## 1. Introduction

The Oxylitre R1600 Series Regulator has been designed specifically for medical use and are available for use with Oxygen, Air, Entonox, Nitrous Oxide, Carbon Dioxide & Helium.

Conforms to BS EN ISO 10524-1.

## 2. Receiving/Inspection

Remove the R1600 Medical Gauge Regulator from the packaging and inspect for damage. If there is any damage, **DO NOT USE** and contact your provider.

## 3. Specifications

**Inlet Connection**

All gas connections comply with National and International Standards for safety and prevention of connecting an incorrect gas (BS 341-3 for Bull Nose; BS EN ISO 407 for Pin Index).

**Optional Outlet Connectors**

The R1600 Series Regulators are available with or without a 0 - 15, 0 – 12, 0 - 8 or 0 - 3 LPM Flowmeter (depending on gas selection). Units are also available with a gas specific (Quick Release) Self Sealing **V**alve or a threaded outlet connection.

**Outlet Pressure**

The R1600 Series Regulators are preset to 4 Bar (400 kPa), except for MA-7 units that are set to 7 Bar.

**Filters**

(Please Note: Filters should only be replaced by authorised/trained Personnel).

Each Regulator is fitted with two integral filters that will protect the patient and/or the user from any foreign matter.

1. The first filter is placed in the inlet stem of the Regulator.
2. The second filter is placed at the Regulators' output in the Self Sealing Valve/Flowmeter.

**Gauges**

Each Regulator is fitted with an easy to read, colour coded Contents Gauge. A safety system is placed in the rear of the gauge, which releases gas pressure in the event of a leak. Gauge type CL 2.5.

**Safety Valve**

The Safety Valve System has been designed to release gas pressure for the safety of the user/patient and/or the equipment connected to the Regulator. This will operate only if the working pressure increases due to a malfunction in the Regulator (the Safety Valve System is not an adjustable device).

## 4. Instructions for use

**Fitting to a Cylinder (Note: Take great care with these operations):Before connecting a Regulator to a Cylinder, momentarily open and close the Cylinder Valve to blow out any accumulated dust or moisture. Inspect the inlet connector seal for signs of damage or contamination, if found <u>replace immediately</u>! These seals should be replaced at least once a year i.e. as part of a Standard Service (Note: NEVER use two seals together).***Seal for Pin Index Inlet Connectors = Part No: OX010 (BODOK)*

*Seal for Bull Nose Inlet Connectors = Part No: BS110 ('O' Ring)*

*Seal for $CO_2$ Nut System = SB09A*

**Connect the regulator to the cylinder.**

Open the Valve **<u>very slowly</u>** (approximately one full turn) to reduce the danger of explosion or fire arising from pressure shock. Check the contents of the Cylinder, if or when the Gauge Indicator Needle points in the red section on the Gauge (below ¼ full), replace the Cylinder.

**Using the Flowmeter** (if fitted)

Before use, ensure that the correct sized Mask/Nasal Cannula and Connecting Tube is used

***Oxylitre Recommendations****:*

Mask: IS1106/1140

Connecting Tube: IS1174

Nasal Cannula IS1161.



**Connecting Mask/Nasal Cannula**

Connect the Connecting Tube to the Mask/Nasal Cannula and connect the other end of the tube to the Multi-sized Tubing Outlet on the Flowmeter. The Mask/Nasal Cannula can now be placed on the patient.

- Rotate the Flowmeter Control Knob anti-clockwise until the required Litre flow for therapy administration has been selected. The Litre Flow is indicated on the Flowmeter Inner Tube. Always check the contents of the Cylinder indicated by the Contents Gauge. When the user/patient has finished, rotate the Control Knob clockwise to shut off the g**Removing from a Cylinder**

a. Turn **OFF** the cylinder valve.

b. Bleed off the pressure, by opening a valve on the apparatus connected to the regulator (or if a Flow-metering Device is fitted, turn the Flow Control Knob to a Flow Selection.

c. When the indicator on the Contents Gauge has fully dropped, disconnect from the Cylinder **SLOWLY**.

## 5. Safety Precautions for the prevention of Fire & Explosion

The Regulator or patient **MUST NOT** be allowed near any source of ignition i.e.: Cigarette/cigar/pipe smokers, sparks, naked flame, open electrical appliances.

This precaution applies during and after patient use.

**Warning:** This Regulator **MUST NOT** come into contact with any Oil or Grease, a reaction may cause an Explosion/Fire.

**Warning:** The valve is dedicated only for use with gas specified in its labelling. Never try to use for another gas. It could result in incorrect performances, leakage fire or explosion.

## 6. Maintenance

A medical regulator forms part of an essential support system. Regulators must be treated with care and be serviced on a regular basis, (i.e. preventative maintenance) to ensure the unit's reliability and quality for the purpose that it is used for. The units require cleaning on external surfaces only by using a solution of luke-warm water and "Dettol", "Actichlor" or similar disinfectant fluid (read disinfectant instructions) and cleaning cloth.

**Inspection**

Recommended at least annually by a Service Engineer and consist of:

a. Connect regulator to the cylinder (as in section 3)

b. Check the contents of the cylinder that is indicated by the pressure gauge.

c. Close the cylinder valve and observe the contents gauge for pressure drop. If the needle on the gauge drops, this indicates a leakage in the system. The device will require a service and/or repair.

**Service/Repair**

Servicing should be only carried out by fully qualified technicians. **A Major Service is recommended every 5 years**. For service enquiries and information, please contact our sales office. **NEVER USE FAULTY EQUIPMENT**. Preventative maintenance ensures safety for the patient and user.

## 7. Technical Data

**Specifications**

a. Maximum Inlet Pressure: 2000 psi (138 Bar) – Gauge Accuracy 2.5%.

b. Minimum Inlet Pressure: 500 psi (34.5 Bar).

c. Output Pressure: 58 psi (4 Bar). Tolerance: ± 3 psi.

d. Flow Rates: See graph on the next page.

e. Standard Discharge: 125 LPM.

Please see Table 1 for the Regulators performance specifications. This indicates the performance of the device set at the standard output pressure and discharges at varied inlet pressures.

Note: The unit can be returned to Oxylitre for disposal (with a decontamination certificate), alternatively dispose of responsibly via local protocol.

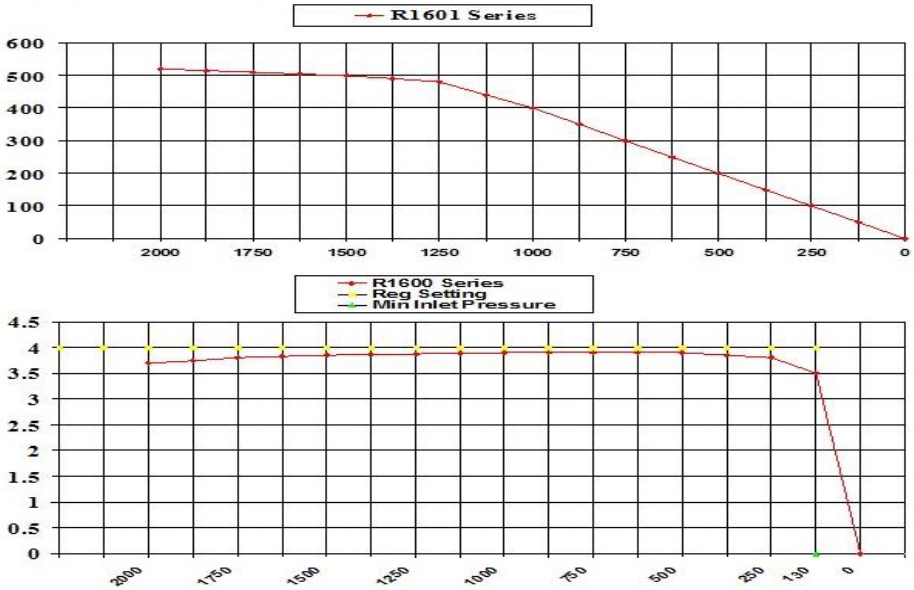
**Flow calibration range**

a. 0 to 15 LPM ± 10% Full Scale
b. 0 to 3 LPM ± 10% Full Scale
c. 0 to 12 LPM ± 10% Full Scale
d. 0 to 8 LPM ± 10% Full Scalel protocol.

## 8. Test Specifications

a. Regulator Test input pressure: maximum 2000 psi (138 bar).
b. Regulator Test input pressure: minimum 1500 psi (103.5 bar).
c. Regulator output pressure: 58psi (4 bar) ± 10 psi.
d. Safety Valve blow off pressure: 80 – 90 psi (5.5 - 6.2 bar).
e. Flowmeter Test input pressure: 58psi (4 bar).
f. Flowmeter Calibration: ± 10%.
g. HP gauge tolerance (full scale):± 2.5%

***Performance Details***




The chart indicates the variation of the output pressure during flow and when the Regulator output pressure has been set at the upper and lower input pressures. (See overturn)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Oxylitre
Holdings Ltd

# R1600 Series Medical Regulator
# Instructions for Use

**Bull Nose Cylinder Fitting** **Pin-Index Cylinder Fitting**

**Made in the UK**

**Instructions for use**

**Not MRI compatible**

**Product should be kept dry**

**No grease or oil**

**Fragile handle packaging carefully**

**Temperature limitation (0°to 40°C)**


Doc Ref: Doc-OP-4241
Issue No: 6 (DCN00953)
Date: 26.07.2021