SVENSK STANDARD SS-EN 61362

Fastställd	Utgåva	Sida	Ansvarig kommitté
2012-11-14	2	1 (1+66)	SEK TK 4

Vattenturbiner –
Vägledning vid beskrivning och specificering av reglersystem

Guide to specification of hydraulic turbine governing systems

Som svensk standard gäller europastandarden EN 61362:2012. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61362:2012.

Nationellt förord

Europastandarden EN 61362:2012

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61362, Second edition, 2012 - Guide to specification of hydraulic turbine governing systems**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 61362, utgåva 1, 1998, gäller ej fr o m 2015-05-25.

ICS 27.140

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61362

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Supersedes EN 61362:1998

English version

Guide to specification of hydraulic turbine governing systems
(IEC 61362:2012)

Guide pour la spécification des systèmes de régulation des turbines hydrauliques
(CEI 61362:2012)

Leitfaden zur Spezifikation der Regeleinrichtung von Wasserturbinen
(IEC 61362:2012)

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 61362:2012 E

SEK Svensk Elstandard

Foreword

The text of document 4/270/FDIS, future edition 2 of IEC 61362, prepared by IEC/TC 4 "Hydraulic turbines" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61362:2012.

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)	2013-02-28
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2015-05-25

This document supersedes EN 61362:1998.

EN 61362:2012 includes the following significant technical changes with respect to EN 61362:1998:

This technical revision takes into account the experience with the guide during the last decade as well as the progress in the state of the art of the underlying technologies.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61362:2012 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60050-351	2006	International Electrotechnical Vocabulary (IEV) - Part 351: Control technology	-	-
IEC 60068-2-6	2007	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	2008
IEC 60068-2-27	2008	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	2009
IEC 60308	2005	Hydraulic turbines - Testing of control systems	EN 60308	2005
IEC 61000-4-1	2006	Electromagnetic compatibility (EMC) - Part 4-1: Testing and measurement techniques - Overview of IEC 61000-4 series	EN 61000-4-1	2007
CISPR 11 (mod)	2009	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011	2009
ISO 3448	1992	Industrial liquid lubricants - ISO viscosity classification	-	-

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INTRODUCTION

While a standard for the testing of hydraulic turbine governing systems had been existing for a very long time (IEC 60308 published in 1970)[1], a guide for the specification of hydraulic turbine governing systems was missing until 1998. The need for such a guide became more and more urgent with the fast development and the new possibilities especially of the digital components of the governor.

The current second edition of the guide takes into account the experience with the guide during the last decade as well as the progress in the state of the art of the underlying technologies.

While the first edition was written more or less as a supplement to the already existing guide for testing, the objective of the second edition is to be the leading guide with respect to turbine governing systems.

1 IEC 60308:1970, *International code for testing of speed governing systems for hydraulic turbines*. This publication was withdrawn and replaced by IEC 60308:2005.

GUIDE TO SPECIFICATION OF HYDRAULIC TURBINE GOVERNING SYSTEMS

1 Scope

This International Standard includes relevant technical data necessary to describe hydraulic turbine governing systems and to define their performance. It is aimed at unifying and thus facilitating the selection of relevant parameters in bidding specifications and technical bids. It will also serve as a basis for setting up technical guarantees.

The scope of this standard is restricted to the turbine governing level. Additionally some remarks about the control loops of the plant level and about primary and secondary frequency control (see also Annex B) are made for better understanding without making a claim to be complete.

Important topics covered by the guide are:

– speed, power, water level, opening and flow (discharge) control for reaction and impulse-type turbines including double regulated machines;
– means of providing actuating energy;
– safety devices for emergency shutdown, etc.

To facilitate the setting up of specifications, this guide also includes data sheets, which are to be filled out by the customer and the supplier in the various stages of the project and the contract.

Acceptance tests, specific test procedures and guarantees are outside the scope of the guide; those topics are covered by IEC 60308.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-351:2006, *International Electrotechnical Vocabulary – Part 351: Control technology*

IEC 60068-2-6:2007, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-27:2008, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

IEC 60308:2005, *Hydraulic turbines – Testing of control systems*

IEC 61000-4-1:2006, *Electromagnetic compatibility (EMC) – Part 4-1: Testing and measurement techniques – Overview of IEC 61000-4 series*

CISPR 11:2009, *Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement*

ISO 3448:1992, *Industrial liquid lubricants – ISO viscosity classification*