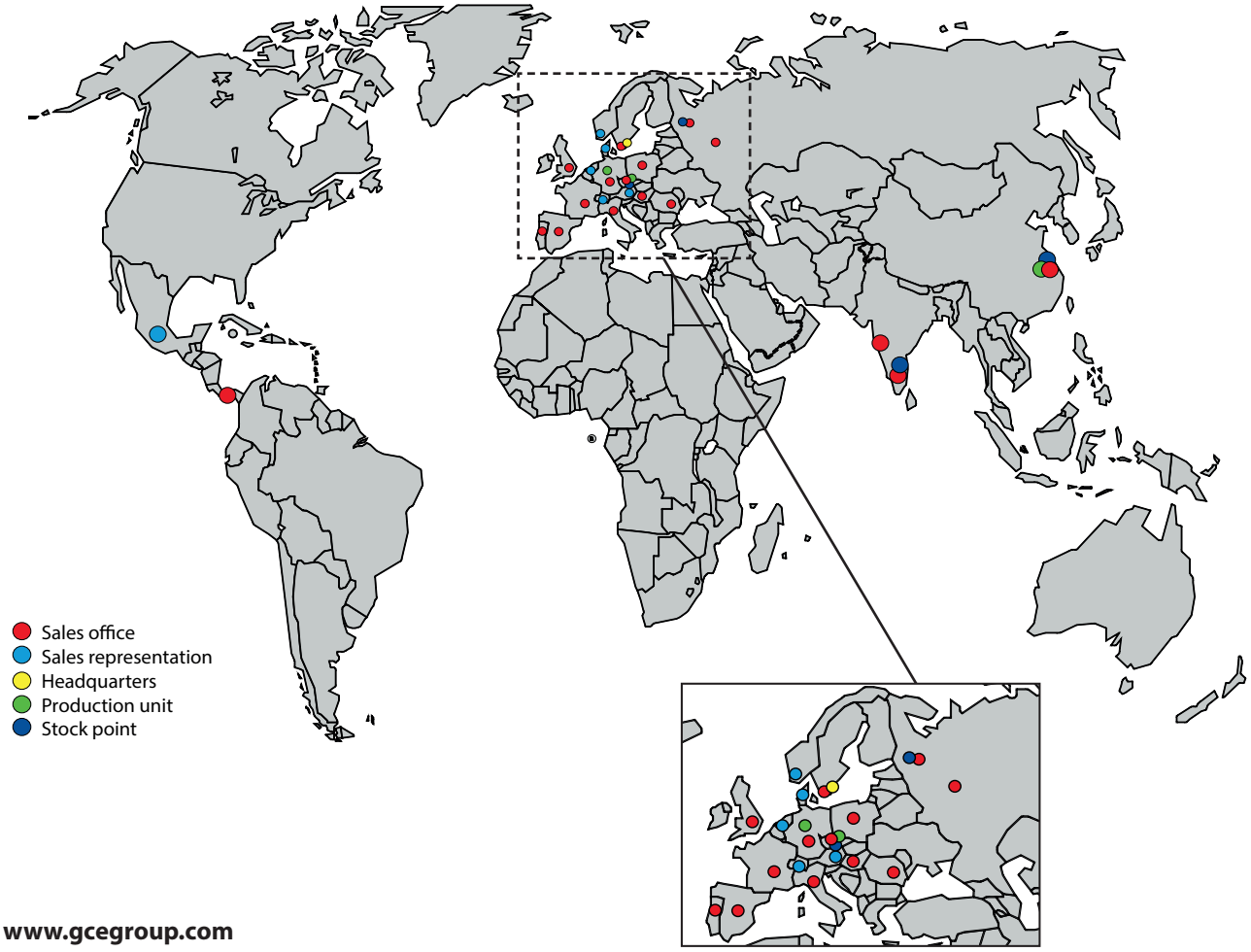
HEALTHCARE CATALOGUE

Global Range

EDITION 1/2016

Gas Control Equipment

GCE WORLDWIDE



www.gcegroup.com

GCE OVERVIEW

GCE has almost 100 years of experience in the manufacture and supply of high pressure gas equipment. During this time the GCE product range has increased dramatically. Today´s product portfolio fits a large variety of applications, from simple pressure regulators and blowpipes for cutting and welding to highly sophisticated gas supply systems for the medical, electronic and analytical industries.

HISTORY

The origins of GCE (Gas Control Equipment) go back to the start of the 20th century when Gas Welding was first invented. The GCE group was formed as an independent company in 1987 through the merging of two of the worlds leading gas and welding companies into one independent unit. GCE has grown rapidly since its establishment and is leading the restructuring of the European gas equipment industry through mergers and acquisitions.
Through its extensive research and development programs GCE has set standards that have become the benchmark for the whole industry.

A COMPLETE RANGE FOR HEALTHCARE

Medical gas equipment is at the heart of what we do at GCE Healthcare, we understand the need for high standard of safety, quality and reliability. We maintain a global quality management system and ensure that our products comply with applicable quality and regulatory standards, such as the Medical Device Directive 93/42/EEC, ISO 13845 and more.

GCE is proud of its team of experts, who are dedicated to providing leading solutions for our customers. We work with healthcare professionals and providers around the world, supporting them to meet the needs of their patients.

GCE Healthcare supplies oxygen therapy solutions to home oxygen providers who deliver healthcare services to patients at home. Many home oxygen providers count on our robust supply chain to deliver products to them when required.

Our warehouses in the United Kingdom, Germany, and Czech Republic hold stock of our different products ensuring that we are able to respond quickly to the requirements of our customers.

We are leaders in this very important field and offer a range of competitive and industry leading products that include;

- Portable Oxygen Concentrators
- Stationary concentrators
- Medical cylinder regulators
- Electronic and pneumatic gas conserving devices
- Suction pumps
- Associated accessories

CONTENT

HIGH PRESSURE REGULATORS

GCE mediline®
Security in action

MEDISELECT® II

Mediselect II is a high pressure medical gas regulator with a quick connector and flow selector. Mediselect II is designed with a continuous flow mechanism between flow settings, which allows patients to receive gas therapy in the unlikely event of device failure.

ADVANTAGES

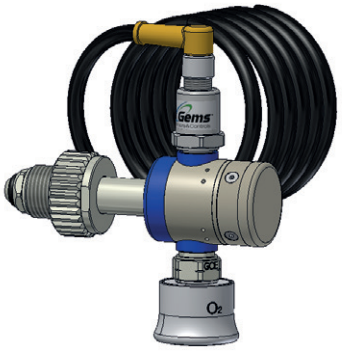
- Higher number of flow disc holes increases treatment options.
  Extra flow setting of 25 l/min on the traditional 15 l/min variant, allows use in resuscitation and treatment of cluster headaches.
- Rotating pressure gauge which allows convenient reading
- Continuous flow between settings, in the unlikely event of mechanism failure
- Two windows - frontal and lateral allow very good visibility of set values
- 360° swivelling outlet alows wider use of positioning

MEDIREG® II

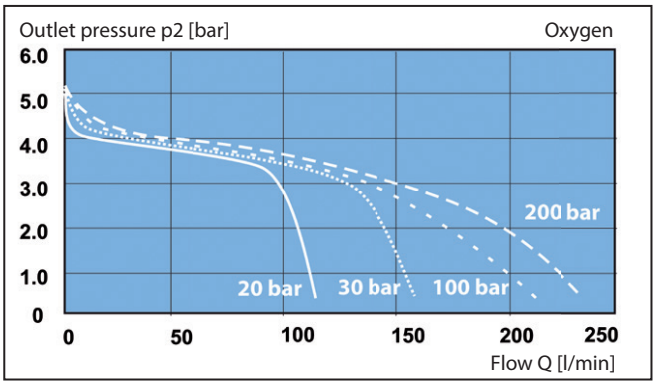
The Medireg II from GCE Healthcare is a high pressure regulator with a quick connector outlet which enables medical professionals connect a medical device that requires a high flow of gas.

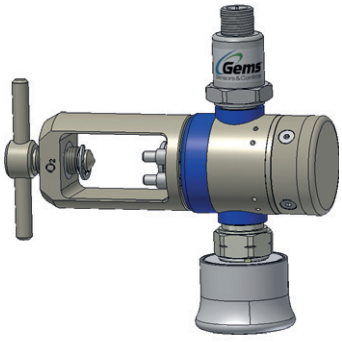
ADVANTAGES

- Rotating pressure gauge which allows convenient reading
- Space saving gauge
- Low weight
- Ergonomic and streamlined design.
- Easy cleaning surface.
- Compact and user friendly.



FLOW CURVE FOR OXYGEN (P2 = 4 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, M12×1,25, 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 ISO 10524-1
	(Pressure regulators for use with medical gases)
	Complies with EN 1789
	(Medical vehicles and their equipment - Road ambulances)
Classification:	Class IIb

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

SABRE REGULATOR WITH QUICK CONNECTOR

The GCE Sabre regulator with quick connector is designed to provide higher flow rates required for medical gas therapies.

Item No.	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.

SABRE REGULATOR WITH QUICK CONNECTOR AND FIRTREE OUTLET

GCE 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.
Available with the full range of high pressure inlet connections.

PIN INDEX VERSIONS

Item No.	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")

Item No.	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:	O_2
Inlet pressure:	Up to 200 bar
Therapy outlet:	Firtree
Therapy pressure:	1.6 and 4.2 bar (60 psi)
Weight:	app. 0.72 kg

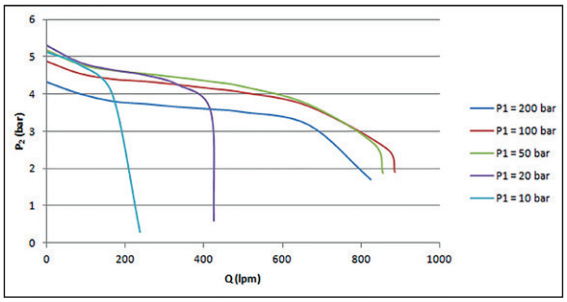
VARIMED

Varimed is a single stage high pressure regulator with high flow capacity for use with medical gas cylinders. Varimed can also be connected to other medical devices which include pressure monitors, anaesthetic equipment etc.

TECHNICAL DATA

Gases:	O_2, Air, N_2O
Inlet pressure:	Up to 200 bar
Outlet pressure:	3.6 - 5.5 bar
Inlet connection:	According to national standards
Outlet connection:	According to national standards
Body material:	Nickel-plated mazak
Bonnet material:	Painted mazak
Weight:	1.1 kg

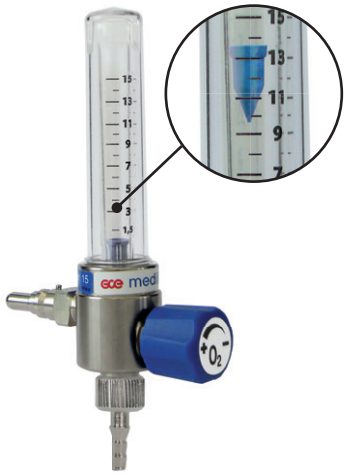
FLOW CHARACTERISTIC



HOSPITAL WARD EQUIPMENT

GCE mediline®
Security in action

MEDIMETER



Medimeter is a gas flow device intended for control and measurement of air and oxygen administered to patients. Medimeter flow devices are available in different regional gas connections.

ADVANTAGES

- Flat surface float allows easy and safe reading of flow values by the users
- Ergonomic desing, easy for cleaning
- Available with probe connector, rail mounting with a hose and twin versions
- Soft closing mechanism
- Resistant float against impact
- New scale - better reading of flow values

TECHNICAL TABLE

Gas type:	O_2; Air
Inlet pressure:	4.5 bar
Flow ranges:	0 - 5 lpm
	0 - 15 lpm
	0 - 30 lpm
Inlet connection:	According to relevant local or regional gas standards
Outlet connection:	9/16" UNF; M12×1.25; G3/8; G1/4 (with hose nipple)
Body material:	Nickel-plated brass
O-rings:	EPDM
Body dimensions:	
Width:	32 mm
Height:	160 mm
Depth:	60 mm
Weight:	280g (without connector)
Temperature range:	
Storage:	- 30 °C t o + 60 °C
Operation:	- 20 °C t o + 60 °C
Regulatory status:	Complies with medical devic es directive 93/42/EEC.
	Complies with EN 15 002
	(Flow - metering devices for connection to terminal units).

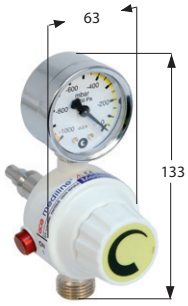
Version with rail

Version with probe

Standard version with probe

Rail version with hose

VACUUM REGULATOR - MEDIEVAC +



MediEvac+ is a vacuum regulator system, which allows the user efficiently and safely control suction therapy.

- Compact and lightweight medical vacuum regulator system
- 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 MediEvac+ gauge can easily be rotated, allowing the vacuum pressure to be clearly viewed by the operator
- The gauge scale is colour coded in sections 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

THE COMPACTNESS OF THE DEVICE OFFERS:

- Fast connection to the vacuum source
- Quick and convenient mounting of accessories (for example safety jar)
- Good accessibility of other devices connected to close located terminal units

TECHNICAL DATA

ON-OFF function:	ON : green button visible To switch ON: push on the red button
Max. inlet pressure:	- 950 mbar (Measured from atmospheric pressure)
Max. suction flow:	70 l/min ±5 l/min
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:	G1/2" male
Height:	133 mm; 260 mm (with safety jar)
Width:	63 mm
Depth:	77 mm (without connector)
Body material:	ABS
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC.
	Complies with EN ISO 10079-3 (Medical suction Equipment
	Part 3: Suction equipment powered from a vacuum or pressure source).

ACCESSORIES FOR MEDIEVAC+

wSafety jar

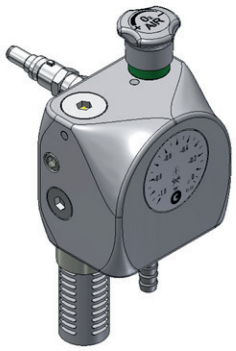
wFilter

Hose nipple

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, when the collection 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 at 134 °C for 18 minutes, in line with hospital protocols. GCE recommends the use of a bacterial 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. The use of this filter is also recommended by the standard (EN ISO 10079-3 part 6.5.2.1). MediEvac+ compliance is based on EN ISO 10079-3 standard.

Item No.	Description
548900291594	Safety jar 100 ml
548900291595	Safety jar 100 ml including filter
K291603	Filter (x10)
K293492	Hose nipple G1/2 + o-ring

SUCTION EJECTOR - MEDIEJECT II



MediEject II is a next generation suction ejector from GCE Healthcare. The device uses the principle of the venturi system to create vacuum.
The MediEject II has the best performance in depth of vacuum, gas consumption and the lowest noise level.
MediEject II is available in all regional standards.

ADVANTAGES

- Easy to clean
- One knob control system
- Egonomic shape
- Deepest vacuum
- Lowest gas consumption
- Lowest noise level
- Maintenance free
- 10 years life time
- Available in hose and probe version

TECHNICAL DATA

Driving gas:	O_2, AIR
Inlet:	all regional standards in probe or hose version
Inlet pressure:	4-5 bar
Max gas consumption at inlet 4 bar:	25 lpm
Free flow suction at inlet pressure 4 bar	30 lpm
Noice level close/open suction:	35/45 dB
Suction effect:	-0.8 bar
Dimensions:	
Total Width:	70 mm
Depth (only body without plate/clamp/probe)	52 mm
Max Height:	150 mm
Weight	0.350kg
Regulations:	MDD 93/42/EEC-MDD 2007/47/EC
	EN ISO 10079-3 – Suction equipment
	EN 1789 – Ambulance Standard
	MRI Compatible

SUCTION BOTTLES - WITH SINGLE USE BAGS

373234560

325113335

373234559

325111952

373234593

325111944

Item No.	Description
373234560	Suction bottle 2 l, vomplete with lid
373234559	Suction bag 2 l (20 pcs)
325113335	Suction bottle 1 l, add lid art. no. 325111944 to make complete
325111952	Suction bag 1 l (20 pcs)

ACCESSORIES

Item No.	Description
373234593	Connection for suction bag
325112284	O-ring for lid 325111944
325112285	Gasket for lid 325111944
373234931	T-connection for suction
302532P	Hose; 0.35 m; ø 6/12
325113237	Hose; 25 m; ø 6/12
325111944	Lid for suction bottle

MEDIFLOW® II

MediFlow® is a flow selector intended for use during resuscitation and for CPAP.

ADVANTAGES

- 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 orintation of the tube (preventing from twisting)

The flow is adjusted via an easy accessible front mounted control knob. The new flow control technology is featuring an improved flow setting function and is guaranteeing continuous flow to the patient, even in the unlikely event, that the flow control knob is placed in between two flow settings.

TECHNICAL DATA

Gas type:	O_2; Air
Inlet pressure:	4.5 bar
Flow ranges:	0 - 5 lpm
	0 - 15 lpm
	0 - 25 lpm
	0 - 30 lpm
	0 - 50 lpm
Inlet connection:	According to national standard
Outlet connection:	9/16" UNF; M12×1,25; G3/8; G 1/4 by probe or by hose connection
Body material:	Nickel-plated brass
O-rings:	EPDM
Body dimensions:	
Width:	32 mm
Height:	160 mm
Depth:	60 mm
Weight:	280 g (without connector)
Temperature r ange:	
Storage:	- 30 °C t o + 60 °C
Operation:	- 20 °C t o + 60 °C
Regulatory status:	Complies with medical devic es directive 93/42/EEC
	Complies with EN 10524-4 (Low pressure regulators)
	Complies with Standard EN 1789 (Medical vehicles and their equipment)

MEDIFLOW® ULTRA II

Flow selector connected to hospital terminal unit

Mobile system with up to 5 supply points

MediFlow® Ultra is the new generation of medical gas 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.

ADVANTAGES

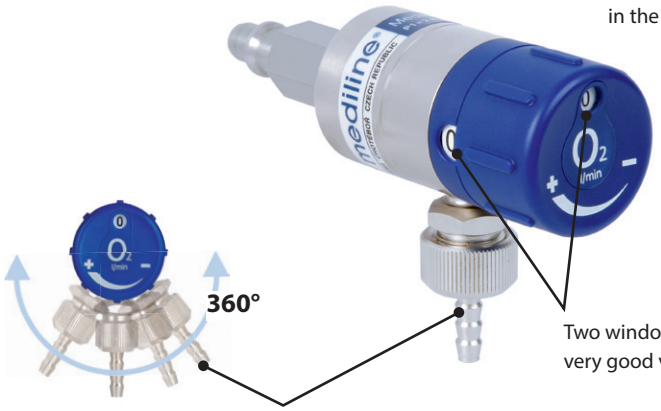
- Built-in regulator provides a very stable and precise flow, independent of the pressure in the medical central gas system or cylinder.
- Innovative self centering flow setting device with continuous flow between settings. In the unlikely event of indent mechanism failure, the patient will still be 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.

TECHNICAL DATA

Inlet pressure range:	2.8 – 8 bar
Max.outlet pressure:	2.1 bar (without flow)
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; M12×1.25; G3/8; G1/4 by probe or hose connection
Body material:	nickel-plated brass
Control knob:	polyamide
O-rings:	EPDM
Filter:	sintered bronze and stainless steel
Body dimensions:	
Diameter:	39 mm
Length:	77 mm
Weight:	350 g
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN 10524-4 (Low pressure regulators)
	Complies with Standard EN 1789 (Medical vehicles and their equipment)

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

MEDIWET

The humidifier for oxygen therapy is a device that allows an increase in the relative humidity in the oxygen supplied to the patient; some patients during extended period of use may require some humidity to be introduced during oxygen therapy for added comfort.

Item No.	Description	Volume	Connection	Material
K294416	MEDIWET II 200	200 ml	G3/8“	Polycarbonate
K294432	MEDIWET II 200	200 ml	G3/8“	Polysulfone

TECHNICAL DATA

Contents:	Only sterile water or boiled cold water
Dimensions:	Height 190 x 67 Width (incl hose nipple) x 57Ø mm
Weight:	Polysulphone version 115 g
Capacity:	200 ml of water
Consumption:	6 ml of water per hour at a gas flow of 10 l/min at 20 °C
Material:	Jar autoclavable at 134 °C: polysulphone
	Lid and outlet hose nipple: polypropylene
	Inlet nut: C hromed brass
	Diffuser: Polyethylene
	Hose, flat gasket: S ilicone
	Gasket: O -ring EPDM
Outlet connection:	Tapered hose nipple for hose 6x9 mm (recommended length 2 m)
Cleaning:	Water, non abrasive detergent. N ever use solvents.
Disinfection:	An alcoholic solution, or other solution compatible with the material
	according to the disinfectant manufacturer.
Autoclave:	Polysulphone version 134 °C for 5 minutes
Special case:	Diffuser: exchange at every cleaning - do not sterilise!
Maintenance:	Check that the humidifier is whole and air tight before use. Monthly
	exchange of gaskets is recommended. Exchange the diffuser when its
	microperforations no longer exist.
Durability:	Minimum 20 autoclave cycles under the condition that all instructions
	accompanying the product are adhered.

TROLLEYS

325396136

Item No.	Description
14090630	Trolley for 10 l cylinder, 5-wheels, static
325396136	Trolley for 10 or 20 l cylinder, without belt
	Dimensions H×W×D (mm): 935×426×352
325396137	Trolley for 10 and 20 l cylinders, 3×10 l or 2×20 l without belt
	Dimensions H×W×D (mm): 935×426×352
500009601P	Trolley for 2.5 or 5 l cylinder
325397691	Trolley for gas cylinder, D =116 mm

325396137

14090630

325397691

ACCESSORIES

Item No.	Description	Trolley
500009602	Belt for 2.5 l cylinder	
325396138	Belt for 5 or 10 l cylinder	325396136, 325396137
325396139	Belt for 20 l cylinder	325396136, 325396137

HOSES

LOW PRESSURE HOSE FOR MEDICAL GASES

- The dimensions and colours of our polyvinyl chloride manufactured, textile-reinforced hoses are in accordance with the current hospital standard.
- Maximum working pressure 14 bar.
- The hoses for medical breathing oxygen and nitrous oxide are marked with the chemical denomination of the gas.
- The medical breathing air hose is marked "Air".
- Life time 5 years.

Item No.	Denomination	Colour	Environment	Dimension (inner/outer)	Roll (m)
14119015	Medical breathing air	Black/white	Static	8/14	30
14119016	Medical breathing air	Black/white	Static	6.7/12.7	30
14119017	O_2 /N_2O	Blue/white	Static	6.7/12.7	30
14119020	N_2O	Blue	Static	6/11	30
14119021	CO_2	Grey	Static	6/11	30
14119023	Vacuum	Yellow	Static	10/16	30
14119013	O_2	White	Static	6/11	30
14119000	O_2	White	Antistatic	6.7/12.7	30
14119003	O_2	Green	Antistatic	6.7/12.7	30
14119008	Medical breathing air	Black/white	Antistatic	6.7/12.7	30
14119010	Vacuum	Yellow	Antistatic	10/16	30
14119009	N_2O	Blue	Antistatic	6.7/12.7	30
14119011	O_2 /N_2O	Blue/white	Antistatic	6.7/12.7	30
14119038	CO_2	White	Antistatic	6.7/12.7	30

MEDICONNECT - LOW PRESSURE HOSES

Mediconnect is a new generation of flexible hoses for gas supply, intended for use with respiratory, anaesthetic and emergency equipment.

- Resistant to abrasion and change of colou
- Latex and phthalate free
- Containing antistatic inner layer
- Neutral colours or according to colour coding of EN 739
- Wide range of country specific connections
- Lengths of hoses from 0.5 to 5 m; to be specified by customer

TECHNICAL DATA

Gas pressure:	O_2, air, N_2O, vacuum, CO_2, N_2O/O_2 and Air 800 kPa
Material:	Polyvinyl chlorid, containing plasticizer, with brilliant polish, antistatic
Inner/outer diameter:	6.7 × 12.7 mm (vacuum excluded)
Wall:	3 mm
Hardness (Shore A):	88 ± 5
Density:	1.25 ± 0.02 g/cm3
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

NIST Standard probe

TERMINAL UNITS

Medical terminal units provide quick and easy connection of hospital ward gas equipment to the hospital gas source. The type of medical gasoutlets are decided by national standards in each country and sometimes from local requests in each hospital. GCE complies with ISO 7396 and national installation standards with secure products where every product is fully tested in production. Our Medical gas outlets are in accordance with ISO EN 9170-1, ISO EN 9170-2 international standards.

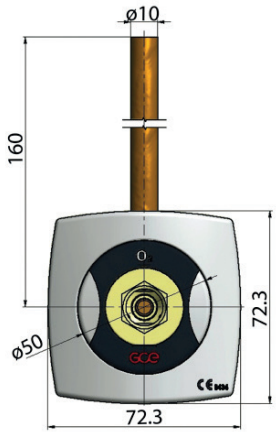
- Wall housing is compatible with all GCE MediUnit standards like DIN, BSI, SS, CZ
- All functional components are from brass
- Simple installation
- Fast connection and disconnection
- Designed for medical environment, Small size and Easy to clean
- Complies with colour coding and description by standard
- After 10 years it is possible to upgrade the units with a special upgrade pack
- Recessed, Exposed and Bed head installation versions

Recessed version

Exposed version

Installation plug

BASIC DIMENSIONS



Note!
Measurements in mm.

RAILS AND CLAMPS

RAIL FEATURES:

- Adjustable mounting of wall holders
- Adjustable distance to the wall
- Material: aluminium
- Lengths of 1 and 3 meter
- DIN and Nordic standard dimensions
- Easy to clean

CLAMPS FEATURES:

- Easy to clean
- Light in weight
- Fix hose or QC hose connection
- Spring activated
- Ergonomic shape
- Metal gas inlet and outlet
- Gas remains in metal
- All gas types are available
- Wall slide posibillity
- All regional standards are available.

GAS ALARM WITH AUTOMATIC SWITCH OVER

To be used in ambulances and small practices.
The gas alarm is a modular system and is based on 3 modules:

1. Regulators with pressure transmitters (4-20 mA) = input
2. Gas alarm for ambulance or small practice
3. Solenoid valves (2-2 NO) = output

FEATURES:

GAS ALARM REQUIREMENTS:

- Displaying an indication of cylinder pressure of 2 different gases
- Displaying an indication of cylinder pressure of 2 connected gases in combination with an automatic switch-over manifold.
- Switch-over pressure when 10 Bar left in cylinder.
- Display in 20 LEDS in % in colours from green (100%) over yellow, orange to red (0%)
- Low alarm is adjustable over pre-setting.
- Audible alarm with temporary mute function.
- Reset function.
- Inputs: 2 X 4-20mA
- Outputs: 2 X 12V DC + optional AUX external
- Power supply 12V DC
- Optional power supply 230 V AC (small practices)
- Colour: GCE White and GCE Brand Logo

MEDICAL REGULATORS:

- Per cylinder: 1 X Medireg with pressure transmitter (output 4-20 mA) pressure transmitter
- Available in regional standards
- Outlet: Quick connector (gas specific)

AUTOMATIC SWITCH-OVER MANIFOLD:

- Normally closed (due to safety reasons for patients in case of “no power”)
- 2 X 2-2 solenoid valve
- 2 inlets (from cylinders)
- 1 outlet (to be connected)
- Applicable for Oxygen
- Inlet: 2 X 3/8” AP II safe connect male
- Outlet: 1 X Quick Connector (gas specific)

HOMECARE

GCE
Security in action

ZEN-O™ - PORTABLE OXYGEN CONCENTRATOR

Zen-O is a lightweight portable oxygen concentrator that delivers up to 2 litres of oxygen in either pulse or continuous mode. Zen-O is manufactured to meet the exacting standards of the European Medical Device directive.

ADVANTAGES

Dual Mode

Zen-O™ offers patients the best of both worlds. Patients can alternate between continuous flow and pulse mode oxygen therapy.

Simple and easy to use

Zen-O™ is designed with patients in mind, it is simple to use with intuitive button operation and LCD panel.

Responsive to patient needs

Using advanced patented technology, Zen-O™ can deliver up to 2 litres per minute of oxygen in response to the patient's need. Unlike other devices that deliver a fixed amount of oxygen, Zen-O™ automatically increases the amount of oxygen delivered if a patient's breathe rate rises.

Durable and reliable

Zen-O™ is rugged and is supplied with a 3 year warranty or 15,000 hours of total use, giving you the assurance of quality and reliability.

Easily replaceable sieve bed

Zen-O™ has been designed with sieve beds that can be replaced easily by most homecare providers without the need to return the device to a distributor.

Visual and audible alarms

The device is designed with various audible and visual alarm prompts such as low battery, no breath detected, service required and low oxygen purity.

Zen-O™ with bag and pull cart

Item No.	Description
RS-00502-G-S	Zen-O™ concentrator 12 cell
RS-00502-G-D	Zen-O™ concentrator 2 battery package
RS-00501	Zen-O™ battery 12 cell
RS-00509	Zen-O™ carry bag
RS-00507	Zen-O™ cart
RS-00508	Zen-O™ DC adapter
RS-00511	POC filter wrench
RS-00512	POC cannula filter pk of 10
RS-00520	Zen-O™ AC power supply w/EU cord
RS-00521	Zen-O™ AC power supply w/UK cord
RS-00522	Zen-O™ AC power supply w/US cord

Zen-O can hold up to two 12 cell batteries

TECHNICAL DATA

Size (W×D×H):	212 mm × 168 mm × 313 mm
	(8.3" × 6.6" ×12.3")
Weight:	4.66 kg with one 12 cell battery
Power requirements:	AC adaptor: 100-240V AC(+/- 10%) 50-60 Hz in, 24V DC, 6.25A out
	DC adaptor: 11.5 - 16V DC in, 19V, 7.9A out
Purity:	87% - 96% at all settings
Maximum oxygen discharge pressure:	20.5 psi
Inspiratory trigger sensitivity:	-0.12cm/H_20
Humidity range:	5% to 93% ± 2% non-condensing
Temperature:	
Operation:	5°C (41°F) and 40°C (104°F)
Storage:	-20°C (-4°F) and 60°C (140°F)
Setting:	Adjustable in 0.5 increments from 1.0 to 6.0 in pulse mode and
	from 0.5 to 2.0 in continuous mode
Noise level:	38 dB(A) tested to Prüfmethode 14-1 03/2007 MDS-Hi*
	42 dB(A) tested to ISO 3744*
Alarm types	Low oxygen purity
	No breath detected
	Low battery
	Service required
Battery duration:	Approx. 4 hours with a single battery or
	8 hours with 2 batteries at 18 BPM

EU cords, AC and DC power supply

STATIONARY OXYGEN CONCENTRATOR

NUVO LITE MARK 5

The Nuvo lite provides oxygen to patients that require Long Term Oxygen Therapy (LTOT) in the comfort of their home.
Nuvo lite is a compact and light stationary oxygen concentrator, that uses standard PSA technology to provide oxygen flow of up to 5 litres per minute. The Nuvo lite oxygen concentrator separates the oxygen from other gases in the air and delivers the oxygen at high concentration to the patient.
The Nuvo lite has an integrated oxygen sensing device for monitoring oxygen levels, and a 'No-Flow' alarm to alert the patient if there is no supply of oxygen.

FEATURES

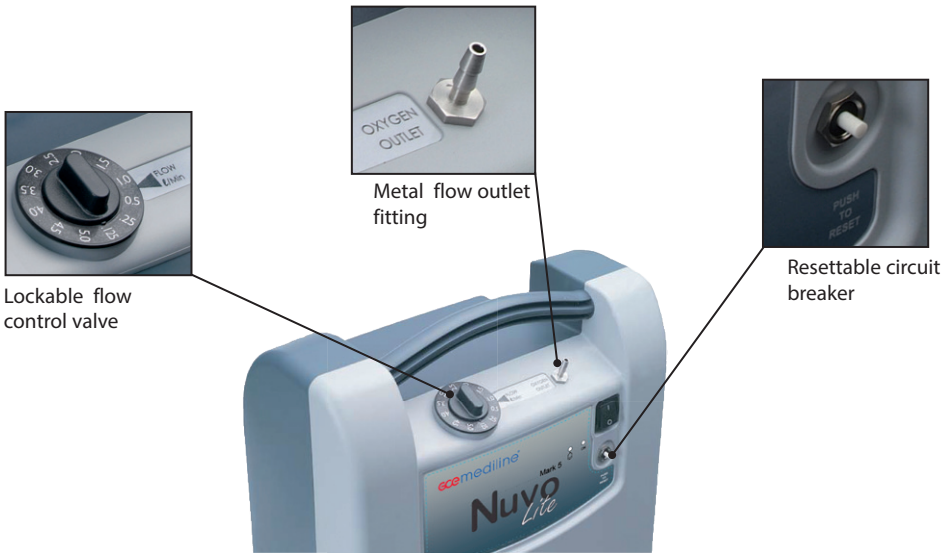
- Lightweight - a mere 14.5 kg
- Sleek compact cabinet design with handle
- Lockable ow control valve
- Adjustable ow rate up to 5 litres per minute
- Quiet operation

14090417	Single use bottle
14090510	Cannula with 2.1 m tube

TECHNICAL DATA

Power supply:	230 V, 50 Hz
Av. power consumption:	300 W
Fuse:	5 A
O2 concentration:	at 2 l/min: >90 %
	at 5 l/min: 90 % (+6,5% - 3%)
Sound level:	40 dBA
Storage temperature:	-20 to +60 °C
Ambient temperature limit:	+5 to +40 °C
Weight:	14.5 kg
Dimensions (B×H×T): 36 × 23 × 58.5 (cm)	36 × 23 × 58.5 (cm)
Technology:	PSA (pressure swing absorbation)
Standard:	ISO 8359, EN 60601-1
Medical class:	IIb
The Nuvo lite meets the requirements of eh Medical Device Directive 93/42/EEC	

THE NUVO LITE MARK 5 TECHNOLOGY



NUVO 8

The Nuvo 8 oxygen concentrator provides oxygen of up to 8 litres per minute to patients that require Long Term Oxygen Therapy (LTOT). The device is manufactured to provide a combination of enhanced features, reliability of technology and ease of use.

FEATURES

- Quiet operation with less than 48 dba
- Sleek design for easy handling
- Simple and easy to use
- Quick snap rear panel allows easy access to lter, gauge and battery
- Patented RPSA technology

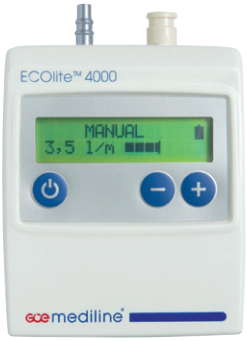
Item No.	Description
14111811	NUVO 8 concentrator
14111266	Dust filter
14111275	Filter air

TECHNICAL DATA

Electrical requirement:	230 Volt – 60 Hz
Flow delivery rate:	2 to 8 litres per minute
Oxygen concentration:	0.5 to 7 liters per minute – 93% (+6.5% / -3%)
	At 8 liters per minute – 90% (+6.5% / -3%)
Power consumption:	490 Watts nominal
Operating pressure:	1.2 bar
Oxygen monitoring system:	Only available on model 985
	Pressure
	Low Oxygen Concentration Pressure
	Current overload or line surge shutdown
	Thermal Switch
	40 psi Pressure Relief Valve
	Low Battery Test
Filters:	Cabinet, Compressor Intake & Bacteria
Weight:	< 23 kg
Dimensions (L×W×H):	39.4 cm × 39.6 cm × 70.6 cm
Operating Environment:	
Ambient Temperature:	50°F to 100°F (10°C to 40°C)
Humidity:	15% to 95%, non-condensing
Storage Range:	
Temperature:	0°F to 140°F (-0°C to 50°C)
Humidity:	15% to 95%, non-condensing

OXYGEN GAS CONSERVING DEVICES

ECOLITE® 4000



ECOlite® 4000 is an electronic oxygen gas conservingdevice that supports efficient long term oxygen therapy treatment (LTOT). With the ECOlite® 4000, oxygen is delivered only during the inspiration phase during a breathing cycle allowing savings of up to 10 times compared to continuous flow oxygen therapy.

FEATURES AND BENEFITS

Advanced technology

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.

Automatic and manual flow rates

The device offers automatic and manual operating modes. In the automatic mode the amount of oxygen delivered increases in relation to the set flow rates of 15 to 30 breaths per minute, to a maximum of 8 Litres Per Minute (LPM). In the manual mode the flow rates are from 0.5 to 8 LPM.

Fixed flow rate

The ECOlite 4000 allows home oxygen providers to select and lock a fixed flow rate prescribed by a clinician during the initial installation.

Visual and audio alarms

The ECOlite 4000 alerts users and carers if there is no oxygen supply, no breathing is detected or battery power is low.

Durable

The ECOlite 4000 has a robust design and is built to last up 10 years*. The device is supplied with a 2 year device warranty.

Item No.	Description
325197478	ECOlite® 4000 COMPL DE
325197479	ECOlite® 4000 COMPL UK
325197544	ECOlite® 4000 COMPL SE
325197545	ECOlite® 4000 COMPL FRA
325197617	ECOlite® 4000 COMPL 1.6 BAR

ACCESSORIES

Item No.	Description
14111220	Standard Nasal cannula
14111222	Spiral Hose SE
14090329	Spiral Hose UK
14090417	Spiral Hose 1.6 bar
14090510	Spiral Hose DE
325197699	Supply hose ECOlite® 4000 3/8
14090535	ECOlite® 4000 Carry Bag
14090631	ECOlite® 4000 Carry Bag Trolley
325112719	Belt bag


325112719


14090535


14090631

TECHNICAL DATA

FUNCTIONAL PERFORMANCE

Settings:	Manual/Automatic
Triggering:	At each breath
Sensitivity:	0.13 cm H_2O
Regulating pressure:	at 2 l/min: >90 %
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:	Low battery
	No oxygen supply
	No inhalation

POWER SUPPLY

Battery:	Manual/Automatic
Oxygen supply	
Pressure:	Between 1.6 and 5 Bar
Flow:	Minimum 4 liters per minute

DIMENSIONS AND WEIGHT

Dimensions:	Height: 101 mm
	Width: 85 mm
	Depth: 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%

REGULATORY STATUS

The device meets the requirements of the Medical Device Directive 93/42/EEC relating to medical devices, Class IIa.

ELITE - PNEUMATIC OXYGEN GAS CONSERVER

ELITE attached
to an integral valve cylinder

The SABRE ELITE gas conserving device enables oxygen patients to use their cylinders for longer. The ELITE delivers oxygen when a patient inhales during a breathing cycle, thereby saving gas and enabling the oxygen cylinder to last up to 3 times longer when compared to constant flow oxygen therapy.

FEATURES AND BENEFITS

Easy to use
The ELITE is simple to use and connects easily to the schrader outlet on a cylinder or regulator. The ergonomic design allows carers and oxygen patients to easily select the preferred flowrate.

Low cost of ownership
The ELITE is fully pneumatic and has very low ongoing costs. Device maintenance is only required after 5 years from date of manufacture.

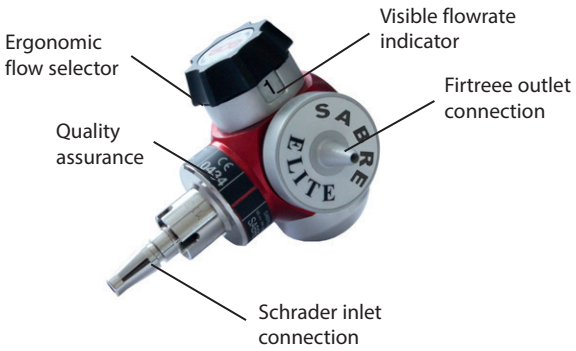
Various cylinder connections
The ELITE can be supplied with different cylinder connections defined by regional or local standards.

Operational savings for homecare providers
with the ELITE enabling gas cylinders to last longer and saving oxygen, home oxygen providers can save money on reduced number of trips to exchange cylinders for patients.

Warranty
The ELITE conserving device is supplied with a 2 year manufacturer warranty.

TECHNICAL DATA

Input pressure:	up to 200 bar
Flow settings:	1.0/1.2/1.5/2.0/2.5/3.0/3.5/ 4.0/4.5/5.0/ 5.5/6.0 l/min
	Version with up to 8 litres per minute is available



CYLINDER DURATION CHART ELITE VS. CONSTANT FLOW (HRS.MIN)

Cylinder size (litres)	Cylinder pressure (bar)	Flowrate (l/min) with ELITE					Flowrate (l/min) - constant flow				
		1	2	3	4	6	1	2	3	4	6
0.5	137	3.25	1.42	1.08	0.51	0.34	1.08	0.34	0.23	0.17	0.11
1	137	6.51	3.25	2.17	1.42	1.08	2.17	1.08	0.46	0.34	0.23
1.7	137	11.38	5.49	3.52	2.54	1.56	3.53	1.56	1.18	0.58	0.39
2	137	13.42	6.51	4.34	3.25	2.17	4.34	2.17	1.31	1.09	0.46
2.7	137	18.29	9.14	6.09	4.37	3.04	6.10	3.05	2.03	1.32	1.02
9.4	137	64.23	32.11	21.27	16.05	10.43	21.28	10.44	7.09	5.22	3.35
0.5	200	5.00	2.30	1.40	1.15	0.50	1.40	0.50	0.33	0.25	0.17
1	200	10.00	5.00	3.20	2.30	1.40	3.20	1.40	1.07	0.50	0.33
1.7	200	17.00	8.30	5.40	4.15	2.50	5.40	2.50	1.53	1.25	0.57
2	200	20.00	10.00	6.40	5.00	3.20	6.40	3.20	2.13	1.40	1.07
2.7	200	27.00	13.30	9.00	6.45	4.30	9.00	4.30	3.00	2.15	1.30
9.4	200	94.00	47.00	31.20	23.30	15.40	31.20	15.40	10.27	7.50	5.13

EMERGENCY EQUIPMENT

gce mediline®
Security in action

MARS II - MANUAL AND AUTOMATIC RESUSCITATION SYSTEM

MARS II is a leading resuscitator developed for healthcare professionals and first responders. MARS II is specifically designed to help emergency personnel, respond to patients that require resuscitation. The device can be used in confined spaces, low oxygen/toxic environments.

FEATURES

- Simple to use
- Robust design to withstand harsh environments
- Can be enabled for automatic or manual (CPR) resuscitation

MARS II meets the requirments of ISO 10651-5:2006 and European Resuscitation Council Guidelines for Resuscitation 2010 for ventilatory resuscitators.
The MARS II is available in all regional gas-standards.
MARS II can be used for children (20 kg), small adults and adults.

MARS II is available in 2 different versions:
1: Standard version (all settings)
2: Industrial or Mining version (adult setting)

TECHNICAL DATA

MARS II CONTROL MODULE

Gas:	O_2
Material:	Brass, aluminium main inside parts, abs cover
Dimensions:	165 × 110 × 63 mm
Weight:	1300 g
Regulator Inlet connections:	Full range high pressure, swiveling to the module
Input pressure (with reg.):	200 - 20 bar
Inlet pressure (without reg.):	3.6 - 6 bar @ 100lpm
Working pressure:	3 bar
Inlet connection (module):	G1/4
Regulator performance:	min 100 lpm and min 3 bar
Inlet filter:	30µm
Time to revert to automatic resuscitation:	5 - 7 seconds
Gas consumption:	0.15 lpm

MARS II DEMAND VALVE

Material:	Polycarbonate, silicone, rubber, stainless steel
Dimensiones:	120 × 50 × 70 mm
Weight:	175 g
Inspiratory resistance:	
Cracking pressure @ 5 lpm:	-0.23 kPa
Triggering pressure @ 60 lpm:	-0.44 kPa
Expiratory resistance @ 60 lpm:	+0.48 kPa
Demand valve flow:	
Spontaneous breathing:	0 -100 lpm
Relief valve triggering pressure:	55 cm H_2O
Alarm valve triggering pressure:	46 cm H_2O

EASE II - DEMAND VALVE

EASE II demand valve is a robust and compact device used by patients to self administer medical gas therapy. EASE II can be used to administer nitrous oxide and oxygen mixture (commonly known as ENTONOX, LIVOPAN, OXYNOX, MEOPA, KALINOX) for pain relief or medical oxygen therapy. The EASE II demand valve is designed in a way that creates minimal breathing resistance to the patient and can deliver high flows when required.

- Deliver up to 300 litres per minute of gas
- Portable first stage regulator and cylinder version for immediate care and pre-hospital applications
- Conforms to global standards

EASE II O_2 is recommended during diving accidents and cluster headaches therapy
EASE II N_2O/O_2 is recommended during pain releave therapy.

FEATURES

- Low inspiratory effort demand valve
- Test/ Purge facility on the demand valve
- Easy grip handle and wrist strap
- Replaceable patient/bacterial filter
- Easy to clean and reassemble for cross infection protocol
- Hose fitted with probes by the national standards for connection into cylinder system or wall outlet
- Autoclavable at 134 C°
- 5 year service interval

Regulators can be included.
Scavenging adapter is mandatory in combination with an active exhaust system.

TECHNICAL DATA

Gas:	O_2/N_2O
Material:	Polycarbonate, silicone rubber, stainless steel
Dimensiones:	50 × 50 × 63 mm
Gas supply:	Requirement 2,8 to 7,0 bar at >200 l/min
Inspiratory resistance (At 2,8 bar supply press.):	Cracking pressure 0.15-0.2 kPa
	-0.2 kPa at 10 l/min
	-0.7 kPa at 200 l/min
Expiratory resistance:	Cracking pressure at zero 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 O_2/N_2O
Storage temperature:	-30°C to +60°C
Connection:	Available in different regional 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)

The Bag Valve Mask (BVM) kit is supplied with the BVM, mask extension tube, masks, guedel airways (sizes 2, 3 & 4). The BVM only is re-useable and can be autoclaved at 134 C°.

Item No.	Description
325113013P	Bag Valve Mask kit

TECHNICAL DATA

BAG VALVE MASK

Size:	Adult
Bellow Capacity:	1500 ml
Oxygen Reservoir Capacity:	2600 ml
Face Mask:	Sizes 4 & 5
Mask Extension Tube:	300 mm

Note: Product is latex free.

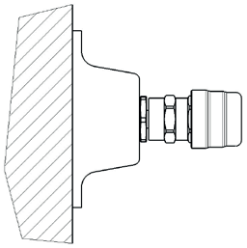
The new ambulance panel range from GCE offers unrivalled flexibility in its installation and design. The modular concept uses common components leading to shorter lead times for manufacture and installation. Modules are infinitely variable and can incorporate gauges, switchovers, outlets or integral flow selectors and suction. Low profile back plates ensure close fitting to the ambulance wall whilst rounded edges avoid patients being exposed to sharp corners. The clear and simple gauge and switch over system allows easy surveillance and visibility by ambulance staff.

RECESSED

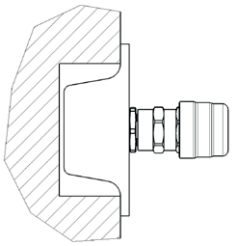
Recessed mounting is when the ambulance panel is mounted in the wall. The inlet could either be mounted at the end or at the back depending on the wall construction and the space behind the wall. The only part that will be outside the wall is the quick connector.

EXPOSED

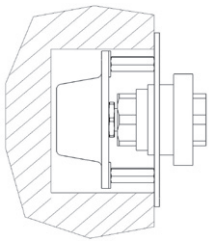
Exposed mounting is when the ambulance panel is mounted on the wall in the ambulance. The inlet could as the recessed, also be located at the end or at the back. When using the end inlet the hoses are fastened on the wall and fully visible. For some countries and regulations this is a must and the Ambulance 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.



Sketch of expossed mounted panel



Sketch of recessed mounted panel



Sketch of double recessed mounted panel

TECHNICAL DATA

Quick Connector capacity:	60 l/min
Connection:	G3/8"
Quick Connector:	Available in all regional standards
Gases:	O_2, Air, VAC
Standards:	EN 1789:2008
Classification:	Class IIb

The ambulance panel system is a bespoke system containing an ambulance panel, hoses and regulators ready to be mounted in an ambulance. The system is CE marked and complies with EN 1789.
The APS has three main components: regulators, hose assemblies and panels. The modular design of the individual components means that they are infinitely variable. The individual components can then be combined in many different configurations giving the end user total flexibility.

Medireg

Varimed

AMBULANCE REGULATORS

The APS can be delivered with two types of ambulance regulators, Medireg and Varimed. The APS can also be used with combivalves*. Generally Medireg is for lower capacity and Varimed for higher capacity and this capacity is determined by the equipment that is used in the ambulance. The ambulance regulators are designed to withstand the conditions in the road ambulance and are manufactured according to EN 1789. The ambulance regulators are delivered with either standard 3/8" connections or quick connectors. The Varimed and Medireg can be delivered with electronic signal gauge to be connected to the ambulance monitoring or gas monitoring systems.
*Some restrictions regarding pressure monitoring when APS includes electronic monitoring system.

Standard Ambulance Hose

Steel reinforced

AMBULANCE HOSE

The hoses connect to the regulators and the panels. The hoses are made up to individual specifications and are clamped and tested ready to install in the ambulance. The hoses can be delivered static or antistatic. The standard connection is 3/8". The low pressure hoses can also be delivered stainless steel reinforced.

AMBULANCE PANEL

The new ambulance panel range from GCE offers unrivalled flexibility in its installation and design. The modular concept uses common components leading to shorter lead times for manufacture and installation. Modules are infinitely variable and can incorporate gauges, switchovers, outlets or integral flow selectors and suction. Low profile back plates ensure close fitting to the ambulance wall whilst rounded edges avoid patients being exposed to sharp corners. The clear and simple gauge and switch over system allows easy surveillance and visibility by ambulance staff.

GAS SOURCE SELECTOR - GSS

The Gas Source Selector has been developed for devices such as transport incubators, respirators and anaesthesia devices, which can be supplied with gas from a cylinder during transport or connected to a central gas system.

- Economic gas supply from gas socket
- Less frequent replacement of gas cylinders
- Compact dimensions
- Simple connection to devices
- A green pressure indicator indicating gas supply via gas socket

TECHNICAL DATA

Gases:	O_2, Air, N_2O on request
Input pressure at gas socket:	3 - 6 bar
Input pressure of pressure reducer:	3.6 – 5.5 bar
Output pressure:	input pressure
Output flow (no internal reduction):	input flow
Housing material:	Aluminium alloy, nickel plated
Dimensions:	42 × 65 × 74 mm
Weight:	approx. 400 g
Maintenance:	maintenance free
Suitable for use:	in emergency, in transport

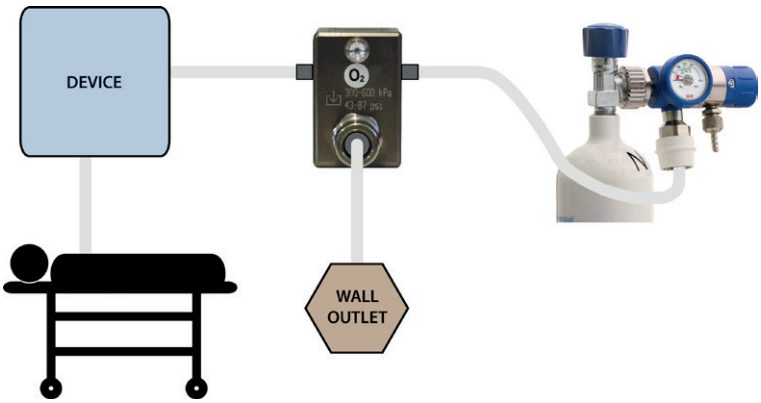
GSS INLET - HOSE ATTACHMENT

From gas socket connection:	NIST or Afnor
From pressure reducer:	M12 × 1 (O_2)
	M20 × 1 (Air)

GASS - OUTLET HOSE ATTACHMENT

To consumer:	M15 × 1 (O_2)
	M17 × 1 (Air)

FLOW SCHEME



GCE mediline®
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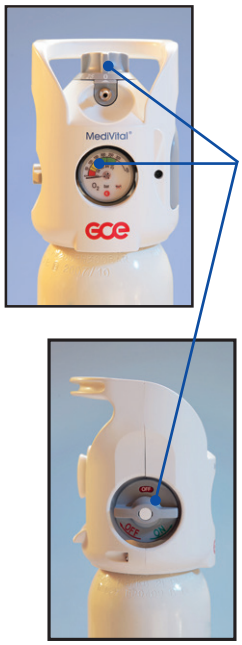
MEDICAL COMBI VALVES - MEDIVITAL®



Medivital is a pressure regulator integrated with cylinder valve for fitting to gas cylinders used for medical gases.

FEATURES

- 15 year life time ensured by extended endurance and cycle testing for future market requirements
- Slow opening shut off valve with new patented design
- Shock resistant gauge
- Flow selector designed for optimal gas flow and patient safety
- Guard design provides maximum protection for the valve

USER FRIENDLY

- Suitable for use in Homecare, Emergency and Hospital applications
- Easy read Flow Selector and Gauge
- Shut off valve with clear open /closed status colour coded marking
- Ergonomic guard design allows easy handling of the cylinder package by all users
- Compact and lightweight design less than 1150 g
- Easy clean guard material

HIGHEST SAFETY

- Testing in accordance with the following standards, ISO10524-3 ASTM G175 Pill test
- ISO 10297
- CE marked in accordance with the Medical directive 93/42/EEC and TPED 2010/35 EU
- Phthalate and halogenated polymer free components
- MRI compatible up to Tesla 3
- For use with Oxygen, Nitrous Oxide and other medical gases up to 300 bar working pressure

TECHNICAL DATA

Gas:	O2, Air, N_2O/O_2 and other medical mixed gases	
Inlet pressure:	Up to 300 bar (4500 psi)	
Outlet pressure:	3.6 to 5.5 bar - acc. to EN ISO 10524-3 (or per customer specification)	
RPV closing:	>3 bar	
PRV opening and re-closing:	>5.5 bar	
Flow ranges:	0-2, 0-6, 0-15 and 0-25 lpm	
Materials:	Metallic parts (gas wetted): brass	
	Elastomers: EPDM, silicon, PUR	
	Plastics: PA66, PEEK, PI	
	Springs (gas wetted): CuBe2, CuSn6	
Dimensions:	Height: 153 mm; Width: 112 mm; Depth: 118 mm	
Weight:*	1150 g	
Inlet stem:	Tapered or parallel threads (17E, 25E, M18×1,5 per customer specification)	
Filling port:	ISO 5145, NEVOC or per customer specification	
Regulatory status:	Complies with MDD 93/42/EEC	Complies with TPED 2010/35 EU
	Complies with EN ISO 10524-3	Complies with ISO 10297
	Complies with EN 1789	Complies with ASTM G175
	Production in accordance with EN ISO 9001 and EN ISO 13485	
Classification:	IIb	

* Standard Combivalve (flow control unit 0 - 15 l/min, flow outlet, DIN quick coupling pressure outlet) with guard. All technical data are given for information only and are subject to modifications by the manufacturer.

ACCESSORIES

Item No.	Description
0727421	Bed hanger (10pcs)
0727418	Humidifier holder 9/16 (10pcs)

MEDICAL CYLINDER VALVES

GCE offers wide range of cylinder valves for medical gases. They are produced, tested and packed in super clean conditions. Strict manufacturing rules and procedures applied for the manufacture of GCE medical cylinder valves, using top quality materials and tools to guarantee reliability and safety.

FEATURES

- Available in all of common inlet and outlet connection
- For all medical gases
- Handwheels in different colours and materials
- Handwheel caps with customer logo
- Variants with burst disc or dip tube

For valves with residual pressure valve GCE offers filling adaptors that guarantee compatibility with GCE RPV cassette design. Our valves are CE and π marked.

TECHNICAL DATA

Gas:	O_2, Air, N_2, Ar, CO_2, N_2O and others
Inlet pressure:	Up to 300 bar (4500 psi)
RPV closing:	> 2 bar
Inlet connection:	Tapered or parallel threads
	(17E, 25E, M18x1,5 or per customer specification)
Outlet connection:	According to national standards
Materials:	Chrome plated brass
Burst disc:	190, 216, 250, 300 bar, for CO_2 and N_2O, other gases optional
Operating temperature:	-20°C to + 65°C
Storage and transport temperature:	-40°C to + 65°C
Regulatory status:	Complies with MDD 93/42/EEC TPED 2010/35 EU
	ISO 10297 ISO 15996
	Production in accordance with EN ISO 9001 and EN ISO 13485
Classification:	IIb

SMALL MEDICAL VALVES (SMV):

- Inlet pressure: up to 200 bar
- Inlet connection: 17E, M18x1.5
- Ergonomic hand wheel

OPTIONS:

- Residual pressure valve
- Burst disc
- Dip tube
- Hand wheel in different colours
- Customer logo on the hand wheel cap

PIN INDEX VALVES:

- Inlet pressure: up to 200 bar
- Inlet connection: 17E, 25E, M18x1.5, 0.750UNF

OPTIONS:

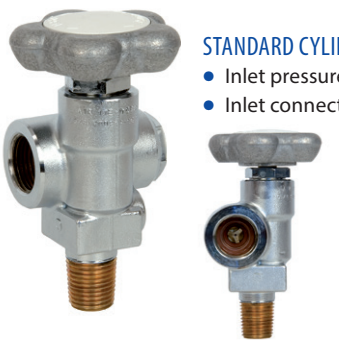
- Burst disc
- Dip tube
- Hand wheel or opening mechanism with the key

STANDARD CYLINDER VALVES (IN LINE):

- Inlet pressure: up to 200 bar
- Inlet connection: 17E, 25E, 3/4"NGT, 0.750UNF, 1.125UNF

OPTIONS:

- Residual pressure valve
- Burst disc
- Dip tube
- Hand wheel plastic or aluminium
- Hand wheel with space for RF chip
- Customer logo on the hand wheel cap



STANDARD CYLINDER VALVES (OFF LINE):

- Inlet pressure: up to 300 bar
- Inlet connection: 17E, 25E

CERTIFICATES

DNV BUSINESS ASSURANCE
MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 109396-2012-AQ-CZS-NA

This is to certify that the Management System of:

GCE Holding AB

Källvattengatan, SE-200 21, Malmö, Sweden

With sites as per attachment

has been found to conform to the standard:

ISO 9001:2008

This Certificate is valid for the following product or service ranges:

Design, production, sales and service of equipment to control flow and pressure as well as devices for usage of gases in gaseous and liquid form.

Initial Certification date: 28 February 1997

This Certificate is valid until: 28 February 2018

The audit has been performed under the supervision of
Evangelos Tavandžis
Lead Auditor

NORWEGIAN ACCREDITATION MSYS 002

Place and date: Høvik, 23 February 2015

for the Accredited Unit:
DNV GL Business Assurance Norway AS.

Eugenie Winger Husebye
Management Representative

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.
This Certificate has been digitally signed. See www.dnv.com/digitalsignatures for more info
HEAD OFFICE. Det Norske Veritas AS, Veritasveien 1, 1322 Høvik, Norway. Tel: +47 67 57 99 00 Fax: +47 67 57 99 11 - www.dnv.com

DNV BUSINESS ASSURANCE
MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 109399-2012-AQ-CZS-NA

This is to certify that the Management System of:

GCE Holding AB

Källvattengatan 9, SE-200 21, Malmö, Sweden

With sites as per attachment

has been found to conform to the standard:

NS-EN-ISO 13485:2012

This Certificate is valid for the following product or service ranges:

Design, production, sales, distribution and service of medical devices to control flow and pressure as well as devices for usage of medical gases in health services in following product groups: Pressure regulators, Terminal units, Suction equipment, Hoses, Cylinder and combination valves, Flow meters, Central Gas Manifolds, Accessories.

Initial Certification date: 28 February 1997

This Certificate is valid until: 28 February 2018

The audit has been performed under the supervision of
Evangelos Tavandžis
Lead Auditor

NORWEGIAN ACCREDITATION MSYS 002

Place and date: Høvik, 23 February 2015

for the Accredited Unit:
DNV GL Business Assurance Norway AS.

Eugenie Winger Husebye
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HEAD OFFICE. Det Norske Veritas AS, Veritasveien 1, 1322 Høvik, Norway. Tel: +47 67 57 99 00 Fax: +47 67 57 99 11 - www.dnv.com

DNV BUSINESS ASSURANCE
EC CERTIFICATE – FULL QUALITY ASSURANCE SYSTEM

Certificate No. 73547-2010-CE-CZS-NA 6.0

This Certificate consists of 3 pages

This is to certify that the Quality Management System of

GCE s.r.o.

Žižkova 381, 583 81 Chotěboř, Czech Republic

for design, production and final product inspection/testing of

Medical Devices for use with Medical Gases

has been assessed with respect to
the conformity assessment procedure described in Article 11.3.a and Annex II excluding section 4 (Module H) of Council Directive 93/42/EEC on Medical Devices, as amended, and found to comply

Further details are given overleaf

Place and date: Høvik, 26 March 2015

For DNV GL Business Assurance Norway AS

Aud Løken Eiklid
Certification Manager

NORWEGIAN ACCREDITATION

CE

Notified Body No.: 0434

This Certificate is valid until:
30 March 2020

Sholeh Gheissar
Technical Reviewer

This Certificate has been digitally signed. See www.dnv.com/digitalsignatures for more info

Notice: The certificate is subject to terms and conditions overleaf. Any significant changes in design or construction may render this certificate invalid.
If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 300.000. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

Det Norske Veritas Certification AS, Veritasveien 1, 1322 Høvik, Norway. Tel: +47 67 57 9900 Fax: +47 6757 9911 www.dnv.com
Page 1 of 4

Note!
Measurements in mm.

TECHNICAL INSTRUCTION
TPED/ADR **T224-B2 REV 9**

Inspecta

Appendix 2: Certificate

INTERNAL PRODUCTION CONTROL

Approval of internal production control according to **Swedish Civil Contingencies Agency** (MSB) ordinance MSBFS 2011:3 (Directive 2010/35/EU) and ADR 1.8.7.6.

Inspecta Sweden hereby approves that manufacturer:

GCE, s.r.o, CZ-583 81 Chotebor, Czech Republic may carry out the internal production control for the in [Enclosure 1] specified equipment(s) according to Swedish Civil Contingencies Agency (MSB) ordinance MSBFS 2011:3 (Directive 2010/35/EU) and ADR 1.8.7.6.

Prerequisite for Inspecta Sweden AB's approval:

The by Inspecta Sweden assessed Procedures and Specifications [Enclosure 2] for the internal production control may not be changed without Inspecta Sweden's written permission.

Periodic audits must be carried out twice a year by Inspecta Sweden or by an Inspecta Sweden appointed representative DNV GL Business Assurance Czech Republic s.r.o.

Responsible for the internal production control: Mr. Jirí Urbánek, GCE, Chotebor.

This approval is drawn up 2016-02-04 by Olof Pedersen, Inspecta Sweden AB

Valid until 2018-06-05 provided that above conditions and regulation MSBFS 2011:3 (Directive 2010/35/EU) and ADR 1.8.7.6 are fully met.
Any changes in MSBFS 2011:3 (Directive 2010/35/EU) or ADR will invalidate this document.

Olof Pedersen
Senior Design Review Engineer
Inspecta Sweden AB - Notified Body 0409

Utfärdad av:	Granskad av:	Godkänd av:	
Mikael Rehn	Gunnar Larsson	Anders Johansson	
Revision:	Datum:	Nr:	Sida:
2:1	2012-07-05	T223e	1 av 1

GENERAL BUSINESS TERMS AND CONDITIONS

PREAMBLE

1. These General Conditions shall apply when the parties agree in writing or otherwise thereto. Deviations from the Conditions shall not apply unless agreed in writing.
When used in these conditions the term "written" or "in writing" refers to a document signed by both parties or a letter, fax, electronic mail or other means agreed by the parties.

PRODUCT INFORMATION

2. Data in product information and price lists are binding only to the extent that they are expressly referred to in the contract.

TECHNICAL DOCUMENTS AND TECHNICAL INFORMATION

3. All drawings and other technical documents regarding the goods or their manufacture submitted by one party to the other, prior or subsequent to the formation of the contract, shall remain the property of the submitting party.
Drawings, technical documents or other technical information received by one party shall not, without the consent of the other party, be used for any other purpose than that for which they were submitted. They may not without the consent of the other party be copied, reproduced, transmitted or otherwise communicated to a third party.
4. The Seller shall, not later than by delivery of the goods, free of charge provide the Buyer with one copy, or the larger number of copies that may have been agreed, of drawings and other technical documents, which are sufficiently detailed to permit the Buyer to carry out installation, commissioning, operation and maintenance (including running repairs) of all parts of the goods.
The Seller shall not, however, be obliged to supply manufacturing drawings of the goods or spare parts.

DELIVERY TEST

5. Where a delivery test has been agreed, it shall, unless otherwise agreed, be carried out where the goods are manufactured.
If technical requirements for the test have not been agreed, the test shall be carried out in accordance with general practice in the industry concerned in the country where the goods are manufactured.
6. The Seller shall notify the Buyer in writing of the delivery test in sufficient time to permit the Buyer to be present at the test.
If the Buyer has received such notice, the test may be carried out even if the Buyer is not represented at the test.
The Seller shall record the test. The test report shall be sent to the Buyer. The report shall, unless otherwise shown by the Buyer, be considered to correctly describe the execution of the test and its results.
7. If at the delivery test the goods are found not to be in accordance with the contract, the Seller shall as soon as possible ensure that the goods comply with the contract. If so required by the Buyer a new test shall thereafter be carried out. The Buyer may not, however, require a new test if the defect was insignificant.
8. If no other division of the costs has been agreed, the Seller shall bear all costs for delivery tests carried out where the goods are manufactured. The Buyer shall, however, at such delivery tests bear all costs for his representatives, including costs for travel and subsistence.

DELIVERY

9. Where a trade term has been agreed, it shall be interpreted in accordance with the INCOTERMS in force at the formation of the contract. If no trade term is specifically agreed, the delivery shall be Ex Works.

TIME FOR DELIVERY. DELAY

10. If, instead of a fixed date for delivery, the parties have agreed on a period of time within which delivery shall take place, such period shall start to run at the formation of the contract.
11. If the Seller finds that he will not be able to deliver the goods at the agreed time or if delay on his part seems likely, he shall without undue delay notify the Buyer thereof in writing, stating the reason for the delay and if possible the time when delivery can be expected. If the Seller fails to give such notice, he shall, regardless of the provisions of Clauses 13 and 14, reimburse the Buyer for any additional expenses, which the latter incurs and which he would have avoided, had he received notice in time.
12. If delay in delivery is caused by a circumstance which under Clause 36 constitutes ground for relief or by an act or omission on the part of the Buyer, including suspension by the Seller under Clause 18, the time for delivery shall be extended by a period, which is reasonable having regard to the circumstances in the case. The time for delivery shall be extended even if the reason for delay occurs after the originally agreed time for delivery.
13. If the Seller fails to deliver the goods on time, the Buyer is entitled to liquidated damages from the date on which delivery should have taken place.
The liquidated damages shall be payable at a rate of 0.5 per cent of the agreed price for each complete week of delay. If the delay concerns only a part of the goods, the liquidated damages shall be calculated on the part of the price which is properly attributable to the part of the goods which cannot be taken in use due to the delay.
The liquidated damages shall not exceed 7.5 per cent of that part of the price on which it is calculated.
The liquidated damages become due at the Buyer's written demand but not before all of the goods have been delivered or the contract is terminated under Clause 14.
The Buyer loses his right to liquidated damages if he has not lodged a written claim for such damages within six months after the time when delivery should have taken place.
14. If the Buyer is entitled to maximum liquidated damages under Clause 13, and the goods are still not delivered, the Buyer may in writing demand delivery within a final reasonable period which shall not be less than one week.
If the Seller fails to deliver within such final period and this is not due to any circumstance for which the Buyer is responsible, the Buyer may, by written notice to the Seller, terminate the contract in respect of that part of the goods which cannot be taken in use due to the delay.
In case of such termination the Buyer shall also be entitled to compensation for the loss he suffers because of the Seller's delay to the extent that the loss exceeds the maximum of liquidated damages which the Buyer may claim under Clause 13. This compensation shall not exceed 7.5 per cent of that part of the price which is properly attributable to the part of the goods in respect of which the contract is terminated.
The Buyer shall also have the right to terminate the contract by written notice to the Seller if it is clear that there will be a delay, which under Clause 13 would entitle the Buyer to maximum liquidated damages. In case of termination on this ground the Buyer shall be entitled to both maximum liquidated damages and compensation under the third paragraph of this Clause.
Except for liquidated damages under Clause 13 and termination of the contract with limited compensation under this Clause 14, all other claims in respect of the Seller's delay shall be excluded.
This limitation of the Seller's liability shall not apply, however, where the Seller has been guilty of gross negligence.
15. If the Buyer finds that he will be unable to accept delivery of the goods on the agreed date, or if delay on his part seems likely, he shall without undue delay notify the Seller thereof in writing stating the reason for the delay and, if possible, the time when he will be able to accept delivery.
If the Buyer fails to accept delivery on the agreed date, he shall nevertheless make any payment which is dependent on delivery as if the goods in question had been delivered. The Seller shall arrange storage of the goods at the Buyer's risk and expense. If the Buyer so requires, the Seller shall insure the goods at the Buyer's expense.
16. Unless the Buyer's failure to accept delivery as referred to in Clause 15 is due to any such circumstance as described in Clause 36, the Seller may by written notice require the Buyer to accept delivery within a reasonable period.
If, for any reason for which the Seller is not responsible, the Buyer fails to accept delivery within such period, the Seller may, by written notice to the Buyer, terminate the contract in respect of that part of the goods which is ready for delivery but has not been delivered due to the Buyer's default. The Seller shall then be entitled to compensation for the loss he has suffered by reason of the Buyer's default. The compensation shall not exceed that part of the price which is properly attributable to the part of the goods in respect of which the contract is terminated.

PAYMENT

17. Unless otherwise agreed, the agreed purchase price, together with value added tax, if any, shall be invoiced with one third at the formation of the contract, one third when the Seller gives written notice that the bulk of the goods are ready for delivery. Final payment shall be invoiced at delivery of the goods. The invoiced amount becomes due 30 days after the date of the invoice.
18. If the Buyer fails to pay, the Seller shall be entitled to interest from the due date at the rate of interest determined by the law on late payments in the Seller's country.
If the Buyer fails to pay by the due date, the Seller shall also, after having notified the Buyer in writing thereof, suspend performance of his contractual obligations until payment is made.
19. If the Buyer has failed to pay the amount due within three months after the due date, the Seller may terminate the contract by written notice to the Buyer and, in addition to interest on late payment, claim compensation for the loss he has suffered. The compensation shall not exceed the agreed purchase price.

RETENTION OF TITLE

20. The goods shall remain the property of the Seller until paid for in full, to the extent that such retention of title is valid.

LIABILITY FOR DEFECTS

21. The Seller shall, in accordance with the provisions of Clauses 23–33 below, remedy any defect in the goods resulting from faulty design, materials or workmanship.
The Seller is not liable for defects arising out of material provided by the Buyer or a design stipulated or specified by him.
22. The Seller's liability does not cover defects caused by circumstances, which arise after the risk has passed to the Buyer.
The liability does not, for example, cover defects due to conditions of operation deviating from those anticipated in the contract or to improper use of the goods. Nor does it cover defects due to faulty maintenance or incorrect installation from the Buyer's side, alterations undertaken without the Seller's written consent or faulty repairs by the Buyer. Finally the liability does not cover normal wear and tear or deterioration.
23. The Seller's liability is limited to defects which appear within a period of one year from the date of delivery of the goods. If the goods are used more intensely than agreed, this period shall be reduced proportionately.
24. For parts, which have been repaired or replaced under Clause 21, the Seller shall have the same liability for defects as for the original goods for a period of one year. For other parts of the goods the liability period referred to in Clause 23 shall be extended only by the period during which the goods could not be used due to a defect for which the Seller is liable.
25. The Buyer shall notify the Seller in writing of a defect without undue delay after the defect has appeared and in no case later than two weeks after the expiry of the liability period defined in Clause 23 as supplemented by Clause 24. The notice shall contain a description of how the defect manifests itself. If the Buyer fails to notify the Seller in writing within the above time limits, he loses his right to make any claim in respect of the defect. If there is reason to believe that the defect may cause damage, notice shall be given forthwith. If notice is not given forthwith, the Buyer loses the right to make any claim based on damage which occurs and which could have been avoided if such notice had been given.
26. After receipt of a written notice under Clause 25, the Seller shall remedy the defect without undue delay. Within this limit the time for remedial work shall be chosen in order not to interfere unnecessarily with the Buyer's activities. The Seller shall bear the costs as specified in Clauses 21–32.
Remedial work shall be carried out at the Buyer's premises unless the Seller finds it appropriate to have the defective part or the goods sent to him for repair or replacement at his own premises.
The Seller shall carry out dismantling and re-installation of the part if this requires special knowledge. If such special knowledge is not required, the Seller has fulfilled his obligations in respect of the defect when he delivers a duly repaired or replaced part to the Buyer.
27. If the Buyer gives such notice as referred to in Clause 25, and no defect is found for which the Seller is liable, the Seller shall be entitled to compensation for the work and costs which he has incurred as a result of the notice.
28. If remedy of the defect requires intervention in other equipment than the goods, the Buyer shall be responsible for any work or costs caused thereby.
29. All transports in connection with repair or replacement shall be at the Seller's risk and expense.
The Buyer shall follow the Seller's instructions regarding how the transport shall be carried out.
30. The Buyer shall bear the increase in costs for remedying a defect which the Seller incurs when the goods are located elsewhere than at the destination stated in the contract or – if no destination has been stated – the place of delivery.
31. Defective parts, which have been replaced under Clause 21, shall be placed at the Seller's disposal and shall become his property.
32. If the Seller fails to fulfil his obligations under Clause 26 within a reasonable time, the Buyer may by written notice require him to do so within a final time. If the Seller fails to fulfil his obligations within that time limit, the Buyer may at his option:
a) have the necessary remedial work carried out and/or have new parts manufactured at the Seller's risk and expense, provided that the Buyer proceeds in a reasonable manner, or
b) demand a reduction of the agreed purchase price not exceeding 15 per cent thereof.
If the defect is substantial, the Buyer may instead terminate the contract by written notice to the Seller. The Buyer shall also be entitled to such termination where the defect remains substantial after measures referred to in a). In case of termination, the Buyer shall be entitled to compensation for the loss he has suffered. The compensation shall not, however, exceed 15 per cent of the agreed purchase price.
33. Regardless of the provisions of Clauses 21–32, the Seller shall have no liability for defects in any part of the goods for more than two years from the start of the liability period referred to in Clause 23.
34. The Seller shall have no liability for defects save as stipulated in Clauses 21–33. This applies to any loss the defect may cause, such as loss of production, loss of profit and other consequential economic loss. This limitation of the Seller's liability shall not apply, however, if he has been guilty of gross negligence.

LIABILITY FOR DAMAGE TO PROPERTY CAUSED BY THE GOODS

35. The Buyer shall indemnify and hold the Seller harmless to the extent that the Seller incurs liability towards any third party in respect of loss or damage for which the Seller is not liable towards the Buyer according to the second and third paragraphs of this Clause.
The Seller shall have no liability for damage caused by the goods:
a) to any (movable or immovable) property, or consequential loss due to such damage, occurring while the goods are in the Buyer's possession, or
b) to products manufactured by the Buyer or to products of which the Buyer's products form a part.
The above limitations of the Seller's liability shall not apply if he has been guilty of gross negligence.
If a third party lodges a claim for compensation against Seller or Buyer for loss or damage referred to in this Clause, the other party to the contract shall forthwith be notified thereof in writing.
The Seller and the Buyer shall be mutually obliged to let themselves be summoned to the court or arbitral tribunal which examines claims against either of them based on damage or loss alleged to have been caused by the goods. The liability as between the Seller and the Buyer shall, however, always be settled by arbitration in accordance with Clause 39.

GROUNDS FOR RELIEF (FORCE MAJEURE)

36. The following circumstances shall constitute grounds for relief if they impede the performance of the contract or makes performance unreasonably onerous: industrial disputes and any other circumstance beyond the control of the parties, such as fire, war, mobilization or military call up of a comparable scope, requisition, seizure, trade and currency restrictions, insurrection and civil commotion, shortage of transport, general shortage of materials, restrictions in the supply of power and defects or delays in deliveries by subcontractors caused by any such circumstance as referred to in this Clause.
The above described circumstances shall constitute grounds for relief only if their effect on the performance of the contract could not be foreseen at the time of formation of the contract.
37. The party wishing to claim relief under Clause 36 shall without delay notify the other party in writing on the intervention and on the cessation of such circumstance.
If grounds for relief prevent the Buyer from fulfilling his obligations, he shall reimburse the expenses incurred by the seller in securing and protecting the goods.
38. Notwithstanding other provisions of these General Conditions, either party shall be entitled to terminate the contract by notice in writing to the other party, if performance of the contract is delayed more than six months by reason of any grounds for relief as described in Clause 36.

DISPUTES. APPLICABLE LAW

39. Disputes arising out of or in connection with the contract shall not be brought before the court, but shall be finally settled by arbitration in accordance with the law on arbitration applicable in the Seller's country.
40. All disputes arising out of the contract shall be judged according to the law of the Seller's country.

GCE Group is one of the world's leading companies in the field of gas control equipment. The headquarters are in Malmö, Sweden, and the two major supply units are located in Europe and Asia.
The company operates 15 subsidiaries around the world and employs more than 900 people. GCE Group includes four business areas – Cutting & Welding Technologies, Valves, Healthcare and Druva.
Today's product portfolio corresponds to a large variety of applications, from single pressure regulators and blowpipes for cutting and welding to sophisticated gas supply systems for medical and electronics industry applications.

Gas Control Equipment
www.gcegroup.com

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