

3B2B1B0BUIAA Mountain Medical Centre Information Sheet 8

OXYGEN SYSTEMS FOR USE AT HIGH ALTITUDES

Introduction

These notes summarise the oxygen systems currently available for climbing at high altitudes. They do not comment on the need for oxygen or its advisability or ethics on peaks over 8000 metres.

Historically several oxygen systems have been used on expeditions. These have been:

- Closed circuit systems - using soda lime to absorb expired carbon dioxide.
- Diluter demand systems
- Constant flow systems - using an oxygen bottle @ 4500 psi (306 ATA), reducer valve, regulator (0.5 - 4 litres/minute), reservoir (usually a rubber or plastic bladder), facemask, helmet or straps. Each constant flow system has an adaptor or alternative mask to use while sleeping at high altitude. It is the constant flow system that has now become the most widely used, largely because of its simplicity.

Constant Flow Systems

Several countries have now developed their own styles of constant flow system independently of one another. For details of cross-system compatibility, contact the manufacturers direct.

(Britain)

Life Support Engineering Limited
Unit G, Chantry Lane Trading Estate
Storrington
West Sussex RH20 4AD
Tel 01903 742322
Fax 01903 475923

Further details are available from the manufacturers (Managing Director - Brian Richards) – Life Support are also a major supplier of many sizes and types of oxygen bottles.

Summit Oxygen Ltd
4 Lancaster Road
North Weald
Epping
Essex CM16 6JA
www.summitoxygen.com

A newly developed and extremely lightweight system that has already been used successfully on Everest

(Himalaya Type)

This well established French system has been used by many international expeditions, contact:

L'Appareil Medical de Precision AMP

169 Avenue Louis Roche
92230 Gennevilliers, Paris
France
Tel: +33 1798 6000

(Japan)

We have no details of this system although know that it is in existence. Enquiries should be made to:

Japanese Mountaineering Association
Kishi Memorial Hall
1-1-1 Jinnan, Shibuya-Ku
Tokyo 150-8050
JAPAN
Tel: +813 3481 2396
Fax: +813 3481 2395

(Russian)

This system uses titanium bottles and regulators. Details are available through:

Vladimir Shataev
Mountaineering Federation of Russia
Luzhnetskaya nab. 8
119871 MOSCOW
Russia
Tel/Fax: +7095 725 4704
[Hwww.risk.ru/rus/federat](http://www.risk.ru/rus/federat)

Notes for use

- Masks should be comfortable and close fitting.
- Tubing should be light but not easily kinked.
- A wide variety of oxygen bottles are available - usual weights are 3-7 kg.
- There are special regulations covering transport by air of oxygen bottles. They cannot usually be transported on jets carrying passengers. (See Information Sheet 7)
- In evaluating equipment, particular attention should be paid to humidification - the collection of condensation and icing up of tubing. It is strongly suggested that oxygen equipment is tested for several hours in a "cold room" at -20°C before being taken on expedition.
- There are sometimes considerable delays (3-6 months) between order and delivery. Plan for this, order well in advance and remember that it is imperative that time is allowed for all systems to be checked and tested before an expedition.

Oxygen systems for *medical use* are widely available:

In the UK:
Vickers Medical on AMP
Priestley Road
Basingstoke
Hants RG24 9NP
England
Tel: 01256 29144

PLEASE BRING YOUR BOTTLES DOWN! DON'T LEAVE THEM UP THERE.

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