

SLOVENSKI STANDARD SIST EN ISO 10592:2022

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Nadomešča: SIST EN ISO 10592:2017

Mala plovila - Daljinski hidravlični sistemi krmiljenja (ISO 10592:2022)

Small craft - Remote hydraulic steering systems (ISO 10592:2022)

Kleine Wasserfahrzeuge - Hydraulische Steueranlagen (ISO 10592:2022)

Petits navires - Système de direction hydraulique commandé à distance (ISO 10592:2022)

<u>SIST EN ISO 10592:2022</u>

Ta slovenski standard je istoveten z: EN ISO 10592:2022

ICS:

47.020.70 Navigacijska in krmilna oprema47.080 Čolni

Navigation and control equipment Small craft

SIST EN ISO 10592:2022

en,fr,de



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EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN ISO 10592

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Supersedes EN ISO 10592:2017

English Version

Small craft - Remote hydraulic steering systems (ISO 10592:2022)

Petits navires - Système de direction hydraulique commandé à distance (ISO 10592:2022)

Kleine Wasserfahrzeuge - Hydraulische Steueranlagen (ISO 10592:2022)

This European Standard was approved by CEN on 3 May 2021.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 10592:2022) has been prepared by Technical Committee ISO/TC 188 "Small craft" in collaboration with Technical Committee CEN/TC 464 "Small Craft" the secretariat of which is held by SIS.

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 January 2023, and conflicting national standards shall be withdrawn at the latest by January 2023.

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.

This document supersedes EN ISO 10592:2017.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For the relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 10592:2022 has been approved by CEN as EN ISO 10592:2022 without any modification.

Annex ZA

(informative)

Relationship between this European Standard and the essential requirements of Directive 2013/53/EU aimed to be covered

This European Standard has been prepared under a Commission standardization request M/542/C(2015) 8736 final to provide one voluntary means of conforming to essential requirements of Directive 2013/53/EU.

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Essential Requirements of Directive 2013/53/EU	Clause(s)/sub-clause(s) of this EN	Remarks/Notes	
Annex I, Clause 5.4.1, Steering system, general.	4, 5, 6, 7, 8, 9 and 11 PR (standards.iteh) SIST EN ISO 10592-2022	This standard specifies the requirements for remote hydraulic steering systems from the helm up to and including the output device connection point. This standard does not address	
https://standards	iteh.ai/catalog/standards/sist/8617	propulsion control systems	
	14869dab6d16/sist-en-iso-10592	This standard does not address an emergency mean of steering.	
Annex I, Clause 2.5, Owner's Manual	10		
Annex II, Components of watercraft (3) Steering wheels, steering mechanisms and cable	4, 5, 7, 9.3 and 11	In respect of hydraulic steering mechanisms supplied as components only.	
assemblies.		Steering wheels and cable assemblies supplied as components are excluded from this standard.	

Table ZA.1 — Correspondence between this European Standard and Annex I of Directive 2013/53/EU

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

INTERNATIONAL STANDARD

ISO 10592

Second edition 2022-06

Small craft — Remote hydraulic steering systems

Petits navires — Système de direction hydraulique commandé à distance

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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 documents 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 188, *Small craft*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 464, *Small craft*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 10592:1994), which has been technically revised.

The main changes are as follows:

- in <u>Clause 3</u>, definitions have been updated;
- throughout the text, requirements have been updated to meet the state of the art;
- the steering wheel requirements and tests have been removed;
- former Clause 12, Designation, has been removed.

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 <u>www.iso.org/members.html</u>.

Small craft — Remote hydraulic steering systems

1 Scope

This document specifies the requirements for the design, installation and testing of engine-mounted and craft-mounted remote hydraulic steering systems used with single and multiple engine installations of outboard engines over 15 kW per engine, as well as with single and multiple engines of inboard, sterndrive, and water jet drives, all used on small craft.

This document does not address emergency means of steering the craft.

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 8848:2022, Small craft — Remote mechanical steering systems

ISO 12217-1:2015, Small craft — Stability and buoyancy assessment and categorization — Part 1: Nonsailing boats of hull length greater than or equal to 6 m

ISO 12217-2:2015, Small craft — Stability and buoyancy assessment and categorization — Part 2: Sailing boats of hull length greater than or equal to 6 m

ISO 12217-3:2015, Small craft — Stability and buoyancy assessment and categorization — Part 3: Boats of hull length less than 6 m ps://standards.iteh

3 **Terms and definitions**

For the purposes of this document, the following terms and definitions apply.

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 <u>https://www.electropedia.org/</u>

3.1

burst pressure

pressure at which the system exceeds the ultimate strength of the weakest hydraulic component, resulting in a drop of hydraulic pressure

3.2

component interface

mechanical interface (3.4) or hydraulic interface (3.3) at a point in the steering system (3.14) where a connection is made between components that are not supplied as part of the same assembly kit

Note 1 to entry: If hydraulic fluid lines are not shipped as part of the steering kit, there is an interface between the helm and the fluid lines, and between the *output device* (3.12) and the fluid lines.

3.3

hydraulic interface

interface between two or more hydraulic components where force and motion are transmitted by hydraulic fluid

3.4

mechanical interface

interface where force and motion are transmitted mechanically

3.5

component proof pressure

pressure rating for helms, lines, fittings and *output devices* (3.12) at which the component performs as intended

3.6

component maximum working pressure

pressure equivalent to one-half of the *component proof pressure* (3.5)

3.7

drag link

link rod

link arm

mechanical device used in a steering system (3.14) by which the force of the output device (3.12) is transmitted to the steering arm (3.22), in either a craft-mounted steering system (3.15) or an enginemounted steering system (3.8)

3.8

engine-mounted steering system

steering system (3.14) in which the reactionary forces of the output device (3.12) are resisted by the propulsion device

3.9

hvdraulic helm

mechanism, exclusive of the steering wheel or control element, through which remote manual effort is converted to hydraulic pressure and flow

3.10

remote hydraulic steering system h.ai/catalog/standards/sist/86172dc9-ebb5-4e02-8670-

steering system (3.14) that utilizes a hydraulic helm (3.9) to convert operator steering inputs into hydraulic pressure and flow to actuate an *output device* (3.12) with no additional energy source

3.11

minimum retained system performance

system performance after test(s) such that at least 90 % of the *steering arm* (3.22) travel normally available on each side of the mid-position can be attained by exertion of no more than 27 Nm of torque at the helm through the steering wheel or control element

Note 1 to entry: This criterion does not define the *steering system* (3.14) performance while a *craft* (3.23) is underway, but is intended to provide quantitative limits for design and testing purposes.

3.12

output device

hydraulic cylinder, rotary actuator or other device that converts hydraulic pressure and flow into force on, and movement of, the steerable device

3.13

rate of steering response

ratio of output movement to input movement

3.14

steering system

assembly that includes all components necessary to transmit remote manual effort to the steerable device