Central System of Medical Gases



Medicop Medical equipment

Dear clients,

With present brochure we would like to introduce our newest system for central medical gas supply, which complies with demands of standards EN ISO 7396-1 or HTM 02-01 and includes the most advanced technical solutions. In this brochure you will find the most important benefits which the system offers, while detailed technical data and drawings are available in our Technical Catalogue.

Our entire production program of medical equipment includes the following product-groups:

- Central System of Medical Gases
- Medical Suction Units
- Oxygen
 Therapy Devices
- Bed Head Units
- Medical Supporting Equipment

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CENTRAL SUPERVISION OF MEDICAL GAS SYSTEM

"Observe the status of your gas system from anywhere in the world"

Our experiences of over 30 years with production and installation of medical gas systems and our professional staff are the basic reasons why we are able to offer perfect and complete medical gases system to any healthcare institution, as well as the professional consulting in this field.

One of the main advantages of our system is new Supervision System with CAN-BUS technology, which enables collection of all conditions of gases in one place and distribution of this information worldwide via internet, or mobile phones. There are two supervision models available; one with central LED display and one as software which can be installed to PC. Working with MEDICOP Supervision System will offer you great pleasure, because of the following reasons:

SUPERVISION AND MANAGEMENT

the status of all medical gases and their characteristics can be seen in one place and therefore action in case of malfunction or maintenance-demand can be punctual.

ACCURATE CALCULATION OF COSTS

the system enables overview of gas consumption for separate sectors in a building and is therefore it a great tool for costs-calculation of medical gases.

CAN-BUS TECHNOLOGY

enables fast functioning of system, reliable connection, safe network and compatibility for integration in other networking systems (SAP, Navision, etc.).

CONTROL FROM ANYWHERE

the access into supervision system can be remote via internet and it is also possible that the system submits essential warnings as text-messages to the supervisor's mobile phone.

SCHEDULING OF MAINTENANCE

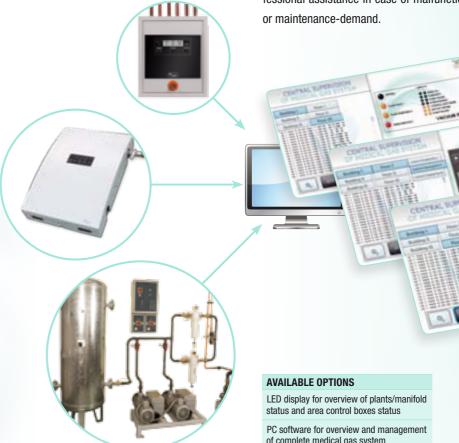
warning messages for maintenance and service are displayed prior the work is required and therefore the supervisor can be always prepared for such action.

SIMPLE UPGRADES

when additional components are installed in an existing medical gas system, it is possible and very easy to include their status into the existing central supervision system.

ASSISTANCE NEEDED?

PC version of supervision system also enables the manufacturer to view the status of gases from his location and to offer professional assistance in case of malfunction, or maintenance-demand.



MEDICAL GAS MANIFOLDS

"Perfect function, simple control"

Gas manifolds are designed to supply the pipeline system with sufficient quantity of gas by cylinders and/or tanks. The typical manifold for medical gases (0,, N,0, C0,, or medical AIR) according to EN ISO 7396-1 or HTM 02-01 consists normally of two-side cylinder supply with automatic change over between empty and full side, and additional third source for emergency supply. For oxygen usually the liquid source is being used as primary supply, while two-side cylinder supply is being used for reserve. The design of Medicop manifolds enables very reliable function and offers for user variable advantages, for example:

MULTIFUNCTION

we have models available for small clinics with only one terminal unit for gas and up to the biggest health care institutions with thousands of terminal units.

INTEGRATED DIGITAL DISPLAY

all information about manifold status (pressure level of each source, line pressure level) and alarm are being monitored on one display, which enables also forwarding of collected information to the central supervision of medical gases.

EASY HANDLING

special conical shape of cylinder connection and a handle fixed on all connecting points enable that all empty cylinders are changed without using any tool.

EASY MAINTENANCE

filters and other waste components are placed in such position that they are very easily accessible and therefore the regular service can be done in very short time.





COMPATIBILITY FOR EVERYBODY

the valves for cylinder connections are available in all standards for high pressure equipment, which are being user around the world.

FLOW IS NEVER INTERRUPTED

double line-pressure regulators and NIST inlets make it possible, that the pipeline is supplied with required quantity of gas even during maintenance or service of any component of a manifold.

SAFETY, ALWAYS IN OUR MIND

there are special safety valves installed for each source of high pressure, as well as separate safety valve for line pressure.





AVAILABLE OPTIONS

50 m³/h Capacity 100 m³/h 180 m³/h 1 - 48**Number of cylinders**

analogue by gauges, Display of status/alarm digital with central LCD Carbon Dioxide, Air, Nitrogen, Helium EN ISO 7396-1

MEDICAL GAS PLANTS

VACUUM, AGSS PLANTS

Energy saving: the most important function for a gas plant is that the operation and capacity of all components are synchronized, because in that way the consumption of energy is as low as possible. Therefore we offer special control boards for operation of compressors, pumps and filtration systems.

AVAILABLE OPTIONS

Available capacity of air plant 200-5000 lit/min Available capacity of vacuum plant 25-760 m 3 /h Available capacity of AGSS plant 8-295 m 3 /h EN ISO 7396-1 or HTM 02-01

LOW NOISE LEVEL

the use of a low speed fan and modern techniques of vibro-acoustic optimization has resulted in extremely low noise levels.



SIMPLE TO INSTALL, EASY TO OPERATE

we deliver all components of plant preassembled and ready for operation. On site it is just necessary to connect all components and start up the plant.

PERFECT OVERVIEW OF STATUS

the control board for operation of compressors/pumps and filtration system provide all possible information about the status of plants, like current pressure level, overheating notice, fault of separate component, counter of working hours, etc. It is possible to connect all information to the central gas supervision.



Save huge amount of energy with an appropriate gas plant. We offer medical gas plants for compressed air, vacuum and anesthetic gas scavenging. Compressed air can be used either as medical air, or as energy source for driving surgical tools. The typical plant according to EN ISO 7396-1 or HTM 02-01 usually consists of 2 or 3 compressors/pumps, board for their control, pressure vessel, filtration system and pressure control panel. The design of Medicop plants enables very reliable functions and offers variable advantages for user, for example:

OPTIMIZED PRESSURE CONTROL

pressure control panel can be combined for medical air and surgical air, or separate for each air source. Double regulators with bypass are installed for each source to assure continuous supply in case of service or maintenance of any component.

PERFECT AIR QUALITY

the water separator and coalescing filters remove free water and particles down to 0.01 micron and eliminate oil droplets down to 0.01 ppm. A heatless desiccant dryer reduces moisture content to a pressure dew point of -40 °C, removing any risk of

condensation, bacteria and mould growth. A dual cleaning stage includes activated carbon to eliminate hydrocarbons (oil vapor, smells). A catalyst then converts CO into CO₂. A particle filter at the exit removes particles which may have been introduced in the desiccant stages down to 0.01 micron.

HIGH EFFICIENCY COMPRESSORS

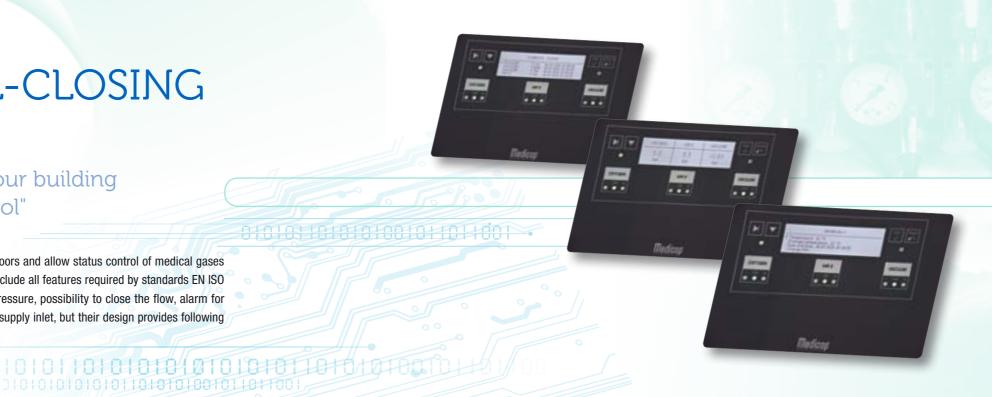
we use compressors/pumps, which are designed and manufactured to meet the industry's expectations of the highest quality standards. They have been designed to be service friendly with direct and easy access to all components. Wear out of parts is reduced to a minimum.



CONTROL-CLOSING BOXES

"Keep all gases in your building under perfect control"

Control boxes are installed in individual floors and allow status control of medical gases throughout the building. Medicop boxes include all features required by standards EN ISO 7396-1, HTM 02-01 like monitoring of pressure, possibility to close the flow, alarm for too high, or too low pressure, emergency supply inlet, but their design provides following advantages for the user:



FASCINATING DESIGN

front panel is made of dark tempered glass. All controls and monitored parameters are integrated on that very panel.

AUTOMATIC ADJUSTABLE DIGITAL DISPLAY

the field of display is automatically adjustable regarding the number of gases installed in a box. It is possible to install 1 to 5 different gases in a single box. With push

buttons TAB and DOWN the user can check and manage all available menus of the software. The settings in software are allowed only to authorized personal and the access is secured by PIN code.

MEASURING OF CONSUMPTION

with an installed flow-sensor a user can obtain information about how much gas was spent in a certain period of time in a certain medical department.

MEASURING OF TEMPERATURE

with installed ambient temperature-sensor it is possible to set an alarm for too high temperature of gas.

HISTORY OBSERVATION

all events for each installed gas are being stored in a software of display. A user can therefore observe the history of all errors of pressure level, temperature errors, inappropriate opening of doors, etc. For each event its start and end are being stored.

INTEGRATION WITH **CENTRAL GAS SUPERVISION**

there are available CAN-BUS contacts and potential-free contacts to integrate information of control box with central gas supervision system.

PHYSICAL INTERRUPTION OF FLOW

with special plates attached (red-stop), (green-go) it is possible to close the flow physically and then carry out a professional leakage test.



AVAILABLE OPTIONS	
lumber of week	

Number of gases	1 – 5	
Installation	surface-mounted, sunken-mounted	
Monitoring/alarm	analogue by gauges, or digital by LCD	
Size of connecting pipe	8 – 22 mm	
Additional equipment	flow-sensor, temperature-sensor, back-up battery for display valve sensor door sensor	
	EN ISO 7396-1 or	

HTM 02-01





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TERMINAL UNITS

"Simple, reliable, and delivered immediately"

Terminal unit for medical gases is the product we have the most experiences with. We started to produce and install those products 25 years ago. Continuous improvements during the years made our terminal units to be among the best in the world nowadays. There are several reasons, why you should choose Medicop terminal unit for medical gases:



SMOOTH CONNECTION

the connection and disconnection run incredibly smooth, both the connecting-positions (parking and final) are very markedly, which means it is not necessary to hold the medical device by hand when being disconnected, it will remain in parking-position itself.

LONG SHELF LIFE

outlets are made of special material (Polyamide), which is very resistant against wear out. Our outlets installed 25 years ago are therefore still in function.

COMPATIBLE FOR EVERYBODY

the design enables installation of outlet as surface-mounted, flush-mounted, hose-mounted, or BHU-mounted. On client's request we offer special constructions of outlets in order to be compatible with any model of bed head units, or ceiling pendants.

EASY INSTALLATION

we deliver the outlets preassembled, so that on site it is just necessary to install them in appropriate boxes and connect them to the gas source.

ADVANCED SAFETY

the body of outlet is fixed to the gas source by safety nut. This prevents non-competent personnel to connect the outlet to the wrong gas source. The releasing rings are gasspecific not only because of different label but they are also of different shape, so it is absolutely impossible to mix them.

ADVANCED CLEANNESS

as an option we offer outlets with sinter filter to assure supply of cleaner gas for patients.

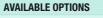
EXTREMELY FAST DELIVERY

we keep large quantity of all models on stock. From Medicop you can get medical gas outlets in the shortest time.









Available standards

DIN (German),
BS (British),
SS (Swedish)

surface wall-mounted,
flush wall-mounted,
BHU/pendant mounted,
hose-mounted,
Y-model

oxygen, N₂O, medical air,
surgical air, vacuum,
CO₂, nitrogen, AGSS,
mixture O₂/N₂O, AGSS



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PIPELINE SYSTEM

"Connect perfect components with perfect network"

High quality components of medical gas system are worthless, if they are not connected by professionally installed pipeline system. MEDICOP has more than 30 years of experiences with installations and maintenance of medical gas systems and therefore we can assure to our clients professional service for this work, either by our own installation teams, or trained partners.



we use only specially degreased copper pipes with certificate for medical gases.

FULL ASSORTMENT OF FITTINGS

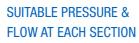
no matter what shape and size your facility is, we can provide appropriate fittings, which will make the work for installers easy and fast.

ACCOMMODATION FOR SPECIAL BUILDINGS

we can provide special carriers and supporters for pipes in case the regular models are not appropriate regarding the situation on a building.

SECURED CONTROL OVER PIPELINE SYSTEM

the shut-off valves can be provided either lockable, or un-lockable models. The advantage of lockable model is to prevent incompetent persons to shut down/on the gas flow.



the in-line pressure regulators can be provided of different capacities in order to assure appropriate quantity of gas at each sector of the building.

DON'T BELIEVE PROMISES, BELIEVE TEST RESULTS

each component of gas system as well as the complete system are tested according to all requirements of relevant standards before the system is handed over to the user.

ASSISTANCE FOR CALCULATIONS

we are pleased to offer our clients also the professional consulting for the new medical gas systems, or their upgrades in order to chose the appropriate components of the system regarding to capacity, power, pipeline sizes, etc.



AVAILABLE OPTIONS	
Sizes of copper pipes and fitting	8 mm – 76 mm
Sizes of shut-off valves	3/8" – 3"
Models of shut-off valves	lockable type, un-lockable type
Capacity of in-line pressure regulators	50 Nm³/h 100 Nm³/h 180 Nm³/h



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All products comply with: MDD 93/42/EEC and 2007/47/EEC

