Measuring
people's
safety

second
breath

Expand your research and quality control capabilities for life-saving breathing apparatus

Metabolic breathing simulator OXY ROBOT

Flagship product

APPLICATIONS & INDUSTRIES

- SCBA, SCSR on chemically bonded or compressed oxygen
- Closed-circuit escape respirators
- Tests in climatic chambers
- RPE certification, research and design

For developers and manufacturers

For certification bodies and testing laboratories

For mining industry

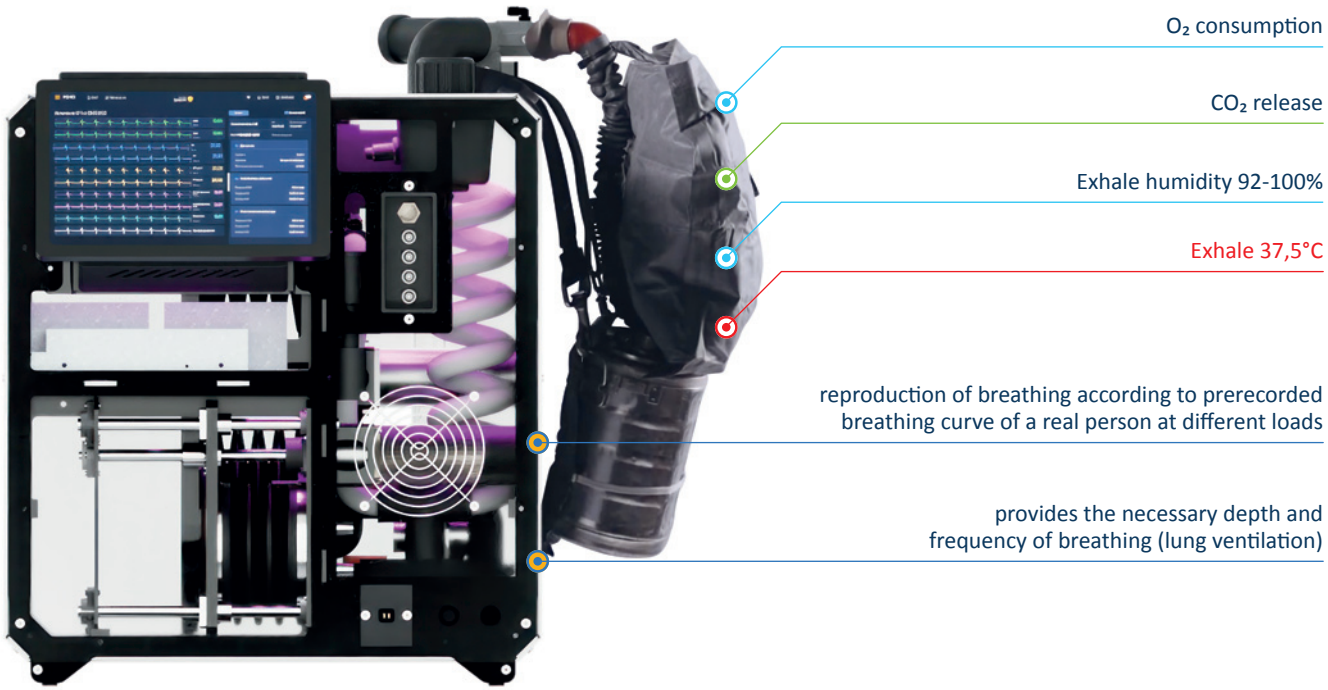
DESCRIPTION

Metabolic breathing simulator OXY ROBOT recreates the exchange of gases and the process of human external respiration (inhale and exhale).

Configuration:

Tee or human head mannequin (optional: pumped, heated)

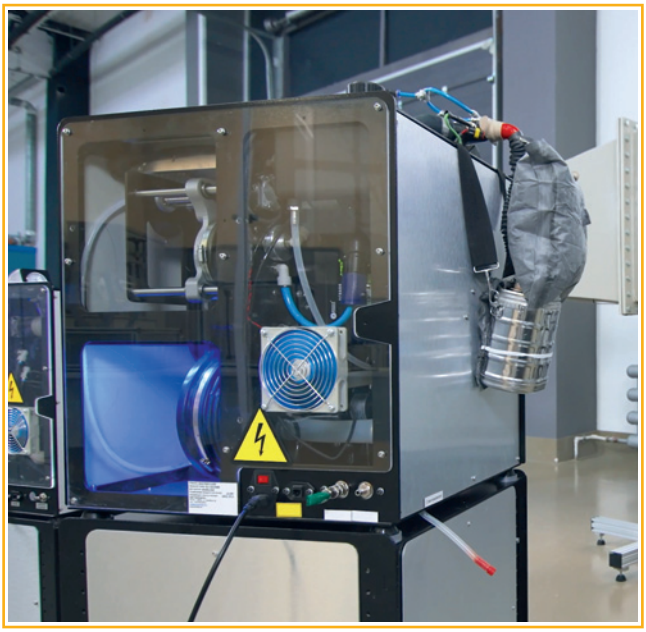
PRINCIPLE OF OPERATION:



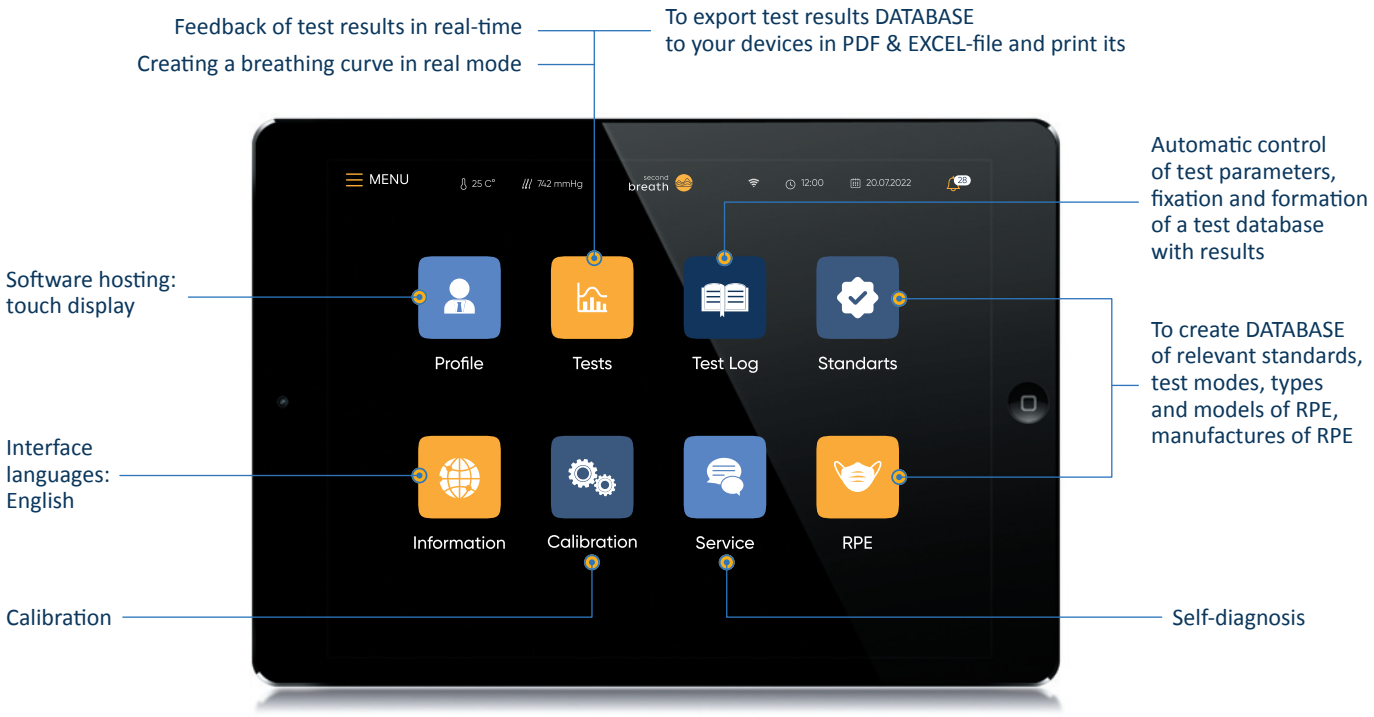
DATA SHEET

SPECIFICATIONS	VALUE	UNIT
Breathing depth	0,5 to 3,0	dm^3
Breathing frequency	10 to 40	min^{-1}
Lung ventilation	5 to 120	dm^3 / min
Volume carbon dioxide release	0,4 to 6,0	dm^3
Volumetric nitrogen consumption	0,2 to 15,0	dm^3 / min
Volumetric consumption of Gas-air mixture in imitation of oxygen consumption	0,45 to 6,00	dm^3 / min
Ratio of inhale and exhale phases duration	1:1	
Volumetric carbon dioxide concentration in outstanding Gas-air mixture	0 to 5	% vol.
Temperature of the exhaled Gas-air mixture	36,5 to 37,5	°C
The surface temperature of the human dummy head	near 36	°C
Relative humidity of the exhaled Gas-air mixture	92 - 100	%
Breathing resistance measurement range	-4000 to 4000	Pa
Sealing (pressure drop for 30 seconds with initial pressure 4 kPA),	0,3	kPa, no more
Overall dimensions without dummy head and trolley (height × width × depth)	670×515×570	mm
Power supply	50; 220	Hz, V
Power consumption	no more 2,5	kW
Weight	no more 50	kg,
Time to come to the mode	no more 15	min
Average life time	10	years

TERM OF USE	VALUE	UNIT
Ambient temperature	18 to 25	°C
Air temperature in the climate chamber	- 40 to 40	°C
Atmosphere pressure	630 to 800	mm Hg
Relative humidity	10 to 80	%



SOFTWARE PLATFORM POSSIBILITIES



DELIVERY COMPONENTS* with test equipment

Name	Q-ty, pcs.
Tee for SCSR connection	1
Human head mannequin controlled by Breath simulator and equipped with an automatic heating system	optional
Trolley	1
Tablet PC with installed software	1
Documentation set	1

*The complete set of delivery is given in the instruction manual

RELEVANT STANDARDS*:

EN 401,
ISO 16900-5:2016(E)
and others*

* meets one or more standards.
If you require testing to a standard not listed, please contact us.

WHY METABOLIC BREATHING SIMULATOR OXY ROBOT?

1. **Universal platform for research & quality control of RPE**
   OXY ROBOT complies with the requirements of most international standards for RPE testing, and when amendments are made and new ones appear, you do not have to completely or partially replace the equipment — the database of standards is automatically updated in the equipment software. OXY ROBOT is also suitable for RPE research testing — breathing parameters can be quickly and easily changed* in the test equipment application in accordance with your requirements.
   *within technical possibilities

2. **Unique opportunities for simulating human breathing**
   The Oxy Robot platform is the ability to dynamically change the parameters of «breathing» and completely repeat the breathing of a particular person under any dynamically changing load. To do this, it is necessary to record the required spirogram and enter it into the test equipment application.

3. **Increases the productivity of the testing process**
   Thanks to its own unique development of hardware and software, OXY ROBOT quickly comes to the mode (up to 15 minutes) and changes the test mode (up to 5 minutes), and you can do more tests per day.

4. **Saves time for lab staff**
   The tests do not require the constant presence of the operator. The Oxy Robot software automatically main- tains test parameters, records and stores their results, and saves staff time.

5. **Intuitive control system**
   No more manual switching. To control the test equipment, an application is used on a touch-screen display with a simple and convenient interface in English. Thanks to the training block and tips inside the application, it is possible to quickly and easily master the control of OXY ROBOT and involve even a laboratory intern in the work.

6. **Ergonomics and mobility**
   - can even be placed on a desk
   - suitable for any rooms with ventilation and electricity
   - easy to move thanks a trolley

SERVICE

Warranty
from 12 months

Training
of the Customer's staff

Service support
for the entire period of use

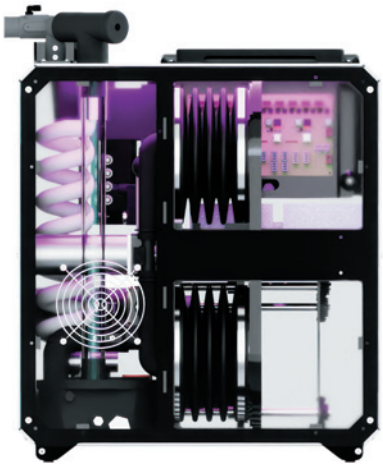
Development of the equipment
according to your terms of reference

WATCH PRESENTATION VIDEO:

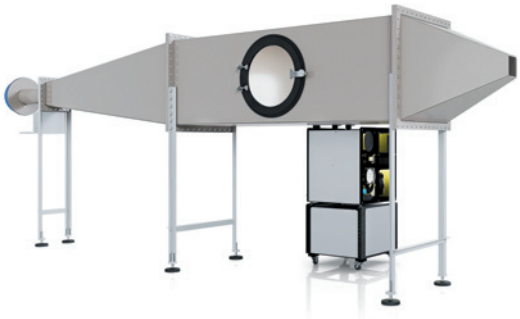
Click it

ONE PLATFORM. FIVE TEST SOLUTIONS

DIOXIDE



MONOXIDE



DOLOMITE

SILICA DUST

Family of test equipment OXY ROBOT

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