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PRESSURE VESSELS FOR HUMAN OCCUPANCY (PVHO) - MULTI-PLACE PRESSURE CHAMBER SYSTEMS FOR HYPERBARIC THERAPY - PERFORMANCE, SAFETY REQUIREMENTS AND TESTING

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN 14931:2006) has been prepared by CEN/BT/TF 127 “Hyperbaric therapy chambers”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2006, and conflicting national standards shall be withdrawn at the latest by December 2006.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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Introduction

Pressure chambers for therapeutic use are required for the administration of hyperbaric oxygen therapy and for the treatment of decompression illness. These chambers are made to allow the safe administration of hyperoxic gas mixtures at pressure while avoiding the risks of fire within the chamber and of uncontrolled compression or decompression. They need to allow all levels of patient care up to intensive care with all the necessary equipment and provide a safe working environment for patient carers. Standards on ergonomics for the design of pressure chambers for therapeutic use are not available. Nevertheless guidance for the application of ergonomics standards is given in the bibliography.

Chambers providing exclusively for hyperbaric oxygen therapy operate typically with a maximum operational pressure of 200 kPa (2 bar) above atmospheric pressure. Pressure chambers providing treatment for decompression illness have a maximum operating pressure of 500 kPa (5 bar) or more. Treatment times in the chamber are typically 2 h to 3 h for hyperbaric oxygen treatments while standard treatment for decompression illness may last 8,5 h or more. Atmospheric conditions within the chamber need to be comfortable and, in particular, oxygen levels require control in order to avoid hypoxia, oxygen toxicity and undue risk of fire.