Reliant SLC Single Lumen Conserver
Oxygen Conserving Regulator

drive
MEDICAL DESIGN & MANUFACTURING

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Statements and conventions used in this manual:

Warning: Means that there is a possibility of personal injury to the user or others.

Caution: Means that there is a possibility of damage to the device or to other property.

Note: Highlights points that might allow more convenient or efficient operation of the equipment.

Warnings, Precautions and Safety Rules:

Warnings:
A.) Please read and understand this manual before operating the oxygen conserving device.
B.) This device should only be used by prescription only and is for patients that use a nasal cannula and can trigger the device with their normal breathing.

C.) This device is not intended for use while or during sleep.

D.) Do not smoke near oxygen equipment. Oxygen will not burn, however, it will cause rapid acceleration of the burning of any flammable material.

E.) Avoid the creation of sparks by static electricity discharge or friction that may lead to ignition in the oxygen rich environment.

F.) Never use Oil, Grease or other Petroleum Based Products on or near the system.

G.) Never use aerosol sprays on or near the equipment.

H.) Do not use a Cannula that is longer than 7 feet.
I.) This device was designed for use with only a Single Lumen Nasal Cannula. Do not use a mask or other low flow device with this unit. The internal sensing mechanism will not respond correctly with these types of connections.

Cautions:
A.) Only authorized personnel should perform any repairs to this device. If it is determined that the device has experienced any unauthorized servicing, the warranty shall be void. Do not remove any labels to perform internal adjustments. Adjustments, such as sensitivity, require specialized equipment to maintain proper operating characteristics.

B.) Do not use if leaking or damaged. Some gas vents in normal operation, from the three vent holes in the body of the conserver. This is normal venting and should not be mistaken for leakage.

C.) Prevent excessive dust, small particles or liquids from entering the conserver.
D.) Federal Law restricts the sale or use of this device without the express, written order of a physician.

E.) This unit is intended as a supplemental oxygen supply device and should not be used for life support applications.

F.) Use only CGA approved tank gaskets with this unit.

Indications for Use Statement:
The Reliant SLC Conserving Device Regulator is intended for prescription use only, to be used in conjunction with a portable oxygen tank for supplemental oxygen therapy for in-home or ambulatory applications.
Anatomy of the conserver:
The Conserver is composed of three main functional sections. The high pressure regulator, the flow controller and the conserving section. The high pressure regulator is composed of the tank connection, either CGA 870 or CGA 540, an inlet filter, to keep dust and debris from entering the unit and a pressure reduction stage, that reduces and maintains a 50 PSI pressure for use in the flowmeter and conserving sections. The high pressure regulator has two vent holes that act as an exhaust in the event of a over pressure condition. A small amount of venting may occur naturally through these holes and should not be mistaken for a leak. The flow controller section contains the flow selector knob, which switches various flow orifices which controls the amount of flow to the conserving section, or the 2 LPM continuous flow. The conserving section, senses the patient inhalation and exhalation and provides oxygen output control.
The Reliant SLC Advantage: A New Paradigm in Conserver Technology.

The Reliant SLC Conserver has a revolutionary output waveform that is unlike any pneumatic conserver on the market. Most pneumatic conservers use a single pulse output per breath. This pulse is triggered by a drop in cannula pressure and provides a measured pulse each time the user breathes. The Reliant SLC delivers a series of short pulses, with the number of pulses varying with breath length. The Reliant SLC conforms to the patient’s natural breath cycle, which results in improved saturation ratios, and patient comfort. Multiple short pulses are less prone to flow reversion/reflective losses of oxygen, and also yields a better mixing of gases in the airway than a single high-energy pulse. Patient comfort is improved by the reductions in the airway, and lung stresses, because of the gentle high frequency delivery. The Reliant SLC compensates for the change in oxygen demand by rendering additional pulses when the patient’s breath length/depth increases, and saves oxygen when the breath pattern shortens. The result is much shorter saturation recovery times than conventional pneumatic conservers, as activity levels change.

Note: The multiple pulse delivery should not be mistaken for a malfunction or symptomatic of “False Triggering”. Pressure drops, such as the cannula being pulled from the outlet hose barb while the unit is at a “conserving” flow with the tank on, could simulate a breath. This may cause the unit to trigger and should not be mistaken for a malfunction.
Conserver Operating & Maintenance Instructions

The conserver system has two modes of operation, pulsed conserving, and continuous flow. The mode is selected using the flow selector knob to select the desired position. In Pulsed Mode, the gas is supplied intermittently with a pulse of gas at the transition point between exhalation and inhalation. In Setting “C” Continuous Mode, gas is supplied at 2 Liters Per Minute.
**Installation:**
The conserver uses a rotary flow control knob to set the prescribed flow rate. The unit is turned off by setting the flow control knob to the Off flow position. The unit is attached to the tank using the standard CGA 870/540 connection.

**Note:** After mounting the conserver to the tank, open the tank valve slowly to prevent pressure shock to the contents gage and regulator.

The conserver uses a standard single lumen nasal cannula in both Pulsed and Continuous modes.

**Note:** Make sure that your hands are free of oil, grease or other contaminants before attaching the unit or making adjustments.

The conserver is attached to the tank using a CGA870/540 connection. The photos in this manual show the CGA870 version, however, all controls are identical in the CGA
540 version, except the tank connection. Before attaching the unit to the tank, inspect the tank post valve and the gasket on the regulator for damage that could adversely affect the seal. To install the CGA 870 conserver on the tank, loosen the T-Handle, enough to allow the unit to fit over the post valve, align the yoke pins with the valve holes then tighten the T-handle until a snug fit is achieved. Do not use tools to tighten the T-Handle. Be sure that a seal gasket is aligned prior to tightening the T-handle. The T-Handle should line up with the indentation in the post valve. To install the CGA 540 conserver, thread the nut onto the post valve and tighten with the conserver oriented to allow access to the controls and to allow reading of the contents gauge. Make sure that the conserver is set to the Off position, before opening the post valve, then open the post valve slowly to prevent pressure shock to the contents gauge. The contents gauge, on the regulator, indicates the amount of gas left in the tank. When the gauge reads in the red area, the tank should be changed. The unit should not be operated outside of the environmental parameters, listed at the end of this manual. After the conserver is attached to the tank listen for leaks around the tank seal gasket.
**Warning:** The use of a tank with the gauge reading in the red zone, could cause flow levels lower than the prescribed levels.

**Operation:**

The conserver has two modes of operation. The Continuous Mode is available for 2 LPM only and is indicated by the letter “C” on the flow control knob. Settings 1 through 5 are Pulsed Mode settings.

**Note:** The flow setting numerals represent equivalent LPM flow values for the setting positions enumerated on the flow control knob, when in Pulsed Conserving Mode.

**Note:** When not using the conserver adjust the Flow Selector Switch to the “OFF” position. This will turn off the conserving mechanism and stop the flow of
oxygen from the flow controller. As a safety precaution, turn the tank valve off, when the conserver is not in use.

Removal:

To remove the conserver from the tank, first turn off the tank valve and continue breathing, until the oxygen in the conserver is depleted. Remove the Cannula and turn the setting to the “Off” position. Loosen the T-Handle connection and slide the conserver off of the Post Valve. Place the conserver in a carrying bag or other suitable container to prevent dust and other contaminants from getting into the unit.
Trouble-shooting:

Testing the Conserver:

Note: These tests should be performed whenever the unit has been serviced.

1.) Connect the unit to a full tank and check the contents gauge indication.
2.) Verify that there are no leaks around the tank seal.
3.) Attach a flow meter to the unit then select the Continuous Flow Setting and check the flow for 2 LPM. Attach a cannula to the unit and breath to actuate the sense mechanism. The unit will deliver a pulse of gas when the selector is in the Pulsed Mode settings and there is an inhale/exhale cycle. This mode can only be checked using a cannula or special equipment at the factory. If there is a small continuous flow detected, when in conserving mode, the unit may have an internal seal problem and should be returned for service.
<table>
<thead>
<tr>
<th><strong>Problem</strong></th>
<th><strong>Recommended Action</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Conserver leaks or gauge reads incorrectly.</td>
<td>Replace the gauge or disassemble the regulator and inspect all seals for nicks or wear.</td>
</tr>
<tr>
<td>Unit Runs On/Continuous Cycling or False Triggering</td>
<td>Does the unit stop cycling when a cannula is connected and the user is exhaling? Yes, the unit is operating correctly. No, return the Conserver for repairs.</td>
</tr>
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Poor Sensitivity

The conserver is set, by the manufacturer to trigger below 0.1cmH2O. Patients who cannot generate this trigger pressure should not use the conserver. In some cases, the patient may not be breathing through their nose and may need training to breath properly on a conserver. If the unit has not been used for a long period of time, a deep first breath might be required to actuate proper delivery, by unseating the sense diaphragm.
There is leakage between the tank and the Conserver. Close the tank valve and check that the T-handle is tightened properly. Inspect the sealing surfaces of the tank valve and regulator for nicks or scratches. Check the seal for tears or wear.

**Service Instructions:**
The internal components of the conserver are to be serviced by factory service personnel only. Any attempt to service the internal components could adversely affect the performance and specifications of the unit and result in personal injury.

Hose Barb replacement: Remove the damaged hose barb and any debris from the opening. Clean the opening and parts very thoroughly. Make sure that the seal washer
is installed before threading the barb into the body. Install replacement and tighten to a torque of 8 In-Lb. Maximum.

Tank Gasket Replacement: To replace the tank gasket, inspect the sealing surface shown on the right, for deep scratches or nicks. Place the new seal ring over the center brass protrusion as shown on the right.
Specifications:
Weight 13.3oz. (.38Kg) (CGA 870 Version)

Dimensions Length 4.5in. (11.4cm) X 1.75in. (4.45cm) Diameter (CGA 870 Version)

Operating Inlet Pressure range 400-2000PSIG
Operating Conditions 0-95% RH
Operating Temperature 32-122 Deg. F (0-50 Deg. C)
Noise Level: 45-47 dbA Max.
Warranty:
Your Drive brand product is warranted to be free of defects in materials and workmanship for two years of the original consumer purchaser.

This device was built to exacting standards and carefully inspected prior to shipment. This 2 year Limited Warranty is an expression of our confidence in the materials and workmanship of our products and our assurance to the consumer of years of dependable service.

In the event of a defect covered by this warranty, we will, at our option, repair or replace the device.

This warranty does not cover device failure due to owner misuse or negligence, or normal wear and tear. The warranty does not extend to non-durable components, such as rubber accessories, casters, and grips, which are subject to normal wear and need periodic replacement.

If you have a question about your Drive device or this warranty, please contact an authorized Drive dealer.