


Medical catalogue

EDITION 2010/2011

ecemediline®

ECE SABRE MEDICAL

GCE Group - the European market leader in gas control equipment

GCE world-wide: http://www.gcegroup.com

GCE is an experienced developer and producer of gas control equipment since the beginning of the 20th Century. GCE is one of the world's leading manufacturers in this field and now employs over 1200 people around the world.

The company has grown through a combination of a dedicated workforce and an in depth knowledge of pressure and flow control related to gas welding and cutting technology, medical systems, process applications and high purity requirements.

GCE aim is to support its customers in their demands for safe and reliable products manufactured in accordance with the latest governing standards.

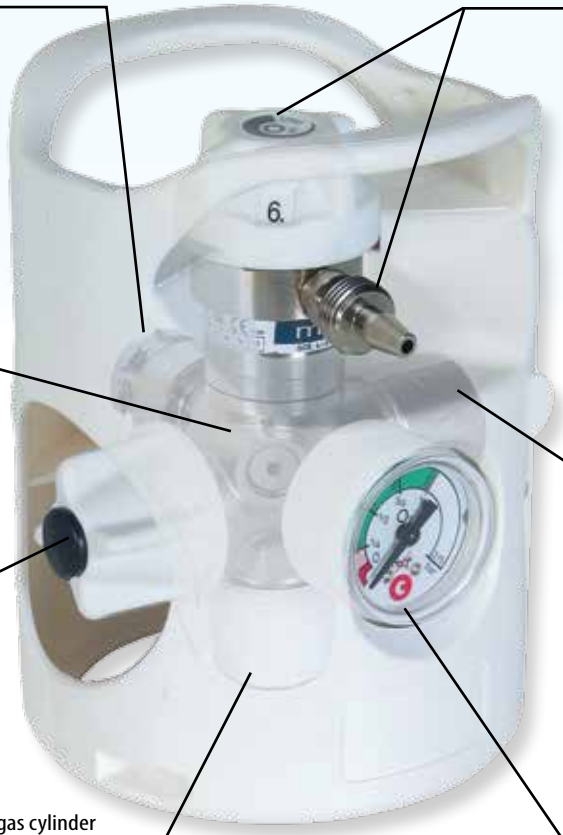
Contents

Combination High Pressure Valve COMBILITE

GCE Gas Control Equipment has been the pioneer in the field of integrated combination valves for medical applications. Already in the mid eighties GCE started with the development of the first integrated valves and regulator products. Today more than one million medical combivalves from GCE are worldwide in use in hospitals as well as in home & emergency care. Our combination valves are available in different variants and are designed to fulfil the requirements for all types of medical gases in different application areas and cylinder pressures up to 300 bar (4500 psi). The Combilite® System is the most successful combination valve manufactured by GCE, available with a protective guard and bed hanger for easier and safer handling by the healthcare personnel and patients. The Combilite protective guard fits all type of cylinders up to a max. package weight of 24 kg.The optional bed hanger facilitates the handlingin hospitals, especially during patient transport.
The Combilite® System combine the function of high-pressure cylinder valve and medical pressure regulator. Gas from the cylinder is first controlled by the shut-off valve and then passes through the pressure regulator and delivered to the patient through the flow outlet or the pressure outlet. They are always provided with a (external or internal) low-pressure relief valve to protect the user outlets from over pressure.

Pressure outlet or Quick Coupler (option)
The Combination valve may be fitted with a pressure outlet. The pressure outlet is the outlet direct from the low-pressure chamber and is fitted with a gas specific medical quick connector also called "quick coupler" . The user can connect another piece of equipment to this outlet with a gas specific male probe. The quick connector self seals when the male probe is disconnected. This outlet is for supplying gas at a controlled pressure to power medical devices, e.g. medical ventilator.

Flow control head and Flow outlet (option)
GCE Medical Combination Valves can be delivered with a flow control head. This function is used to supply a gas flow (l/min) at atmospheric pressure directly to a patient through the flow outlet e.g. through a cannula or a facemask. The flow outlet user connection can be from a push on hose fitting (hose nipple) or a threaded type (for humidifier for instance).



Residual Pressure Valve
GCE combination valve contains a residual pressure valve located in the regulator inlet passage. It is bypassed during filling. This function is to retain a minimum positive pressure in the gas cylinder to avoid contamination of the cylinder content by atmospheric air.

Filling port
A separate filling port is provided for filling the gas cylinder. It includes a non-return valve (NRV). The NRV prevents the filling port from being pressurised in normal use. The presence of the NRV means special filling adaptors are required to vent gas from the cylinder during the filling process.

Shut-Off valve
The combination valve is provided with a shut-off valve to isolate the gas from the cylinder from the other valve functions. It must be turned on during cylinder filling and patient therapy.

Pressure gauge
A cylinder contents pressure gauge is provided. This gauge is active and enables to read the cylinder contents when the hand wheel is in both ON and OFF positions.

Inlet stem
The product is fitted to the gas cylinder by a threaded inlet stem. Stem can be taper thread or parallel thread and of different size depending upon cylinder size and material.

Excess flow device (option)
Excess flow safety valve can be provided and is located in the valve stem. This provides extra safety in the unlikely event of the valve stem breaking. It has no effect on performance during normal service.

Bed hanger (option)

Combination Valves - Combilite

Combilite System

Technical Specifications

- Available for Medical Oxygen, Medical Air, N_2O/O_2 and other medical mixed gases
- ON/OFF high pressure isolation valve
- Long-life rotating seat mechanism in the ON/OFF valve
- ZYTEL seat material for 200 bar, PEEK seat material for 300 bar
- Inlet pressure up to 300 bar (4500 psi)
- Outlet pressure from 3,6 to 5,5 bar according to EN ISO 10524 – 3 (or per customer specification)
- Flow capacity 60 l/min nominal (at full cylinder pressure)
- Wide range of flow control discs (0 - 6 l/min, 0 - 15 l/min, 0 - 25 l/min etc.)
- Flow settings:12 steps (including ZERO position)
- Weight 950 gram*
- Height 123 mm (measured from the cylinder neck)
- Inlet Stem - cylindrical or parallel threads (E17, E25, M18, per customer specification)
- Standard filling port: W 24×2, W30×2
- Direct drive, active gauge

** Standard Combivalve (flow control unit 0 - 15 l/min, flow outlet, AFNOR quick coupling pressure outlet) without guard. More informations, please contact GCE local company.*
All technical data are given for information only and are subject to modifications by the manufacturer.

Optional Features

- Excess flow device (limits the flow in case of accident and valve shearing)
- Nickel plated flow control unit surface
- Safety burst disc
- Wide range of quick couplers according to customer's national standard
- Teflon taped cylinder connection,"Low torque" valve actuator,easy opening characteristic
- Electronic memory chip for easy traceability and cylinder control

Standard Features

- Cylinder valve and pressure regulator in one
- Brass construction
- Flow control unit
- Nickel plated body surface
- Good grip, easy operated hand-wheel
- Flow outlet ports (firtree)
- Active cylinder pressure gauge with colored safety- and refill zones
- Filling port with non-return valve
- Integrated pressure relief valve
- Individual, traceable serial number stamped into body
- Particle tube filter in front of pressure regulator
- Residual pressure valve (keeps 3 - 5 bar residual pressure in cylinder)

Filling adapter & Safety Guard

- White, or per customer specification
- Optional bed-hanger
- Optional moulded OEM label
- Drop tested according to EN ISO 11117
- 115 mm outside diameter
- Two-sided, non protruding handle
- Guard fits to the valve, not cylinder
- Designed for use on cylinders up to a max package weight of 24 kg

The new generation of medical high pressure gas regulators

High Pressure Regulator MEDISELECT® II

- Regulator with flow selector.
- Rotating pressure gauge which allows convenient reading.
- 360° swivelling outlet – it enables better orientation of the nasal cannula or oxygen mask towards the patient (preventing from twisting).
- Innovative self centering flow setting device with continuous flow between settings. In the unlikely event of indent mechanism failure, the patient will still be supplied by medicinal gas.
- Lateral and frontal reading of flow settings.
- Higher number of flow disc holes increases treatment options. Extra flow setting of 25 lpm on the traditional 15 lpm variant, allows use in resuscitation.
- The additional 7 lpm is intended for nebulization

The advantages of MediSelect® II

High Pressure Regulators - GCE Mediline

High Pressure Regulator - MediSelect® II

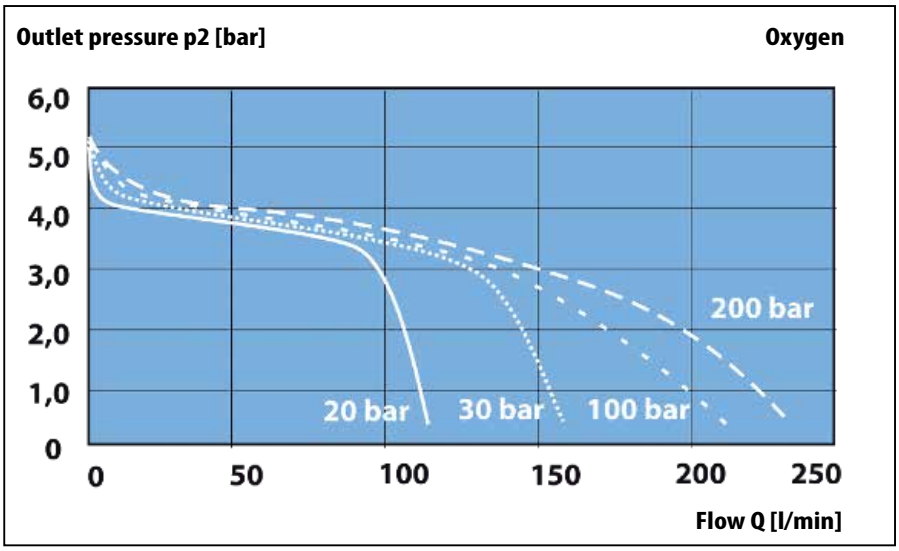
Art. Nr.	Description	
0720246	MediSelect II O_2, 25L, pin-index, flow outlet 9/16	Inlet pressure 137 bar
0720247	MediSelect II O_2, 25L, G5/8 bullnose, flow outlet 9/16	Inlet pressure 137 bar
0720248	MediSelect II O_2, 25L, BSI QC, pin-index, flow outelt 9/16	Inlet pressure 137 bar
0720249	MediSelect II O_2, 25L, BSI QC, G5/8 bullnose, flow outelt 9/16	Inlet pressure 137 bar
0720250	MediSelect II O_2, 25L, pin-index, flow outlet 9/16, suction ejector	Inlet pressure 137 bar
0720251	MediSelect II O_2, 25L, G5/8 bullnose, flow outlet 9/16, suction ejector	Inlet pressure 137 bar

Technical data

Gas	O_2, Air, N_2O, CO_2, N_2O/O_2	
Inlet pressure range	up to 300 bar	
Nominal outlet pressure	4 bar	
Flow ranges*	**0 to 2 lpm**	0;0,1;0,2;0,3;0,4;0,5;0,6;0,7;0,8;1;1,5;2
	0 to 6 lpm	0;0,25;0,5;0,75;1;1,5;2;2,5;3;4;5;6
	0 to 25 lpm	0;1;2;3;4;5;6;7;9;12;15;25
Inlet connection	according to national standards	
Outlet connection	9/16“ UNF, M12x1,25, G3/8, G1/4 with hose nipple	
Body material	nickel-plated brass	
Control knob	polyamide	
O-rings	EPDM	
Filter	sintered bronze	
Gauge cover	TPE (thermoplastic elastomer)	
Regulatory status	Complies with Medical Devices Directive 93/42/EEC.	
	Complies with EN 10524-1 (Pressure regulators for use with medical gases)	
	Complies with ASTM Standard G175-3 (Standard test method for evaluating the Ignition sensitivity)	
	Complies with Standard EN 1789:2000 (Medical vehicles and their equipment - Road ambulances)	
Classification	Class IIb	

** Flowrates expressed at 23°C and 101,3 kPa*

Flow curve for oxygen (P2 = 4 bar)

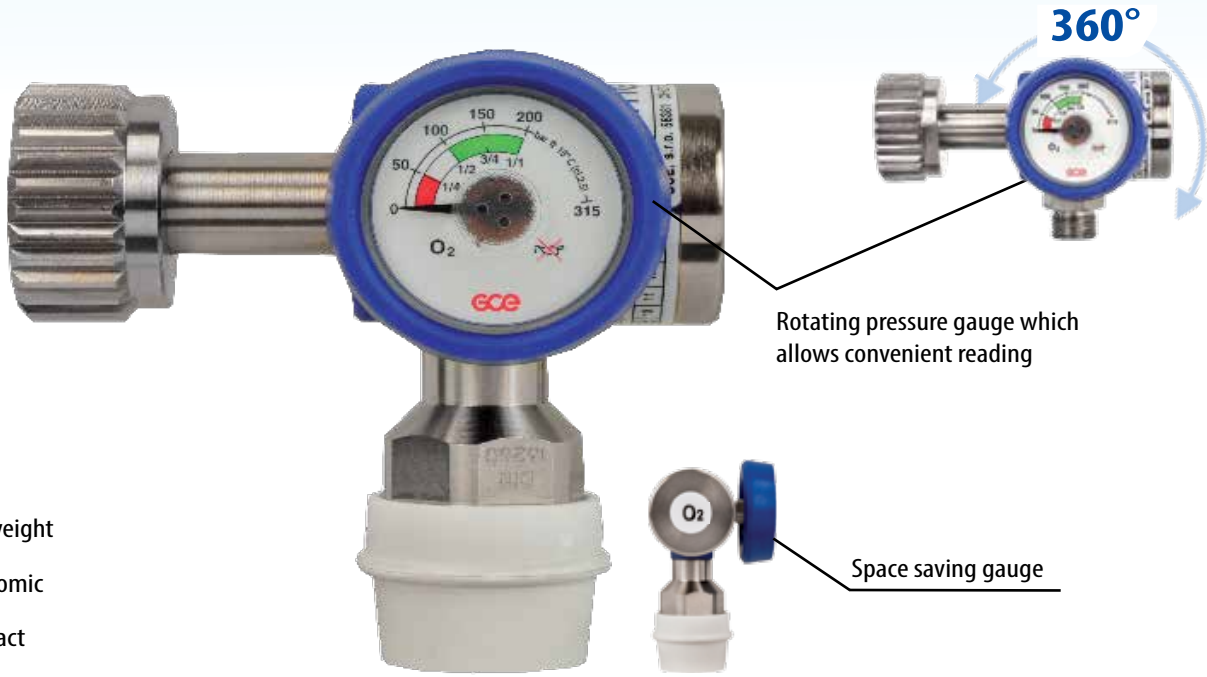


The new generation of medical high pressure gas regulators

High Pressure Regulators MEDIREG® II

- Regulator with pressure outlet, constantly adjusted flow or with flowmeter.
- Rotating pressure gauge which allows convenient reading.
- Ergonomic and streamlined design.
- Easy cleaning surface.
- Compact and user friendly

The advantages of MediReg® II



High Pressure Regulators - GCE Mediline

High Pressure Regulator - MediReg® II

Art. Nr.	Description
0724151	MediReg II O_2/N_2O Regulator, Pin Index, Single BS 5682 Quick Connection Outlet; Inlet pressure 137 bar

Technical data

Gas	O_2, Air, N_2O, CO_2, N_2O/O_2	
Inlet pressure range	up to 300 bar	
Nominal outlet pressure	4 bar	
Flow ranges*	**0 to 2 lpm**	0;0,1;0,2;0,3;0,4;0,5;0,6;0,7;0,8;1;1,5;2
	0 to 6 lpm	0;0,25;0,5;0,75;1;1,5;2;2,5;3;4;5;6
	0 to 25 lpm	0;1;2;3;4;5;6;7;9;12;15;25
Inlet connection	according to national standards	
Outlet connection	9/16" UNF, M12x1,25, G3/8, G1/4 with hose nipple	
Body material	nickel-plated brass	
Control knob	polyamide	
O-rings	EPDM	
Filter	sintered bronze	
Gauge cover	TPE (thermoplastic elastomer)	
Regulatory status	Complies with Medical Devices Directive 93/42/EEC.	
	Complies with EN 10524-1 (Pressure regulators for use with medical gases)	
	Complies with ASTM Standard G175-3 (Standard test method for evaluating the Ignition sensitivity)	
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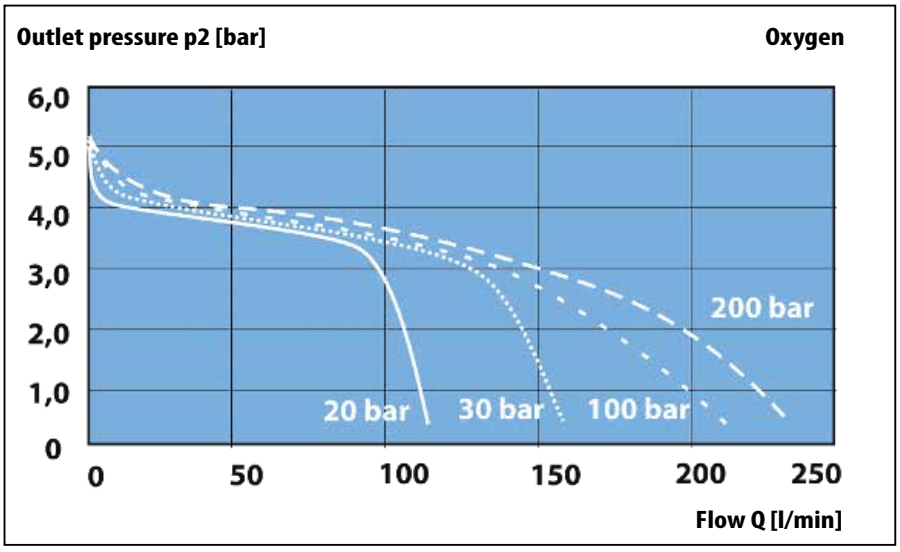
Flow curve for oxygen (P2 = 4 bar)



High Pressure Regulators - GCE Sabre Medical

The range covers the widest possible combination of inlet and outlet connections and includes products designed for oxygen therapy, for use with gas powered resuscitation and on demand equipment. All offer unrivalled levels of accuracy and performance whilst maintaining Sabre's design brief of robust and simple to operate products leaving the carer to concentrate on their patient – not on remembering how to use the equipment.Whether low or high pressure, all Sabre regulators operate identically, thereby decreasing training needs in multirequirement establishments. They incorporate both sintered bronze filters and pressure relief valves, minimising the risks of contamination and providing increased carer and patient safety. Manufactured from precision machined and moulded components, Sabre regulators feature the minimum of moving parts thereby offering extended servicing intervals and low ownership costs. Each regulator is clearly marked with retest date. Developed from Sabre's many years experience in the manufacture of medical gas regulators, this new range provides levels of performance and life costs that exceed current levels of user expectations.

Selectflow Regulators

Models are manufactured with single, two or eleven flow settings with flow rates from 0.1 to15 litres per minute (lpm) offering treatment options from neonatal care through to resuscitation A higher purge flowrate (nominal flow of 25 lpm) is also available.

Pin Index Versions

Art. Nr.	Description
1068790	Select Flow with a firtree outlet, flow rates 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, ~23 l/min.
1068792	Select Flow with a firtree outlet, flow rates 0.1, 0.25, 0.5, 0.75, 1, 1.5, 2, 2.5, 3, 4, 5 l/min.
1068793	Select Flow with a firtree outlet, flow rates 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1 l/min.
1068794	Select Flow with a firtree outlet, flow rates 0.5, 0.8, 1, 2, 3, 4, 5, 6, 8, 10, 12, 15 l/min.

Bullnose (5/8")

Art. Nr.	Description
1068589	Select Flow with a firtree outlet, flow rates 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, ~23 l/min.
1068592	Select Flow with a firtree outlet, flow rates 0.1, 0.25, 0.5, 0.75, 1, 1.5, 2, 2.5, 3, 4, 5 l/min.
1068593	Select Flow with a firtree outlet, flow rates 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1 l/min.
1068594	Select Flow with a firtree outlet, flow rates 0.5, 0.8, 1, 2, 3, 4, 5, 6, 8, 10, 12, 15 l/min.

Technical data

Gas:	0_2
Inlet connectors:	acc. to mational standards
Input pressure:	up to 200 bar
Therapy flows:	All flow ranges
Therapy outlet:	Firtree
Therapy pressure:	1.6 bar (23psi)
Size L × W × D (mm)	116 × 44 × 63
Weight (no outlets)	350g

Flow Probe

The Flow Probe includes the additional feature of a low pressure regulator to compensate for any variations in low pressure gas supply.

Art. Nr.	Description
11047819	Flow Probe with BS 5682 quick connection probe and flow rates 1, 2, 3, 4, 5, 6, 8, 10, 12,
	15, ~23 l/min.

Demand Regulator

Designed to provide the higher flow rates that 'on demand' medical gas products require.

Art. Nr.	Description
1046542	Demand Regulator with Bullnose inlet (5/8") and BS 5682 quick connection outlet.
1046574	Demand Regulator with Pin Index inlet and BS 5682 quick connection outlet.

Technical data

Gas:	$0_2/N_20$, 0_2
Inlet connectors:	acc. to national standards
Input pressure:	up to 200 bar
Pressure output:	4.8 bar ±20%
Size L × W × D (mm):	97 × 44 × 56
Weight (no outlets):	330g

Therapy Regulators

This simple, high pressure regulator is suitable for inlet pressure of up to 200 bar and designed for use with traditional floating ball flow control devices.

Pin Index Versions

Art. Nr.	Description
1071001	Therapy Regulator, Pin Index with BS 5682 quick connection outlet.
1070998	Therapy Regulator, Air, Pin Index with 3/8" outlet.
2004007	Therapy Regulator, Air, Pin Index with BS 5682 quick connection outlet.
1071027	Therapy Regulator, Brass, Pin Index with 3/8" outlet.

Bullnose (5/8")

Art. Nr.	Description
1070989	Therapy Regulator, Bullnose with BS 5682 quick connection outlet.
2008449	Therapy Regulator, Brass, Bullnose with 3/8" outlet and flowmeter with 0 - 15 l/min scale.

Technical data

Gas:	0_2, Air
Inlet connectors:	acc. to mational standards
Input pressure:	up to 200 bar
Pressure output:	4.2 bar ±20%
Size L × W × D (mm)	97 × 44 × 56
Weight (no outlets)	330g

Resuscitation Regulator

Sabre Resuscitation Regulators are designed for use with gas powered resuscitation products. One or two regulated outlets can be fitted to each regulator in addition to a Select Flow therapy outlet providing both resuscitation and therapy from the one regulator.

Pin Index Versions

Art. Nr.	Description
1065859	Resuscitation Regulator with a single BS 5682 quick connector outlet and firtree outlet
	with flow rates 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, ~23 l/min.

Bullnose (5/8")

Art. Nr.	Description
1065716	Resuscitation Regulator with a single BS 5682 quick connector outlet and firtree outlet
	with flow rates 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, ~23 l/min.

Technical data

Gas:	0_2, Air
Inlet connectors:	acc. to national standards
Input pressure:	up to 200 bar
Therapy outlet:	Firtree
Therapy pressure:	4.2 bar (60psi)
Size L × W × D (mm):	116 × 44 × 63
Weight (no outlets):	350g

Vacuum Regulator - Medievac+

Medievac+ is a new, compact and lightweight medical vacuum regulator system, which allows the user to efficiently and safely control suction therapy. The suction level of the Medievac+ is regulated via an easy accessible, front mounted control knob.

A special feature of the Medievac+ on-off valve is easy resumption of the selected de-pressure value, when the treatment is interrupted. The compactness of the device offers:

- fast connection to the vacuum source
- quick and convenient mounting of accessories
- good accessibility of other devices connected to close located terminal units.

The Medievac+gauge can easily be rotated, allowing the vacuum pressure to be clealy viewed by the operator.The gauge scale is colour coded insections to display a clear indication of suction level.

Three versions of adjustable pressures are available to cover all therapy needs(-250, -600 and –1000 mbar).

The –250 mbar version has a safety valve, which will automatically shut off to guarantee maximum protection of the patient, in the unlikely event of de-pressure increase.

Medievac+can easily be connected to the central gas vacuum supply system, either directly on the teminal unit or on a rail system.

Medievac+compliance is based on EN ISO 10079-3 standard.

Art. Nr.	Description	Inlet	Outlet
0735106	Medievac+ 250	BSI probe	G 1/2
0735105	Medievac+ 600	BSI probe	G 1/2
0735104	Medievac+ 1000	BSI probe	G 1/2

Technical data

ON-OFF function	ON : green button visible		
	To switch ON: push on the OFF button(red)		
Max. inlet pressure	- 950 mbar (inlet pressure at 1013 bar -15°C)		
Max. suction flow	**Medievac+ 1000**	70 l/min ±5 l/min	at – 950 mbar
	Medievac+ 600	70 l/min ±5 l/min	at – 600 mbar
	Medievac+ 250	70 l/min ±5 l/min	at – 250 mbar
Accuracy of gauge	±2,5 % of full scale		
Safety valve	Medievac+ 250 only		
	max. - 290 mbar opening		
Inlet connection	According to the respective national standard		
Outlet connection	ISO G1/2" male		
Height (with jar)	265 mm		
Width	55 mm		
Depth	115 mm		
Body material	ABS		
Classification:	Class IIa		
CE - marking	CE0434		

Accessories for Medievac

The Medievac+vacuum regulator system includes an optional accessory, the safety jar. It is an additional protection of the vacuum regulator and the hospital vacuum network, should the collecting jars overflow. The filling capacity of 100 ml and the safety valve function,provide the user with extra time to stop the suction therapy.

The jar can be easily and safely disconnected from the vacuum regulator and autoclaved at134°C for 18 minutes, in line with hospital protocols, also recommends the use of the front mounted filter that is connected on the safety jar for increased safety.The plastic shell of the filter is very convenient to mount; it enables hygienic handling as direct contact with the membrane is avoided.

Art. Nr.	Description
548900291594	Safety jar 100 ml
548900291595	Safety jar 100 ml + filter
K291603	Microbiological Filter (10 pcs)
9425360	Hose nipple G 1/2 +o-ring (1 pce)
9432240	Hose nipple G 1/2 +o-ring (10 pcs)

Suction Ejector - MediEject

The Mediline Venturi suction ejector unit is supplied with metal bracket connection for railmounting, or supplied with BS probe connection to fit directly to a gas supply outlet. The suction effect is regulated with an adjustable needle valve.The negative pressure can be clearly seen on the front mounted vacuum gauge. The unit has a push/pull, On/Off controller which isolates the flow and reverts to original settings when swiched back on.The unit is quiet in operation and requires minimum maintenance.

MediEject

The suction ejector MediEject is a device creating vacuum via a venturi system.

ADVANTAGES

- suitable for hospital systems without vacuum source
- suitable for portable suction systems
- low noise level
- maximum suction effect is - 80 kPa (- 800 mbar)
- available with probe connector or rail mounting version with a hose
- suction effect is regulated with a needle valve

Technical data

ON-OFF function:	ON: ON/OFF switch pulled
	OFF: ON/OFF switch pushed
Max. inlet pressure:	- 950 mbar
Max. suction flow:	25 lpm
Max. gas consumption:	38 lpm
Accuracy of gauge:	± 2,5 %
Inlet connection:	According to the respective national standard
Outlet connection:	Hose nipple
Body dimension:	Height 115 mm
	Width 105 mm
	Depth 53 mm without connector
	Weight 0,370 - 0,450 kg depending on probe type
Temperature range:	Storage - 40 °C to 60 °C
	Operation - 18 °C to 50 °C
Humidity:	max 70 % RH
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC Complies with EN 10079 - 3
	(Medical suction equipment - part 3: suction equipment powered from a
	vacuum or pressure source)
Classification:	Class IIa
CE - marking:	CE0434

Accessories for Suction Equipment

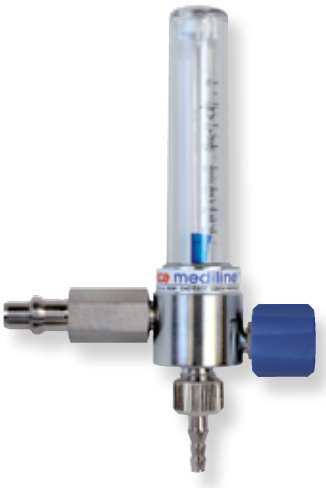
Art. Nr.	Description
K006975	Vacuum breaker + tubing 1,8 m
K006976	Vacuum breaker + tubing 2,7 m
9435450	Suction hose (silicone) 1 m
9435440	Suction hose (silicone) 5 m
325110333	Suction hose (silicone) 25 m

Suction jars - MediCollect

The Medicollect range of collection jars are designed to collect organic fluids by aspiration and are manufactured for „high flow and high vacum“ application.
The jars are made of polycarbonate or polysulphone. They can be autoclaved at a temperature of 121 °C for 15 minutes or 134 °C for polysulphone versions. The 300ml and 500ml jars are particularly suitable in hospitals for the collection of small volumes of liquids. For the collection of larger volumes, a 2000ml version is available.

Art. Nr.	Description
K291531	Medicollect 300ml, G1/2 inlet connection, 8.5mm hose outlet connection
K291657	Medicollect 500ml, G1/2 inlet connection, 8.5mm hose outlet connection (antibacterial filter)
K291530	Medicollect 2000ml, 9.5mm hose inlet & outlet connection
K291620ML	Medicollect 2000ml with press stainless steel lid

Float Flowmeter - MediMeter



The MediMeter is a pressure compensating flow meter giving clear indication of flow rates which are controlled by a fully adjustable needle valve. The most common version used is the 0-15 l/min for both oxygen and air. The durable brass body is nickel plated with a polycarbonate flow tube making it both tough and easy to clean.

Oxygen

Art. Nr.	Description
0730121	MediMeter 5 (0-5 l/min) with BS5682 Male Probe Quick Connector, white knob
0730122	MediMeter 15 (0-15 l/min) with BS5682 Male Probe Quick Connector, white knob
0730123	MediMeter 30 (0-30 l/min) with BS5682 Male Probe Quick Connector, white knob
0730124	MediMeter 15 (0-15 l/min) Twin with BS5682 Male Probe Quick Connector, white knob

Medical Air

Art. Nr.	Description
0730125	MediMeter 15 (0-15 l/min) with BS5682 Male Probe Quick Connector, white knob

Technical data

Gas pressure:	O_2, air
Flow ranges:	0 - 5 lpm, 0 - 15 lpm, 0 - 30 lpm
Inlet connection:	according to the respective national standard
Outlet connection:	9/16” UNF, M12×1,25, G3/8, G 1/4 with hose nipple
Body material:	Nickel-plated brass
O-rings:	EPDM
Control knob:	Polyamide
Body dimensions:	Width 32 mm, Height 160 mm, Depth 60 mm
	Weight 280 g (without connector)
Temperature range:	Storage - 30 °C to + 60 °C
	Operation - 20 °C to + 60 °C
Regulatory status:	Complies with medical devices directive 93/42/EEC Complies with EN 15 002
	(Flow - matering devices for connection to terminal units of medical gas
	pipeline systems)
Classification:	Class IIa
CE - marking:	CE0434

Flow Selector - Mediflow II 50 lpm

Flow selector connected to hospital terminal unit

Mediflow® II 50 lpm is a flow selector intended for use for resuscitation and for CPAP.

- Innovative self centering flow setting device with continuous flow between settings. In the unlikely event of indent mechanism failure, the patient will still be supplied by medicinal gas.
- Lateral and frontal reading of flow setting
- Enables to get up to 50 lpm for supplying machines (not for use directly to patient)
- 360° swivelling outlet – it enables better orientation of the tube (preventing from twisting).

Technical data

Gas:	0_2, air
Inlet pressure range:	4,5 bar
Flow ranges 0 to 50 lpm:	0-2-4-6-9-11-13-15-20-25-35-50
Inlet connection:	according to national standards
Outlet connection:	9/16" UNF, M12x1,25, G3/8, G1/4 with hose nipple
Body material:	nickel-plated brass
Control knob:	polyamide
O-rings:	EPDM
Body dimensions:	Diameter: 40 mm
	Length: 75 mm
	Weight: 350 g
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC. Complies with ISO 15002
	(Flow-metering devices for connection to terminal units of medical gas
	pipeline systems)
Classification:	Class IIa
CE - marking:	CE0434
Complies with Standard:	EN 1789:2000

MediFlow® Ultra II is the new generation of medical flow selector device with built-in regulator.
It covers a comprehensive combination of inlet and outlet connections and offers various options for all medical applications, from neonatal care through to resuscitation

Medical Low Pressure Regulator MEDIFLOW® ULTRA II

- Built-in regulator provides a very stable and precise flow, independent of the pressure in the medical central gas system or cylinder.
- Innovative self centering flow setting device with continuous flow between settings. In the unlikely event of indent mechanism failure, the patient will still be supplied by medicinal gas.
- Lateral and frontal reading of flow settings.
- 360° swivelling outlet – it enables better orientation of the nasal cannula or oxygen mask towards the patient (preventing from twisting).
- Higher number of flow disc holes increases treatment options. Extra flow setting of 25 lpm on the traditional 15 lpm variant, allows use in resuscitation. The additional 7 lpm is intended for nebulization.
- Ergonomic and streamlined design

Advantages of MediFlow® Ultra II

Independence of the pressure fluctuation with inlet pressure range of 2,8 – 8 bar

Continuous flow between settings, in the unlikely event of mechanism failure

Two windows - frontal and lateral allow very good visibility of set values

360° swivelling outlet alows wider use of positioning

Low Pressure Regulator - Mediflow Ultra II

MediFlow® Ultra II is the new generation of medical flow selector device with built-in regulator.

It covers a comprehensive combination of inlet and outlet connections and offers various options for all medical applications, from neonatal care through to resuscitation.

Art. Nr.	Description	
0728187	Mediflow® Ultra II with flow rates 0; 0,1; 0,2; 0,3; 0,4; 0,5; 0,6; 0,7; 0,8; 1; 1,5; 2	(black plastic)
0728168	Mediflow® Ultra II with flowrates 0; 0,25; 0,5; 0,75; 1; 1,5; 2; 2,5; 3; 4; 5; 6	(black plastic)
0728173	Mediflow® Ultra II with flowrates 0; 1;2; 3; 4; 5; 6; 7; 9; 12; 15; 25	(black plastic)

Technical data

Inlet pressure range	2,8 – 8 bar	
Max.outlet pressurewith no flow	2,1 bar	
Flow ranges*	**0 to 2 lpm**	0;0,1;0,2;0,3;0,4;0,5;0,6;0, 7;0,8;1;1,5;2
	0 to 6 lpm	0;0,25;0,5;0,75;1;1,5;2;2,5;3;4;5;6
	0 to 25 lpm	0;1;2;3;4;5;6;7;9;12;15;25
Inlet connection	according to national standards	
Outlet connection	9/16“ UNF, M12x1,25, G3/8, G1/4 with hose nipple	
Body material	nickel-plated brass	
Control knob	polyamide	
O-rings	EPDM	
Filter	sintered bronze and stainless steel	
Diameter	39 mm	
Length	77 mm	
Weight	350 g	
Regulatory status	Complies with Medical Devices Directive 93/42/EEC.	
	Complies with EN 10524-4 (Pressure regulators for use with medical	
	gases-Low pressure regulators)	
Complies with Standard	EN 1789:2000	

Flow selector connected to hospital terminal unit

Mobile system with up to 5 supply points

Humidifier - MediWet

The bubbling humidifier for oxygen therapy is used to increase the relative humidity in the oxygen supplied to the patient in the hospital or home.
The humidifiers are made of polycarbonate or polysulphone.
They can be autoclaved at a temperature of 121 °C for 15 minutes or 134 °C for polysulphone versions. They are used in conjunction with flowmeters, flow selectors, low pressure regualtors and high pressure regulators providing versatility and simplicity in use.

Art. Nr.	Description	
K294432	MediWet 200 134°C	G 3/8
K294416	MediWet 200 121°C	G 3/8
K294402	MediWet 200 134°C	9/16 UNF
K294401	MediWet 200 121°C	9/16 UNF
K293498	MediWet 200 134°C	M12 × 1,25
K293491	MediWet 200 134°C	M12 × 1,25
K294452	MediWet 200 121°C	G 1/4
K294435	MediWet 200 134°C	G 1/4
K292254	MediWet 500 121°C	M12 × 1,25

Low Pressure Hoses - MediConnect

Technical Data

Gas pressure	O_2, air, N_2O, vacuum
Material	Polyvinyl chlorid, containing plasticizer, with brilliant polish, antistatic
Inner/outer diameter	6,7 × 12,7 mm
Wall	3 mm
Hardness (Shore A)	88 ± 5
Density	1,25 ± 0,02 g/cm^3
Tensile strength	= 10 MPa
Fracture strain	= 200 %
Working pressure	max. 14 bar / 20°C
Rupture pressure	56 bar / 20 °C respectively 40 bar / 40 °C
Operation temperature	- 20 °C to + 60 °C
Classification:	Class IIa
CE - marking	CE0434

Nordic Standard Probe

French Standard Probe

British standard probe

German Standard 120° Probe

Cylinder Trolleys

Art. Nr.	Description
F161078	Trolley for cylinder 50 litres
14090638	Trolley for 5 l cylinder ALU, telescopic holder, diameter 155 mm
	Dimensions H×W×D (mm): 890-1030(4 positions)×280×270
14090630	Trolley for 10 l cylinder, 5-wheels, static, white painted
14090636	Trolley for 10 l cylinder, 5-wheels, antistatic, white painted
325396136	Trolley for 10 or 20 l cylinder, without belt
	Dimensions H×W×D (mm): 935×426×352
325396137	Trolley for 10, 20 l cylinders, 3×10 l or 2×20 l without belt
	Dimensions H×W×D (mm): 935×426×352
500009601	Trolley for 2.5, 5 l cylinder

14090636 and 14090630

325396136

14090638

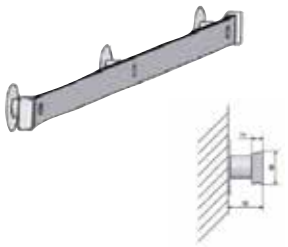
500009602

Accessories

Art. Nr.	Description
500009602	Belt for 2.5 l cylinder
325396138	Belt for 5 or 10 l cylinder
325396139	Belt for 20 l cylinder

Rails

UNI Rail Complete (30×10), Without Screws



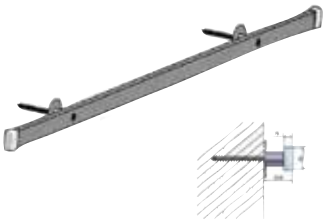
The Medirail is avaiable in varying lengths and can be mounted using the appropriate brackets and screws which are included. Equipment can be fixed from the rail.

Art. Nr.	Description
325197665	1,0 meter
325197666	1,5 meter
325197667	2,0 meter
325197668	3,0 meter

Accessories

Art. Nr.	Description
180901001	End protection
182037404	Washer
329000223	Distance 20 mm

EU Rail Complete (25×10), With Screws



The Medirail is avaiable in varying lengths and can be mounted using the appropriate brackets and screws which are included. Equipment can be fixed from the rail.

Art. Nr.	Description
325197656	1,0 meter
325197657	1,5 meter
325197658	2,0 meter
325197659	3,0 meter

Accessories

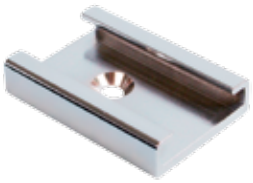
Art. Nr.	Description
325112959	Distance 20 mm
325112960	Washer D 40 mm
325112961	End protection

Clamps

14090932

Art. Nr.	Description
14090798	Rail clamp for plate, chromium plated
14090932	Rail clamp - hung for plate, chromium plated
14090799	Wall bracket for plate, chromium plated
K305240	Rail clamp for plate, plastic
K305242	Wall bracket for plate, plastic

14090798



14090799

K305242

81366EU

81366EU	Rail clamp EU (25x10) for plate
81366	Rail clamp UNI (30x10) for plate
81387	Rail clamp UNI (30x10) for 13 mm bar
81388	Rail clamp UNI (30x10) for 9.6 mm bar
81389EU	Rail clamp EU (25x10) for rail mounting products
81389	Rail clamp UNI (30x10) for rail mounting products
81431EU	Rail clamp double EU (25x10) for rail mounting products
81431	Rail clamp double UNI (30x10) for rail mounting products

81389EU

81431

HOW TO SAVE OXYGEN?

During exhalation oxygen collects in a reservoir. At the start of the inhalation, the diaphragm detects the negative pressure in the nose. This opens a valve delivering the oxygen to the patient at the start of the breath.

The oxygen delivered correlates closely to the established method of constant flow across a range of breathing rates.

The Sabre Elite automatically adjusts oxygen delivery on a given setting to the patient's breathing rate.

For higher breathing rates there is less time for the oxygen to collect. The patient will therefore get smaller pulses, but more of them. For lower breathing rates there is more time for the oxygen to collect. The patient will therefore get larger pulses, but less of them.

A simple way of looking at oxygen savings by considering efficiency. The % efficiency is calculated by dividing the oxygen delivered to the lung by the total flow delivered. In constant flow delivery only a small proportion of oxygen gets into the lung where it can be absorbed. About 60% to 80% of the oxygen delivered is wasted.

Efficiencies are in the region of 20% to 40%. The reasons for this are:

(i) Constant flow does not stop during exhalation, so two thirds of the gas is wasted by flowing into the atmosphere.

(ii) Constant flow delivers throughout inhalation including the gas that goes into the dead-space. The Sabre Elite delivers more efficiently. Efficiencies are in the region of 90% to 70%.

The pulse of oxygen is at the start of the breath where the gas is mixed with air that goes into the lung to be absorbed.During the later part of inhalation (where the oxygen would otherwise go into dead-space) and during exhalation the Sabre Elite saves the gas. The oxygen saving factor is primarily derived from efficiency, but other factors are relevant. The traditional constant flow settings of 2 and 4L/m are limited. By having a large range of settings with smaller increments significant further savings are possible.

The Sabre Elite has a saving factor of approximately 3 based on efficiency. If the incremental saving of having a wide range of settings that will accurately meet the patient's need is taken into account, a saving of 3 x 1.6 = 4.8 may be claimed.

The Elite Set is supplied with a strapped carry bag Cylinder and Nasal Canulae.

Cylinder Duration Table

Approximate duration in hours: minutes for Elite

Cylinder capacity (litre)	Pressure (Bar)	Flow equivelency settings (L/min)				
		1	2	3	4	6
0.5	137	3:25	1:42	1:80	0:51	0:34
1.5	137	6:51	3:25	2:17	1:42	1:80
1.7	137	11:38	5:49	3:52	2:54	1:56
2.0	137	13:42	6:51	4:34	3:25	2:17
2.7	137	18:29	9:14	6:90	4:37	3:40
9.4	137	64:35	32:17	21:31	16:80	10:45
0.5	200	5:00	2:30	1:40	1:15	0:50
1.0	200	10:00	5:00	3:20	2:30	1:40
1.7	200	17:00	8:30	5:40	4:15	2:50
2.0	200	20:00	10:00	6:40	5:00	3:20
2.7	200	27:00	13:30	9:00	6:45	4:30
9.4	200	94:17	47:80	31:26	23:34	15:43

Elite Oxygen Conserver

The Sabre Elite oxygen conserving device is an innovative way of delivering oxygen to the patient, whilst conserving the gas and extending the duration of the cylinder.

- Totally pneumatic, requires no external power source
- On demand oxygen is delivered to meet patient needs, depending on exercise / eff ort
- Matching the delivery performance of constant fl ow oxygen over a range of fl ow rates
- All brass high pressure components
- Easy to change between cylinders, medium pressure break ensures maximum user safety
- Easy to use, does not require complex set up, a simple, single connection of a cannula to the therapy outlet of the device is all that is required

Elite with Cylinder

Art. Nr.	Description
2008544	Elite valve fitted to 1.0 litre Aluminium cylinder, 200 bar.

Note: Cylinder variants supplied with carry bag, cannula and full to 200 bar. Fitted with a G1/4 fill port (adapters available).

Elite with Low Pressure Quick Connector

Art. Nr.	Description
2010294	**Elite head with BS 5682 probe quick connector.**

Elite with High Pressure Cylinder Connector

Art. Nr.	Description
2001635	Elite valve and regulator with UK Bullnose standard connection.
2001637	Elite valve and regulator with Pin Index connection.

Elite Integral Valve

Art. Nr.	Description
2001641	Elite valve and regulator with 17E cylinder connection.
2001642	Elite valve and regulator with M18 cylinder connection.

Note: Cylinder variants supplied with carry bag, cannula and full to 200 bar. Fitted with a G1/4 fill port (adapters available). More connections are available on your request.

Technical data

Input pressure	0-200 bar
Inlet Connector Type(s)	Full range high pressure
Pressure gauge	0-200 bar low profile
Therapy flow Equivalency (lpm)	1.0, 1.2, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0
Pressure Relief Valve Pressure	109 psi
Therapy outlet	Universal firtree
Service Intervals	Elite - 3 Years
Charging Adapter	(Bullnose) Part Number: 2003558
Nasal Canulae	Part Numbers 2008202 (pack of 100)

Oxygen conservers

ECOlite 4000 Oxygen Conserver

The ECOlite 4000 is an electronic gas-conserving device with built in alarm functions. It operates with a gas cylinder set at an outlet pressure of 1.6 - 5 bar. An optional 1.6 bar outlet pressure version is available for use with a liquid oxygen container.

The oxygen flows through a pressure-reducing valve before entering the ECOlite 4000 and then onto the patient via a nasal canula. The incorporated microprocessor in the ECOlite 4000 controls and manages the oxygen flow to the patient in all conditions. The sensitive valve delivers oxygen at exactly the right dosage as soon as the patient inhales, then stops. This ensures oxygen will penetrate the alveoli and be assimilated into the blood.

ECOlite 4000 is an electronic oxygen gas conserving device, which enables patient friendly and efficient long term oxygen therapy treatment (LTOT).

With the ECOlite 4000, the oxygen is delivered only during the inspiration phase, permitting savings of up to 10 times compared to continuous flow oxygen therapy. The volume of oxygen needed for one breath is delivered during the fi rst third of the inspiratory cycle, which guarantees both effi cient and optimal treatment and a short exposure of the nasal mucosa to medical oxygen. A special feature of the ECOlite 4000 is the small, internal regulator, that allows the user to select a supply inlet pressure of between 1,6 to 5 bar. The working pressure of the device is regulated to 1,6 bar which enables a both clinically and physiologically patient friendly oxygen administration.

The device has two operating modes, Automatic and Manual. In the Automatic mode the amount of oxygen delivered increases in relation to the set flow rate at breath rates of 15 to 30 breaths per minute, to a maximum of 8 lpm. In the Manual mode the flows rate from 0,5 to 8 lpm with increments of 0,5 lpm.

If a specific flow rate is prescribed by the physician to be administrated, the flow settings can be locked at any rate by the health care personnel in charge of setting the flows on initial setup.

The device has several built in alarm functions for safe use. The alarms are shown on the display and are also audible. The

ECOlite 4000 has alarms for:

- Low battery
- No Oxygen
- No Breathing

The battery life time of the device is prolonged to last for 200 hours. Standard AA 1,5 volt batteries are in use.

Art. Nr.	Description
325197479	ECOlite 4000 Conserver with spiral hose, batteries and nasal cannula

Accessories

Art. Nr.	Description
MM3735	Firclic* Snap On/Off Connector (to suit BAREMA standard firtree outlet)
2008973	1 litre Rucksack Bag
1024401	1.7 litre Rucksack Bag

** The Firclic provides a secure, leak free connection to the firtree outlet. This prevents the hose from detaching from the gas supply when used at higher pressures (i.e. 4 bar).*

Technical data

Functional performance	
Settings:	Manual/ Automatic
Triggering:	At each breath
Sensitivity:	0,13 cm H2O
Regulating pressure:	1,6 Bar
Accuracy:	0,5-1,5 l/min +/- 30%
	2-8 l/min +/- 15%
Cycle output:	0.5 to 8 l/min corresponding to 5-80 ml per bolus
Alarms:	Battery monitoring
	Missing Oxygen supply
	No inhalation
Power supply	Battery: RO6, AA, Alkaline 1,5 V
Oxygen supply	
Pressure:	Between 1,6 and 5 Bar
Flow:	Minimum 4 litres per minute
Hight × Width × Depth:	101 mm × 85 mm × 32 mm
Weight:	184 g without battery
Environmental condition	
Ambient temperature	
Operational:	-10°C to +40°C
Storage:	-40°C to +70°C
Relative humidity:	25% to 95%

OXYGEN CONCENTRATORS

CONCENTRATORS FOR HOMECARE

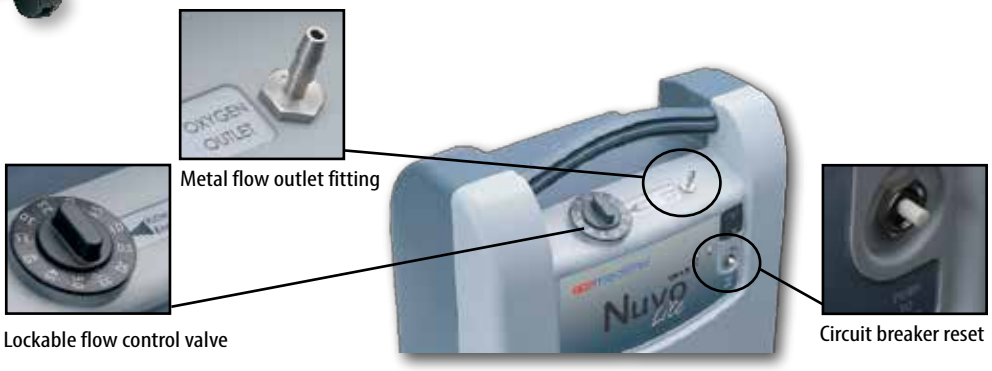
CONCENTRATORS FOR TRAVELLING

Oxygen concentrators

Nuvo Lite Oxygen Concentrator

- Lighweight - a mere 13,6 kg
- Slender and sleek cabinet design with integrated handles
- Lockable Flow Control Valve
- Litre Flow - 0,125 to 5 l/min adjustable

Art. Nr.	Description
14111211	Concentrator Nuvo Lite Mark 5
14111220	Compressor intake filter
14111222	Prefiltering fleece
14090329	Bacteria filter
14090417	Single use bottle
14090510	Cannula with 2,1 m tube



Nuvo 8 Concentrator

FEATURES

- 230V / 50/60 Hz
- 2.0 to 8.0 LPM flow
- 117.2 kpa (17 psi) ± 10%
- 394 mm × 396 mm × 706 mm
- 24.3 kg

Art. Nr.	Description
14111811	NUVO 8 concentrator

All products on this page require a plug adapter for use in the UK, part number 2001507.

InogenOne® G2

The Inogen One®G2 is an oxygen system designed to provide unparalleled freedom for the active oxygen user. It's designed for stationary, portable, and travel use, for daytime and nighttime, and it's a concentrator that makes its own oxygen, so it never has to be refilled.

Art. Nr.	Description
14111311	Inogen One®G2 System
	(cannula+manual+trolley+bag+batterycharger (250V+12V)+battery)

Accessories/Spare parts

Art. Nr.	Description
14111312	G2 Rechargable 12 cell battery
14111313	G2 Rechargable 24 cell battery
14111314	G2 Recharger + power supply
14111315	G2 Universal power supply
14111316	G2 Carry bag
14111317	G2 Caddy
14111318	G2 Particle filter pu: 3 pcs
14111319	G2 A/C supply cord only no pol
14111320	G2 Car input cable (cig. Port)
14111321	G2 Plane input cable for seat
14111322	G2 Cable fuse for car cable

12 cell Battery

24 cell Battery

Battery Charger (250V+12V)

All products on this page require a plug adapter for use in the UK, part number 2001507.

Ambulance gas panel II

The Ambulance Panel II is the next generation of ambulance panels. It is designed for permanent installation and use in road ambulances. Long experience and use have resulted in a product that gives the customer a lot of options and flexibility.

Flexibility

Due to the design and functions there are a big range of variants available. The functions and variants can be combined upon customer's request

Modular

The modular concept means that same components can be used for many variants, resulting in short lead times and full flexibility. The Ambulance Panel II is designed with same shape for recessed and exposed.

Recessed

Recessed mounting is when the ambulance panel is mounted in the wall. The inlet could either be mounted at the end or at the back depending on the wall construction and the space behind the wall. The only part that will be outside the wall is the quick connector.

Exposed

Exposed mounting is when the ambulance panel is mounted on the wall in the ambulance. The inlet could as the recessed, also be located at the end or at the back. When using the end inlet the hoses are fastened on the wall and fully visible. For some countries and regulations this is a must and the Ambulance Panel II has the features complying to these requests. The panel is fastened easily by 4 screws. Depending on the wall construction the fastening could either be done by a counter fastening frame or nuts and washers.

Inlet

The inlet connection the the Ambulance Panel II is standard 3/8 thread. This is a standard thread with conical sealing that has been used many times in this kind of application. Using a threaded connection gives the assembly easier and the parts easy to maintain and exchange.

Quick Couplings

There are many variants of quick couplings on the Ambulance Panel II. The most frequent standards are used on the Ambulance Panel II. For special quick couplings please contact GCE. By using standard components and quick couplings the assembly is easy and the maintenance access able and effective.

Outlet

The outlet is standard 3/8 thread connection. If additional panels are needed, the Ambulance Panel II can have extra outlets for panels mounted in series. The panels are then connected with a standard hose and hose connections.

Manual switch-over

The manual switch-over is a selector that chooses what cylinder is supplying the ambulance panel. There are three steps 1-0-2, where the 0 is off 1 is cylinder one and 2 cylinder two. The manual switch-over can be incorporated in the panel beside the other quick couplings or it could be mounted separately.

Gauge

One of the additional functions in the Ambulance Panel II is the gauge on the panel. The gauge is showing the working pressure in the system and gives continuously surveillance and is fully visible by the staff in the ambulance.

Technical Data

Weight:	example AP II O2 2xSS R: 754g
QC standards:	SS, DIN, NF, BS, UNI, CZ
Gases:	O_2, Air, N_2O/O_2, N_2O, VAC
Standards:	EN 1789:2008
Classification	Class IIb
Manufacturer:	GCE, s.r.o, Žižkova 381
	583 81 Chotebor, CZ
CE - marking	CE0434

Trans- Vent Ventilator

- 144 Variable Vt/BPM Settings; Allows Ventilation of Patients from 3kg to adult with great fl exibility
- Demand valve function allows spontaneous breathing, pausing the automatic cycling
- Automatic cycling resumes if patient ceases spontaneous breathing after 4-6 seconds
- 60% and 100% Oxygen concentration modes available
- Low gas pressure alarm
- Single power source pneumatic alarms work from cylinder contents and will never be inactive when using the Trans-Vent – requires no batteries
- Large, high visibility airway pressure gauge
- Adjustable pressure relief valve from 20 to 100 cmH2O expels vents gas to atmosphere, whilst maintaining automatic ventilation
- Internal, adjustable CPAP/PEEP from 0-20 cmH2O
- Manual override control allows immediate calibrated delivery of oxygen to volume/ frequency settings
- Can be supplied MRI compatible

Art. Nr.	Description
2006183	Trans-Vent kit with pin index regulator with 11 setting constant flow (1 - 23 l/min), hose and BS 5682 probe.‚Square' carry bag, masks, disposable patient circuit and manual.

Mars-Pro Ventilator

- Easy to use combined tidal Volume and Frequency control
- Manual override control allows immediate calibrated delivery of oxygen to volume/ frequency settings
- Demand valve function allows spontaneous breathing, pausing the automatic cycling
- Automatic cycling resumes if patient ceases spontaneous breathing after 10 seconds
- Pressure relief valve set at 45 cmH2O expels vents gas to atmosphere, whilst maintaining automatic ventilation
- Low gas pressure alarm
- Single power source pneumatic alarms work from cylinder contents and will never be inactive when using the MARS-Pro requires no batteries
- Large, high visibility airway pressure gaugee Vt/BPM Settings; Allows Ventilation of Patients from 3kg to adult with great fl exibility

Art. Nr.	Description
2006337	Mars-Pro kit with pin index regulator with 11 setting constant flow (1 - 23 l/min), hose and BS 5682 probe.‚Square' carry bag, masks, disposable patient circuit and manual.

Demand valves

EASE II Demand Valve

The New Sabre EASE II portable & pipeline systems provide a compact, low resistance method of self-administering O2 /N2O. The EASE demand valve is constructed in a way that creates minimal breathing resistance to the patient and can deliver high flows when required. For greater user comfort the EASE II is both smaller and lighter than the original Sabre EASE. The new 'Easy Grip' handle is another user friendly addition.

- On demand Nitrous Oxide/Oxygen (EntonoxTM) system for delivering up to 300 litres/min
- Portable fi rst stage regulator and cylinder version for immediate care and pre-hospital applications
- Low pressure pipeline version for obstetrics and general nursing applications
- Conforms to BS 4272: Part 2
- Low inspiratory eff ort demand valve
- Test/Purge facility on the demand valve, easy to clean and reassemble for infection control protocol
- Hose fi tted with BS probe for connection into CD system or wall outlet
- Autoclavable, removable handle

Art. Nr.	Description
0715302	Ease II kit with demand valve, 3 metres of hose & pin index regulator. Supplied with mask,
	mouthpieces and manual.
0715300	EASE II Demand value with 3 metres of hose & BS5682 probe. Supplied with mask,
	mouthpieces and manual.

Accessories

Art. Nr.	Description
1024417	Blue barrel carry bag
1024103	Case boxed c/w strap and frame
1032937	Disposable mouthpiece (Pack of 5 pcs)
1035575P	Breathing filter (Pack of 5 pcs)
1032994P	Disposable facemask - medium (Pack of 5 pcs)
1032620P	Adult size reusable mask
1032622P	Medium size reusable mask
1032624P	Child size reusable mask
1023364	Thermometer for N_2O/O_2 cylinders
850500P	Expiration diverter (Pack of 1 pce)

Other standard probes are available on your request.

Technical Data

Demand valve

Gas:	N_2O/O_2 , O_2
Material:	Polycarbonate, silicone rubber, stainless steel
Dimensiones:	50 × 50 × 63 mm
Weight:	0,085 kg
Gas supply Requirement:	2,8 to 7,0 bar at >200 L/min
Inspiratory resistance:	(At 2,8 bar supply press.) Cracking 0,15-0,2 kPa
	-0,2 kPa at 10 L/min
	-0,7 kPa at 200 L/min
Expiratory resistance:	Cracking Zero
	At flow +0,35 kPa at 120 L/min
Operating temperature:	-20°C tp +60°C used Oxygen
	+5°C to +40°C used 50/50 N_2O/O_2
Storage temperature:	-30°C to +60°C

Hose assembly

Connection:	Probes by the national standards
Working pressure:	7 bar
Burst pressure:	44 bar
Material:	PVC, anti-static in accordance with ISO 5359
Weight:	0,5 kg (3 m length)
Manufacturer:	GCE, s.r.o, Žižkova 381, 583 81 Chotebor, CZ
CE - marking:	CE0434

Hospital Central Gas supply system

MM90 Automatic Gas Manifold

The MM90 automatic medical manifold is intended for use in hospital pipeline system as medical gas source. Together with MM90, there shall always be used an alarm providing all alarms according to standard (like gas alarm C44). As 2nd stage is recommended to use a line pressure regulator.
The manifolds covered by this description are designed to allow equal numbers of cylinders to be manifold together to give an operating bank and a reserve bank. The manifold will deliver gas from the operating bank to the manifold pressure regulator until the cylinders are exhausted. At that point the supply will switch to the reserve bank and the exhausted bank can be reple-nished. The object is to give uninterrupted gas supply.

Gas Alarm C44 is Standard Accessory. The gas alarm C44 gives visual and audible indication. It surveilles and sounds the alarm when the following happens:
1. Too high or too low outlet pressure,
2. Leakage on the non-operating gas cylinder bank,
3. When change of operating side has ben effected.The gas alarm C44 is able to communicate wtih other equipment through relays. The alarm has a battery back-up for 30 minutes of operation.

Specification

An MM90 includes (except for gas cylinders or packs) the following components:

- MM90 AUTO Manifold
- Gas alarm C44

For a complete MM90 AUTO manifold add:

- Collecting pipes, high pressure valves, and non-return valves (high pressure components).
- High pressure hoses with safety wire.
- Cylinder retaining brackets.

Technical data

Capacity at 900 kPa (9 bar) outlet pressure	
Oxygen, air	90 m^3/h
Nitrous oxide, CO_2	50 m^3/h
Max. inlet pressure (settled)	20 000 kPa (200 bar)
Max outlet pressure	1200 kPa (12 bar)

open MM90 automatic

MM90 Semiautomatic Gas Manifold

The MM90 semiautomatic medical manifold is intended for use in hospital pipeline system as medical gas source. Together with MM90, there shall always be used an alarm providing all alarms according to standard (like gas alarm C44). As 2nd stage is recommended to use a line pressure regulator.
The manifolds covered by this description are designed to allow equal numbers of cylinders to be manifold together to give an operating bank and a reserve bank. The manifold will deliver gas from the operating bank to the manifold pressure regulator until the cylinders are exhausted. At that point the supply will switch to the reserve bank and the exhausted bank can be replenished.The object is to give uninterrupted gas supply.

Gas Alarm C44 is Standard Accessory. The gas alarm C44 gives visual and audible indication. It surveilles and sounds the alarm when the following happens:
1. Too high or too low outlet pressure,
2. Leakage on the non-operating gas cylinder bank,
3. When change of operating side has ben effected.
The gas alarm C44 is able to communicate wtih other equipment through relays.

The alarm has a battery back-up for 30 minutes of operation.

Specification

An MM90 includes (except for gas cylinders or packs) the following components:

- MM90 SEMIAUTO Manifold
- Gas alarm C44

For a complete MM90 AUTO manifold add:

- Collecting pipes, high pressure valves, and non-return valves (high pressure components).
- High pressure hoses with safety wire.
- Cylinder retaining brackets.

Technical data

Capacity at 900 kPa (9 bar) outlet pressure:	
Oxygen, air	90 m^3/h
Nitrous oxide, CO_2	50 m^3/h
Max. inlet pressure (settled):	20 000 kPa (200 bar)
Max outlet pressure :	1200 kPa (12 bar)

open MM90 semiautomatic

MM90 STANDBY Backup Medical Gas Manifold

The MM90 STANDBY medical manifold is intended for use in hospital pipeline system as backup medical gas source.

Together with MM90 STANDBY, there shall always be used the MM90 AUTo or SEMIAUTO, alarm providing all alarms according to standard (like gas alarm C44). As 2nd stage is recommended to use a line pressure regulator.
The manifold MM90 STANDBY covered by this description is designed to be used as a third source of suppply in medical central gas systems. The manifold wil deliver gas when the nominal supply system pressure falls below a set lever (7 bar). This is a back up source.

Specification

An MM90 includes (except for gas cylinders or packs) the following components:

- MM90 STANDBY Manifold with senzors

For a complete MM90 STANDBY manifold add:

- Collecting pipes, high pressure valves, and non-return valves (high pressure components).
- High pressure hoses with safety wire.
- Cylinder retaining brackets.
- Gas alarm C44.

Technical data

Capacity at 700 kPa (7 bar) outlet pressure:	
Oxygen, air	90 m^3/h
Nitrous oxide, CO_2	50 m^3/h
Max. inlet pressure (settled):	20 000 kPa (200 bar)
Max outlet pressure:	1200 kPa (12 bar)

Standard Accessory Gas Alarm C44

The gas alarm C44 gives visual and audible indication.
It surveilles and sounds the alarm when the following happens:

- Too high outlet pressure,
- Too low outlet pressure,
- Empty cylinder

The gas alarm C44 is able to communicate with other equipment through relays. The alarm has a battery back-up for 30 minutes of operation.

Gas Manifold MC80

This gas manifold is suitable for the medium to the large sized hospital.
The MC 80 has a flow capacity of up to 80 m^3/h and is conveniently designed in modules. The MC 80 reduces the gas pressure in two steps to a constant operating pressure. Service and tests are to be carried out with no disturbance in the supply of gas to the gas distrubution system.

The MC 80 consists of the three following units:

1. MC 6702 - High Pressure Unit

This module contains two regulators with safety valves and it is connected to two various cylinder banks with high pressure hoses. When the cylinder bank which has been connected for operation, has been emptied, the other duty side is automatically connected.

2. MC 6703 - Stabilizer

The stabilizer makes the operating pressure in the distribution system remain constant. The module contains two regulators with safety valves. Since the gas pressure is reduced in two steps the drop in pressure, when changing from the operating cylinder to the other bank of cylinders, is kept to a minimum. The unit is prepared for connection to a liquid supply tank.

3. MC 7701 - Digital Pressure Monitor

This monitor gives visual and audible indication as well as a message in plain language. It electronically surveilles and sounds the alarm when the following happens:

1. Too high or too low operating pressure,
2. Too high second step pressure,
3. Leakage on hte non-operating gas cylinder bank,
4. When change of operating side has ben effected.

When connected to a liquid tank the following disturbances will be reported:

1. Too high or too low operating pressure,
2. Too high or too low second step pressure,
3. Leakage from the reserves,
4. When change of operating side has been effected.

The MC7701 is able to communication wtih another equipment through a serial link and / or relays. The alarm has a battery back-up for 30 minutes of operation.

Specification

A complete MC 80 includes (except for gas cylinders or packs) the following components:

- MC 6702, High Pressure Unit
- MC 6703, Stabilizer
- MC 7701, Digital Pressure Monitor
- Shut-off valve for the distribution line
- Connecting pipe with shut-off valve, filter and non-return valves (high pressure components)
- High pressure hoses with safety wire
- Fastening device for the gas cylinder
- Evacuating kits
- U-key and signs.

Technical data

Capacity at 600 kPa (6 bar) working pressure:		
	Oxygen	80 m^3/h
	Nitrous oxide	80 m^3/h
High Pressure Unit MC 6702:		
	max. inlet pressure	22 000 kPa (220 bar)
	max outlet pressure	1600 kPa (16 bar)
Stabilizer MC 6703:		
	max. inlet pressure	1600 kPa (16 bar)
	max working pressure	800 kPa (8 bar)

Gas Manifold MC25

The gas cylinder manifold MC 25 is delivered as standard for the gases medical breathing oxygen, nitrous oxide, medical breathing air, medical carbon dioxide, and nitrogen. This manifold has a capacity of 25 m3/h and is primarily intended for small and medium-sized hospitals. The gas cylinder pressure is regulated in two steps. The change-over between operating side and reserve side is made automatically without any differences in the operating pressure.
Alarm signal comes from the pressure switches to the alarm unit C44. The alarm signals from the alarm unit C44 can be forwarded directly to a monitoring desk. Function control and service can be carried out without interruption in the gas supply.

Specification

A complete gas cylinder manifold MC 25 exclusive of gas cylinders includes:

- Gas cylinder manifold MC 25
- Gas alarm C44 (exposed mounting) including power supply
- Shut-off valve for distribution net
- High pressure collecting pipes, high pressure valves, filters and non-return valves
- High pressure hoses with safety wire
- Cylinder retaining brackets
- Gas evacuation kits for collecting pipes
- Wrench and signs.

Technical data

Capacity at 5 bar (500 kPa) operation pressure and pressure drop 0.5 bar (50 kPa):	
Medical breathing oxygen	25 m^3/h
Nitrous oxide	17 m^3/h
Medical breathing air	25 m^3/h
Medical carbon dioxide	17 m^3/h
Nitrogen	25 m^3/h
Maximum inlet pressure:	220 bar (22,000 kPa)
Maximum operation pressure:	10 bar (1,000 kPa)
Width × height × depth:	95 × 450 × 225 mm

Simplex MMR Gas Manifold

The "Simplex MMR" gas manifold is suitable for such health care where the capacity requirement is limited, such as laboratoriesand small health care clinics. This gas manifold consists of only one group of cylinders.
The regulator is mounted in the collection unit. Each inlet connection has a filter, a non-return valve and a shut-off valve. This arrangement makes it possible to use one cylinder at a time.
In order to obtain a stabile outlet pressure this gas manifold is equipped with a preset two-stage regulator. On the high pressure side of the regulator there is a contact gauge the signal of which can be carried further to an alarm unit.
Simplex MMR is delivered mounted and test-pressurized.

Specification

A gas cylinder manifold Simplex MMR exclusive of gas cylinders includes:

- Gas cylinder manifold Simplex MMR.
- Collecting pipe Manyflow block for three hoses.
- Gas evacuation kits for collecting pipe.

For a complete Simplex MMR add:

- Non-return valves.
- High pressure hoses with safety wire.
- Cylinder retaining brackets.
- Gas name signs.

Technical data

Capacity at working pressure 5 bar:	
Medical oxygen	30 m^3/h
Medical nitrous oxide	27 m^3/h
Medical breathing air	30 m^3/h
Max. inlet pressure	220 bar
Max. outlet pressure	8 bar

MC7741 Emergency Shut-Off Valve Box DN15

open MC7741

For safety and service reasons a central gas system must be equipped with shu-t-off valves placed so that the gas supply can easily be interrupted. The valves are mounted in a box. The emergency shut-off valve boxes shall be placed so that the gas can be shut off section wise. This means that the boxes should be placed befo-re each ward, operating unit, part of ward for critical treatment and individual sur-geries.

The emergency shut-off valve box is delivered with connection tube and each box has been test pressurized and controlled for tightness. The emergency shut-off valve has large ergonomical handles.

If mounted in a recessed way, the emergency shut-off valve box fits walls with 70 mm beam. With a 90 mm beam there is extra space (23,5 mm) behind the valve box usable for e.g. fire isolation.

All models, also with four or five gases, fit between the beams in a CC-60 wall. The box is gas-tight which prevents gas accumulation inside the wall.

MC7741 is CE-marked according to ENISO 7396-1 and current SIS HB 370.

It is important that the boxes are placed so that they are easily available for authorized personnel. The front glass shall be sealed.

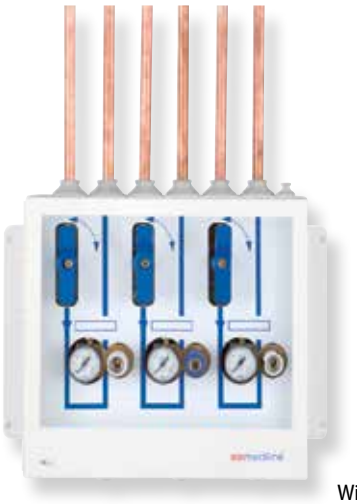
In order to avoid mistakes the boxes shall be clearly and distinctly marked with gas sort. A sign showing which section the box serves must be placed in its immediate vicinity.

The valves are open when the handles are in vertical position in a line with the printed marking on the plate.

Technical data

Maximum working pressure:	16 bar
Pipe dimension:	15 mm diameter
Pressure class:	PN 16

MC7751 Pressure Watch with gauge, alarm and quick coupling



open MC7751

A Pressure Watch can be used in wards where you do not have a need for the slave regulator of a Pressure Monitor.

The Pressure Watch has the same shut off function as an ordinary Emergency Shut-Off Valve Box. Behind the sealed plexiglass you find quick couplings that are used to connect spare cylinders and gauges.

To inform the hospital staff regarding gas failures the Pressure Watch is equipped with one of the following alarm systems; 1 – pressure switches that you connect to Gas alarm C44, 2 – pressure transmitters that you connect to Gasalarm MC7701 or 3 – pressure transmitters 4-20 mA that you connect directly to the hospital central computer system. Alarm system 1 is the most commonly used.

The Pressure Watch is delivered with 300 mm connection tubes and each box has been test pressurized and controlled for tightness. The Pressure Watch has large ergonomical handles.

If mounted in a recessed way, the emergency shut-off valve box fits walls with 70 mm beam.

With a 90 mm beam there is extra space (23,5 mm) behind the valve box usable for e.g. fire isolation. All models, also with four or five gases, fit between the beams in a CC-60 wall. The box is gas-tight which prevents gas accumulation inside the wall.

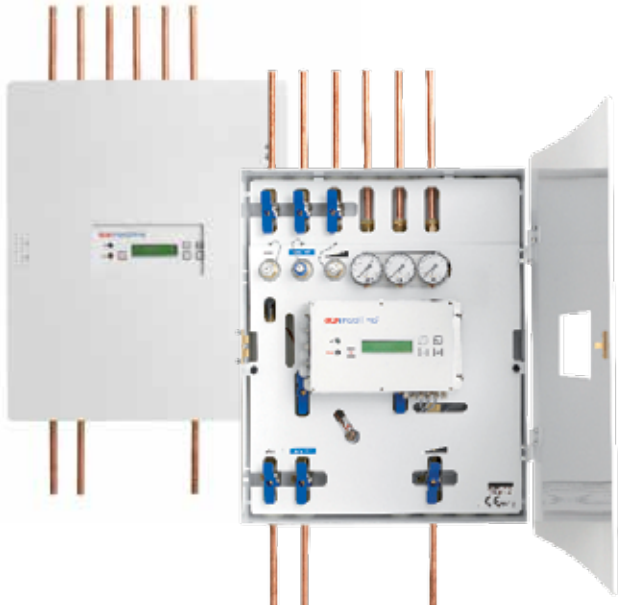
MC7741 is CE-marked according to ENISO 7396-1 and present SIS HB 370.

It is important that the boxes are placed so that they are easily available for authorized personnel. The front glass shall be sealed. In order to avoid mistakes the boxes shall be clearly and distinctly marked with gas sort. A sign showing which section the box serves must be placed in its immediate vicinity. The valves are open when the handles are in vertical posi-tion in a line with the printed marking on the plate. To close the valves you turn the handle 90 degrees clockwisee.

Technical data

Maximum working pressure:	16 bar
Tube dimension:	diameter 15 mm
Pressure class:	PN 16

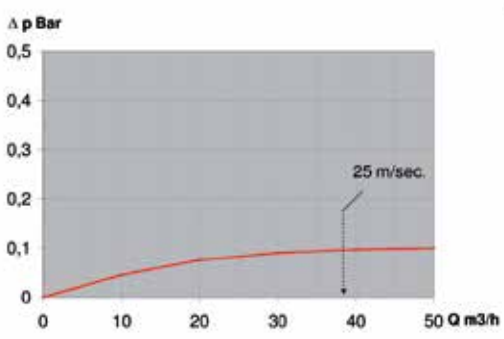
Pressure monitor DN15



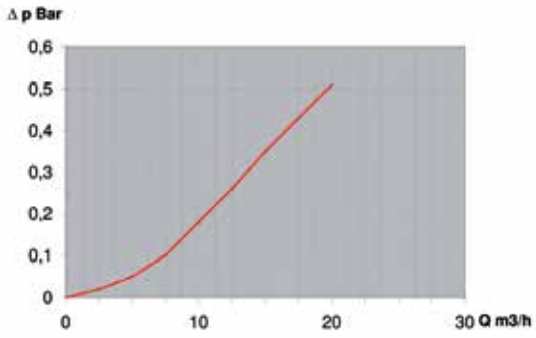
The pressure monitor makes sure that the lower operating pressure for nitrous oxide compared to oxygen is kept.
When the spare supply is used to keep the gas division going, the pressure monitor will supervise the operating pressures to make sure that these are within the established standards. Furthermore, an optic and acoustic signal to a manned area will be obtained. The pressure monitor is equipped with a digital pressure reading unit (MC 7701). The surveillance is done by pressure transmitters.
The following gases are under surveillance: breathing oxygen, nitrous oxide, and instrument air. Alarm is indicated by an acoustic and and visual signal at the same time as the exact cause of the alarm is written on the display. This happens if the gas pressure rises above or sinks below the set maximum or minimum limits respectively. The pressure monitor is also equipped with bayonet coupling for breathing oxygen, nitrous oxide, breathing air, and instrument air. When necessary, it is possible to connect spare gas to these.

Technical data

Capacity emergency supply at 500 kPa (5 bar) and pressure drop 0,5 bar:	approx 380 litres/min
Capacity normal supply at 500 kPa (5 bar) and pressure drop 0,5 bar:	approx 780 litres/min
Max. inlet pressure:	1000 kPa (10 bar)
Group regulator capacity at inlet pressure 3 bar:	150 l/min
Mounting measurements (outside dimensions):	Width 549 mm
	Height 633 mm
	Depth 128 mm
DN15 Pressure monitor:	Width 555 mm
	Height 689 mm
	Mounting depth max 138 mm)



Pressure drop test. Inlet pressure 5 bar



Pressure drop test. Inlet pressure 5 bar.
Emergency use.

Medical Shut-off Valves

To meet safety requirements, the gas supply to operating rooms etc must be fi tted with a device to allow instant shut off. To allow maintenance the gas supply must be controlled by section. To achieve the demands of safety and maintenance shut-off valves should be fi tted in every main line, riser, and branch line in the pipework system.

- Shut-off valves for oxygen, air for breathing, and nitrous oxide. The shut-off valves are of the ball type with a straight cylindrical bore.
- Easy to operate - 90° turn between fully open and fully closed.
- No maintenance - the ball valve does not need services, when necessary the whole valve is exchanged.
- Unions for brazing and fl at sealing connections.
- Reliable, easy to fi t.

The valves are degreased and blown clean. They can be equipped with unions to be soldered to the copper piping and they are provided with name plates in Swedish, Norwegian, Danish, Finnish, and Hungarian for each gas type.
Before delivery each valve is individually leak tested. The ball is sealed with washer of PTFE. The stem is sealed with two silicon Orings and tefl on washer. The housing halves are sealed with an EPDM quality O-ring.

Technical data

Material valve housing:	Nickel plated brass
Ball:	Chrome plated brass
Stem:	Nickel plated brass
Max working pressure:	33 bar
Tighten proof:	50 bar

The shut-off valve is delivered with two washers. To complete: order suitable unions and connection nuts. The shut-off valve is delivered with name plates in Swedish, Norwegian, Danish, Finnish, and Hungarian.
To assemble: Fit your connecting pipe into or outside*) the union's connection pipe

Medical High Pressure Hoses

Medical high pressure hoses are used to connect cylinders or cylinder bundles to gas supply systems. The high pressure hose is intended to be used with a pressure up to maximum 230 bar. Pressure tested at 345 bar. The hose is equipped with a safety wire.

Handling

The high pressure hose shall be transported, stored, installed and maintained according to Instruction of Use. Maximum total life time 5 years.

Technical data - Material

Tube:	Acid-proof Stainless Steel (AISI 316)
Plait:	Stainless Steel (AISI 304)
Wire:	Stainless Steel (AISI 304)
Nut and tightening material:	Acid-proof Stainless Steel (AISI 316)
Case and Oetiker:	Stainless Steel (AISI 304)

Alarm C44 system

The gas alarm 4 is a medical gas alarm designed for pressure monitors wirh a digital gas pressure monitor MC7701. The gas alarm 4 displays an alarm for four different kinds of gases; oxygen, nitrous oxide, breathing air, and instrumental air. The alarms are summation alarms for both high and low pressure. In addition to this, a failure in the computer communication system, or a damaged signal lable (for example: cut off) is also indicated. The loudness of the sound can be adjusted by using the potentiometer placed behind the covering lid. At delivery the sound is set at medium.
The gas alarm 4 is available in two different designs, for recessed mounting and for exposed mounting. The display will show any of eight languages chosen from stickers enclosed. The alarm is equipped with a rechargeable NiCa battery in case of power failure.

At the most, 10 units of gas alarm 4 can be connected in a series. The maximum cable length between two units of gas alarm 4 is 400 m. The recommended cable is a double twined, shielded computer wire like Alpha type 5472C or similar. Smallest conductor area: 0,23 mm^2.

MC 7701 - Digital Pressure Monitor

This monitor gives visual and audible indication as well as a message in plain language. It electronically surveilles and sounds the alarm when the following happens:
1. Too high or too low operating pressure,
2. Too high second step pressure,
3. Leakage on hte non-operating gas cylinder bank,
4. When change of operating side has ben effected.

When connected to a liquid tank the following disturbances will be reported:
1. Too high or too low operating pressure,
2. Too high or too low second step pressure,
3. Leakage from the reserves,
4. When change of operating side has been effected.

The MC7701 is able to communication wtih another equipment through a serial link and / or relays. The alarm has a battery back-up for 30 minutes of operation.

Gas Control Equipment

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