

<b>STN</b>	<b>Nedeštruktívne skúšanie</b> <b>Charakterizácia a overovanie ultrazvukových</b> <b>systémov phased array</b> <b>Časť 1: Prístroje (ISO 18563-1: 2022)</b>	<b>STN</b> <b>EN ISO 18563-1</b>  01 5016
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Non-destructive testing - Characterization and verification of ultrasonic phased array equipment - Part 1: Instruments (ISO 18563-1:2022)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/22

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NORME EUROPÉENNE  
EUROPÄISCHE NORM

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English Version

## Non-destructive testing - Characterization and verification of ultrasonic phased array equipment - Part 1: Instruments (ISO 18563-1:2022)

Essais non destructifs - Caractérisation et vérification  
de l'appareillage de contrôle par ultrasons en  
multiéléments - Partie 1: Appareils (ISO 18563-  
1:2022)

Zerstörungsfreie Prüfung - Charakterisierung und  
Verifizierung der Ultraschall-Prüfausrüstung mit  
phasengesteuerten Arrays - Teil 1: Prüfgeräte (ISO  
18563-1:2022)

This European Standard was approved by CEN on 8 August 2022.

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

**EN ISO 18563-1:2022 (E)**

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## **European foreword**

This document (EN ISO 18563-1:2022) has been prepared by Technical Committee ISO/TC 135 "Non-destructive testing" in collaboration with Technical Committee CEN/TC 138 "Non-destructive testing" the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by March 2023, and conflicting national standards shall be withdrawn at the latest by March 2023.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 18563-1:2015.

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, Türkiye and the United Kingdom.

## **Endorsement notice**

The text of ISO 18563-1:2022 has been approved by CEN as EN ISO 18563-1:2022 without any modification.



# INTERNATIONAL STANDARD

**ISO**  
**18563-1**

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## **Non-destructive testing — Characterization and verification of ultrasonic phased array equipment —**

### **Part 1: Instruments**

*Essais non destructifs — Caractérisation et vérification de  
l'appareillage de contrôle par ultrasons en multiéléments —  
Partie 1: Appareils*



Reference number  
ISO 18563-1:2022(E)

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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](http://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](http://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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 135, *Non-destructive testing*, Subcommittee SC 3, *Ultrasonic testing*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 138, *Non-destructive testing*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 18563-1:2015), which has been technically revised.

The main changes are as follows:

- test methods introduced in ISO 22232-1 have been incorporated;
- the layout has been rearranged to follow the layout of ISO 22232-1;
- the sequence of tests has been modified to follow the sequence of tests in ISO 22232-1.

A list of all parts in the ISO 18563 series can be found on the ISO website.

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](http://www.iso.org/members.html).



# Non-destructive testing — Characterization and verification of ultrasonic phased array equipment —

## Part 1: Instruments

### 1 Scope

This document specifies the functional characteristics of multi-channel ultrasonic phased array instruments used for array probes and provides methods for their measurement and verification.

This document is also applicable to ultrasonic phased array instruments in automated systems; but other tests can be needed to ensure satisfactory performance. When the phased array instrument is a part of an automated system, the acceptance criteria can be modified by agreement between the parties involved.

This document also can partly be applicable to FMC instruments and TFM instruments.

This document gives the extent of the verification and defines acceptance criteria within a frequency range of 0,5 MHz to 10 MHz.

### 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 5577, *Non-destructive testing — Ultrasonic testing — Vocabulary*

ISO 22232-1, *Non-destructive testing — Characterization and verification of ultrasonic test equipment — Part 1: Instruments*

ISO 23243, *Non-destructive testing — Ultrasonic testing with arrays — Vocabulary*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**