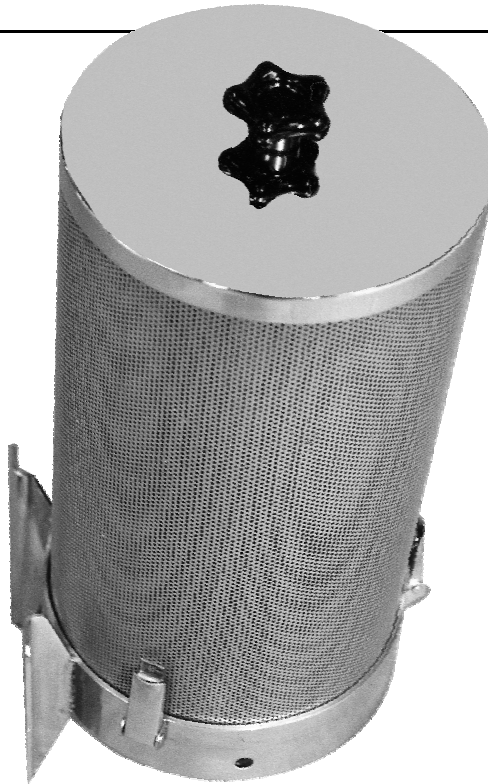


Comanex

CO₂ SCRUBBER OPERATING MANUAL



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B	Visa	Patrick Labouré	
	Date	07/09/2009	
A	Visa	Jean-Pierre Munoz	Comanex ref. : 070 04174
	Date	18/11/1993	

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1. GENERAL

1.1. Description

1.1.1. Reference data

- Designation : CO₂ scrubber
- Reference : 070 04174

1.1.2. Purpose

This scrubber is designed to eliminate the carbon dioxide produced by the occupants of a hyperbaric chamber.

1.1.3. General description

The scrubber consists of a canister containing soda lime and an electric fan. It is equipped with brackets for mounting it on a bulkhead or other support. O₂ can be injected directly in the gas flow using one of the 2 holes Ø12 mm in the base.

1.2. Technical data

✓ Overall height (without supports)	475 mm
✓ Overall diameter	240 mm
✓ O.D. of canister	230 mm
✓ Weight without soda	7 kg
✓ Volume of soda lime	12 litres
✓ Service life per filling	36 man-hours
✓ Input power	24 VDC 200 mA
✓ Power consumption at one atmosphere	4.5 W
✓ RPM	3200
✓ Weight of motor	0.390 kg
✓ Gas flow at one atmosphere	160 m ³ /h

✓ Electric fan features :

Built-in electronics to reduce components

Low power consumption

Electronically commutated external rotor motor

Electronic protection against reverse polarity, locked rotor and overloading (inherently safe)

Metal fan housing

Precision ball bearings

Low noise level : 49 dB(A)

Service life L_{10} : 85 000 hours at 40°C

Working temperature range : -30° C to +75°C

Protection grid

2. OPERATING PRINCIPLE

The soda lime in the canister absorbs the CO₂.

The fan forces the breathing gas through the soda lime to eliminate the CO₂ from the atmosphere.

3. OPERATION

3.1. Precautionary remarks

The scrubber should be mounted vertically with the soda lime canister above the fan motor. Be sure the inlet and outlet are unhindered so that the gas can circulate freely.

The scrubber should be easily accessible in order to facilitate removal of the soda lime canister.

3.2. Start-up

When the electrical connections have been completed, the scrubber is started by turning on the appropriate switch on the electrical control panel. If the fan doesn't turn, reverse polarity.

4. MAINTENANCE

4.1. Servicing

The scrubber is designed to operate with a minimum of servicing : visual inspection, check of electrical connections and cleaning on a regular basis.

4.2. Soda lime

4.2.1. Frequency of replacement

How often the soda lime needs to be changed depends largely on the temperature and relative humidity during CO₂ scrubbing.

Normally, when the canister is full, the soda lime should be changed every 12 duty hours for three persons in the chamber.

The grain-size distribution should be over 3 mm.

Depending on the supplier, a change of colour indicates that the soda lime should be thrown out.

4.2.2. Replacing the soda lime

Open the three clips and remove the canister of soda lime. Then undo the thumb screw on the lid, change the soda lime and remount the canister.

Nota : the canister is designed for entering inside the diameter 250 mm DDC medical locks designed by COMEX.

5. PART LIST

DESIGNATION	COMANEX REF.
CO ₂ scrubber	070 04174
Canister	170 04125
Base	170 01424
Gasket	250 04172
Electric fan	070 00007
Protection grid	140 04173

6. DIMENSIONS

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