

## **Order on diving equipment<sup>1</sup>**

In pursuance of section 14(2), section 15, section 16(2), section 19, section 24(6) and section 25(6) of the act on diving operations and diving equipment, etc. (*lov om dykkerarbejde og dykkermateriel m.v.*), cf. consolidated act no. 936 of 20 July 2010, the following provisions are laid down:

### *Scope*

**Section 1.** This order stipulates provisions on diving equipment, including auxiliary equipment used when diving at depths of up to 50 metres using atmospheric air or mixed gas as a breathing gas.

*Subsection 2.* Equipment used in connection with offshore diving as well as equipment belonging to the Defence shall be exempted from the provisions of this order insofar as it is used in service.

*Subsection 3.* The provisions of this order shall not limit the use of the provisions of the occupational health legislation as well as provisions of the legislation on safety at sea concerning diving operations from ships that shall, pursuant to their contents, apply in relation to diving equipment.

### *Definitions*

**Section 2.** For the purposes of this order, the following definitions shall apply:

- 1) *Buoyancy compensator:* A device making it possible for the user to control the buoyancy, but which does not ensure that an unconscious diver can breathe freely at the surface.
- 2) *A-frame:* A support that is, together with the winch, used to transport an open bell or basket to and from the diving depth.
- 3) *Atmospheric air:* Breathing gas composed in accordance with DS/EN 12021.
- 4) *Treatment chamber:* A duly equipped hyperbaric chamber designed for planned surface decompression and for treating diver's palsy.
- 5) *Cylinder installation:* One or more cylinders in which breathing gas is stored. The definition shall not include replaceable high-pressure cylinders carried by the diver.
- 6) *Mixed gas diving:* Diving where mixed gas and equipment for mixed gas are used.
- 7) *Mixed gas:* Breathing gases other than nitrox with another composition than atmospheric air.
- 8) *Decompression chamber:* A duly equipped hyperbaric chamber located at the place of diving designed for planned surface decompression.
- 9) *Diving operation:* A task carried out under water for which the use of breathing devices is required and which is normally carried out against remuneration. The performance of special diving operations, such as rescue operations or the like, including operations solved by municipal rescue services, shall be considered diving operations, regardless whether the work is carried out without any remuneration. Diving operations shall not include operations carried out in connection with recreational diving.

---

<sup>1</sup> This regulation has been notified in draft in accordance with Directive 98/34/EC of the European Parliament and of the Council (the information procedure directive), as amended most recently by directive 98/48/EC.

Diving operations shall include all kinds of preparation at the place of diving from before the first diver enters the water until the last diver has left the water, chamber or any other environment and is no longer surrounded by a pressure greater than the atmospheric pressure.

- 10) *Diving equipment*: All equipment, including auxiliary equipment, used in connection with diving operations.
- 11) *Diving gear*: An arrangement of diving equipment making it possible to keep breathing during stays in the water 0.4 metres or more below the surface.
- 12) *Self-monitoring*: Control of diving equipment carried out by the owner or by others on his responsibility as well as procedures hereon.
- 13) *Self-monitoring system*: Control system established for ongoing control of diving equipment carried out by the owner or by others on his responsibility as well as procedures hereon.
- 14) *First-aid and resuscitation equipment*: First-aid kit as well as oxygen breathing apparatus with masks, aspirator, etc. intended for diving.
- 15) *Approved diving tables*: Diving, decompression and treatment tables approved by the Danish Maritime Authority.
- 16) *Offshore wind farms*: One or more offshore wind turbines located at sea outside the territorial waters of ports as well as associated transformer stations and cable connections, including cable connections to shore, etc. For the purposes of this order, other installations for production of renewable energy at sea, such as wave energy installations and the like, shall also be considered offshore wind farms.
- 17) *High-pressure compressor*: Breathing gas compressor with a working pressure of or above 30 bar.
- 18) *IMO certificate*: Certificate on diver's equipment issued in accordance with the IMO Code of Safety for Diving Systems.
- 19) *Compression system*: A compression system is either:
  - a) a breathing gas compressor for recharging cylinders with breathing gas, or
  - b) a breathing gas compressor with a cylinder for supplying surface-supplied diving gear, chambers, etc. with breathing gas.
- 20) *Basket*: Transport platform without any air pocket.
- 21) *Low-pressure compressor*: Breathing gas compressor with a working pressure below 30 bar.
- 22) *Nitrox*: Breathing gas consisting of oxygen and nitrogen where the oxygen content is higher than 22% of the total content.
- 23) *Nitrox diving*: Diving where nitrox and equipment for nitrox are used.
- 24) *Offshore diving operations*: Offshore diving operations shall mean diving operations:
  - a) at installations, where installations shall mean offshore installations as defined in the act on the safety, etc. of offshore installations for the exploration, production and transport of hydrocarbons (*offshoresikkerhedsloven*) in force at any time as well as other units in the surrounding safety, protection and work zones,
  - b) at pipelines outside the territorial waters of ports used in connection with pipe-carried transport of hydrocarbons,
  - c) at depths exceeding 50 metres,
  - d) from dynamically positioned ships,
  - e) at offshore wind farms,
  - f) where a risk analysis shows that it is necessary to impose correspondingly stricter requirements, or

- g) where it is, due to the nature, scope, and health and safety conditions of the diving operation, necessary to impose correspondingly stricter requirements.
- 25) *Surface-supplied diving gear*: Diving gear, cf. DS/EN 15333-1.
- 26) *Immersion suit suitable for diving operations*: A device making it possible for the diver to control the buoyancy and ensuring that an unconscious diver can breathe freely at the surface.
- 27) *Recreational diving*: Diving for the sake of sport and pleasure as well as teaching in this connection.
- 28) *SCUBA*: Abbreviation of Self Contained Underwater Breathing Apparatus.
- 29) *The personal protective equipment directive*: Abbreviation of Council Directive 89/686/EEC of 21 December 1989 on the approximation of the laws of the Member States relating to personal protective equipment, as amended, cf. Council Directives nos. 93/95 of 29 October 1993 and 93/68 of 22 July 1993 as well as Directive no. 96/58 of the European Parliament and of the Council of 3 September 1996.
- 30) *Open bell*: Bell with an air pocket where it is not possible to establish a greater pressure in the air pocket than that of the surroundings.

### *Approval and equivalence*

**Section 3.** Where this order requires that a particular fitting, material, appliance or apparatus, or type thereof, shall be fitted or carried in connection with diving, or that any particular provisions shall be made, the Danish Maritime Authority may allow any other fitting, material, appliance or apparatus, or type thereof, to be fitted or carried, or any other provision to be made during diving operations, if it is satisfied by trial thereof or otherwise that such fitting, material, appliance or apparatus, or type thereof, or provision, is at least as effective as that required by this order.

*Subsection 2.* Equipment not required pursuant to this order, but for which recognized standards are available, shall meet these.

**Section 4.** The Danish Maritime Authority's direct expenses for wages, travelling and accommodation as well as costs associated with the carrying out of tests and trials as part of an approval or a survey shall be paid by the requesting person or organisation.

*Subsection 2.* The Danish Maritime Authority shall accept tests carried out by recognised test institutes, including test institutes in other EU member states as well as in countries covered by the EEA Agreement, providing appropriate, satisfactory and independent guarantees of a technical and professional nature.

**Section 5.** For scuba diving gear used with atmospheric gas or nitrox as breathing gas and used, marketed, lent or hired out for recreational diving, the following equipment shall be CE marked in accordance with regulations stipulated by the Danish Working Environment Authority or by an EU or EEA member State in accordance with the personal protective equipment directive:

- 1) Source of breathing gas with associated safety function,
- 2) harness with securing arrangement,
- 3) regulator and demand valve,
- 4) helmet, full-face mask or half-face mask if an orthodontic mouthpiece is used,
- 5) hose connections with the necessary fittings,
- 6) immersion suit suitable for diving,

- 7) buoyancy compensator,
- 8) suit, and
- 9) user and maintenance instructions with Danish text.

*Subsection 2.* Irrespective of the provision of subsection 1(i), pressure cylinders used as a source of breathing gas shall, however, meet only the generally applicable provisions on pressure cylinders.

*Subsection 3.* Scuba diving gear used, marketed, lent or hired out for diving operations shall meet the provision of subsection 1 and shall, furthermore, include a telephone system.

*Subsection 4.* When marketing, lending or hiring out diving equipment for foreign divers, the instructions mentioned in subsection 1(ix) may instead be in a language understood by the divers concerned.

**Section 6.** For surface-supplied gear used with atmospheric gas or nitrox as a breathing gas and used, marketed, lent or hired out for recreational diving, the following equipment shall be CE-marked in accordance with provisions stipulated by the Danish Working Environment Authority or by an EU or an EEA member State in accordance with the personal protective equipment directive:

- 1) Harness with securing arrangement,
- 2) regulator and demand valve,
- 3) helmet or full-face mask,
- 4) hose connections with the necessary fittings,
- 5) emergency source of breathing gas with associated pressure gauge,
- 6) hose for supplies from the source of breathing gas that is not carried by the diver,
- 7) immersion suit suitable for diving,
- 8) suit, and
- 9) user and maintenance instructions with Danish text.

*Subsection 2.* Irrespective of the provision of subsection 1(v), pressure cylinders used as a source of emergency breathing gas shall, however, meet only the generally applicable provisions on pressure cylinders.

*Subsection 3.* Surface-supplied gear used, marketed, lent or hired out for diving operations shall meet the provision of subsection 1 and shall, furthermore, include a telephone system.

*Subsection 4.* When marketing, lending or hiring out diving equipment for foreign divers, the instructions mentioned in subsection 1(ix) may instead be in a language understood by the divers concerned.

**Section 7.** For diving gear used with atmospheric gas as a breathing gas and used, marketed, lent or hired out for diving operations or recreational diving, the following equipment shall be CE-marked in accordance with provisions stipulated by the Danish Working Environment Authority or by an EU or an EEA member State in accordance with the personal protective equipment directive:

- 1) Source of breathing gas with an associated safety function or source of emergency breathing gas with associated pressure gauge,
- 2) harness with securing arrangement,
- 3) regulator and demand valve,
- 4) helmet, full-face mask or half-face mask if an orthodontic mouthpiece is used,
- 5) hose connections with the necessary fittings,
- 6) immersion suit suitable for diving,
- 7) buoyancy compensator,
- 8) suit, and
- 9) user and maintenance instructions with Danish text.

*Subsection 2.* Irrespective of the provision of subsection 1(i), pressure cylinders used as a source of breathing gas or as a source of emergency breathing gas shall, however, meet only the generally applicable provisions on pressure cylinders.

*Subsection 3.* Diving gear of the type mentioned in subsection 1 that is used, marketed, lent or hired out for diving operations shall meet the provision of subsection 1 and shall, furthermore, include a telephone system.

*Subsection 4.* When marketing, lending or hiring out diving gear for foreign divers, the instructions mentioned in subsection 1(ix) may instead be in a language understood by the divers concerned.

**Section 8.** Compressor systems used in connection with diving operations and recreational diving shall meet the generally applicable provisions on compressors and be approved. New compressor systems shall be high-pressure compressor systems.

**Section 9.** Pressure cylinders used in connection with diving operations and recreational diving shall meet the generally applicable provisions on pressure cylinders.

**Section 10.** Decompression and treatment chambers used in connection with diving operations and recreational diving shall have been approved by the Danish Maritime Authority. Decompression and treatment chambers where persons shall remain under pressure for an uninterrupted period of more than 12 hours shall have an internal diameter of at least 2000 mm. Other decompression and treatment chambers shall have an internal diameter of at least 1800 mm.

*Subsection 2.* The Danish Maritime Authority shall determine the person capacity of decompression and treatment chambers.

**Section 11.** Other chambers used in connection with diving operations and recreational diving, such as hyperbaric chambers for persons' stay or transport and similar purposes, shall have been approved by the Danish Maritime Authority.

**Section 12.** First-aid and resuscitation equipment used in connection with diving operations that is marketed, used or hired out shall meet the generally applicable provisions on such equipment, be approved in accordance with recognised standards and be suitable for use under pressure.

*Personal equipment used in connection  
with or hired out for diving operations*

**Section 13.** Scuba diving gear used for diving operations with atmospheric air or nitrox as a breathing gas shall consist of the following equipment:

- 1) Source of breathing gas with an associated safety function,
- 2) harness with securing arrangement,
- 3) regulator and demand valve,
- 4) helmet or full-face mask,
- 5) hose connections with the necessary fittings,
- 6) user and maintenance instructions with Danish text.

- 7) balancing weights with separate securing arrangement,
- 8) immersion suit suitable for diving,
- 9) telephone system,
- 10) lifeline with securing arrangement,
- 11) suit,
- 12) fins, boots or shoes as well as gloves,
- 13) diver's knife,
- 14) watch and means for measuring the depth of the dive, and
- 15) cutting nippers if the telephone lifeline is drawn with wire.

*Subsection 2.* If scuba gear is used by foreign divers for diving operations, the instructions mentioned in subsection 1(vi) may instead be in a language understood by the divers concerned.

**Section 14.** Surface-supplied gear used for diving operations with atmospheric air or nitrox as a breathing gas shall consist of the following equipment:

- 1) Harness with securing arrangement,
- 2) regulator and demand valve,
- 3) helmet or full-face mask,
- 4) hose connections with the necessary fittings,
- 5) source of emergency breathing gas with associated pressure gauge,
- 6) hose for supplies from the source of emergency breathing gas that is not carried by the diver,
- 7) user and maintenance instructions with Danish text.
- 8) balancing weights with separate securing arrangement,
- 9) telephone system,
- 10) lifeline with securing arrangement,
- 11) suit,
- 12) immersion suit suitable for diving if a dry-suit is not used,
- 12) fins, boots or shoes as well as gloves,
- 13) diver's knife,
- 14) watch and means for measuring the depth of the dive, and
- 15) cutting nippers if the hose/telephone lifeline is drawn with wire.

*Subsection 2.* If surface-supplied gear is used by foreign divers for diving operations, the instructions mentioned in subsection 1(vii) may instead be in a language understood by the divers concerned.

**Section 15.** The composition of diving gear where mixed gas is used as a breathing gas shall be determined on the basis of its use by the Danish Maritime Authority, cf. sections 13 and 14.

#### *Diving systems and auxiliary equipment*

**Section 16.** A diver's ladder shall be suitably designed, of sufficient length and strength and shall be solidly secured when in use.

*Subsection 2.* Open bells and baskets shall meet the provisions in force laid down by the Danish Maritime Authority.

*Subsection 3.* Equipment for rescuing an unconscious diver shall be approved by the Danish Maritime Authority in connection with the required surveys.

**Section 17.** Electrical installations, machinery and installations used in connection with diving operations or installed in diving equipment shall meet the generally applicable provisions on this equipment.

**Section 18.** Any mechanical tool used in connection with diving operations shall, in addition to the provisions stipulated in the order on the safe performance of diving operations, meet the generally applicable provisions on such equipment.

### *Breathing gases*

**Section 19.** Breathing gases shall not contain harmful substances of such a nature and in such quantities that it may cause harm to the diver's health, just as breathing gases shall not contain annoying odorants or flavourings or water vapours in quantities that may give rise to harmful condensation or the formation of ice in the equipment.

**Section 20.** The quality of breathing gases used for diving operations and recreational diving at depths of up to 50 metres or in connection with overpressure of up to 5 bar shall meet the guidelines issued by the Danish Maritime Authority on the requirements for the quality of breathing gases.

*Subsection 2.* Compressor systems approved in accordance with section 8 shall be checked at least every 12 months or more frequently if conditions so require.

*Subsection 3.* Breathing gas produced in compressor systems not covered by section 8 shall meet the threshold values and be fitted with a certificate on the purity of the gas. The measurements shall be available to the purchasers/users of the breathing gas.

*Subsection 4.* The certificate shall stipulate what gases the breathing gas contains.

**Section 21.** Any composition of nitrox and mixed gas shall be in accordance with approved diving tables and fitted with a certificate. This certificate with any associated annexes shall be stored in connection with the equipment so that it is possible to present it to the Danish Maritime Authority at any time upon request and so that it is available to the divers.

**Section 22.** If nitrox or mixed gas is used for diving, decompression or recompression, etc., this shall have the same purity as that prescribed in section 20. Nitrox and mixed gas shall be available and it shall be possible to supply it in sufficient quantities and under sufficient pressure, just as the breathing resistance in breathing equipment for these gases shall not exceed approved values.

### *Self-monitoring*

**Section 23.** Owners of diving equipment hired out or used for diving operations shall establish a system for self-monitoring in order to operate and maintain the diving equipment. The system shall have been approved by the Danish Maritime Authority.

*Subsection 2.* The system shall as a minimum include the following:

- 1) An overview of all the equipment.
- 2) Maintenance procedures with a maintenance programme and instructions.
- 3) An inventory of the inspections, control, maintenance, etc. carried out.
- 4) An overview of who is authorised by the owner to carry out maintenance and inspection.
- 5) An overview of the defects and non-conformities found.

### *Surveys of diving equipment*

**Section 24.** The Danish Maritime Authority shall survey the diving gear covered by sections 13-16 before it is taken in use in connection with diving operations or is hired out for this purpose.

*Subsection 2.* The Danish Maritime Authority shall survey the below-mentioned categories of diving equipment before it is taken in use:

- 1) Compressor and cylinder installations, cf. sections 8 and 9.
- 2) Decompression chambers, cf. section 10.
- 3) Treatment chambers, cf. section 10.
- 4) Hyperbaric chambers for person's stays or transport, cf. section 11.
- 5) Open bells, baskets and other equipment for transporting divers in and out of the water, cf. section 16.

*Subsection 3.* In connection with the survey, the following shall be checked:

- 1) that equipment covered by sections 5-12 are CE-marked or approved,
- 2) that the equipment is appropriately maintained in terms of safety,
- 3) that the equipment is in functional order, and
- 4) whether the breathing gas produced by the compressor system meet the purity requirements stipulated in section 20.

**Section 25.** If it is found at the initial inspection that the equipment mentioned in section 24(1) and (2)(i) meet the provisions of this order, the Danish Maritime Authority shall draw up a certificate to this effect. The certificate shall remain valid for 3 years from the month of survey, cf. however subsection 3. The Danish Maritime Authority may in special circumstances extend the validity by up to three months.

*Subsection 2.* If it is found at the initial survey that the equipment mentioned in section 24(2)(ii), (iii), (iv) and (v) meet the provisions of this order, the Danish Maritime Authority shall draw up a certificate to this effect. The certificate shall remain valid for 3 years from the month of survey on the condition that annual surveys are carried out by the Danish Maritime Authority with a satisfactory result, cf. however subsection 4. In special circumstances, the Danish Maritime Authority may extend the validity by up to three months. For equipment for which an IMO certificate has been issued, the certificate shall be issued with a validity of five years.

*Subsection 3.* Before the expiry of the certificate, the equipment covered by it shall be subject to a new inspection by the Danish Maritime Authority. The certificate shall be endorsed about the extension of the validity for a new three-year period, cf. however subsection 4, if it is found that the equipment meets the provisions of the order.

*Subsection 4.* If it is found at an inspection that the diving equipment does not meet the provisions of this order or is not otherwise in an appropriate condition in terms of safety, the Danish Maritime Authority may prohibit the use of the equipment through an endorsement on the certificate. Insufficient documentation



and/or erroneous self-monitoring, cf. section 23, may result in a prohibition against using all the equipment until it has been demonstrated to the Danish Maritime Authority that the equipment and the self-monitoring system meet the provisions. If any deficiencies of minor importance are found, the certificate may be endorsed to this effect, stating the date by which the deficiencies shall have been remedied. It shall be possible to identify equipment mentioned in section 23(2)(i) by means of identification marks.

*Subsection 5.* The certificate as well as any annexes shall be stored in connection with the equipment so that it is possible to present it to the Danish Maritime Authority at any time upon request and so that it is available to the divers.

*Subsection 6.* Irrespective of the time-limits mentioned in subsections 1, 2 and 3, the Danish Maritime Authority may determine the same survey month for equipment with the same owner.

**Section 26.** The owner of diving equipment shall, irrespective of whether it is used, be responsible for informing the Danish Maritime Authority where he would like the surveys every third year to be carried out and provide the necessary assistance in connection with the survey. Furthermore, the owner shall, when selling equipment that has been surveyed, be responsible for informing the Danish Maritime Authority about the sale, stating the purchaser's name and address.

**Section 27.** Where EU directives have been issued on diving equipment and auxiliary equipment, declarations of compliance shall be available for this equipment.

**Section 28.** Irrespective of the provisions of this order, persons domiciled in another country may, in connection with recreational diving in this country, use their own diving equipment if this is in accordance with the domestic legislation in force in the country concerned. If the Danish Maritime Authority becomes aware that the use of such equipment is connected with obvious danger, the Danish Maritime Authority may, however, prohibit this.

*Subsection 2.* In connection with diving operations carried out by divers domiciled in other EU or EEA countries, the Danish Maritime Authority may grant exemptions from the requirements of sections 5-15 on the approval of equipment that the person concerned may legally use for diving operations in the relevant EU or EEA country.

#### *Penalty provisions*

**Section 29.** Contraventions of sections 5-14, sections 16-24, section 25(2), section 25(4)-(5), section 26 or section 28 of this order shall be liable to punishment by fine or imprisonment for a term not exceeding 1 year. Anyone using the diving gear mentioned in section 15 in a composition that has not been determined by the Danish Maritime Authority or that is not in accordance with the composition determined by the Danish Maritime Authority may also be liable to punishment by fine, simple detention or imprisonment for a term not exceeding 1 year.

*Subsection 2.* The penalty may be increased to imprisonment for a term not exceeding 2 years if the contravention has been committed deliberately or grossly negligently and if the contravention:

- 1) has resulted in damage to young persons below the age of 18, or risk of such damage, or
- 2) has given or has been intended to give financial benefits to the transgressor or others, including savings.

*Subsection 3.* If the financial benefit achieved through the contravention is not confiscated, special consideration shall be given to the size of the achieved or intended financial benefit when determining the size of the fine, including supplementary fine, cf. subsection 2(ii).

*Subsection 4.* Companies etc. (legal personalities) may be liable to punishment according to the provisions of part 5 of the Penal Code (*straffeloven*).

*Entry into force*

**Section 30.** This order shall enter into force on 1 April 2014.

*Subsection 2.* At the same time, order no. 823 of 5 November 1999 on diving equipment shall be repealed.

*Subsection 3.* This order shall not apply to Greenland.

*Subsection 3.* Certificates issued in pursuance of the order mentioned in subsection 2 shall remain valid until the date of expiry given on the certificate, just as equipment, etc. approved for professional diving in pursuance of the order mentioned in subsection 2 shall remain approved until the date of expiry.

*Danish Maritime Authority, 12 December 2013*

Anne Skov Strüver / Palle Kristensen