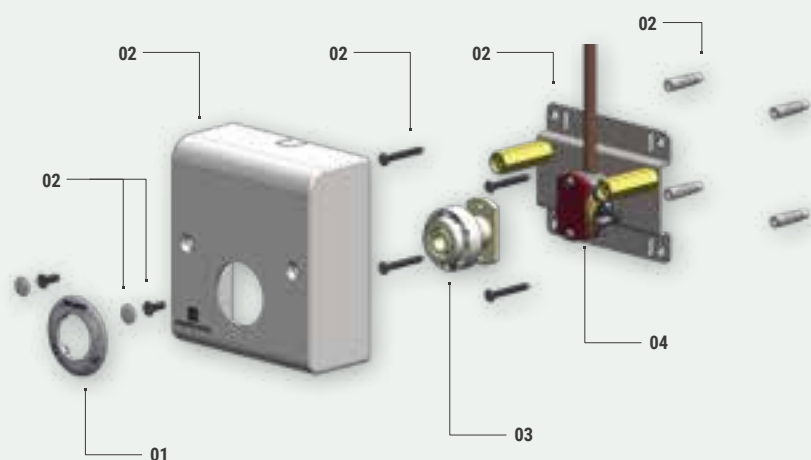
- 01.** Gas identification label for AFNOR NF-S 90-116/NF-DS 90-119/ NIST EN ISO 5359 outlets
- 02.** Surface mounted case with screws and spacers
- 03.** Outlet type AFNOR NF-S 90-116 or NF-DS 90-119 or NIST EN ISO 5359
- 04.** Socket with UNI 9507 thread



**SURFACE INSTALLATION WITH  
UNI 9507 OUTLETS**

**DIRECTORY - COMPONENTS DETAIL**

- 01.** Outlet type UNI 9507
- 02.** Surface mounted case with screws and spacers
- 03.** Socket with UNI 9507 thread



**SURFACE INSTALLATION WITH  
DIN 13260, BS 5682, SS 875 24 30  
OUTLETS**

**DIRECTORY - COMPONENTS DETAIL**

- 01.** Gas identification label for DIN 13260, BS 5682, SS 875 24 30 outlets
- 02.** Surface mounted case with screws and spacers
- 03.** Outlet type DIN 13260 or BS 5682 or SS 875 24 30
- 04.** Socket for DIN 13260, BS 5686, SS 875 24 30 outlets



PROBES WITH THREADED CONNECTION



Probe type **AFNOR NF-S 90-116** with thread ISO G. 1/4" F.



Probe type **AFNOR NF-S 90-116 EASYFIX®** with thread ISO G. 1/4" F.



Probe type **UNI 9507** with thread ISO G. 1/4" F.



Probe type **BS 5682** with thread ISO G. 1/4" F.



Probe type **DIN 13260** with thread ISO G. 1/4" F.



Probe type **SS 875 24 30** with thread ISO G. 1/8" M. or ISO G. 1/4" F.



Probe type **JIS T 7101** with thread ISO G. 1/8" M.



Probe type **SANS 1409** with thread ISO G. 1/4" F.



Probe type **OHMEDA** with thread ISO G. 1/8" M. or ISO G. 1/4" F.



## PROBES WITH HOSE CONNECTION



Probe type **AFNOR NF-S 90-116 EASYFIX®** for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.



Probe type **UNI 9507** for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.



Probe type **NIST EN ISO 5359** for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.



Probe type **BS 5682** for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.



Probe type **DIN 13260** for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.



Probe type **SS 875 24 30** for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.



Probe type **JIS T 7101** for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.



Probe type **SANS 1409** for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.



Probe type **OHMEDA** for compressed medical gases with hose connector Ø 6 mm and for Vacuum with hose connector Ø 7.5 mm.



DOWNLOAD  
THE PRODUCT SHEET

## OUTLET DUPLICATORS



Outlet duplicator type  
**AFNOR NF-S 90-116.**



Outlet duplicator type  
**NIST EN ISO 5359.**



Outlet duplicator type  
**UNI 9507.**



Outlet duplicator type  
**BS 5682.**



Outlet duplicator type  
**DIN 13260.**



Outlet duplicator type  
**SS 875 24 30.**





# EN ISO 9170-2 AGSS TYPE 1

## TERMINAL UNITS

The **EN ISO 9170-2 AGSS** type 1 terminal units for anesthetic gas scavenging systems are the points allowing operators in hospitals to connect the appropriate quick couplings to safely dispose the exceeding anesthetic gases and vapors away from the clinical environment.

The main purpose is to minimize the pollution of the premises where anesthetics are used. Two main installation principles are available:

**VENTURI TYPE** | The suction system is based on the Venturi principle, on the basis of which an injector supplied with compressed air at a pressure of 4 bar, produces a constant suction (set by the installer) suitable for discharging anaesthetic gases outside the room where they are used.

**BLOWER TYPE** | A blower generates a constant suction inside the centralized suction system designed to eliminate the anaesthetic gases from the room where they are used; the installer can also adjust the flow discharged directly on the base block by means of a variable section connector.



▲  
SURFACE INSTALLATION



▲  
FLUSH-MOUNTED INSTALLATION

## EN ISO 9170-2 AGSS TYPE 1 TERMINAL UNITS | COMPONENTS



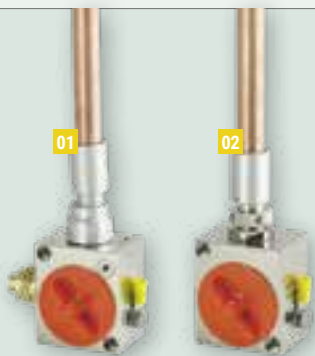
Painted stainless steel cover panel, for flush-mounted case for **EN ISO 9170-2 AGSS type 1** outlet with front access for the outlet simplified calibration.



Flush-mounted case, complete with disposable panel, suitable for housing **EN ISO 9170-2 AGSS type 1** sockets and outlet.



**EN ISO 9170-2 AGSS type 1** outlet.



**01. VENTURI TYPE** | Socket for **EN ISO 9170-2 AGSS type 1** outlet with Venturi system. An injector supplies compressed air at 4 bars creating a constant suction (the setting value can be adjusted during installation) suitable to eliminate the anesthetic gases from the area where they are used. Front access for the simplified calibration without need to disassemble the outlet or to open the cover panel.

**02. BLOWER TYPE** | Socket for **EN ISO 9170-2 AGSS type 1** outlet for blower. A blower generates a constant suction inside the central system for the scavenging of anesthetic gases from the area where they are used. The flow can be adjusted during the installation directly on the socket by means of a variable section connector.



01



02

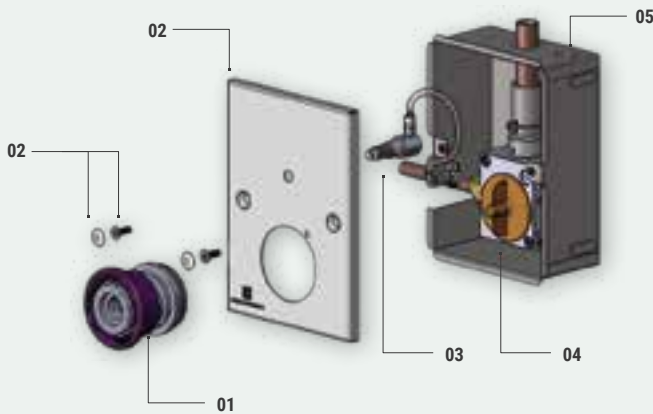
**01.** Probe for **EN ISO 9170-2 AGSS type 1** outlet.

**02.** Pneumatic gauge indicating the terminal unit status, to be connected to the socket of the **EN ISO 9170-2 AGSS type 1** outlet with Venturi system.



Surface mounted case, complete with varnished stainless steel cover panel, suitable for housing **EN ISO 9170-2 AGSS type 1** sockets and outlets with front access for the outlet simplified calibration.

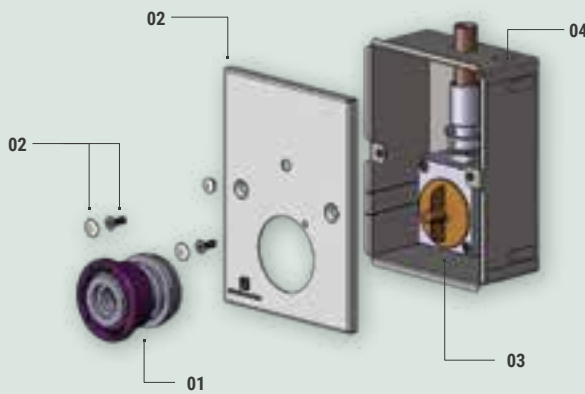
EN ISO 9170-2 AGSS TYPE 1 TERMINAL UNITS | DIRECTORY



FLUSH-MOUNTED INSTALLATION  
FOR **EN ISO 9170-2 AGSS TYPE 1**  
OUTLET WITH VENTURI SYSTEM

**DIRECTORY - COMPONENTS DETAIL**

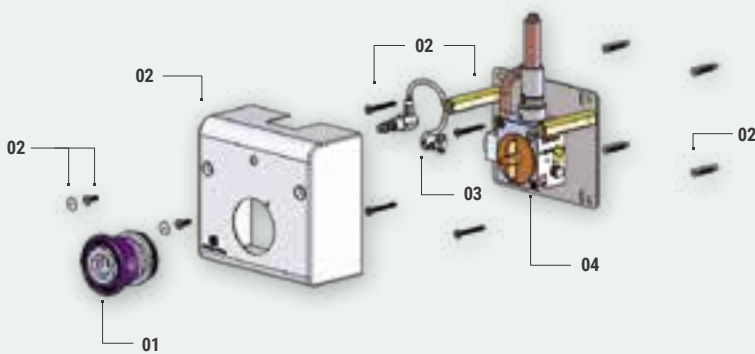
- 01. EN ISO 9170-2 AGSS type 1 outlet
- 02. S/S cover panel with screws
- 03. Pneumatic gauge
- 04. Socket for EN ISO 9170-2 AGSS type 1 outlet with Venturi system
- 05. Flush-mounted case



FLUSH-MOUNTED INSTALLATION  
FOR **EN ISO 9170-2 AGSS TYPE 1**  
OUTLET FOR BLOWER

**DIRECTORY - COMPONENTS DETAIL**

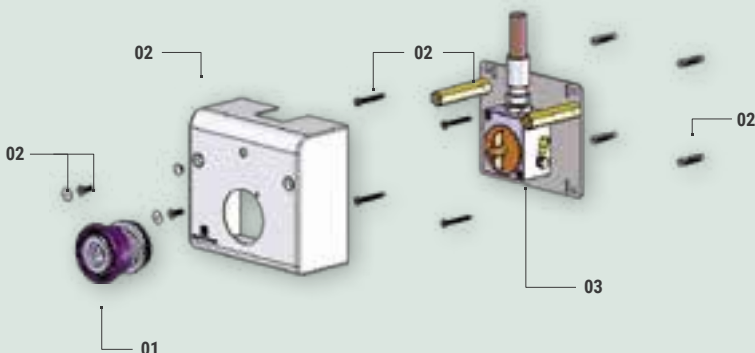
- 01. EN ISO 9170-2 AGSS type 1 outlet
- 02. S/S cover panel with screws
- 03. Socket for EN ISO 9170-2 AGSS type 1 outlet for blower
- 04. Flush-mounted case



SURFACE INSTALLATION FOR  
**EN ISO 9170-2 AGSS TYPE 1**  
OUTLET WITH VENTURI SYSTEM

**DIRECTORY - COMPONENTS DETAIL**

- 01. EN ISO 9170-2 AGSS type 1 outlet
- 02. Surface mounted case with screws and spacers
- 03. Pneumatic gauge
- 04. Socket for EN ISO 9170-2 AGSS type 1 outlet with Venturi system



SURFACE INSTALLATION  
FOR **EN ISO 9170-2 AGSS TYPE 1**  
OUTLET FOR BLOWER

**DIRECTORY - COMPONENTS DETAIL**

- 01. EN ISO 9170-2 AGSS type 1 outlet
- 02. Surface mounted case with screws and spacers
- 03. Socket for EN ISO 9170-2 AGSS type 1 outlet for blower



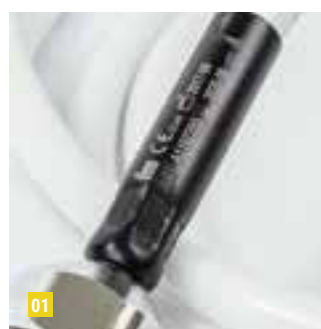
# LOW PRESSURE HOSE ASSEMBLIES EN ISO 5359

The low pressure hose assemblies, meeting the requirements of the Standard EN ISO 5359, are indicated for the use with the following medical gases:

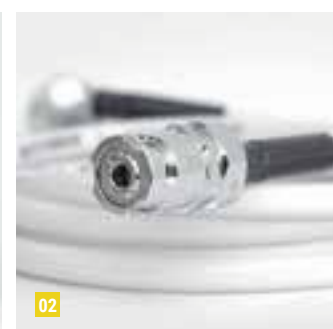
- Oxygen (O<sub>2</sub>);
- Nitrous oxide (N<sub>2</sub>O);
- Medical air (AIR);
- Air for driving surgical tools (AIR-800);
- Vacuum (VAC).

These flexible hose assemblies can be used in a pressure range from 300 kPa to 1400 kPa for compressed medical gases and from 10 kPa to 100 kPa (absolute pressure) for vacuum. Here under some examples of suggested uses for the flexible hose assemblies:

- Connection between terminal units and medical equipment (refer to Standards EN ISO 9170-1, EN ISO 80601-2-13 and EN ISO 80601-2-12);
- Connection between a distribution pipeline system and one of its terminal units (refer to Standards EN ISO 7396-1 and EN ISO 11197);
- Connection between two terminal units (refer to Standard EN ISO 7396-1);
- Connection between an emergency supply source and a supply point for the emergency and the maintenance of a distribution pipeline system (refer to Standards EN ISO 10524-1 and EN ISO 7396-1);
- Connection between an emergency supply point and a medical equipment (refer to Standards EN ISO 10524-1, EN ISO 80601-2-13 and EN ISO 80601-2-12).



01



02



03

01 UNAMOVABLE CLAMPING SYSTEM

02 AVAILABLE FOR ALL MEDICAL GASES

03 DIFFERENT CONFIGURATIONS  
OF PROBES AND OUTLETS



**TECHNICAL SPECIFICATIONS | Low pressure hose assemblies EN ISO 5359**

<b>COMPRESSED MEDICAL GASES HOSE SIZES</b>	Ø 11.5x5 mm
<b>VACUUM HOSE SIZES</b>	Ø 13.5x6.3 mm
<b>HOSE INNER MATERIAL</b>	black EPDM with antistatic treatment
<b>HOSE ARMOUR</b>	polyester
<b>HOSE COATING</b>	EPDM coloured according to the gas type
<b>COMPRESSED MEDICAL GASES WORKING PRESSURES</b>	from 300 kPa to 1400 kPa
<b>VACUUM WORKING PRESSURES</b>	from 10 kPa to 100 kPa (absolute pressure)
<b>STANDARD HOSE LENGTHS</b>	1.5 m, 2.5 m, 4.5 m for gases 1.5 m, 2.5 m for vacuum



## RAIL CLAMPING SYSTEMS AND WALL BRACKETS



Universal bracket for rail 50x10 mm made of anodised aluminium.



Bracket for rail 50x10 mm made of anodised aluminium complete with nipple threaded ISO G. 1/4" F. and hose connector Ø 6 mm (for medical compressed gases) or Ø 7.5 mm (for Vacuum).



Bracket for rail 50x10 mm made of anodised aluminium with slide 25x5 mm, 30x5 mm or 45x5 mm.



Universal bracket made of anodised aluminium for stand Ø 30 mm.



ABS clamp for rail 30x10 mm complete with nipple threaded ISO G. 1/4" F. and hose connector Ø 6 mm (for medical gases) or Ø 7.5 mm (for Vacuum).



ABS clamp bracket for rail 30x10 mm, with slide 25x5 mm, 30x5 mm or 45x5 mm.



Chrome-plated universal bracket for rail 30x10 mm with locking knob.



Chrome-plated universal bracket for rail 30x10 mm.



Anodized aluminum wedge for OHMEDA rail clamp bracket, with nipple threaded ISO G. 1/4" F. and hose connector Ø 6 mm (for medical gases) or Ø 7.5 mm (for vacuum).



Anodized aluminum OHMEDA rail clamp bracket.



Anodized aluminum wedge for OHMEDA rail clamp bracket, with slide 25x5 mm, 30x5 mm or 45x5 mm.



ABS wall bracket, slide 25x5 mm.



ABS wall bracket, slide 30x5 mm.

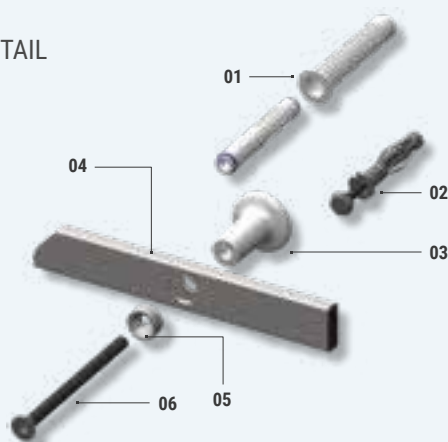


ABS wall bracket, slide 45x5 mm.

## STAINLESS STEEL RAIL

DIRECTORY - COMPONENTS DETAIL

- 01. Chemical fixings
- 02. Plasterboard fixings
- 03. Rail spacer
- 04. Rail
- 05. Bolt washer
- 06. Bolt

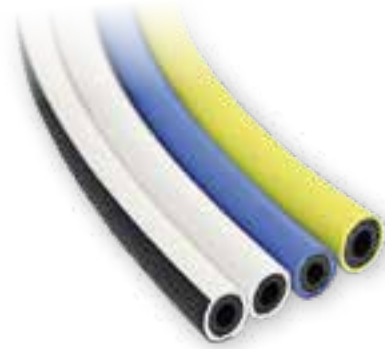


Stainless steel rail 30x10 mm, brushed, with spacers and fittings, various lengths.



## HOSES FOR MEDICAL GASES

Anti-squeezing hoses, according to standard EN ISO 5359, Ø 5x11.5 mm for medical compressed gases available in colors white, white-black and blue and Ø 6.3x13.5 mm for suction available in colors yellow and green.



## CATHETER CONTAINERS

**flow-meter™** catheter containers are accessories allowing the operators to put down in a hygienic way the suction hose during their activity. They are made with tube of polycarbonate Ø 54 mm by 400 mm length, and they are fully autoclavable (121 °C - 15 min.). Moreover these containers can be placed in a specific support ring for rail or trolley, in a single or twin construction.



## JOINTED EXTENSIONS

**flow-meter™** jointed extension is a system particularly suitable to support the corrugated tubes of respiratory circuits.

The jointed extension is available with or without rail clamp bracket, with one or two joints allowing an easy orientation and with a device to fix two tubes Ø 16 mm or Ø 22 mm. Thanks to the swivel joints with cogging, it is an efficient support for even considerable weights.

Sizes of sections   Type with:	
<b>ONE JOINT</b>	First section: 150 mm - Second section: 450 mm
<b>TWO JOINTS</b>	First section: 150 mm - Second section: 450 mm Third section: 300 mm



## PHLEBOCLYSIS RODS

**flow-meter™** phlebotoclysis rods are support units particularly suitable to hold the infusion bottles during the hospital therapies.

The phlebotoclysis rods allow an easy orientation and they can have the two following constructions:

- fixed construction, with straight or angled terminal piece and two hooks;
- extendible construction, with angled terminal piece and four hooks.

Thanks to the particularly strong structure made of chrome-plated steel, they can support even considerable weights. Different constructions are produced under request.





## CERTIFICATIONS

The changes in international legislation occurred in the hospital sector over the last few years and the introduction of managerial criteria in the public and private health care field, have highlighted the need to provide ongoing support for users of **flow-meter™** medical devices, before and after the sale. To be in line with these requirements, **flow-meter™** has activated a Customer Care Service, to create and supply the procedures for monitoring and testing the equipment in order to guarantee the maximum functionality and efficiency during and after the installation. This service will also ensure a valid contribution in feedback from the market to improve the reliability and safety characteristics of **flow-meter™** medical devices.

## SAFETY

Before the production launch, all new **flow-meter™** products are subjected to rigorous tests, both in the company's own quality-assurance laboratories and by independent validated laboratories, to ensure that the products meet all the requirements of the medical professions in all foreseeable therapeutic conditions. The CE marking procedure is carried out according to the requirements of complete EN ISO 13485 quality system.

50<sup>TH</sup>

## QUALITY

**flow-meter™** based its corporate structure on a main factor of strategic importance: the Quality. In this regard, the company has a Quality Assurance System certificated in

accordance with ISO 9001: 2008 (Certificate No. 421) and UNI EN ISO 13485: 2004 (Certificate No. 10627) issued by notified body Company CERTIQUALITY.

FOLLOW US ON



**flow-meter™**  
ENGINEERING REVOLUTION IN MEDICAL TECHNOLOGY

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