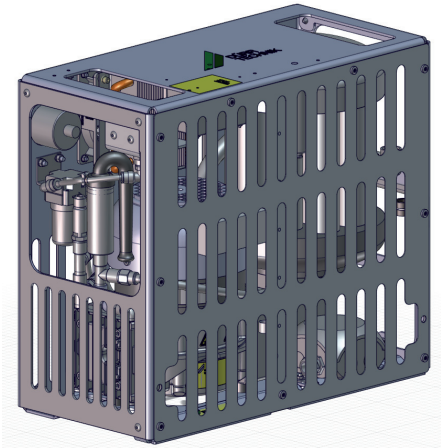


OXYFLY

EN



Installation and Operating Instructions



0635100150L02



1601V002

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Important information

1 About this document

These installation and operating instructions represent a part of the unit. They correspond to the relevant version of the unit and the status of technology valid at the time of its market launch.



In the event that the instructions and notes in these installation and operating instructions for are not observed, Dürr Technik accepts no warranty or liability of any kind for the safe operation and reliable function of the units.

This translation was prepared to the best of our knowledge. The original German language version of the manual is the definitive version. Dürr Technik is not liable for translation errors.

1.1 Warnings and symbols

Warnings

The warnings in this document are intended to draw your attention to possible injury to persons or damage to machinery.

The following warning symbols are used:



General warning symbols



Warning – risk of dangerous electric voltages



Warning – high temperatures



Warning - automatic start-up of the unit

The warnings are structured as follows:



SIGNAL WORD

Description of the type and source of danger

Here you will find the possible consequences of ignoring the warning

- › Follow these measures to avoid the danger.

The signal word differentiates between four levels of danger:

- **DANGER**
Immediate danger of severe injury or death
- **WARNING**
Possible danger of severe injury or death
- **CAUTION**
Risk of minor injuries
- **NOTICE**
Risk of extensive material/property damage

Other symbols

These symbols are used in the document and on or in the unit:



Note, e.g. specific instructions regarding efficient and cost-effective use of the unit.



Comply with the specification in the accompanying documents.



CE labelling



Order number



Serial number



Date of manufacture



Dispose of the unit properly and in accordance with applicable national, regional and local laws.



Switch off and de-energise the device (e. g. unplug from mains).

1.2 Copyright information

All names of circuits, processes, names, software programs and units used in this document are protected by copyright.

The reprinting of the installation and operating instructions, even in extracts, is only permitted with the written permission of Dürr Technik.

2 Safety

Dürr Technik has developed and constructed the units in such a way that danger is to a large extent excluded if the units are used as intended. Nevertheless, residual risks can remain. You should therefore observe the following notes.

2.1 Proper intended usage

The unit is designed for the production of therapeutic oxygen in aircraft and closed rooms.

The unit can be deployed at a maximum altitude of 5500 m (18000 ft). The unit is designed for an operating temperature of +4 °C to + 50 °C.

The unit is designed for operation in dry, ventilated aircraft and rooms. The unit may not be operated or stored in wet or damp environments. Its use in the vicinity of gases or flammable liquids is prohibited.

The unit must always be operated in an upright position.



DANGER

Danger at an altitude of over 5500 m (18000 ft)

The oxygen concentration / flow rate drops at flying heights of over 5500 m (18000 ft).

- › The maximum altitude must lie at under 5500 m (18000 ft).
- › The level of oxygen saturation in the blood must be subject to continual monitoring by a pulse oximeter during the flight.

2.2 Improper usage

Any other usage or usage beyond this scope is deemed to be improper. The manufacturer accepts no liability for damages resulting from this. In these cases the user/operator will bear the sole risk.



WARNING

Serious injury and material damage due to improper usage

- › Conveying explosive mixtures in any way other than that specified is not permitted.

2.3 General safety information

- › When operating this device always observe all guidelines, laws, and other rules and regulations that are applicable at the site of operation.

- › Prior to each use, check condition of the device and make sure it is in perfect working order.
- › Do not convert or modify the units.
- › Observe the Installation and Operating Instructions.
- › Make the Installation and Operating Instructions available to the person operating the device at all times.

2.4 Qualified personnel

Operation

Persons who operate the units must ensure safe and correct handling based on their training and knowledge.

- › Instruct or have every user instructed in handling the unit.

Installation and repairs

- › Always arrange for any assembly work, readjustments, alterations, extensions, and repairs to be performed by Dürr Technik or by personnel authorised and trained by Dürr Technik. Qualified personnel are defined as those trained by Dürr Technik; who are familiar with the unit technology; and are aware of the dangers presented by the unit.

2.5 Protection from electric shock

- › When working on the units observe all the relevant electrical safety regulations.
- › Immediately replace any damaged cables or plugs.

2.6 Only use genuine parts

- › Only use accessories specified or approved by Dürr Technik.
- › Only use original working and spare parts.



Dürr Technik accepts no liability for damage resulting from the use of non-approved accessories or any non-original working or spare parts.

2.7 Transportation and storage

The unit is delivered in a cardboard box filled with packing material. The original packaging provides optimum protection for the unit during transport. Wherever possible, always use the original packaging for transport and storage of the unit.

- Keep the packing materials out of the reach of children.

The unit may be stored in its original packaging

- in warm, dry and dust-free rooms;
- protected from contaminants.



If possible, retain the packaging material.

Ambient conditions during storage and transport

Temperature	°C	-40 to +60
Rel. humidity	%	5 % to 90 %

Please refer to the labels on the packaging padding.

2.8 Disposal

Unit



Dispose of the unit properly and in accordance with applicable national, regional and local laws.

Packaging



Dispose of the packaging material in an environmentally responsible manner.

- Note current disposal routes.
- Keep the packing materials out of the reach of children.



3 Overview

3.1 Units

Product name	Article number
OXYFLY Light	0635100030
OXYFLY EcoLight	0635100040
OXYFLY Pro	0635100001
OXYFLY EcoPro	0635100050

3.2 Accessories

The following articles are necessary for the operation of the unit, depending on the application:

Accessory name	Article number
OXYMETER	0635 0700
OXYARM HEADSET	0635 0710
OXYGEN FLOWMETER	0635 0720
OXYSAVER	0635 0730
Hose with Y adapter	0635 0740
Power cord OXYFLY 1.5 m	0635100034
Power cord OXYFLY 3 m	0635100035

4 Technical data

		OXYFLY Light 0635100030	OXYFLY EcoLight 0635100040
Rated voltage	V	28 V _{DC}	28 V _{DC}
Rated power	W	675	425
Nominal current	A	10 - 24	7-15
Delivery quantity O ₂ -flow rate at 90%	l/min	4 - 6	3 - 5
Oxygen concentration	%	up to 95	up to 95
Dimensions (LxWxH)	mm	490 x 430 x 230	490 x 430 x 230
Weight	kg	23	23

Ambient conditions during operation

Temperature	°C	+4 to +50 (Additional ventilation with a ventilator is necessary with temperatures over +40 °C).
Optimal temperature range	°C	+10 to +25

Ambient conditions during storage and transport

Temperature	°C	-40 to +60
Rel. humidity	%	5 to 90

		OXYFLY Pro 0635100001	OXYFLY EcoPro 0635100050
Rated voltage	V	28 V _{DC}	28 V _{DC}
Rated power	W	675	425
Nominal current	A	10 - 24	7-15
Delivery quantity O ₂ -flow rate at 90%	l/min	4 - 6	3 - 5
Oxygen concentration	%	up to 95	up to 95
Dimensions (LxWxH)	mm	490 x 430 x 230	490 x 430 x 230
Weight	kg	25	25

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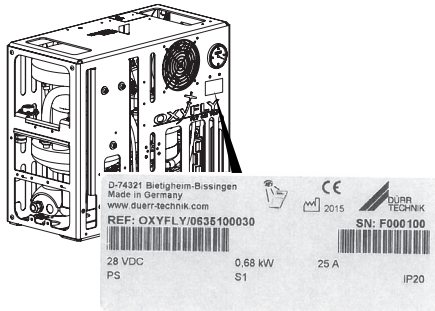
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Optimal temperature range	°C	+10 to +25

Ambient conditions during storage and transport		
Temperature	°C	-40 to +60
Rel. humidity	%	5 to 90

4.1 Type plate

Complete system

The type plate of the overall system is located underneath the operating time counter.



REF Order number

SN Serial number

4.2 Declaration of conformity for machines in accordance with the 2006/42/EC Directive

The manufacturer hereby declares that the machine complies with the requirements of the directive cited above and the requirements of the following additional directives:

- Electromagnetic Compatibility (EMC) Directive 2004/108/EC
- RoHS directive 2011/65/EU

Manufacturer's name:	Dürr Technik GmbH & Co. KG
Manufacturer's address:	Pleidelsheimer Straße 30 D-74321 Bietigheim-Bissingen

Reference number:	OXYFLY 0635
Article designation:	Oxygen generator for unprinted aircraft
From the serial number:	C 000100

We hereby declare that the machine must not be commissioned until it has been established that the machine into which this machine is to be installed complies with the provisions as set out in Machinery Directive 2006/42/EC.

The following harmonised standards and other standards have been applied:

DIN EN 1012-1:2011-02
 DIN EN 60034-1:2011-02
 DIN EN 60034-5:2007-09
 DIN EN 60335-1:2012-10
 DIN EN 61000-6-2:2005
 DIN EN 61000-6-3:2011-09
 DIN EN ISO 61000-6-4:2007+A1:2011
 DIN EN 60204-1:2007-06
 DIN EN ISO 12100:2011-03

Bietigheim-Bissingen, 14/10/2015

Andreas Ripsam
 Executive Board of Dürr Technik

Proof of signature in the
 Original document held by Dürr Technik

5 Operation

The unit consists of:

- A piston compressor unit (with a brushless speed-controlled motor)
- an oxygen module
- A safety valve
- A fixed throttle
- A fine filter unit
- Electronic components
- An operation switch.

The electrical connection is established via a contact plug.

Atmospheric air is drawn in via an air intake filter. This air is compressed by the pistons in the cylinder and then drawn by the cooler through the prefilter with a condensate drain.

The compressed air is then led into the oxygen module. The oxygen separated there is filtered through a filter unit and then throttled in a nozzle. The filtered oxygen can be taken from the hose nozzle on the unit. Separate accessories are available for drawing the oxygen to the user.



6 Requirements

6.1 Installation/setup room

The room chosen for set up must fulfil the following requirements:

- Dry, well-ventilated, dust-free aircraft interior
- Set up the unit on a clean, level and sufficiently stable surface (take the weight of the unit into account).
- The socket-outlet must be easily accessible.
- The type plate of the unit must be easily readable (also after installation).
- The unit must be easily accessible for operation and maintenance.
- Once the unit has been installed, the connecting terminals must be easily accessible when removing/opening housing access.
- Leave sufficient clearance to the wall (min. 20 cm).



NOTICE

Risk of overheating due to insufficient ventilation

The unit generates heat. Possibility of heat damage and/or reduced service life of the unit.

- › Do not cover the unit.
- › Air must be able to flow in and out unobstructed.
- › Ventilation openings must be sufficiently large.
- › Installed units may require an independent ventilation system in unfavourable cases.

6.2 Installation position and fastening

- › Install the unit in an upright position
- › The unit must be secured against slipping. This can be performed using a special safety belt or fastening rails with wing nuts.

7 Electrical installation



DANGER

Connection to the power supply may only be performed by a qualified electrician.



DANGER

Danger to life from a faulty electric connection.

Comply with the valid regulations regarding electric installation in the aviation sector.

- › If the unit is permanently connected to the voltage supply, a cut-off device (e.g. a circuit breaker) with a contact gap of at least 3 mm must be provided in the vicinity of the unit.
- › If the unit is connected to the voltage supply using a plug, safety considerations demand that the socket-outlet be easily accessible so that the unit can be safely disconnected from the power supply following danger.
- › Power cords must not run over the unit. The hot surface of the unit could damage the cable insulation.
- › Check the power supply voltage before performing the electrical connection. It must correspond with the specifications on the type plate.

7.1 Electrical connections

The unit is fitted (as standard) with a connection plug of the following type:

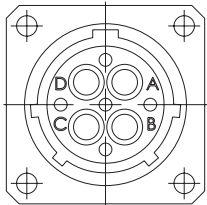
- RT0016-4PNH (PINS MP10A23S)

Power cords are available in various versions as accessories. These power cords have been checked for their suitability for electrical installation in the aviation sector. Should other power cords be used, the risk and responsibility lies with the owner of the unit.

The customer is to install a socket-outlet in the aircraft through which to effect the electrical unit power supply. This socket-outlet must correspond with the connection specifications on the type plate and be installed by a qualified electrician.

The socket-outlet must comply with the following specification:

- RT0616-4SNH



- A Unit on
- B Error signal
- C 28 V+
- D 0 V-

7.2 Fuse protection of the supply current circuit

! DANGER Inadequate fuse protection of the unit supply current circuit

Inadequate fuse protection of the unit supply current circuit can result in fire, electric shock, personal injury or material damage.

- › Fuse the supply current circuits in accordance with their maximum permissible capacity.
- › Comply with the electrical device data when fusing the supply current circuit.

8 Commissioning and first start-up

8.1 Remove the transport locks

The unit is securely protected with packaging material to ensure safe transportation.

- › Remove the packaging material.
- › Remove the protective film.
- › Check the unit for damage in transit.

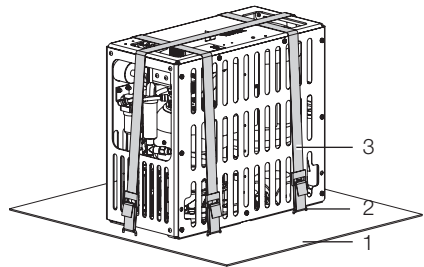
8.2 Install the unit in the aircraft

The unit must be secured against slipping with a special safety belt or fastening rails with wing nuts.

! DANGER Danger to life from insufficiently-secured load

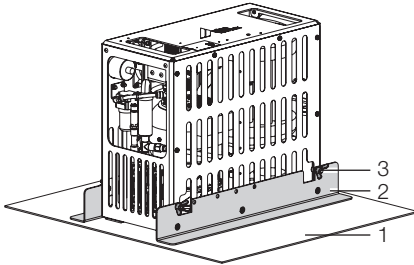
Failure to secure the load correctly can lead to the unit acting as a projectile (through slipping, tipping or flying about) which can cause personal injury and material damage.

- › The unit must be secured against slipping/tipping/flying about.
- › Secure the unit with special safety belts:
 - Fixing lugs must be installed on the aircraft floor.
 - Thread safety belts through the lugs and lash.



- 1 Aircraft floor
- 2 Fixing lugs (installed)
- 3 Safety belt

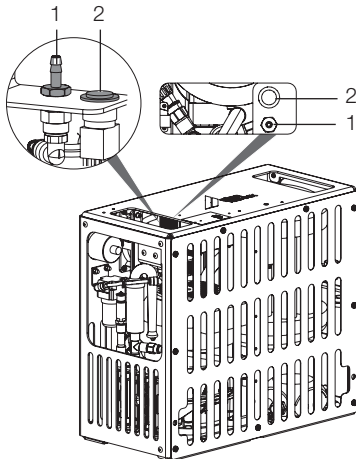
- › Secure the unit in the aircraft with fastening rails wing nuts:
 - Install two fastening rails on the aircraft floor.
 - Place the unit between the fastening rails.
 - Screw the unit must to the fastening rails with wing nuts.



- 1 Aircraft floor
- 2 Fastening rails (fixed)
- 3 Wing nuts

8.3 Establishing the compressed air connection

The unit is fitted with a 7 mm hose nozzle \varnothing for the oxygen connection.

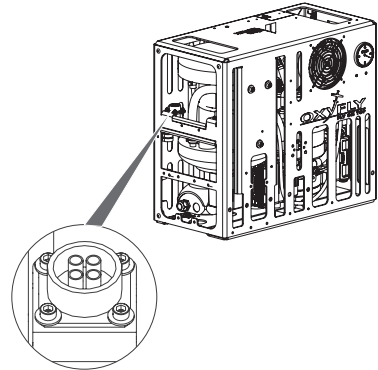


- 1 Hose nozzle

- › Connect an oxygen hose (optional accessory) to the hose nozzle (1) and secure with a hose clip.
- › Connect the other side of the oxygen hose with the user / aircraft oxygen supply.

8.4 Connecting the unit

The electrical connection of the unit is performed via the unit connector located on the rear-side of the unit.

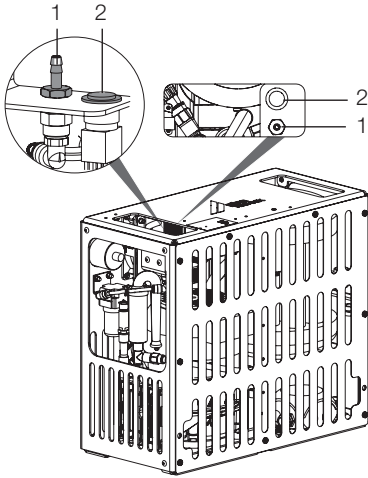


- › Connect the fitting end of the power cord (optional accessory) to the unit connector.
- › Connect the free end of the power cord to the connecting socket (accessories optional) installed on the aircraft side.
- › Pin assignment, see: "7.1 Electrical connections".



9 Operation

9.1 Switching the unit on/off



- 1 Hose nozzle
- 2 On/Off switch

› The unit is switched on and off by pressing the on/off switch (2).

The unit activates and oxygen production begins.

› The unit is switched off by pressing the on/off switch (2) again.

9.2 Checks and function test

The unit must be checked on the ground before every flight and tested for its function. To this end, the unit is switched on and the following points are checked.

- › The unit is in an upright position.
- › The unit is secured against slipping with safety belt or fastening rails.
- › The connection cable and compressed air hoses must be connected to the unit securely. Loose components must be secured.
- › All unit components must be in order and fitted to the housing in a stable fashion.
- › The compressed air hose for oxygen supply is connected securely to the unit hose nozzle and is secured against slipping out with the hose clips.

- › The air-ducting hoses must be clean and free of visible deposits and soiling.
- › The unit has been connected correctly to the voltage supply.
- › Air can circulate unhindered around the suction openings.
- › The unit activates after the on/off switch has been pressed.
- › The unit runs quietly. The origin of unusual noises such as knocking, humming etc. must be resolved.



Record the check and function check in a machine log book.

9.3 Important safety information



DANGER

Danger from an insufficient oxygen saturation level in the blood during the flight.

The level of oxygen saturation in the blood must be greater than 90%. Should the level of oxygen saturation in the blood exceed 90 %, a danger to life is presented.

- › The level of oxygen saturation in the blood must be subject to continual monitoring before and during the flight using a pulse oximeter (available as an accessory).
- › The level of oxygen saturation in the blood must be greater than 90 %.
- › If the level of oxygen saturation falls below 90 %, it is necessary to reduce the altitude until the recommended oxygen saturation level (greater than 90 %) has been restored.

**DANGER****Oxygen enrichment of the air increases the danger of fire**

Serious personal injury and material damage from fire

- › Keep sources of ignition away from the oxygen supply.
- › After presence in an oxygen-enriched atmosphere, make sure to ventilate your clothes, as oxygen adheres very well to clothing. A source of ignition (e.g. a cigarette) can cause a clothes fire.
- › In the presence of oxygen, oil and fat can burn explosively. Never grease a unit intended for oxygen with oil or grease. Degrease a soiled unit with a suitable solvent.
- › The cleaning agent used must be verifiably suitable for operation with oxygen.

10 Maintenance

Maintenance interval	Maintenance work
Monthly	› Clean the surface of the unit with a non-fuzzing cloth. Keep the ventilation openings free from dust and impurities.
300 operating hours	› Replacement of the vibration damper at Dürr Technik.
1000 operating hours or after 3 years at the latest	› General overhaul of the unit at Dürr Technik.

11 Taking out of use

If the unit is not to be used for a prolonged period of time, we recommend that it be decommissioned.

- › Unplug at the mains.
- › Remove the unit.
- › Completely clean the unit.
- › Store the unit in accordance with the storage conditions (refer to "4 Technical data") and in the original packaging if possible.



12 Tips for operators and service technicians



Any repairs above and beyond routine maintenance must only be carried out by suitably qualified personnel or by one of our service technicians.



De-energise the unit prior to working on it or in the event of potential danger (e. g. pull the mains plug) and prevent it from being switched back on again.

Problem	Probable cause	Solution
Unit does not start	No power supply voltage	› Inform an electrician. Check mains fuse and if possible, switch on unit again.
	Undervoltage or overvoltage	› Inform an electrician. Measure power supply voltage.
	Motor defective	› Replace the unit.
	Air intake filter cartridge soiled	› Send the unit to the manufacturer for repair.
Output drops.	Air intake filter cartridge soiled	› Send the unit to the manufacturer for repair
	Lines, hoses or connections leaking	
	Defective seals	
	Defective lamellar valves	
Unit too noisy	Bearing damaged	› Send the unit to the manufacturer for repair.
	Vibrations are being transmitted to the housing	
	Defective vibration dampers	
Visual deposits/soiling in air-ducting hoses	Soiled ambient air	› Send the unit to the manufacturer for repair.

12.1 Addresses

Service

Dürr Technik GmbH & Co. KG
74301 Bietigheim-Bissingen
Telephone 0 71 42 / 90 22 - 20
Fax 0 71 42 / 90 22 – 99
e-mail: service@duerr-technik.de

Replacement order

Telephone 0 71 42 / 9022 - 0
Fax 0 71 42 / 9022 - 99
e-mail: office@duerr-technik.de

The following information is required when ordering spare parts:

- Type designation and item number
- Order number as appears on the spare parts list
- Quantity required
- Exact shipping address
- Shipping information

Repairs/return delivery

Ensure that the unit is **depressurized** before transport! Use the original packaging when returning units, if possible. Always pack the units in a plastic bag. Use recyclable packing material.

Return delivery address:

Dürr Technik GmbH & Co. KG
Pleidelsheimer Straße 30
74321 Bietigheim-Bissingen
-Germany-

International addresses for Dürr Technik

www.duerr-technik.com

Dürr Technik GmbH & Co. KG
Pleidelsheimer Strasse 30
74321 Bietigheim-Bissingen
Germany
Fon: +49 7142-90 22 -0
www.duerr-technik.com
office@duerr-technik.de

