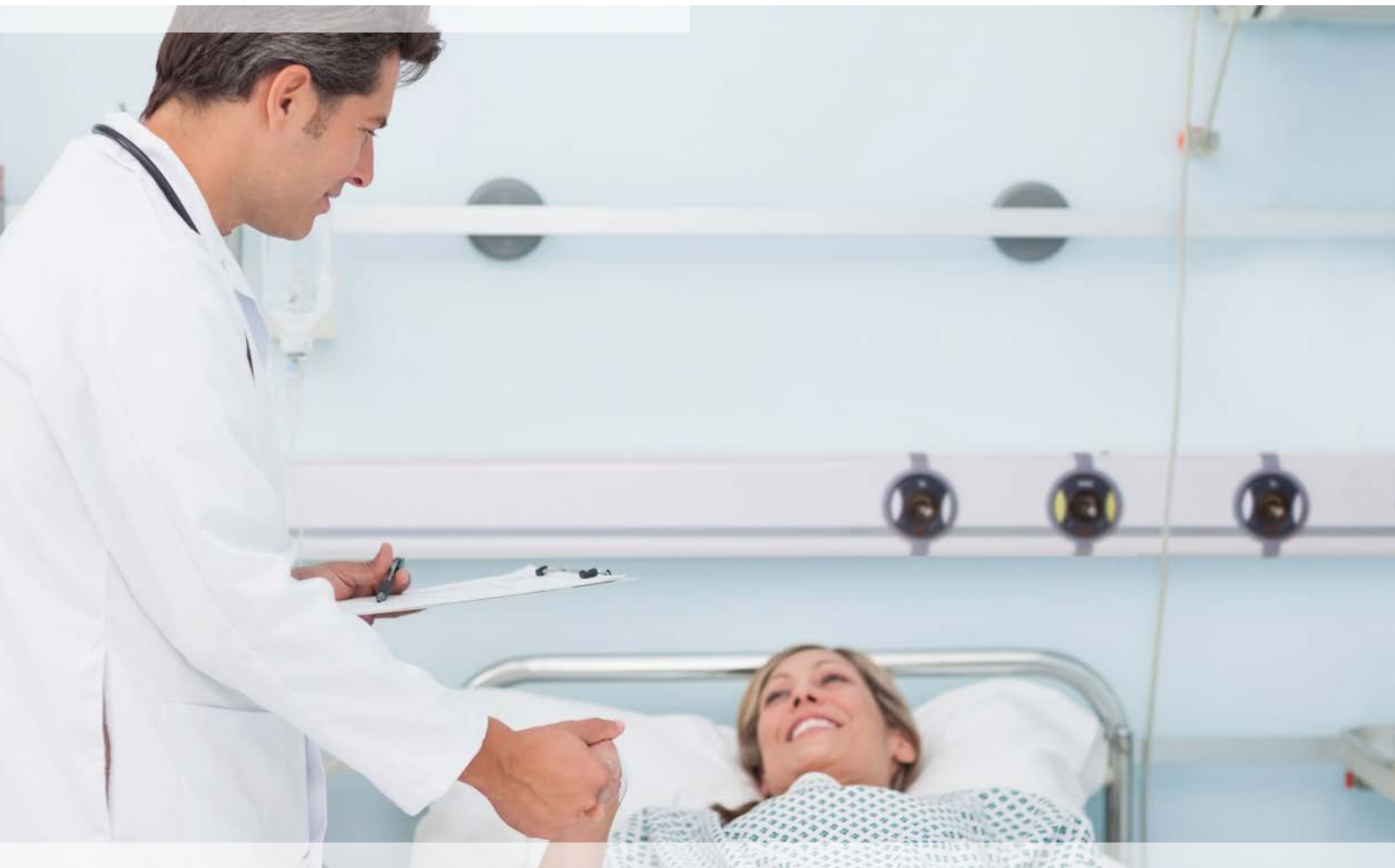# HEALTHCARE CATALOGUE

CENTRAL SUPPLY SYSTEMS FOR MEDICAL GASES

GCE®

Healthcare

THE GCE BUSINESS

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.

GCE GROUP INCLUDES FOUR BUSINESS AREAS:

- Cutting & Welding Technologies
- Valves
- Healthcare
- Druva

ORIGINS

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.

GCE SERVICES

The main industrial customers for GCE are wholesalers and local distributors. However in some markets GCE distributes equipment with the full cooperation of the main gas supplier for that market. For these companies GCE provides both commercial and technical support.
A significant part of the sales volume in this area also comes from key end user accounts such as shipyards, repair shops, OEM customers and welding machine manufacturers.

MEDICAL SECTOR - HIGH PRECISION GAS APPLICATIONS:

Equipment for supplying medical gas is an important and expanding part of the GCE Group's activities. With exceptionally high safety, precision and hygiene requirements, medical-gas applications comprise an area demanding specialised knowledge and experience as well as a full understanding of respiratory and aspiration requirements and patient care. Compliance with quality standards according to Medical Directive 93/42/EEC is not only a regulatory obligation, but it is also a means of ensuring that our customers receive the high-quality and safe products they deserve.

GCE supplies complete systems for supplying oxygen, nitrous oxide, and vacuum gas and other gases to hospitals, ambulance-service providers, emergency services and home-care providers, as well as other special services using this equipment.

Western Europe is the traditional market for a whole range of products for all different types of customers and, together with the growing Eastern European market, comprises GCE's main sales area. Our sales force is also active in a number of other markets, including North and South America, North Africa and the Middle East, and is continuing to branch out to other parts of the world, such as China and India, among others

CONTENT

GAS MANIFOLDS AND STABILIZERS

GAS MANIFOLD MC25 (FLOW 25 M^3/H)

The gas cylinder manifold MC25 has a capacity of 25 m^3/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.

The alarm signal comes from the pressure switches to the alarm unit.

The alarm signals from the alarm unit can be forwarded directly to a monitoring desk. Function control and service can be carried out without interruption in the gas supply.

SPECIFICATION

MC25 INCLUDES THE FOLLOWING COMPONENTS:
> Gas manifold MC25
> Gas alarm including power supply
> Evacuating kits for collecting pipe
> Shut-off valve for distribution line
> HP filters
> Collecting pipe for 2×1 cylinder

FOR A COMPLETE MC25 MANIFOLD ADD:
> High pressure collecting pipe set (high pressure valves, filters and non-return valves)
> High pressure hoses with safety wire
> Cylinder retaining brackets (included in gas cylinder collecting pipe set)
> Gas name sign

(For more information, please see accessories pages 17–21)

Item No.	Denomination	Gas	PRV	Signalization
0732300	MC25 – 2×1	O$_2$	With pull-ring	Alarm TMA6703
0732301	MC25 – 2×1	Air	With pull-ring	Alarm TMA6703
0732302	MC25 – 2×1	N$_2$O, CO$_2$	With pull-ring	Alarm TMA6703

TECHNICAL DATA	
Gases:	O$_2$, Air, N$_2$, N$_2$O, CO$_2$, (all medical gases)
Nominal flow:	25 m^3/h
Inlet nominal pressure:	200 bar (20 000 kPa)
Outlet nominal pressure:	4,5 bar (setting range 0,5–6 bar)
Inlet connection:	W21,8×1/14"M
Outlet connection:	G1/2"M + soldering piece pipe ø 10, ø 15 mm
Outlet pressure relieve valve:	6,8 bar
Intermediate pressure relieve valve:	17 bar
Pressure relieve valve pipe dimension:	ø 15 mm
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN 60601-1-2 (Electromagnetic compatibility)
	present SIS HB 370 and HTM 02-01

BASIC DIMENSIONS

450

485

Note!
Measurements in mm.

FLOW CHARTS OF MANIFOLD MC25 PRESSURE CHARACTERISTIC
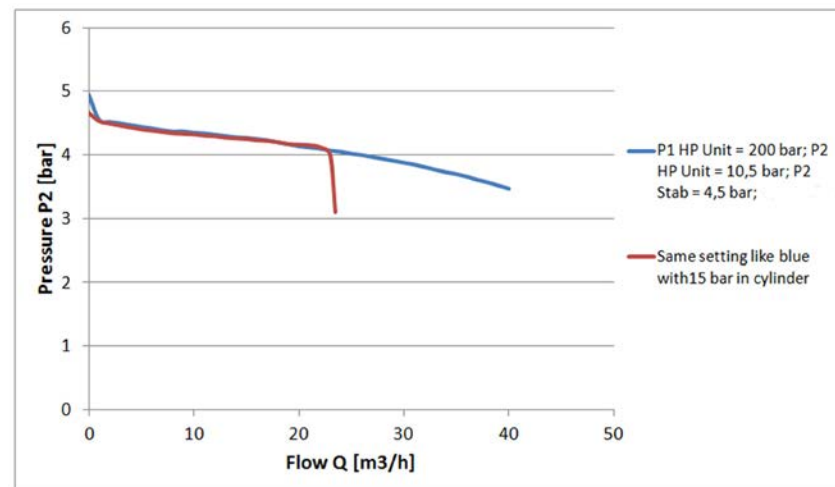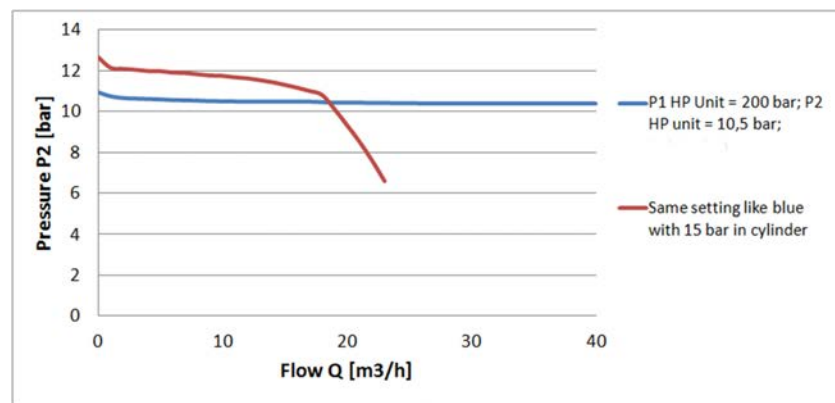
GAS MANIFOLD MM40 - HP UNIT (FLOW 40 M^3/H)

Manifold MM40 HP unit is an automatic manifold. It is working on the principal of different pressures between the operation and reserve regulator. By the manual lever, the operator can decide which side will be the operational side and which will be the reserve side. When the operating side is empty, the manifold will without any action start to supply gas from the reserve side with the lower regulator pressure and fulfilll the requests to supply without interrupting the flow.

MM40 HP unit manifolds together with a stabilizer should be used as second and third source of gas in systems with liquid gas tank. For hospitals without liquid gas tanks it is possible to use manifold MM40 HP unit together with a stabilizer as first and second source, and in connection with a third source (MM90 Standby) it will provide a final solution to fulfill ISO 7396-1 and national installation standards.

Manifolds are supplied with an alarm system which increases safety to maximal level and informs the hospital personal about each non standard situation.

Gas Alarm is a standard accessory. The gas alarm gives visual and audible indications.

It acts as a surveillance system and sounds the alarm when the following happens

1. Leaking reserve side
2. Empty position (High/Low distribution pressure when connected to a Stabilizer)
3. Change operation side
4. High intermediate pressure
> The gas alarm is able to communicate with other equipment through relays.
> Manifold MM40 HP unit is only first stage of regulation and must be installed together with a Stabilizer which will stabilize the final pressure used in the hospital gas outlets.
> GCE medical manifolds are CE-marked and fulfill the ISO 7396-1 standard.

SPECIFICATION

MM40 INCLUDES THE FOLLOWING COMPONENTS:
> MM40 HP unit Manifold
> Gas alarm
> Purge valves
> HP filters
> Shut-off valve for distribution line to stabilizer

FOR A COMPLETE MM40 HP UNIT MANIFOLD ADD:
> Collecting pipe set (high pressure valves, non-return valves and high pressure components)
> Cylinder retaining brackets (included in gas cylinder collecting pipe set)
> High pressure hoses with safety wire
> Plug for close collecting pipeline
> Gas name sign
> Stabilizer

(For more information, please see accessories pages 17–21)

Item No.	Denomination	Gas	PRV	Signalization
0732307	MM40 – HP unit 2×1	O$_2$, Air, N$_2$	Standard	Alarm TMA6703
0732308	MM40 – HP unit 2×1	O$_2$, Air, N$_2$	With pull-ring	Alarm TMA6703
0727334*	MM40 – HP unit 2×1	O$_2$, Air, N$_2$, N$_2$O, CO$_2$	Standard	–
0732310	MM40 – HP unit 2×1	N$_2$O, CO$_2$	Standard	Alarm TMA6703
0732311	MM40 – HP unit 2×1	N$_2$O, CO$_2$	With pull-ring	Alarm TMA6703
0727371**	MM40 – HP Unit 2x1	O$_2$, Air, N$_2$	Standard	4-20mA

*basic version without electric sensors
**ISO standard version without Leaking reserve as requested for HB370

TECHNICAL DATA	
Gases:	O$_2$, Air, N$_2$, N$_2$O, CO$_2$ (all medical gases)
Nominal flow:	40 m^3/h
Inlet nominal pressure:	200 bar
Outlet nominal pressure:	12 bar (setting range 9–16 bar)
Inlet connection:	W21,8×1/14"M
Outlet connection:	G1/2"M + soldering piece pipe ø 10, ø 15 mm
Pressure relieve valve:	17 bar
Pressure relieve valve pipe dimension:	ø 10 mm
Purge valves connection:	W21,8×1/14"M
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN 60601-1-2 (Electromagnetic compatibility)
	present SIS HB 370 and HTM 02-01

FLOW CHART OF MANIFOLD MM40 PRESSURE CHARACTERISTIC
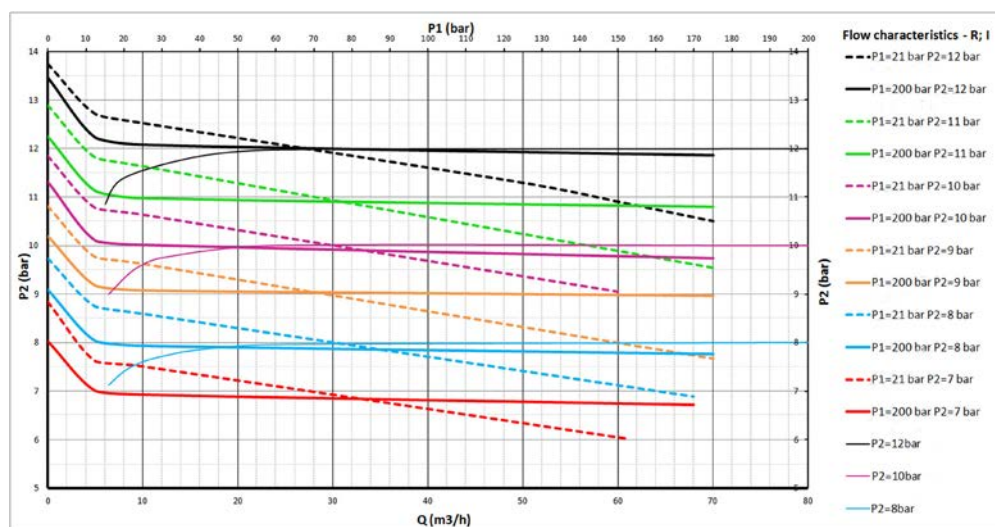
BASIC DIMENSIONS
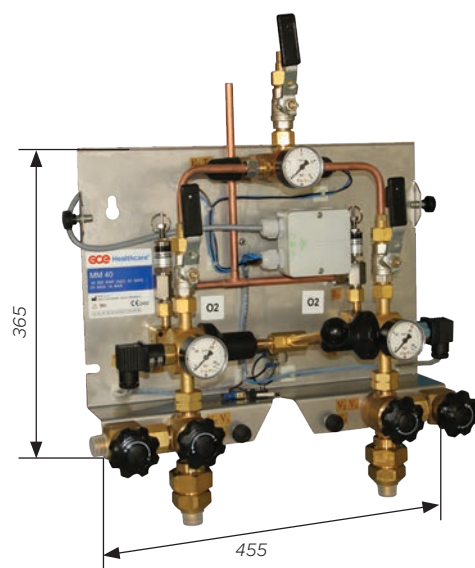
Note!
Measurements in mm.

LINE REGULATOR (FLOW 40 M³/H)

A stabilizer is a pressure reduction unit with the task to equalize the eventual pressure variation in the hospital pipeline system to ensure a correct pressure from the terminal units.

The stabilizer makes it possible to distribute gas with a different pressure to departments and buildings in the hospital area. In some cases it is needed to deliver a higher pressure from the main gas manifold to compensate for small pipe dimensions. In those cases the Stabilizer should be mounted as close as possible before the first terminal unit, to ensure a correct pressure to the patient.

SPECIFICATION

LINE REGULATOR INCLUDES THE FOLLOWING COMPONENTS:
> Line regulator

FOR A COMPLETE LINE REGULATOR ADD:
> Plastic cover for locking
> Alarm unit (included if ordered together with HP unit)

Item No.	Denomination	Gas type	Inlet*
0727333	LINE REG	O_2, N_2O, Air, CO_2, N_2	LH
K141621	LINE REG	O_2 – AFNOR	LH
K141631	LINE REG	O_2 – AFNOR	RH
K141622	LINE REG	N_2O – AFNOR	LH
K141632	LINE REG	N_2O – AFNOR	RH
K141623	LINE REG	Air – AFNOR	LH
K141633	LINE REG	Air – AFNOR	RH
K141629	LINE REG	Air-800 – AFNOR	LH
K141639	LINE REG	Air-800 – AFNOR	RH
K141624	LINE REG	N_2 – AFNOR	LH
K141625	LINE REG	CO_2 – AFNOR	LH

LH = inlet from left side; RH = inlet from right side

TECHNICAL DATA	
Gases:	O_2, Air, Air–800, N_2, N_2O, CO_2 (all medical gases)
Nominal flow:	40 m³/h
Inlet nominal pressure:	16 bar (1600 kPa)
Outlet nominal pressure:	4,5 bar (setting range 0,5–10 bar)
Inlet connection:	G1/2"M + soldering piece pipe ø 12 mm
Outlet connection:	G1/2"M + soldering piece pipe ø 12 mm
Pressure sensors:	Optional (Pressure switches; Transmitter 4–20 mA)
Emergency QC inlet:	Optional QC by national standards
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN 60601-1-2 (Electromagnetic compatibility)
	present HTM 02-01

BASIC DIMENSIONS

206

151

83

Note!
Measurements in mm.

GAS MANIFOLD MM40 – STABILIZER (FLOW 40 M^3/H)

Manifold MM40 – STABILIZER is a second stage pressure reduction unit with the task to equalize the eventual pressure variation in the hospital pipeline system to ensure a correct pressure from the terminal units.

MM40 – STABILIZER is only a second stage reduction unit where the primary gas supply is provided by high pressure gas manifolds (such as MM40 – HP Unit). In case of a signal for pressure deviation in relation to the alarm settings, the alarm can easily be displayed on a gas alarm unit. It is also possible to send information to the central operation control. The stabilizer can be delivered with either pressure transmitter 4–20 mA or with pressure switches. Gas reduction unit MM40 – STABILIZER must always be installed in compliance with the standards EN ISO 7396-1 and the appropriate national standards.

SPECIFICATION

MM40 STABILIZER INCLUDES THE FOLLOWING COMPONENTS:

> MM40 Stabilizer Manifold

FOR A COMPLETE MM40 STABILIZER MANIFOLD ADD:

> Plastic cover for locking
> Alarm unit (included if ordered together with HP unit)

Item No.	Denomination	Gas	PRV	Signalization
0727329	MM40 – Stabilizer	O_2, N_2O, Air, CO_2, N_2	–	–
0727337	MM40 – Stabilizer	Air–800	–	–
0727332	MM40 – Stabilizer	O_2, N_2O, Air, CO_2, N_2	With pull-ring	Pressure switch
0727344	MM40 – Stabilizer	O_2, N_2O, Air, CO_2, N_2	With pull-ring	4-20mA
0727343	MM40 – Stabilizer	O_2	–	–
0727346	MM40 – Stabilizer	Air	–	–
0727347	MM40 – Stabilizer	Air–800	–	–
0727348	MM40 – Stabilizer	CO_2	–	–
0727364	MM40 – Stabilizer	N_2O	–	–

ACCESSORIES

Item No.	Denomination
COM001002	Lockable cover

For more information please contact our sales and product support.

BASIC DIMENSIONS

230

290

110

Note!
Measurements in mm.

TECHNICAL DATA	
Gases:	O_2, Air, Air–800, N_2, N_2O, CO_2 (all medical gases)
Nominal flow:	40 m^3/h
Inlet maximal pressure:	16 bar
Outlet nominal pressure:	4,5 bar (setting range 0,5–10 bar)
Inlet connection 1:	G1/2"M + soldering piece pipe ø 12 mm
Inlet connection 2:	Optional (G1/2"M + soldering piece pipe ø 12 mm)
Outlet connection:	G1/2"M + soldering piece pipe ø 12 mm
Pressure relieve valve:	Optional (6,8 bar; outlet pipe ø 15 mm)
Pressure sensors:	Optional (Pressure switches; Transmitter 4–20 mA)
Emergency QC inlet:	Optional QC by national standards
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN 60601-1-2 (Electromagnetic compatibility)
	present SIS HB 370 and HTM 02-01

GAS MANIFOLD MM90
- HP UNIT FULLY AUTOMATIC (FLOW 90 M^3/H)

The MM90 HP unit medical manifold is intended for use in hospital pipeline systems as medical gas source. Together with MM90, always use an alarm providing all alarms according to standard (like gas alarm). As 2nd stage is recommended to use a stabilizer. 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 empty bank can be replenished. The object gives uninterrupted gas supply. Gas Alarm is a standard accessory. The gas alarm gives visual and audible indication.
It surveils and the alarm sounds when the following happens:
1. Change operation side/Leaking on reserve side
2. High operation pressure
3. Low operation pressure
4. Empty position (High/Low distribution pressure when connected to a Stabilizer)
The gas alarm is able to communicate with other equipment through relays.

SPECIFICATION

MM90 INCLUDES THE FOLLOWING COMPONENTS:
> MM90 HP unit Manifold
> Gas alarm
> Purge valves
> HP filters

FOR A COMPLETE MM90 HP UNIT MANIFOLD ADD:
> Collecting pipe set (high pressure valves, and non-return valves / high pressure components)
> Cylinder retaining brackets (included in gas cylinder collecting pipe set)
> High pressure hoses with safety wire
> Plug for close collecting pipeline
> Gas name sign
> Stabilizer

Item No.	Denomination	Gas	PRV	Signalization
0732322	MM90 – HP unit AUTO 2×1	O$_2$	Standard	Alarm TMA6703
0732323	MM90 – HP unit AUTO 2×1	Air	Standard	Alarm TMA6703
0732324	MM90 – HP unit AUTO 2×1	N$_2$O, CO$_2$	Standard	Alarm TMA6703
0727308*	MM90 – HP unit AUTO 2×1	O$_2$, N$_2$O, Air, CO$_2$, N$_2$	Standard	–
0727309	MM90 – HP unit AUTO 2×1	O$_2$	Standard	Pressure switch
0727310	MM90 – HP unit AUTO 2×1	Air	Standard	Pressure switch
0727311	MM90 – HP unit AUTO 2×1	N$_2$O, CO$_2$	Standard	Pressure switch

*basic version without electric sensors

TECHNICAL DATA	
Gases:	O$_2$, Air, N$_2$, N$_2$O, CO$_2$ (all medical gases)
Nominal flow:	90 m^3/h
Inlet nominal pressure:	200 bar (20 000 kPa)
Outlet nominal pressure:	9 bar (setting range 9–15 bar)
Inlet connection:	W21,8×1/14"M
Outlet connection:	G3/4"F + soldering piece pipe ø 22 mm
Pressure relieve valve:	16 bar
Pressure relieve valve pipe dimension:	ø 10 mm
Purge valves connection:	W21,8×1/14"M + soldering piece pipe ø 10 mm
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN 60601-1-2 (Electromagnetic compatibility)
	present SIS HB 370 and HTM 02-01

BASIC DIMENSIONS

530

455

760

Note!
Measurements in mm.

GAS MANIFOLD MM90
- HP UNIT SEMIAUTOMATIC (FLOW 90 M³/H)

The MM90 HP unit medical manifold is intended for use in hospital pipeline systems as medical gas source. Together with MM90, always use an alarm providing all alarms according to standard (like gas alarm). As 2nd stage is recommended to use a stabilizer. 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 gives uninterrupted gas supply.

Gas Alarm is a standard accessory. The gas alarm gives a visual and audible indication. It surveils and the alarm sounds when the following happens:

1. Change operation side
2. Leaking on reserve side
3. High operation pressure
4. Low operation pressure

The gas alarm is able to communicate with other equipment through relays.

SPECIFICATION

MM90 INCLUDES THE FOLLOWING COMPONENTS:
> MM90 HP unit Manifold
> Gas alarm
> Purge valves
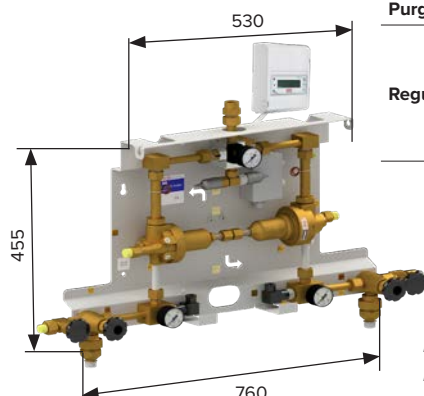> HP filters

FOR A COMPLETE MM90 HP UNIT MANIFOLD ADD:
> Collecting pipe set (high pressure valves, and non-return valves / high pressure components)
> Cylinder retaining brackets (included in gas cylinder collecting pipe set)
> High pressure hoses with safety wire
> Plug for close collecting pipeline
> Gas name sign
> Stabilizer

Item No.	Denomination	Gas	PRV	Signalization
0732314	MM90 – HP unit 2×1	O_2	Standard	Alarm TMA6703
0732315	MM90 – HP unit 2×1	Air	Standard	Alarm TMA6703
0732316	MM90 – HP unit 2×1	N_2O, CO_2	Standard	Alarm TMA6703
0732320	MM90 – HP unit 2×1	O_2, Air	With pull-ring	Alarm TMA9705
0732321	MM90 – HP unit 2×1	N_2O, CO_2	With pull-ring	Alarm TMA9705
0727327*	MM90 – HP unit 2×1	O_2, N_2O, Air, CO_2, N_2	Standard	–

basic version without electric sensors

TECHNICAL DATA	
Gases:	O_2, Air, N_2, N_2O, CO_2 (all medical gases)
Nominal flow:	90 m³/h
Inlet nominal pressure:	200 bar (20 000 kPa)
Outlet nominal pressure:	9 bar (setting range 9–15 bar)
Inlet connection:	W21,8×1/14"M
Outlet connection:	G3/4"F + soldering piece pipe ø 22 mm
Pressure relieve valve:	16 bar
Pressure relieve valve dimension:	ø 10 mm
Purge valves connection:	W21,8×1/14"M + soldering piece pipe ø 10mm
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN 60601-1-2 (Electromagnetic compatibility)
	present SIS HB 370 and HTM 02-01

BASIC DIMENSIONS

530

455

760

Note!
Measurements in mm.

GAS MANIFOLD MM90 - STANDBY BACKUP (FLOW 90 M³/H)

The manifold MM90 STANDBY is designed to be used as a third source of supply in medical central gas systems. The manifold will deliver gas when the nominal supply system pressure falls below a set level (7 bar). This is a back up source.

Together with MM90 STANDBY always use the MM90 HP unit and alarm providing all alarms according to standard (like Gas alarm). As 2nd stage it is recommended to use a stabilizer.

Gas Alarm is a standard accessory. The Gas alarm gives visual and audible indication.

It surveils and the alarm sounds when the following happens:
1. Too high outlet pressure
2. Too low outlet pressure
3. Empty cylinder

SPECIFICATION

MM90 STANDBY INCLUDES THE FOLLOWING COMPONENTS:
> MM90 STANDBY Manifold with pressure switches
> Purge valves
> HP filters
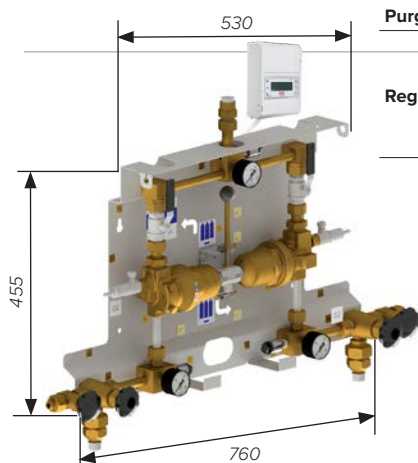
FOR A COMPLETE MM90 STANDBY MANIFOLD ADD:
> Gas alarm
> Collecting pipe set (high pressure valves, and non-return valves / high pressure components)
> Cylinder retaining brackets (included in gas cylinder collecting pipe set)
> High pressure hoses with safety wire
> Plug for close collecting pipeline
> Gas name sign
> Stabilizer

Item No.	Denomination	Gas	PRV	Signalization
0727307	MM90 STANDBY	O_2, Air	Standard	Pressure switches
0727312	MM90 STANDBY	N_2O, CO_2	Standard	Pressure switches
0727338	MM90 STANDBY	N_2O, CO_2	With pull-ring	Pressure switches
0727367	MM90 STANDBY	O_2, Air	Standard	4-20ma pressure transmitter
0727368	MM90 STANDBY	N_2O, CO_2	Standard	4-20ma pressure transmitter

TECHNICAL DATA	
Gases:	O_2, Air, N_2, N_2O, CO_2 (all medical gases)
Nominal flow:	90 m³/h
Inlet nominal pressure:	200 bar (20 000 kPa)
Outlet nominal pressure:	7 bar (setting range 7–15 bar)
Inlet connection:	W21,8×1/14"M
Outlet connection:	G3/4"F + soldering piece pipe ø 22 mm
Pressure relive valve:	16 bar
Pressure relive valve pipe dimension:	ø 10 mm
Purge valves connection:	W21,8×1/14"M + soldering piece pipe ø 10 mm
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN 60601-1-2 (Electromagnetic compatibility)
	present SIS HB 370 and HTM 02-01

BASIC DIMENSIONS

363
245
318

Note! Measurements in mm.

MC80 HP UNIT (FLOW 200 M^3/H)

Manifold MC80 HP UNIT is a first stage pressure regulator intended for use in hospital pipeline systém as a medical gas source.

MC80 HP UNIT contains two regulators with pressure relieve valves and it is connected to two various cylinder banks using high pressure hoses. When the cylinder bank, which has been connected for operation, has been emptied the other duty side is automatically connected.

It is equipped with pressure switches and pressure transmitters 4 – 20 mA.

Together with MC80 HP UNIT shall always be used gas alarm providing all alarms in compliance with the standard EN ISO 7396-1.

SPECIFICATION

MC80 HP UNIT INCLUDES THE FOLLOWING COMPONENTS:

> MC80 HP Manifold

FOR A COMPLETE MC80 HP UNIT MANIFOLD ADD:

> Gas alarm (optional accessories)

> High pressure hoses (optional accessories)

Item No.	Denomination	Gas	PRV	Signalization
0727321	MC80 HP 2x1	O$_2$	With pull-ring	switch + 4-20 mA
0727322	MC80 HP 2x1	Air	With pull-ring	switch + 4-20 mA
0727323	MC80 HP 2x1	N$_2$O	With pull-ring	switch + 4-20 mA

For variants not listed, please contact our sales and product support.

TECHNICAL DATA	
Gases:	O$_2$, Air, N$_2$, N$_2$O, CO$_2$ (all medical gases)
Nominal flow:	200 m^3/h
Inlet nominal pressure:	200 bar (20 000 kPa)
Outlet nominal pressure:	12 bar (setting range 10–16 bar)
Inlet connection:	W21,8×1/14"M
Outlet connection:	G3/4"F
Pressure relive valve:	17 bar
Pressure relive valve pipe dimension:	ø 10 mm
Purge valves connection:	W21,8×1/14"M + pipe ø 15 mm
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN 60601-1-2 (Electromagnetic compatibility)
	present SIS HB 370 and HTM 02-01

BASIC DIMENSIONS

FLOW CHART: MC80 - HP UNIT
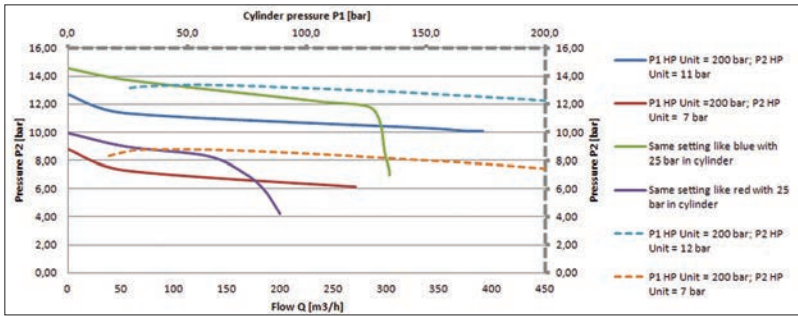
GAS MANIFOLD MC80 - STABILIZER (FLOW 200 M^3/H)

Manifold MC80 – STABILIZER is a second stage pressure reduction unit with the task to equalize the eventual pressure variation in the hospital pipeline system to ensure a correct pressure from the terminal units. MC80 – STABILIZER is only second stage reduction unit where the primary gas supply is provided by high pressure gas manifolds (such as MC80, MM90 or liquid oxygen tank (LOX). When there is a signal for pressure deviation in relation to the alarm settings, the alarm can easily be displayed on a gas alarm unit. It is also possible to send information to the central operation control. The stabilizer can be delivered with a pressure transmitter 4–20 mA or with a contact gauge.

The gas reduction unit MC80 – STABILIZER must always be installed in compliance with the standards EN ISO 7396-1 and the appropriate national standards.

SPECIFICATION

MC80 STABILIZER INCLUDES THE FOLLOWING COMPONENTS:

> MC80 Stabilizer Manifold

FOR A COMPLETE MC80 STABILIZER MANIFOLD ADD:

> Alarm unit (included if ordered together with HP unit)
> Ball valve DN15 with welding adaptors (see page 31)

Item No.	Denomination	Gas	PRV	Signalization
0727324	MC80 STAB	O$_2$	With pull-ring	4–20 mA
0727325	MC80 STAB	Air	With pull-ring	4–20 mA
0727326	MC80 STAB	N$_2$O, CO$_2$	With pull-ring	4–20 mA
0727339	MC80 STAB	ALL	With pull-ring	Contact gauge
0727340	MC80 STAB	ALL	With pull-ring	4–20 mA

TECHNICAL DATA	
Gases:	O$_2$, Air, N$_2$, N$_2$O, CO$_2$ (all medical gases)
Nominal flow:	200 m^3/h
Inlet maximal pressure:	20 bar (2000 kPa)
Outlet nominal pressure:	4,5 bar (setting range 0,5–6 bar)
Inlet connection:	G3/4"F
Outlet connection:	G3/4"F
Pressure relieve valve:	6,8 bar
Pressure relieve valve pipe dimension:	ø 15 mm
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN 60601-1-2 (Electromagnetic compatibility)
	present SIS HB 370 and HTM 02-01

BASIC DIMENSIONS

Note!
Measurements in mm.

GAS MANIFOLD DUPLEX - MC80 (FLOW 200 M^3/H)

The MC80 gas manifold is suitable for medium to large sized hospitals. It has a flow capacity of up to 200 m^3/h and is conveniently designed in modules. The MC80 reduces the gas pressure in two steps to a constant distribution pressure. Service and tests can be carried out with no disturbance in the supply of gas to the gas distribution system.

THE DUPLEX MC80 CONSISTS OF THE THREE FOLLOWING UNITS:

1. MC80 - HP UNIT

This module contains two regulators with pressure relieve 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. MC80 - STABILIZER

The stabilizer makes the operating pressure in the distribution system remain constant. The module contains two regulators with pressure relieve 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 oxygen supply tank (LOX).

3. GAS ALARM SYSTEM - based on the product variant

Alarm systems from GCE are user friendly solutions, with simple control and lots of extra functionality. It surveils electronically and the alarm sounds when the following happens:
1. Too high or too low distribution pressure,
2. Too high intermediate pressure,
3. Leakage on the reserve gas cylinder bank,
4. When change of operating side has been effected,
When connected to a liquid tank the following disturbances will be reported:
1. Too high or too low distribution pressure,
2. Too high intermediate pressure,
3. Leakage from the reserves,
4. When change of operating side has been effected.
The product is either equipped with an alarm system or a sensor only (as stated in column "Alarm" in the product table below).

SPECIFICATION

DUPLEX (MC80) INCLUDES THE FOLLOWING COMPONENTS:

> MC80 – HP Unit

> MC80 – Stabilizer

> Sensors 4-20mA. Alarm based on item in column "Signalization"

> Evacuating kits for collecting pipe

> Shut-off valve for the distribution line

> HP filters

FOR A COMPLETE DUPLEX (MC80) STANDBY MANIFOLD ADD:

> Collecting pipe set (high pressure valves, and non-return valves, high pressure components)

> High pressure hoses with safety wire

> Gas name sign

> Connection pipe 90 degree

> Extension pipes if needed

(For more information, please see accessories pages 17–21)

Item No.	Denomination	Gas	PRV	Signalization
0732328	DUPLEX 2×1	O$_2$	With pull-ring	Alarm TMA9705
0732329	DUPLEX 2×1	Air	With pull-ring	Alarm TMA9705
0732330	DUPLEX 2×1	N$_2$O/CO$_2$	With pull-ring	Alarm TMA9705

TECHNICAL DATA	
Gases:	O_2, Air, N_2, N_2O, CO_2 (all medical gases)
Nominal flow:	200 m^3/h
TECHNICAL DATA - HIGH PRESSURE UNIT MC80	
Inlet nominal pressure:	200 bar (20 000 kPa)
Outlet nominal pressure:	12 bar (setting range 10–16 bar)
Inlet connection:	W21,8×1/14"M
Outlet connection:	G3/4"F
Pressure relieve valve:	17 bar
Pressure relieve valve pipe dimension:	ø 10 mm
Purge valves connection:	W21,8×1/14"M + pipe ø 15 mm
TECHNICAL DATA - STABILIZER MC80	
Inlet maximal pressure:	20 bar (2000 kPa)
Outlet nominal pressure:	4,5 bar (setting range 0,5–6 bar)
Inlet connection:	G3/4"F
Outlet connection:	G3/4"F
Pressure relieve valve:	6,8 bar
Pressure relieve valve pipe dimension:	ø 15 mm
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN 60601-1-2 (Electromagnetic compatibility)
	present SIS HB 370 and HTM 02-01

BASIC DIMENSIONS

Note!
Measurements in mm.

FLOW CHART: SET MC80 - STABILIZER + MC80 - HP UNIT
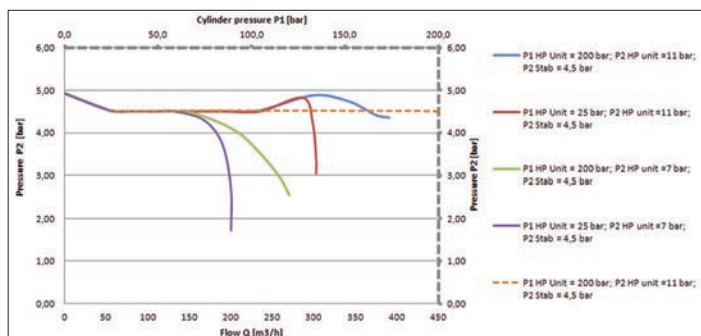
GAS MANIFOLD MC150 - STABILIZER (FLOW 360 M^3/H)

MC150 - STABILIZER is a second stage pressure reduction unit with the task to equalize the eventual pressure variation in the hospital pipeline system to ensure a correct pressure from the terminal units. MC150 - STABILIZER is a second stage reduction unit where the primary gas supply is provided by high pressure gas manifolds (such as MC80, MM90 or liquid oxygen tank (LOX). When there is a signal for pressure deviation in relation to the alarm settings, the alarm can easily be displayed on a Gas alarm unit. It is also possible to send information to the central operation control. The stabilizer can be delivered with either pressure transmitter 4-20 mA or with contact gauge.

The gas reduction unit MC150 - STABILIZER must always be installed in compliance with the standards EN ISO 7396-1 and the appropriate national standards.

SPECIFICATION

MC150 STABILIZER INCLUDES THE FOLLOWING COMPONENTS:
> MC150 Stabilizer Manifold

FOR A COMPLETE MC150 STABILIZER MANIFOLD ADD:
> Alarm unit (included if ordered together with HP unit)

Item No.	Denomination	Gas	PRV	Signalization
325397706	MC150 STAB	O_2	With pull-ring	Contact gauge
325397707	MC150 STAB	O_2, Air, N_2	With pull-ring	4-20 mA

TECHNICAL DATA	
Gases:	O_2, Air, N_2, N_2O, CO_2 (all medical gases)
Nominal flow:	360 m^3/h
Inlet maximal pressure:	20 bar (2000 kPa)
Outlet nominal pressure:	4,5 bar (setting range 0,5–6 bar)
Inlet connection:	2× G1 1/2"F+soldering piece pipe ø 35 mm
Outlet connection:	2× G1 1/2"F+soldering piece pipe ø 35 mm
Pressure relieve valve:	6,8 bar
Pressure relieve valve pipe dimension:	ø 35 mm
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN 60601-1-2 (Electromagnetic compatibility)
	present SIS HB 370 and HTM 02-01

BASIC DIMENSIONS

Note!

Measurements in mm.

GAS MANIFOLD SIMPLEX MMR (FLOW 30 M³/H)

The Simplex MMR gas manifold is suitable for such health care where the capacity requirement is limited, such as laboratories and small health care clinics, veterinary etc. 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.

SPECIFICATION

SIMPLEX MMR INCLUDES THE FOLLOWING COMPONENTS:
> Gas cylinder manifold Simplex MMR
> Collecting pipe Manyflow block for three hoses
> Gas evacuation kits for collecting pipe

FOR A COMPLETE SIMPLEX MMR ADD:
> Gas alarm
> Pressure relieve valve with manual activation
> High pressure hoses with safety wire
> Cylinder retaining brackets (included in gas cylinder collecting pipe set)
> Gas name signs
> Pressure relieve valve

(For more information, please see accessories pages 17–21)

Item No.	Denomination	Gas	PRV	Signalization
325397702	Simplex MMR	O_2, Air, N_2, Ar, N_2O, CO_2	Standard integrated	Contact gauge
325396786	Spare Part Regulator	O_2, Air, N_2, Ar, N_2O, CO_2	Standard integrated	Normal gauge

TECHNICAL DATA	
Gases:	O_2, Air, N_2, Ar, N_2O, CO_2 (all medical gases)
Nominal flow:	30 m³/h
Inlet nominal pressure:	200 bar (20000 kPa)
Outlet nominal pressure:	5 bar (setting range 4–5 bar)
Inlet connection:	W21,8×1/14"M
Outlet connection:	G3/8"M
Pressure relieve valve:	6 bar
Pressure relieve valve pipe dimension:	ø 8 mm
Purge valves connection:	W21,8×1/14"M+pipe ø 15 mm
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN 60601-1-2 (Electromagnetic compatibility)
	present SIS HB 370 and HTM 02-01

BASIC DIMENSIONS

Note!
Measurements in mm.

HIGH PRESSURE GAS MANIFOLD ACCESSORIES

GCE can supply a complete range of high pressure accessories making it possible to install a medical gas supply system. All accessories are designed and manufactured according to the relevant standard for high pressure systems. The high pressure pipe components are manufactured in the following materials: stainless steel AISI 316 L and brass CuZn39Pb3, and they are tested at 360 bar. Cylinder holders for cylinders and connecting pipes are manufactured in AISI 316.

COLLECTION PIPE LINE

Collecting pipe sets are prepared for GCE HP manifold units. These sets are increasing the inlet points for HP cylinders or bundles. It is possible to connect the collecting pipelines serially and can be used in combination.

THE SET CONTAINS:

> High Pressure Valve
> Non Return Valve
> Collection Pipe

Item No.	Denomination	Application
0733003	1 cylinder collection pipe set, without cylinder holder	Back up manifold
0733004	2 cylinders collection pipe set, without cylinder holder	Back up manifold
0733010	3 cylinders collection pipe set, without cylinder holder	Back up manifold
0733005	4 cylinders collection pipe set, without cylinder holder	Back up manifold
0733000	2×1 cylinder collection pipe set	Cylinder bundles
0733001	2×2 cylinders collection pipe set	Cylinder bundles
0733011	2x3 cylinders collection pipe set	Cylinder bundles
0733002	2×4 cylinders collection pipe set	Cylinder bundles
0733006	2×1 cylinder collection pipe set+cylinder holders	Gas cylinders
0733007	2×2 cylinders collection pipe set+cylinder holders	Gas cylinders
0733012	2x3 cylinders collection pipe set+cylinder holders	Gas cylinders
0733008	2×4 cylinders collection pipe set+cylinder holders	Gas cylinders

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 of up to 230 bar maximum.
Pressure tested at 345 bar.
The hose is equipped with a safety wire.

HANDLING

The high pressure hose should be transported, stored, installed and maintained according to Instruction of Use. Maximum life time after installation is 5 years.

Item No.	Gas	Lenght (mm)	Inlet connection	Outlet connection
325197351	O2	1250	W21,8x1/14"F/90°	W21,8x1/14"F
329000666	O2	925	G3/4"F/90°	W21,8x1/14"F
325197641	O2	1250	W21,8x1/14"F/90°	W21,8x1/14"F
325197651	O2	2000	W21,8x1/14"F/90°	W21,8x1/14"F
325197279	O2	1000	W21,8x1/14"F/90°	R1/4"F
325197349	O2	1000	W21,8x1/14"F	R1/4"F
0732413	O2	3000	G5/8M/90°	W21,8x1/14"F
0732401	O2	1250	PI.O/90°	W21,8x1/14"F

Item No.	Gas	Lenght (mm)	Inlet connection	Outlet connection
0732405	O2	3000	Pl.O/90°	W21,8x1/14"F
0732409	O2	1250	G5/8M/90°	W21,8x1/14"F
0732419	O2	1250	W21,8x1/14"F	AFNOR TYPE F 22,91x1,814/90°
0732423	O2	1250	G3/4"F/90°	W21,8x1/14"F
0732426	O2	3000	G3/4"F/90°	W21,8x1/14"F
0732427	O2	5000	G3/4"F/90°	W21,8x1/14"F
0732428	O2	2500	G3/4"F/90°	W21,8x1/14"F
0732429	O2	10000	G5/8M/90°	W21,8x1/14"F
325197642	N2O	1250	R3/8"/90°	W21,8x1/14"F
325197352P	N2O	1250	G3/8"/90°	W21,8x1/14"F
0732411	N2O	1250	W21,8x1/14"F/90°	W21,8x1/14"F
0732415	N2O	3000	W21,8x1/14"F/90°	W21,8x1/14"F
0732403	N2O	1250	Pl.N2O/90°	W21,8x1/14"F
0732407	N2O	3000	Pl.N2O/90°	W21,8x1/14"F
0732421	N2O	1250	W21,8x1/14"F	AFNOR TYPE G 26x1,5/90°
0732425	N2O	4000	G3/8"/90°	W21,8x1/14"F
325197652	N2O	2000	R3/8"/90°	W21,8x1/14"F
329000668	Air/Air800	925	G5/8"M /90°	W21,8x1/14"F
325197643	Air/Air800	1250	R5/8"/90°	W21,8x1/14"F
0732414	Air/Air800	3000	W28,8F/90°	W21,8x1/14"F
0732402	Air/Air800	1250	Pl.A/90°	W21,8x1/14"F
0732406	Air/Air800	3000	Pl.A/90°	W21,8x1/14"F
0732420	Air/Air800	1250	W21,8x1/14"F	AFNOR TYPE D 24x2/90°
325197653	Air/Air800	2000	R5/8"/90°	W21,8x1/14"F
325197644	N2/Ar	1250	R3/8"/90°	W21,8x1/14"F
325197654	N2/Ar	2000	R3/8"/90°	W21,8x1/14"F
0732412	CO2	1250	W21,8x1/14"F/90°	W21,8x1/14"F
0732416	CO2	3000	W21,8x1/14"F/90°	UNF 7/16-20F
0732404	CO2	1250	Pl.CO2/90°	W21,8x1/14"F
0732408	CO2	3000	Pl.CO2/90°	W21,8x1/14"F
0732417	CO2	1250	W21,8x1/14"F/90°	UNF 7/16-20F
0732418	CO2	2000	W21,8x1/14"F/90°	UNF 7/16-20F
0732422	CO2	1250	W21,8x1/14"F	AFNOR TYPE C 21,7x1,814/90°
0732424	CO2	1250	UNF 7/16-20F	UNF 7/16-20F
325197645	CO2	1250	W27x2 /90°	W21,8x1/14"F
325197655	CO2	2000	W27x2 /90°	W21,8x1/14"F

For variants not listed, please contact our sales and product support.

TECHNICAL DATA	
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)
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN ISO 21969 (High Pressure Flexible Connection)

CONNECTING PIPES FOR CYLINDER MANIFOLDS

Connecting pipes with retaining brackets of stainless steel, for 1–4 cylinders.

Item No.	Connecting threads	Length (mm)	Number of cylinders
325197218	W21,8×1/14"RH EXT–INT	289	1
215191072	W21,8×1/14"RH EXT–INT	579	2
215191073	W21,8×1/14"RH EXT–INT	1159	4

CYLINDER RETAINING BRACKETS

Cylinder retaining brackets, completely made of stainless steel, for 1 or 2 cylinders.

Item No.	Length (mm)	Number of cylinders
215191074P	260	1
215191075P	550	2

CONNECTION PIPES FOR CYLINDER PACK MANIFOLDS

Item No.	Connecting threads	Length (mm)	Number of cylinders
215191012	W21,8×1/14"RH EXT–INT	289	1
215191013	W21,8×1/14"RH EXT–INT	579	2
215191014	W21,8×1/14"RH EXT–INT	1159	4

GAS EVACUATION VALVE KIT

Item No.	Inlet connection	Outlet connection pipe (mm)
325199080	W21,8×1/14" INT	ø 15

MEDICAL GAS TAIL PIPES / PIGTAILS

1.5 TURNS
48mm

400mm
PIGTAIL
1/4" OD x 16 SWG 90/10 CuNi
38mm
NUT & NIPPLE
(M24 x2P)

44mm
R61mm
1.45 TURNS
60mm

70mm
PIN INDEX CLAMP
BODOK SEAL
175mm
154mm
∅ 95mm
508mm

145mm
462mm
66mm

PIGTAIL
¼" SWG O/D CuNi 90/10 TUBE
PIN INDEX CLAMP
BODOK SEAL
NUT & NIPPLE
(M22 x 2P)

TECHNICAL DATA	
Tolerance:	±5mm (unless otherwise stated)
Strength test:	440 bar
Leak test:	230 bar
Pressure rated:	230 bar
Inlet/Outlet connection:	BS, PIN INDEX, AFRNOR, DIN, UNI, CZ, SS
Requirements:	BS EN ISO 21969
	BS EN ISO 407
	Oxygen cleand to ISO 15001
Each batch of tailpipes is supplied with a certificate of conformity	

Bodok Seal

Typical tailpipe with pin index clamp

Typical pigtail and cylinder installation
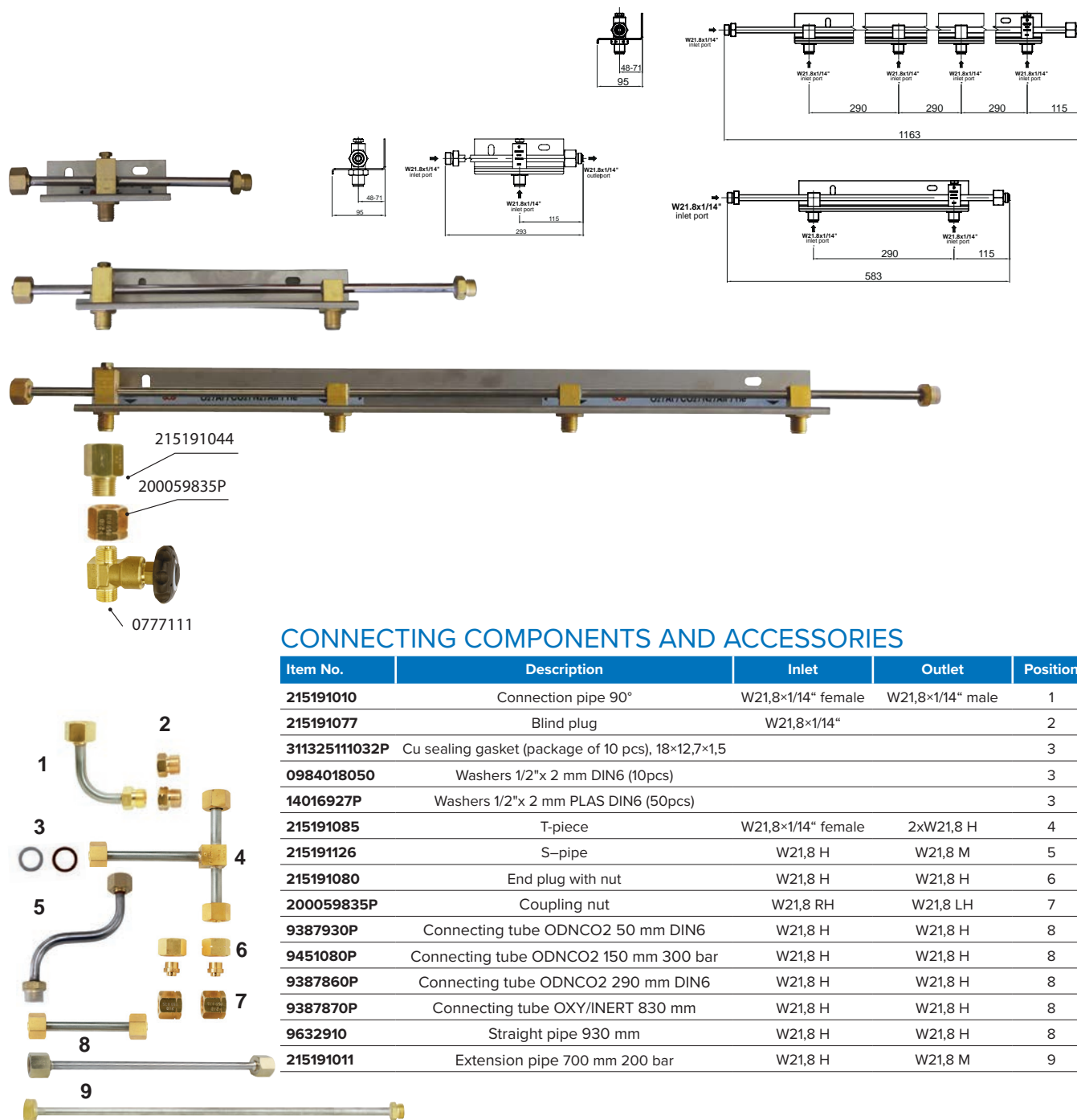
CONNECTING COMPONENTS AND ACCESSORIES

Item No.	Description	Inlet	Outlet	Position
215191010	Connection pipe 90°	W21,8×1/14" female	W21,8×1/14" male	1
215191077	Blind plug	W21,8×1/14"		2
311325111032P	Cu sealing gasket (package of 10 pcs), 18×12,7×1,5			3
0984018050	Washers 1/2"x 2 mm DIN6 (10pcs)			3
14016927P	Washers 1/2"x 2 mm PLAS DIN6 (50pcs)			3
215191085	T-piece	W21,8×1/14" female	2xW21,8 H	4
215191126	S–pipe	W21,8 H	W21,8 M	5
215191080	End plug with nut	W21,8 H	W21,8 H	6
200059835P	Coupling nut	W21,8 RH	W21,8 LH	7
9387930P	Connecting tube ODNCO2 50 mm DIN6	W21,8 H	W21,8 H	8
9451080P	Connecting tube ODNCO2 150 mm 300 bar	W21,8 H	W21,8 H	8
9387860P	Connecting tube ODNCO2 290 mm DIN6	W21,8 H	W21,8 H	8
9387870P	Connecting tube OXY/INERT 830 mm	W21,8 H	W21,8 H	8
9632910	Straight pipe 930 mm	W21,8 H	W21,8 H	8
215191011	Extension pipe 700 mm 200 bar	W21,8 H	W21,8 M	9

215191044
200059835P
0777111

NON-RETURN VALVES FOR CONNECTION PIPES

Item No.	Denomination	Inlet	Outlet
215191044	Non-return valve for connection pipes	W21,8×1/14"RH EXT	W21,8×1/14"RH INT

HIGH PRESSURE FILTER

Item No.	Denomination	Inlet	Outlet
9459650P	High pressure filter	W21,8×1/14"RH EXT	W21,8×1/14"RH INT

HIGH PRESSURE VALVES 300 BAR

Item No.	Denomination	Inlet	Outlet
0765001	SOV DN4	W21,8×1/14"RH	W21,8×1/14"LH

Item No.	Denomination	Inlet	Outlet
BV777097	BV300 DN8	W21,8×1/14"RH	W21,8×1/14"RH

BUNDLE CONNECTING POINT

The connection points with particulate filter, non-return gas valve (check) and shut-off valve allow the assembly of connection manifolds for compressed gas cylinders or cylinder packages with nominal pressures up to 230 bar (3000 Psi).
We offer versions for cylinders with nominal diameter of 4mm or 7mm for cylinder packs (bundle)
ADVANTAGE
The bundle connection point reduces the number of connections, and minimises potential for leakage. It permits high pressure manifolds to be fitted that are adaptable to the available space, and future proofs for increased number of cylinders. Our certified solutions are safe to use with Oxygen and other gases , for up to 230 bar (3000 psi). Backed up by years of excellent service , our equipment allows you to handle high pressure gases with complete peace of mind.

Item No.	Description
9387880	Manifold shut off valve
F27310015	Connection point for inert O2 cylinder pack (DN: 7mm)

HIGH PRESSURE LINE VALVES

Line valves or „Main Valve" are used in manifold, or, high pressure extension modules, up to 300bar (4000Psi). With a nominal diameter of 4mm or 8mm, it will allow them to take more advantage of the cylinders or cylinder packs and reduce the speeds of passage and therefore the fatigue of the components.

ADVANTAGE

Our line valves use Nylon or PEEK sealing seats according to gases, pressures or service temperature. It allows a smooth closing, without forcing, without the generation of metallic particles. They are designed for 100,000 cycles and backed by more than 50 years of manufacturing and nearly one million valves manufactured per year.

Item No.	Description	Inlet	Outlet
9561271	Line valve DN4	W21,8 M Der	W21,8 M Der
0765278	Line valve DN4	W21,8 M Izq.	W21,8 M Der
0777111	SOV DN4	W21,8×1/14"	W21,8×1/14"LH
BV777105	BV 300 DN8	W21,8×1/14"	W21,8×1/14"LH
BV777096	Valve 300 Bar O2 DN8	W21,8 M Der	W21,8 M Der

INDICATION PANEL WITH CYLINDER SYMBOLS

Manual, rotating indicator to indicate the status of the cylinders, in use or in reserve and to promote efficient visual management for users, operators and cylinder distributors.

Item No.	Denomination
215190287	Indication panel

GAS PREHEATER GGP-250

The expansion of N_2O, CO_2 or highly compressed gases such as O_2 generates cold. This situation may require a heater to increase flow stability and prevent freezing of the regulator and other downstream components.

ADVANTAGE

The GGP250 is designed for pressures up to 300 bar (4000 psi). The highly efficient heating system uses a high pressure filter to increase the heat exchange surface. Safety is ensured by use of a thermostat and safety switch which ensures temperatures never rise too high to cause damage to downstream equipment. The IP65 protection ensures total user / operator safety. The GGP 250 is a reliable product which is insensitive to frequency variations, and is CE certified.

H28054801

Item No.	Description	Pressure	Inlet	Outlet
H28054801	GGP 250	300 bar (4350 Psi)	W21,8x1/14" male	W21,8x1/14" female

TECHNICAL DATA			
Voltage/Power:	230 V - 50 Hz	Working temperature (environment):	40°C, +/-3°C
Power:	250 W	Temperature switch:	80°C, +/-5°C
Gases:	CO_2, O_2, N_2O	Dimensions:	90 x 150 mm
Protection class plug:	IP44	Weight:	Aprox 2,3 kg

Modularity and flexibility of SE manifolds

The adjustable manifold position allows adjustment for wall straightness defects and allows it to be used with MC25, MM40 and MM90 panels.

MM90

MM40

Auxiliary port
G1 / 4 "plugged
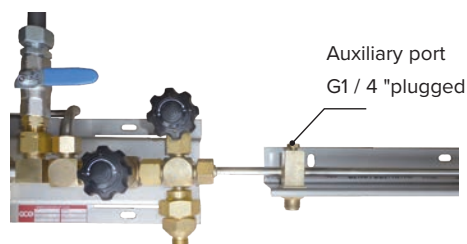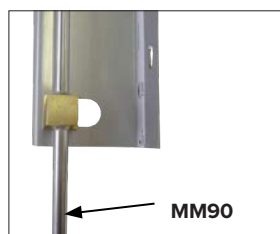
Manifold MM90 Standby with manifold for 4 cylinders, shut off valve and outlet connection

Seal 9414851

Seal 9414851

215191010

9625640

9625650

215191085

Seal 9414851

215191080

215191044

200059835P

0777111

215191085

F27310015
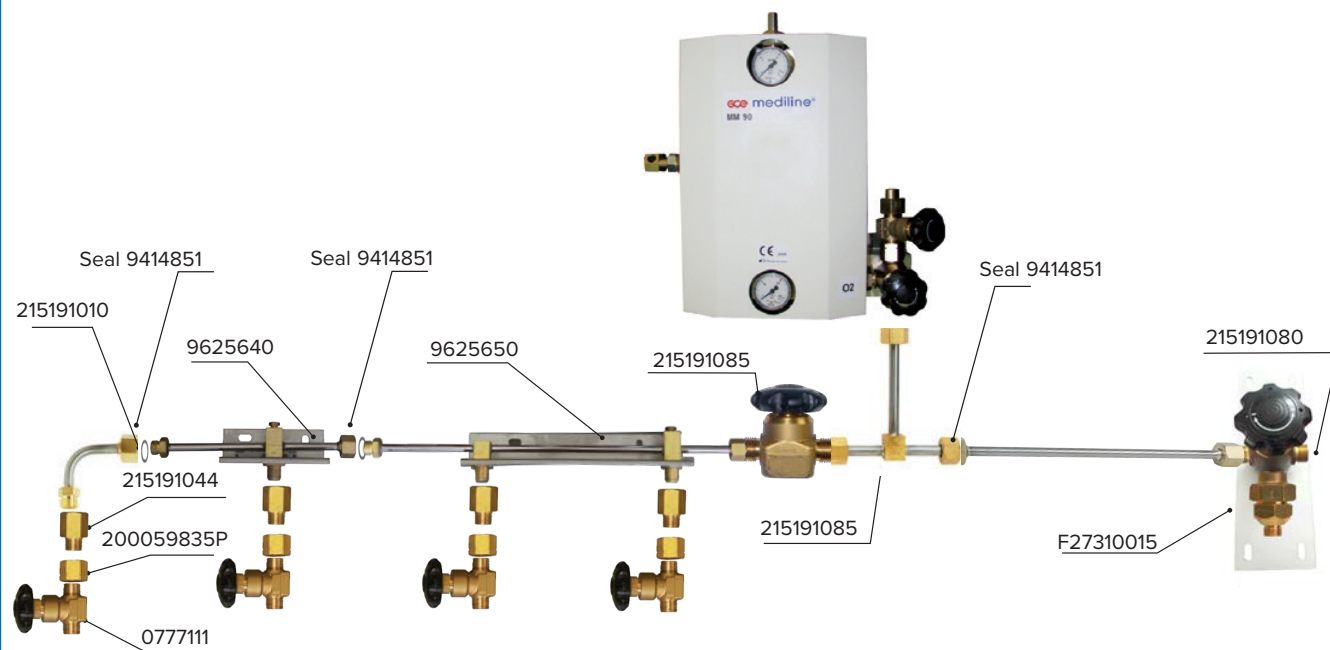
Panel MM40 for 4+2 cylinders with shut off valve and outlet connection

Seal 9414851

215191010

9625640

9625650

Seal 9414851

215191010

9625640

215191044

200059835P

0777111

215191044

200059835P

0777111

PRESSURE RELIEVE VALVE MEDICAL PIPELINE SYSTEMS

The pressure relieve valve is used in medical pipeline systems to ensure that the pressure does not exceed 6,8 bar. The pressure relieve valve should be mounted on outgoing pipelines on Simplex MMR or can be mounted on other pipelines.

PRESSURE RELIEVE VALVE TUBE MOUNTING

Item No.	Gas	Relief Pressure	Inlet connection	Outlet connection
325197387	Medical gases and Air	6,8 bar	G3/4"F	G3/4"F

PRESSURE RELIEVE VALVE SIMPLEX MMR MOUNTING

Item No.	Gas	Relief Pressure	Inlet connection	Outlet connection
325197306	Medical gases and Air	6,8 bar	G3/8"F	G3/4"F

TECHNICAL DATA	
Evacutaion flow:	200 m^3/h
Evacutaion outlet pipe:	ø 15 mm
Relief pressure:	6,8 bar
Material:	brass, copper, stainless steel, rubber
Pressure class:	PN16
Regulatory status:	Degreased for Oxygen use
	no CE-marking

PRESSURE MONITOR
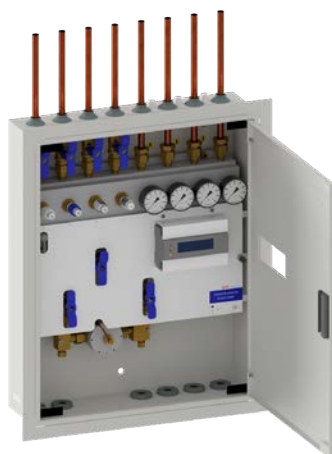
PRESSURE MONITOR

The pressure monitor makes sure that the lower distribution pressure for nitrous oxide compared to oxygen is kept.

The lower nitrous oxide pressure will be maintained according to standards even when the emergency supply is used through quick connectors or central emergency supply. The pressure monitor is equipped with a digital pressure monitor unit monitoring the current gas pressures, and giving all the visual and acoustic alarms required by standards. The signal to the gas alarm comes from pressure transmitters. The visual and audible signals can be sent to a manned area, if it is required.

The following gases are under surveillance: breathing Oxygen, Nitrous Oxide, Air and instrument Air.

The alarm is indicated by an acoustic 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 a bayonet coupling for breathing oxygen, nitrous oxide, breathing air, and instrument air. When necessary, it is possible to connect spare gas to these.

Item No.	Denomination	Inlet pipe	Outlet pipe	ES pipe	Signalization
0732865	O2, AIR	ø 15	ø 15	–	Alarm TMA9705
0732866	O2, N2O, AIR	ø 15	ø 15	–	Alarm TMA9705
0732867	O2, N2O, Air, Air–800	ø 15	ø 15	–	Alarm TMA9705
0732868	O2, AIR with ES	ø 15	ø 15	ø 15	Alarm TMA9705
0732869	O2, N2O, Air with ES	ø 15	ø 15	ø 15	Alarm TMA9705
0732870	O2, N2O, Air, Air–800 with ES	ø 15	ø 15	ø 15	Alarm TMA9705
0732881	O2, Air	ø 22	ø 22	–	Alarm TMA9705
0732882	O2, N2O, Air	ø 22	ø 22	–	Alarm TMA9705
0732883	O2, N2O, Air, Air-800	ø 22	ø 22	–	Alarm TMA9705
0732884	O2, Air with ES	ø 22	ø 22	ø 22	Alarm TMA9705
0732885	O2, N2O, Air with ES	ø 22	ø 22	ø 22	Alarm TMA9705
0732886	O2, N2O, Air, Air-800 with ES	ø 22	ø 22	ø 22	Alarm TMA9705

ACCESSORIES - EMERGENCY SUPPLY HOSES

Item No.	Gas	Length	Inlet conn.	Outlet conn.
325197814	O_2	1,3 m	SW NUT G3/8" – 6 mm	QC SS straight
325197815	N_2O	1,3 m	SW NUT G3/8" – LH	QC SS straight
325197816	Air	1,3 m	SW NUT G3/8" – 8 mm	QC SS straight
325197817	Air–800	1,3 m	SW NUT G3/8"	QC SS straight

TECHNICAL DATA	
Gases:	O_2, N_2O, Air, Air–800, CO_2, N_2, VAC (all medical gases)
Number of gases:	2 to 4 valves (DN15)
Working pressure:	4–5 bar (breathing gases)
	7–10 bar (instrumental gases)
	(-0,4)–(-0,9) bar (vacuum)
Maximum pressure:	16 bar
Safety regulator capacity at 3 bar:	150 l/min
Tube dimension:	ø 15×1 mm, ø 22×1 mm
Emergency QC inlets:	QC by national standards
Pressure gauges:	0–16 bar
Pressure sensors:	Transmitters 4–20 mA
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN 60601-1-2 (Electromagnetic compatibility)
	and present SIS HB 370

PRESSURE MONITOR – PRESSURE DROP CHARACTERISTIC
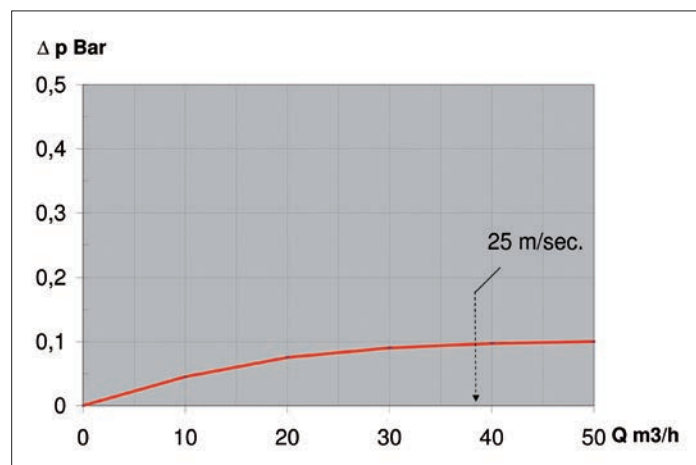
Pressure drop test. Inlet pressure 5 bar.
Standard - input - output pipe, variants with ES.
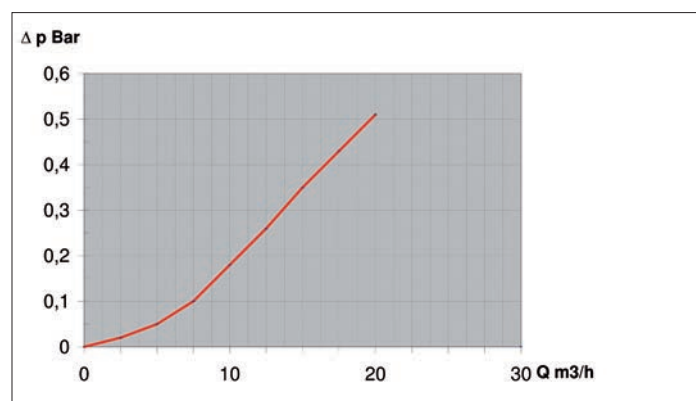
Pressure drop test. Inlet pressure 5 bar.
Emergency QC inlets.

BASIC DIMENSIONS

4 VALVE BOX RECESSED

SEEN FROM ABOVE

4 VALVE BOX SURFACE MOUNTED   *Note!*

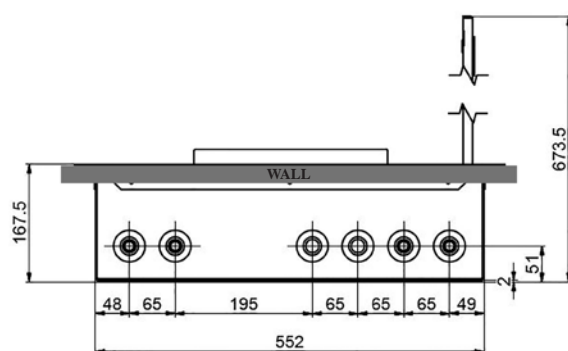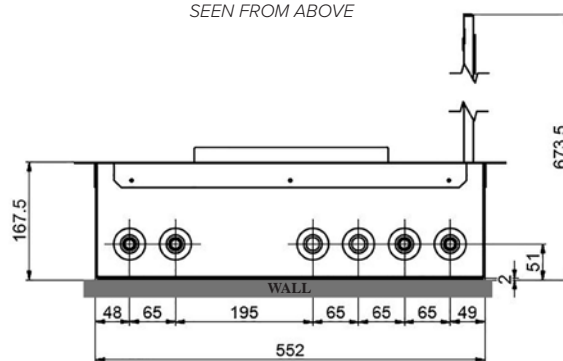*SEEN FROM ABOVE*   *Measurements in mm.*

AREA VALVE SERVICE UNITS (AVSU)

AVSU SLIDE

According to the ISO 7396-1 so called Area Valve Service Units (AVSU) have to be installed and operationed at every functional area in medical facility where patients are treated.

The AVSU SLIDE in pressure watch or shut-off valve box variants is used for monitoring and controlling the gas pressure from the source to the point of use on department and/or room level. In case of malfunction, maintenance or repair of the Medical Central Gas System the gas fl ow towards the point of use can be interrupted by closing the valves inside of the AVSU SLIDE. In case of emergency the emergency inlet points AVSU SLIDE allow external feeding of life supporting gases. The integrated alarm will notify the medical and technical staff of too low or high pressure in the Medical Central Gas System so they can take the appropriate actions.

GAS CONTROL STRUCTURAL FEATURES

- Stylish new design with metal or tempered glass front panel
- Controls 1 - 6 gases with minimal space requirements
- High fl exibility on individual product confi guration
- Choice of multiple integrated alarm systems through digital or touch display
- Integrated alarms with communication protocol RS485, Modbus RTU and Modbus TCP/IP
- Also available without integrated alarm
- Front panel with vertical opening for minimizing spacerequirements and not blocking walkway
- Choice of piping diameters DN15, DN22 or DN28
- Integrated emergency inlet points: NIST, DIN, BS, CZ, SS
- Personalised printing of front panels (glass)
- Gas tight box available for recessed or exposed mounting
- Physical separation in case of emergency shut down
- Fully compliant with EN ISO 7396-1
- Easy installation due to t-holders and removable doors
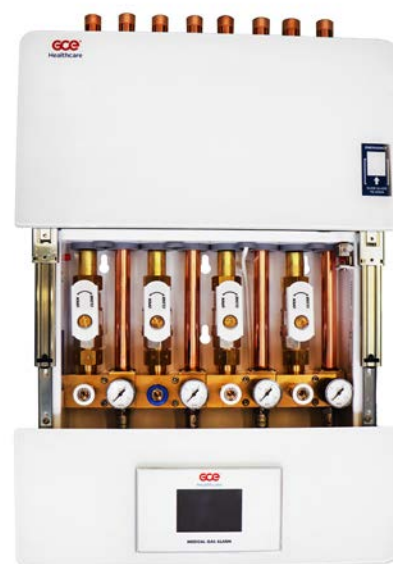
TECHNICAL DATA

(Medical) gases:	O_2, Air, N_2O, CO_2, O_2/N_2O, N2, Ar, UTL
	AIR800 for driving surgical tools
	VAC
Piping:	DN15, DN22, DN28
Primary power supply:	230 V 50Hz AC (integrated power supply)
Secondary power supply:	24 V
Signal device:	Microswitch (indication on door and/or valve)
	Pressure Switch
	Pressure transmitter 4 – 20mA
Alarms:	Gas Alarm Panel (Touch alarm)
	TMA9705 (LED alarm)
	TMATFT03 (Touch alarm))
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	present SIS HB 370
Classification:	IIb

The AVSU SLIDE can be equipped with a standard powder coated metal panel or a stylish tempered glass front panel. The tempered glass panel front can be provided with individualized colours or prints to meet the architectural requirements of today's modern hospitals.
The AVSU SLIDE allows a great number of individual configurable parts to meet most of the specific needs and requirements of medical facilities, such as:

- Number of gases
- Pipe diameters
- Front cover design
- Alarm unit models
- Fixed emergency piping
- QC inlet points (single or double)
- Universal box for recessed and exposed installation
- Small box sizes for space saving (100mm per gas line)

BASIC DIMENSIONS:

AVSU WITHOUT ALARM AND WITHOUT SENSORS

Gases	L1	L2	L3	L4	L5	L6
1 or 2	310	310	118	200	93	280
3	310	407	118	297	93	280
4	310	503	118	393	93	280
5	310	600	118	490	93	280
6	310	696	118	586	93	280
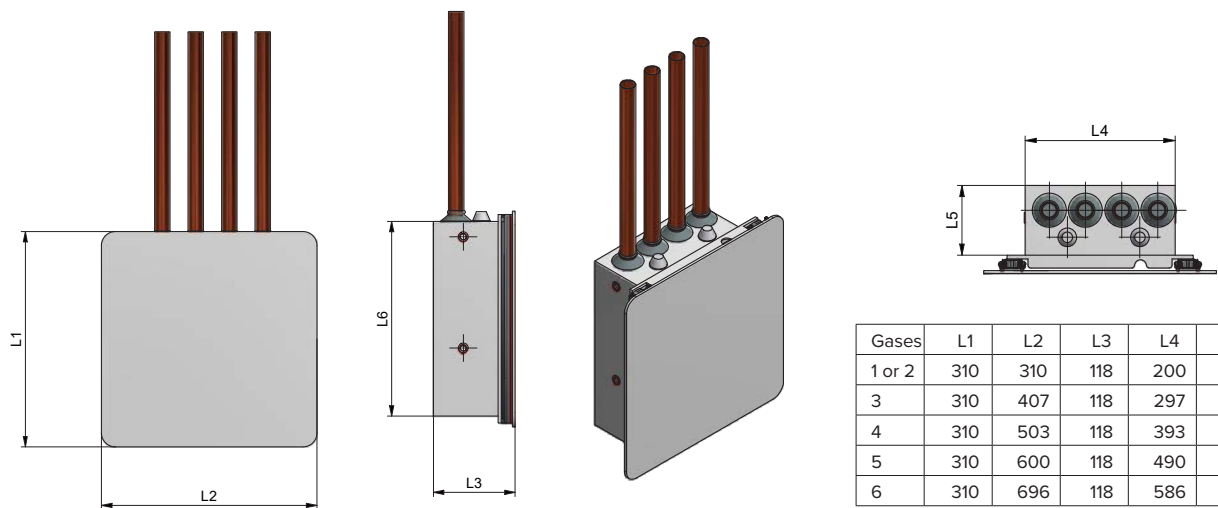
AVSU WITHOUT ALARM AND WITH SENSORS

Gases	L1	L2	L3	L4	L5	L6
1 or 2	360	310	118	200	93	330
3	360	407	118	297	93	330
4	360	503	118	393	93	330
5	360	600	118	490	93	330
6	360	696	118	586	93	330

AVSU WITH ALARM

Gases	L1	L2	L3	L4	L5	L6
1 or 2	450	310	118	200	93	420
3	450	407	118	297	93	420
4	450	503	118	393	93	420
5	450	600	118	490	93	420
6	450	696	118	586	93	420
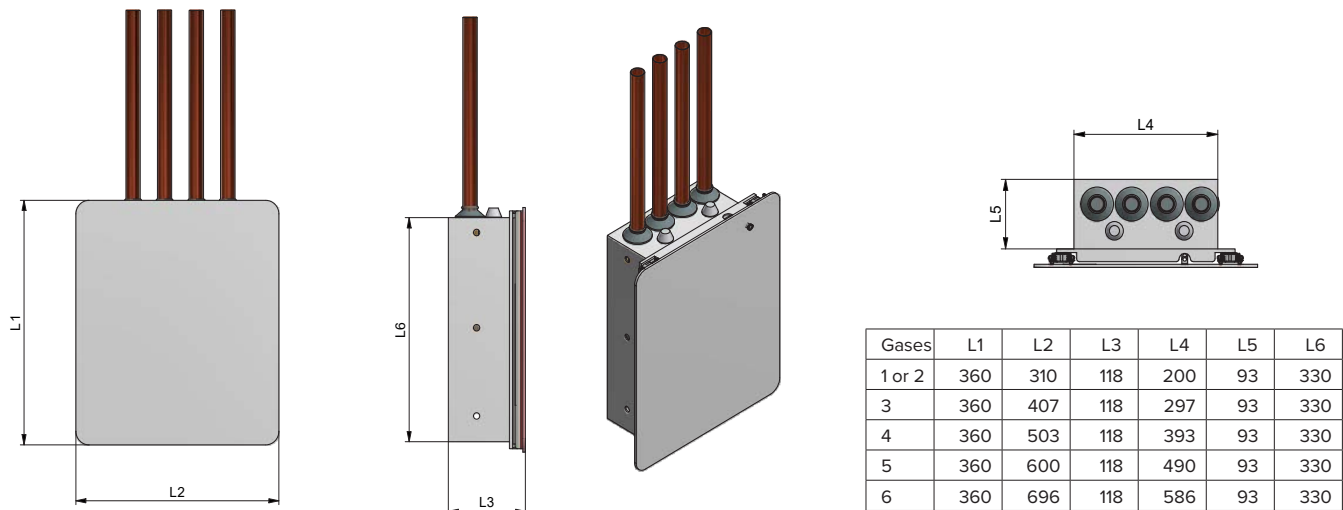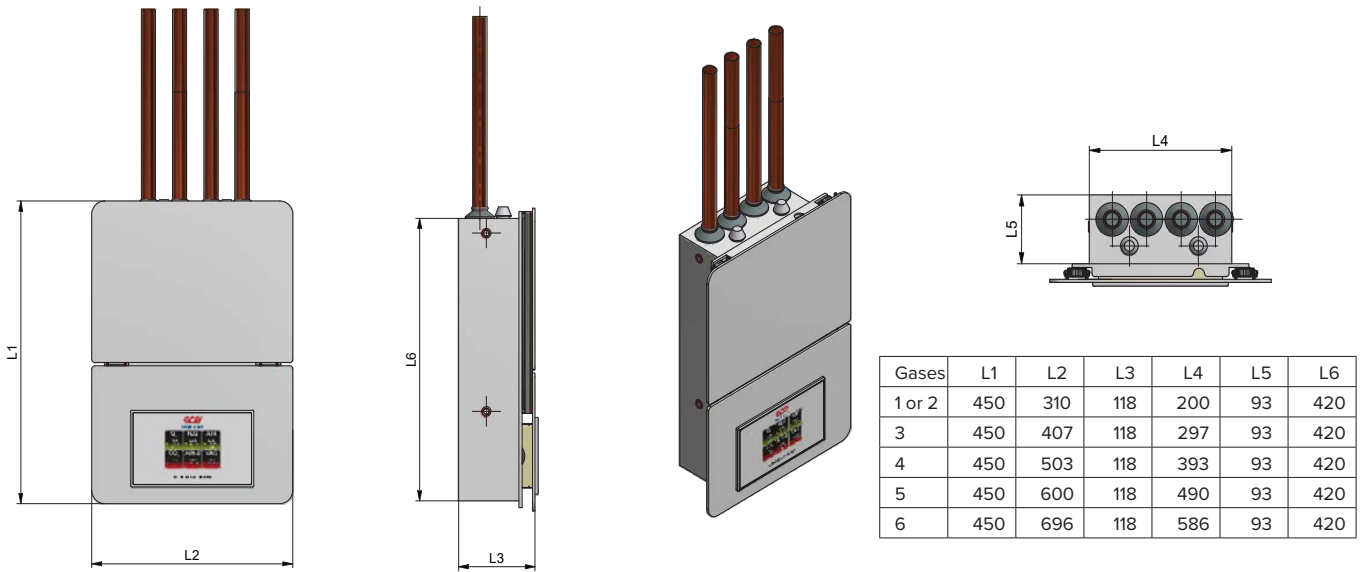
AVSU WITH ALARM AND EMERGENCY PIPING

Gases	L1	L2	L3	L4	L5	L6
1 or 2	650	310	153	200	128	620
3	650	407	153	297	128	620
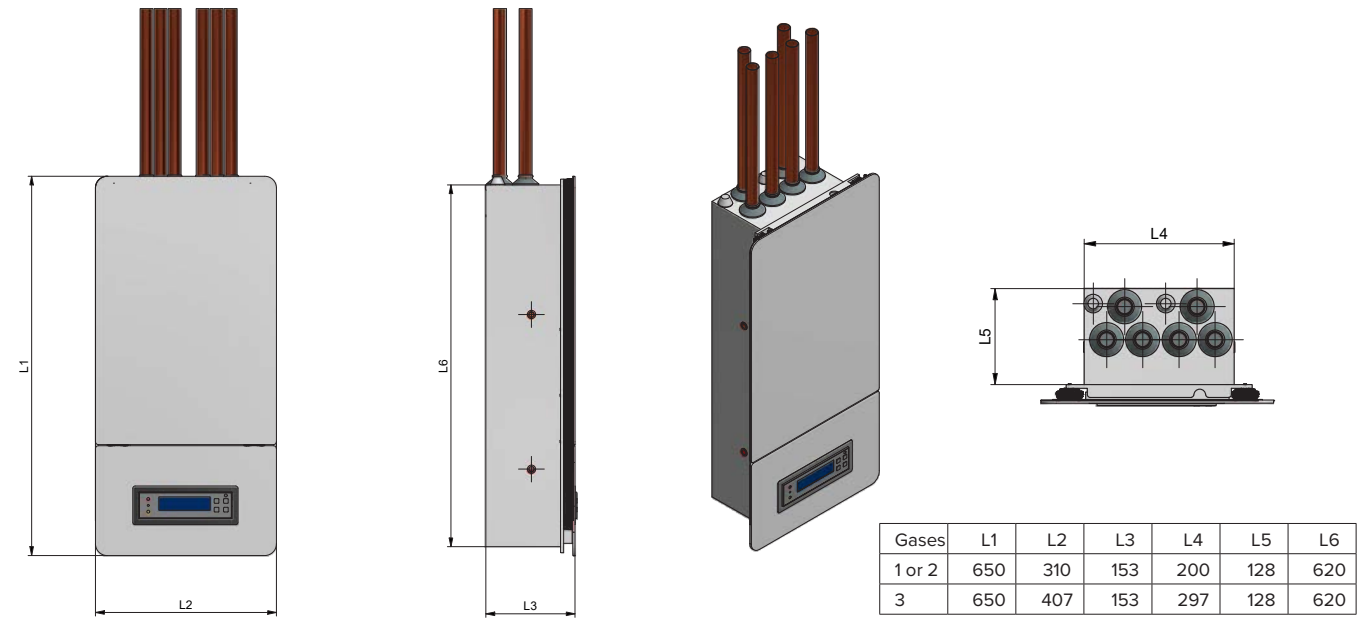
GAS ALARM - TMA9705-ETH

Alarm device that manage up to 16 digital ON/OFF inputs and 6 analogue inputs (4-20mA).
It is possible to set up to 2 thresholds for each analogue input.
The device has integrated RS 485 interface for Modbus, Ethernet interface for Modbus TCP/IP.
All the parameters are easily confi gurable via USB-min and a pc-software or by push buttons on the alarm.
All inputs can be fully customized according to the needs. The alarm can be set as either Master or Slave.
This equipment is supplied with an IP40 box for external installation. External IP65 or recessed IP40 are
available as spare part. There are 2 output relays to report the alarm signals or to control external devices.

USED FOR:

> Pressure watches / Shut of valve boxes with sensors (4-20mA).

> Manifolds with sensors (4-20mA) (Updated MC80)

> Any equipment using sensors (4-20mA) or NO/NC technology

Item No.	Denomination
SPK36410006	Gas alarm TMA9705-ETH GCE, trafo 24VAC, box exposed IP40

ACCESSORIES

Item No.	Denomination
SPK36410012	CABLE AND SOFTWARE FOR TMA9705

SPARE PARTS

Item No.	Denomination
SPP36410008	Sp-ext.Battery for TMA9705-ETH
SPP36410004	Sp-alarm TMA9705-ETH GCE
SPP36410007	Sp-trafo 24VAC for alarms
SPP36410010	Sp-box exp.Ip40 for TMA9705-ETH
SPP36410012	Sp-box exp.Ip65 for TMA9705-ETH
SPP36410014	Sp-box recessed for TMA9705-ETH

TECHNICAL DATA	
Power supply:	24 VAC 50/60Hz +-15% / 6 VA max
	12 VDC External Backup Battery (Optional)
Inputs	16 Digital inputs (NO/NC)
	6 Analogue inputs (4-20mA)
Output relay:	2 (1A Max)
Output power:	+12V
Data transfer:	RS485 Modbus RTU; Modbus TCP/IP
Cable use power:	0.75mm
Cable use switches:	Modbus RTU
Alarm activation:	Swedish, Norwegian, Danish, Finnish, English and Hungarian
Dimensions:	178mm x 160mm x 71mm
Housing:	DIN box for 9 modules
Standards:	ISO 7396-1 Medical gas pipeline systems
	ISO 60601-1-8 Medical electrical equipment

Installation box

Trafo

BASIC DIMENSIONS

71

160

178

Measurements in mm.
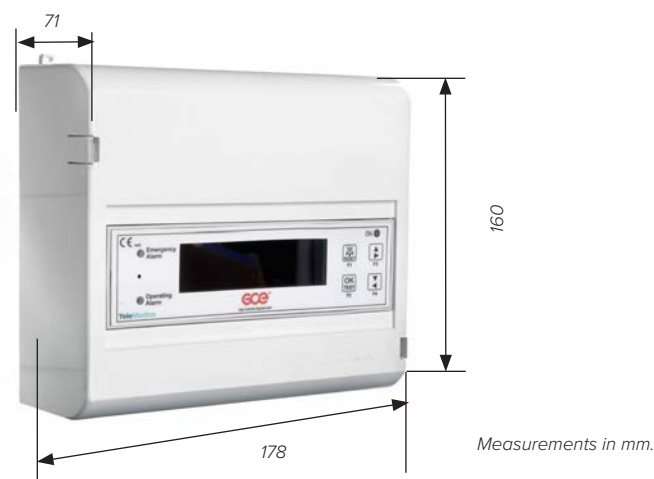
TOUCH SCREEN DISPLAY GAS ALARM - TMATFT03

> Device in compliance with 93/42/EEC.
> TFT 4,3" colour touch screen display.
> The device has a TFT touchscreen display that allows to set all the parameters of the transducers and of the diital inputs.
> Indication of the pressures with alarm for maximum and minimum thresholds.
> Modbus TCP/IP over RJ45 interface integrated useful for a connection to a concentrator device or to a BMS.
> Two RS485 interfaces integrated.
> Fast on screen screen programming.
> LEDs and ringtones are programmable.
> In case of disconnection (wires cut) or malfunction of the inputs (default), the device emits an acoustic alarm.

APPLICATIONS:

> Alarm system to control the pressure of gases by digital and analog inputs
> Data are shown directly on the TFT touchscreen display

TECHNICAL DATA	
Dimension:	Box for external IP66
	Dim: 200x120x60 mm
Compatible inputs:	Up to 6 analog inputs (4-20 mA/RS485)
	Up to 4 ON/OFF inputs
Compatible outputs:	Ethernet, ModBus RS485
Power supply:	100-240 VAC / 50-60 Hz 24 VAC / 50-60 Hz

GAS ALARM - GASMASTER

The GASMASTER is an electronic device that has been developed as a concentrator of medical gas alarm network. The GASMASTER can manage up to 30 devices connected by a twisted shielded cable using the MODBUS protocol. The configuration can be easily modified using the integrated touch monitor, each input of each device can be configured in all their parameters (names, LEDs, sound signals, modbus address, relays ...). The GASMASTER has also been designed to be integrated into a BMS (Building Management System) system for monitoring its status and any alarms present.
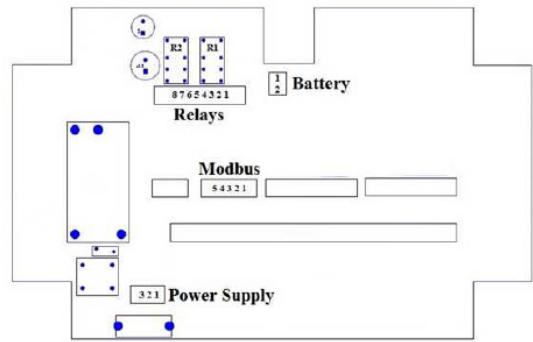
For this purpose, using the RJ45 socket and connecting an Ethernet cable, is possible to interrogate the GASMASTER using the MODBUS TCP/IP protocol.

The GASMASTER is also equipped with 2 relays which can be activated and configured, also for the purpose of reporting the status of the GAS MASTER to an appropriately configured remote station.

The GASMASTER is also equipped with a back-up battery able to support its functioning in case the main electric network ceases to supply current. The duration of this battery is limited to few hours.

The absence of current condition is however interpreted by the GASMASTER as an alarm condition, the sound system will then operate and will cease once the main current source has been restored.

Item No.	Denomination
SPP36410016	GASMASTER ALARM 230V GCE

LEGEND CONNECTIONS	
ModBus clamp	
1	ModBus **+**
2	ModBus **-**
3	Not Used
4	Not Used
5	Not Used
Power Supply clamp	
1	Power Supply 230V AC
2	
3	Power Supply 230V AC
Relays clamp	
1	Relay 1 Common
2	Relay 1 Normally Closed
3	Relay 1 Normally Opened
4	Relay 2 Common
5	Relay 2 Normally Closed
6	Relay 2 Normally Opened
7	Not Used
8	Not Used
Battery clamp	
1	Battery Contact -
2	Battery Contact +
N.B. Use only the battery in the GASMASTER package. For any replacements contact the manufacturer.	

NORMAL CONDITIONS:

When switched on, the system loads the stored configuration and performs a first cycle to check the communication and the status of the peripherals. Once completed, the system shows the peripherals connected.

Clicking on the desired peripheral button is possible to check the status of the same.

When one of the peripherals gives an alarm or when it is no longer reachable via MODBUS connection cable, on the main page of the GASMASTER are shown the name of the device and which input is in alarm. If several alarms or more inputs are alarmed simultaneously, the name of the alarms and peripherals will appear sequentially.

To enter the configuration menu, press the corresponding button on the main screen and enter the password. (default:"000000").

Pressing "General" button is possible to access the general system parameters

In this menu you can configure the following parameters:

"Name": Name of the GASMASTER.

"Language": to select the language

"Date": menu to change the date and time of the device

"Password": to modify login password.

"Sound": to set the repeating time and enable the ringtone

Pressing "Device Connected" button from the main menu you can enter the configuration menu of the individual peripherals

Using the side scroll bar you can pass through the pages of the configuration and set the name of the peripheral, Modbus address and bit stop, activation of the inputs, the association to the LEDs, relays and ringtone.

Pushing the label of the input allows to set the transducer description, high threshold alarms, low threshold alarms, fault alarms, ON OFF alarms.

Name of Device

Activating or Deactivating the device

MODBUS address of the device
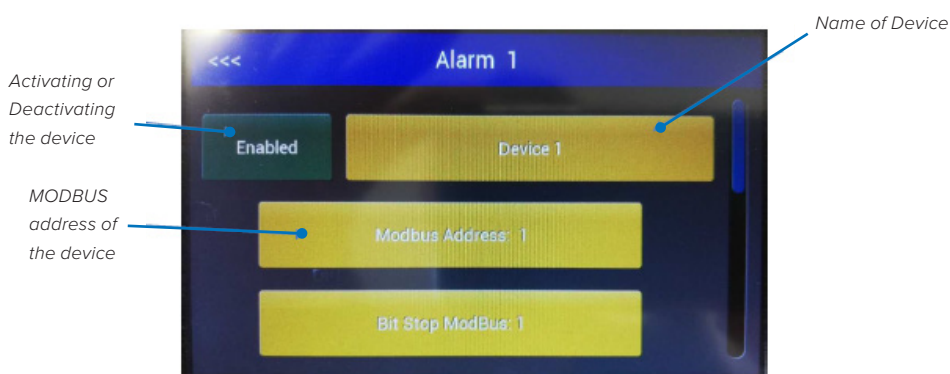
MODBUS RTU CONNECTION:

The connection of the peripheral devices via Modbus cable must be carried out following the diagram in the figure below and following the communication parameters summarized in table 1. The peripherals must be connected in a cascade mode one after the other, keeping the correct polarity of the cables and using a cable suitable for RS485 communication.

The maximum distance that can be reached in optimal conditions for Modbus communication at 9600 baud is 1200m, but, due to interferences, it is suggested to reduce as much as possible this distance.
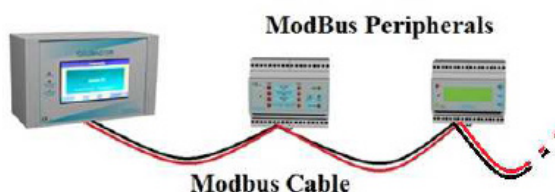
ModBus RTU communication parameters	
Baud Rate	9600
Parity	None
Data Bit	8
Stop Bit	1/2 - The GASMASTER can be configured for each device with 1 or 2 stop bits

Pressing "Communication" button is possible to set the TCP/IP parameters.

Peripheral Register XX is a 16-bit positional register; its value under normal conditions is "0". When an alarm is activated, the bit corresponding to the alarm input is set to "1".

For example: if register 2 has a value of 68 (Corresponding binary value: 0000 0000 0100 0100) this means that input 3 and 7 of peripheral 2 are in alarm.

Pressing "Factory reset " button is possible to reset the device to the factory parameters

Important: be sure to exit the menu pressing the related pushbutton to avoid a device malfunctioning.

GAS ALARM PANEL

This alarm panel for medical gases is used to detect irregularities in the medical gas pipeline systems by monitoring upper, lower pres sure limits. It can also be used to detect a fault positions of the shut-o valves. For easy control, the panel is fi tted with a large, colour touch-screen display which can be used to adjust the layout, channel descriptions and displayed messages to meet the user's needs. The device can be recessed into a wall (fl ush-mounted) or mounted directly on the wall with an exposed box.

USED FOR:

> connect to the hospital's BMS system via Modbus RTU, TCP/IP and a number of confi gurable digital outputs,
> add automatically confi gurable alarm replicators,
> monitor medical gas state from a mobile phone or other device with an internet browser with internet access,
> record the pressure measurement history on a microSD card.

Item No.	Denomination
SPK36410019	ALARM + trafo 24V + box exposed (PL/ EN/ RU/ FR)
SPK36410020	ALARM Scandinavian + trafo 24V + box exposed (EN/ SE/ DK/ NO/ FI)
SPK36410021	ALARM Scandinavian Replica + trafo 24V + box exposed (EN/SE/ DK/ NO/ FI

SPARE PARTS

Item No.	Denomination
SPP36410022	SP alarm Scandinavian (EN/ SE/ DK/ NO/ FI)
SPP36410023	SP alarm Scandinavian Replica (EN/ SE/ DK/ NO/ FI)
SPP36410025	SP trafo 24V
SPP36410024	SP exposed box

TECHNICAL DATA	
Gas:	O2, N2, N2O, N800, N2O/O2 , H2/O2 , MA4, SA7, AIR, AIR800, AIR TECH, CO2 , VAC
Supply voltage:	24V DC +/- 10%
Power consumption:	10W
Inputs:	1-6 Programmable Channels
	12x Digital Input (Contact Manometers, Pressure Switches)
	6x Analog Input** (2-Wire 4-20mA Pressure Transmitters)
Communication with BMS:	RS485 (MODBUS RTU)
	Ethernet (MODBUS TCP/IP)
	Potential Free Contacts
	Integrated Web Server
History Record:	microSD card slot (CSV)
Languages:	PL/ EN/ RU/ FR/ SE/ DK/ NO/ FI
Alarm recessed dimensions:	115 x 190 x 70 mm
Alarm exposed dimensions:	144 x 220 x 80 mm
Alarm weight:	500g
IP protection class:	IP40
Compliance with:	RoHS Directive RoHS 2011/65/UE
	Complies with Medical Devices Directive 93/42/EEC
Product classification:	class IIb, in accordance with rule 9
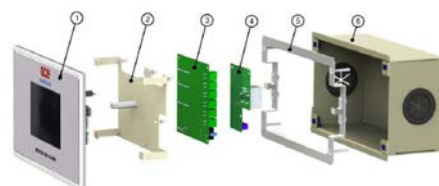
1. Alarm
2. Mounting plate for expansion modules
3. I/O module
4. TCP communication module
5. Mounting ring.
6. Alarm housing for recessed installation

GAS ALARM - TMA6703

Alarm device that manage up to 16 digital ON/OFF inputs.

This system can be connected to pressure switches, vacuum switches and contact gauges (maximum and minimum alarm). It can monitor up to 8 gases.

When the pressure goes over or below a threshold a LED fl ashes (red LED), the ringer starts, and the fault is described in text on the LCD display.

This equipment is supplied with an IP40 box for external installation. External IP65 or recessed IP40 are available as spare part. The device has integrated RS 485 interface for MODBUS-RTU protocol.

There are 1 output relays to report the alarm signals or to control external devices.

All inputs can be fully customized according to the needs. The alarm can be set at either Master or Slave.

All the parameters are easily confi gurable via pc-software or by push buttons on the alarm.

USED FOR:

> Pressure watches / Shut of valve boxes with pressure switches or contact gauges.

> Manifolds with pressure switches or contact gauges

> Any equipment using NO/NC technology

Item No.	Denomination
SPK36410005	Gas alarm TMA6703 GCE, trafo 24VAC, box exposed IP40

ACCESSORIES

Item No.	Denomination
SPK36410011	CABLE AND SOFTWARE FOR TMA6703

Installation box

SPARE PARTS

Item No.	Denomination
SPP36410001	Sp-alarm TMA6703 GCE
SPP36410007	Sp-trafo 24VAC for alarms
SPP36410009	Sp-box exp.IP40 for TMA6703
SPP36410011	Sp-box exp.IP65 for TMA6703
SPP36410013	Sp-box recessed for TMA6703

Trafo

TECHNICAL DATA	
Power supply:	24 VAC 50/60Hz +-15% / 6 VA max
Inputs	16 Digital inputs (NO/NC)
Output relay:	1 (500mA Max 24V)
Output power:	+12V
Data transfer:	RS485 Modbus RTU
Cable use power:	0.75mm
Cable use switches:	At least 0.5mm (max 3m)
Alarm activation:	Configurable for both NO and NC input
Dimensions:	125mm x 160mm x 71mm
Housing:	DIN box for 6 modules
Standards:	ISO 7396-1 Medical gas pipeline systems
	ISO 60601-1-8 Medical electrical equipment

* posibility to buy the cable

BASIC DIMENSIONS

71

160

125

Note!
Measurements in mm.

NON RETURN VALVE

The non return valve unit is intended for use in medical central gas systems to secure that gas does not flow back from the equipment and pipes through the central gas system. This is very important for example when technical air is taken from medical air pipes for use in laboratories.

The non return valve unit consists of a non return valve (NRV) with a flow direction arrow, lockable medical shut off valves, soldering pieces, nuts and a gasspecific medical quick coupling (QC) for medical breathing air. This design makes the NRV very easy to test.

The QC can also be used for checking the pressure, doing leak tests and take gas samples. The NRV unit can also be delivered with QC for instrumental air.

For more information please contact our sales and product support

NON RETURN VALVE UNIT

Item No.	Denomination	Total Length
329000825	Non return valve unit O2 DN15	415 mm
325397676	Non return valve unit AIR DN15	415 mm
329000826	Non return valve unit Air–800 DN15	415 mm
325397873	Non return valve unit O2 DN25	505 mm
325397677	Non return valve unit AIR DN25	505 mm
325397777	Non return valve unit Air–800 DN25	505 mm
325397874	Non return valve unit O2 DN40	932 mm
325397678	Non return valve unit AIR DN40	932 mm
325397875	Non return valve unit Air–800 DN40	932 mm

SEALING BETWEEN NON RETURN VALVE AND CONNECTING PIECE

Item No.	Denomination
944610218P	DN15 O–ring, 10 pcs
325112713P	DN25 Sealing, 10 pcs
325112880P	DN40 O–ring, 10 pcs

TECHNICAL DATA	
Opening pressure:	0,06 bar (6 kPa)
Pressure class:	PN16
Regulatory status:	Degreasing for Oxygen use
	no CE–marking

MEDICAL SHUT OFF VALVES

To meet safety requirements, the gas supply to operating rooms etc must be fitted 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 fitted in every main line, riser and branch line in the pipework system.
The valves are degreased and blown clean. They can be equipped with unions to be soldered to the copper piping. Before delivery each valve is individually leak tested. The ball is sealed with washer of PTFE. The stem is sealed with two silicon O−rings or PTFE washer. The valve housings are sealed with an EPDM quality O−ring. No maintenance – the ball valve does not need services, when necessary the whole valve is exchanged.

CE 2460

Lock out
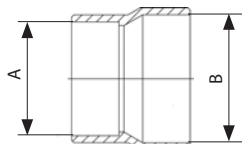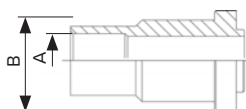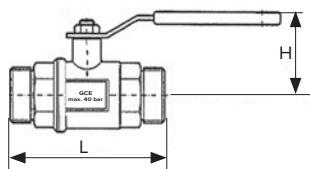
SHUT-OFF VALVE INCL 2 PCS WASHER

Item No.	Thread	Valve	L (mm)	H(mm)
325196767	G1/2" EXT	DN10	67	46
325196768	G3/4" EXT	DN15	77	48
325197794	G1" EXT	DN20	100	52
325196770	G1 1/4" EXT	DN25	115	54
325397236	G1 1/2" EXT	DN32	132	72
325397237	G2" EXT	DN40	145	84

CONNECTION PARTS (2 CONNECTION NUTS AND 2 CONNECTION PIECES)

Item No.	Material	Valve	A/B mm
325196910	Red brass SS 5204	DN10	10/15
325196911	Red brass SS 5204	DN10	12
325196912	Red brass SS 5204	DN15	15/22
325196913	Red brass SS 5204	DN15	18
325197795	Red brass SS 5204	DN20	22/28
325196914	Red brass SS 5204	DN25	22/35
325196915	Red brass SS 5204	DN25	28
325197324	Red brass SS 5204	DN32	35/42
325197325P	Red brass SS 5204	DN40	42/48

CONNECTION PARTS (SOLDERING ADAPTER DN40-DN50 2 PCS)

Item No.	Material	A/B mm
325196776	Red brass SS 5204	48/54

Order both DN 40 and DN 50 for union enlargement.

SPARE PARTS

Item No.	Denomination	Valve	Thread
325110373P	Washer, 10 pcs	DN10	–
325100729P	Washer, 10 pcs	DN15	–
325113389P	Washer, 10 pcs	DN20	–
325100730P	Washer, 10 pcs	DN25	–
201241192P	O−ring, EPDM, 5 pcs	DN32	–
201241193P	O−ring, EPDM, 5 pcs	DN40	–
202502266	Connection nut, 2 pcs	DN10	G1/2" INT
202502268	Connection nut, 2 pcs	DN15	G3/4" INT
325113373P	Connection nut, 2 pcs	DN20	G1" INT
202502270	Connection nut, 2 pcs	DN25	G1 1/4" INT
325112281P	Connection nut, 1 pce	DN40	G2" INT

TECHNICAL DATA	
Gases:	O_2, Air, N_2, Ar, N_2O, CO_2 (all medical gases)
Material valve housing:	Nickel plated brass
Ball:	Chrome plated brass
Stem:	Nickel plated brass
Max working pressure:	40 bar (4000 kPa)
Tighten proof:	(-1)–50 bar [(-100)–5000 kPa]
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply System)
	Complies with EN 331 (Manually operated ball valves)

TERMINAL UNITS - MEDIUNITS

TERMINAL UNIT - MEDIUNIT (DIN)

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 international standard.

> 10 years free of preventive maintenance except TU's intended for use of running surgical tools
> 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 without building modification
> Recessed and exposed versions
> Bed head installation version (customized solution on request)

*Recessed version*

Exposed version

BHU version

Item No.	Denomination	Type	Marking
0732201046	O_2 – RECESSED	Pipe ø 10 mm	O_2
0732201049	N_2O – RECESSED	Pipe ø 10 mm	N_2O
0732201047	AIR – RECESSED	Pipe ø 10 mm	AIR
0732201050	CO_2 – RECESSED	Pipe ø 10 mm	CO_2
0732201048	VAC – RECESSED	Pipe ø 10 mm	VAC
0732201038	N_2 – RECESSED	Pipe ø 10 mm	N_2
0732201051	O_2 – EXPOSED	Pipe ø 10 mm	O_2
0732201054	N_2O – EXPOSED	Pipe ø 10 mm	N_2O
0732201052	AIR – EXPOSED	Pipe ø 10 mm	AIR
0732201055	CO_2 – EXPOSED	Pipe ø 10 mm	CO_2
0732201053	VAC – EXPOSED	Pipe ø 10 mm	VAC
0732201040	O_2 – BHU	Pipe ø 10 mm	O_2
0732201041	AIR – BHU	Pipe ø 10 mm	AIR
0732201042	VAC – BHU	Pipe ø 10 mm	VAC
0732201043	N_2O – BHU	Pipe ø 10 mm	N_2O

For variants not listed, please contact our sales and product support.

SPARE PARTS

Item No.	Denomination	Gas
SPK36810094	TU Quick coupler DIN	N_2
SPK36810093	TU Quick coupler DIN	CO_2
SPK36810092	TU Quick coupler DIN	N_2O
SPK36810091	TU Quick coupler DIN	VAC
SPK36810090	TU Quick coupler DIN	AIR
SPK36810089	TU Quick coupler DIN	O_2

BASIC DIMENSIONS
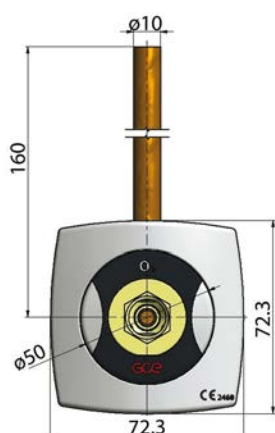
TECHNICAL DATA	
Gases:	O_2, N_2O, Air, CO_2, N_2, VAC
Dimensions:	Height: 73 mm, Width: 73 mm, Depth: 63 mm
Working pressure:	4–5 bar (breathing gases)
	7–10 bar (instrumental gases)
	(-0,4)–(-0,9) bar (vacuum)
Maximum test pressure:	20 bar
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN ISO 9170-1 (Terminal units)
	Complies with DIN 13260-2 (DIN gas specific connections)
	present HTM 02-01

Note!
Measurements in mm.

TERMINAL UNIT - MEDIUNIT (SS)

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 international standard.

> 10 years free of preventive maintenance except TU's intended for use of running surgical tools
> 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 without building modification
> Recessed and exposed versions
> Bed head installation version (customized solution on request)

*Recessed version*

Exposed version

BHU version

| Item No.	Denomination	Country	Type	Marking
0732200073	O_2 – RECESSED	SE	Pipe ø 10 mm	ANDNINGSOXYGEN
0732200076	N_2O – RECESSED	SE	Pipe ø 10 mm	LUSTGAS
0732200074	AIR – RECESSED	SE	Pipe ø 10 mm	ANDNINGSLUFT
0732200078	AIR-800 – RECESSED	SE	Pipe ø 10 mm	INSTRUMENTLUFT
0732200077	CO_2 – RECESSED	SE	Pipe ø 10 mm	MEDICINSK KOLDIOXID
0732200075	VAC – RECESSED	SE	Pipe ø 10 mm	GASUTSUG
0732200079	UTL – RECESSED	SE	Pipe ø 10 mm	GASUTLOPP
0732200080	O_2 – EXPOSED	SE	Pipe ø 10 mm	ANDNINGSOXYGEN
0732200083	N_2O – EXPOSED	SE	Pipe ø 10 mm	LUSTGAS
0732200081	AIR – EXPOSED	SE	Pipe ø 10 mm	ANDNINGSLUFT
0732200085	AIR-800 – EXPOSED	SE	Pipe ø 10 mm	INSTRUMENTLUFT
0732200084	CO_2 – EXPOSED	SE	Pipe ø 10 mm	MEDICINSK KOLDIOXID
0732200053	VAC – EXPOSED	SE	Pipe ø 10 mm	GASUTSUG
0732200086	UTL – EXPOSED	SE	Pipe ø 10 mm	GASUTLOPP
0732200111	O_2 – BHU	SE	Pipe ø 8 mm	ANDNINGSOXYGEN
0732200112	AIR – BHU	SE	Pipe ø 8 mm	ANDNINGSLUFT
0732200113	AIR-800 – BHU	SE	Pipe ø 8 mm	INSTRUMENTLUFT
0732200114	AR – BHU	SE	Pipe ø 8 mm	ARGON
0732200115	CO_2 – BHU	SE	Pipe ø 8 mm	MEDICINSK KOLDIOXID
0732200116	N_2 – BHU	SE	Pipe ø 8 mm	NITROGEN
0732200117	N_2O – BHU	SE	Pipe ø 8 mm	LUSTGAS
0732200118	VAC – BHU	SE	Pipe ø 8 mm	GASUTSUG
0732200170	O_2 – PEN	SE	HN ø 8 mm	ANDNINGSOXYGEN

For other configurations (DK, FI, NO) please contact Sales and Product Support

For variants not listed, please contact our sales and product support.

PEN version

BASIC DIMENSIONS

Note!

Measurements in mm.

Split view
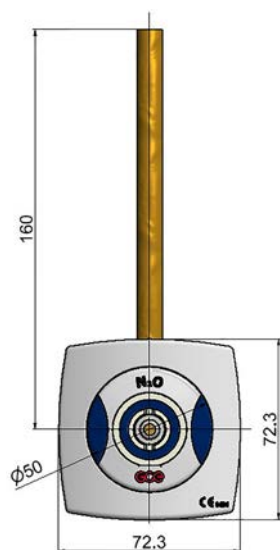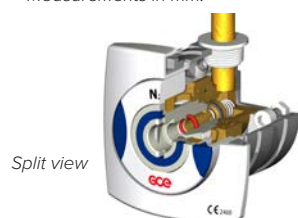
SPARE PARTS

Item No.	Denomination	Gas
SPK36810121	TU Quick coupler SS	AGSS MAG
SPK36810120	TU Quick coupler SS	AIR-800 YE
SPK36810119	TU Quick coupler SS	CO2 WH
SPK36810118	TU Quick coupler SS	VAC GR
SPK36810117	TU Quick coupler SS	AIR YE
SPK36810116	TU Quick coupler SS	O2 GRN
SPK36810115	TU Quick coupler SS	N2 BLC
SPK36810114	TU Quick coupler SS	VAC YEL
SPK36810113	TU Quick coupler SS	AGSS BLU/BRN
SPK36810112	TU Quick coupler SS	AIR800 WH/BLC
SPK36810111	TU Quick coupler SS	CO2 GRY
SPK36810110	TU Quick coupler SS	N2O BLU
SPK36810109	TU Quick coupler SS	VAC RED
SPK36810108	TU Quick coupler SS	AIR WH/BLC
SPK36810107	TU Quick coupler SS	O2 WH

TECHNICAL DATA	
Gases:	O_2, N_2O, Air, Air–800, CO_2, N_2, Ar, AGSS, VAC
Dimensions:	Height: 73 mm, Width: 73 mm, Depth: 63 mm
Working pressure:	4–5 bar (breathing gases)
	7–10 bar (instrumental gases)
	(-0,4) – (-0,9) bar (vacuum)
Maximum test pressure:	20 bar
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN ISO 9170-1 (Terminal units)
	Complies with SS 8752430 (SS gas specific connections)
	present SIS HB 370 and HTM 02-01

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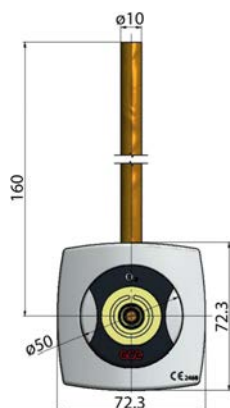
Medical terminal units provide quick and easy connection of hospital ward gas equipment to the hospital gas source. The type of medical gasoutlets are decided by national standards in each country and sometimes from local requests in each hospital. GCE complies with ISO 7396 and national installation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

> 10 years free of preventive maintenance except TU's intended for use of running surgical tools
> 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 without building modification
> Recessed and exposed versions
> Bed head installation version (customized solution on request)

Recessed version

Exposed version

BHU version

PEN version

Item No.	Denomination	Type	Marking
0732202001	O_2 – RECESSED	Pipe ø 10 mm	O_2
0732202013	N_2O – RECESSED	Pipe ø 10 mm	N_2O
0732202014	O_2/N_2O – RECESSED	Pipe ø 10 mm	O_2/N_2O
0732202011	AIR – RECESSED	Pipe ø 10 mm	AIR
0732202015	AIR-800 – RECESSED	Pipe ø 10 mm	AIR-800
0732202012	VAC – RECESSED	Pipe ø 10 mm	VAC
0732202016	O_2 – EXPOSED	Pipe ø 10 mm	O_2
0732202019	N_2O – EXPOSED	Pipe ø 10 mm	N_2O
0732202020	O_2/N_2O – EXPOSED	Pipe ø 10 mm	O_2/N_2O
0732202017	AIR – EXPOSED	Pipe ø 10 mm	AIR
0732202021	AIR-800 – EXPOSED	Pipe ø 10 mm	AIR-800
0732202018	VAC – EXPOSED	Pipe ø 10 mm	VAC
0732202002	O_2 – BHU	Pipe ø 10 mm	O_2
0732202003	VAC – BHU	Pipe ø 10 mm	VAC
0732202004	AIR – BHU	Pipe ø 10 mm	AIR
0732202005	AIR-800 – BHU	Pipe ø 10 mm	AIR-800
0732202006	N_2O – BHU	Pipe ø 10 mm	N_2O
0732202007	O_2 – PEN	Threat G1/4	O_2

For variants not listed, please contact our sales and product support.

SPARE PARTS

Item No.	Denomination	Gas
SPK36810100	TU Quick coupler BSI	AIR-800
SPK36810099	TU Quick coupler BSI	O_2/N_2O
SPK36810098	TU Quick coupler BSI	N_2O
SPK36810097	TU Quick coupler BSI	VAC
SPK36810096	TU Quick coupler BSI	AIR
SPK36810095	TU Quick coupler BSI	O_2

TECHNICAL DATA	
Gases:	O_2, N_2O, O_2/N_2O, Air, Air-800, VAC
Dimensions:	Height: 73 mm, Width: 73 mm, Depth: 63 mm
Working pressure:	4–5 bar (breathing gases)
	7–10 bar (instrumental gases)
	(-0,4)–(-0,9) bar (vacuum)
Maximum test pressure:	20 bar
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN ISO 9170-1 (Terminal units)
	Complies with BS 5682 (BSI gas specific connections)
	present HTM 02-01

BASIC DIMENSIONS

ø10

160

ø50

72.3

72.3

Note!
Measurements in mm.

Recessed version

Exposed version

BHU version

With pigtail

BASIC DIMENSIONS

ø10

160

ø50

72.3

72.3
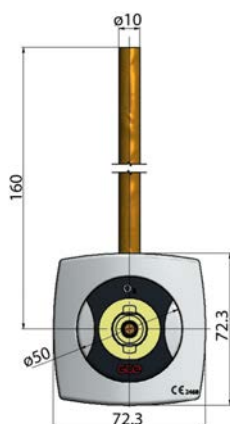
Note!
Measurements in mm.

TERMINAL UNIT - MEDIUNIT (CZ)

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, international standard.

> 10 years free of preventive maintenance except TU's intended for use of running surgical tools
> 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 without building modification
> Recessed and exposed versions
> Bed head installation version (customized solution on request)

Item No.	Denomination	Type	Marking
0732203026	O_2 – RECESSED	Pipe ø 10 mm	O_2
0732203029	N_2O – RECESSED	Pipe ø 10 mm	N_2O
0732203027	AIR – RECESSED	Pipe ø 10 mm	AIR
0732203030	CO_2 – RECESSED	Pipe ø 10 mm	CO_2
0732203028	VAC – RECESSED	Pipe ø 10 mm	VAC
0732203043	AIR-800 – RECESSED	Pipe ø 10 mm	AIR-800
0732203031	O_2 – EXPOSED	Pipe ø 10 mm	O_2
0732203034	N_2O – EXPOSED	Pipe ø 10 mm	N_2O
0732203032	AIR – EXPOSED	Pipe ø 10 mm	AIR
0732203035	CO_2 – EXPOSED	Pipe ø 10 mm	CO_2
0732203033	VAC – EXPOSED	Pipe ø 10 mm	VAC
0732203049	O_2 – BHU	Pipe ø 10 mm	O_2
0732203050	VAC – BHU	Pipe ø 10 mm	VAC
0732203001	O_2 –RECESSED	With pigtail	O_2
0732203002	AIR – RECESSED	With pigtail	AIR
0732203007	N_2O – RECESSED	With pigtail	N_2O
0732203008	VAC – RECESSED	With pigtail	VAC
0732203020	CO_2 – RECESSED	With pigtail	CO_2

For variants not listed, please contact our sales and product support.

SPARE PARTS

Item No.	Denomination	Gas
SPK36810106	TU Quick coupler CZ	AIR-800
SPK36810105	TU Quick coupler CZ	CO_2
SPK36810104	TU Quick coupler CZ	N_2O
SPK36810103	TU Quick coupler CZ	VAC
SPK36810102	TU Quick coupler CZ	AIR
SPK36810101	TU Quick coupler CZ	O_2

TECHNICAL DATA	
Gases:	O_2, N_2O, Air, Air-800, CO_2, VAC
Dimensions:	Height: 73 mm, Width: 73 mm, Depth: 63 mm
Working pressure:	4–5 bar (breathing gases)
	7–10 bar (instrumental gases)
	(-0,4)–(-0,9) bar (vacuum)
Maximum test pressure:	20 bar
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN ISO 9170-1 (Terminal units)
	Complies with CSN 85 2762 (Czech gas specific connections)
	present HTM 02-01

Recessed version

Exposed version - with lid

Exposed version - without lid

BHU version

PEN version


Maintenance valve

TERMINAL UNIT - MEDIUNIT (AFNOR)

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 international standard.

> All functional components are from brass
> Simple installation
> Fast connection and disconnection
> Air–800 with parking position
> Designed for medical environment, small size and easy to clean
> Complies with colour coding and description by standard
> Maintenance valve with filter
> Recessed and exposed versions
> Bed head installation version (customized solution on request)

Item No.	Denomination	Type	Marking
0732204017	O_2 – RECESSED	Pipe ø 10 mm	O_2
0732204018	N_2O – RECESSED	Pipe ø 10 mm	N_2O
0732204019	AIR – RECESSED	Pipe ø 10 mm	AIR
0732204020	AIR-800 – RECESSED	Pipe ø 10 mm	AIR-800
0732204021	CO_2 – RECESSED	Pipe ø 10 mm	CO_2
0732204022	N_2 – RECESSED	Pipe ø 10 mm	N_2
0732204023	VAC – RECESSED	Pipe ø 10 mm	VIDE
0732204001	O_2 – EXPOSED	Pipe ø 10 mm	O_2
0732204008	N_2O – EXPOSED	Pipe ø 10 mm	N_2O
0732204003	AIR – EXPOSED	Pipe ø 10 mm	AIR
0732204009	AIR-800 – EXPOSED	Pipe ø 10 mm	AIR-800
0732204002	CO_2 – EXPOSED	Pipe ø 10 mm	CO_2
0732204010	N_2 – EXPOSED	Pipe ø 10 mm	N_2
0732204004	VAC – EXPOSED	Pipe ø 10 mm	VIDE
0732204069	O_2 – EXPOSED - LID	Pipe ø 10 mm	O_2
0732204072	N_2O – EXPOSED - LID	Pipe ø 10 mm	N_2O
0732204070	AIR – EXPOSED - LID	Pipe ø 10 mm	AIR
0732204074	AIR-800 – EXPOSED - LID	Pipe ø 10 mm	AIR-800
0732204073	CO_2 – EXPOSED - LID	Pipe ø 10 mm	CO_2
0732204071	VAC – EXPOSED - LID	Pipe ø 10 mm	VAC
0732204015	AIR-800 – BHU	Pipe ø 10 mm	-
0732204016	VAC – BHU	Pipe ø 10 mm	-
0732204024	O_2 – BHU	Pipe ø 10 mm	-
0732204025	N_2O – BHU	Pipe ø 10 mm	-
0732204026	AIR – BHU	Pipe ø 10 mm	-
0732204027	CO_2 – BHU	Pipe ø 10 mm	-
0732204121	VAC – RECESSED	Pipe ø 10 mm	VAC
0732204122	VAC – EXPOSED	Pipe ø 10 mm	VAC
0732204123	VAC – BHU	Pipe ø 10 mm	VAC

For variants not listed, please contact our sales and product support.

BASIC DIMENSIONS
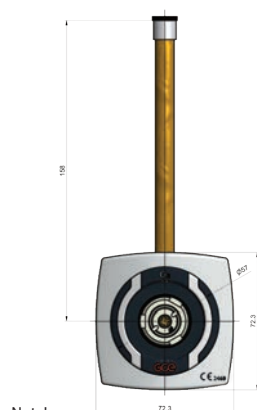
Note!

Measurements in mm.

SPARE PARTS

Item No.	Denomination	Gas	Quantity
SPK36810147	TU Quick coupler AF	VAC	1 pce
SPK36810146	TU Quick coupler AF	N_2	1 pce
SPK36810145	TU Quick coupler AF	CO_2	1 pce
SPK36810144	TU Quick coupler AF	AIR-800	1 pce
SPK36810143	TU Quick coupler AF	AIR	1 pce
SPK36810142	TU Quick coupler AF	N_2O	1 pce
SPK36810141	TU Quick coupler AF	O_2	1 pce
SPK36810088	Cartridge ID6	AIR-800	50pcs
SPK36810087	Cartridge ID6	AIR-800	1 pce
SPK36810049	Cartridge ID7	O_2, N_2O, AIR, CO_2	50 pcs
SPK36810038	Cartridge ID7	O_2, N_2O, AIR, CO_2	1 pce
SPK36810050	Cartridge ID8	N_2, VAC	50 pcs
SPK36810040	Cartridge ID8	N_2, VAC	1 pce

TECHNICAL DATA	
Gases:	O_2, N_2O, Air, Air–800,CO_2, N_2, VAC
Dimensions:	Height: 73 mm, Width: 73 mm, Depth: 63 mm
Working pressure:	4–5 bar (breathing gases)
	7–10 bar (instrumental gases)
	(-0,4)–(-0,9) bar (vacuum)
Maximum test pressure:	20 bar
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN ISO 9170-1 (Terminal units)
	Complies with NF S 90-116 (Afnor gas specific connections)
	Complies with FD S 90-119 (Afnor Air-800 gas specific connection)
	present HTM 02-01

TU MU INSTALLATION TOOLS

Installation plug

Item No.	Denomination
MP_00345	QC installation keys
MP_00324	Button remover (for round hole)
MP_03018ST	Button remover (for square hole)
MP_01157ST	Pendants/bedhead unit – installation tool
0732040	Installation plug (10 pcs)

MP_00345 *MP_00324* *MP_03018ST* *MP_01157ST*

BHU TU COMPONENTS

Floating ring assy 1-3 with bed head unit front panel

Item No.	Denomination
SPK36810171	Complete kit - Floating Ring, Spring, Circlip
SPP36810163	SP-TU TOM BHU Floating Ring Al
SPP36810164	SP-TU TOM BHU Spring Stainless steel
SPP36810165	SP-TU TOM BHU Circlip Stainless steel
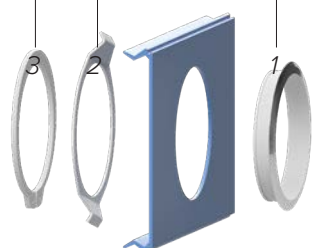
1 - SPP36810163
2 - SPP36810164
3 - SPP36810165

Bed head unit assembly with Floating ring

TERMINAL UNIT - AGSS

Inhaled anaesthetic (exhaust) gases are considered a potential short-/ and long-term risk to medical staff working in operating theatres and other areas where nitrous oxide is used.

The AGSS (Anaesthetic Gas Scavenging Systems) were created as the fi rst line of defence to protect medical staff against exposure to anaesthetic (exhaust)gases.

The GCE AGSS units are designed in accordance with the ISO 7396-2 and ISO 9170-2 to provide this protection in best possible way. The GCE AGSS is now available as part of the extensive GCE MCGS product portfolio.

GCE AGSS is available as active or passive type 1L.

> Easy to install and use
> One-hand operation when engaging/disengaging probe
> Safe, robust and durable design
> Available as pendant, recessed and exposed model
> All functional components are from metal
> Fully compliant with ISO 7396-2 and ISO-9170-2
> Passive type available with exhaust pipe Ø 16 or 22 mm
> Probes available with straight or 90° angled hose connector: Ø 16 mm, Ø 22 mm

Passive terminal units

AGSS PASSIVE SYSTEM

Item No.	Denomination
PRES03V	Housing/First fix with 22mm exhaust pipe
PRES04V	Housing/First fix with 16mm exhaust pipe
PRES05V	AGSS quick connector gas outlet according to ISO 9170-2
CASS16U/N	Box for recessed installation of AGSS passive
2818-00	Panel recessed in combination with CASS16U/N
CASS16U/N	Box for exposed mounting of AGSS passive

AGSS ACTIVE SYSTEM (VENTURI, AIR INJECTOR)

Item No.	Denomination
VENT01A	AGSS active gas outlet complete
VENT01C	Box for recessed installation of AGSS active
VENT01P	AGSS panel stainless steel
VENT02C	Box for exposed installation of AGSS active

Active terminal units

AGSS PROBES

Item No.	Denomination
INNX04V	AGSS probe (ISO 9170-2) 90° angle, 16mm hose nipple connection
INNX06V	AGSS probe (ISO 9170-2) 90° angle, 22mm hose nipple connection
INNX07V	AGSS probe (ISO 9170-2) straight, 16mm hose nipple connection
INNX05V	AGSS probe (ISO 9170-2) straight, 22mm hose nipple connection

| TECHNICAL DATA	
Ejector feeding:	Compressed or medical air - for AGSS active
Feeding pressure allowed:Air use:	4±0,5 bar typical (max 6 bar) - for AGSS active
Medical Air use:	20-25 l/min - for AGSS active
Nominal flow rate:	up to 50 l/min - for AGSS active
Pressure drop:	<150 mbar, 90 l/min - for AGSS active
Axial connection force:	80 N Typical
	40 N Typical
Axial mechaical resistance of the connection:	>500 N
Functioning temperature:	-20°C to +60°C
Warehousing and transportation:	-20°C to +70°C
Depression (4 bar-30 l/min):	-7 mbar
Regulatory status:	Class IIa medical device according to MDD 93/42/EEC
	ISO 7396-2
	ISO 9170-2
	CE certification CE0425 and DOC

EMU MAINTENANCE VALVE

The VSP valve is used as third source to feed the network that distributes gases; it is used in case of maintenance of both the control board for medical gas central station and the emergency control board for medical gas central station.

The STANDARD model of VSP valve has an UNI or AFNOR or NIST (5359) outlet according to the customer's requirements; under the central body of the valve we put a valve that allows to scavenge automatically the gas in case there is too much pressure (over-pressure valve).Standard pressure switch high/low pressure is included.

When we connect the VSP valve, we also install a low pressure gauge connected to the alarm of the central station. This gauge gives the possibility to check the value of the pressure inside the system.

Item No.	Gas	Inlet point
VALV01V	O2	Afnor
VALV02V	Air	Afnor
VALV03V	N2O	Afnor
VALV04V	N2	Afnor
VALV05V	CO2	Afnor
VALV06V	O2	Uni
VALV07V	Air	Uni
VALV08V	N2O	Uni

Item No.	Gas	Inlet point
VALV09V	N2	Uni
VALV10V	CO2	Uni
VALV15V	O2	Nist
VALV16V	Air	Nist
VALV17V	N2O	Nist
VALV18V	N2	Nist
VALV19V	CO2	Nist

TECHNICAL DATA	
Standard pressure in p1:	8 bar (800kPa)
Flow rate:	>20 m^3/h
Valve material:	Brass alloy P-CuZn40Pb2 (sn 355N/mm^2)
Production:	Turning brass
Surface treatment:	0.25mm Chromed surface
Leakage absences test pressure:	11.2 bar
Seal test:	No leakage
Discharge rate:	> 25 m^3/h
Inlet pipe:	Set for pipe Ø16 ext.
Outlet pipe:	Set for pipe Ø16 ext.
Welding alloy:	DIN 8513 (BS. 450 Sn)
	Ag 46%, Cu 27%, Zn 24%, Sn 3%, Cd 0%
Over pressure valve characteristics:	
Inlet connection:	M14x1.5 (inlet joint)
Outlet connection:	M22x1.5 (outlet joint)
Pressure in p1:	8 bar (800 kPa)
Over pressure test valve:	12.8 bar
Leakage result at 1.6 P1:	no loss of pressure
Drain flow rate:	> 97 m^3/h
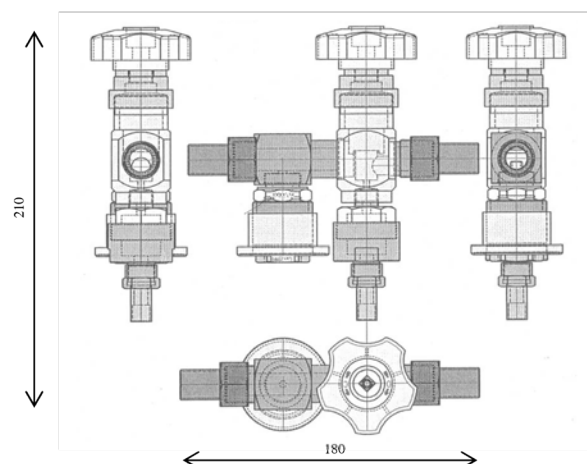
TERMINAL UNIT - MC70 (SS)

GCE gas outlets type MC 70 generation are self-sealing, i.e. they close automatically when a connected apparatus is removed. The gas outlets are furnished with a quick connection valve which means that the desired apparatus can be connected or disconnected by means of a simple one-step motion.
The MC 70 gas outlets may be recessed in the wall or mounted in a panel.
All MC 70 gas outlets have the same design but different colour codings and labels for different gases and of course gas specific non-interchangeable quick connection valves.
Special efforts have been made to make the maintenance of the gas outlets as easy as possible.
> No special tools
> Maintenance valve of ball-type
> Few components

Furthermore the MC70 are made according to standard SS EN 8752430 for quick connections and international standard SS EN ISO 9170-1 for terminal units. This means that the gas components are non-interchangeable in every maintenance connection point.
The gas outlet is delivered with separate packages for quick connection valve, valvebody, plastic cover with name plate, push-release plate etc. To make installation easier, the valve body has a tightening plug mounted for convenient pressure testing.
All necessary mounting details such as brackets, screws etc. are included in the packages. Detailed instructions are also part of the delivery. When mounting the gas outlet in a recessed way the gas outlet can be mounted either in the front wall or in the rear wall, depending on which is first set up. Recessed and exposed instalation set is necessary orded separately.

Item No.	Denomination	Type	Marking
325397281	O_2 – BEDHEAD	Pipe ø 8 mm	O_2
325397282	N_2O – BEDHEAD	Pipe ø 8 mm	N_2O
325397283	AIR – BEDHEAD	Pipe ø 8 mm	Air
325397284	VAC – BEDHEAD	Pipe ø 8 mm	VAC yellow
325397285	AGSS – BEDHEAD	Pipe ø 8 mm	AGSS purple
325397286	AIR–800 – BEDHEAD	Pipe ø 8 mm	Air–800
325397287	N_2 – BEDHEAD	Pipe ø 8 mm	N_2
325397288	CO_2 – BEDHEAD	Pipe ø 8 mm	CO_2

FOR RECESSED MOUNTING ADD

Item No.	Denomination
325396031	Recessed installation set

FOR EXPOSED MOUNTING ADD

Item No.	Denomination
325396034	Exposed installation set

INSTALLATION TOOL

Item No.	Denomination
325197290	Combi tool

SERVICE KIT

Item No.	Denomination
325197222	Sparepart kit

TECHNICAL DATA	
Gases:	O_2, N_2O, Air, Air–800, CO_2, N_2, Ar, AGSS, VAC
Dimensions:	Diameter: 90 mm, Depth: 60 mm
Working pressure:	4–5 bar (breathing gases)
	7–10 bar (instrumental gases)
	(-0,4) – (-0,9) bar (vacuum)
Maximum pressure:	20 bar
Regulatory status:	Complies with Medical Devices Directive 93/42/EEC
	Complies with EN ISO 7396-1 (Central Gas Supply Systems)
	Complies with EN ISO 9170-1 (Terminal units)
	Complies with EN ISO 9170-2 (Terminal units for AGSS)
	Complies with SS 8752430 (SS gas specific connections)
	present SIS HB 370

LABELS MC70

Item No.	Denomination	Languages
548234A26760	Circular Label O_2 White 85/55 TU SS	–
325113069	Circular Label MEDICINSK OXYGEN White 85/55 TU SS	SE
548234A26770	Circular Label N_2O Blue 85/55 TU SS	–
325113070	Circular Label DINITROGENOXID N_2O Blue 85/55 TU SS	DK
325113071	Circular Label MEDICINSK LUFT Black/White 85/55 TU SS	SE
548234A26780	Circular Label Air Black/White 85/55 TU SS	–
548234A37600	Circular Label Air–800 Black/White 85/55 TU SS	–
325113074P	Circular Label MEDICINSK KULDIOXID Grey 85/55 TU SS	DK
548234A26790	Circular Label VAC Red 85/55 TU SS	–
325113072	Circular Label VAC Red 85/55 TU SS	DK
548234A26800	Circular Label VAC Yellow 85/55 TU SS	–
548234A40850	Circular Label GASUTLOPP Blue/Brown 85/55 TU SS	SE
548234A40860	Circular Label GASUDLØB Blue/Brown 85/55 TU SS	DK
548234A40870	Circular Label GASSUTLØP Blue/Brown 85/55 TU SS	NO
548234A40880	Circular Label KAASUJEN POISTO Blue/Brown 85/55 TU SS	FI
548234A26810	Circular Label AGSS Purple 85/55 TU SS	–

BED HEAD UNITS

Bed head units are primarily needed in patient rooms in medical facilities. Depending on their purpose, these units are equipped with medical gas outlets, high voltage and low voltage distribution of electricity, media sockets etc. Next to standard units GCE Healthcare is able to provide customized solutions regarding design and shape to meet the special demands for delivery rooms, recovery rooms and intensive care units. Part of the bed head units may be direct, indirect or night lighting, with fluorescent lamps or LED technology. The bed head units have a characteristic and ergonomic design that has proven itself for over more than 45 years now in medical facilities all over the world. The design can be customized to meet the overall appearance of the interior, architectural requirements and to the desires of the health care personnel. The materials used in the bed head units are designed to endure intense use and harsh conditions that can often be found in medical fields. This means the bed head units and available accessories are built to last and fit for the job!

NEW YORK STYLE

Extremely light and slim bed head unit, very multifunctional and ergonomic. Thanks to unique lightness and modern design NEW YORK BHU is extremely popular and in great demand on the global market and found in medical fields.

NEW YORK STYLE

> Body made of anodized aluminium profile mounted directly on the wall
> Front cover powder coated in any color (RAL color palette)
> Length: single unit-1600 mm, double unit-3200 mm, triple unit-4800 mm
> Depth: 80 mm
> Height: 284 mm
> 1 electrical and 1 gas installation input for double and multi-units

Standard equipment for hospital rooms:
> Medical gases outlets: 2 x (O_2 and VAC)
> Electrical sockets: 3 x (230V)
> Equipotential socket: 1 x
> RJ45 cat.6 socket for IT: 1 x
> Indirect light 39W T5: switch on the unit
> Direct light 24W T5: switch on the unit
> Night light 3W LED: switch on the unit

Equipment options:
> Body color: anodized/ powder coated in any color (RAL color palette)
> Four-chamber body
> Medical gases and vacuum outlets code types: DIN / BS / AFNOR / SS / others
> Lighting: T5 / LED
> Electric sockets standards: German / French / GB / others
> IT sockets: RJ-11 / RJ-12 / RJ-45 of cat.5e or higher
> Nurse call system (cut-out)
> Lighting switch on patient's handset

LIST OF TYPICAL RAL COLORS

9003	9001	1013	1015	1018
3015	4003	3000	1034	2008
5021	6033	6027	6019	6018
5012	5017	5002	9006	7035

COPENHAGEN STYLE

Bed head unit designed for children's wards where the patients will surely not be bored. With wide choice of layouts, shapes and colours this BHU provides nicer and friendlier atmosphere in hospital rooms. It comes with a variety of electrical, IT and lighting options including fluorescent or LED lights and possibility of AmbientLight or ControlLight technology. Front panel is made of Corian® DuPont® what enables 3D designs. Corian is a Solid Surface material very easy to clean what is of crucial importance in hospitals.

SPECIFICATION
> Body made of aluminium profile mounted directly on the wall
> Front decorative cover made of Corian
> Length: 1500 mm
> Depth: 65 mm body + 24/36 mm front panel
> Height: depends on the unit's shape
> Unit's construction requires ceiling general lighting

Standard equipment for hospital rooms:
> Medical gases outlets: O_2 and VAC
> Electrical sockets: 230V 3 pcs
> Equipotential socket: 1 pcs
> RJ45 cat.6 socket for IT: 1 pcs
> Indirect light 39W T5: switch on the unit
> Direct light 24W T5: switch on the unit
> Night light 2,8W LED: switch on the unit

Equipment options:
> Front decorative cover in any color (Corian color palette)
> Medical gases and vacuum outlets code types: DIN / BS / AFNOR / SS / others
> Lighting: T5 / 2G11 / LED
> Electrical sockets standards: German / French / British / others
> IT sockets: RJ-11 / RJ-12 / RJ-45 of cat.5e or higher
> Nurse call system (cut-out)
> Lighting switches on patient's handset

MALAGA STYLE

This bed head unit is just what you need as this is you who decides about its design. A variety of graphic inspirations and shapes are available. A highresolution printing on Corian® DuPont® panel or on toughened glass results in exceptional colour depth and interaction of light. This unit can be fully customized, assembled vertically or horizontally. The unit is particularly popular in plastic surgery clinics, delivery wards and all the hospital areas where medical technology and beauty meet.

SPECIFICATION

> Body made of aluminium profile mounted directly on the wall
> Front decorative cover made of Corian or toughened glass
> 1 electrical and 1 gas installation input for double and multi-units
> Unit's construction requires ceiling general lighting
> Length: 1600 mm
> Depth: 120 mm
> Height: 300 mm

Standard equipment for hospital rooms:
> Medical gases outlets O and VAC 2
> Electrical sockets: 230V 3 pcs
> Equipotential socket: 1 pcs
> RJ45 cat.6 socket for IT: 1 pcs
> Indirect light 39W T5: switch on the unit
> Direct light 24W T5: switch on the unit
> Night light 2,8W LED: switch on the unitnit

Equipment options:
> Front decorative cover in any color (Corian color palette) / any UV-printed graphics
> Medical gases and vacuum outlets code types: DIN / BS / AFNOR / SS / others
> Lighting: T5 / 2G11 / LED
> Electrical sockets standards: German / French / British / other


LIST OF TYPICAL CORIAN® COLORS®

CEILING ICU BEAMS

ICU beams are overhead utility systems used in intensive care unit rooms. Ceiling mounted solutions are more superior than a traditional headwall. Hospital staff members tend to like overhead beams as these units have shown to have benefits for caregivers in neurodegenerative and cardiac ICUs where they need access to the head of the bed most. Overhead beams are traditionally positioned directly over the centre of a patient and come with articulating arms or sliding gliders to help push utilities to the side of patient beds.

ICU GENERAL VIEW
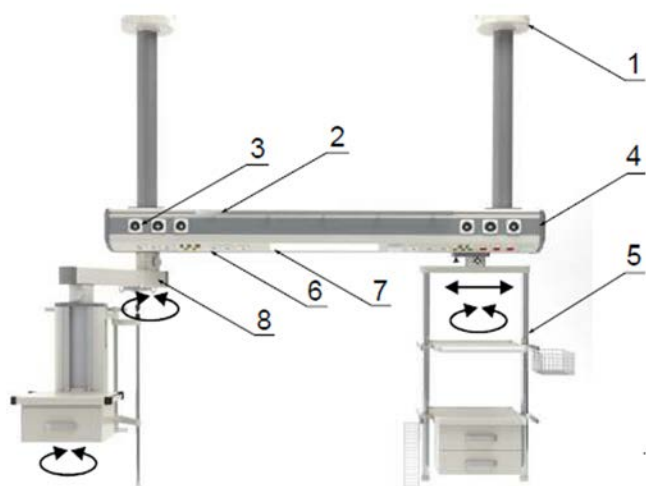
1 - ceiling cover
2 - medical rails
3 - terminal units
4 - main beam
5 - sliding gliders with trays & trays c/w drawers
6 - electrical sockets
7 - lights
8 - rotating arms c/w service heads and accessories

ICU TYPE L

A simple supply beam system applicable the hospital ICU ward. As an overhead solution it is far away more functional in areas in where medical personnel needs access to the head of the bed. Coming with standard fittings as medical gas outlets, electrical and data sockets and different type of lighting.

SPECIFICATION

> Body made of extruded aluminium profiles
> Front and side panels can be powder coated in any RAL colour
> Separate gas and electricity compartments and supply inlets
> Length: 2050, 2250, 2450, 2650, 2850 mm
> Height: 240 mm
> Depth: 370 mm

Sample configuration:
> Lenght: 2450 mm
> Beam powder coated in RAL 9002
> Medical gas outlets: O 2 pcs, AIR 2 pcs, VAC 2 pcs 2
> Electrical sockets: 230V 16 pcs
> Equipotential sockets: 16 pcs
> RJ45 cat. 6: 2 pcs
> General lighting 2x54W T5, lighting switch on the beam
> Direct/reading lighting 24W 2G11, lighting switch on the beam
> Night lighting 3W LED, lighting switch on the beam

Equipment options:
> Medical gas and vacuum outlets: DIN / BS / AFNOR / SS /others
> Electrical sockets standards: German / French / British / others
> IT sockets: RJ-11 / RJ-12 / RJ-45 of cat.6
> LED or fluorescent lighting
> Nurse call system (cut-out)
> Accessories: shelves, medical rails, IV poles, catheters baskets or wound care products carriers, suction regulators, flowmeters and other

ICU TYPE M

Type M beam is an essential medical rescue aid equipment for the modern intensive care unit. It is mainly composed of main beam frame, dry section and wet section. Its characteristics are reasonable dry and wet separation structures where the wet area is equipped with the flexible infusion and dry - with sliding glider c/w trays and drawers.

SPECIFICATION
> Body made of extruded aluminium profiles
> Front and side panels can be powder coated in any RAL colour
> Separate gas and electricity compartments and supply inlets
> Length: 2050, 2250, 2450, 2650, 2850 mm
> Height: 240 mm
> Depth: 370 mm

Sample configuration beam:
> Lenght: 2450 mm
> Beam powder coated in RAL 9002
> Medical gas outlets: O 2 pcs, AIR 2 pcs, VAC 2 pcs 2
> Electrical sockets: 230V 16 pcs
> Equipotential sockets: 16 pcs
> RJ45 cat. 6: 2 pcs
> General lighting 2x54W T5, lighting switch on the beam
> Direct/reading lighting 24W 2G11, lighting switch on the beam
> Night lighting 3W LED, lighting switch on the beam

Sample configuration monitoring side:
> 560 mm wide sliding glider with friction brake, 150 kg payload
> Trays and/or trays with drawers with height adjustment
> Examination lamp

Sample configuration infusion side:
> 1500 mm vertical rod(s) at infusion side for attaching infusion pumps / IV poles

Equipment options:
> Medical gas and vacuum outlets: DIN / BS / AFNOR / SS / others
> Electrical sockets standards: German / French / British / others
> IT sockets: RJ-11 / RJ-12 / RJ-45 of cat.6
> LED or fluorescent lighting
> Nurse call system (cut-out)
> Accessories: trays, medical rails, IV poles, catheters baskets or wound care products carriers, suction regulators, flowmeters and other

ICU TYPE H

Type H beam - same as type M - is composed of main beam frame, dry section and wet section. The wet and dry area adopts a pendant structure as they come as service heads with rotating arms. Service heads come with fittings as medical gas outlets, electrical and data sockets and the cross beam is equipped with a lighting treatment lamp in the middle. The rotating arm adopts a break to prevent drift.

SPECIFICATION
> Body made of extruded aluminium profiles
> Front and side panels can be powder coated in any RAL colour
> Separate gas and electricity compartments and supply inlets
> Length: 2050, 2250, 2450, 2650, 2850 mm
> Height: 240 mm
> Depth: 370 mm

Sample configuration beam:
> Lenght: 2450 mm
> Beam powder coated in RAL 9002
> RJ45 cat. 6: 2 pcs
> General lighting 2x54W T5, lighting switch on the beam
> Direct/reading lighting 24W 2G11, lighting switch on the beam
> Night lighting 3W LED, lighting switch on the beam

Sample configuration monitoring side:
> Service head coming with:
   > Medical gas outlets: O 2 pcs, AIR 2 pcs, VAC 2 pcs 2
   > Equipotential sockets: 4 pcs
   > Electrical sockets: 8 pcs
   > RJ45 cat. 6: 2 pcs
   > Accessories: shelves, medical rails, catheters baskets or wound care products carriers, suction regulators, flowmeters and others
   > Examination lamp

Sample configuration infusion side:
> Service head coming with:
   > Medical gas outlets: O 2 pcs, AIR 2 pcs, VAC 2 pcs 2
   > Electrical sockets: 8 pcs
   > Equipotential sockets: 4 pcs
   > 500 mm vertical rod(s) for attaching infusion pumps / IV poles

Equipment options:
> Medical gas and vacuum outlets: DIN / BS / AFNOR / SS /others
> Electrical sockets standards: German / French / British / others
> IT sockets: RJ-11 / RJ-12 / RJ-45 of cat.6
> LED or fluorescent lighting
> Nurse call system (cut-out)
> Accessories: shelves, medical rails, IV poles, catheters baskets or wound care products carriers, suction regulators, flowmeters and others

MEDICAL PENDANTS

Medical ceiling pendants are crucial equipment in the operating rooms and ICUs. They are designed to allow an easy access to medical gases, electrical and data sockets and other desired connections. Thanks to a great number of configurations medical devices can be positioned in a user-friendly and ergonomic way. At GCE we understand modern ORs are multifunctional cross-disciplinary rooms and we offer ceiling units that improve efficiency and provide the best care of the patients.
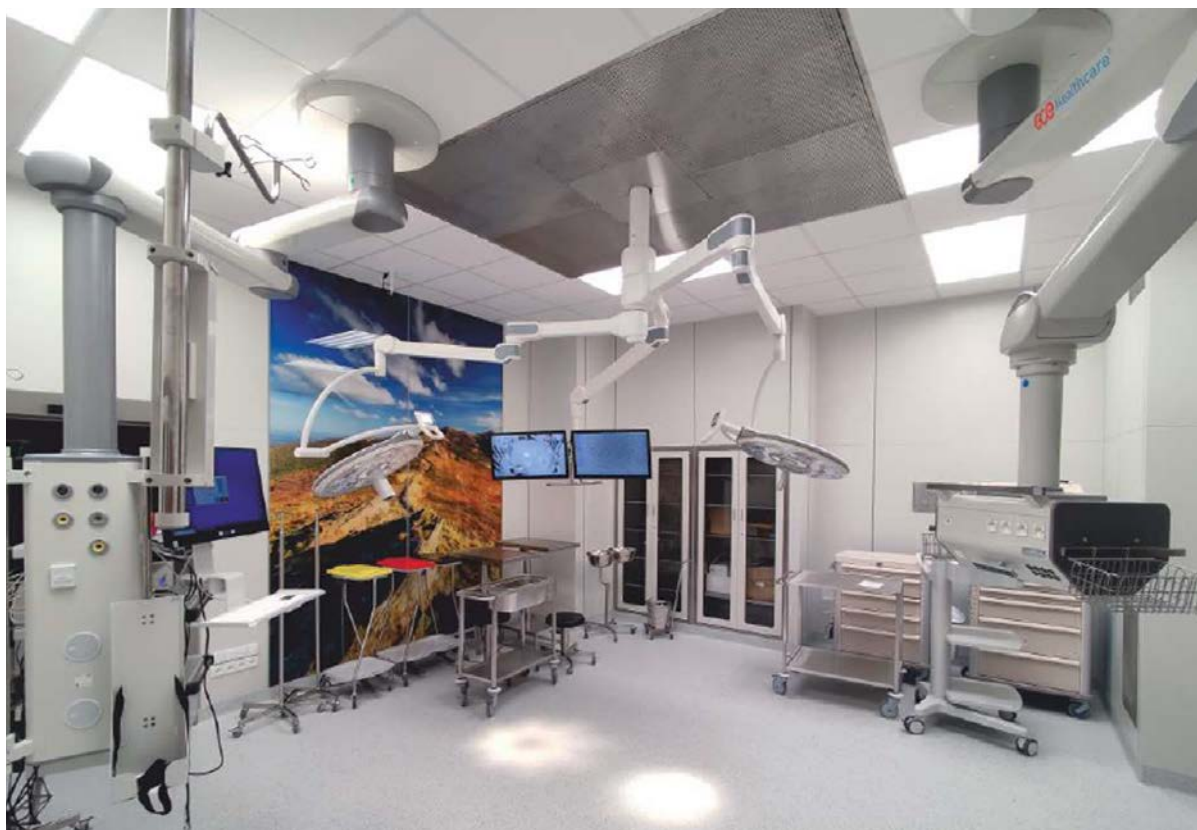
EXPLANATION OF THE ORDERING INFORMATION

| H | R | D | S | 80 | 120 | anesthesia | pendant |

Orientation of service head:
- Horizontal*
- Vertical

Shape of service head:
- Triangle
- Rectangular
- Square

Number of arms:
- None** or Rigid pillar***
- Single
- Double

Type of arms:
- none
- Spring
- Motorized

Sample configuration anesthesia service head:
Head powder coated in RAL 9002
Medical gas outlets: O_2 2 pcs, AIR 2 pcs, VAC 2 pcs,
N2O 1 pce, AGSS 1 pce
Electrical sockets: 230V 8 pcs
Equipotential pins: 8 pcs
Teletechnical sockets: 4 pcs
Accessories: shelves, medical rails, IV poles, catheters
baskets or wound care products carriers and others

Total lenght of arm [cm]:
- single arm: 60; 80; 100; 120
- double arm: 120; 140; 160; 180; 200; 220; 240

Head height [cm]:
- horizontal head: 60; 80; 100
- vertical: 60; 80; 100; 120

* no arm is coming with rigid pillar
** no total length as no arm is used
*** no total length of arm as no arm is used; no possibility to use horizontal service head

ABOUT THE ARMS

Spring arms are used with horizontal service heads in anesthesia pendants and give strong performance and maximum freedom of movement. Anesthesia machine can be positioned directly beneath the service head what streamlines anaesthesiologists workflow. Heavy arms for heavy loads coming with electro-magnetic braking system 'e-brake' ensure heavy equipment as laparoscopes, arthroscope is easily accessible for surgeons. The same way these types of arms enable better organization of surgeons workspace and efficient workflows at the same time.

VERTICAL TRIANGLE SERVICE HEAD

GAS OUTLETS NUMBER	4	6	8	10
Electrical sockets	8 [6]	12 [9]	15 [12]	18 [15]
IT sockets	2	3	4	6
Equipotential pins	8	8	16	16

VERTICAL RECTANGULAR SERVICE HEAD

GAS OUTLETS NUMBER	8	8	10	16
Electrical sockets	12 [9]	16 [12]	20 [15]	24 [18]
IT sockets	3	3	6	6
Equipotential pins	8	8	16	16

VERTICAL SQUARE SERVICE HEAD

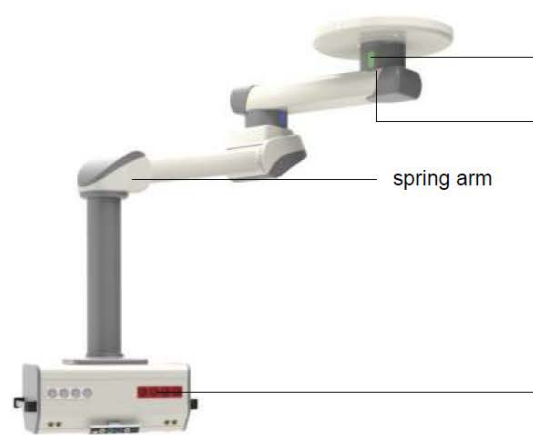| GAS OUTLETS NUMBER	8	8	10	16
Electrical sockets	16 [12]	24 [18]	28 [21]	32 [24]
IT sockets	6	6	6	6
Equipotential pins	16	16	16	16

Number w/o brackets stands for German and French standards
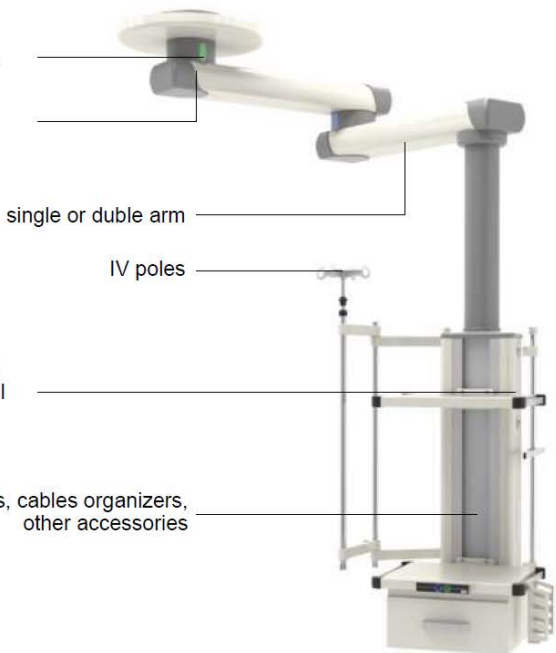Number in brackets stands for British, Indian and Multi-standard

ANESTHESIA PENDANTS

Anesthesia pendant is applied in operating rooms, endoscope rooms, anesthesia rooms. It is used to set up anesthesia working area, integrating anesthesia machine, infusion pump, anesthesia information station and so on. It provides convenience of anesthesia operation to the greatest extent. Thanks to a wide range of single or double arms with horizontal or vertical movement it covers the whole anesthesia area, can easily locate the equipment in the ideal position, provide gas source, power supply, data communication interface, moreover cables for related equipment needed in anesthesia area. Coming as standard with horizontal service heads can be customized to accommodate a large variety of medical gas outlets and electricity.

HRDS 60 160 ANESTESIA PENDANT

VRD 100 160 ANESTESIA PENDANT

brakes LED indicators

electromagnetic
or pneumatic brakes

spring arm

single or duble arm

IV poles

heads with terminal units,
electrical and teletechnical
sockets

shelves, drawers, cables organizers,
other accessories

SAMPLE CONFIGURATION ANESTHESIA SERVICE HEAD:

Head powder coated in RAL 9002
Medical gas outlets: O 2 pcs, AIR 2 pcs, VAC 2 pcs, N O 1 pcs, AGSS 1 pcs 2 2
Electrical sockets: 230V 8 pcs
Equipotential pins: 8 pcs
Teletechnical sockets: 4 pcs

Equipment options:
Additional gas outlets as: O /N O mixtures 2 2
Medical gas and vacuum outlets: DIN / BS / AFNOR / SS / others
Electrical sockets standards: German / French / British / others
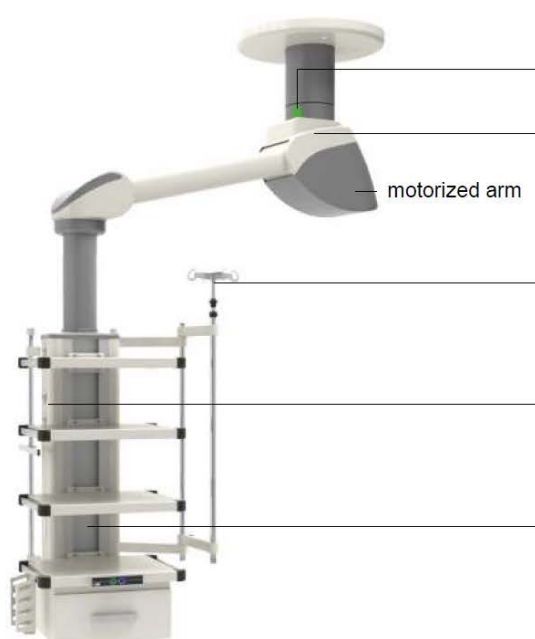IT sockets: RJ-11 / RJ-12 / RJ-45 of cat.6

Accessories: shelves, medical rails, IV poles, catheters baskets or wound care products carriers, suction regulators, flowmeters and others

For more information and variants please contact our sales and product support
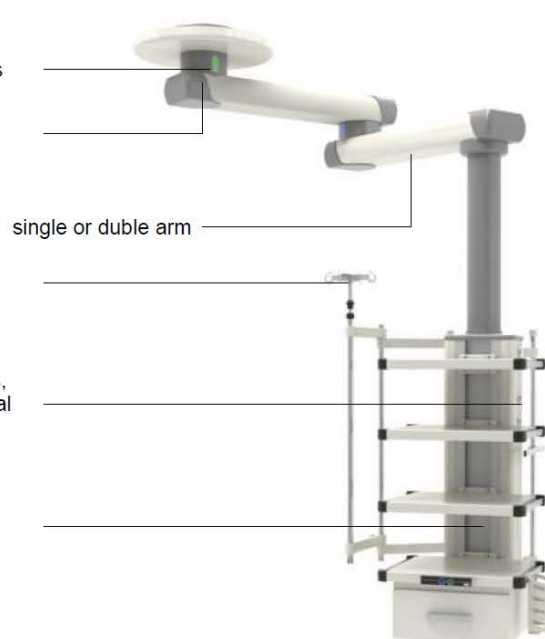
SURGICAL PENDANTS

Surgical pendant is designed to reduce OR tripping hazards and improve workflow, maximizing the surgical workspace. It reduces reliance on carts and enables the operators to streamline the workflow of the operating room. Meeting all requirements of heavy duty systems in the medical field surgical pendants perfectly match the demands of modern operating room. They come with vertical service heads equipped with medical gas outlets, electrical and data sockets, shelves, drawers, medical rails, drip stands whereby its configurations can be fully customized. Thanks to a wide range of single or double arms with horizontal or vertical movement they cover the whole surgical area.

VRSM 120 80 SURGICAL PENDANT

VRD 120 160 SURGICAL PENDANT

brakes LED indicators

electromagnetic or pneumatic brakes

motorized arm

single or duble arm

IV poles

heads with terminal units, electrical and teletechnical sockets

shelves, drawers, cables organizers, other accessories

SAMPLE CONFIGURATION SURGICAL SERVICE HEAD:

Head powder coated in RAL 9002
Medical gas outlets: AIR 2 pcs, VAC 2 pcs,
Electrical sockets: 230V 8 pcs
Equipotential pins: 8 pcs
Teletechnical sockets: 4 pcs

Equipment options:
Additional gas outlets as: AIR-MOTOR; AIR-800; CO ; O /N O mixtures 2 2 2
Medical gas and vacuum outlets: DIN / BS / AFNOR / SS / others
German / French Electrical sockets standards: / British / others
IT sockets: RJ-11 / RJ-12 / RJ-45 of cat.6

Accessories: shelves, medical rails, IV poles, catheters baskets or wound care products carriers, suction regulators, flowmeters and others

For more information and variants please contact our sales and product support

ICU PENDANTS

ICU Pendants are suitable for PICU - Pediatric ICU, NICU - Neonatal ICU, RICU - Respiratory ICU, SICU - Surgical ICU, MICU - Medical ICU. The whole ICU setup can be exchanged with wet and dry sides. The patient is not disturbed and clinical staff has all what is needed. Designed for the ICU and rescue room, the ICU medical pendant integrates most of the treatment and care equipment and supplies gas and electricity in a centralized manner. Configuration can be fully personalized according to customer's actual needs.

VSR 120 ICU PENDANT

VSN 100 ICU PENDANT

VSS 100 90 ICU PENDANT

SAMPLE CONFIGURATION INTENSIVE CARE UNIT SERVICE HEAD:

Head powder coated in RAL 9002
Medical gas outlets: O 2 pcs, AIR 2 pcs, VAC 2 pcs 2
Electrical sockets: 230V 12 pcs
Equipotential pins: 12 pcs
Teletechnical sockets: 6 pcs

Equipment options:
Additional gas outlets as: AIR-MOTOR; AIR-800; CO ; N O, AGSS, O /N O mixtures 2 2 2 2
Medical gas and vacuum outlets: DIN / BS / AFNOR / SS / others
Electrical sockets standards: German / French / British / others
IT sockets: RJ-11 / RJ-12 / RJ-45 of cat.6

Accessories: shelves, medical rails, IV poles, catheters baskets or wound care products carriers, suction regulators, flowmeters and others

For more information and variants please contact our sales and product support

MEDICAL GAS FITTINGS

Degreased copper end feed type fittings manufactured to: BS EN 1254-1:1998

Specification for copper and copper alloy fittings with capillary ends for soldering and brazing for use with copper tubes. BS EN 1254-1:1998

Specification for copper and copper alloy fittings with short ends for capillary brazing for use with copper tubes. All fittings are supplied in individually sealed protective polythene bags and are specifically designed for copper medical gas and vacuum systems.

Specific Benefits Include:

> Complies to NHS (UK) Health Technical Memorandum 02-01:2006

> All fittings supplied contain less than 100mg/m2 (0.01mg/cm2) of hydrocarbons on the degreased surface.

> Improved identification to avoid confusion with similar sizes of water service fittings.

> All individually sealed protective polythene bags are product labelled.

> Fittings are supplied in reinforced cardboard boxes, labelled with product information and outline drawing of fitting.

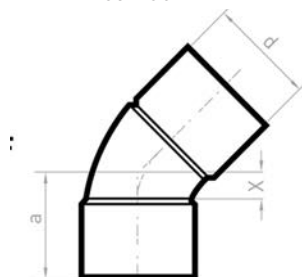> Each fitting is engraved with unique branding, where space permits.
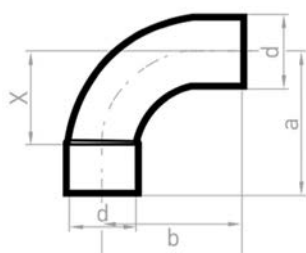
Bend 90° - MF
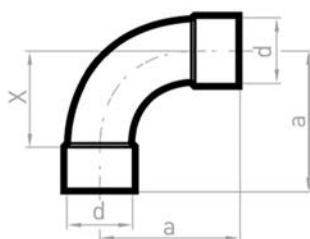
Bend 90° - FF
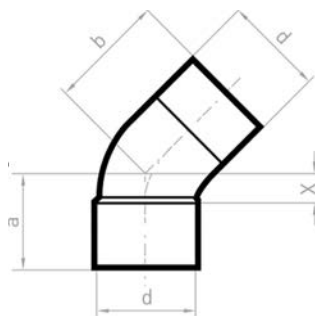
Elbow 90° - MF

Elbow 90° - FF

BEND 90° - MF

Item No.	Dimensions (mm) d a b x
MEDELS012	12 23 25 14.4
MEDELS015	15 29 31 18
MEDELS022	22 42 44 26.4
MEDELS028	28 52 54 33.6
MEDELS035	35 65 67 42
MEDELS042	42 77.5 79.5 50.4
MEDELS054	54 97 99 64.8
MEDELS067	67 117 120 84
MEDELS076	76 125 128 91.3
MEDELS108	108 177 180 129.6
MEDELS133	133 212 215 177
MEDELS159	159 262 265 227

BEND 90° - FF

Item No.	Dimensions (mm) d a b x
MEDEL012	12 23 14.4
MEDEL015	15 29 18
MEDEL022	22 42 26.4
MEDEL028	28 52 33.6
MEDEL035	35 65 42
MEDEL042	42 77.5 50.4
MEDEL054	54 97 64.8
MEDEL067	67 117 84
MEDEL076	76 125 91.3
MEDEL108	108 177 129.6
MEDEL133	133 212 177
MEDEL159	159 262 227

ELBOW 45° - MF

Item No.	Dimensions (mm) d a b x
MEDELS01245	12 13.6 15.6 4.7
MEDELS01545	15 16.9 18.9 6.1
MEDELS02245	22 23.2 25.2 6.7
MEDELS02845	28 28.6 30.6 10.6
MEDELS03545	35 37 39 14
MEDELS04245	42 42 44 15
MEDELS05445	54 52 54 20
MEDELS06745	67 65 58 28.5
MEDELS07645	76 68 71 32
MEDELS10845	108 110 113 60
MEDELS13345	133 280 280 235
MEDELS05945	159 335 335 290

ELBOW 45° - FF

Item No.	Dimensions (mm) d a b x
MEDEL01245	12 13.6 4.7
MEDEL01545	15 16.9 6.1
MEDEL02245	22 23.2 7.6
MEDEL02845	28 28.6 10.6
MEDEL03545	35 37 14
MEDEL04245	42 42 15
MEDEL05445	54 52 20
MEDEL06745	67 65 28.5
MEDEL07645	76 68 32
MEDEL10845	108 110 60
MEDEL13345	133 280 235
MEDEL15945	159 335 290
MEDEL21945	219 120 50
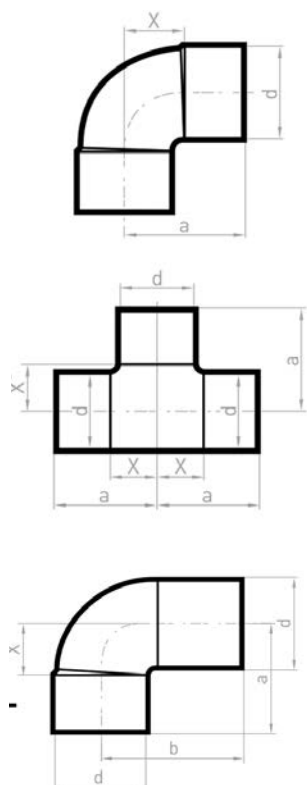
ELBOW 90° - FF

Item No.	Dimensions (mm) d a x
MEDEL012	12 16.2 7.6
MEDEL015	22 28 12.6
MEDEL028	28 35 16.6
MEDEL035	35 46 23
MEDEL042	42 55 28
MEDEL054	54 70 38
MEDEL067	67 83.5 50
MEDEL076	76 91.5 58
MEDEL108	108 127 79.5
MEDEL133	133 127 79.5
MEDEL159	159 160 100
MEDEL219	219 200 130

EQUAL TEE - FFF

Item No.	Dimensions (mm) d a x
MEDTE012	12 18 9
MEDTE022	22 28 12
MEDTE028	28 34 15
MEDTE035	35 42 20
MEDTE042	42 50 23
MEDTE054	54 61.5 29.5
MEDTE067	67 78 42
MEDTE076	76 80 46
MEDTE108	108 112 64
MEDTE133	133 135 85
MEDTE159	159 160 100
MEDTE219	219 178 115

STREET ELBOW 90° - MF

Item No.	Dimensions (mm) d a b x
MEDELS012	12 16.2 18.5 7.6
MEDELS015	15 19.2 21.5 8.5
MEDELS022	22 28 30.5 12.6
MEDELS028	28 35 37.5 16.6
MEDELS035	35 46 54 24
MEDELS042	42 56 66 29
MEDELS054	54 71 82 39
MEDELS067	67 83.5 95 50
MEDELS076	76 91.5 105 58
MEDELS108	108 127 137 79.5
MEDELS133	133 127 137 79.5
MEDELS159	159 160 180 100

WORKING TEMPERATURES AND PRESSURE

SERVICE TEMPERATURE*				
Size	Min -40°C	30°C	65°C	Max 110°C
8 mm to 28 mm	25 bar	25 bar	25 bar	16 bar
35 mm to 54 mm	25 bar	25 bar	16 bar	10 bar
67 mm	16 bar	16 bar	16 bar	10 bar

*LTC Fittings performance when correctly assembled with Lawton Tube's EN13448 copper tube using tin/copper soft solder EN 29453 or tin/silver soft solder EN 29453

SERVICE TEMPERATURE**						
Size	Min -196°C	65°C	120°C	150°C	175°C	Max 200°C
8mm	62.5 bar	62.5 bar	58.8 bar	46.7 bar	35.5 bar	23.3 bar
10mm	50.9 bar	50.9 bar	47.9 bar	38.0 bar	28.9 bar	19.0 bar
12mm	42.9 bar	42.9 bar	40.3 bar	32.0 bar	24.3 bar	16.0 bar
15mm	40.3 bar	40.3 bar	37.9 bar	30.1 bar	22.8 bar	15.0 bar
22mm	35.6 bar	35.6 bar	33.5 bar	26.6 bar	20.2 bar	13.3 bar
28mm	28.2 bar	28.2 bar	26.5 bar	21.1 bar	16.0 bar	10.5 bar
35mm	25.2 bar	25.2 bar	23.7 bar	18.8 bar	14.3 bar	9.4 bar
42mm	23.2 bar	23.2 bar	21.8 bar	17.3 bar	13.1 bar	8.6 bar
54mm	19.8 bar	19.8 bar	18.6 bar	14.7 bar	11.2 bar	7.4 bar

** Max hydraulic working pressure for LTC fittings when assembled with Lawton Tube's EN13348 copper tube using hard solder (brazing alloy) to EN 1044

SERVICE TEMPERATURE*					
Size	Min -196°C	65°C	120°C	150°C	Max 200°C
67mm	18.6 bar	18.6 bar	17.5 bar	14.0 bar	6.9 bar
76mm	18.6 bar	18.6 bar	17.5 bar	14.0 bar	6.9 bar
108mm	17.2 bar	17.2 bar	16.2 bar	12.9 bar	6.4 bar
133mm	10.5 bar	10.5 bar	8.5 bar	7.7 bar	4.1 bar
159mm	11.7 bar	11.7 bar	9.7 bar	8.6 bar	4.6 bar

*** Max hydraulic working pressure for LTC fittings when assembled with Lawton Tube's EN13348 copper tube using hard solder (brazing alloy) to EN 1044

MUNSEN RINGS

The pipeline should be adequately supported at sufficient intervals in accordance with the below table to prevent sagging or distortion. Supports for the surface-mounted pipework should provide clearance to permit painting of the surface.

Where it is essential for pipes to cross electric cables or conduit, they should be support at intervals either side of the crossing to prevent them from touching the cable or conduit. Supports should be of suitable material or suitably treated to minimise corrosion and prevent electrolytic reaction between pipes and supports.

> HTM 02 compliant
> Suitable for interior and external use

Sizes	Material	Thread
12mm - 159mm	Brass	M10

Outside diameter (mm)	Maximum interval between supports (m)
Up to 15	1.5
22 – 28	2.0
35 -54	2.5
> 54	3.0
Note: Consideration should be given to additional supports near LVAs, elbows etc where the potential effects of inadvertently applied torque can result in serve pipeline distortion or fracture	

NOTES

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Gas Control Equipment