



**NSAI**  
Standards

Irish Standard  
I.S. EN 15333-1:2008

# Respiratory equipment - Open-circuit umbilical supplied compressed gas diving apparatus - Part 1: Demand apparatus

## I.S. EN 15333-1:2008

*Incorporating amendments/corrigenda issued since publication:*

EN 15333-1:2008/AC:2009

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English version  
Version Française  
Deutsche Fassung

Respiratory equipment - Open-circuit umbilical supplied compressed gas  
diving apparatus - Part 1: Demand apparatus

Equipements respiratoires - Appareils de  
plongée narguilé à gaz comprimé et à  
circuit ouvert - Partie 1: Appareils demande

Atemgeräte - Schlauchversorgte  
Leichttauchergeräte mit Druckgas - Teil 1:  
Lungenautomatisch gesteuerte Geräte

This corrigendum becomes effective on 7 October 2009 for incorporation in the three official language versions of the EN.

Ce corrigendum prendra effet le 7 octobre 2009 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 7. Oktober 2009 zur Einarbeitung in die drei offiziellen Sprachfassungen der EN in Kraft.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

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**I.S. EN 15333-1:2008/AC:2009**  
**EN 15333-1:2008/AC:2009 (E)**

### 1) Modification to 8.6

"Table 6", *replace the current table:*

"

<b>Tidal volume</b>	<b>Breathing frequency</b>	<b>Ventilation rate</b>	<b>Approximate carbon dioxide injection rate</b>
<b>at ATP</b>		<b>at ATP</b>	<b>at STPD</b>
<b>l</b>	<b>min</b>	<b>l min<sup>-1</sup></b>	<b>l min<sup>-1</sup></b>
1,0	10	10,0	0,50
1,5	15	22,5	1,125
2,0	20	40,0	2,00
2,5	25	62,5	3,125
3,0	25	75,0	3,75

"

*with the following one:*

"

<b>Tidal volume</b>	<b>Breathing frequency</b>	<b>Ventilation rate</b>	<b>Approximate carbon dioxide injection rate</b>
<b>at ATP</b>		<b>at ATP</b>	<b>at STPD</b>
<b>l</b>	<b>min<sup>-1</sup></b>	<b>l min<sup>-1</sup></b>	<b>l min<sup>-1</sup></b>
1,0	10	10,0	0,40
1,5	15	22,5	0,90
2,0	20	40,0	1,60
2,5	25	62,5	2,50
3,0	25	75,0	3,00

"

ICS 11.040.10

English Version

## Respiratory equipment - Open-circuit umbilical supplied compressed gas diving apparatus - Part 1: Demand apparatus

Equipements respiratoires - Appareil de plongée en  
narguilé à gaz comprimé et à circuit ouvert - Partie 1:  
Appareil à la demande

Atemgeräte - Schlauchversorgte Leichttauchgeräte mit  
Druckgas - Teil 1: Lungenautomatisch gesteuerte Geräte

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## **Foreword**

This document (EN 15333-1:2008) has been prepared by Technical Committee CEN/TC 79 “Respiratory protective devices”, 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 July 2008, and conflicting national standards shall be withdrawn at the latest by July 2008.

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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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## **Introduction**

A given open-circuit umbilical supplied compressed gas diving apparatus can only be approved when the apparatus or apparatus sub-assemblies satisfy the requirements of the tests specified in this European Standard, and practical performance tests have been carried out successfully on complete apparatus where specified in this European Standard.

The production of this European Standard has identified varying methods of surface supply and has separated them into two parts; equipment that supplies demand type facepieces and equipment that supplies free flow type facepieces.

## 1 Scope

This European Standard specifies minimum requirements for demand surface supplied and demand surface oriented diving apparatus to ensure a minimum level of safe operation of the apparatus. It applies to the following:

- depths between 0 m and 50 m for apparatus using air, oxygen or oxygen in nitrogen mixtures;
- depths between 0 m and 60 m for apparatus using oxygen, oxygen and helium or oxygen, nitrogen and helium gas mixtures;
- water temperatures between 4 °C and 34 °C or outside these temperatures as specified by the manufacturer.

The requirements of this European Standard are intended to take account of the interaction between the wearer, the apparatus, and where possible the environment in which the apparatus is likely to be used.

This European Standard does not cover saturation diving systems, mini bell systems or apparatus used for oxygen decompression only.

## 2 Normative references

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

EN 132:1998, *Respiratory protective devices — Definitions of terms and pictograms*

EN 134:1998, *Respiratory protective devices — Nomenclature of components*

EN 144-1, *Respiratory protective devices - Gas cylinder valves — Part 1: Thread connections for insert connector*

EN 144-3, *Respiratory protective devices — Gas cylinder valves — Part 3: Outlet connections for diving gases Nitrox and oxygen*

EN 397, *Industrial safety helmets*

EN 812 *Industrial bump caps*

EN 12021, *Respiratory protective devices — Compressed air for breathing apparatus*

EN 14593-1:2005, *Respiratory protective devices — Compressed air line breathing apparatus with demand valve — Part 1: Apparatus with a full face mask — Requirements, testing marking*

EN ISO 12209-1, *Gas cylinders - Outlet connections for gas cylinder valves for compressed breathable air - Part 1: Yoke type connections (ISO 12209-1:2000)*

EN ISO 12209-2, *Gas cylinders - Outlet connections for gas cylinder valves for compressed breathable air - Part 2: Threaded connections (ISO 12209-2:2000)*

EN ISO 12209-3, *Gas cylinders - Outlet connections for gas cylinder valves for compressed breathable air - Part 3: Adaptor for 230 bar valves (ISO 12209-3:2000)*

EN 61508-1, *Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 1: General requirements (IEC 61508-1:1998 + Corrigendum 1999)*

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