
**Ships and marine technology — Drain
facilities from oil and water tanks**

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ISO 5483:2023

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 3, *Piping and machinery*.

This third edition cancels and replaces the second edition (ISO 5483:2003), which has been technically revised.

The main changes are as follows:

- the normative references have been updated;
- [Clause 3](#) has been added;
- in [Clause 4](#), Type C and Type D for jack-up platform have been added;
- in [Clause 5](#), the general arrangement and parts list for Type C and Type D have been added;
- in [Clause 6](#), mounting and main dimensions for Type C and Type D assembly have been added;
- [Figure 6](#) has been moved to [6.5](#);
- in [Clause 7](#), designations for welding rings in Type C and Type D have been added;
- in [Clause 8](#), details for Type C and Type D drain screws in water tanks and oil tanks have been added;
- in [Clause 9](#), marking has been updated and added for Type D;
- in [Clause 10](#), opening methods for drain facilities have been added;
- [Annex A](#) has been added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Ships and marine technology — Drain facilities from oil and water tanks

1 Scope

This document specifies the dimensions and materials for welding rings and drain screws of drain facilities situated at the bottom of oil and water tanks.

Oil and water tanks occur as:

- built-in tanks, as an integrated part of the hull structure; and
- detachable tanks, located in appropriate rooms and compartments.

This document covers facilities for both instances.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 68-1, *ISO general purpose screw threads — Basic profile—Part 1:Metric screw threads*

ISO 261, *ISO general purpose metric screw threads — General plan*

ISO 965-1, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data*

ISO 965-2, *ISO general purpose metric screw threads — Tolerances — Part 2: Limits of sizes for general purpose external and internal screw threads — Medium quality*

ISO 965-3, *ISO general purpose metric screw threads — Tolerances — Part 3: Limit deviations for screw threads*

ISO 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

ISO 16143-1, *Stainless steels for general purposes — Part 1: Corrosion-resistant flat products*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Designation

For the purposes of this document, four types of drain facilities are covered:

- Type A, which is universally applicable, especially where flush mounting with the outer surface of hull plating at plate thickness is less than 38 mm;

- Type B and Type C, which are usable in other instances where the Type A is not applicable;
- Type D, which is used in jackup platforms where flush mounting with the outer surface of hull plating.

NOTE Type A, B, C and D arrangements are identified by the following two categories of drain screws:

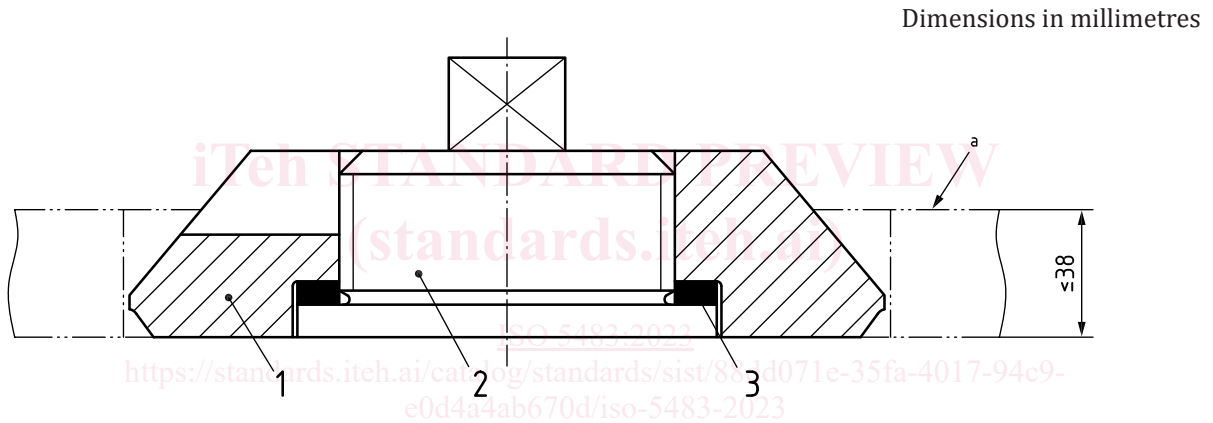
- square wrench connection for water tanks, and
- hexagonal wrench connection for oil tanks.

5 General assembly arrangement

5.1 Assembly

For Type A, refer to [Figure 1](#) and [Table 1](#). For Type B, refer to [Figure 2](#) and [Table 2](#). For Type C, refer to [Figure 3](#) and [Table 3](#).

For Type D, refer to [Figure 4](#) and [Table 4](#).



Key

- 1 welding ring
- 2 drain screw
- 3 gasket
- a Inner side of bottom plate.

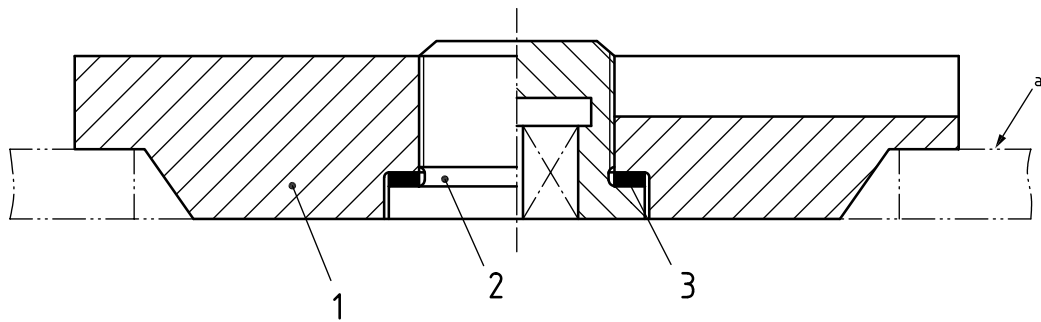
NOTE The extreme left and right sections represent hull plating.

Figure 1 — General arrangement for Type A

Table 1 — Parts list for Type A

Dimensions in millimetres

Part no.	Part name	Size
1	Welding ring	162
		350
2	Drain screw	M42 × 2
		M72 × 3
3	Gasket	—



Key

- 1 welding ring
- 2 drain screw
- 3 gasket
- ^a Inner side of bottom plate.

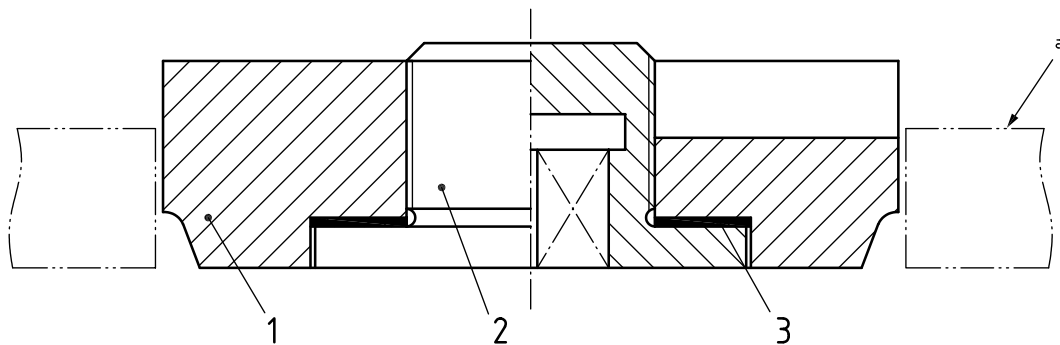
NOTE The extreme left and right sections represent hull plating.

Figure 2 — General arrangement for Type B

Table 2 — Parts list for Type B

Dimensions in millimetres

Part no.	Part name	Size
1	Welding ring	8
		15
		22
2	Drain screw	M42 × 2
		M72 × 3
3	Gasket	—



Key

- 1 welding ring
- 2 drain screw
- 3 gasket
- ^a Inner side of bottom plate.

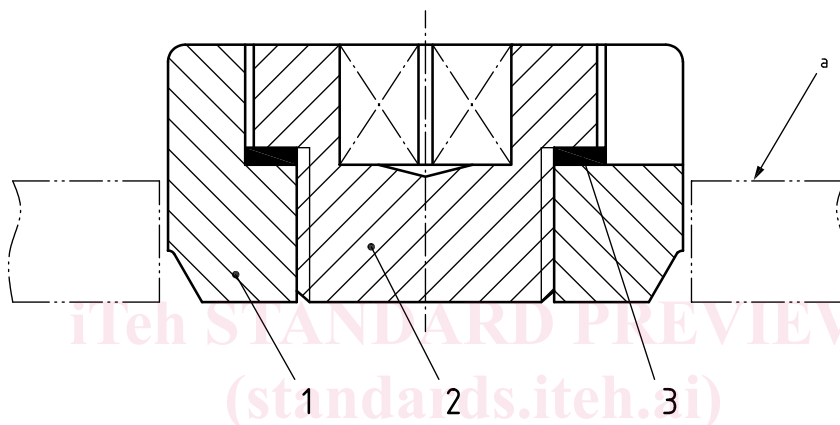
NOTE The extreme left and right sections represent hull plating.

Figure 3 — General arrangement for Type C

Table 3 — Parts list for Type C

Dimensions in millimetres

Part no.	Part name	Size
1	Welding ring	35
		45
		55
2	Drain screw	M42 × 2
		M52 × 2
		M62 × 2
		M72 × 3
3	Gasket	—



Key

- 1 welding ring
- 2 drain screw
- 3 gasket
- a Inner side of bottom plate.

NOTE The extreme left and right sections represent hull plating.

Figure 4 — General arrangement for Type D

Table 4 — Parts list for Type D

Dimensions in millimetres

Part No.	Part name	Size
1	Welding ring	35
		45
		55
2	Drain screw	M42 × 2
		M52 × 2
		M62 × 2
		M72 × 3
3	Gasket	—

5.2 Threads

For all types, the threads shall be accordance with ISO 68-1, ISO 261 and ISO 965-1, ISO 965-2 and ISO 965-3.

NOTE A non-toxic anti-seize compound grease can be used on the thread surfaces.

5.3 Materials

The welding ring, drain screw and gasket materials shall be as given in [Table 5](#). Other materials shall be of equivalent quality and in all respects suitable for the intended purpose.

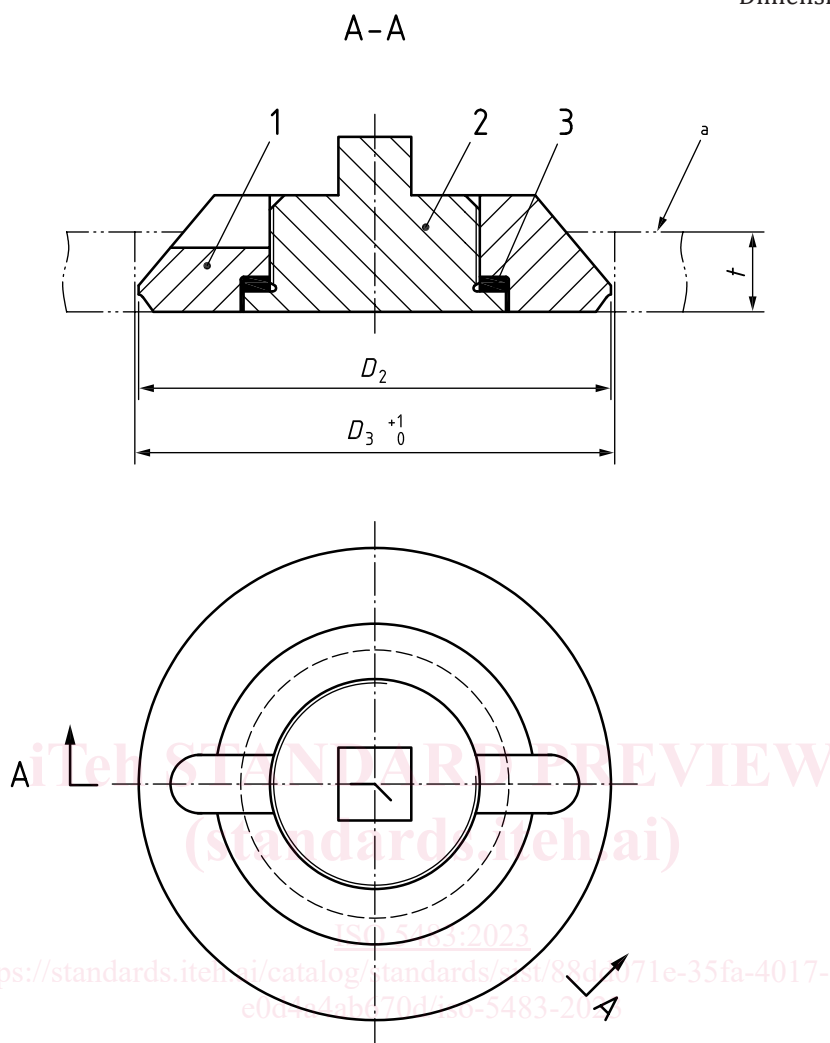
Table 5 — Material list for all types

Component	Material	Designation
Welding ring	Steel shall be of similar quality as surrounding tank bottom steel plating.	Shipbuilding steel
Drain screw	Stainless steel	ISO 16143-1
	Copper-aluminium alloy	—
Gasket	Polytetrafluoroethylene (PTFE)	—
	Chloroprene rubber	Ballast tanks and fresh water tanks
	Lead	Oil tanks
	Red copper	—

6 Mounting

6.1 Type A

For Type A mountings, see [Figure 5](#) and [Table 6](#).



Key

- 1 welding ring
- 2 drain screw
- 3 gasket
- a Inner side of bottom plate.

Figure 5 — Type A mounting

Table 6 — Main dimensions for Type A assembly

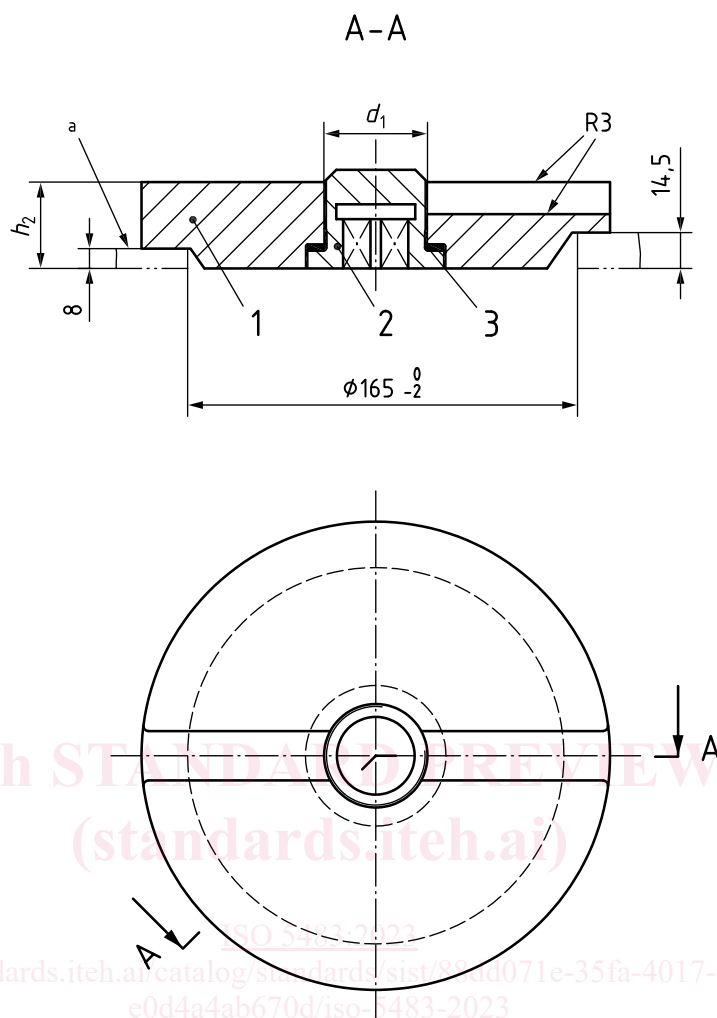
Dimensions in millimetres

Size D_2	Type	Hole size of hull plate D_3	Thickness of hull plate t
162	A-1	165	$t \leq 27,5$
350	A-2	353	$27,5 < t \leq 38$

6.2 Type B

For Type B mountings, see [Figures 6, 7 and 8](#) and [Table 7](#).

Dimensions in millimetres



Key

- 1 welding ring
- 2 drain screw
- 3 gasket
- R3 dimension of the fillet, 3 mm
- ^a Inner side of bottom plate.

Figure 6 — Type B for plate thickness of 8 mm to 14,5 mm