idealMakinA®
Industrial Solution Supplier...

OXYGEN GENERATORS

O_2

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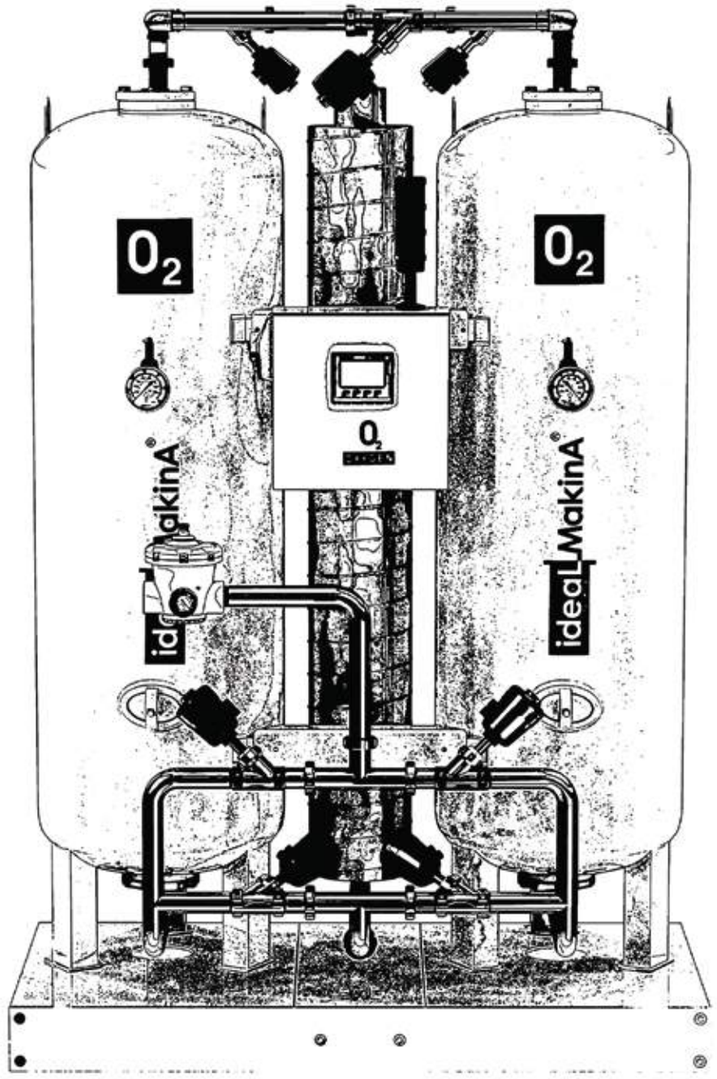
idealmakina.com



Industrial solution supplier Ideal Makina has started its journey in 2004.

We design and manufacture oxygen generators, nitrogen generators and special purifiers for gas generators in our 5000 m² factory located in Istanbul Turkey.

Ideal Makina serves high quality tailor made solutions to its customers with PSA Gas Generators for industrial and medical applications.

Ideal Makina provides after sales service to gas generators operating in more than 40 countries with its 15 people technical service team and local service partners.

MADE IN TURKEY

PRODUCE YOUR OWN OXYGEN GAS WITH IDEAL MAKINA OXYGEN GENERATORS, **FORGET** ABOUT THE **COST FOR BUYING** CYLINDER OR LIQUID OXYGEN!

IN ADDITION TO THESE;

- **The amount that you require exactly,**
- **The level of purity that your production process requires,**
- **The level of pressure that should be,**

All under your own control...

%95 PURITY

Production of Oxygen gas up to 95% purity with PSA technology

Thanks to the PSA technology utilized by **IDEAL MAKINA OXYGEN GENERATORS**, you can produce Oxygen gas with up to **95%** purity within the capacity range of **0.5-2000 Nm^3/h**.

UNINTERRUPTABLE O_2 **PRODUCTION**

These generators produce Oxygen from the compressed air available. The air is cleaned by pre-filtration which eliminates impurities, such as humidity, oil vapours, particles and hydrocarbons.

The filtrated compressed air stream is channelled into zeolite filled two columns. While the air is passing through the columns, the Nitrogen and Carbon Dioxide molecules are removed and the pressure dew point is lowered. The generated Oxygen gas is clean, dry and high purity so that it can be used for a wide variety of applications.

The parameters such as compressed air temperature, pressure, Oxygen purity and Oxygen pressure are all monitored continuously. The efficiency of **IDEAL MAKINA OXYGEN GENERATORS** guarantee sustainable and high efficiency production.

OXYGEN GENERATOR MODELS

Models	Oxygen Purity (%)	90,0	93,0	95,0
	Capacity (Nm^3/h)			
IM-GO 10		0,8	0,7	0,6
IM-GO 20		1,4	1,2	1,0
IM-GO 30		2,6	2,4	2,1
IM-GO 40		3,8	3,5	3,2
IM-GO 60		5,6	5,1	4,5
IM-GO 100		9,8	8,5	8,0
IM-GO 120		12,5	11,5	10,0
IM-GO 150		15,0	13,5	12,3
IM-GO 200		20,0	17,0	16,0
IM-GO 300		30,0	26,9	25,0
IM-GO 400		42,0	38,0	35,0
IM-GO 600		60,0	55,0	50,0
IM-GO 800		80,0	73,5	67,0
IM-GO 1000		105,0	95,0	90,0
IM-GO 1400		140,0	125,0	110,0
IM-GO 1500		155,0	140,0	128,0
IM-GO 2000		195,0	176,0	160,0
IM-GO 2500		245,0	225,0	205,0
IM-GO 3000		295,0	265,0	245,0
IM-GO 4000		390,0	355,0	325,0

** All values were measured under 7 bars compressor pressure and +25°C air/ambient temperature.*

** Please contact our engineers for different capacity and purity values.*

COMPRESSED AIR REQUIREMENTS

Temperature Range	+10°C - +50°C
Air Quality	ISO 8573.1 Class 1.4.1
Dew Point	+3°C

AMBIENT CONDITIONS

Temperature Range	+5°C - +40°C
Option	-50°C ... +60°C

TECHNICAL FEATURES

Max. Working Pressure	10 bar
Power Connection	230V, 50Hz/60Hz
Noise Level	from 55 to max 85 dB(A)

CONTINUOUS PRODUCTION

GERMAN MADE ZEOLITE

10 YEARS GUARANTEE

NON-STOP PRODUCTION GUARANTEED WITH STAINLESS STEEL VALVE SYSTEM!

• Pneumatic valves that ensure regular flow of air and oxygen during the process are manufactured from AISI 316L noncorrosive material. Owing to its long operation life, it provides problem free production for long years. Moreover, 316L stainless steel no need for maintenance.

10 YEARS OF GUARANTEE

Zeolite material which is one of the most important parts of Oxygen Generator is capable of absorbing nitrogen molecules inside compressed air thanks to the semi-permeable molecular structure. Oxygen molecules that are free inside the compressed air are stored within the oxygen buffer tank.

Zeolite material which is manufactured in Germany is guaranteed for 60,000 operational hours or for a period of 10 years.

TECHNOLOGICAL, INNOVATIVE

REMOTE MANAGEMENT USING
APPLE APPLICATIONS!

You can check your Oxygen Generator using the internet from any point across the world.

SIMPLE AND EASY MANAGEMENT

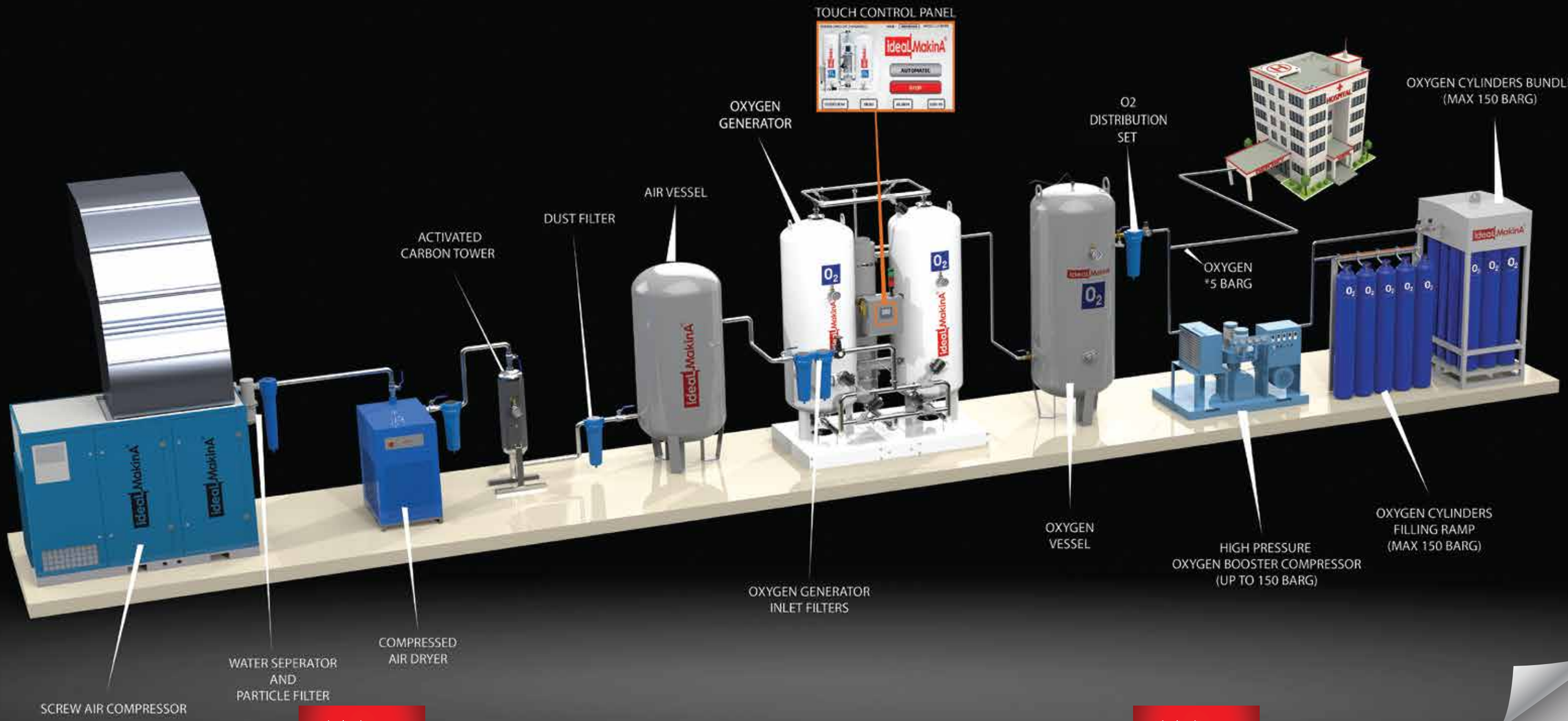
With IDEAL MAKİNA OXYGEN PRODUCTION SYSTEMS

"Touchscreen Control Panel" enables the generator to operate as fully automated. User-friendly design and ergonomic touchscreen panel ensures that sensitive measurements for all parameters can be displayed instantaneously and you can store these data.

The alarm that will appear on the screen through the sensors which sense deviations apart from the requested parameters warns the user.

ADDITIONAL ADVANTAGES

- Dew Point Sensor
- Flowmeter
- Profibus / Modbus Data Transmission
- GSM Communication
- Lan
- RS232
- Skid Mounted Mobile System
- Containerized Mobile System


TOUCH CONTROL PANEL
OXYGEN GENERATOR
O2 DISTRIBUTION SET
OXYGEN CYLINDERS BUNDLE (MAX 150 BARG)
AIR VESSEL
DUST FILTER
ACTIVATED CARBON TOWER
OXYGEN *5 BARG
OXYGEN VESSEL
HIGH PRESSURE OXYGEN BOOSTER COMPRESSOR (UP TO 150 BARG)
OXYGEN CYLINDERS FILLING RAMP (MAX 150 BARG)
OXYGEN GENERATOR INLET FILTERS
SCREW AIR COMPRESSOR
WATER SEPERATOR AND PARTICLE FILTER
COMPRESSED AIR DRYER

ENGINEERING, INSTALLATION & AFTER SALES SERVICE

Professional Engineering

Ideal Makina provides comprehensive analysis of the medical oxygen consumption of each hospital, enabling to plan and design a system that is specially tailored to meet all of the medical oxygen requirements. The service combines tried and tested oxygen generators components, user advice and services with cutting edge technology to ensure maximum efficiency. Designed for maximum reliability, Ideal Makina oxygen generators provide exceptional efficiency and production medical grade oxygen at lowest possible cost. Use this exper-tise to your advantage and let Ideal Makina your oxygen system.

Oxygen Cylinders Filling System

Ideal Makina HP system allows hospitals to reach a full autonomy by filling on-site their own high pressure oxygen cylinders. The oxygen produced by the oxygen generator can be pressurized up to 200 barg for back-up storage or to fill mobile oxygen cylinders.

Engineering & After Sales Services

Ideal Makina engineering and after sales services remain at your disposal to help you at each stage of your project, by preparing installation and PID layouts, giving you installation operating advices and answering to any technical questions you may have regarding our products. Our engineering can also operate worldwide for startup, commisioning, inspection or maintenance purpose. One example of our commitment among others: training sessions are organized free of charge for our clients at our facility in Istanbul-TURKEY.

SKID MOUNTED OXYGEN GENERATOR SYSTEM

Accelerate your project with our skid-mounted generator systems.

This type of plant assembly offers many advantages over conventional stand-alone systems

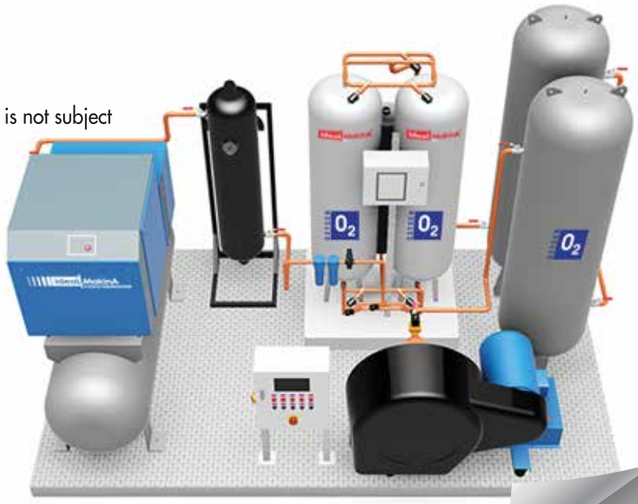
The equipment is mounted on a steel plate, assembled and pre-piped, pre- wired in the shop between individual equipment, inspected and tested prior to delivery.

Skid-mounted design helps reduce the erection, assembly and start-up time at the site; thus saving time and cost of labor, supervision, and coordination at customer's end. No need of any foundation required and shorten installation period accordingly and can save some cost.

All engineering, fabrication, controls, project management, start-up and commissioning work is carried out by IDEAL MAKINA.

Advantages:

- Easy to install on site
- Compactly in one place, saving space
- Low overall investment costs
- Reduced on-site erection and minimal site disruption
- Reliable prefabrication under workshop conditions
- Reduction of chances of errors similar installation at site is not subject to similar quality control
- Plug and play system on demand
- Reducing time and labor for installation at site
- Skid-mounted plants can be relocated more easily than site-built plants



OXYGEN CYLINDERS FILLING STATION

- IDEAL MAKINA has designed and supplied several Oxygen filling station units. We manufacture oxygen filling station units within the range of from 1 – 150 m^3/hour oxygen.
- All models include oxygen monitoring and have an electrical connection to one central point. The steel frame units are pre-connected, but electrical connections are locally made.
- The containerized units has electrical equipment such as light, ventilation, emergency stop at high temperature.
- IDEAL MAKINA offers on-site installation and customer training worldwide on these plants.
- You can make your choice from the extensive selection of standard solutions or ask us to design a custom-made solution to match your needs. The prices are very competitive. Save your expenses by using our oxygen cylinders filling stations which can pay back themself in a short time period.

Model	OFS03	OFS10	OFS15	OFS30	OFS50	OFS100	OFS150
Capacity @9 3% Purity	3 Nm^3/h	10 Nm^3/h	15 Nm^3/h	30 Nm^3/h	50 Nm^3/h	100 Nm^3/h	150 Nm^3/h
40L Cylinders Pressure	150 barg	150 bar	150 barg	150 barg	150 barg	150 barg	150 barg
40L Cylinder Filling Per Day	12 pcs	40 pcs	60 pcs	120 pcs	200 pcs	400 pcs	600 pcs
Total Electricity Consumption	10 kW	21 kW	28 kW	56 kW	95 kW	190 kW	240 kW

*OFS: Oxygen Filling Station

CONTAINERIZED OXYGEN GENERATOR & CYLINDERS FILLING SYSTEMS

IDEAL MAKINA manufacture and deliver a turnkey oxygen generation system mounted in a specifically designed cabin or ISO container for outdoor use, which can be ready for operation within two hours after arrival in the enduser site. The container does not require any technical room construction and could be placed anywhere outside the building. Besides, the system is completely mobile and can be easily moved to another location when neccesary.

IDEAL MAKINA all in one containerized oxygen plants have been improved and developed throughout the years.

Most of our generator systems can be installed in a container as Plug & Play, ready-to-use units.

The quality and endurance of our most advanced and high tech container design has been proven through consecutive tests in:

- extreme temperatures (from -32°C to +55°C)
- humidity (90% RH at 40°C)
- altitude (2,000 m or higher)

The result is an outstanding containerized producing module with features that secure trouble free operation, in accordance with most common known regulations such as ISO, PED (Pressure Equipment Directive 97/23/EC) and MDD (Medical Devices Directive 93/42/EEC).

HEALTHCARE INDUSTRY

With the IDEAL MAKINA PSA oxygen generator, you get a secure and constant source of pure oxygen. Produced directly at the hospital, the oxygen is available where and when you need it.

Installation of on-site medical oxygen generation systems in healthcare facilities is growing all around the world as a safe alternative to oxygen from gas suppliers.

Our unique medical oxygen generators are available as Class IIB certified medical devices according to the European Medical Device Directive 93/42/CE and are allowed for any healthcare application, especially after the introduction of the Oxygen 93% Monograph as outlined in the European Pharmacopoeia Supplement 7.1, which has become effective starting from July 2011.

The **IDEAL MAKINA Oxygen generators** are also certified according to the ISO 13485:2003 for the manufacturing of medical devices.

With the **IDEAL MAKINA Oxygen Generators**, finally you have access to a fully safe and reliable oxygen source, which can be installed in your healthcare facility as per ISO 10083:2006 and HTM 2022.

We can provide a tailor-made solution that fits your exact needs; i.e. skid mounting, GSM modem, remote operating and monitoring. Other parameters can be measured on request, such as hydrocarbons, CO, CO2, flow and dew point.
The Ideal Makina medical sales team is ready to consult each project with you to assure successful installation of the system. And our service department will make sure that your system is always in top condition.

Our Medical Oxygen Production, Inspection & Stocking System Concepts are as follow;

- Stand-alone system
- Skid mounted unit
- Containerized Unit

Safety first – always

IDEAL MAKINA can design and install a medical oxygen generating system with all its proper capabilities, monitoring and alarm system to reflect your local safety requirements.
The unit is equipped with touch controller for easy access and automatically calls alarms and switch to back up supply when malfunctioning occurs.

Nonstop operation

Our oxygen generating systems are designed for 24 hour, 365 days per year operation.
Cylinder filling back up provides safe delivery of Oxygen to hospital pipeline system.
And you are no longer dependent on unstable deliveries and fluctuating gas prices.

Guaranteed lower operating cost

Investing in an oxygen system is quickly earned in savings. The average oxygen production cost is 1.2 kWh per cubic meter of oxygen produced and pay off from most models is earned within the first months of operating.

SAMPLES FROM OUR PROJECTS

MNG GOLD

LIBERIA

TÜPRAG

TURKEY

SEIYUN INDUSTRIAL GASES FACTORY

YEMEN

SAMPLES FROM OUR PROJECTS

DEARSAN

SHIPYARD

TURKMENISTAN

SAMPLES FROM OUR PROJECTS

Akdağ MİNERAL TAŞ YÜNÜ

ELAZIĞ

BOSCH

INDIA

بلدية الخمس
AL-KHUMS MUNICIPALITY

LİBYA

FERNAS

TURKEY

CHU NEDİR MUHAMMED TZI

ALGERIA

GULAN GENERAL HOSPITAL

IRAQ

UNDP

LİBYA

MILITARY HOSPITAL

TAJIKISTAN

SAMPLES FROM OUR PROJECT

IRAQ

ASHGABAT INTERNATIONAL AIRPORT

TURKMENISTAN

SYRIA

idealMakinA Industrial Solution Supplier...

SAMPLES FROM OUR PROJECTS

TURKMENISTAN

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

SYRIA

SAMPLES FROM OUR PROJECTS

assmann construction

KENYA

FISH & FRY

MALTA

Cevital

ALGERIA

idealMakinA® Industrial Solution Supplier...

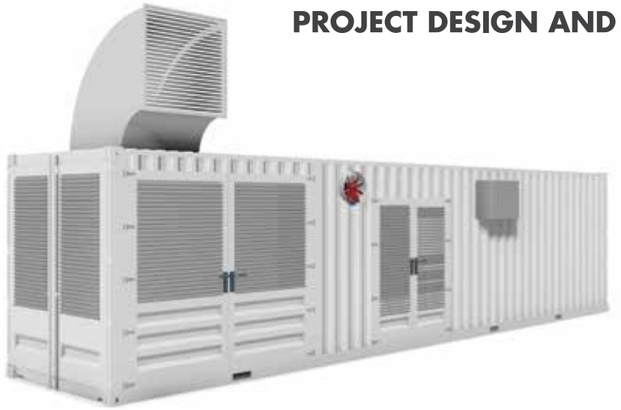
SAMPLES FROM OUR PROJECTS

MALTA

OTTMAN COMPANY

IRAQ

PROJECT DESIGN AND PRODUCTION SAMPLES



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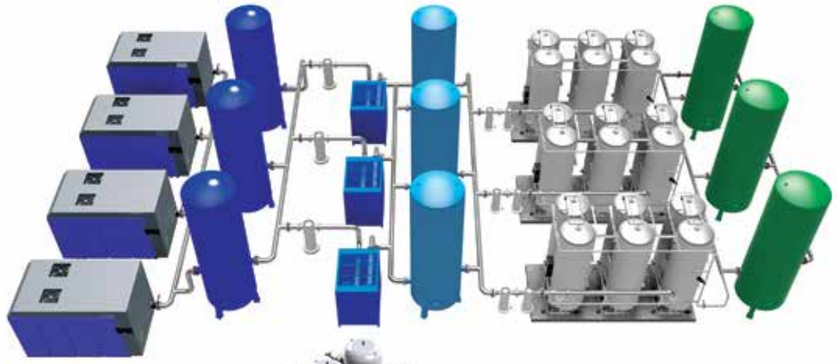
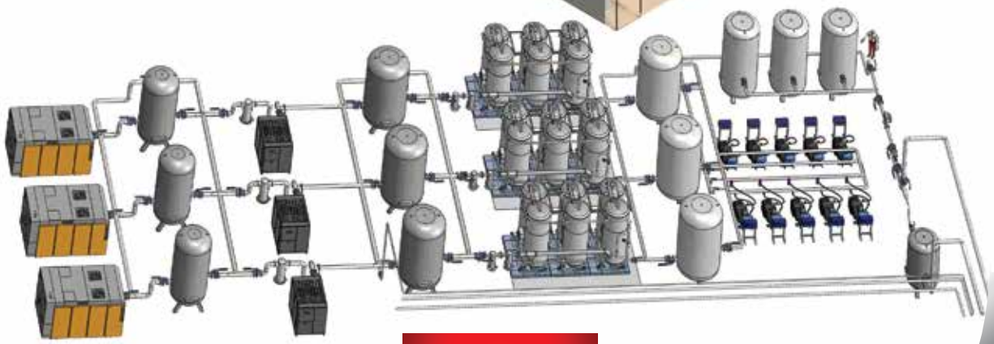
PROJECT DESIGN AND PRODUCTION SAMPLES





HEAD OFFICE

FACTORY

DESIGN

We design the gas generators by our R&D enginerrs on CAD program.
Software of PLC control systems design by our electronic engineers.

PRODUCTION

All the pipe welding, mechanical connection and electric cablling works complating in our factory. Our special V/V technology supported by CAM methods present to gas generator a long liftime.

TEST

After the production, generators are tested in our factory, on the test stands. Test reports are prepared based on capacity, purity, pressure, temperature and dew point parameters.
In case of request we can organise FAT (Factory acceptance test) and SAT (Site acceptance test).

SHIPMENT

All products that pass the test are packaged according to Ideal Makina standards.
We also supply special wooden boxes and packages according sea Cargo and air Cargo.

PRODUCT DATASHEET

OXYGEN GENERATOR MODEL	IM-GO 300 SE	
Dimensions	1260x2110x2420	LxWxH (mm)
Operating Pressure	7	bar
Max. Working Pressure	11	bar
Weight	2300	kg
Noise Level	55 max 85	Db (A)
Ambient Temperature	+5 to +40	°C
Electrical Connection	230V 50Hz 110V 60Hz	
Power Consumption	150	W
Safety Class	54	IP
Inlet Filtration	0,01	Micron
Inlet Filtration (Active Carbon Filter)	0,003	Micron
Outlet Filtration	3 to 5	Micron
Temperature*	20	°C
Above Sea Level*	0	m
Pressure*	1,0133	bar
Humidity*	70	%

OXYGEN PURITY	90%	93%	95%
Capacity Nm3/h	33,40	30,00	27,80
Compressed Air Factor	11,00	11,00	12,00
Compressed Air Nm3/h	367,40	330,00	333,60
Compressed Air m3/h *	400,46	359,7	363,62
Product Vessel (l)	1.500	1.500	1.500
Compressed Air Vessel (l)	2.000	2.000	2.000
Compressed Air Inlet	1½“	1½“	1½“
Connection Oxygen Output	1''	1''	1''
Connection Silencer	DN 125	DN 125	DN 125

*** Consult Ideal Makina for performance under other specific conditions**

Generator Specification
PSA Oxygen Generators separate oxygen pressurised air. The composition of the product is determined by measuring the residual oxygen content. The oxygen content is calculated by subtracting the residual oxygen content from %100.
Air is composed of nitrogen (78.1%), oxygen (20.9 %), Argon (0.9 %), CO2 (0.03 %), and some trace inert gases.
Compressed Air Specification
Dew point +3 °C, Air quality:according to ISO 8573.1, class 1 solid particulates and oil class 4 humidity, free of all contamination (free of ozone)

TOUCH CONTROL PANEL		
Standard	**Option**	
Siemens 4"	Siemens 7"	Trend Display
Oxygen Analyser Zirconium	Inlet Pressure	Modbus/Profinet
Outlet Pressure	Inlet Temperature	Automatic Purification
Alarm	Inlet Dew Point	Remote Control
Turkish/English	Outlet Dew Point	
Audio and Visual Operat. Status	Flowmeter	

MATERIALS	
Generator Vessels	Calculated 2.000.000 cycle dynamic load
Outside protection	Powder paint coated
Piping	Stainless Steel
Valves	Stainless Steel AISI 316 L, PA actuator
Absorbent	Zeolite, Made in Germany

İdeal Makina Endüstri Ürünleri San. ve Tic. A.Ş.
Esenkent Mh. Nato Yolu Cd. No:277 34776 Ümraniye - İstanbul - Türkiye/Turkey T +90 216 540 88 55 F +90 216 540 88 18 E info@idealmakina.com

Statement of Compliance

We **IDEAL MAKİNA ENDÜSTRİ ÜRÜNLERİ SAN. VE TİC. A.Ş.**, who are official manufacturers of Oxygen Generator System & accessories, IDEAL MAKİNA Company having factories at Emek, Ordu Cd. No:16, 34785 Dudullu Osb/Sancaktepe/İstanbul do hereby confirm that the **IM-GO 300 SE Oxygen Generator** of the **İdeal Makina** conforms the below listed specifications:

Oxygen production technology	Pressure Swing Adsorption (PSA)	Pressure Swing Adsorption (PSA)
Oxygen purity	93%±3	93%±3 (Can be adjusted in this range : 90% - 95%)
Oxygen flow at a concentration of 93%	**≥ 30 m3/h**	30 Nm3/h
Power supply	220 V / 50 Hz	220VAC±10VAC , 50Hz, Monophase
Compressed air inlet pressure	≥ 7,5 bar	≥ 7,5 bar (max. working presure 11 bar)
The installation must not affect the environment and the ozone layer	yes	Yes
Operating temperature, with values between	5°C .. +45°C [± 5°C]	+5°C .. +40°C
Central control panel	yes	Yes (Touch control panel)
Continuous monitoring with +/- 2% accuracy of the compressed air inlet pressure in the oxygen generator	+/- 2% Accuracy	Yes, Accuracy +/- 2%
Continuous monitoring with a manometer.	yes	Yes
System with valves to block the flow of oxygen in case the concentration drops below 90%, after returning to the norm the valves open automatically	yes	Yes, automatic purity system is included. When the purity drops below 90%, the valve closes the line and low purity oxygen is discharged until the purity increases. When purity returns to the desired level, the valve opens, allowing oxygen to be sent to the hospital line.
Continuous monitoring of the purity of the oxygen produced by the generator	Sensor technology: Zirconium or better	Zirconium Oxygen Sensor
Air temperature monitoring at the generator inlet	Yes	Yes (Inlet Temperature Sensor integraded)
Tank pressure monitoring system	digital or analog (pressure gauge)	Analog (pressure gauge) and Digital (pressure sensor)
Control panel / user interface, with numerical and graphical values, as appropriate	Yes	Yes
Oxygen generator control panel	Yes	Yes
Digital display	Yes	Yes(Siemens Colored LCD 7” Touchscreen Control Panel)
Clearly visible in English for at least:	Yes	Yes (English)

Oxygen purity [%]	Yes	Yes (Purity display is included)
Oxygen production trend [Nm3/hour]	Yes	Yes (Digital Oxygen Flowmeter is included +Flow on display)
Output pressure	Yes	Yes (Outlet pressure display is included)
System status, including current need for maintenance	Yes	Yes (Can see system status /Can be set the maintenance periods)
Cumulative operating hours (digital or analogue counter)	Yes	Yes (Controler count hour of working ,have digital counter)
Audible and visual alarms for:	Yes	Yes
High temperature	Yes	Yes(can be set the temperature related alarms)
Low/high pressure	Yes	Yes(can be set the pressure related alarms)
Low oxygen concentration (<90%)	Yes	Yes Low O2 concentration (<90% or you can set any value from 0-99%)
Power failure, system failure	Yes	Yes (UPS is included)
Oxygen pressure monitoring system, installing an alarm in the premises of the medical institution, which in case of low or high pressure in the network of the system, will alert the operators of the oxygen station, this must be done remotely.	Yes	Yes
Remote monitoring via a computer, smartphone or tablet, etc.	Yes	Yes
Monitoring is carried out through TCP/IP protocols.	Yes	Yes
Permanent monitoring of instantaneous oxygen flow in the network (litres/minute or m3/hour)	Yes	Yes
Continuous monitoring of oxygen pressure in the hospital network	Yes	Yes
Permanent monitoring of generator operating time	Yes	Yes
Internal storage of data and operating parameters	Yes	Yes(Data logging is included)
All oxygen generator piping to be medical grade pipe made of copper or stainless steel AISI 304/ 316L	Yes	Yes, All piping of the oxygen generatormade of stainless steel AISI 304 and valves Stainless Steel AISI 316 L, PA actuator

Alpaslan Tekin
General Manager
Dated on 09.02.2023

İDEAL MAKİNA END. ÜRÜN. SAN. VE TİC. A.Ş.
Esenkent Mh. Nato Yolu Cd. No:277/8 34776 Ümraniye-İST.
Sarıgazi V.D 470 097 1578 Tic Sic. No: 530388
www.idealmakina.com

OPERATING INSTRUCTIONS

September 2021

İdeal Makina Endüstri Ürünleri San. Ve Tic. A.Ş.

Industrial Gas Division

Oxygen Generator System Series

Manufacturer:

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Version: 001.2021
Creation Date: October.2021
Created By: Onur Yıldırım

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TABLES AND FIGURES

1. General Information

The following risk analysis describes the risk assessment and corresponding measures for risk reduction.

1.1. Introduction

IDEAL oxygen generators are based on pressure swing adsorption (PSA) technology. The operating principle is based on the adsorption principle with a molecular sieve as the adsorbent. Adsorption is the binding of particles to the surface of a substance. To generate oxygen, compressed air flows through the molecular sieve in a vessel. The vessels are filled with an adsorbent. During this flow-through phase, nitrogen molecules of the compressed air bind to the adsorbent. The free oxygen molecules flow into the product vessel unimpeded. There is a change to the second vessel following saturation of the adsorbent with nitrogen molecules. The nitrogen molecules are adsorbed again and the oxygen flows into the product vessel. The other vessel regenerates during this time.

1.2. Diagram

Oxygen generators are connected to an onsite compressed air system consisting of an air compressor, refrigeration dryer, filtration system and compressed air vessel.

Fig. 1: Structure of the Oxygen Generator System

A product vessel is connected to the outlet of the generator to ensure a continuous oxygen supply. A pressure regulator at the outlet of the product vessel can be used to change the oxygen flow.

Oxygen generators are pressurized during operation. The built-up pressure may persist for a certain time after the compressed air supply has been switched off. Ensure that the system is completely depressurized prior to maintenance or service.

1.3. Application Areas

- Healthcare Industry
- Mınıng Industry
- Metal Industry
- Fısh Farming Industry
- Waste Water Treatment Industry
- Glass Manufacturing Industry
- Ozone (O_3) Industry

1.4. Intended Use

The intended function of IDEAL oxygen generators is to generate oxygen. The performance data for the oxygen generator correspond to the capacity and purity data configured by the customer.

IDEAL oxygen generators have been designed to produce high-purity oxygen from compressed air of application-specific purities. Ensure that the oxygen generator is set to the correct oxygen concentration for the application. Supplying the oxygen generator with gases other than air or low-oxygen air is not permitted.

A prerequisite for the proper function of IDEAL oxygen generators is the observance of the operating instructions as well as the proper maintenance of the generator. IDEAL oxygen generators are designed for an inlet pressure of 7.0 bar as standard. The pressure difference at the outlet depends on the inlet pressure and oxygen purity parameters.

A fire hazard exists in case of contact with flammable substances; oxygen promotes combustion. Suitable information signs should be provided in the area of the oxygen system as a warning of this danger.

Even after the oxygen generator has been switched off, dangerous electrical voltages may still be present in the electrical equipment. The oxygen generator must be disconnected from the electrical supply before maintenance or repair work is carried out.

If the electrical connection of the oxygen generator is not made properly, contact with electrical equipment may result in a hazard.

To ensure proper functioning of the IDEAL oxygen generators, the compressed air quality must have the following characteristics:

Compressed air quality as per DIN ISO 8573.1 class 1 dirt and oil, class 4 water, free of contamination, ozone-free. Compressed air of an incorrect quality may damage the oxygen generator.

1.5. Spatial Limits

The generator must be installed in a well-ventilated interior space. The room temperature must be between +5 °C and +40 °C. Operation of the generator at temperatures below +5 °C or above +40 °C will cause damage and such damage is not covered by the manufacturer's warranty.

These operating instructions are required to ensure correct installation of the IDEAL oxygen generators. The oxygen product vessel is supplied as a separate unit. The system must be installed at the intended location.

Ensure that the oxygen generator is installed in a stable position.

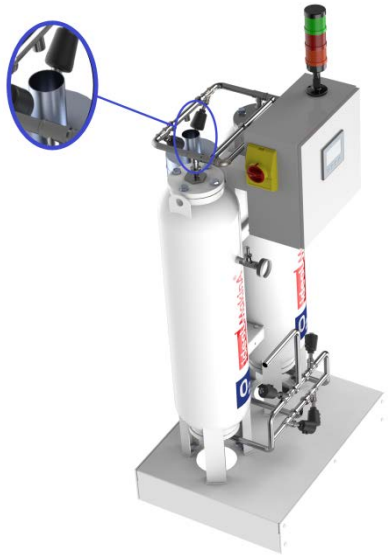


Fig. 2:Silencer Connection

The exhaust air from the IDEAL oxygen generator must be conducted from the interior to the exterior.

For this purpose, the operator must connect an exhaust pipe that complies with the technical regulations to the silencer on the oxygen generator.

Failure to meet these technical requirements may give rise to hazards. IDEAL accepts no liability for failure to comply with this requirement. In addition, the respective regulations of the place of use apply.

IDEAL oxygen generators use electrical equipment that is not explosion-proof as standard. It is not permitted to install the generators in rooms in which explosive or flammable materials are used.

Depending on the application, the exhaust air from the oxygen generator may contain an increased oxygen concentration. Continued inhalation of concentrations above 75% may cause nausea, dizziness, shortness of breath and cramps. The affected person is to be taken outside, into the fresh air. Then keep the person warm and quiet and consult a doctor. Artificial respiration is required in case of respiratory arrest.

Before entering a closed area in which an oxygen generator is operated, the safety measures must be observed. For safety reasons, the exhaust air must be discharged from the interior to the exterior.

In case of maintenance or repair of the oxygen generator, an excessively high oxygen concentration can lead to dizziness, shortness of breath and cramps if the oxygen generator is emptied incorrectly. Ensure that the installation area is sufficiently well ventilated.

1.6. Oxygen Limits

The ambient air consists mainly of nitrogen (approx. 78%) and oxygen (approx. 21%). The following table shows the influence of reduced oxygen content in the ambient air.

Oxygen content	Impact
15% – 19%	Decreasing ability to work hard. May interfere with coordination.
12% – 15%	Increase in breathing rate, associated with exertion, increase in pulse rate, impaired coordination, receptivity and judgement impaired
10% – 12%	Breathing continues to increase in frequency and depth, is weakened Judgement impaired, blue lips.
9% – 10%	Mental failures, fainting, unconsciousness, ashen face, blue coloration of the lips, nausea and vomiting.
8% – 9%	Exposure time 8 minutes: fatal Exposure time 6 minutes: life-threatening danger Exposure time 4–5 minutes: recovery with treatment
4% – 8%	Coma in 40 seconds, cramps, cessation of breathing or death.

Tab. 1: Oxygen Concentration in Ambient Air

1.7. Generator Models

	90,0	93,0	95,0
IM-GO 10	0,8	0,7	0,6
IM-GO 20	1,4	1,2	1,0
IM-GO 30	2,6	2,4	2,1
IM-GO 40	3,8	3,5	3,2
IM-GO 60	5,6	5,1	4,5
IM-GO 100	9,8	8,5	8,0
IM-GO 120	12,5	11,5	10,0
IM-GO 150	15,0	13,5	12,3
IM-GO 200	20,0	17,0	16,0
IM-GO 300	30,0	26,9	25,0
IM-GO 400	42,0	38,0	35,0
IM-GO 600	60,0	55,0	50,0
IM-GO 800	80,0	73,5	67,0
IM-GO 1000	105,0	95,0	90,0
IM-GO 1400	140,0	125,0	110,0
IM-GO 1500	155,0	140,0	128,0
IM-GO 2000	195,0	176,0	160,0
IM-GO 2500	245,0	225,0	205,0
IM-GO 3000	295,0	265,0	245,0
IM-GO 4000	390,0	355,0	325,0

Tab. 2: Generator Models

1.8. Manufacturer Information

IDEAL oxygen generators comply with the applicable laws. All necessary information for the operation of the generators can be found in these operating instructions.

Depending on national laws or regulations, an approval or inspection of the generators by an approved inspection agency is required.

1.9. Operator's Duty of Care

The IDEAL oxygen generators were designed and manufactured in compliance with the relevant harmonized standards and other technical specifications following careful selection. They thus correspond to the state of the art and guarantee a maximum degree of safety.

However, this safety can only be achieved in operational practice if all necessary measures are taken. It is the duty of the operator of the oxygen generators and of the operating personnel to plan these measures and to monitor their execution.

In particular, the operator must ensure that:

1. The oxygen generator is only used as intended.
2. The oxygen generator is only operated in a perfect, fully functional condition and the safety devices in particular are regularly checked for proper functioning.
3. The necessary personal protective equipment for the operating, maintenance and repair personnel is available and used.
4. The operating instructions are always available in a legible and complete condition at the place of use of the oxygen generator.
5. Only technically qualified and authorized personnel operate, maintain and repair the oxygen generator.
6. The operating personnel are regularly instructed in all applicable issues relating to occupational safety and environmental protection, and are familiar with the operating instructions and in particular with the safety instructions contained therein.
7. All safety instructions and warnings attached to the oxygen generator are present and are legible.

IDEAL oxygen generators may only be operated by trained personnel. The safety of the personnel is the responsibility of the operator of the oxygen generator. The operator is aware of the risks associated with the operation of the oxygen generators and the accompanying processes. The operator is responsible for personnel training and their safety.

The reserve or emergency oxygen supply is to be equipped with an oxygen pressure regulator. The pressure is to be set to the maximum operating pressure. Check all fittings and connections for leaks (screw connections may have come loose during transport – please seal them) using a leak-testing solution that is suitable for oxygen.

2. Safety Precaution

2.1. Safety Precaution During Transportation

2.1.1. Unloading, lifting, lowering the generator

- When lifting/transporting, the center of gravity of the generator may be disregarded, causing the generator to topple over and/or fall down.

  ✅ Define and mark contact points for forklift trucks and eyelets for cranes.

- There is a risk of crushing parts of the body when the generator is lowered. When lifting/transporting, the generator may fall if it is not attached correctly or if unsuitable lifting gear is used.

  ✅ Only use suitable lifting gear (crane, forklift), check the lifting capacity of the hoist.

  ✅ Do not stand under the load when lifting and setting down, remain outside the danger zone.

- If the surface is unable to support the weight or is not sufficiently level, the generator may topple over.

  ✅ Select a suitable surface; fasten the generator securely.

2.2. Safety Precaution During Commissioning

2.2.1. Compressed air connection

- Incorrect assembly, incorrect connection, defective parts, etc. may endanger the personnel during the test run. In addition, the hazard will exist during the operating phase.

  ✅ Commissioning checklist, Generator connections, Connection line min. 10 bar, only qualified personnel may commission the generator.

2.2.2. Electrical connection

- Incorrect connection or insufficient earthing could lead to the housing parts being live.

The generator may only be connected to an earthed socket by means of a plug with earthing contact.

2.2.3. Illness

- If the location of the generator is not sufficiently ventilated, there is a health hazard.

The generator must be installed in a well-ventilated interior space.

2.3. Safety Precaution During Operation

2.3.1. Impact Injuries Due to Pressurized Parts

- The generator has a maximum operating pressure of 10 bar. If the inlet pressure of the compressed air is too high, the personnel may be endangered.

On the input side, the compressed air is set to the maximum operating pressure via a pressure limiter. The safety valves are triggered above an operating pressure of 10 bar.

2.3.2. Leaks, Loss of technical tightness

- If there is a leak, oxygen can escape. If the location of the generator is not sufficiently ventilated, there is a health hazard.

The generator must be installed in a well-ventilated interior space.

2.3.3. Corrosion Due to Condensate

- Inadequate drainage can lead to corrosion.

Regular rainage.

2.3.4. Ineffectiveness of the Required Safety-Related Equipment

- Insufficient inspection and maintenance may lead to failure of the safety valves.

Regular function check of the safety valves.

2.3.5. All Maintenance and Repair Work

- Uncontrolled activation could result in injury to personnel carrying out work on the generator.

Before carrying out any work on the machine: switch off the machine at the main switch, lock the main switch and affix the warning label.

2.4. Safety Precaution During Malfunction

2.4.1. Power Failure

- Failure of the power supply during operation followed by the sudden return of the power supply could result in unexpected movements.

Automatic restart after a power failure is prevented by control measures.

3. Maintenance

In order to avoid life-threatening injuries or system damage during maintenance of IDEAL oxygen generators, the following points must be observed:

IDEAL oxygen generators may only be operated by trained personnel. The safety of the personnel is the responsibility of the operator of the oxygen generator.

For safety reasons, regular inspection and maintenance of the oxygen generator (see maintenance instructions) is required.

Maintenance and repair work may only be carried out by certified IM-GO technicians.

All work steps for maintenance or repair of the oxygen generators must be carried out in the specified order.

1. First, secure a large area for maintenance and repair work.
2. Switch off the electrical power supply and secure the oxygen generator against unintentional reactivation.
3. Depressurize all pressure units.
4. Only use the specified operating fluids.
5. Only use IDEAL spare parts that are listed in our spare parts lists (the use of non-original IDEAL spare parts voids the warranty).
6. All maintenance work must be carried out and documented in accordance with the maintenance schedule in the operating instructions.
7. In accordance with the applicable regulations, all system components must be checked in accordance with the Pressure Equipment Directive.

3.1. Inspection and Maintenance Instructions

Interval	Activity
Daily	Visual inspection of generator (error messages) Control of filtration for condensate Check the quality of compressed air
As required, but at the latest every 4,000 h or 1x per year (depending on which comes first)	Change the filter inserts
Annually or every 4,000 h within the scope of maintenance by the IDEAL technician	• Control of inlet and outlet pressure • Adjust the inlet pressure control • Control pressure dew point and total pressure • Gas purity measurement • Reference measurement of gas analysis sensors • Replace the gas analysis sensor if required • Check and adjust the gas adjustment valves • Leak test of the entire system • Check the flow rate • Check the pneumatic switching elements • Functional check of the entire electrical system • Check the function of the floating arresters • Check the condensate outlet for leaks • Function test of the oxygen generator
Every 4,000 h at the latest	Disassembly and visual inspection of the valves Replacement of valve cores if necessary
Every 24,000 h at the latest	Replace the valves

Tab. 3: Inspection and Maintenance Intervals

Maintenance intervals may be shorter in the event of heavy use or ambient conditions which differ from the specified conditions.

3.2. Replacement of the Filter Elements

The expected service life of the pre filter elements or micro filter elements (0.01µ, Ak, 3µ or 5µ) is approx.12 months or 4,000 operating hours if the compressed air compressor is properly maintained.

The filter elements were selected by IDEAL on the basis of their suitability for operation under challenging conditions. Use of filters other than those supplied by the manufacturer may cause damage not covered by the manufacturer's warranty. Only original IDEAL spare parts may be used. Otherwise, the warranty will be void.

3.3. Proof of Inspection and Maintenance

Date	Activity	Operational data	Technician

Tab. 4: Inspection and maintenance report

4. Disclaimer

We expressly point out that IDEAL is not liable for damages caused by incorrect, improper or negligent operation, maintenance or repair.

IDEAL is not liable for any special, indirect, incidental or consequential damages resulting from the use or malfunction of the equipment.

In particular, this also applies to improper use and to modifications to the oxygen generators which could impair safety.

In these cases, the product warranty and any liability will be void.

During transport by land, sea or air, screw connections may come loose and as a result the system may leak. Re-sealing must be carried out by the customer.

On receipt of your IDEAL oxygen generator, the system must be inspected immediately and carefully for damage; any sign of damage (external or internal) to the system must be noted on the delivery note and also reported immediately to both the carrier and IDEAL.

Transport damage must be reported to the shipping company that transported the oxygen generator. IDEAL cannot be held liable for transport damage!

IDEAL can only accept warranty claims in respect of material defects if overseas packaging has been explicitly ordered for the international transport from the place of manufacture in Ümraniye-İstanbul, Türkiye/Turkey, to the place of installation of the oxygen generator and for the storage of the oxygen generator.

5. Assembly

Before starting the assembly process, all information – and in particular safety information –in the operating instructions must be read carefully.

All fittings and connections must be checked for leaks and re-sealed if necessary. The screws may have come loose during transport.

5.1. Compressed Air Supply

The compressed air inlet temperature at the oxygen generator must not exceed a temperature of 40 °C.

An excessively high inlet temperature reduces the performance of the oxygen generator and causes damage that is not covered by the manufacturer's warranty. An excessively low inlet temperature can cause frost on some components and damage that is not covered by the manufacturer's warranty.

5.2. Connections

Generator	Compressed air inlet	Oxygen outlet	Silencer
IM-GO 100	1“	½“	DN 65
IM-GO 120	1“	½“	DN 65
IM-GO 150	1½“	½“	DN 125
IM-GO 200	1½“	½“	DN 125
IM-GO 300	1½“	½“	DN 125
IM-GO 400	1½“	½“	DN 125
IM-GO 600	1½“	½“	DN 125
IM-GO 800	2“	1“	DN 125
IM-GO 1000	2“	½“	DN 125
IM-GO 1400	2½“	1“	DN 125
IM-GO 1500	3“	1“	DN 125
IM-GO 2000	4“	1“	2x DN 125
IM-GO 2500	4“	1½“	2x DN 125
IM-GO 3000	4“	1½“	2x DN 125
IM-GO 4000	6“	¾“	4x DN 125

Tab. 5: Oxygen generator connections

5.3. Power Supply

Mains connection: 230 V/50Hz (other voltages are available as options on request)
The generator is to be connected to the electrical power supply by means of a plug with earthing contact. The generator must always be supplied with the correct voltage. An impermissible voltage causes damage and such damage is not covered by the manufacturer's warranty. IDEAL recommends the use of electrical filters to protect the Touch Control Panel on the generator.

IDEAL recommends connecting the generator via a supply line that cannot be switched off unintentionally. An unintended shutdown stops the generator and consequently the production of oxygen. If the generator was stopped unintentionally and further oxygen is removed, the product vessel will empty. A restart is associated with a delay.

6. Transportation

The oxygen generator should be delivered wrapped in protective foil or covered with wooden panels. Safety sings regarding shipping are either painted on the cover or attached printed on a sticker.

It is important not to stack items on top of the wooden crate since it only serves to protective purposes.

The generator shouldn't be lifted by the lifting lugs on columns or by the pipes but rather by the skid. Lifting should be done by a trained operator.

- Transportation should be done by appropriately qualified personnel.
- For transportation please check and follow local regulations for lifting and transportation of heavy cargo.
- Provide adequate lifting and transportation equipment.
- Centre of gravity in a vertical position is positioned relatively high resulting in a heightened risk of toppling the generator due to tilting, which can cause serious injury or even death.
- In case where the generator is firmly attached to the standard pallet it can be lifted by a forklift.

Do not under any circumstance use generator piping installation for lifting or stabilizing purpose.

Oxygen generator could be damaged during transportation. Putting a damaged oxygen generator into operation can result in injury or death! Check the oxygen generator for any visible damage after removing the packaging. If the oxygen generator is damaged contact the

IDEAL MAKINA is not liable for losses or damages caused during shipment.

7. Storage

The purpose of the following procedures is to ensure protection against corrosive or other damage during storage time. If equipment is stored in an inappropriate environment, it should be left to stabilize after it is moved to an environment which is appropriate. Otherwise, there is a risk of condense and a potential failure of the equipment.

To prevent damage to the oxygen generator during storage make sure that the following requirements are fulfilled:

- Generator can only be stored at a dry and clean indoor location.
- During storage ambient temperature must not exceed 1.5°C – 66°C range. For other storage temperatures please contact the manufacturer.
- Make sure that the inlet and the outlet to the generator are closed with a plug.

In case you intend to store the oxygen generator which has been in operation follow the procedure specified below:

- Close the outlet valve.
- Leave the oxygen generator operate for a while (few cycles).
- Close the inlet valve.
- Decommission the generator.
- Depressurize the generator. The dryer should get fully pressurized in one cycle.
- Disconnect the generator from electric power supply.
- Disconnect the generator from piping installation.
- Close inlet and outlet of the generator with plugs.

Use appropriate cover to protect the generator from the dust.

8. Installation

Initial Inspection

Oxygen generator could be damaged during transportation. Putting a damaged oxygen generator into operation can result in injury or death! Check the oxygen generator for any visible damage after removing the packaging. If the oxygen generator is damaged contact the transportation contractor and supplier. Damaged oxygen generator should not be put into operation!

8.1. General Installation Requirements

IDEAL oxygen generators are designed to be installed in a place that meets the following requirements:

- Indoor installation (clean and dry)
- Non aggressive atmosphere
- Well ventilated
- Ambient temperature 5°C to 45°C
- Non explosive environment
- Vibration free installation (refers to floor and piping)

Compressed air which is supplied to the IDEAL series needs to meet the following minimum requirements:

- Filtration grade: Class 1.4.1 as per ISO 8573-1:2010
- Temperature: min. +5°C / max + 40 °C
- Free from aggressive substances

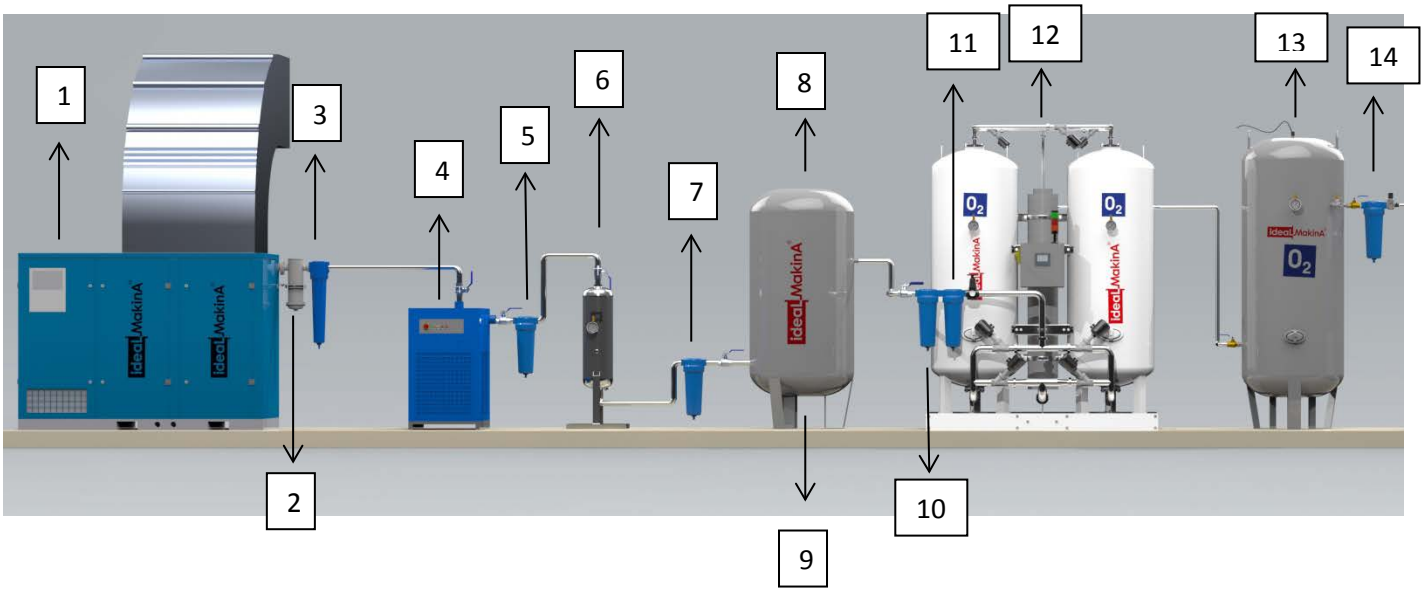
Feed air quality is essential for correct functioning of your IDEAL oxygen generator series. Please ensure filter cartridges replacement according to the intervals indicated in the maintenance table.

Manufacturer recommends use of oil free air compressor to ensure maximum quality of delivered compressed air. If use of oil free compressor is not possible, an oil lubricated air compressor may be used. The oil content in compressed air should not exceed 0,01 mg/m3. In this case the use of activated carbon filter or even better activated carbon tower is necessary.

8.2. Installation Layout

Below is the most common installation layout for oxygen generator. The scheme specified bellow is not obligatory but only provided as an example. Different arrangement of certain components is always possible.

1. Air Compressor
2. Water Separator
3. Inlet Filter 1 Micron
4. Refrigerant Air Dryer
5. Outlet Filter 0,01 Micron
6. Aktive Carbon Tower
7. Filter 3 Micron
8. Air Vessel
9. Timer Controlled Condensate Drain
10. Outlet Filter 0,01 Micron
11. Active Carbon Filter
12. Oxygen Generator
13. Oxygen Storage Vessel
14. Filter 3 Micron



8.3. Setup

- Oxygen generator should be installed in such a way that it is protected from environmental influences (compressor station).
- Oxygen generator should be well ventilated.
- Ambient temperature between 5°C and 45°C.
- Install the generator in the area where people are normally not present because of noise emissions.
- Make sure that the oxygen generator is protected against vibrations and other mechanical stress.
- Oxygen generator should stand firmly on the horizontal surface. The inclination of the unit must not exceed ±5°. If system is not installed correctly it could not be working properly. Best way to achieve this requirement is by screwing the oxygen generator to such a surface through the appropriate openings on consoles.
- Additionally check that upstream from the generator sufficient air treatment is provided (e.g. aftercooler, cyclone separator, filter, condensate drains …).
- Remove caps/plugs from the inlet and the outlet of the generator.
- Connect the air supply to the inlet of the generator.
- Connect the downstream piping line to the outlet of the filter.
- Connect the pressure sensor to appropriate electrical terminals and to the oxygen vessel.
- Connection to electric power should be done by a qualified expert. Make sure the voltage and the frequency on the mains correspond to the data on the type plate of the generator. (±5% tolerance is acceptable for voltage)
- Connect electric cable to power terminals. It is obligatory to provide connection to the ground terminal.
- After the installation or maintenance the IDEAL oxygen generator must be checked for leakage.
- Regulate the operating pressure so it matches with the specified operating pressure value.
- During normal operation loud noise (depending on the generator size up to 75 dB) can be generated. Persons responsible for installation and the end user are responsible for correct installation of the generator in order to prevent excessive noise emissions to the work environment. The installer and the end user are also responsible to install the proper safety signs at the installation site.
- Remove any packaging and other material which could obstruct the normal operation of the generator.

In case an air compressor, dryer and generator are included scope in supply, please consult the separate user manuals of this equipment for the dimensioning of sufficient

forced ventilation system in order to avoid an excessive heat accumulation in the installation room.

9. Commissioning

In order to avoid life-threatening injuries during commissioning of the IDEAL oxygen generators, the following points must be observed:

1. Oxygen generators may only be used in accordance with their intended use.
2. Before switching on the oxygen generators read and observe the operating instructions and the safety and danger information contained therein.
3. Commissioning of the oxygen generators may only be carried out by qualified personnel in compliance with the safety instructions.
4. Before the first start, check that all tools and foreign parts have been removed from the oxygen generator.
5. All safety devices must be activated before commissioning.
6. Before switching on the oxygen generators, functional checks must be carried out on the safety devices.

Fig. 3: Oxygen generator (figure may differ)

1. Connect compressed air to the inlet filter.
2. Connect the oxygen outlet to the inlet valve of the product vessel (3 m plastic included in the standard scope of delivery).
3. Connect the filter unit, including the pressure regulator and needle valve, to the outlet valve of the product vessel.
4. Connect the oxygen consumer to the filter unit.

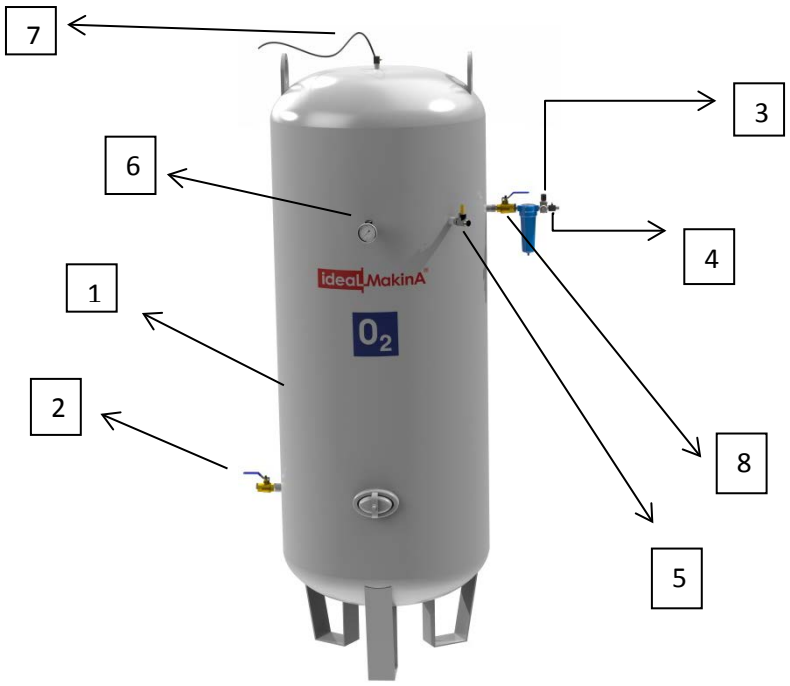


Fig. 4: Assembly of the Product Vessel Connection

1. Oxygen Vessel
2. Inlet Valve
3. Regulator
4. Needle Valve
5. Safety Valve
6. Pressure Gauge
7. Connection For Analyzer
8. Outlet Valve

9.1. Initial commissioning

The following instructions for initial commissioning of the generator must be observed.

- Electrical connection by means of a cold-device plug.
- The oxygen line from the generator to the product vessel must be kept closed.
- Switch on the compressed air supply to the generator. A secure supply of compressed air at 6.5 - 7 bar must be available to ensure proper operation of the generator. If this is not the case, check the compressed air supply.
- The generator must be switched on via the main switch on the housing of the generator.

Fig. 5: Main switch

- The Touch Control Panel boots from the point at which the main switch is actuated.

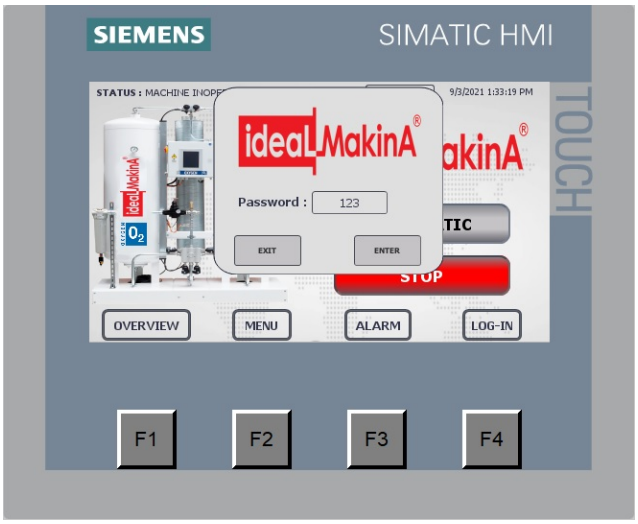


Fig. 6: Log in

- The generator is password-protected for authorization purposes: Log in on the "Settings" page using the "Log in" button and enter the password 123 in the numeric keypad that appears thereafter.

Fig. 7: Automatic operation

- Automatic operation is to be selected. The generator needs two to four hours for the complete purge of the product vessel. Only after this time are the desired purity and nitrogen pressure reached. Impure nitrogen is blown into the environment via the purge valve until the purity is within the target range.

9.2. Settings for AUTOMATIC Operation

By default, the system is delivered with the factory settings.
The customer-specific settings are adjusted on site by the customer or by IDEAL after initial commissioning.

The following steps must be performed on the Touch Control Panel:

9.2.1. Outlet pressure OFF

1. First, the correct outlet pressure OFF must be determined.
2. Close the ball valve to the product vessel.
3. The generator should run in continuous operation for 5 cycles.
4. During this phase, the pressure values in the product vessel must be observed. The highest pressure value is recorded.
5. Outlet pressure OFF is set on the Touch Control Panel. 0.1 bar is subtracted from the previously recorded max. Pressure value, i.e. max. pressure minus 0.1 bar.

9.2.2. Outlet Pressure ON

1. Once outlet pressure OFF has been set on the Touch Control Panel, outlet pressure ON is now set.
2. The outlet pressure ON must be set according to the purity by means of the following table. For this purpose, the corresponding value from the table is subtracted from the previously set outlet pressure OFF as per the table, i.e. outlet pressure OFF minus the table value.

Purity	95%	93%	90%
Minus	0.2 bar	0.4 bar	0.5 bar

Tab. 6: Oxygen generator outlet pressure ON

10.P&ID Oxygen Generator

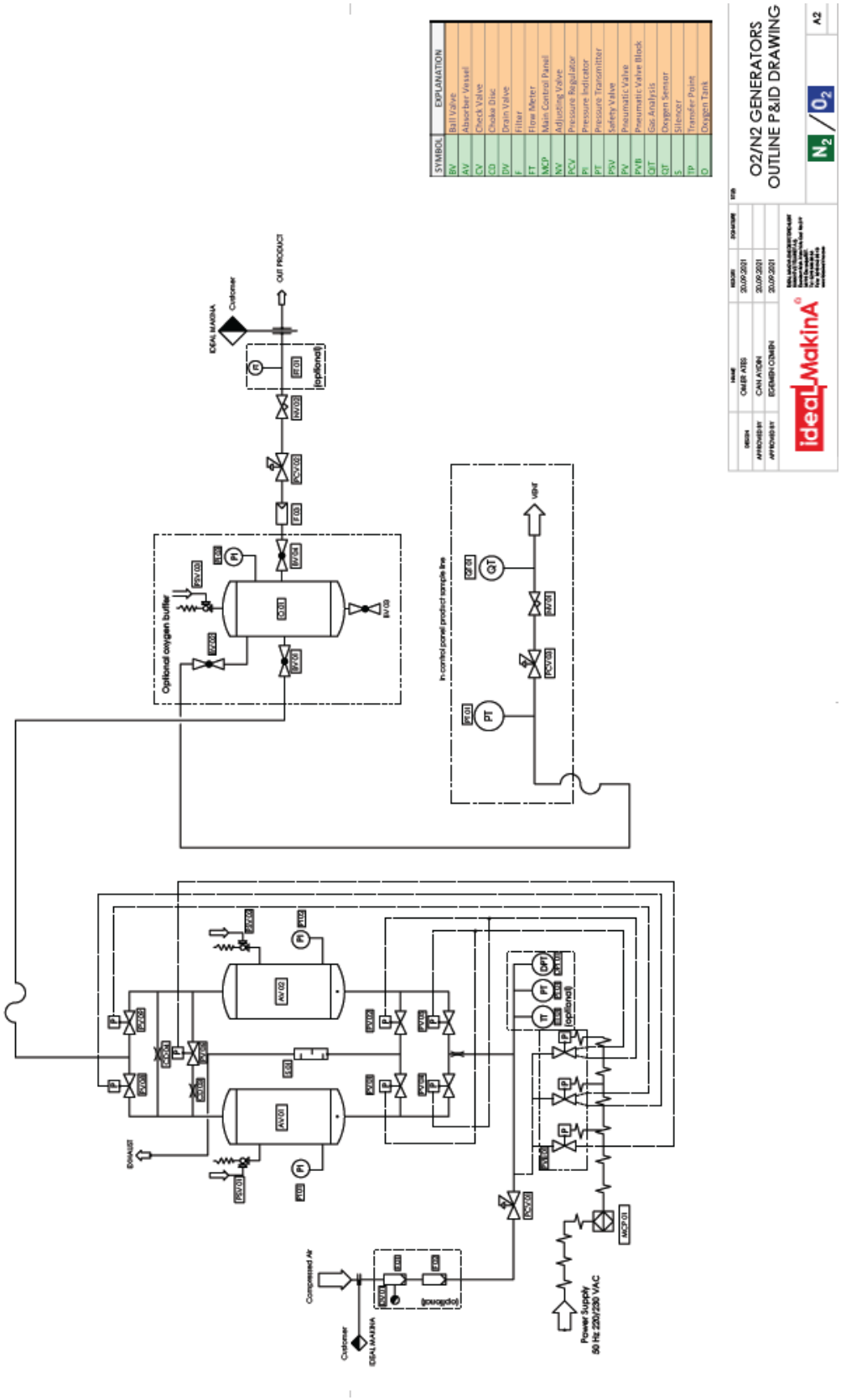


Fig. 8: P&ID Oxygen generator

11.Control and Operation for Oxygen Generator System

The production of highly pure oxygen is controlled fully automatically. To this end, a memory-programmable control regulates all functions of the IDEAL oxygen generator. All operationally relevant data are monitored. Corresponding alarms are triggered if limit values are exceeded or not reached. The alarms are set by the customer.

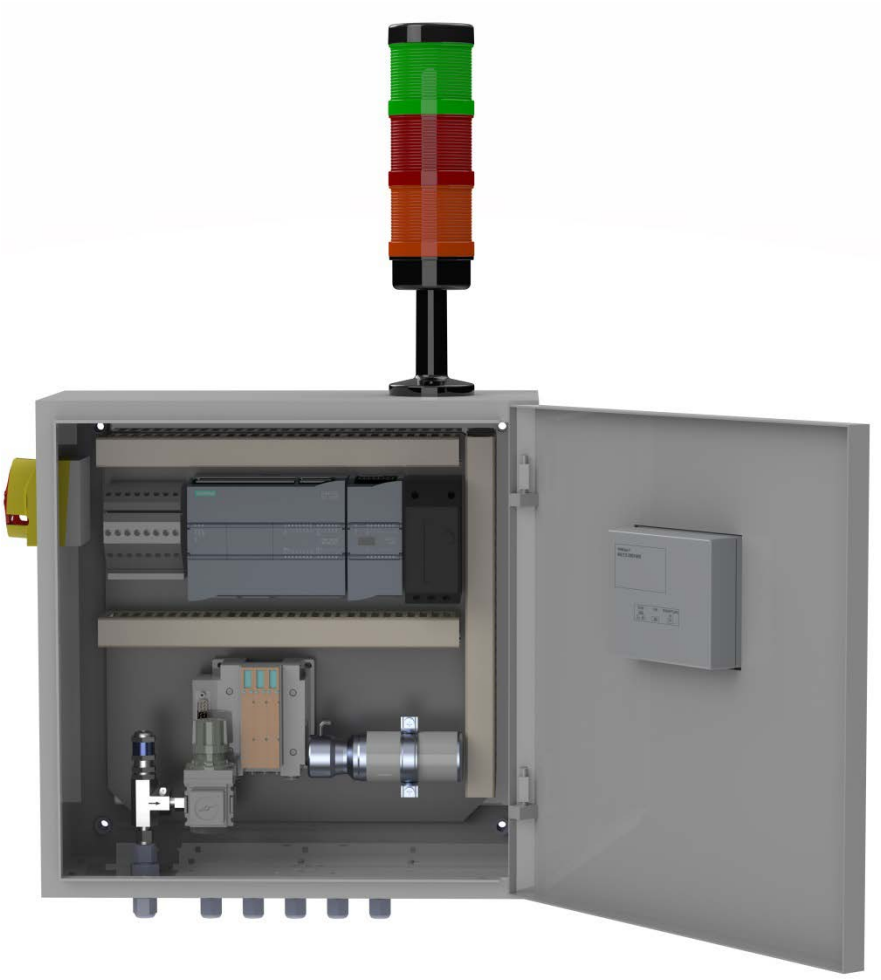


Fig.9: Switch Cabinet with Control System and Oxygen Analysis

11.1. Switching on and off

The generator is switched on and off by turning the appliance switch mounted on the side of the switch cabinet.

Starting The Generator

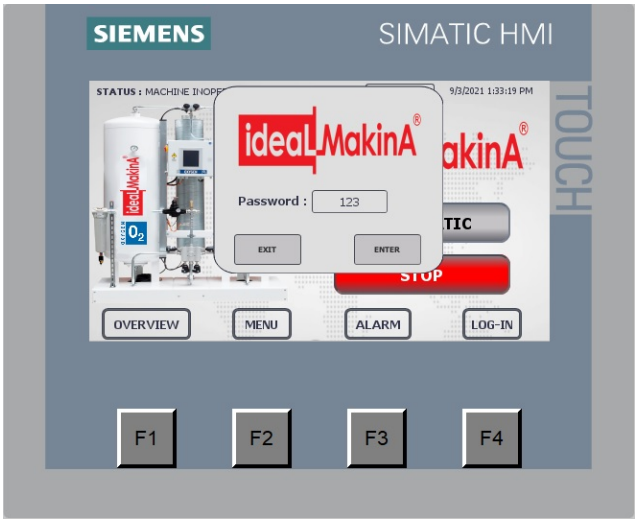
After switching on the generator, the start screen appears on the display.

The start screen permits access to the following four menus:

1. Overview
2. Menu
2. Alarm
3. Navigation

Fig. 10: Switching On and Off

Starting The Generator before the generator can be started, a password must be entered. Then enter the password 123 and confirm by pressing the ‘ENTER’. The generator can now be started in automatic or continuous operation.



Start Screen

In automatic operation, the purity and outlet pressure, and the alarms set by the customer are monitored.

In automatic operation, the purity and outlet pressure, and the alarms set by the customer are monitored.

Pressing the Stop button causes the generator to end production.

11.1.1. Overview

The current measurements of the installed sensors are displayed in the Overview menu:

1. Purity
2. Outlet pressure
3. Inlet pressure
4. Flow Rate

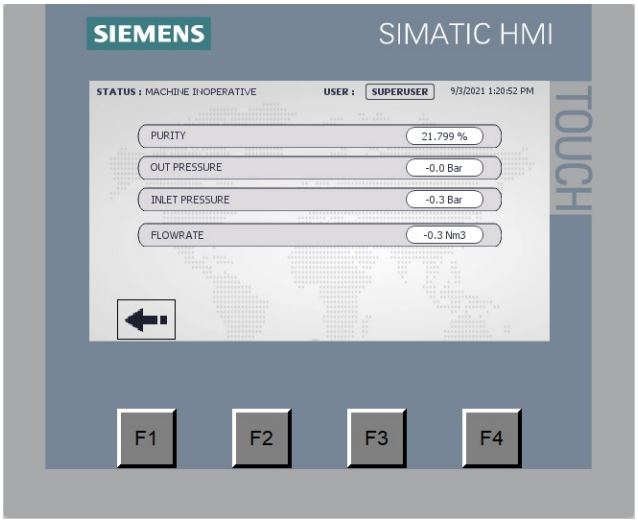


Fig. 11: Overview

11.1.2. Menu

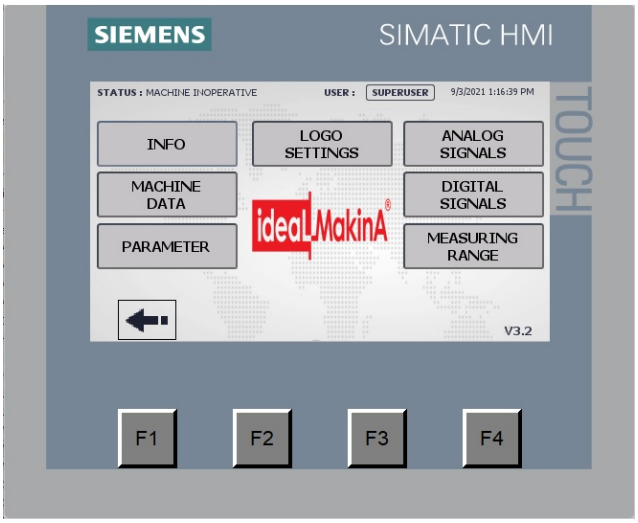


Fig. 12: Menu

MENU allows you to access other submenus:

1. INFO
2. MACHINE DATA
3. PARAMETERS
4. LOGO SETTINGS
5. ANALOG SIGNALS
6. DIGITAL SIGNALS
7. MEASURING RANGE

11.1.2.1. Info

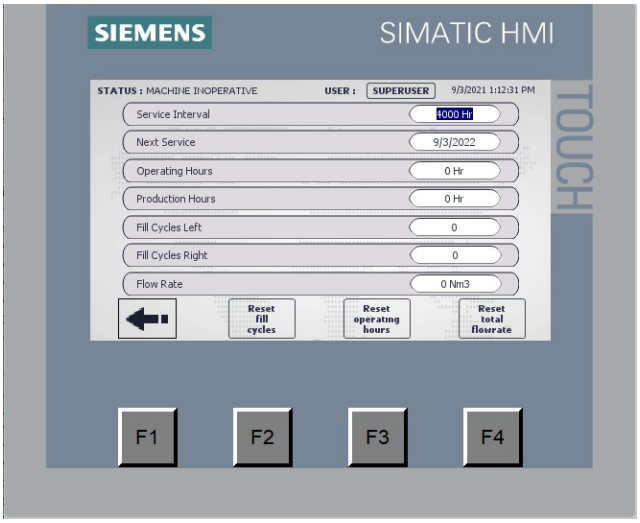


Fig. 13: Info

The following data are displayed in the Info menu

1. Service Interval
2. Next Service
3. Operating Hours
4. Production Hours
5. Fill Cycles Left
6. Fill Cycles Right
7. Flow Rate

You can also access the reset operations from this menu.

1. Reset Fill Cycles
2. Reset Operating Hours
3. Reset Total Flow Rate

11.1.2.2. Machine Data

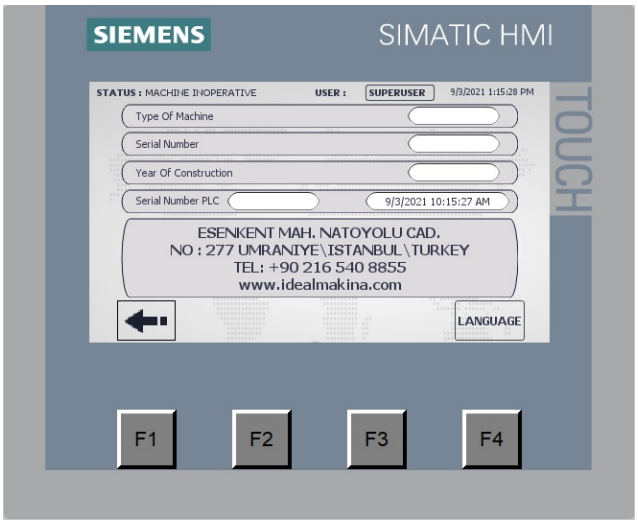
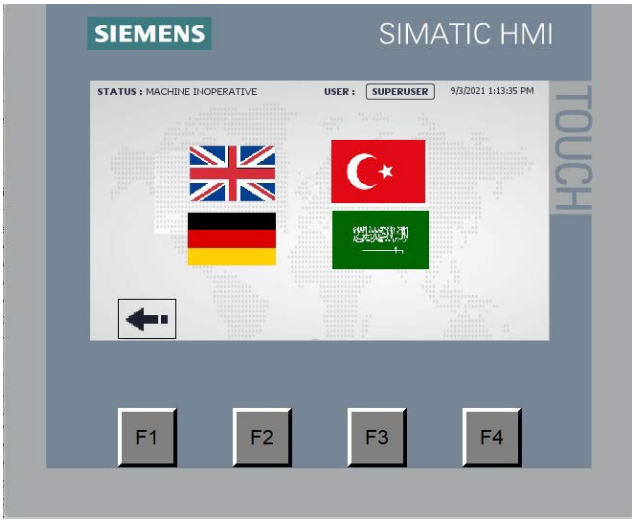


Fig. 14: Machine Data

The following data are displayed in the Machine data menu:

1. Type Of Machine
2. Serial Number
3. Year Of Construction
4. Serial Number PLC
5. Address Of IDEAL MAKİNA

11.1.2.2.1. Language



The language can be set with the corresponding button in the Machine data menu. The available languages are displayed.
Caution
After changing the language, the control system is restarted!

Fig. 15: Language

11.1.2.3. Parameters

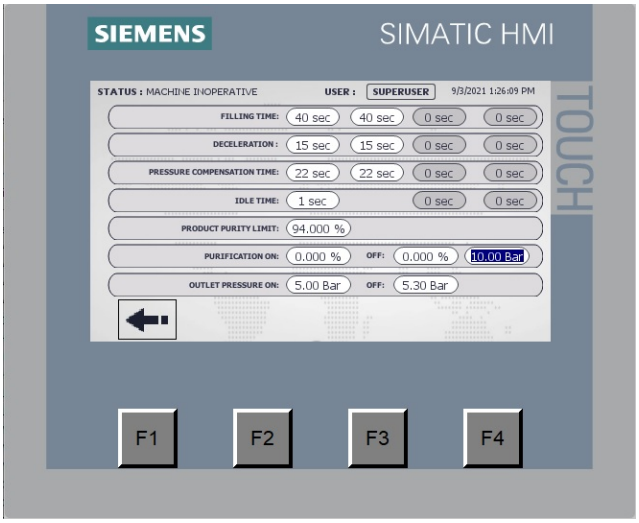


Fig. 16: Parameters

The factory-set parameters are displayed in the Parameters menu:

1. Fıllıng Time
2. Deceleration
3. Pressure Compensation Time
4. Idle Time
5. Product Purity Lımıt
6. Purification ON/OFF
7. Outlet Pressure ON/OFF

11.1.2.4. Analog Signals

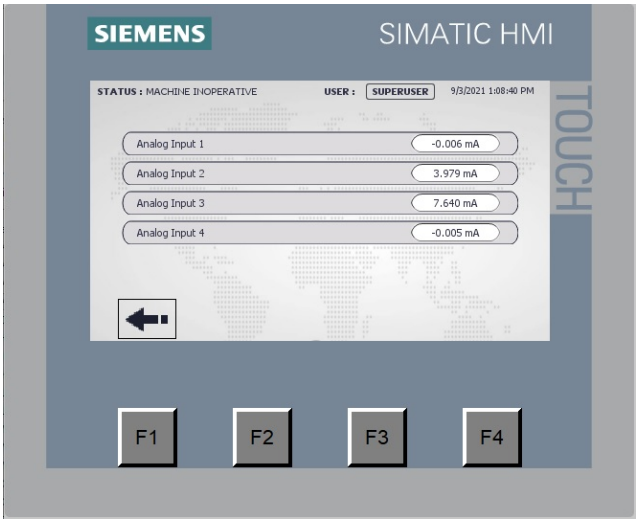


Fig. 17: Analog Signals

The current measurements of the installed sensors are displayed in milliamps in the Analog signals menu:

- Analog Input 1 ⟶ Inlet Pressuare
- Analog Input 2 ⟶ Outlet Pressuare
- Analog Input 3 ⟶ Purity
- Analog Input 4 ⟶ Flow Rate

11.1.2.5. Digital Signals

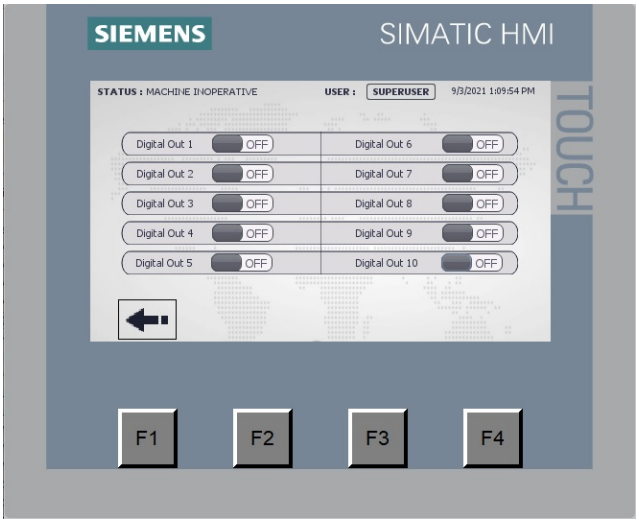


Fig. 18: Digital Signals

The installed digital outputs are displayed in the Digital signals menu:

- Digital Out 1 ⟶ Left Tank Filling
- Digital Out 2 ⟶ Left Tank Deceleration
- Digital Out 3 ⟶ Right Tank Filling
- Digital Out 4 ⟶ Right Tank Deceleration
- Digital Out 5 ⟶ Balanced (Compensation)
- Digital Out 6 ⟶ Spare
- Digital Out 7 ⟶ Stock Tank Purification Draining Valve
- Digital Out 8 ⟶ Stock Tank Purification Outlet Valve
- Digital Out 9 ⟶ Generator Running
- Digital Out 10 ⟶ Generator Fault

11.2. Sensors

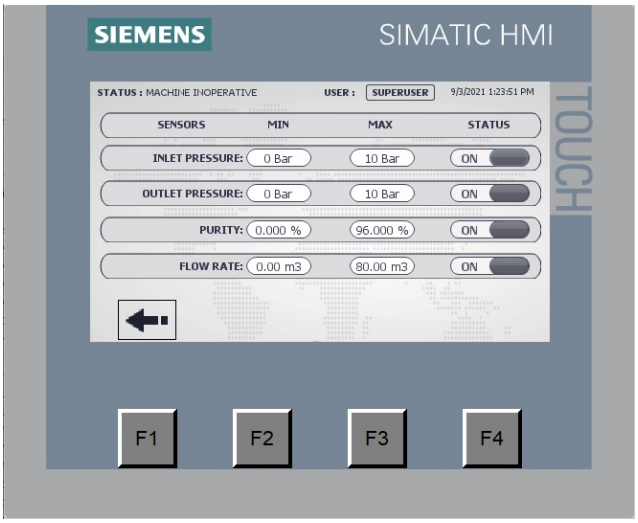


Fig. 19: Sensors

Pending alarms are displayed in the Sensonrs menu.

Only the alarms of the installed sensors are displayed:

1. Inlet Pressure
2. Outlet Pressure
3. Purity
4. Flow Rate

11.2.1. Inlet Pressure Alarm

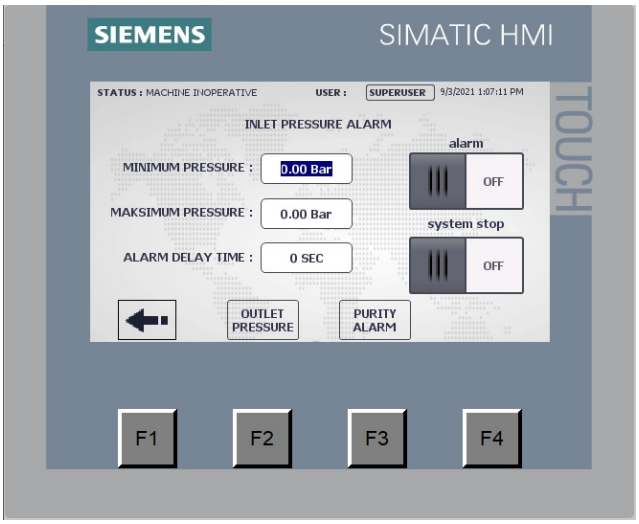


Fig. 20: Inlet Pressure Alarm

The alarm values can be set and the function “Machine on alarm switch off” activated in the Alarm inlet pressure menu. Only the alarm settings of the installed sensors are displayed.

11.2.2. Outlet Pressure Alarm

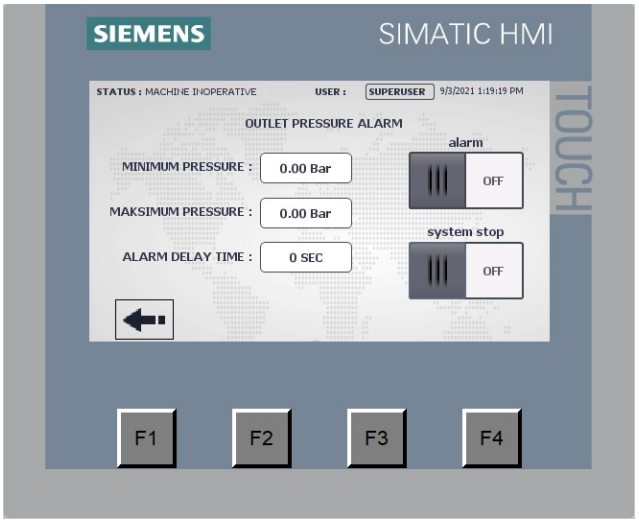


Fig. 21: Outlet Pressure Alarm

The alarm values can be set and the function “Machine on alarm switch off” activated in the Alarm outlet pressure menu. Only the alarm settings of the installed sensors are displayed.

11.2.3. Purity Alarm

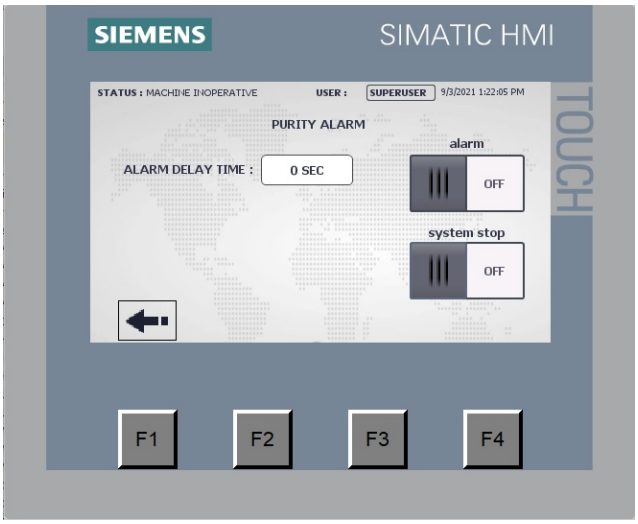


Fig. 22: Purity Alarm

The alarm values can be set and the function “Machine on alarm switch off” activated in the Alarm product purity menu. Only the alarm settings of the installed sensors are displayed.

12.Product Warranty

The IDEAL warranty applies to all oxygen generators, including their fault-free parts and workmanship, for a period of 12 months. The warranty period begins from the invoice date to the buyer. The warranty services apply under the condition of normal use. In this context, it is assumed that the oxygen generators are operated during the day shift for 2,000 operating hours per year. IDEAL's liability under this warranty is limited to repair (all parts and labor costs are free of charge, but filter elements are excluded) or reimbursement of the production price of such a unit. Each generator for which a warranty claim is filed must be returned to IDEAL by the buyer upon IDEAL's request, accompanied by documentation of the freight charges, i.e. carriage paid, as well as proof of the date of purchase.

All warranty work is carried out by IDEAL MAKİNA in Esenkent Mahallesi Nato Yolu Caddesi No:277 34776 Ümraniye-İstanbul – Türkiye/Turkey .

Each replacement part is subject to the above warranty for the unexpired portion of the original one-year warranty. This warranty does not apply to a generator or parts thereof if a defect or malfunction has been caused by improper use (the evaluation is carried out exclusively by İDEAL), in particular due to:

- Incorrect compressed air supply (the compressor air must be less than 40 °C before it is fed into the generator); an excessively high feed temperature and a compressed air supply that does not meet the above requirements will cause damage that is not covered by the IDEAL product warranty.

- Improper maintenance; the maintenance intervals depend on the operating hours, and are at least once a year; if the maintenance is not carried out on time, the IDEAL product warranty is void.

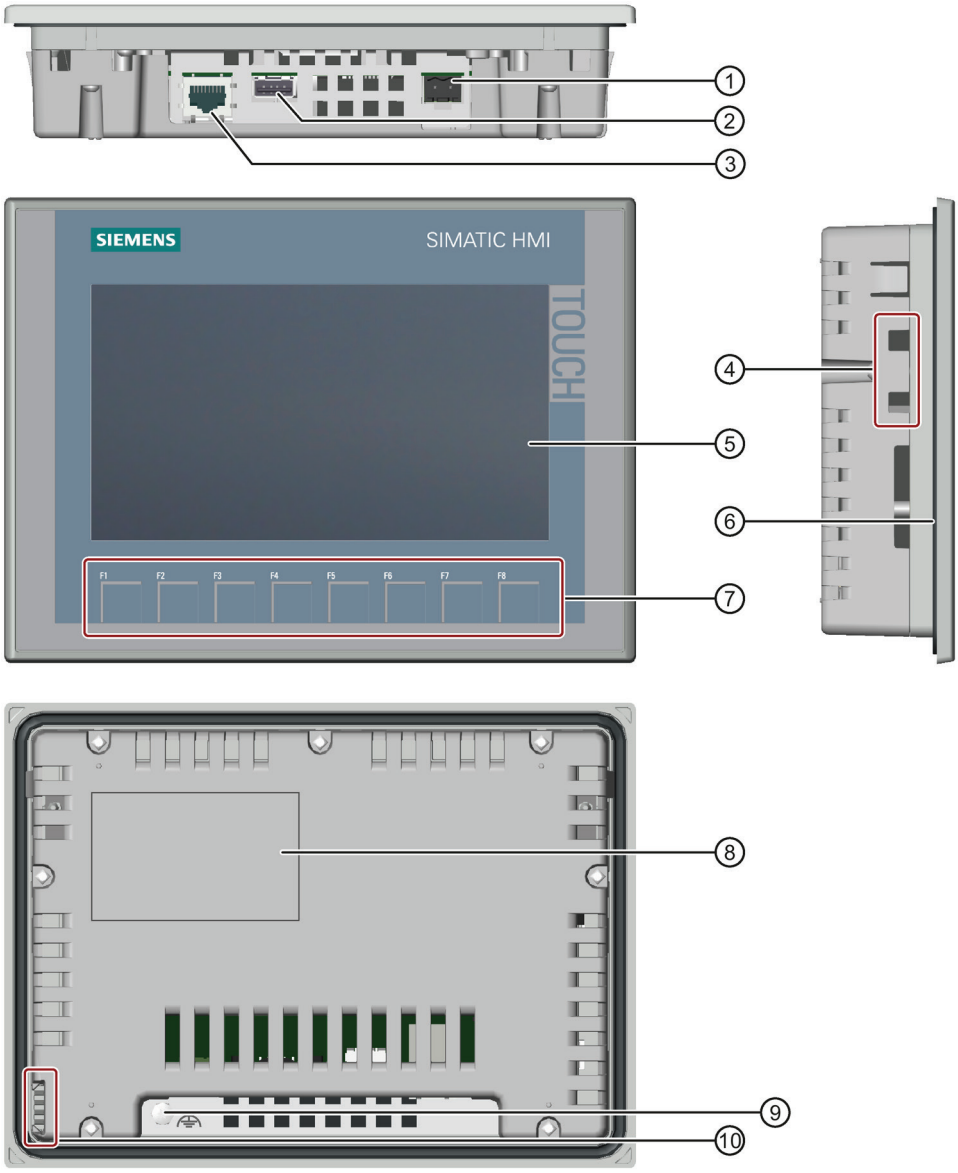
- External influences (in order to avoid damage, the system must be installed in a closed, well-ventilated space with a temperature of between +5 °C and +40 °C; differing ambient conditions will invalidate the IDEAL product warranty).

The warranty is invalidated (null and void) if the generator has been modified or repaired outside the IDEAL premises without the express written permission of IDEAL. The foregoing warranty shall supersede any other warranty, expressed or implied, factual or statutory, including without limitation warranties of merchantability or suitability for a particular purpose. It is expressly agreed that the sole and exclusive remedy for defective parts is limited to the enforcement of IDEAL's aforementioned warranty obligation. IDEAL is not liable to the buyer or others for any loss of use of the equipment or for any other special, indirect, incidental or consequential damages.

The above warranty applies and will be applied to the generator while it is in the possession of and used solely by the original purchaser.

1.2 Design of the PROFINET devices

The figure below shows the design of the PROFINET devices using KTP700 Basic as an example.



① Power supply connection
② USB port
③ PROFINET interface
④ Recesses for a mounting clip
⑤ Display/touch screen
⑥ Mounting seal
⑦ Function keys
⑧ Rating plate
⑨ Connection for functional ground
⑩ Guide for labeling strips

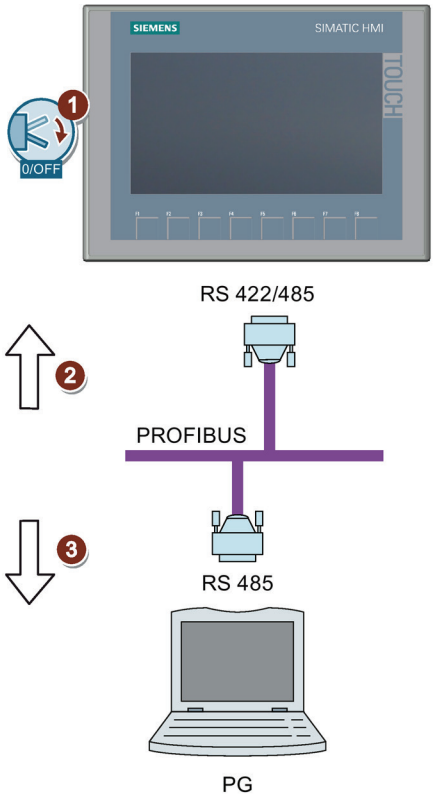
3.3.4 Connecting a programming device

A programming device gives you the following options:

- Transfer a project
- Transfer an HIM device image

Connecting a programming device to a Basic Panel DP

1. Switch off the HMI device.
2. Connect an RS 485 PROFIBUS connector to the HMI device.
3. Connect an RS 485 PROFIBUS connector to the programming device.



3.3.5 Connecting the configuration PC

A configuration PC gives you the following options:

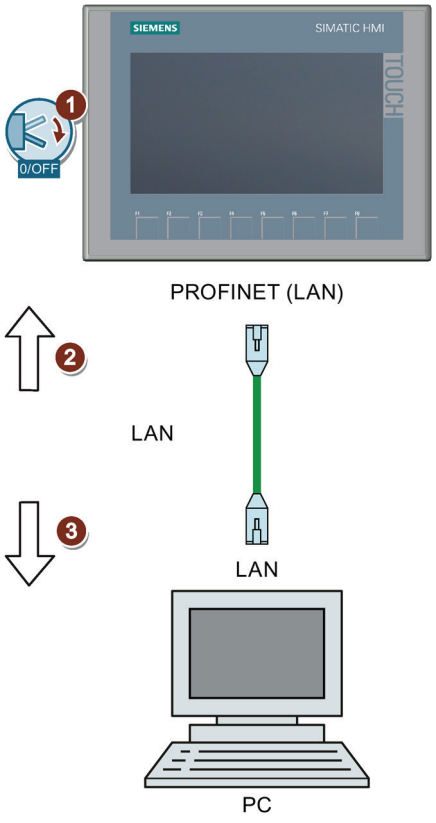
- Transfer a project
- Transfer an HMI device image
- Reset the HMI device to factory settings

Connecting a configuration PC to a Basic Panel with PROFINET interface

NOTICE
Data network security for communication via Ethernet With Ethernet-based communication via PROFINET, the end user is responsible for the security of the data network; proper functioning of the data network cannot be guaranteed under all circumstances, for example, in case of targeted attacks that result in an overload of the device.

Use a CAT5 Ethernet cable or higher to connect the configuration PC.

1. Shut down the HMI device.
2. Connect one RJ45 connector of the LAN cable to the HMI device.
3. Connect the other RJ45 connector of the LAN cable to the configuration PC.



See also

Data transmission options (Page 79)

Accessories (Page 15)

NTRON Gas Measurement

SenzTx

Oxygen Transmitter

The SenzTx is a compact and robust O_2 transmitter that utilises zirconia or electrochemical technology to give a reliable measurement of oxygen concentration.

The zirconia sensor offers fast response time and a long service life with virtually no drift, whilst the electrochemical sensor allows measurement in background gases containing hydrocarbons.

The minimum output range of 0 to 10ppm is ideal for nitrogen generation or glove box monitoring. The SenzTx transmitter can also be supplied with measuring ranges up to 0 to 100% O_2 for oxygen concentrators.

The flexibility is further enhanced by process connection multiple output options.

Applications

- Gas generation (oxygen / nitrogen)
- Additive manufacturing
- Glove box purge and leak detection
- Industrial gas applications

Plug & Play Technology

Features

- Zirconia or electrochemical sensor technology options
- Measurement range:
  0 to 10ppm up to 0 to 100% O_2
- Analogue output: 4 to 20mA
- Modbus 485
- 24VDC power supply
- M12 electrical connection
- Process connection: KF40 Flange or Flowthrough base
- Combined Sensor & Electronics allows for ease of integration.
- Fast reponse from ambient air to low PPM oxygen measurement

Issue No. STX01_V2_EN_0720

A Company of PST PROCESS SENSING TECHNOLOGIES

SenzTx

Oxygen Transmitter

Proven sensor technology
With a choice of either zirconia or electrochemical sensor technology the SenzTx offers reliability, accuracy and flexibility. Both technologies have a broad measurement capability allowing the user to measure from selected ranges from 1ppm to 100% oxygen.

Zirconia sensor
The Ntron zirconia oxygen sensor is a non-depleting zirconia solid electrolyte sensor. A small capillary on the sensor controls the diffusion of oxygen into the sensor. When heated to over 400°C oxygen is electronically reduced causing current flow through the zirconia electrolyte. Zirconium-oxide allows the movement of oxygen ions through the substrate from a high to a low concentration. The measurement of oxygen is determined by the current flowing through the electrodes. The zirconia sensor has an unlimited shelf life without the loss of calibration and has an expected life of three to five years. The zirconia sensor is not position sensitive and has low cross sensitivity to other gases and does not dry out.

Low maintenance and cost of ownership
Due to the highly stable nature of the sensor, a calibration interval of once per year is required, allowing for significant cost savings. The construction of our zirconia oxygen sensor means that only 100 mL/min of sample gas is required, providing application flexibility and further potential cost savings.

Fast response time
Zirconia oxygen sensor have a fast recovery from ambient air to low PPM oxygen. The response time (T90) to step changes of concentration <10 seconds..

TXi Communication & Diagnostics terminal

The TXi calibration makes set-up, calibration and diagnostics easy. Simply connect this unit in series with the SenzTx with the cable provided and perform the desired task without the need to look at the control panel which may be far away.

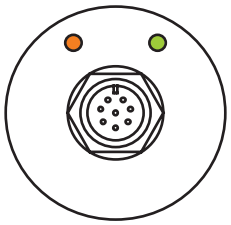
Electrochemical sensor
The key elements of the electrochemical sensors are a membrane, cathode, anode, electrolyte and measurement circuit. The sensing membrane (covering the cathode) is made of PTFE and is mounted over a metal perforated electrode. The space between the membrane and the electrode is filled either with an aqueous alkaline or an acid electrolyte. In normal operation, all portions of the anode and cathode are immersed in the electrolyte. As oxygen diffuses through the membrane into the electrolyte it causes a reaction between the cathode and anode generating an EMF. This current is proportional to the amount of oxygen present in the sample gas. In the absence of oxygen there is no output from the electrochemical sensor, meaning only one calibration is required.

Sensor contruction
The main body of the sensor is fabricated from high density PVDF. The supporting ring at the face of the sensor is constructed of stainless steel. This results in an oxygen sensor that is chemically resistant to most sampling atmospheres and can be used with trace solvents and hydrocarbons present in the sample gas, unlike zirconia (due to the high temperature of the sensor).

Installation flexibility
The compact SenzTx oxygen transmitter with its inbuilt microprocessor, is designed for OEM applications with minimal use input. With the flow through sensor with orifice option, the sensor can handle up to 2 bar g and provide the correct flow through the sensor. This eliminates the need for external flow control.

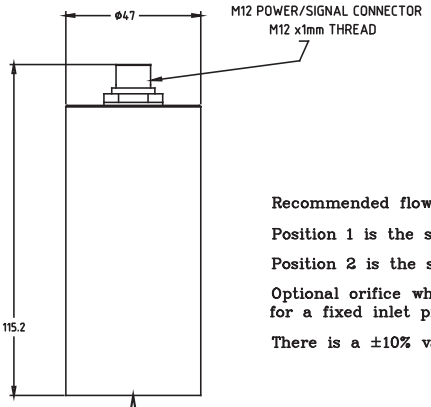
Technical Drawings

LED functionality



Orange LED
Modbus 485
Indicator

Green LED
Power Indicator



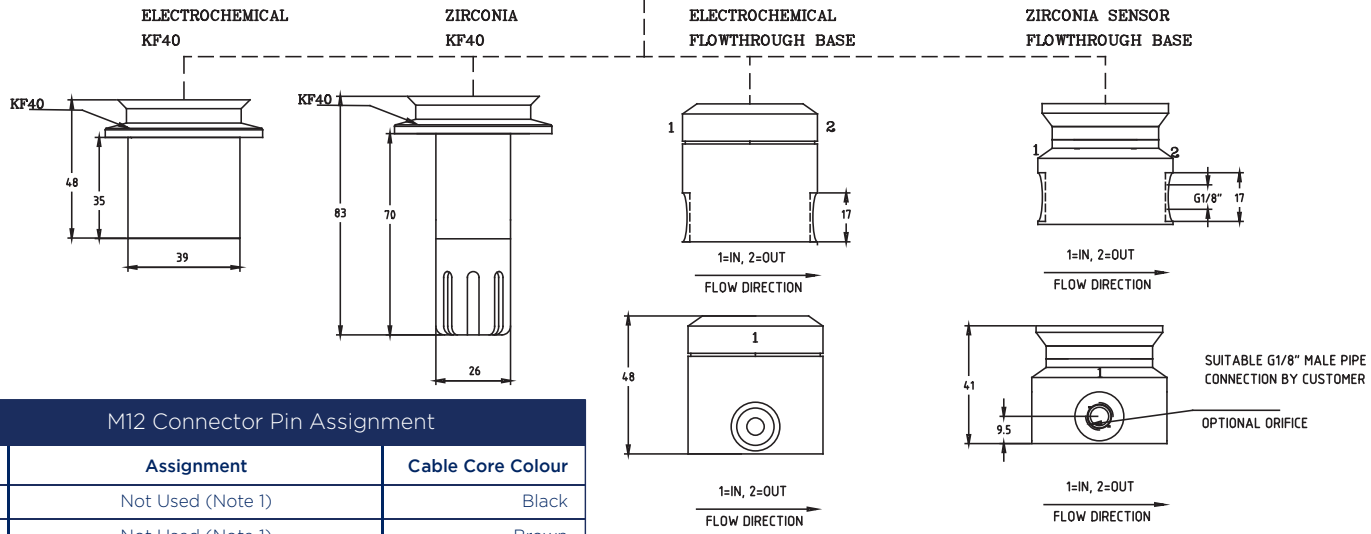
Recommended flow is 250ml with the flow through base

Position 1 is the sample gas input

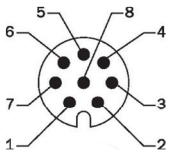
Position 2 is the sample gas output

Optional orifice which achieves 250ml flow rate for a fixed inlet pressure of 2barg

There is a ±10% variation of flow



M12 Connector Pin Assignment		
Pin	**Assignment**	**Cable Core Colour**
1	Not Used (Note 1)	Black
2	Not Used (Note 1)	Brown
3	Analogue Output Ground	Green
4	Serial RS485 (B)	Yellow
5	Serial RS485(A)	Grey
6	Power Ground OVDC	White
7	Power Supply +24VDC	Blue
8	Analogue Output (mA)(Note 1)	Red



Notes:
1. Cable cores that are not used must be insulated / heat-shrinked.

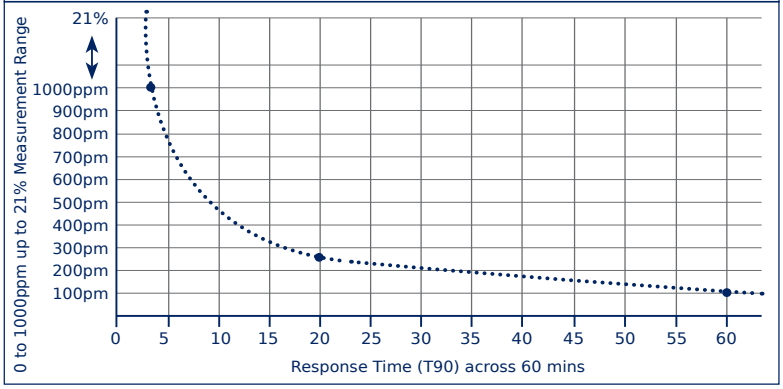
SenzTx

Oxygen Transmitter

Technical Specifications

Performance		
Transmitter Model	**SenzTx**	
Measurement technology	Zirconia (ZR)	Electrochemical (EC)
Measurement range*	0 to 1000ppm / 0 to 1% / 0 to 25% / 0 to 96% / 0 to 100%**	0 to 1000ppm / 0 to 25%
Output resolution (for %)	0.01%	
Output resolution (for ppm)	1ppm	
Accuracy	+/-2% of reading (or 2ppm O2) @ calibrated temperature and pressure	
Response time (T90)	<10 seconds @ 25˚C (within selected range)	
LDL (Sensitivity)	0.01% (when measuring %) / 1ppm (when measuring ppm)	
Temperature range	-20˚C to +50˚C	0˚C to +45˚C
Pressure range	900 to 1100 $mBar_{abs}$	
Linearity	+/- 2% of reading	
Life expectation	3-5 years	1 year
Humidity	0-95% RH non-condensing	
Shelf life	No shelf life	
Electrical Input / Output		
Power supply	24VDC +/- 10%	
Power consumption	Maximum 50mA @ 24VDC	
Signal output	4-20mA	
Digital communications	RS485 Modbus protocol. Multiple devices can be connected in a linear series	
Electrical interface	M12 x 1.5 connection	
Cable length	1 metre (as standard) / 3 metres / 10 metres	
Mechanical Specifications		
Dimensions	47mm Diameter x 120mm to 140mm depending on connection type	
Weight	0.260kg	
Wetted materials	Aluminium, PTFE, Viton	
Process connection	Flowthrough base with 1/8" NPT (parallel thread) / KF40 Flange	
Ingress protection	IP 66	
Housing material	Anodised aluminium	
Certification		
Complies with EMC Directive 2004 / 108 / EC. UL/ETL Certification Number: UL-61010-1		

Recovery from air of PPM electrochemical sensor



* Outputs can be factory set to other ranges. Please see order code sheet for details.

** Exact range - 0 to 99.5%

A Company of PST PROCESS SENSING TECHNOLOGIES

Ntron Gas Measurement Unit 2, Mullaghboy Industrial Park, Navan, Co. Meath, C15 XD61, Ireland

Phone: +353 (0)46 907 1333 Fax: +353 (0)46 907 1331 Email: sales@ntron.com **www.ntron.com**

Issue No. STX01_V2_EN_0720

Ordering information

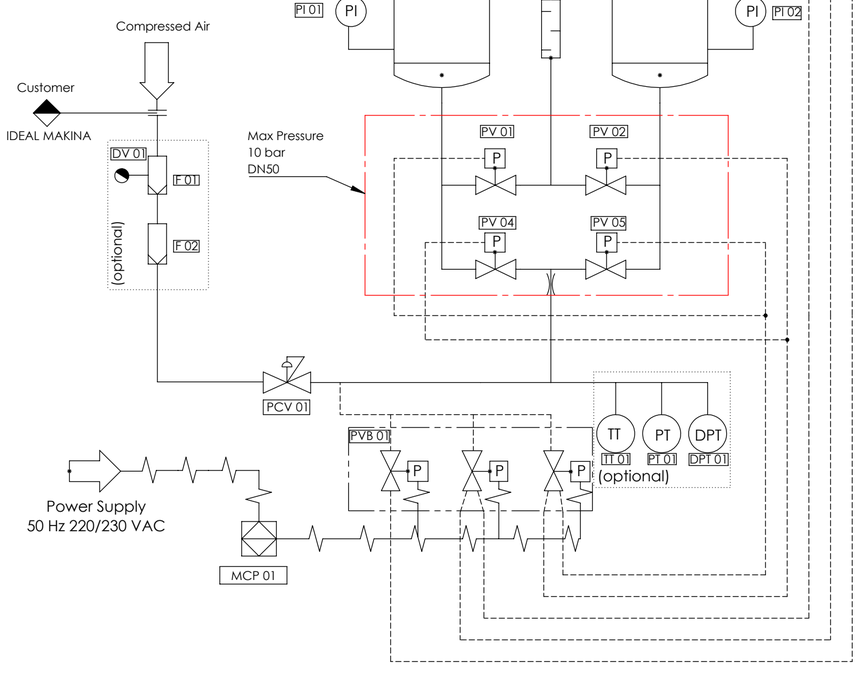
Model	Range (O_2)	Sensor Type	Process Connection	Part No
SenzTx 101	0 - 25%	Zirconia: OC-71	Flowthrough	02-662
SenzTx 101	0 - 25%	Zirconia: OC-71	Flowthrough w/ Orifice	05-139
SenzTx 111	0 - 25%	Zirconia: OC-71	KF-40 Flange	04-068
SenzTx 201	0 - 25%	Electrochemical: OC-61	Flowthrough	04-072
SenzTx 201	0 - 25%	Electrochemical: OC-61	Flowthrough w/ Orifice	05-142
SenzTx 211	0 - 25%	Electrochemical: OC-61	KF-40 Flange	03-754
SenzTx 201	0 - 25%	Optical: Luminox	Flowthrough	06-414
SenzTx 201	0 - 25%	Optical: Luminox	Flowthrough w/ Orifice	06-415
SenzTx 211	0 - 25%	Optical: Luminox	KF-40 Flange	06-227
SenzTx 100	0 - 1000 PPM	Zirconia: OC-70	Flowthrough	02-661
SenzTx 100	0 - 1000 PPM	Zirconia: OC-70	Flowthrough w/ Orifice	05-138
SenzTx 110	0 - 1000 PPM	Zirconia: OC-70	KF-40 Flange	04-067
SenzTx 200	0 - 1000 PPM	Electrochemical: OC-62	Flowthrough	04-071
SenzTx 200	0 - 1000 PPM	Electrochemical: OC-62	Flowthrough w/ Orifice	05-141
SenzTx 210	0 - 1000 PPM	Electrochemical: OC-62	KF-40 Flange	03-753
SenzTx 200	0 - 1000 PPM	Optical: Luminox	Flowthrough	06-202
SenzTx 200	0 - 1000 PPM	Optical: Luminox	Flowthrough w/ Orifice	06-416
SenzTx 210	0 - 1000 PPM	Optical: Luminox	KF-40 Flnage	06-147
SenzTx 102	0 - 96%	Zirconia: OC-72	Flowthrough	02-663
SenzTx 102	0 - 96%	Zirconia: OC-72	Flowthrough w/ Orifice	05-140
SenzTx 112	0 - 96%	Zirconia: OC-72	KF-40 Flange	04-069
SenzTx 102	0 - 100%	Zirconia: OC-72	Flowthrough	06-456
SenzTx 102	0 - 100%	Zirconia: OC-72	Flowthrough w/ Orifice	06-457
SenzTx 102	0 - 100%	Zirconia: OC-72	KF-40 Flange	06-458

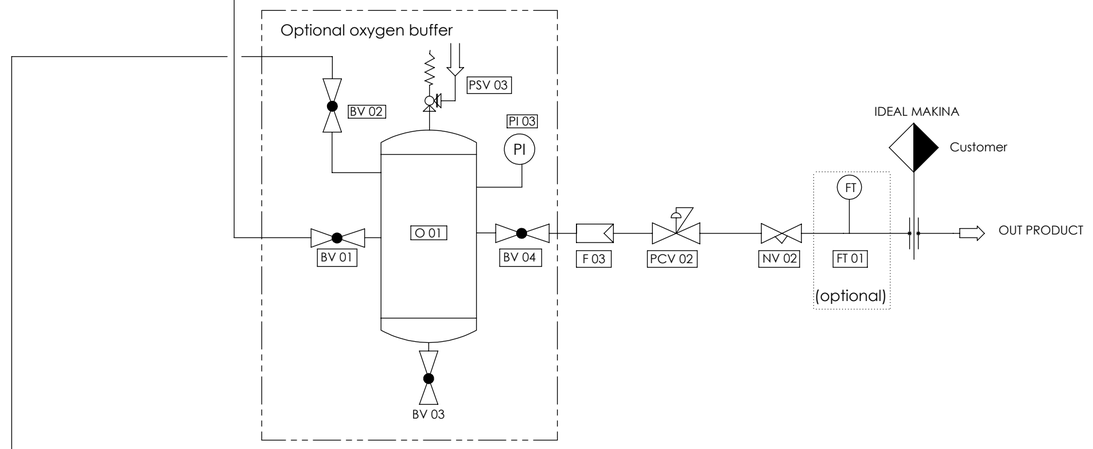
Ntron Gas Measurement Unit 2, Mullaghboy Industrial Park, Navan, Co. Meath, C15 XD61, Ireland
Phone: +353 (0)46 907 1333 Fax: +353 (0)46 907 1331 Email: sales@ntron.com **www.ntron.com**

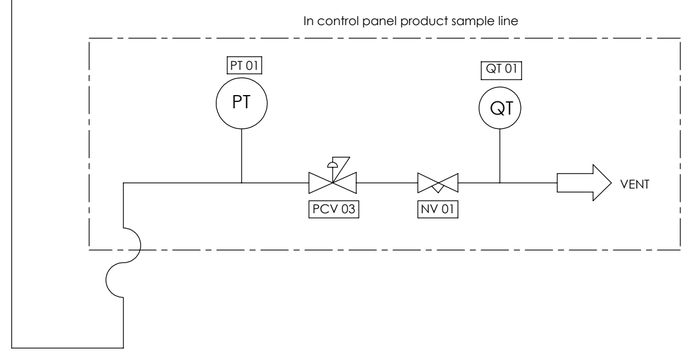
Issue No. STX01_V2_EN_0720

MAX AND MIN OPERATING TEMPERATURE = X
-5<X<+40

Fluid Type: GAS(Oxygen gas and nitrogen gas)







SYMBOL	EXPLANATION
BV	Ball Valve
AV	Absorber Vessel
CV	Check Valve
CD	Choke Disc
DV	Drain Valve
F	Filter
FT	Flow Meter
MCP	Main Control Panel
NV	Adjusting Valve
PCV	Pressure Regulator
PI	Pressure İndicator
PT	Pressure Transmitter
PSV	Safety Valve
PV	Pneumatic Valve
PVB	Pneumatic Valve Block
QIT	Gas Analysis
QT	Oxygen Sensor
S	Silencer
TP	Transfer Point
O	Oxygen Tank

	NAME	HISTORY	SIGNATURE
DESIGN	OMER ATES	17.12.2021	
APPROVED BY	CAN AYDIN	17.12.2021	
APPROVED BY	EGEMEN OZMEN	17.12.2021	

idealMakinA®
İDEAL MAKİNA ENDÜSTRİ ÜRÜNLERİ SANAYİ VE TİCARET A.Ş.
Esenkent Mah. Nato Yolu Cad. No:277
34776 Ümraniye/İST.
Tel: 0216 540 88 55
Faks: 0216 540 88 18
www.idealmakina.com

TITLE:

O2/N2 GENERATORS OUTLINE P&ID DRAWING

N_2 / O_2

A2

WEIGHT:

SCALE -

PAGE:1 / 1

D E C L A R A T I O N

We **IDEAL MAKİNA ENDÜSTRİ ÜRÜNLERİ SAN. VE TİC. A.Ş**., who are official manufacturers of Oxygen Generator System & accessories, IDEAL MAKİNA Company having factories at Emek, Ordu Cd. No:16, 34785 Dudullu Osb/Sancaktepe/İstanbul do hereby confirm that the Oxygen Generator System is classified as Class IIA Medical Device (according to the risk class), and we confirm that:

(a) we have verified the mutual compatibility of the systems' component parts in accordance with the manufacturers' instructions and that this reassembly has been carried out in accordance with these instructions;
(b) we have packaged the system or procedure pack and provided users with relevant information including relevant the manufacturers' instructions;
(c) all activity is subject to appropriate methods of internal control and inspection.

Alpaslan Tekin
General Manager
Dated on 17.02.2023

İDEAL MAKİNA END. ÜRÜN. SAN. VE TİC. A.Ş.
Esenkent Mh. Nato Yolu Cd. No:277/8 34776 Ümraniye-İST.
Sarıgazi V.D 470 097 1348 Tic Sic. No: 530388
www.idealmakina.com

CERTIFICATE

EC Certificate

Full Quality Assurance System according to Medical Devices Directive 93/42/EEC Annex-II Section 3

Certificate Number: 1984-MDD-20-732

We hereby declare that an examination of the under mentioned full quality assurance system has been carried out following the requirements of the national legislation to which the undersigned is subjected, transposing annex II (with the exemption of section 4) of the Directive 93/42/EEC on medical devices. We certify that the full quality assurance system conforms with the relevant provisions of the aforementioned directive.

Organization:

İDEAL MAKİNA ENDÜSTRİ ÜRÜNLERİ SAN. VE TİC. A.Ş

Esenkent mh. Nato Yolu Cd. No: 277, Ümraniye / İstanbul / Türkiye

Brand: İdeal Makina
Models: IM-GO 10 / IM-GO 20 / IM-GO 30 / IM-GO 40 / IM-GO 60 / IM-GO 100 / IM-GO 120 / IM-GO 150 / IM-GO 200 / IM-GO 300 / IM-GO 300 SE / IM-GO 300 D / IM-GO 400 / IM-GO 400 SE / IM-GO 400 D / IM-GO 600 / IM-GO 800 / IM-GO 1000 / IM-GO 1400 / IM-GO 1500 / IM-GO 2000 / IM-GO 2500 / IM-GO 3000 / IM-GO 4000

The certificate is valid till expiration date, subject to successful completion of periodical surveillance audits. Please contact Kiwa for details.

Report Number: M.5649.03
Expiry Date: 27 May 2024

Kiwa Belgelendirme Hizmetleri A.Ş. is Notified Body under Council Directive 93/42/EEC concerning medical devices with identification number: 1984

Muhteşem Gökhan Yücel
Head of Notified Body

18 December 2020, Istanbul, Turkiye

Kiwa Belgelendirme Hizmetleri A.Ş.
İTOSB 9. Cad. No:15 Tepeören, Tuzla, Istanbul, Turkey
Tel.: +90 216 593 25 75 , Fax: +90 216 593 25 74
Web: www.kiwa.com.tr , e-mail: posta@kiwa.com

EC-Declaration of Conformity, in accordance to 93/42/EC Annex II.3
Medical Devices

CE

We hereby certify that the complete machinery described in the following part is conform to all pertinent regulations of EC-Directive 2006/42/EC on machinery and fulfils the safety- and health requisitions of the EC Directives.
The machinery is moreover conform to all regulations of EC-Directive 2014/35/EU on electrical equipment and 2014/35/EU on electromagnitical compatibility and on Annex I of Pressure Equipment Directive 2014/68/EU and Annex III Part for the product vessel. The certificate number for Pressure Equipment Module B is CAC-P-0037-01 and The certificate number for Pressure Equipment Module D is CAC-P-0037-02

Manufacturer	Address	IDEAL MAKINA END. URUN. SAN. VE TIC A.S. Esenkent Mah. Nato Yolu Cad. No:277 34776 Umraniye – ISTANBUL, TURKEY
Product	Designation	Oxygen Generator
	Type / Model	IM-GO 10/20/30/40/50/60/100/120/150/190/200/ 300/300SE/300D/400/400D/600 /800/1000/1400/1500/2000/2500/3000/4000
	Class	IIa
	Year built	2022
Documentation	The technical documentation pertaining to this complete machinery according to Annex VII of EC-Directive 2006/42/EC was provided.	
Manufacturing control	Manufacturing control according to Annex VIII 2006/42/EC relies on a certified/company internal Quality Management System.	
Directive	We declare that the machinery correspond with the directive 93/42/EEC and were subjected to the conformity assessement procedure 'Internal Control of Production'	

Following harmonised standards in terms of above mentioned Directives have been applied:

Reference	EN 12100-1, EN 12100-2, EN 349, EN 953, EN 983, EN 999, EN 1037, EN 1384-1/-29, EN 13850, EN 13857, EN 14121-1, EN 61496-1, EN 60204-1, EN61000-6-2, EN61000-6-4
Reports/Decisions Risk assessment	Manufacturer acceptance protocol subsequent to performance test SQS: EC-Individual Test Certificate according to EC-Directive 93/42/EC on medical device.

Istanbul, 03.01.2022

İDEAL MAKİNA END. ÜRÜN. SAN. VE TİC. A.Ş.
Esenkent Mh. Nato Yolu Cd. No:277/8 34776 Ümraniye-İST.
Sarıgazi V.D 470 097 1578 Tic Sic. No: 530388
www.idealmakina.com

Alpaslan Tekin, General Manager
IDEAL MAKINA ENDUSTRI URUNLERI SAN VE TIC A.S.

ANNEX-1 OF
EU TYPE EXAMINATION (PRODUCTION TYPE)
FOR PRESSURE EQUIPMENT
MODULE B

Certificate Number	:	CAC-P-0037-01
Manufacturing Company	:	İDEAL MAKİNA ENDÜSTRİ ÜRÜNLER SAN. ve TİC. A.Ş.
Company Address	:	ESENKENT MAH. NATOYOLU CD. NO:277 34776 ÜMRANİYE / İSTANBUL / TURKEY

Product Range :

Nitrogen Generators	Oxygen Generators
IM-GN 25	IM-GO 10
IM-GN 50	IM-GO 20
IM-GN 80	IM-GO 30
IM-GN 100	IM-GO 40
IM-GN 150	IM-GO 60
IM-GN 250	IM-GO 100
IM-GN 400	IM-GO 120
IM-GN 500	IM-GO 150
IM-GN 700	IM-GO 200
IM-GN 1000	IM-GO 300
IM-GN 1200	IM-GO 300 SE
IM-GN 1700	IM-GO 300 D
IM-GN 1700 D	IM-GO 400
IM-GN 2000	IM-GO 400 D
IM-GN 2000 D	IM-GO 600
IM-GN 3000	IM-GO 800
IM-GN 4000	IM-GO 1000
IM-GN 5500	IM-GO 1400
IM-GN 6500	IM-GO 1500
	IM-GO 2000
	IM-GO 2500
	IM-GO 3000
	IM-GO 4000

CAC APPROVED CAC 2828

Issue date & Revision : 05.01.2022 - 0

CE

CAC Conformity Assessment Center d.o.o.
Radnička cesta 54/R3 10000 Zagreb Croatia info@conasce.com +385 (1) 4819 601

CONFORMITY TO TYPE BASED ON PRESSURE EQUIPMENT QUALITY ASSURANCE OF THE PRODUCTION PROCESS MODULE D

Certificate Number	:	**CAC-P-0037-02**
Manufacturer	:	**İDEAL MAKİNA ENDÜSTRİ ÜRÜNLER SAN. ve TİC. A.Ş.**
Company Address	:	**ESENKENT MAH. NATOYOLU CD. NO:277 34776 ÜMRANİYE / İSTANBUL / TURKEY**
Related Directives	:	**2014/68/EU Pressure Equipment Directive**
Production Scope	:	**PRODUCTION OF OXYGEN AND NITROGEN GENERATORS**
Type Examination Cert. No/Date/NB	:	**CAC-P-0037-01 / 05.01.2022 / 2828**

The quality system of the company mentioned above has been examined and it has been proved that the system meets the applicable requirements of the Pressure Equipment Directive 2014/68/EU according to Annex III Part 5. This certificate is valid only with the type examination certificates. If type examination certificate is not valid this certificate automaticly losses its validity.

This certificate remains valid for 3 years subjects to satisfactory maintenance of system and CAC has right to perform unannounced audits and surveillance audits to check the competency to directive. You can check currency of this certificate on www.conasce.com. This certificate remains the property of CAC Conformity Assessment Center d.o.o. to whom it must be returned upon request. The above named firm must keep a copy of this certificate for 10 years from the registration of certificate. The above named firm must notify all changes related with the approved type to CAC. If CAC will not renew expiry date of this certificate the above named firm will stop the supply of product to market.

Issue date	:	**07.01.2022**
Re-issue date	:	**-**
Validity date	:	**06.01.2023**
Expiration date / period	:	**06.01.2025 / 3 years**
Notified body number	:	**2828**

CAC APPROVED 2828

CE

CAC Conformity Assessment Center d.o.o.
Radnička cesta 54/R3 10000 Zagreb Croatia info@conasce.com +385 (1) 4819 601

EU TYPE EXAMINATION (PRODUCTION TYPE)
FOR PRESSURE EQUIPMENT
MODULE B

Certificate Number	:	**CAC-P-0037-01**
Manufacturing Company	:	**İDEAL MAKİNA ENDÜSTRİ ÜRÜNLER SAN. ve TİC. A.Ş.**
Company Address	:	**ESENKENT MAH. NATOYOLU CD. NO:277 34776 ÜMRANİYE / İSTANBUL / TURKEY**
Related Directives	:	**2014/68/EU Pressure Equipment Directive**
Product Details	:	**OXYGEN AND NITROGEN GENERATORS** **Models: IM-GN and IM-GO** **Maximum Working Pressure: 11 bars** **Working Temperature Range: -5◦C + 40◦C** **Test Pressure: 15,8 bars** **Fluid Group: 1** **Category: IV** **See Annex I of this certificate for details of type models**

The technical design/sample of the model of company mentioned above has been examined and it has been proved that the equipment meets the applicable essential safety requirements of Annex I of the Pressure Equipment Directive 2014/68/EU and Annex III Part.

This certificate remains valid for 10 years subjects to satisfactory maintenance of technical file and documentation. You can check validity of this certificate on www.conasce.com . This certificate remains the property of CAC Conformity Assessment Center d.o.o. to whom it must be returned upon request. The above named firm must keep a copy of this certificate for 10 years from the registration of certificate. The above named firm must notify all changes related with the approved type to CAC. If CAC will not renew expiry date of this certificate the above named firm stop the industry supply of product in question.

Issue date	:	**05.01.2022**
Re-issue date	:	**-**
Validity date	:	**05.01.2032**
Notified body number	:	**2828**

CAC APPROVED CAC 2828

CE

CAC Conformity Assessment Center d.o.o.
Radnička cesta 54/R3 10000 Zagreb Croatia info@conasce.com +385 (1) 4819 601

GCR CERT

CE

CERTIFICATE

Manufacture Name:
Üretici Adı:
İDEAL MAKİNA ENDÜSTRİ ÜRÜNLERİ
SANAYİ VE TİCARET ANONİM ŞİRKETİ

Manufacturer Address:
Üretici Adresi:
ESENKENT MAH. NATOYOLU CAD. NO:277/3
ÜMRANİYE / İSTANBUL / TÜRKİYE

Description of Product:
Ürün Açıklaması:
OXYGEN GENERATOR
OKSİJEN JENERATÖRÜ

Trade Mark:
Ticari Markası:
idealMakinA®

Related Directives:
İlgili Direktifler:
MACHINE SAFETY DIRECTIVE 2006/42/EC
MAKİNE EMNİYETİ YÖNETMELİĞİ 2006/42/AT

Certificate Number : **GCR/CERT-10.2022.1509**
Certificate Issue Date : **07.10.2022**
Certificate Validity : **06.10.2023**

Abimanyu Gaurav

Abimanyu Gaurav
Approval

GCR CERT

For updated information concerning the present certificate visit at www.gcrcert.co.in
Global Certification & Register Services Limited
NO.7-1-189/33/4, 3ST floor, akshaya , shobana colony, BALANAGAR INDIA
certification@gcrcert.co.in
www.gcrcert.co.in

SZUTEST CE

CERTIFICATE OF COMPLIANCE

The test reports and declaration of the following product have been checked and found in compliance with the Parliament and Council Electromagnetic Compatibility Directive 2014/30/EU of 26 February 2014 on the harmonization of the laws of Member States relating to electromagnetic compatibility.

Test raporları ve uygunluk beyanı incelenerek, belirtilen ürünün Avrupa Birliği Teknik Komisyonu tarafından 26 Şubat 2014 tarihinde yayınlanan 2014/30/EU Elektromanyetik uyumluluk ile ilgili yönetmeliğine uygunluğu saptanmıştır.

Certificate Number:
Sertifika Numarası:
SZU-22MA16003-4

Applicant:
Başvuru Sahibi:
İDEAL MAKİNA END. ÜRÜN. SAN. VE TİC. A.Ş
Esenkent Mah. Nato Yolu Cad. No:277, 34776,
Ümraniye-ISTANBUL, TURKEY

Manufacturer:
Üretici:
İDEAL MAKİNA END. ÜRÜN. SAN. VE TİC. A.Ş
Esenkent Mah. Nato Yolu Cad. No:277, 34776,
Ümraniye-ISTANBUL, TURKEY

Trade Mark:
Ticari Marka:
idealMakinA®

Product:
Ürün:
Oxygen Generator
Oksijen Jeneratörü

Type:
Model:
IM-GO
10/20/30/40/60/100/120/150/200/300/300SE/300D/400/400D/600/800/1000/1400/1500/2000/2500/3000/4000

Base of attestation:
Onay Dayanağı:
File of technical documentation, test report Ref. **22-150-R0-N1-2**
Teknik Dokümantasyon, numaralı Test Raporu 22-150-R0-N1-2

Validity:
Geçerlilik:
19.01.2022-18.01.2025

* This Certificate of compliance is issued on a voluntary basis according to Council Directive 2014/30/EU of 26 February 2014 on the harmonization of the laws of Member States relating to electrical compatibility. The referred test report(s) is reviewed and attested with presumption of compliance with the essential requirements listed EU Directive(s) above. This attestation does not abrogate the compulsory obligation of the manufacturer to issue the declaration of conformity.

**Bu uygunluk sertifikası 26 Şubat 2014 tarihinde yayınlanan 2014/30/EU Elektromanyetik Uyumluluk ile ilgili yönetmeliğine göre isteğe bağlı düzenlenmiştir. Yukarıda listelenmiş ekipman/makinaların ilgili yönetmeliğin temel gerekliliklerine uygun olduğunun onaylar. Diğer ilgili direktiflere uyulmalıdır. Bu onay üreticinin uygunluk beyanı düzenleme zorunluluğunu ortadan kaldırmaz. Referans test rapor ile ürünün yukarıda belirtilen AT Direktifinin temel gereklerine uygunluğu kabul edilir.*

Dept. Manager
Seyda USLU
SZUTEST

SZUTEST UYGUNLUK DEĞERLENDİRME A.Ş.
Tatlısu Mahallesi, Akif İnan Sk. No:1 Ümraniye 34774 İSTANBUL / TÜRKİYE
Szutest.com.tr

SZUTEST CE

CERTIFICATE OF COMPLIANCE
UYGUNLUK SERTİFİKASI

The technical file and test reports of the following product have been checked and found in compliance with the Parliament and Council Directive 2014/35/EU of 26 February 2014 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.

Teknik dosya ve test raporları incelenerek, belirtilen ürünün Avrupa Birliği Teknik Komisyonu tarafından 26 Şubat 2014 tarihinde yayınlanan 2014/35/EU Belirli Gerilim Sınırları Dahilinde Çalışmak Üzere Tasarlanmış Teçhizat ile İlgili yönetmeliğine uygunluğu saptanmıştır.

Certificate Number: **SZU-22MA16003-1**
Sertifika Numarası

Applicant:
Başvuru Sahibi:
İDEAL MAKİNA END. ÜRÜN. SAN. VE TİC. A.Ş
Esenkent Mah. Nato Yolu Cad. No:277, 34776,
Ümraniye-ISTANBUL, TURKEY

Manufacturer:
Üretici
İDEAL MAKİNA END. ÜRÜN. SAN. VE TİC. A.Ş
Esenkent Mah. Nato Yolu Cad. No:277, 34776,
Ümraniye-ISTANBUL, TURKEY

Trade Mark:
Ticari Marka:
idealMakinA®

Product: **Oxygen Generator**
Ürün: *Oksijen Jeneratörü*

Type:
Model:
IM-GO
10/20/30/40/60/100/120/150/200/300/300SE/300D/400/400D/600/800/1000/1400/1500/2000/2500/3000/4000

Base of attestation: File of technical documentation, test report Ref. No. **22-0104/01**
Onay Dayanağı: *Teknik Dokümantasyon,* **22-0104/01** *numaralı Test Raporu*

Validity: 19.01.2022-18.01.2025
Geçerlilik

* This Certificate of compliance is issued on a voluntary basis according to Council Directive 2014/35/EU of 26 February 2014 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits and Parliament and complies essential health and safety requirements of the directive.The referred technical file(s) is reviewed and attested with presumption of compliance with the essential requirements listed EU Directive(s) above. This attestation does not abrogate the compulsory obligation of the manufacturer to issue the declaration of conformity

**Bu uygunluk sertifikası 26 Şubat 2014 tarihinde yayınlanan 2014/35/EU Belirli Gerilim Sınırları Dahilinde Çalışmak Üzere Tasarlanmış Teçhizat ile İlgili yönetmeliğine göre isteğe bağlı düzenlenmiştir. Yukarıda listelenmiş ekipman/makinaların ilgili yönetmeliğin temel gerekliliklerine uygun olduğunun onaylar.Diğer ilgili direktiflere uyulmalıdır. Bu onay üreticinin uygunluk beyanı düzenleme zorunluluğunu ortadan kaldırmaz. Referans teknik dosya ile ürünün yukarıda belirtilen AT Direktiflerinin temel gereklerine uygunluğu kabul edilir.*

Dept. Manager
Seyda Ulu
SZUTEST

SZUTEST UYGUNLUK DEĞERLENDİRME A.Ş.
Tatlısu Mahallesi, Akif İnan Sk. No:1 Ümraniye 34774 İSTANBUL / TÜRKİYE
Szutest.com.tr

GCR CERT

CERTIFICATE

İDEAL MAKİNA ENDÜSTRİ ÜRÜNLERİ SANAYİ VE TİCARET ANONİM ŞİRKETİ

ESENKENT MAH. NATOYOLU CAD. NO: 277/3
ÜMRANİYE / İSTANBUL / TÜRKİYE

In recognition of the organization's Managements System which complies with

EN ISO 15223-1:2021

The scope of activities covered by this certificate is defined below

DESIGN, MANUFACTURE, SALES AND SERVICE OF SCREW AIR COMPRESSORS, NITROGEN AND OXYGEN GENERATORS, AIR DRYERS, ACTIVATED CARBON TOWERS AND FILTERS

VİDALI HAVA KOMPRESÖRLERİ, NİTROJEN VE OKSİJEN JENERATÖRLERİ, HAVA KURUTUCULARI, AKTİF KARBON KULELER VE FİLTRELER TASARIMI, İMALATI, SATIŞI VE TEKNİK SERVİSİ

Certificate Number **: GCR/CERT-12.2022.1866**
Certificate Issue Date **: 01.02.2023**
Certificate Validity **: 31.01.2024**

Abimanyu Gaurav

Abimanyu Gaurav
Approval

GCR CERT

For updated information concerning the present certificate visit at www.gcrcert.co.in
Global Certification & Register Services Limited
NO.7-1-189/33/4, 3ST floor, akshaya , shobana colony, BALANAGAR INDIA
certification@gcrcert.co.in
www.gcrcert.co.in

GCR CERT

CERTIFICATE

İDEAL MAKİNA ENDÜSTRİ ÜRÜNLERİ SANAYİ VE TİCARET ANONİM ŞİRKETİ

ESENKENT MAH. NATOYOLU CAD. NO: 277/3
ÜMRANİYE / İSTANBUL / TÜRKİYE

In recognition of the organization's Managements System which complies with

EN ISO 14971:2019

The scope of activities covered by this certificate is defined below

DESIGN, MANUFACTURE, SALES AND SERVICE OF SCREW AIR COMPRESSORS, NITROGEN AND OXYGEN GENERATORS, AIR DRYERS, ACTIVATED CARBON TOWERS AND FILTERS

VİDALI HAVA KOMPRESÖRLERİ, NİTROJEN VE OKSİJEN JENERATÖRLERİ, HAVA KURUTUCULARI, AKTİF KARBON KULELER VE FİLTRELER TASARIMI, İMALATI, SATIŞI VE TEKNİK SERVİSİ

Certificate Number : **GCR/CERT-12.2022.1867**
Certificate Issue Date : **01.02.2023**
Certificate Validity : **31.01.2024**

Abimanyu Gaurav

Abimanyu Gaurav
Approval

GCR CERT

For updated information concerning the present certificate visit at www.gcrcert.co.in
Global Certification & Register Services Limited
NO.7-1-189/33/4, 3ST floor, akshaya , shobana colony, BALANAGAR INDIA
certification@gcrcert.co.in
www.gcrcert.co.in

GCR CERT

CERTIFICATE

İDEAL MAKİNA ENDÜSTRİ ÜRÜNLERİ SANAYİ VE TİCARET ANONİM ŞİRKETİ

ESENKENT MAH. NATOYOLU CAD. NO: 277/3
ÜMRANİYE / İSTANBUL / TÜRKİYE

In recognition of the organization's Managements System which complies with

EN 60601

The scope of activities covered by this certificate is defined below

DESIGN, MANUFACTURE, SALES AND SERVICE OF SCREW AIR COMPRESSORS, NITROGEN AND OXYGEN GENERATORS, AIR DRYERS, ACTIVATED CARBON TOWERS AND FILTERS

VİDALI HAVA KOMPRESÖRLERİ, NİTROJEN VE OKSİJEN JENERATÖRLERİ, HAVA KURUTUCULARI, AKTİF KARBON KULELER VE FİLTRELER TASARIMI, İMALATI, SATIŞI VE TEKNİK SERVİSİ

Certificate Number : **GCR/CERT-12.2022.1865**
Certificate Issue Date : **01.02.2023**
Certificate Validity : **31.01.2024**

Abimanyu Gaurav

Abimanyu Gaurav
Approval

GCR CERT

For updated information concerning the present certificate visit at www.gcrcert.co.in
Global Certification & Register Services Limited
NO.7-1-189/33/4, 3ST floor, akshaya , shobana colony, BALANAGAR INDIA
certification@gcrcert.co.in
www.gcrcert.co.in

CERTIFICATE

İDEAL MAKİNA ENDÜSTRİ ÜRÜNLERİ SANAYİ VE TİCARET ANONİM ŞİRKETİ

ESENKENT MAH. NATO YOLU CAD. NO:277/3
ÜMRANİYE / İSTANBUL / TÜRKİYE

Has been assessed and found to Comply with the Requirements of:
Denetlenmiş ve aşağıdaki standardın gerekliliklerine uygunluğu görülmüştür:

ISO 13485:2016

Medical Devices-Quality Management System is applicable to:
Tıbbi Cihazlar Kalite Yönetim Sistemi

DEVELOPMENT, DESIGN, PRODUCTION, SALES AND SERVICE SERVICES OF MEDICAL OXYGEN PRODUCTION, INSPECTION AND STOCKING SYSTEMS

MEDİKAL OKSİJEN ÜRETİM, DENETİM VE DEPOLAMA SİSTEMLERİNİN GELİŞTİRİLMESİ, TASARIMI, ÜRETİMİ, SATIŞI VE SERVİS HİZMETLERİ

Certificate Number: 2021/MDQMS/10594
Belge Numarası: 2021/MDQMS/10594

Initial Certification Date: 04.01.2022
İlk Belgelendirme Tarihi: 04.01.2022

Certification Period: 3 Years
Belgelendirme Periyodu: 3 Yıl

Certificate Validity Date: 03.01.2024
Belge Geçerlilik Tarihi: 03.01.2024

ACCREDITED
Management Systems
Certification Body
MSCB-135

IQR Sertifikasyon Onayı

IQR ULUSLARARASI BELGELENDİRME HİZMETLERİ LTD.ŞTİ.
Beşevler Mah. Kocayunus Sk. No:3 Arslan Han Plaza K:2 Nilüfer / BURSA
Tel.: +90.224.266 00 16 Faks: +90.224.249 41 13 www.iqrcert.com e-posta: info@iqrcert.com

CERTIFICATE

İDEAL MAKİNA ENDÜSTRİ ÜRÜNLERİ SANAYİ VE TİCARET ANONİM ŞİRKETİ

ESENKENT MAH. NATOYOLU CAD. NO:277/3
ÜMRANİYE / İSTANBUL / TÜRKİYE

Has been assessed and found to Comply with the Requirements of:
Denetlenmiş ve aşağıdaki standardın gerekliliklerine uygunluğu görülmüştür:

ISO 9001:2015

The Quality Management System is applicable to:
Kalite Yönetim Sistemi:

DESIGN AND MANUFACTURE OF SCREW AIR COMPRESSORS, NITROGEN AND OXYGEN GENERATORS, SALES OF COMPRESSED AIR DRYERS AND FILTERS, SERVICES OF AUTOMATION AND ENGINEERING RELATED TO THE TRANSFER, DOSING, MIXING VARIOUS POWDERS (FOOD POWDERS, INDUSTRIAL POWDERS), SUPPLY, PURCHASE, SALES AND RELATED EQUIPMENT SERVICES OF THESE PRODUCTS

VİDALI HAVA KOMPRESÖRLERİ, NİTROJEN VE OKSİJEN JENERATÖRLERİ TASARIMI VE İMALATI, BASINÇLI HAVA KURUTUCULARI VE FİLTRELERİ SATIŞI, ÇEŞİTLİ TOZLARIN (GIDA TOZLARI, ENDÜSTRİYEL TOZLAR) TRANSFERİ, DOZAJLANMASI, KARIŞTIRILMASI İLE İLGİLİ OTOMASYON VE MÜHENDİSLİK HİZMETLERİ, BU ÜRÜNLERİN TEDARİĞİ, ALIM, SATIMI VE İLGİLİ EKİPMAN HİZMETLERİ

Certificate Number: QMS-0106819
Belge Numarası: QMS-0106819

Initial Certification Date: 07.10.2022
İlk Belgelendirme Tarihi: 07.10.2022

Certification Period: 3 Years
Belgelendirme Periyodu: 3 Yıl

Certificate Validity Date: 06.10.2023
Belge Geçerlilik Tarihi: 06.10.2023

ACCREDITED
Management Systems
Certification Body
MSCB-135

IQR Sertifikasyon Onayı

IQR ULUSLARARASI BELGELENDİRME HİZMETLERİ LTD.ŞTİ.
Beşevler Mah. Kocayunus Sk. No:3 Arslan Han Plaza K:2 Nilüfer / BURSA
Tel.: +90.224.266 00 16 Faks: +90.224.249 41 13 www.iqrcert.com e-posta: info@iqrcert.com

CERTIFICATE

İDEAL MAKİNA ENDÜSTRİ ÜRÜNLERİ SANAYİ VE TİCARET ANONİM ŞİRKETİ

ESENKENT MAH. NATOYOLU CAD. NO:277/3
ÜMRANİYE / İSTANBUL / TÜRKİYE

Has been assessed and found to Comply with the Requirements of:
Denetlenmiş ve aşağıdaki standardın gerekliliklerine uygunluğu görülmüştür:

ISO 14001:2015

The Environmental Management System is applicable to:
Çevre Yönetim Sistemi:

DESIGN AND MANUFACTURE OF SCREW AIR COMPRESSORS, NITROGEN AND OXYGEN GENERATORS, SALES OF COMPRESSED AIR DRYERS AND FILTERS, SERVICES OF AUTOMATION AND ENGINEERING RELATED TO THE TRANSFER, DOSING, MIXING VARIOUS POWDERS (FOOD POWDERS, INDUSTRIAL POWDERS), SUPPLY, PURCHASE, SALES AND RELATED EQUIPMENT SERVICES OF THESE PRODUCTS

VİDALI HAVA KOMPRESÖRLERİ, NİTROJEN VE OKSİJEN JENERATÖRLERİ TASARIMI VE İMALATI, BASINÇLI HAVA KURUTUCULARI VE FİLTRELERİ SATIŞI, ÇEŞİTLİ TOZLARIN (GIDA TOZLARI, ENDÜSTRİYEL TOZLAR) TRANSFERİ, DOZAJLANMASI, KARIŞTIRILMASI İLE İLGİLİ OTOMASYON VE MÜHENDİSLİK HİZMETLERİ, BU ÜRÜNLERİN TEDARİĞİ, ALIM, SATIMI VE İLGİLİ EKİPMAN HİZMETLERİ

Certificate Number: EMS-0106819
Belge Numarası: EMS-0106819

Initial Certification Date: 07.10.2022
İlk Belgelendirme Tarihi: 07.10.2022

Certification Period: 3 Years
Belgelendirme Periyodu: 3 Yıl

Certificate Validity Date: 06.10.2023
Belge Geçerlilik Tarihi: 06.10.2023

IAS ACCREDITED
Management Systems
Certification Body
MSCB-135

IQR Sertifikasyon Onayı

IQR ULUSLARARASI BELGELENDİRME HİZMETLERİ LTD.ŞTİ.
Beşevler Mah. Kocayunus Sk. No:3 Arslan Han Plaza K:2 Nilüfer / BURSA
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Certificate

İDEAL MAKİNA ENDÜSTRİ ÜRÜNLERİ SANAYİ VE TİCARET ANONİM ŞİRKETİ

ESENKENT MAH. NATOYOLU CAD. NO:277/3
ÜMRANİYE / İSTANBUL / TÜRKİYE

Has been assessed and found to Comply with the Requirements of:
Denetlenmiş ve aşağıdaki standardın gerekliliklerine uygunluğu görülmüştür:

ISO 10002:2018

The Customer Satisfaction and Complaint Management System is applicable to:
Müşteri Memnuniyeti ve Şikayet Yönetim Sistemi:

DESIGN AND MANUFACTURE OF SCREW AIR COMPRESSORS, NITROGEN AND OXYGEN GENERATORS, SALES OF COMPRESSED AIR DRYERS AND FILTERS, SERVICES OF AUTOMATION AND ENGINEERING RELATED TO THE TRANSFER, DOSING, MIXING VARIOUS POWDERS (FOOD POWDERS, INDUSTRIAL POWDERS), SUPPLY, PURCHASE, SALES AND RELATED EQUIPMENT SERVICES OF THESE PRODUCTS

VİDALI HAVA KOMPRESÖRLERİ, NİTROJEN VE OKSİJEN JENERATÖRLERİ TASARIMI VE İMALATI, BASINÇLI HAVA KURUTUCULARI VE FİLTRELERİ SATIŞI, ÇEŞİTLİ TOZLARIN (GIDA TOZLARI, ENDÜSTRİYEL TOZLAR) TRANSFERİ, DOZAJLANMASI, KARIŞTIRILMASI İLE İLGİLİ OTOMASYON VE MÜHENDİSLİK HİZMETLERİ, BU ÜRÜNLERİN TEDARİĞİ, ALIM, SATIMI VE İLGİLİ EKİPMAN HİZMETLERİ

Certificate No: ISO/27841
Sertifika Numarası: ISO/27841

Date of Certification Audit: 30.09.2022
Denetim Tarihi: 30.09.2022

Date of Issue: 07.10.2022
Yayınlanma Tarihi: 07.10.2022

Date of Expiry: 06.10.2023
Son Geçerlilik Tarihi: 06.10.2023

1st Surveillance Audit : September 2023
1. Gözetim Denetim Tarihi : Eylül 2023
2nd Surveillance Audit : September 2024
2. Gözetim Denetim Tarihi : Eylül 2024

Certificate of validity information E-mail: info@qcscert.com
mail to confirm

Certificate

İDEAL MAKİNA ENDÜSTRİ ÜRÜNLERİ SANAYİ VE TİCARET ANONİM ŞİRKETİ

ESENKENT MAH. NATOYOLU CAD. NO:277/3
ÜMRANİYE / İSTANBUL / TÜRKİYE

Has been assessed and found to Comply with the Requirements of:
Denetlenmiş ve aşağıdaki standardın gerekliliklerine uygunluğu görülmüştür:

ISO 45001:2018

The Occupational Health and Safety Management System is applicable to:
İş Sağlığı Ve Güvenliği Yönetim Sistemi:

DESIGN AND MANUFACTURE OF SCREW AIR COMPRESSORS, NITROGEN AND OXYGEN GENERATORS, SALES OF COMPRESSED AIR DRYERS AND FILTERS, SERVICES OF AUTOMATION AND ENGINEERING RELATED TO THE TRANSFER, DOSING, MIXING VARIOUS POWDERS (FOOD POWDERS, INDUSTRIAL POWDERS), SUPPLY, PURCHASE, SALES AND RELATED EQUIPMENT SERVICES OF THESE PRODUCTS

VİDALI HAVA KOMPRESÖRLERİ, NİTROJEN VE OKSİJEN JENERATÖRLERİ TASARIMI VE İMALATI, BASINÇLI HAVA KURUTUCULARI VE FİLTRELERİ SATIŞI, ÇEŞİTLİ TOZLARIN (GIDA TOZLARI, ENDÜSTRİYEL TOZLAR) TRANSFERİ, DOZAJLANMASI, KARIŞTIRILMASI İLE İLGİLİ OTOMASYON VE MÜHENDİSLİK HİZMETLERİ, BU ÜRÜNLERİN TEDARİĞİ, ALIM, SATIMI VE İLGİLİ EKİPMAN HİZMETLERİ

Certificate No: ISO/27842
Sertifika Numarası: ISO/27842

Date of Certification Audit: 30.09.2022
Denetim Tarihi: 30.09.2022

Date of Issue: 07.10.2022
Yayınlanma Tarihi: 07.10.2022

Date of Expiry: 06.10.2023
Son Geçerlilik Tarihi: 06.10.2023

1st Surveillance Audit : September 2023
1. Gözetim Denetim Tarihi : Eylül 2023
2nd Surveillance Audit : September 2024
2. Gözetim Denetim Tarihi : Eylül 2024

Certificate of validity information E-mail: info@qcscert.com
mail to confirm