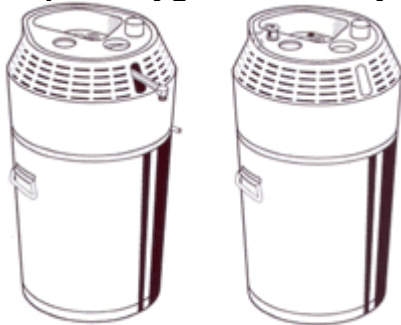


**BJC Home Care Services
Home Medical Equipment
phone -- 314.953.2000 or toll-free 800.456.9366
Respiratory Therapy -- 314.362.0720
8 a.m.-5 p.m. Monday-Friday**

Liquid Oxygen Instruction Booklet

No Smoking Signs Should Always Be Posted in a Visible Location

Liquid Oxygen Stationary Unit



Standard Unit

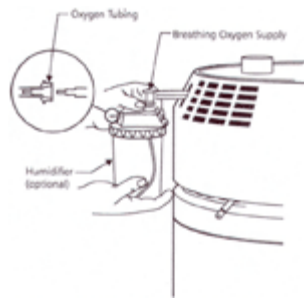
Low Loss Unit

Puritan Bennett Stationary Unit

Set Up and Operation

- Screw on nipple adaptor or bubble humidifier, if needed
- If using bubble humidifier
 - Unscrew the bottom and fill with distilled water
 - Fill to the “Maximum” line -- refill when level drops to “Minimum” line
 - Screw on bottom making sure it is properly threaded to avoid leaks









Bubble Humidifier

- Attach tubing to nipple adaptor or outlet on bubble humidifier -- maximum tubing length: 50 feet
- Attach cannula or mask to other end of tubing -- may require tubing connector



	
Tubing Connector	Nasal Cannula
	
Oxygen Conserving Nasal Cannula	Nasal Cannula with "Mustache" Reservoir

- Putting on the cannula
 - Hold tubing on both sides of the prongs -- curved prongs should go towards the patient
 - Place prongs into nose and place tubing around ears so it hangs down under the chin
 - **or** --
 - Place tubing over the ears around the back of the head
 - Slide adjustment collar for snug fit



Standard Cannula Position -- front view

Standard Cannula Position -- side view

Alternate Cannula Position -- side view

- Putting on a mask
 - Place the mask over the patient's face
 - Strap should go behind the patient's head
 - Adjust strap



	
Simple Mask	Non-Rebreathing Mask

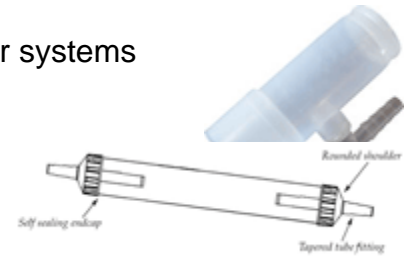
- Adjust oxygen flow rate as prescribed by physician
- Do not change flow rate without consulting your physician

Accessories

Bleed-In Adaptor -- Used to provide supplemental oxygen to other systems

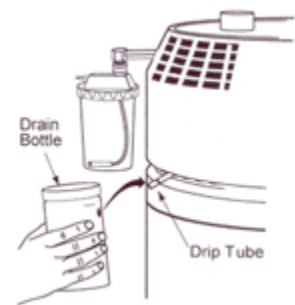
Water Trap -- Used when there is excess moisture in the tubing; formed by condensation from oxygen going through the bubble humidifier

- Attach between two pieces of extension tubing
- To remove water, twist and pull on either end



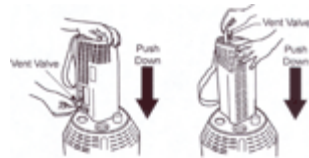
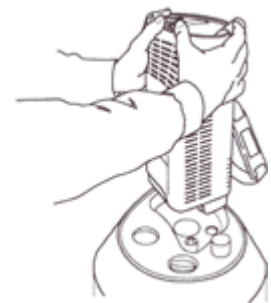
Water Condensation Bottle -- Collects the moisture that condenses inside unit

Check tank gauge daily to ensure there is enough liquid oxygen in the stationary unit to last until the next fill. If the gauge is below 1/4 full and refill is not scheduled for the next 24 hours, call 314.362.0720 or toll-free 800.456.9366.



Filling Liquid Oxygen Portable Unit

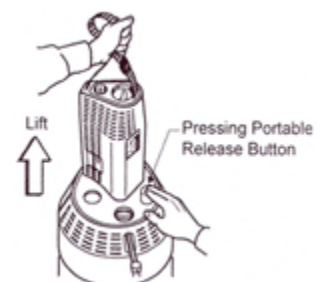
- Place portable unit on top of stationary unit; it is shaped so that it will only fit one way
- While holding the top of the portable unit, open the vent valve lever; you will hear a loud hissing noise, indicating the portable unit is filling
- It will take about 1 1/2 minutes to fill; when full, the fill noise will change and a white mist will come out of the stationary unit; close vent valve



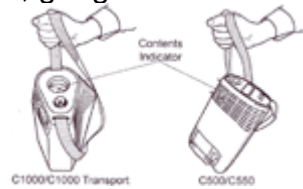
- To remove the portable unit, lift by the strap and press down on the portable release button

To Measure the Contents of Portable Unit

- Pick up unit by strap about 6 inches from the top



- Gauge should read 1/1 if just filled; gauge in red area is near empty

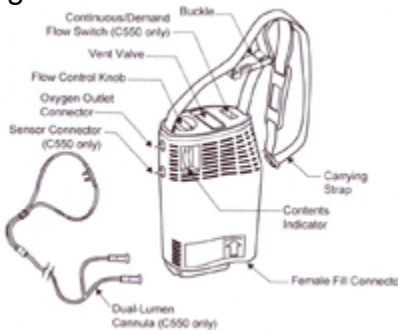


Set Up and Operation

- Place the oxygen tube on the portable unit's outlet connector
- Adjust the cannula or mask to fit your face comfortably
- Adjust oxygen flow rate as prescribed by physician
- Do not change flow rate without consulting your physician

Companion 550 Portable Unit

- When filling, vent valve lever is on top of the unit
- When measuring content, gauge is on side of the unit



Troubleshooting

If liquid oxygen is visibly leaking out of stationary or portable unit:

- An occasional, slight hissing noise is normal venting
- Never touch liquid oxygen
- Leave the area where unit is leaking
- **Call 314.362.0720 or toll-free 800.456.9366**

If there is no oxygen flow to the patient:

- Check gauge to verify oxygen level in unit
- Check flow dial for proper setting
- If bubble humidifier is used
 - Check that bottom is properly screwed into the top
 - replace bubble humidifier
- Check tubing for blockage or damage
- Check all tubing connections
- **Call 314.362.0720 or toll-free 800.456.9366**

If the problem can't be resolved:

- Transfer patient to working portable or stationary unit
- **Call 314.362.0720 or toll-free 800.456.9366**

Stationary and Portable Liquid Oxygen Unit Safety

- Liquid oxygen is non-flammable, but supports combustion
- Avoid fire hazards, ignition sources, smoking and combustible materials
- Do not operate equipment without proper instruction
- [No Smoking flyers](#) should be visible to anyone entering residence
- Review [Safe Practices for Handling and Operating Oxygen Equipment](#)
- Do not use oil or grease on oxygen equipment -- it's a potential fire hazard
- Never take the units apart
- Never touch liquid oxygen leaking from a unit
 - It is 300 degrees below zero and can cause serious injury
 - It will appear as a bluish liquid that quickly forms a whitish mist
- **Call 314.362.0720 or toll-free 800.456.9366** to have the unit inspected or replaced if you suspect it is damaged in any way
- Always keep the portable liquid oxygen unit in an upright position; if laid on its side, it will make a high-pitched noise -- this is gas venting

Cleaning and Care

- Wipe units with a damp cloth weekly or as needed
- Bubble humidifiers and water traps
 - Wash with dishwashing detergent every 48 hours
 - Replace when worn out
- Tubing
 - Wipe with damp cloth as needed
 - If using a bubble humidifier, replace monthly
 - If not using a bubble humidifier, replace every three months
- Cannulas and masks
 - Wipe with damp cloth as needed
 - Replace every two weeks
- Condensation bottle
 - Empty daily
 - Wash with dishwashing detergent weekly

Precautions

- Use oxygen as prescribed; never alter oxygen flow without physician orders
- If your oxygen use is causing side effects, contact your physician

Call 314.362.0720 or toll-free 800.456.9366 if you are unable to answer these questions:

- What is the prescribed oxygen liter flow?
- How many hours a day should you use your oxygen?
- How do you operate your oxygen unit?
- What are the oxygen safety rules?
- How do you maintain and clean your oxygen unit?
- How do you operate your portable or back-up unit?
- How long will your portable unit last at your prescribed flow rate?
- What do you do if your equipment malfunctions?
- What do you do in a medical emergency?

Liquid Oxygen Table

Based on liquid saturation pressure of 22 psig

Capacities of Full Companion Units	Liquid			Gas	
	Liters	Pounds	Kilograms	Liters	Cubic Feet
Companion 500/550	0.66	1.58	0.72	542	19.14
Companion 1000/T	1.28	3.22	1.46	1058	37.36
Companion 21	21.00	52.86	23.98	17290	610.52
Companion 31	31.00	78.03	35.39	25523	901.24
Companion 41	41.00	103.20	46.82	33756	1191.95

Equivalent High

Pressure Cylinders	D Cylinder	E Cylinder	M Cylinder	H Cylinder
Companion 500/550	1.30	0.81	0.16	0.08
Companion 1000/T	2.67	1.60	0.31	0.15
Companion 21	43.61	26.20	5.00	2.50
Companion 31	64.37	38.68	7.39	3.69
Companion 41	85.14	51.16	9.77	4.89

Liquid measured at 1 atmosphere and boiling temperature; gas measured at 1 atmosphere and 70 degrees

Oxygen Conversion Data	Weight			Gas		Liquid
	Pounds LB	Kilograms KG	Cubic Feet SCF	Liters L	Gallons GAL	Liters L
Pound	1.0	0.4536	12.076	341.68	0.1050	0.3977
Kilogram	2.205	1.0	26.62	753.58	0.2316	0.8767
Cubic Feet -- gas	0.0828	0.03756	1.0	28.32	0.008691	0.0329
Liters -- gas	0.002927	0.001327	0.0353	1.0	0.000307	0.001163
Gallons -- liquid	9.527	4.322	115.1	3255.11	1.0	3.785
Liters -- liquid	2.517	1.1417	30.38	860.3	0.2642	1.0