

Liquid Oxygen A User Guide



Service provided by:

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IMPORTANT: Please ensure you read all material given to you by the BOC Technician before using your oxygen equipment. Please follow all guidance regarding not smoking, nor allowing others to smoke near your equipment.

About your liquid oxygen (LOX) equipment

Liquid oxygen allows the storage of larger quantities of gas more readily than normal gaseous oxygen. One litre of liquid oxygen when evaporated equals approximately 860 litres of gaseous oxygen.

Because liquid oxygen can provide more oxygen in small containers, it gives people more flexibility and mobility to get out and about; especially for people needing high oxygen flow-rates. The liquid oxygen is vaporised into gas and warmed to room temperature inside the equipment before it is delivered to you via tubing called a cannula, which fits into your nostrils.

The liquid oxygen (LOX) system for homecare consists of a stationary mother unit vessel and a portable flask for holding your ambulatory oxygen.

The mother unit contains a reserve supply of liquid oxygen. This is used to refill the portable flask with oxygen as and when you need it. Our Technician will carry out a risk assessment of your home, prior to installation to check whether, and where, it is safe for you to have LOX in your property.

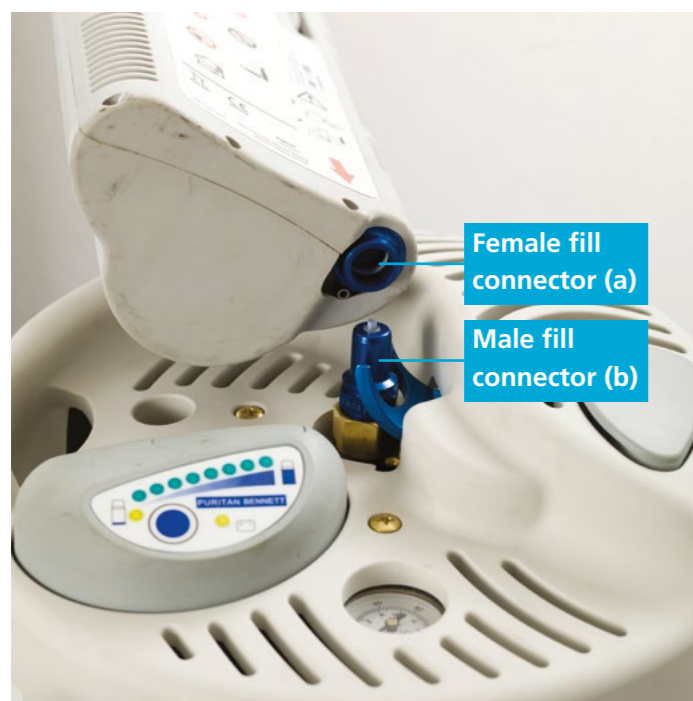
We supply a range of LOX flasks, dependent upon your prescription and lifestyle. The most suitable flask for you will depend upon your prescription flow-rate, and duration needed, as well as weight and whether you can use on-demand flow.

BOC provides a range of different portable flasks to suit different flow-rates, weights and duration needs:



How to fill the portable flask

Please note: your portable flask may look different to the one in these pictures but the filling process, and all the safety guidelines, still apply.



1. Using a clean and dry cloth, wipe the male fill connector (b) on the mother unit and the female fill connector (a) on the portable flask (supplied by your technician).
2. Position the portable flask over the recessed area on the top of the mother unit and carefully lower the portable flask into place so that the fill connectors are properly aligned.

3. Place one or both hands on top of the portable flask and press straight down directly over the fill connector. While holding the portable flask in the fill position, pull down and hold the vent valve lever in the open position, as shown. You will hear a hissing sound – keep pressing down whilst the portable flask is filling.

Where possible, a flask should be filled continuously not intermittently to avoid the build up of moisture around the valve.

4. When the portable flask is full, there will be a change in the sound of the gas followed by a dense white vapour forming around the mother unit's cover. Close the vent valve by returning the vent lever to the upright position.

5. Disengage the portable flask from the mother unit vessel by pressing the portable release button and lifting the portable flask off the reservoir, as shown.

6. Check the contents of the portable flask. Depending on the model you've been issued you will need to lift the contents indicator strap (as shown in the picture above), ensuring the bottom back of the unit is straight.

If you have a companion model then ensure to hold the strap closest to the contents gauge on the unit.

The green bar inside the clear window indicates how full your unit is.

Liquid portable flask usage chart

How long will my portable flask last?

- Please note: the durations indicated here are only approximate, and for guidance only. They are based on a full flask.*
- You will be prescribed LOX either at a demand or continuous flow: demand flow gives oxygen out as you inhale; continuous flow is constant. If you're unsure what flow setting you should use, contact your clinician.
- Your Technician will tell you which portable flask you have.

Companion 1000

Flow setting (litres/min)	Duration (hours)
0.25	55.4
0.5	21.5
0.75	22.8
1	17.1
1.5	11.4
2	8.5
2.5	6.8
3	5.7
3.5	4.9
4	4.1
5	3.3
6	2.8

Companion 1000T (high-flow)

Flow setting (litres/min)	Duration (hours)
0.5	21.5
1	17.1
1.5	11.4
2	8.5
3	5.7
4	4.1
5	3.3
6	2.8
8	2.1
10	1.7
15	1.2



HELIOS™ Marathon (H850)

Continuous-flow setting (litres/min)	Duration (hours)
C1	12.1
C2	6.1
C3	4.0
C4	3.0
C5	2.4
C6	2.0
Demand-flow setting (litres/min)	Duration (hours)
D1.5	29.3
D2	22.0
D2.5	17.6
D3	14.6
D4	11.0

HELIOS™ Plus (H300)

Continuous-flow setting (litres/min)	Duration (hours)
0.12	21.9
0.25	17.8
0.5	12
0.75	7.6
Demand-flow setting (litres/min)	Duration (hours)
1	18.4
1.5	12.2
2	9.2
2.5	7.3
3	6.1
3.5	5.2
4	4.6

Stroller® (high-flow)

Flow setting (litres/min)	Duration (hours)
0.5	34.3
1	17.1
1.5	11.4
2	8.5
2.5	6.8
3	5.7
4	4.4
6	3
8	2.3
10	1.9
12	1.6
15	1.4

*Flowrate duration information sourced from Caire Inc. LOX Time Duration Chart (ML-LOX0007)

Dos and Don'ts

General

- Follow the advice we have given you about where to safely store and use your liquid oxygen vessel.
- Use and store your liquid oxygen base unit upright.
- Use the portable flask in a position as demonstrated by our technician.
- Periodical hissing from either the mother unit vessel or portable flask is normal and is how the system controls its pressure.
- Liquid oxygen installation requires a suitable ground floor area for storage - either a secure outdoor area or outbuilding free from any oils, paints, fuels etc.

Filling

- Always ensure the filling connections on the portable flask and mother units are clean and dry before attempting to refill the portable flask using a dry cloth.
- When trans-filling the portable flask, never leave it unattended until the unit is full.
- If the unit will not disconnect easily, never use force to remove it. Wait a few moments to allow it to thaw and then try again.
- Should a minor leakage occur when the portable flask is disengaged, proceed to re-engage and then disengage the portable flask. This will help to dislodge any ice or other obstruction. If a leakage is still present, engage unit again and call us immediately.
- Should a major leakage occur (i.e. a stream of liquid oxygen is present) when the portable flask is disengaged, stay away

from the flask, ventilate the area where safe to do so and call us immediately on **0800 136 603**.

- Replace cap on mother unit vessel fill connector when not in use.

Safety

- Never touch any cold parts on either vessel or allow liquid oxygen to come into contact with your skin, as this could cause a serious burn. If you do receive a cold burn, immerse the affected parts in tepid water, and seek medical advice. Please also inform BOC after the event.

Close valve

- Keep flow control valve closed when the oxygen vessel is not in use.

Nasal cannulae

Hygiene

Use a soft damp cloth to regularly clean face masks and nasal cannulas in accordance with the manufacturer's instructions. Do not use cleaning agents.

Suggested replacement frequency

The cannula condition can deteriorate with age and it is recommended that the cannula is changed approximately at monthly intervals.

Cannulas can become blocked with nasal fluids. Where this is a problem more frequent replacement may be required.

Troubleshooting

Symptom	Possible cause	Solution
No flow from portable flask.	1. Flow control set to off (0).	1. Set flow to correct setting.
	2. Mother unit empty.	2. Check contents gauge.
	3. Tubing not fitted correctly.	3. Check the fitting of the tubing. Check tubing is not kinked.
	4. Marathon flask only.	4. Check flow at both nasal prongs, attach cannula and breathe as the flow is breath activated.
	5. Nasal congestion.	5. Contact pharmacist or Healthcare professional for advice but do not use oil based products in nose.
Flow does not seem sufficient.	1. Leaks from tubing.	1. Refit tubing.
	2. Incorrect setting.	2. Set flow control to prescribed flow rate.
Wrong indication of liquid level.	1. Battery flat.	1. Contact us on 0800 136 603 .
	2. Failure of level indication system.	2. Contact us on 0800 136 603 .
Leaks when connecting the units.	Dirt on connecting faces or damaged connector.	Disconnect portable flask and clean faces with a clean cloth, then refit.
Problem disconnecting units.	Ice on connecting faces.	Ensure vent valve is closed and allow ice to melt NATURALLY. Clean and dry connecting faces with a clean cloth after removing unit.
Portable flask leaking after disconnecting.	Ice in the fill valve or damaged connector.	Major leaks – Stay away from unit, open windows, contact us immediately on 0800 136 603 .
		Minor leaks – Reconnect portable flask to mother unit vessel with vent valve closed. Wait two minutes. Disconnect portable flask. If leak stops, clean and dry connecting faces with a clean cloth after unit is removed. If leak continues, reconnect the portable flask with vent valve closed. Contact us immediately on 0800 136 603 .

Symptom	Possible cause	Solution
Leak of water from portable flask.	Felt pad on portable flask is saturated from condensation. On the Marathon portable flask, the felt pad can be located in the bottom of the back pack.	Please contact BOC Healthcare on 0800 136 603
Leak of water from mother unit.	Condensate receiver full.	Empty receiver. Please contact BOC Healthcare on 0800 136 603 if this cannot be located.
Duration of use from portable flask shorter than usual.	Portable flask not filled correctly.	Refill flask and check the level indicator indicates full.
Any other problem or if problem persists.		Contact us on 0800 136 603 .

Notes

If you are visually impaired and require
a large print copy, please contact us on

0800 136 603

Our normal working hours are Monday to Friday 8am until 6pm.
We are open 24 hours for emergencies only.

BOC Healthcare

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