



Cruise & Passenger Marine

Offshore Oil & Gas

Private Marine & Super Yachts

PRODUCT CATALOGUE Medical Oxygen



Seafaring has always been a dangerous occupation. Long voyages, extreme weather conditions, illnesses and accidents can take a heavy toll on the health of crew members. Not only are they exposed to greater risk, seafarers are also isolated from the usual sources of medical care and assistance available to people on shore.

In the event of an emergency, seafarers are totally reliant on the medical equipment and medical devices on board and their proper functioning. It is therefore advisable to get adequate assistance from specialists when selecting the best medical equipment. As product specialists in the field of medicinal gases and related accessories for the marine & offshore industry, we know all about your needs and will guide you to the best and cost-efficient product solutions.

According to the Maritime Labour Convention 2006 ("the MLC, 2006"), adopted by the International Labour Organization (ILO), a seafarer, while working on board, has the right to health protection and medical care as comparable as possible to that which is generally available to workers ashore. This is why MedOx Marine supplies medical oxygen as a registered medicine which is exactly the same as the medical oxygen gas which is supplied to hospitals and other medical facilities on shore. Medical oxygen is considered to be a prescription drug and is part of the medical outfitting on board of a vessel.

The exact medical oxygen requirements on board of a vessel depends on a number of criteria such as the number of crew members, type of cargo and vessels' sailing area (more or less than 200 nautical miles from shore). For the determination of the quantity of medical oxygen that a vessel must carry on board, we refer to the applicable regulations. Which regulation needs to be followed, depends on the flag state of the vessel under which they sail. Some flag states do not have their own regulation and in most cases they follow the regulations of the World Health Organization (WHO Model List of Essential Medicines).

Ships with a dangerous cargo certificate must also comply with the regulations set out in Appendix 14 (List of Medicines and Equipment) of the Medical First Aid Guide (MFAG) of the International Maritime Dangerous Goods (IMDG) Code adopted by the International Maritime Organization. Also called the PTC which is the abbreviation for Poison Treatment Chest.

This catalogue gives a good impression of our product range and business activities. Nevertheless, our MedOx Marine Team is at your disposal 24/7 to assist you with all your medical oxygen inquiries. Please send your e-mail to: **medox@lagaay.com** and we will make sure that your medical oxygen on board meets the latest product standards and complies with the applicable regulation(s).



Medical Oxygen



Health and Youth Care Inspectorate Ministry of Health, Welfare and Sport MedOx Marine distributes medical oxygen 100% v/v at 200 bar (2900Psi) which is registrered by the Dutch Ministry Of Health, Welfare and Sports (Health and Youth Care Inspectorate) and thereafter relabeled by Pharmacy Lagaay International B.V. for safe use within the marine ϑ offshore industry worldwide. Health care in The Netherlands is considered to be one of the best in the world, which ensures a high and reliable quality standard.

Our product meets the highest quality standards. In the first place, our medical oxygen gas and gas cylinder must comply with the regulations of the **Dutch Ministry of Health**, **Welfare and Sports** and the **European Pharmacopoeia (EP)**. Both legislations are complementary to each other and are very strict in order to guarantee the integrity of the oxygen gas and the quality of the gas cylinder.

But for the worldwide distribution of MedOx, we raised the bar even a little higher. After a thorough study of the various research reports, guidelines and standards issued by the: United States Pharmacopeia (USP), British Pharmacopeia (BP), European Medical Devices Regulation (MDR), International Organization for Standardization (ISO), European Industrial Gases Association (EIGA) and the Asian Industrial Gases Association (AIGA) we have decided to set up our services in such a way that our product is globally accepted by all the responsible authorities and complies with the guidelines set by the World Health Organization (WHO), International Labour Organization (ILO), the International Maritime Organization (IMO) reflected in the Medical First Aid Guide for use in accidents Involving dangerous Goods (MFAG/IMDG) and the International Medical guide for ships (IMGS). And, of course, is in line with the various Flag State regulations.

Our main goal with this approach is to ensure the integrity of the medical oxygen gas as well as the quality standard of the gas cylinders on a global scale for safe use within the marine & offshore industry. And to do justice to the general fundamental principles to ensure decent working and living conditions for all seafarers as gathered in the Seafarers' Bill of Rights. In order to substantiate and guarantee our quality, all our individual MedOx Marine medical oxygen cylinders are supplied with the following documents:

Gas Analysis Certificate

The Gas Analysis Certificate shows the exact values of the gas composition of each batch and can only be provided if the oxygen gas has been produced as a registered medicine. A certificate of confirmaty is insufficient in our opinion, because this only indicates the minimum values with which the oxygen gas must comply with.

Package Leaflet

The Package Leaflet provides information to the user on the safe use of the gas cylinder, the administration of the oxygen gas, possible side effects and instructions and guidelines for the safe storage of the gas cylinders.

Cylinder Manufacturing & Test Certificate

The Cylinder Manufacturing & Test Certificate shows which production and materials standard has been used in the fabrication of the gas cylinder and that the manufactured gas cylinders have been randomly inspected for irregularities and that they have succesfully passed the pressure test.



Medical Oxygen (continuation)

MedOx Supply Certificate

The MedOx Supply Certificate states the filling date of the supplied medical oxygen cylinder(s), the most recent hydrostatic test or production date of the cylinder, the batch number(s) of the medical oxygen gas and expiry dates of the medical oxygen gas filling. In addition, the production and end-of-life date of the delivered high pressure regulators are mentioned on the certificate.

Please ensure that you have these documents available in the event of an inspection by Port State Control (PSC), Flag State Control (FSC) or any other inspectorate authority.

In addition to these documents, we would also like to draw your attention to the following focus points and additional product features:

Residual Pressure Valve (RPV)

All cylinders are equipped with a Residual Pressure Valve. The Residual Pressure Valve (RPV) retains a small positive pressure (1-5 Bar) in a gas cylinder even if the valve is inadvertently left open. Therefore preventing the possibility of back contamination and maintaining a high gas quality. The use of a Residual Pressure Valve also reduces the risk of moisture ingress into the cylinder. **Moisture ingress can cause corrosion and stress corrosion cracking (SCC)**, which can lead to cylinder failure through leakage or burst.

Reducing Health & Safety Risks by Replacement

MedOx Marine carries the responsibility to maintain the quality of the gas cylinders and the medical oxygen gas, therefore preventing impurity of the medical oxygen gas and the possible risk of bacterial contamination inside gas cylinders. This is why we always supply a new pre-filled cylinder, which also eliminates the maintenance interval, every 5 or 10 years (depending on Flag State requirements), for the required hydrostatic test. In order to guarantee the quality and integrity of the gas and therefore preventing possible health and safety risks, it is prohibited by the customer to refill the medical oxygen cylinder.

Medical Oxygen Gas Life Span

The life span of the medical oxygen gas is at least 30 months with a maximum of 36 months. MedOx Marine oxygen cylinders will be clearly marked with the expiry date of the medical oxygen gas inside the cylinder. The expiry date can also be checked via the provided MedOx Supply Certificate.

Pin Index Valve Connection

For safety reasons we strongly recommend to use cylinders with a pin index valve outlet. The Pin Index Safety System is specifically intended for use with medical gases and is designed to ensure the correct gas is filled into the correct cylinder, and that the cylinder will only connect to the correct (medical) equipment. The positions of the holes on the cylinder valve correspond with the pins fitted to the yoke attached to the equipment. The pin positions for each medical gas are unique.



Cylinder Valve Outlet Connections

Different regions of the world have established their own standards, e.g., British Standard (BS), German Standard (DIN), Japanese Standard (JIS), French (AFNOR) and so on. All different cylinder valve outlet standards separate gases based upon pressure and chemical property. Standardization of cylinder valve outlet connections is important to ensure product safety and integrity.

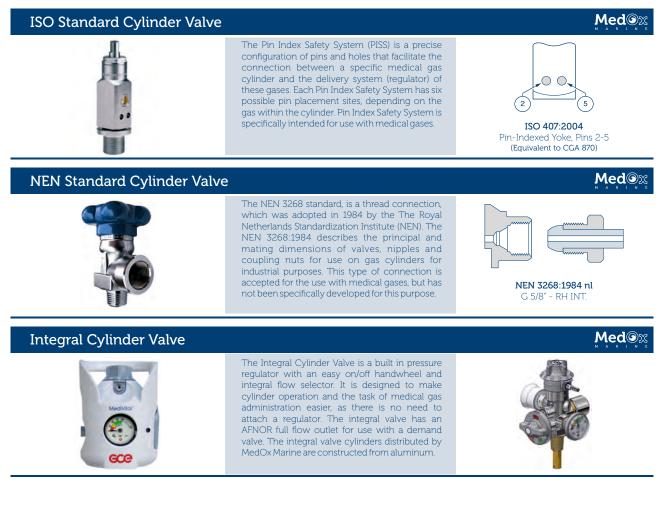
There are three basic groups of valve outlet connections:

- 1. Connections for general, industrial compressed gases (mostly threaded connections).
- 2. Connections for ultra-high integrity gases.
- 3. Pin-Indexed connections for medical gases.

For our medical gases we strongly recommend the use of the Pin Index Safety System. The Pin Index Safety System is designed to minimize the ability to inadvertently connect a cylinder to a system that may not be compatible with the gas or cylinder pressure, or that may contain a gas that would be unsafe.

If required, we can supply cylinders with a threaded connection. Our threaded connection is in accordance with the NEN 3268:1984 standard and as a third option, we also supply medical oxygen cylinders with an integral valve.

Cylinders with a different standard valve outlet connection are available upon request.







Medical Oxygen Cylinders

All gas cylinders supplied by MedOx Marine comply with the ISO 9809-1:2019 standard. This standard specifies minimum requirements for the material, design, construction and workmanship, manufacturing processes, examination and testing at time of manufacture for refillable seamless steel gas cylinders (with water capacities up to and including 450L).

In addition, all our cylinders meet the ISO 32:1977 standard for the marking and identification of gas cylinders for medical use. The marking to identify the contents of the cylinder is based on specific colour codes which correlate with the different medical gases and medical gas mixtures. In accordance with the ISO 32:1977 standard, the cylinder with medical oxygen 100% v/v must have a white shoulder and a white body.



Medical Oxygen

	2L Me	dical Oxygen Cyli	inders	
Article no.	Nominal pressure	Capacity	Valve type	Cylinder material
279750	200 bar (2900 Psi)	2L	Pin Index	Steel
204230	200 bar (2900 Psi)	2L	G 5/8" RH INT.	Steel
279805	200 bar (2900 Psi)	2L	Integral	Aluminum

5L Medical Oxygen Cylinders				
Article no.	Nominal pressure	Capacity	Valve type	Cylinder material
294630	200 bar (2900 psi)	5L	Pin Index	Steel
277760	200 bar (2900 psi)	5L	G 5/8" RH INT.	Steel
279810	200 bar (2900 psi)	5L	Integral	Aluminum

10L Medical Oxygen Cylinders				
Article no.	Nominal pressure	Capacity	Valve type	Cylinder material
279760	200 bar (2900 psi)	10L	Pin Index	Steel
206290	200 bar (2900 psi)	10L	G 5/8" RH INT.	Steel
279850	200 bar (2900 psi)	10L	Integral	Aluminum

40L Medical Oxygen Cylinders				
Article no.	Nominal pressure	Capacity	Valve type	Cylinder material
208630	200 bar (2900 psi)	40L	Pin Index	Steel
208620	200 bar (2900 psi)	40L	G 5/8" RH INT.	Steel



High Pressure Medical Oxygen Regulators



MedOx Marine works directly with GCE Group in the field of high pressure regulators for medicinal gases marketed under the name GCE Healthcare. GCE Healthcare are committed to the manufacturing of high quality and innovative medical gas equipment and associated accessories. A company known for its unrivalled quality and marketspecific expertise.

High Pressure Reducer with Gauge & Flow Regulator 0 - 25 l/min, Pin Index (ISO)			
Healthcare	Gas: Medical Oxygen Inlet pressure: up to 300 bar Outlet pressure: 3,6 - 5,5 bar Flow ranges: 0 to 25 Vmin: 0 / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 9 / 12 / 1 Pin Index Outlet connection: Outlet connection: Body material: Vickel-plated brass Complies with Medical Devices Directive 93/42/EEC, EN ISO 10524-1, EN 1789. Production in accordance with EN ISO 9001 and EN ISO 13485	.5 / 25	
248960 HP	P Reducer with Gauge & Flow Regulator 0 - 25 l/min, PI		

High Pres	sure Reducer with	Gauge & Flow Regulator 0 -	25 l/min, Threaded (NEN)	
Healthcare		Gas: Inlet pressure: Outlet pressure: Flow ranges: Inlet connection: Outlet connection: Body material: Complies with Medical Devices Directive 93/42/ Production in accordance with EN ISO 9001 and		
210710	HP Reducer v	vith Gauge & Flow Regulator 0 - 2	25 l/min, NEN	

High Pressure Reducer with Gauge, Pin Index (ISO)				
Healthcare		up to 30 3,6 - 5,5 ≥ 100 l/h Pin Inde see tabl	bar min: xx e below plated brass	
267500	MedOx Reducer with Gauge	Pin Index	DIN QC	
267510	MedOx Reducer with Gauge	Pin Index	SS QC	
267520	MedOx Reducer with Gauge	Pin Index	AFNOR QC	
267530	MedOx Reducer with Gauge	Pin Index	BS QC	
267540	MedOx Reducer with Gauge	Pin Index	DISS QC	



High Pressure Medical Oxygen Regulators (continuation)

Medical Oxygen Quick Connect Outlet Types





BS5682:2015



US STANDARD DISS 1240



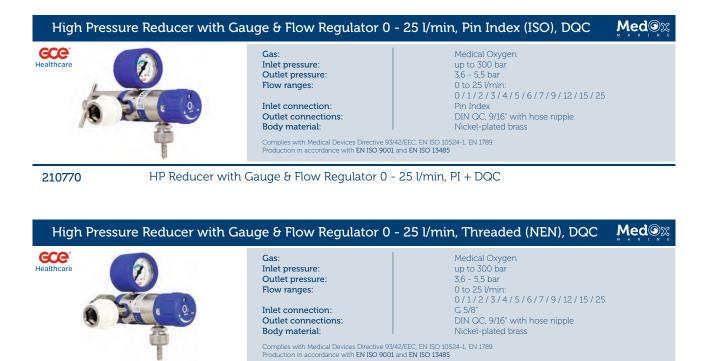
GERMAN STANDARD DIN 13260-2:2004



SWEDISH STANDARD SS875 24 30:2004



FRENCH STANDARD AFNOR NF S90-116:1988



210700

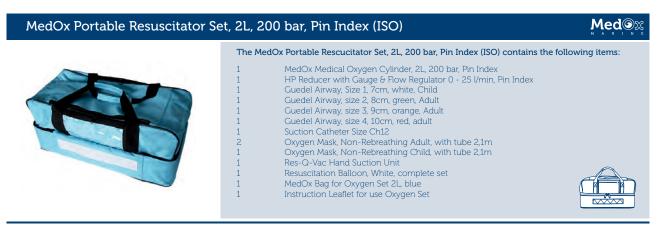
HP Reducer with Gauge & Flow Regulator 0 - 25 l/min, NEN + DQC



DIN Probe with Flow Regulator 0 - 251/min



MedOx Portable Resuscitator Set



294640

MedOx Portable Resuscitator Set, 2L, 200 bar, Pin Index (ISO)

MedOx Portable Resuscitator Se	et, 2L, 200 bar, Threaded (NEN)	
	The MedOx Portable Rescucitator Set, 2L, 200 bar, Threaded (NEN) contains the fold 1 MedOx Medical Oxygen Cylinder, 2L, 200 bar, Threaded (NEN) 1 HP Reducer with Gauge & Flow Regulator 0 - 25 l/min, Threaded (NEN) 1 Guedel Airway, Size 1, 7cm, white, Child 1 Guedel Airway, size 2, 8cm, green, Adult 1 Guedel Airway, size 3, 9cm, orange, Adult 1 Guedel Airway, size 4, 10cm, red, adult 2 Oxygen Mask, Non-Rebreathing Adult, with tube 2,1m 1 Oxygen Mask, Non-Rebreathing Child, with tube 2,1m 1 Res-Q-Vac Hand Suction Unit 1 Resuctiation Balloon, White, complete set 1 MedOx Bag for Oxygen Set 2L, blue 1 Instruction Leaflet for use Oxygen Set	lowing items:

204220

MedOx Portable Resuscitator Set, 2L, 200 bar, NEN

The MedOx Portable Resuscitator Set can also be equipped with a cylinder capacity of 5L (instead of 2L) with a Pin Index (ISO) or Treaded (NEN) cylinder valve. And in addition to that it is also possible to equip the 2L and 5L MedOx Portable Resuscitator Set with a cylinder with integral valve against extra cost.

MedOx Respiratory Accessory		
Med One	The MedOx Respiratory Accessory Refill Set contains the following items:1Guedel Airway, Size 1, 7cm, white, Child1Guedel Airway, size 2, 8cm, green, Adult1Guedel Airway, size 3, 9cm, orange, Adult1Guedel Airway, size 4, 10cm, red, adult1Suction Catheter Size Ch122Oxygen Mask, Non-Rebreathing Adult, with tube 2,1m1Res-Q-Vac Hand Suction Unit1Resuscitation Balloon, White, complete set	

205220

MedOx Respiratory Accessory Refill Set





This year, 2020, we started to make a positive climate contribution by supporting sustainable forestry projects initiated by Trees for All foundation.

For each medical oxygen cylinder sold by MedOx Marine, we will donate a financial contribution to Trees for All foundation. The Trees for All foundation plants trees in The Netherlands and abroad and offsets carbon emissions. Their mission is to plant new forests worldwide and to protect and restore existing forests. Trees are the solution for climate change and are the lungs of the world which provides us oxygen every single day.

We intend to donate at least 320 trees this year, but with your help we hope to increase this number considerably.

Because we care

how we pass on our planet to future generations



Medical Oxygen System

The European Medical Device Regulation (MDR) will enter into force on 26 May 2020. One of the most important aspects is that from this date, all medical and diagnostic devices must have a CE mark that has been sold or distributed within the European Union. The MDR is intended to improve product quality, safety, reliability and performance of medical and diagnostic devices.

Although we embrace the adoption of such a regulation, it is still unclear how the MDR will affect the marine and offshore industry and what the extent of this regulation will be. That is why we have decided not to display any products related to the Medical Oxygen System in this catalogue. As soon as more information is available, we will report on it.

In the meantime we can assist you with the supply of spare parts of your current Medical Oxygen System, such as low pressure hoses, flow meters, hose couplings, etc.

Logistics of Medical Oxygen Cylinders

Compressed gas cylinders are considered to be dangerous goods (UN 1072) and therefore extra guidelines are in force for shipping them. Nevertheless, with the help of our logistics partner, we are able to supply our medical oxygen cylinders worldwide (with the exception of a few countries).



Deliveries within The Netherlands take place directly on board or to an agent of your choice. For shipments within Europe we

prefer to send the cylinders to the agent of your choice, but on request a delivery alongside the vessel (if reachable from the quay) is also possible. A shipment outside Europe will always be delivered at (airport) terminal (DAT) and we will make sure that we provide the agent on site with the necessary documents so that he can take care of receiving and clearing the goods in a timely manner.

The costs related to the delivery are always quoted in advance.

In order to eliminate logistical costs over time, we are actively working on setting up a worldwide network of pharmacists so that our MedOx cylinders and related accessories will be available locally in the near future.

Returning Medical Oxygen Gas Cylinders

We fully support the return of empty oxygen cylinders or cylinders with an expired content, but this depends entirely on the location where this is done. On working days within regular office hours we can collect the cylinders free of charge in the ARA region (Amsterdam-Rotterdam-Antwerp) when and if this simultaneously takes place with the delivery of new medical oxygen cylinders. **Please note: We do not pay a fee for cylinders that are returned to us**.

MedOx Supply Agreement

In order to define certain supply objectives, we advise you to enter into a MedOx Supply Agreement with us. In this way you will be assured of a fixed pricing throughout the contract period and unlimited access to our extensive expertise. If you would like to receive more information about the pricing conditions and additional benefits, please contact our MedOx department via +31 (0)10 2 444 674 or send an email to: medox@lagaay.com.



MedOx Marine is a trade name of Pharmacy Lagaay International B.V., part of the Lagaay Medical Group, which in turn is part of the B&S Group. In addition to our extensive supply service and expertise in the field of medicinal oxygen, we are also a trusted supplier of a wide range of quality pharmaceutical products and medical supplies with which we can serve you well.



Lagaay International B.V. is a leading global medical supplier based in Rotterdam, the Netherlands. The company was founded in 1879 and has extensive experience in supplying medical products to the Marine & Offshore industry as well as (onshore) remote locations. In our 8,000 square meter warehouse we carry stock of more than 10,000 different medical products. A dedicated team of more than 50 staff members work around the clock to provide world-class customer service by ensuring we deliver the best product solutions to your needs.

Lagaay International is a major player in supplying medical products to the maritime industry. We supply approximately 7,000 ships worldwide and are able to supply 18 complete regulations (WHO, MCA MSN 1768, etc.) directly from stock. Our main markets are; Commercial Maritime, Cruise & Passenger Marine, Offshore Oil & Gas, Private Marine and Super Yachts. As we are in close contact with the various regulatory authorities worldwide, we know what needs to be on board to comply with all applicable regulations and to ensure proper medical care can be provided in the event of an emergency. In addition, our products have customised and multilingual labels for easy reference and safe use on board.

Besides our activities within the Marine & Offshore industry, we have also helped large companies, NGOs and governments with their remote medical needs. As we have done for these organizations, we would be more than happy to help you deliver quality pharmaceutical products and medical supplies to challenging remote locations.

For more information about our world-class service and extensive product range, please contact the sales department via +31 (0)10 4 123 871 or send an e-mail to: sales@lagaay.com.



PRODUCT CATALOGUE Medical Oxygen

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