

DIN EN 250:2014-07 (E)

Respiratory equipment - Open-circuit self-contained compressed air diving apparatus - Requirements, testing and marking

Contents		Page
Foreword		5
Introduction		6
1	Scope	7
2	Normative references	7
3	Terms and definitions	7
4	Minimum equipment	10
5	Requirements	10
5.1	Design	10
5.2	Auxiliary emergency breathing system	10
5.3	Materials	11
5.4	Air cylinder(s)	11
5.5	Cylinder valves	11
5.6	High pressure parts and connections	12
5.7	Demand regulator performance	13
5.7.1	General	13
5.7.2	Cold water	14
5.7.3	Pressure reducer	14
5.7.4	Pressure relief system	14
5.7.5	Demand valve	14
5.7.6	Exhalation valve	14
5.8	Hose assemblies	15
5.8.1	Tensile strength of high and medium pressure hose assemblies that may be subjected to external tensile force	15
5.8.2	Flexibility of high and medium pressure hoses	15
5.8.3	Leakage of high pressure hose assembly	15
5.8.4	Leakage of medium pressure hose assembly	15
5.8.5	Burst pressure of high pressure hose assembly	15
5.8.6	Burst pressure of medium pressure hose assembly	16
5.8.7	Kinking of medium pressure hoses	16
5.8.8	Breathing hose	16
5.8.9	Length and arrangement of medium pressure hose assembly	16
5.9	Safety devices	16
5.9.1	General	16
5.9.2	Pressure indicator	17
5.9.3	Reserve valve (if fitted)	18
5.9.4	Other active warning devices	18
5.10	Facepiece	18
5.10.1	General	18
5.10.2	Inspired carbon dioxide	19
5.10.3	Mouthpiece assembly	19
5.10.4	Head harness	19
5.10.5	Full face mask or oro-nasal half mask	19
5.11	Body harness	20
5.12	Resistance to temperature	21
5.12.1	Storage	21

5.12.2	Performance	21
5.12.3	Cold water performance	21
5.13	Cleaning and disinfection	21
5.14	Seawater resistance	21
5.15	Practical performance	21
6	Testing	22
6.1	General	22
6.2	Procedure	22
6.2.1	General	22
6.2.2	Nominal values and tolerances	22
6.2.3	Breathable air	22
6.2.4	Test equipment and calibration test procedures	22
6.3	Visual inspection	23
6.4	High and medium pressure parts and connections	23
6.5	Hose assemblies	24
6.5.1	General	24
6.5.2	Tensile strength of high and medium pressure hose assemblies that may be subjected to external tensile force	24
6.5.3	Flexibility of high and medium pressure hoses	24
6.5.4	Leakage of high pressure hose assembly	24
6.5.5	Leakage of medium pressure hose assembly	24
6.5.6	Burst pressure of high pressure hose assembly	24
6.5.7	Burst pressure of medium pressure hose assembly	24
6.5.8	Kinking of medium pressure hoses	24
6.5.9	Tensile load of breathing hose connections	24
6.6	Pressure relief system	24
6.6.1	Upstream demand valve	24
6.6.2	Downstream demand valve	25
6.7	Demand regulator	25
6.7.1	General	25
6.7.2	Cold water performance	25
6.8	Exhalation valve	26
6.9	Cylinder valve	26
6.10	Facepiece	26
6.10.1	Mouthpiece	26
6.10.2	Full face mask or oro-nasal half mask	26
6.10.3	Head harness	30
6.11	Safety devices	30
6.11.1	Pressure indicator	30
6.11.2	Reserve valve	31
6.11.3	Other active warning device	31
6.12	Resistance to specific temperatures	31
6.12.1	Testing after storage at +70 °C	31
6.12.2	Testing after storage at -30 °C	31
6.12.3	Testing at +55 °C	32
6.12.4	Testing at -20 °C	32
6.13	Seawater resistance	32
6.14	Practical performance	32
6.14.1	General	32
6.14.2	Test subjects	32
6.14.3	Basic testing	32
6.14.4	Functional testing when diving	33
6.14.5	Pass/fail criteria	34
6.14.6	Report	34
7	Marking	34
7.1	General	34
7.2	Demand regulator	35
8	Information supplied by the manufacturer	35

Annex A (informative) Requirement clauses and corresponding test clauses of this European Standard	37
Annex B (normative) Auxiliary emergency breathing system	39
B.1 General	39
B.2 Requirements	39
B.3 Testing	39
B.4 Practical performance test	40
Annex C (informative) Artificial seawater	41
Annex D (informative) Details of significant technical changes between this European Standard and the previous edition	42
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC	43