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Respiratory equipment – Breathing gas demand regulator used for diving to depths greater than 50 metres – Requirements and test methods

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Contents

Summary of pages

This document comprises a front cover, an inside front cover, pages i to ii, pages 1 to 10, an inside back cover and a back cover.

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 March 2016. It was prepared by Subcommittee PH/4/7, *Underwater breathing apparatus*, under the authority of Technical Committee PH/4, *Respiratory protection*. A list of organizations represented on these committees can be obtained on request to their secretary.

Relationship with other publications

BS EN 250 gives the requirements for demand regulators to a depth of 50 m. Similarly, BS EN 15333-1 gives the requirements for demand regulators to a depth of 60 m. This British Standard gives requirements for demand regulators in self-contained diving apparatus (BS EN 250) beyond 50 m and for demand regulators in umbilical supplied apparatus (BS EN 15333-1) beyond 60 m.

Information about this document

This British Standard uses the principle of gas density to cover all depth and gas mixtures used below 50 m. The intention of this British Standard is to define the performance requirements for demand diving regulators without imposing a maximum depth limit.

Presentational conventions

The provisions of this British Standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

1 Scope

This British Standard specifies minimum performance requirements for diver carried breathing gas demand regulators for open-circuit and saturation gas reclaim systems used for diving to depths greater than 50 m.

This British Standard defines additional requirements for breathing performance and helium compatibility to those already given in BS EN 250 and BS EN 15333-1.

NOTE The basic requirements for diving apparatus and demand regulators as per BS EN 250 and BS EN 15333-1 have been retained. The exception here is for the breathing performance which is revised in this British Standard to cover the requirement for use at depths greater than 50 m.

This British Standard specifies a test method for helium compatibility with a demand regulator and a test method for measuring the work of breathing (WOB) and respiratory pressures of a demand regulator.

This British Standard does not cover auxiliary emergency breathing systems; they are covered in BS EN 250:2014, Annex B.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS EN 132, *Respiratory protective devices – Definitions of terms and pictograms*

BS EN 250:2014, *Respiratory equipment – Open-circuit self-contained compressed air diving apparatus – Requirements, testing, marking*

BS EN 12021, *Respiratory equipment – Compressed gases for breathing apparatus*

BS EN 15333-1:2008, *Respiratory equipment – Open-circuit umbilical supplied compressed gas diving apparatus – Part 1: Demand apparatus*

3 Terms and definitions

For the purposes of this British Standard, the terms and definitions given in BS EN 132 and the following apply.

3.1 breathing frequency
setting of the breathing simulator measured in cycles per minute

[SOURCE: BS EN 250:2014, **3.9**]

3.2 demand regulator
device which consists of a pressure reducer connected to a single demand valve that is fitted to a face piece

[SOURCE: BS EN 250:2014, **3.19**, modified]

3.3 displaced (tidal) volume
volume of breathing gas displaced by the breathing simulator during one half cycle (inhalation or exhalation) measured in litres

[SOURCE: BS EN 250:2014, **3.8**]