

საქართველოს ეროვნული სტანდარტი

სასუნთქო მოწყობილობა. ღია-წრედიანი, შეღებენილი
შლანგი გამოყენებული შეკუმშული აირის საყვინთი
მოწყობილობისთვის. ნაწილი 1. საჭირო აპარატურა

საქართველოს სტანდარტების, ტექნიკური რეგლამენტების
და მეტროლოგიის ეროვნული სააგენტო
თბილისი

საინფორმაციო მონაცემები

1 შემუშავებულია საქართველოს სტანდარტების, ტექნიკური რეგლამენტების და მეტროლოგიის ეროვნული სააგენტოს სტანდარტებისა და ტექნიკური რეგლამენტების დეპარტამენტის მიერ

2 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტების, ტექნიკური რეგლამენტების და მეტროლოგიის ეროვნული სააგენტოს 2010 წლის 16 მარტის №65 “ს” განკარგულებით

3 მიღებულია გარეკანის მეთოდით სტანდარტიზაციის საერთაშორისო ორგანიზაციის სტანდარტი ისო ენ 15333-1 : 2008 „სასუნთქი მოწყობილობა. ღია-წრედიანი, შედგენილი შლანგი გამოყენებული შეკუმშული აირის საყვინთი მოწყობილობისთვის. ნაწილი 1. საჭირო აპარატურა”

4 პირველად

5 რეგისტრირებულია საქართველოს სტანდარტების, ტექნიკური რეგლამენტების და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2010 წლის 22 მარტი №268-1.3-4113

წინამდებარე სტანდარტის სრული ან ნაწილობრივი აღწარმოება, ტირაჟირება და გავრცელება საქართველოს სტანდარტების, ტექნიკური რეგლამენტების და მეტროლოგიის ეროვნული სააგენტოს ნებართვის გარეშე არ დაიშვება

English Version

**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 Leichttauchgeräte mit
Druckgas - Teil 1: Lungenautomatisch gesteuerte Geräte

This European Standard was approved by CEN on 3 November 2007.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	5
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	8
4 Minimum equipment.....	10
5 Requirements	11
5.1 Design	11
5.2 Materials	12
5.3 Diver worn pressure vessel(s) (if fitted)	12
5.4 Diver worn pressure vessel valve(s) (if fitted)	12
5.5 High and medium pressure parts and connections.....	13
5.5.1 General.....	13
5.5.2 Pressure reducer(s)	13
5.5.3 Pressure relief system(s)	13
5.6 Hoses	14
5.6.1 General.....	14
5.6.2 Tensile strength of high and medium pressure hose assemblies	14
5.6.3 Flexibility of high and medium pressure hose assemblies.....	14
5.6.4 Kinking of high and medium pressure hoses.....	14
5.6.5 High pressure hose assemblies leak test	14
5.6.6 High pressure hose assemblies bursting pressure	15
5.6.7 Medium pressure hose assemblies leak test.....	15
5.6.8 Medium pressure hose assemblies bursting pressure	15
5.6.9 Umbilical	15
5.7 Breathing system.....	15
5.7.1 Performance requirements	15
5.7.2 Exhalation valve.....	17
5.7.3 Maximum inspired partial pressure of carbon dioxide.....	17
5.7.4 Hydrostatic imbalance	17
5.8 Surface control system	18
5.8.1 General.....	18
5.8.2 Gas supply.....	18
5.8.3 Gas monitoring	19
5.9 Safety devices	19
5.9.1 General.....	19
5.9.2 Pressure indicator	19
5.9.3 Depth indicator (if fitted)	20
5.10 Facepiece.....	20
5.10.1 General.....	20
5.10.2 Helmet	20
5.10.3 Full face mask harness	21
5.10.4 Mouthpiece assembly	21
5.10.5 Breathing system connections	21
5.10.6 Visors	21
5.10.7 Head protection against impact	22
5.11 Harnesses.....	22
5.11.1 Body harness	22
5.11.2 Lifting harness	23

5.12	Auxiliary gas supply system (bail out)	23
5.13	Resistance to temperature	23
5.13.1	Storage	23
5.13.2	Leakage	23
5.14	Connectors	23
5.15	Cleaning and disinfecting	23
5.16	Pressure resistance of casings and monitors	24
5.17	Oxygen compatibility	24
5.18	Functional safety of electronical systems	24
5.19	Voice communications	24
5.19.1	General	24
5.19.2	Communication recording	24
5.20	Noise	24
5.21	Practical performance	25
6	Testing	25
6.1	General	25
6.1.1	Procedure	25
6.1.2	Nominal values and tolerances	27
6.1.3	Test equipment and test procedures	27
6.2	Visual Inspection	27
6.3	Pressure test of high and medium pressure parts	27
6.4	Hoses and umbilical assemblies	27
6.4.1	General	27
6.4.2	Tensile force of high and medium pressure hose assemblies	28
6.4.3	Flexibility of high and medium pressure hoses	28
6.4.4	Kinking of high and medium pressure hoses	28
6.4.5	Leak test of high and medium pressure hose assemblies	28
6.4.6	Umbilical buoyancy	28
6.4.7	Umbilical life line	28
6.5	Breathing system	28
6.5.1	Configuration	28
6.5.2	General test conditions	28
6.5.3	Breathing performance	29
6.5.4	Upstream demand valve	29
6.5.5	Downstream demand valve	29
6.5.6	Volume weighted average inspired carbon dioxide	29
6.5.7	Exhalation valve	29
6.5.8	Hydrostatic imbalance	30
6.6	Safety devices	30
6.6.1	Pressure indicator	30
6.6.2	Depth indicator(s)	30
6.6.3	Pressure relief system(s)	30
6.6.4	Oxygen monitor	30
6.7	Facepiece	30
6.7.1	Mechanical strength of the connections between the facepiece and the connector	30
6.7.2	Full face mask harness	31
6.7.3	Impact resistance of the visor(s)	31
6.7.4	Head protection	31
6.7.5	Noise assessment	31
6.7.6	Communications modified rhyme test	32
6.7.7	Field of vision	32
6.8	Lifting harness	33
6.9	Sea water resistance	33
6.10	Resistance to temperature	33
6.10.1	Testing at – 20 °C and 50 °C	33
6.10.2	Testing after storage at - 30 °C and + 70 °C	33
6.10.3	Cold water testing	33
6.11	Cleaning and disinfection	34
6.12	Oxygen pressure surge test	34

6.13	Practical performance	35
6.13.1	General.....	35
6.13.2	Test subjects	35
6.13.3	Basic testing.....	35
6.13.4	Functional testing when diving	36
6.13.5	Report	36
6.14	Pressure vessel valve	36
6.15	Mouthpiece	37
6.16	Casings and monitors	37
7	Marking	37
8	Information supplied by manufacturer	37
Annex A	(informative) Artificial sea water	53
Annex B	(informative) A typical Modified Rhyme Test word list.....	54
Annex ZA	(informative) Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC (PPE)	55
Bibliography		57

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.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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.