SVENSK STANDARD SS-EN 62256

Fastställd	Utgåva	Sida	Ansvarig kommitté
2017-12-20	2	1 (1+159)	SEK TK 4

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Vattenturbiner, magasineringspumpar och pumpturbiner – Upprustning och prestandaförbättring

Hydraulic turbines, storage pumps and pump-turbines – Rehabilitation and performance improvement

Som svensk standard gäller europastandarden EN 62256:2017. Den svenska standarden innehåller den officiella engelska språkversionen av EN 62256:2017.

Nationellt förord

Europastandarden EN 62256:2017

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 62256, Second edition, 2017 - Hydraulic turbines, storage pumps and pump-turbines - Rehabilitation and performance improvement**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 62256, utgåva 1, 2008, gäller ej fr o m 2020-07-04.

ICS 27.140.00

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Telefon: 08 - 444 14 00.
E-post: sek@elstandard.se. Internet: www.elstandard.se

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Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

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Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

SEK Svensk Elstandard
Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62256

September 2017

ICS 27.140

Supersedes EN 62256:2008

English Version

Hydraulic turbines, storage pumps and pump-turbines - Rehabilitation and performance improvement (IEC 62256:2017)

Turbines hydrauliques, pompes d'accumulation et pompes turbines - Réhabilitation et amélioration des performances (IEC 62256:2017)

Wasserturbinen, Speicherpumpen und Pumpturbinen - Modernisierung und Verbesserung der Leistungseigenschaften (IEC 62256:2017)

This European Standard was approved by CENELEC on 2017-07-04. CENELEC 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.

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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 CENELEC 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 Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Ref. No. EN 62256:2017 E

SEK Svensk Elstandard

European foreword

The text of document 4/323/FDIS, future edition 2 of IEC 62256, prepared by IEC TC 4 "Hydraulic turbines" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62256:2017.

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) 2018-04-04
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-07-04

This document supersedes EN 62256:2008.

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

Endorsement notice

The text of the International Standard IEC 62256:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60041	NOTE	Harmonized as EN 60041.
IEC 60193	NOTE	Harmonized as EN 60193.
IEC 60609 (Series)	NOTE	Harmonized as EN 60609 (Series).
IEC 60994	NOTE	Harmonized as EN 60994.
IEC 62097	NOTE	Harmonized as EN 62097.
IEC 62364	NOTE	Harmonized as EN 62364.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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HYDRAULIC TURBINES, STORAGE PUMPS AND PUMP-TURBINES – REHABILITATION AND PERFORMANCE IMPROVEMENT

FOREWORD

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International Standard IEC 62256 has been prepared by IEC technical committee 4: Hydraulic turbines.

This second edition cancels and replaces the first edition published in 2008. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

– Tables 2 to 23 modified, completed and moved to Annex A;
– 7.3.2:
  - subclauses moved with text changes;
  - new subclauses on temperature, noise, galvanic corrosion, galling and replacement of components without assessment;
– 7.3.3: complete new subclause on residual life;
– Tables 29 to 32 moved to Annex C;

– new Annex B with assessment examples.

The text of this standard is based on the following documents:

FDIS	Report on voting
4/323/FDIS	4/326/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.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

Hydro plant owners make significant investments annually in rehabilitating plant equipment (turbines, generators, transformers, penstocks, gates etc.) and structures in order to improve the level of service to their customers and to optimize their revenue. In the absence of guidelines, owners may be spending needlessly, or may be taking unnecessary risks and thereby achieving results that are less than optimal. This document is intended to be a tool in the optimisation and decision process.

Edition 1 of this International Standard was based on the IEA document *Guidelines on Methodology for Hydroelectric Francis Turbine Upgrading by Runner Replacement*.

HYDRAULIC TURBINES, STORAGE PUMPS AND PUMP-TURBINES – REHABILITATION AND PERFORMANCE IMPROVEMENT

1 Scope

This document covers turbines, storage pumps and pump-turbines of all sizes and of the following types:

- Francis;
- Kaplan;
- propeller;
- Pelton (turbines only);
- bulb turbines.

This document also identifies without detailed discussion, other powerhouse equipment that could affect or be affected by a turbine, storage pump, or pump-turbine rehabilitation.

The object of this document is to assist in identifying, evaluating and executing rehabilitation and performance improvement projects for hydraulic turbines, storage pumps and pump-turbines. This document can be used by owners, consultants, and suppliers to define:

- needs and economics for rehabilitation and performance improvement;
- scope of work;
- specifications;
- evaluation of results.

This document is intended to be:

- an aid in the decision process;
- an extensive source of information on rehabilitation;
- an identification of the key milestones in the rehabilitation process;
- an identification of the points to be addressed in the decision processes.

This document is not intended to be a detailed engineering manual nor a maintenance document.

2 Normative references

There are no normative references in this document.