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Guidance for installation procedures and tolerances of hydroelectric machines - Part 1: General aspects

## EESTI STANDARDI EESSÕNA

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See Eesti standard EVS-EN IEC 63132-1:2020 sisaldab Euroopa standardi EN IEC 63132-1:2020 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 63132-1:2020 consists of the English text of the European standard EN IEC 63132-1:2020.
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English Version

## Guidance for installation procedures and tolerances of hydroelectric machines - Part 1: General aspects (IEC 63132-1:2020)

Lignes directrices des procédures et tolérances  
d'installation des machines hydroélectriques - Partie 1:  
Aspects généraux  
(IEC 63132-1:2020)

Leitfaden für Installations-Prozeduren und -Toleranzen von  
hydroelektrischen Maschinen - Teil 1: Generelle Aspekte  
(IEC 63132-1:2020)

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Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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

## European foreword

The text of document 4/380/FDIS, future edition 1 of IEC 63132-1, prepared by IEC/TC 4 "Hydraulic turbines" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63132-1:2020.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2021-02-25
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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60034-1:2017	NOTE	Harmonized as EN 60034-1:— <sup>1</sup> (not modified)
IEC 60034-7:1992	NOTE	Harmonized as EN 60034-7:1993 (not modified)
IEC 60193:2019	NOTE	Harmonized as EN IEC 60193:2019 (not modified)
IEC 62097:2019	NOTE	Harmonized as EN IEC 62097:2019 (not modified)
IEC 63132-2	NOTE	Harmonized as EN IEC 63132-2
IEC 63132-3	NOTE	Harmonized as EN IEC 63132-3
IEC 63132-4	NOTE	Harmonized as EN IEC 63132-4

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<sup>1</sup> To be published. Stage at the time of publication: FprEN 60034-1:2017.

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Guidance for installation procedures and tolerances of hydroelectric machines –  
Part 1: General aspects**

**Lignes directrices des procédures et tolérances d'installation des machines  
hydroélectriques –  
Partie 1: Aspects généraux**



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IEC Central Office  
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CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

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# INTERNATIONAL STANDARD

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## GUIDANCE FOR INSTALLATION PROCEDURES AND TOLERANCES OF HYDROELECTRIC MACHINES –

### Part 1: General aspects

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The text of this International Standard is based on the following documents:

FDIS	Report on voting
4/380/FDIS	4/390/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 63132 series, published under the general title *Guidance for installation procedures and tolerances of hydroelectric machines*, can be found on the IEC website.

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# GUIDANCE FOR INSTALLATION PROCEDURES AND TOLERANCES OF HYDROELECTRIC MACHINES –

## Part 1: General aspects

### 1 Scope

The purpose of this part of IEC 63132 is to establish, in a general way, suitable procedures and tolerances for the installation of hydroelectric turbines and generators. This document presents a typical assembly. There are many possible ways to assemble a unit. The size of the machines, design of the machines, layout of the powerhouse and delivery schedule of the components are some of the elements that could result in additional steps, the elimination of some steps and/or assembly sequences.

It is understood that a publication of this type will be binding only if, and to the extent that, both contracting parties have agreed upon it.

Installations for refurbishment projects or for small hydro projects are not in the scope of this document. An agreement between all parties is necessary.

This document excludes matters of purely commercial interest, except those inextricably bound up with the conduct of installation.

The tolerances in this document have been established upon best practices and experience, although it is recognized that other standards specify different tolerances.

Wherever this document specifies that documents, drawings or information is supplied by a manufacturer (or manufacturers), each individual manufacturer will furnish the appropriate information for their own supply only.

### 2 Normative references

There are no normative references in this document.

### 3 Terms and definitions

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

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### 4 Concept

#### 4.1 General

For vertical units, reference axes are defined in relation to upstream, looking at the unit from the generator end (see Figure 1). Upstream corresponds to the Y+ axis, 0° and 12 h 00. The angles increase in the clockwise direction; therefore, the X+ axis corresponds to 90°, the right hand side and 3 h 00.