A Guide to Liquid Oxygen

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NHS
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Contents

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Introduction

Baywater Healthcare are the provider of your home oxygen equipment. Your Healthcare Professional will have ordered Medical Liquid Oxygen (LOX) on your behalf and this booklet explains how to use it safely.

Medical Liquid Oxygen (LOX)

LOX is delivered using two containers; a large container known as a 'LOX tank' and a smaller refillable portable unit (flask).

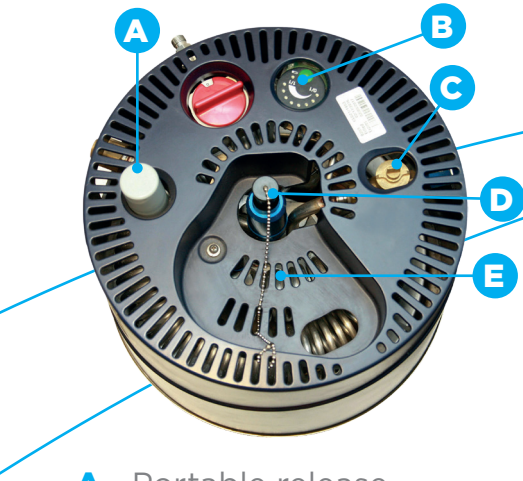
You should only use LOX set at the flow rate prescribed by your Healthcare Professional.

(open 24 hours, 7 days a week for urgent calls)

Equipment

Caire Low Loss Dewar

This LOX tank is only for filling portable units. You cannot breathe oxygen directly from this LOX tank.



A Portable release
B Liquid level display
C Vent
D Fill connector
E Reservoir

Checking how much oxygen is left

1. To check the level of LOX in your LOX tank, press the level switch for two seconds and read the liquid level display. If only 2 or fewer bars light up (25%) please call our Healthcare Helpline.
2. If the low battery indicator on the liquid level display lights up tell your Healthcare Technician.

Healthcare Helpline: 0800 373580 I 8.00am - 6.30pm every day

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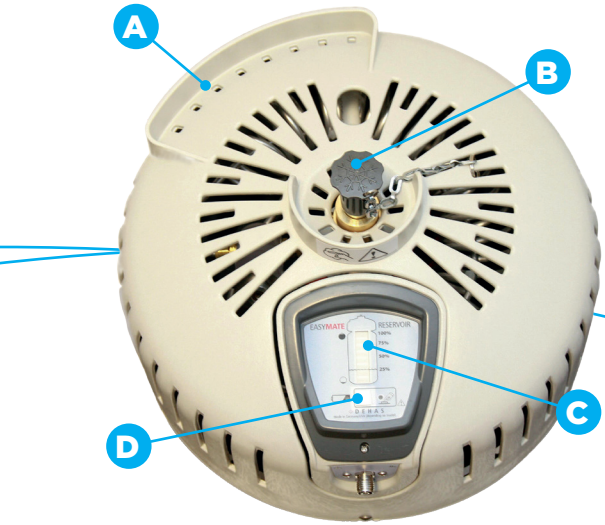
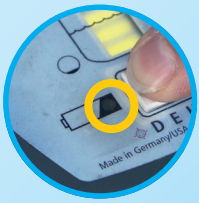


A Condensation collection
B Fill connector
C Liquid level indicator
D Activation button

Checking how much oxygen is left

1. Push the Activation Button on the liquid level Indicator.
   The lights will scroll from bottom to top, then the lights indicating the level of liquid oxygen will remain on for 5 seconds. If only 2 or fewer bars light (25%) please call our Healthcare Helpline.
2. If the low battery indicator on the liquid level display lights up tell your Healthcare Technician.



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Refillable portable flasks

The portable flask should be filled from the large LOX tank.

As with all oxygen equipment, you should become familiar with the parts of the portable flask.

The model shown is the Spirit 600. Your flask may not be identical, but the controls will be similar.

How to Fill Your Portable Liquid Oxygen Flask

Before you start filling, wipe the fill connector on the tank and flask using a clean lint free cloth. Do not push down on the tank's fill connector.

Place the flask over the tank and ensure the fill connectors are correctly aligned.

Place your hands on top of the flask and gently push down to engage the fill connectors.

Hold the flask in position and pull down its portable fill lever. Close the lever every 20 seconds to prevent the fill valve from freezing. Once the flask is full you will notice a change in the sound being made, some people compare this to the sound of a kettle boiling.

Close the portable fill lever by returning it to the upright position.

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Press the release button on the tank. This will release pressure and disconnect the flask.

Checking the contents of your flask

You can check the contents of the flask by using the contents display.

If your flask does not have a contents display, you may need to hold it by the contents strap. The green line inside the window indicates how much oxygen remains.

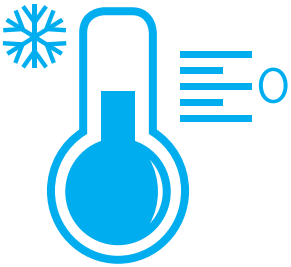
Please note this process can be slightly different for each flask.

For more information about your equipment, please speak to your Healthcare Technician or call our Healthcare Helpline on **0800 373580**.

Caution

Do not touch the fill connectors after filling, these will be extremely cold and could cause injury.

During filling the LOX tank may release steam, this is normal.



Flask Specifications

Companion T

Companion T flask duration

Flow rate (lpm)	Continuous flow
1	12 hours
2	8 hours 30 mins
3	6 hours
4	4 hours 15 mins
5	3 hours
6	2 hours 30 mins
8	2 hours
10	1 hour 30 mins
15	50 mins

All timings are approximate and can change depending on how fast you are breathing.

Do not lay this flask on the ground as it will leak.

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High flow stroller

High flow stroller flask duration

Flow rate (lpm)	Continuous flow
0.5	32 hours
1	16 hours
2	8 hours
2.5	6 hours 20 mins
3	5 hours 20 mins
4	4 hours
6	2 hours 40 mins
8	2 hours
10	1 hour 40 mins
12	1 hour 20 mins
15	1 hour

All timings are approximate and can change depending on how fast you are breathing.

Do not lay this flask on the ground as it will leak.

Marathon

Marathon flask duration

Flow rate (lpm)	Demand flow	Continuous flow
1	n/a	10.5 hours
1.5	22.5 hours	n/a
2	18.5 hours	5.5 hours
2.5	16 hours	n/a
3	11.5 hours	3.5 hours
4	9.5 hours	2.5 hours
5	n/a	2 hours
6	n/a	1.5 hours

All timings are approximate and can change depending on how fast you are breathing.

If after filling the Marathon you are experiencing no flow, it is possible that you have over filled it. Please lay the unit on it's back and wait for about one hour for the unit to defrost.

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Helios H300 Plus

Helios flask duration

Flow rate (lpm)	Demand flow	Continuous flow
0.12	n/a	15 hours
0.25	n/a	15 hours
0.5	n/a	10 hours
0.75	n/a	6.5 hours
1	13 hours	n/a
1.5	12 hours	n/a
2	10 hours	n/a
2.5	8.5 hours	n/a
3	6.5 hours	n/a
3.5	6 hours	n/a
4	5 hours	n/a

All timings are approximate and can change depending on how fast you are breathing.

Spirit 600

Spirit 600 duration

Flow rate (lpm)	Demand flow	Continuous flow
1	17 hours	n/a
2	17 hours	4 hours
3	12 hours	n/a
4	8 hours	n/a
5	4 hours	n/a

All timings are approximate and can change depending on how fast you are breathing.

Do not lay this flask on the ground as it will leak.

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Be Safe

When used correctly oxygen is safe. You need to follow this safety information:

Cold (cryogenic) burns

Your skin can become stuck to cold metal if you touch it. This could cause the skin to tear when you try and pull away.

To remove run large amounts of tepid water over it (no higher than body temperature). Do not use dry heat, such as a hair drier or electric heater.

If your skin is frozen you may not feel any pain. It would be waxy and yellow in colour. When the skin starts to warm up pain may be felt. Please seek medical help if this occurs.

First aid for cold burns

Do not attempt to pull frozen skin away from other items, including metal or clothing.

Loosen any tight clothing.

Do not rub or massage frozen skin and do not apply any creams or ointments. Seek medical attention as soon as possible.

Fire risks

- Do not smoke or allow those near you to smoke whilst using LOX. Smoking whilst using LOX has caused serious injuries and can prove fatal.
- Do not allow flames in the area where you are using your LOX, since even the smallest spark can cause fire; electrical equipment capable of sparking (including toys which may produce sparks) must not be used where you are using your LOX.

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How to Use LOX

LOX converts to oxygen gas when breathing in. You will be given a facemask, mouthpiece or nasal prongs to use which are connected to a LOX flask.

Your LOX equipment must be operated in the manner described by the Baywater Healthcare Technician at the time of delivery.

If you are using LOX at home, you will be given full training on how to use the equipment supplied.

The equipment you are provided with may change according to your clinical and personal needs. This will consider the oxygen flow required, the required time you need to use it for and the weight of the flask. This may result in changes to your equipment over time. If the equipment you are provided changes, your Healthcare Technician will explain the differences in use and any likely changes in how long it will last.

Preparation for use

- Ensure that the gas is within its expiry date (this is specified on a separate batch label on the container). The liquid will evaporate away in about six weeks and the six week expiry date reflects this.
- If necessary, clean only with plain water. Do not use solvents including items that contain the flammable logo.
- Never use grease, oil or similar products on any part of the LOX container or any equipment used with the LOX container.
- Do not use oil based moisturising creams when using LOX.
- Check that hands are clean and free from oil or grease before handling oxygen equipment.

- If you use alcohol gels, ensure that all alcohol has evaporated before using LOX equipment.
- Always keep the LOX container in an upright position.
- Check the level of liquid oxygen in the tank.
- Check flasks and tank for leaking.

After use

- Return empty tanks to us.
- Any tanks or flasks that are no longer required should be returned to us.

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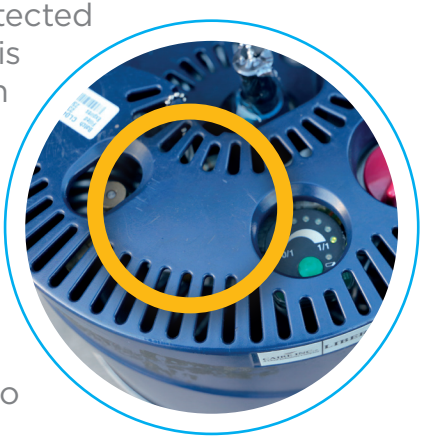
Storage of Your Medical Liquid Oxygen Tank

Handling and storing your large oxygen tank



- Your large oxygen tank is protected by a pressure relief device. This will sometimes release oxygen in storage to prevent build-up of excessive pressure inside the tank. This may release a mist from the pressure release valve, (which is under the ventilated plastic cover). This is an automatic function and does not require you to do anything.
- Do not cover the top of the tank.
- Your tank should be stored in an area with good air flow around it.
- Do not store your liquid oxygen close to items that get hot, such as hair dryers and radiators. These can cause the tank to mist faster and will empty your tank faster.
- Your tank should be handled with care and should never be dropped or allowed to fall over.

In the event of a leak

- In the unlikely event of a leak from the LOX tank, open windows and doors to allow good air flow in the room and allow the oxygen to disappear.
- Shut off any items that get hot such as ovens, heaters etc.
- Stay away from the LOX tank.

Handling and storing your portable oxygen flask

- Never use your portable LOX flask under clothing.
- If you carry your portable LOX flask in a bag or holder, it must be made from appropriate material and provide adequate flow of air.
- To prevent any unnecessary oxygen build up in the air, it is important to turn off your LOX portable flask when not in use.

Note

Please note it is normal for a portable oxygen flask to release oxygen mist from time to time. Most flasks will be completely empty within 24 hours even if they are not used.

Transporting oxygen equipment

Follow this advice when transporting oxygen equipment:

- Inform your insurance company that you will be carrying oxygen (see Oxygen Guide)

Secure flask safely in the vehicle strapped and hanging behind the front seat

Never transport flasks on car seats or carpets

Never use oxygen in a fuel station and never smoke while oxygen is being used in the car

Public transport

You are able to take your portable liquid oxygen flask on public transport, however different companies will have different rules and regulations. Please discuss with your transport company before travel. The taxi legislation office at your local council may be able to offer advice if you are experiencing problems travelling with your oxygen in a taxi.

Ensure the container is secure when using public transport.

Troubleshooting

Tanks

The liquid level meter seems inaccurate or is flashing

The battery may need to be changed or some condensation has got into the meter. Inform the Healthcare Technician when swapping over the tank on your next delivery.

Frosting on coil of the tank

This is normal when filling portable flasks. If it continues after filling has completed please contact us.

Frosting on the side of the tank

Please contact us.

Liquid Oxygen escaping from fill point

The fill connector may have frozen open. Open windows if possible to allow the room to ventilate and evacuate the area immediately. Please contact us.

To prevent escape of liquid always wipe outlet nozzle with lint free cloth before and after filling portable.

Hissing noise from the tank

During normal use the relief valve will open occasionally to relieve pressure, especially after filling the portable flask. If the hissing continues, it could indicate a leak. Call us if it does not stop within 10 minutes or it is seems to be hissing a lot.

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Portable flasks

Portable flask is making a hissing sound

Hissing can occur to maintain the correct pressure inside the flask. It is most likely to hiss after filling or when the position of the portable flask is changed. Hissing can last for approximately 10 minutes after filling. It can occur when the flow control valve is at a low setting. If the portable flask has been laid down in an improper position, stand it back upright and allow several minutes for the unit to settle.

The flow stops during use

Ensure that the nasal prongs are firmly attached to the oxygen outlet and that the tubing is not kinked. Check the contents indicator and fill the portable flask if needed. Ensure the flow control is not in the off (0) position.

The portable flask vent valve does not close properly at the end of the filling process

If the vent valve fails to close and a hissing sound and oxygen cloud continues, carefully remove the portable flask by pressing the release button on the tank. Steam from the bottom of the portable flask will stop after a few minutes. Allow the flask to warm until you can close the vent valve. The portable flask may require up to 60 minutes to build enough pressure for oxygen to flow correctly.

The portable flask does not release from the tank after filling

The portable flask and tank fill connectors may have become frozen. DO NOT USE FORCE. Allow a few minutes for the frozen parts to warm, then press the portable release to remove the portable flask. To prevent the flask and tank from freezing together, always wipe the fill connector on the tank and on the portable flask with a clean, dry lint free cloth before filling.

Notes

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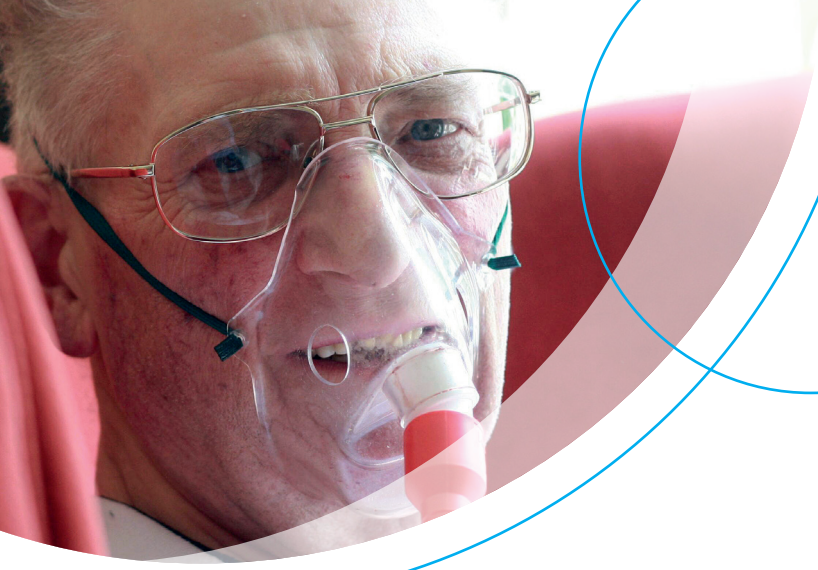

For more information please contact:

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