

OXY-VIVA 3 RESUSCITATOR OPERATING INSTRUCTIONS



Store suction tubing by winding around these four knobs

Guedel airways

Cylinder contents gauge

Inlet-outlet for oxygen at 400 kPa (hidden)

Cylinder keywheel

RM2 Resuscitator

Adult resuscitation mask

Child resuscitation mask

Storage sheath for suction catheter

Brief operating instructions

Collection jar for suction system

On-off control for suction

On-off control for oxygen therapy

Suction tubing

Oxygen therapy tubing

Oxygen therapy mask-adult

Oxygen therapy mask — child

Suction catheter



INTRODUCTION

The Oxy-Viva 3 is a portable, oxygen powered resuscitator supplied complete with adult and child resuscitation attachments plus suction and oxygen therapy apparatus. Accessories include Guedel airways sizes 7 and 8 plus oxygen therapy masks in adult and child sizes.

In operation, oxygen from a pin indexed 'C' size cylinder is reduced to 400 kPa (58 lbf/in²) pressure via a regulator and the oxygen is directed several ways:—

1. To a resuscitator valve.
2. To a self-sealing oxygen outlet which also serves as a 400 kPa inlet.
3. To a control block with on/off controls for oxygen therapy and suction.

RESUSCITATION

This booklet covers the two basic models of the Oxy-Viva 3 Resuscitator, the model with RM2 valve and the model with Demand Resuscitator. Consult the separate booklet supplied for specific operating instructions for each of the above mentioned Resuscitator valves.

THERAPY

A clearly marked control lever selects a fixed flow of oxygen at eight litres per minute, which is delivered

to the patient via a two metre length of therapy tubing connected to a soft plastic face mask.

As an optional extra, a flowmeter can be connected to the external outlet to produce variable flows.

SUCTION

A clearly marked control lever operates a venturi which is remote from the suction trap jar and which is complete with plastic tubing and catheter.

SPECIFICATIONS

Part No.	CIG 517621 - RM Resuscitator Model CIG 517859 - Demand Valve Model
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Overall Dimensions

Length:	480 mm without cylinder 570 mm with cylinder (average)
Width:	180 mm
Height:	295 mm
Weight:	6.5 kg without cylinder Approx. 10 kg with cylinder (Individual cylinders vary in weight)
Case	Stainless steel

Cylinder Housing
Frame Stainless Steel

Cylinder Yoke Pin indexed to accept only oxygen cylinders.

Oxygen Cylinder Size 'C' size containing 400 litres (to fit Oxy-Viva frame)

Regulator: Reduces oxygen cylinder pressure to 400 kPa (58 lbf/in²) as used in hospital pipeline and oxygen therapy equipment. Cylinder contents gauge calibrated in kPa and marked ¼, ½, ¾ and FULL.

Resuscitator Refer attached booklet.

Resuscitation Masks One adult mask, Part No. CIG 515743.
 One child mask, Part No. CIG 515744.

Oxygen Outlet Self sealing annulus coded oxygen outlet/inlet located externally at left hand end of case. Accepts a second resuscitator or oxygen flowmeter. Also functions as an inlet for a bulk oxygen supply at 400 kPa.

Oxygen Therapy On/Off lever directs oxygen at a fixed flowrate of eight litres per minute to an

oxygen therapy mask via two metres of translucent green tubing. Oxygen concentration delivered to patient is approximately 60%.

Oxygen Therapy

Masks Two masks supplied.
 TISML816 Universal Oxygen Therapy Mask
 CIG515653 Medishield Mask

Suction

An on/off control operates a suction venturi remote from the suction trap jar. Jar Capacity: 350 ml.
 Static Vacuum: -60 kPa gauge pressure min.
 Free Air Flow: 40 l/min. minimum.
 Warning: Operation of the suction system depletes the oxygen supply. If left on, a full oxygen cylinder will be depleted in approximately 8 minutes.

A clear plastic suction catheter, size 16 FG is housed in a plastic sheath on the inside of the lid and connected to the trap jar via two metres of clear plastic tubing.

Airways

Two Guedel airways sizes 7 and 8 held by clips for easy access.

Cylinder Keywheel

Permanently attached to the Oxy-Viva by 300 mm of chain.

OPERATION FROM BULK SUPPLIES

After removing the seal and opening and closing the valve, fit a regulator to the large cylinder. Connect the regulator outlet to the Oxy-Viva inlet using an CMPMA164 oxygen hose. Ensure that an oxygen cylinder is fitted to the Oxy-Viva frame with the valve turned off. If this is not possible fit the yoke plug to the cylinder yoke, to prevent loss of gas. Open the valve of the large cylinder slowly and fully. Observe that adequate contents are registered on the regulator gauge connected to the large cylinder.



Inlet for oxygen supply from large cylinder

Also acts as oxygen outlet for flowmeter or second resuscitator

OPERATING INSTRUCTIONS

Drill and Preparation of Equipment

1. Prompt action is vital. Carry out regular drill and training to ensure that all concerned can operate the equipment in an emergency.
2. Ensure that cylinders containing sufficient oxygen are at hand.
3. Regularly check that the Oxy-Viva is in readiness for immediate use and all necessary accessories are included. Check procedures are covered in the following paragraphs.
4. Tighten the oxygen cylinder in the yoke, making sure that a sound sealing washer is in position. Turn on the oxygen to ensure that no leaks exist and that adequate contents are registered on the gauge.
5. The suction trap jar must be located in the housing provided and connected to the suction tubing as illustrated.
6. Ensure that the suction catheter is connected to the two metre length of clear plastic suction tubing.
7. Check that suction is operating by holding the tip of the catheter between finger and thumb while turning the "SUCTION" control to "ON".
8. Locate the suction catheter in the plastic sheath inside the lid, then wind the tubing clockwise around the studs.

9. Ensure that the resuscitator functions when the oxygen is on and the actuating button is pressed. When released, the plunger must return fully to the "OFF" position and completely shut off the gas flow.

10. Check that the oxygen therapy mask is connected to the therapy outlet via the green tinted tubing and that oxygen flows into the mask when the "THERAPY" lever is moved to the "ON" position.

11. Check that both Guedel airways are unobstructed and held securely in their clips.

12. Check that the cylinder keywheel and yoke plug are securely attached to the case by their chains.

13. Neatly coil the therapy tubing, with mask attached, in the bottom of the case. Place the Medishield therapy mask in the case.

14. Coil the resuscitator tube and stow in the bottom of the case with resuscitator and adult mask attached. Place the child size resuscitation mask in the case.

15. Turn off the oxygen cylinder valve (clockwise) and place the keywheel in the case.

The lid can now be closed and the Oxy-Viva is ready for immediate application should an emergency arise.

Note:

Repeat these procedures as part of the regular drill.

RESUSCITATION

Note: Summarised instructions are printed inside the Oxy-Viva lid, but detailed procedures are as follows:

Open the cylinder valve slowly using the black keywheel on the chain and opening fully in an anti-clockwise direction.

Prepare the patient without delay. Prompt inflation of the lungs is imperative.

(a) Loosen any tight clothing (tie, collar, etc.) around the patient's neck.

(b) Position the patient on his back, placing any available loose sand, folded clothing, etc. under shoulders.

(c) Remove dentures and ensure that the air passage is clear. Turn the head to one side, removing any foreign bodies or liquids from the mouth or throat. If necessary, turn the suction control to "ON" and remove liquids with the suction catheter.

(d) If you have received instruction in the use of an airway, bring the tongue forward and gently introduce an airway of appropriate size.

(e) Connect the appropriate size face mask to the resuscitator and apply to the face to form an effective seal. The narrow part of the mask fits over the bridge of the nose. It is vital that the patient's head is tilted well back and the chin supported to ensure unrestricted oxygen flow.

- (f) Set the resuscitator flow control valve at "Adult" or "Child" as applicable. Firmly depress the actuating button to inflate the lungs. Observe chest movement. Release the button to allow exhalation, pausing before pressing again. Repeat the inflation and exhalation cycle in a rhythmical manner 10 to 15 times a minute or faster for small children.

When cardiac massage is necessary, adjust the resuscitation inflation cycle so that inflation is not commenced during depression of the sternum.

Important: Do not give up until a doctor takes over.

Trouble Shooting

The Resuscitator safety valve operates to relieve pressure but there is nil or minimum chest inflation.

1. Re-position patient to establish a clear airway.
2. Check the airways for blockages with foreign material.

When a partial airway blockage cannot be rectified, selection of the child flow setting for an adult inflation minimises premature safety valve operation.

The resuscitator operates normally and oxygen flows but there is nil or minimum chest inflation.

1. Check that the mask is correctly applied with the narrow portion over the nose.
2. Check that the mask cuff is firmly and evenly applied to the face.
3. Ensure that the actuating button is fully depressed.

SUCTION

When necessary, to ensure clear airways before or during resuscitation, suction is applied via the flexible suction tubing and catheter.

- (a) Turn the "Suction" control to "ON". This produces a continuous vacuum in the plastic reservoir jar and enables blood and other fluids to be sucked from airways.
- (b) If necessary, empty the reservoir jar during use to prevent overfilling.

Important: Turn suction 'OFF' after use.

Trouble Shooting

When the suction is turned on there is no aspiration of fluids.

1. Check that the jar is tight.
2. Check that there is no blockage in the suction tubing.

OXYGEN THERAPY

This application is of great value where patients are recovering from asphyxiation or have collapsed, but are still capable of breathing. An oxygen enriched environment is also beneficial to patients suffering from any of the following:

- Asphyxia due to any cause.
- Exposure to carbon monoxide, or other toxic gas.
- Any respiratory injury and most respiratory diseases.
- Severe loss of blood.
- Shock.
- Coronary occlusion and heart failure.
- Overdose of drugs.
- Head injuries.
- Emergency childbirth.
- Strokes.



Continue oxygen therapy as follows, until the patient is fully recovered or is admitted to a hospital:—

- (a) Turn the 'Therapy' control to 'ON'. This provides an oxygen flow of eight litres per minute to the therapy mask giving an oxygen percentage of approximately 60% to the patient.
- (b) Fit the therapy mask to the patient's face and form an effective seal. The elastic bands should pass just above and below the ears and the soft metal strip should be bent over the nose to form a seal. The green tubing connects to the nipple at the bottom of the mask.

- (c) Alternatively, if a variable flow is required, attach a CIG 515800 or CIG 515824 Flowmeter to the auxiliary oxygen connection on the outside of the case and connect the green tubing and therapy mask as detailed in (b).
- (d) Where a victim is in a nearly inaccessible position, such as the collapse of an excavation, mine shaft, etc., the oxygen can often be supplied through very small openings in such a manner that the effects of suffocation or toxic gases can be countered.
- (e) It is advisable to use a new disposable mask at each separate application in order to prevent contamination or cross infection.

When finished with the Oxy-Viva, close the cylinder valve.

CARE AFTER USE

1. Immediately shut off the oxygen cylinder valve to prevent wastage of oxygen.
2. At the first opportunity, clean all items in a solution of mild household detergent, then rinse in clear water. DO NOT allow the solution to enter the resuscitator hose.

The suction tube and fittings can be cleaned by drawing soapy water, then clear water, through them using the normal suction procedure.

Items can be cold sterilised by soaking in a suitable antiseptic, e.g. 0.05% Chlorhexidine solution (trade name Hibitane) — soak for 15 minutes.

Zephiran may also be used. A 0.1% solution should be used, allowing half to one hour soaking time.

After sterilisation, rinse, dry, and carefully store away. Be particularly careful that masks are not distorted when closing lid. Long storage periods in distorted shape may permanently misshape the masks. Operate the Resuscitator with dry air or oxygen before storing.

3. Changing of Oxygen Cylinders: Regularly check the gauge to observe the cylinder contents. ALWAYS have a full cylinder on hand to replace the depleted in-use cylinder.

Before fitting the replacement cylinder, 'crack' the cylinder valve by opening and closing quickly to blow out any dust, and also to ensure that the cylinder is full.

Shut off the empty cylinder valve and remove the cylinder from the yoke. Place the full cylinder in position.

Slightly open the cylinder valve and pause until the gauge hand stops moving, then open it completely.

Without delay, return the empty cylinder and obtain a replacement.

4. Operators should drill regularly to become familiar with procedures, including the changing of cylinders.

Important: Never allow oil or grease to come into contact with oxygen equipment. No smoking nor any source of ignition should be permitted in the vicinity of an oxygen application.

MAINTENANCE

Resuscitator

Regularly test operation of the resuscitator as detailed in attached literature.

Masks

Check that the cushion on the masks are sound and naturally inflated, store in a manner to prevent distortion.

Suction

Check that the suction unit displaces 300 ml of water in about 2 seconds. Check that the edge of the plastic jar is not chipped and that the sealing gasket is sound. Check that the suction tubing is not blocked and that the filter, adjacent to the control block, is cleaned.

Oxygen Piping

Instructions for testing for correct assembly and connection.

Note. This testing should be done whenever repairs or changes which involve the oxygen piping system have been carried out.

Test 1. Check system for leaks.

Note. If the Oxy-Viva is fitted with a separate flow control it must be turned fully clockwise before testing.

- 1.1 Fit a full (10,000 kPa minimum) oxygen cylinder to the unit.
- 1.2 Open the cylinder valve to pressurise the piping system and note the regulator gauge reading.
- 1.3 Firmly close the cylinder valve, wait three minutes, then note the regulator gauge reading again.
- 1.4 The piping system must maintain pressure, i.e. the readings shall be the same.

Test 2. Check oxygen therapy flow.

- 2.1 Turn the cylinder valve fully 'ON'.
- 2.2 Connect a suitable oxygen rotameter to the therapy outlet and turn the therapy valve 'ON'.
- 2.3 The reading on the rotameter shall be 7 to 9 litres per min.

Test 3. Check the level of suction.

- 3.1 Ensure that the cylinder valve is turned fully 'ON'.
- 3.2 Connect a suitable vacuum gauge to the suction hose so that the hose is occluded.
- 3.3 Turn the suction valve fully 'ON' then take the reading on the gauge.
- 3.4 This reading shall indicate a suction level of -60 kPa minimum.

Test 4. Check resuscitation flow.

OXYVIVA 3 WITH DEMAND VALVE

- 4.1 Ensure that the cylinder valve is turned fully 'ON'.
- 4.2 Connect a suitable oxygen rotameter to the demand valve mask connection.
- 4.3 With the flow control valve fully clockwise, depress the demand valve lever towards the mask connection as far as possible.
- 4.4 The flow reading shall be 120 to 150 litres per minute.
- 4.5 With the flow control valve fully clockwise, depress the demand valve lever towards the mask connection as far as possible.
- 4.6 The flow reading shall be 30 to 50 litres per minute.
- 4.7 Close the cylinder valve, then connect a 400 kPa oxygen source to the self sealing connector on the outside of the Oxy-Viva case.

4.8 Repeat 4.3.

4.9 The flow reading shall be 110 litres per minute minimum.

OXYVIVA 3 WITH RM2 VALVE

- 4.10 Ensure that the cylinder valve is turned fully 'ON'.
- 4.11 Connect a suitable oxygen rotameter to the RM2 valve mask connection.
- 4.12 Depress the button at the 'CHILD' setting; the flow shall be 25 to 35 litres per minute.
- 4.13 Depress the button at the 'ADULT' setting; the flow shall be 55 to 65 litres per minute.
- 4.14 Depress the button at the 'HIGH' setting; the flow shall be a minimum of 100 litres per minute.
- 4.15 With the button pressed lightly to prevent gas escape at 'THERAPY' setting, the flow shall be 8 to 11 litres per minute.
- 4.16 Close the cylinder valve, then connect a 400 kPa oxygen source to the self sealing connector on the outside of the Oxy-Viva case.
- 4.17 Repeat tests 4.12, 4.13, 4.14 and 4.15.

All the above tests have been carried out to correct assembly and connection prior to sale.

SERVICE

Regular maintenance service, carried out by expert technicians is recommended and details are readily available on request at your nearest Medishield branch.

Description	Part No.
Suction catheter, 16FG	CIG 517623
Suction tubing	CIG 518148
Plastic sheath for suction catheter	CIG 517624
Plastic suction jar	CIG M1118
Adult oxygen therapy mask	TISML816
Medishield oxygen therapy mask	CIG 515653
Oxygen therapy tubing	DAW YR62
Tubing for RM Resuscitator	DAW 518403
Demand Resuscitator	CIG 517840
RM Resuscitator complete	CIG 518138
Adult mask	CIG 515743
Child mask	CIG 515744
Guedel airway, size 7	MAY 1169
Guedel airway, size 8	MAY 1168
Cylinder keywheel with chain	CIG 511955
Yoke plug	CIG YM18
Bodok seal for cylinder yoke	OBM 370000
Harness to hold resuscitator mask to face	OBM 301061
Oxygen flowmeter, 0-15 l/min	CIG 515800
0-2.5 l/min	CIG 515824
Suction handpiece - Yankauer pattern	MAYTSYAP
Oxygen cylinder to fit Oxy-Viva — 400 litres	'C' Size
Oxygen cylinder for external bulk supplies 3500 litres	'E' Size
7000 litres	'G' Size

Description	Part No.
Regulator for use with a large cylinder used as an external bulk supply	CIG 518800
Oxygen hose to connect Oxy-Viva to a pipeline outlet or large cylinder with regulator	CMPMA164
T-piece to permit dual connection of an external flowmeter and the MA164 oxygen hose	CIG M635