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- O-Two CAREvent® Range of Automatic Transport Ventilators
- O-Two CAREvent® Range of Automatic Resuscitators
- O-Two SMART BAG® MO “Controlled Flow” Manual Resuscitators
- O-Two Oxygen Demand Valve and Demand Valve Resuscitators
- O-Two Pressure Regulators
- O-Two Equinox® 50% N<sub>2</sub>O/50% O<sub>2</sub> Administration System
- O-Two Equinox® Relieve Analgesic Gas Delivery System
- O-Two Equinox® Advantage Adjustable Analgesic Gas Delivery system
- O-Two First Response CPR Devices



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**DEMAND VALVE  
01DV3000**

**DEMAND VALVE  
RESUSCITATOR  
01DV2000**



**USER MANUAL**

Made in Canada by  
O-Two Medical Technologies Inc.  
Part Number: 17MP3136 Rev 12 Nov.23, 2017



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# 1. INTRODUCTION

## 1.1 INTRODUCTION

O-Two oxygen powered Demand Valve provides trained individuals with a safe and effective means of delivering 100% oxygen to spontaneously breathing patients in respiratory distress, at the flow rate demand by the patient.

O-Two oxygen powered Demand Valve Resuscitator provides a fast, simple and effective means to ventilate the non-breathing patient and to deliver 100% oxygen to spontaneously breathing patients in respiratory distress, at the flow rate demand by the patient.

O-Two Demand Valves and Demand Valve Resuscitators are lightweight, portable, and extremely durable. Designed for the demands of the pre-hospital environment, they can be operated anywhere a regulated 50 PSI oxygen supply is available.

## 1.2 WARRANTY

O-Two equipment is manufactured from the finest quality materials. Each individual part is subject to strict quality control tests to ensure exceptionally high standards.

The manufacturer warrants to the purchaser of DEMAND VALVE (RESUSCITATOR) that its component parts are free from defects in material and workmanship for a period of two years from the date of purchase. The manufacturer will replace and /or repair all parts of the resuscitator at its option for two years from the date of purchase at no cost to the purchaser, upon the notification of the defects, in writing by the purchaser. All shipping costs shall be borne by the purchaser. The manufacturer shall be liable under this warranty only if the resuscitator and its parts have been used and serviced in the normal manner described in the instruction manual. There are no other expressed or implied warranties. This warranty gives no specific legal rights. You may also have other rights which may vary according to local regulations.

# 5. REPLACEMENT PARTS

17MP1528	Silicone Diaphragm
02FM4999-Cs	Universal Face Mask (case/12)*
01RO01O23-B	Oxygen Pressure Regulator
17MP9039	Non-rebreathing Valve Assembly
01FG6520	Head Harness System
01FV4303-AFNR	O-Two 6 Foot (1.85 Meter) O <sub>2</sub> Supply Hose with AFNOR probe and 9/16" DISS Nut Ventilator Connection
01FV4303-AGA	O-Two 6 Foot (1.85 Meter) O <sub>2</sub> Supply Hose with AGA probe and 9/16" DISS Nut Ventilator Connection
01FV4303-DIN	O-Two 6 Foot (1.85 Meter) O <sub>2</sub> Supply Hose with DIN probe and 9/16" DISS Nut Ventilator Connection
01FV4304	O-Two 6 Foot (1.85 Meter) O <sub>2</sub> Supply Hose with 9/16 DISS Nut and 9/16" DISS Nut Ventilator Connection
01FV4303-UNFR	O-Two 6 Foot (1.85 Meter) O <sub>2</sub> Supply Hose with UNIFOR probe and 9/16" DISS Nut Ventilator Connection
01FV4303-BM	O-Two 6 Foot (1.85 Meter) O <sub>2</sub> Supply Hose with BRITISH probe and 9/16" DISS Nut Ventilator Connection

\* Other pressure regulators and face masks are available.

\*\*Select the required oxygen supply hose for the country of use.

Contact your nearest O-Two Medical authorized distributor for a complete catalogue on all O-Two Medical manufactured products.

## CLEANING/ DISINFECTION PROCEDURE

1. Operate the manual button to blow out any contaminant from the patient valve (01DV2000 only).
2. Ensure that the cylinder is turned off (completely clockwise) and bleed any remaining gas out of the system by depressing the manual ventilation button (01DV2000 only).
3. Remove the facemask from the Demand Valve (Resuscitator), and then disconnect the unit from the regulator. This is accomplished by counter-clockwise turning of the connection nut at the regulator end of the hose. A wrench may be required.
4. Unscrew patient valve (A) from the unit body being careful to ensure that the diaphragm (B) is retained (Fig1).
5. Remove the diaphragm and anti-entrainment ring (C) from the patient valve swivel housing and wash these components thoroughly in a mild soap solution;
6. Disinfect the face mask, patient valve and diaphragm using commonly available cold chemical disinfecting solutions. Rinse thoroughly with water after disinfection.
7. Sterilization, if required, may be achieved by other methods compatible with the materials of manufacture of these components including Ethylene Oxide Gas and Cidex.
8. The demand valve body (D) and gas supply hose can be wiped over with a soft cloth and mild soap solution.
9. Dry all components thoroughly.
10. Re-assemble and check performance.

## 1.3 SAFETY PRECAUTIONS

The O-Two Demand Valve and Demand Valve Resuscitator are designed to provide emergency ventilatory support to victims of respiratory and/or cardiac arrest and demand breathing capability or those in respiratory distress. They are intended for use by suitably trained and qualified personnel.

The following precautions should always be observed:

1. **CAUTION:** FEDERAL LAW IN THE U.S.A. RESTRICTS THIS DEVICE TO SALE BY OR ON THE ORDER OF A LICENSED PRACTITIONER.
2. WHEN THE UNIT IS IN USE, DO NOT SMOKE OR USE NEAR OPEN FLAME EITHER DURING USE OR WHEN CHANGING THE CYLINDER.
3. WHEN NOT IN USE, ALWAYS TURN OFF THE CYLINDER.
4. NEVER ALLOW OIL OR GREASE TO COME INTO CONTACT WITH ANY PART OF THE CYLINDER, REGULATOR OR DEMAND VALVE.
5. DO NOT DISASSEMBLE ANY PART OF THE DEMAND VALVE (RESUSCITATOR) EXCEPT WHERE DESCRIBED IN THIS MANUAL AS ANY UNAUTHORIZED DISASSEMBLY WILL INVALIDATE THE WARRANTY.
6. AFTER USE, ALWAYS ENSURE THAT ALL COMPONENTS ARE CLEANED IN ACCORDANCE WITH THE INSTRUCTIONS PROVIDED IN THIS MANUAL.
7. ALWAYS USE THE CHECK LIST TO ENSURE THAT ALL COMPONENTS ARE REASSEMBLED CORRECTLY AND READY FOR USE.
8. AFTER USE, ALWAYS ENSURE THAT A FULL GAS CYLINDER IS ATTACHED BEFORE RETURNING THE UNIT TO ITS NORMAL STORAGE POSITION.

## 1.4 PERFORMANCE SPECIFICATION

Manual Flowrate (01DV2000 only).....	40 L/min
Peak Inspiratory Flow rate @-8 cmH <sub>2</sub> O .....	>120 L/min
Demand Breathing Flow Rate .....	0 -140 L/min
Exhalation Resistance .....	0 to 6 cmH <sub>2</sub> O @ 60 L/min
Inhalation Resistance .....	0 to -6 cmH <sub>2</sub> O @ 60 L/min
Input Pressure.....	50 PSI
Max Pressure Relief Valve (01DV2000 only).....	60 cmH <sub>2</sub> O
Audible Over Pressure Alarm (01DV2000 only).....	YES
Triggering Pressure.....	0 to -3.5 cmH <sub>2</sub> O
Operating Temp.....	-18°C to 50°C (0°F to 122°F)
Storage Temp.....	-40°C to 60°C (-40°F to 140°F)
Operating and Storage Humidity .....	RH 15 to 95%
Input Connection.....	9/16" DISS
Patient Connector.....	15/22 mm
Patient Valve Dead Space.....	8 ml
Weight (01DV2000).....	230 grams (8.2 oz)
Weight (01DV3000).....	210 grams (7.4 oz)
Dimensions (01DV2000).....	Dia. 51mm x 90mm (Dia. 2.0" x 3.5")
Dimensions (01DV3000).....	Dia. 51mm x 81mm (Dia. 2.0" x 3.2")

## 4.2 CLEANING AND DISINFECTION

Routine cleaning and/or disinfection of the O-Two Demand Valve and Demand Valve Resuscitator should be undertaken after each patient use to maintain the equipment in a clean condition.

### WARNING:

Do not immerse the demand valve into cleaning solution or disinfectant.

Discontinue to use and discard the face mask, the patient valve and the diaphragm should discoloration or deterioration be observed.

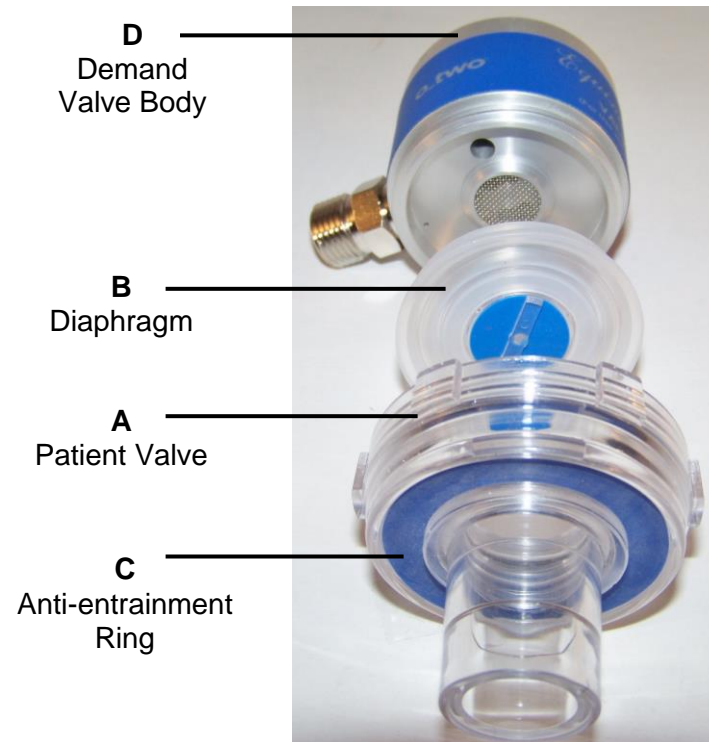


Fig.1

## **4. SERVICING**

### **4.1 ROUTINE MAINTENANCE**

#### **WARNING:**

The O-Two Demand Valve and Demand Valve Resuscitator are designed to provide respiratory support in all emergency situations. Failure to follow the maintenance and inspection routine could result in incorrect operation of the resuscitator.

To ensure proper operation of the Demand Valve and Demand Valve Resuscitator, regular inspection and checking of the demand valve and accessories for correct function should be undertaken by a responsible member of staff on a regular basis, and it is recommended that a service record be maintained for each unit.

This check is to ensure that all of the accessories and demand valve components are present, the oxygen cylinder is full and that the demand valve is in working order.

#### **MAINTENANCE**

Resuscitation parameters should be checked at least every six months, and more frequently in high use applications. Units with test parameters outside of the ranges listed in the product specifications should not be used. O-Two Demand Valve are not designed for field disassembly or service outside that indicated in this manual. Any malfunctioning units should be returned to the manufacturer or an Authorized O-Two Medical Technologies Dealer. Unauthorized repairs will nullify the product warranty.

## **2. GAS SUPPLY**

### **2.1 GAS SUPPLY CONNECTIONS**

The O-Two Demand Valve and Demand Valve Resuscitator are designed to operate on an input pressure of 50 PSI of compressed medical oxygen from either a cylinder or piped-in system.

The inlet fitting on the Demand Valve and Demand Valve Resuscitator is a standard 9/16" DISS fitting.

### 3. OPERATING PROCEDURE

#### 3.1 DEMAND BREATHING

The O-Two Demand Valve and Demand Valve Resuscitator are equipped with a Demand System enabling spontaneously breathing patients to demand oxygen.

An inspiratory effort by the patient will activate the demand valve and oxygen will flow to the patient at a rate and volume in line with their inspiratory effort.

#### 3.2 MANUAL RESUSCITATION (01DV2000 only)

The O-Two Demand Valve Resuscitator (01DV2000) has been fitted with a Manual Button to allow manual ventilation of the non-breathing or respiratory distressed patient.

By using the manual button, the operation of the resuscitator can be easily timed with chest compressions during CPR. This will avoid the potential problem of the aspiration of stomach contents due to gastric distension which may occur if overlap of chest compression and ventilation occurs. (In patients that are intubated this overlap of compression and ventilation may increase cardiac output without the danger of gastric distension.)

#### **WARNING:**

At all times during resuscitation the rise and fall of the patients' chest should be monitored to ensure adequate ventilation.

### 3.3 OPERATING INSTRUCTIONS

1. Ensure that the Demand Valve/ Regulator connection is secured and no leaks present.
2. Turn the cylinder hand wheel counter clockwise to the ON position (at least one full turn).
3. Ensure that the regulator contents gauge reads at least 500 psi. If not, replace with a full cylinder.
4. Attach the Universal Facemask to the Demand Valve outlet.
5. Place the mask on the patient's face, covering both the nose and mouth and hold the mask on his/her face with a light pressure. The sound of gas flowing should be heard with patient's inspiratory efforts.
6. Should manual ventilation is required for the non-breathing or respiratory distressed patient, simply press the Manual Button.
7. Ensure that the cylinder is turned OFF after each use.

#### **Note:**

Demand Valves and Demand Valve Resuscitators are considered critical devices, and their components considered critical components. Only those individuals trained in Cardio-Pulmonary Resuscitation and operation of oxygen-powered resuscitators should use this equipment. Thoroughly review the instruction manual before use.