SVENSK STANDARD SS-EN 60534-8-2

Fastställd	Utgåva	Sida	Ansvarig kommitté
2012-03-14	2	1 (1+22)	SEK TK 65

Industriell processtyrning – Del 8-2: Reglerventiler – Buller – Laboratoriemätningar av buller orsakat av hydrodynamiskt flöde genom reglerventiler

Industrial process control valves – Part 8-2: Noise considerations – Laboratory measurement of noise generated by hydrodynamic flow through control valves

Som svensk standard gäller europastandarden EN 60534-8-2:2011. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60534-8-2:2011.

Nationellt förord

Europastandarden EN 60534-8-2:2011

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC

– **IEC 60534-8-2, Second edition, 2011 - Industrial process control valves - Part 8-2: Noise considerations - Laboratory measurement of noise generated by hydrodynamic flow through control valves**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60534-8-2 utgåva 1, 1993 gäller ej fr o m 2014-11-16.

ICS 17.140.20; 23.060.40; 25.040.40

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Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

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Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

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

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60534-8-2

December 2011

ICS 17.140.20; 23.060.40; 25.040.40

Supersedes EN 60534-8-2:1993

English version

Industrial-process control valves - Part 8-2: Noise considerations - Laboratory measurement of noise generated by hydrodynamic flow through control valves

(IEC 60534-8-2:2011)

Vannes de régulation des processus industriels - Partie 8-2: Considérations sur le bruit - Mesure en laboratoire du bruit créé par un écoulement hydrodynamique dans une vanne de régulation

(CEI 60534-8-2:2011)

Stellventile für die Prozeßregelung - Teil 8-2: Geräuschemission - Laboratoriumsmessungen von Geräuschen bei flüssigkeitsdurchströmten Stellventilen

(IEC 60534-8-2:2011)

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 60534-8-2:2011 E

SEK Svensk Elstandard

Foreword

The text of document 65B/801/FDIS, future edition 2 of IEC 60534-8-2, prepared by SC 65B, "Devices & process analysis", of IEC/TC 65, "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60534-8-2:2011.

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)	2012-08-16
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2014-11-16

This document supersedes EN 60534-8-2:1993.

EN 60534-8-2:2011 constitutes a technical revision that includes internal noise measurement.

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 60534-8-2:2011 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 referenced documents are indispensable for the application 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.

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 60534-1	2005	Industrial-process control valves - Part 1: Control valve terminology and general considerations	EN 60534-1	2005
IEC 60534-2-3	1997	Industrial-process control valves - Part 2-3: Flow capacity - Test procedures	EN 60534-2-3	1998
IEC 60534-8-4	-	Industrial-process control valves - Part 8-4: Noise considerations - Prediction of noise generated by hydrodynamic flow	EN 60534-8-4	-
IEC 61672-1	2002	Electroacoustics - Sound level meters - Part 1: Specifications	EN 61672-1	2003
ISO 3744	1994	Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering method in an essentially free field over a reflecting plane	EN ISO 3744	1995[1)]
ISO 3745	2003	Acoustics - Determination of sound power levels of noise sources using sound pressure - Precision methods for anechoic and hemi-anechoic rooms	EN ISO 3745	2003

[1)] EN ISO 3744:1995 is superseded by EN ISO 3744:2010.

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INDUSTRIAL-PROCESS CONTROL VALVES –

Part 8-2: Noise considerations – Laboratory measurement of noise generated by hydrodynamic flow through control valves

1 Scope

This part of IEC 60534-8 includes the method for measuring the sound pressure level due to liquid flow through a control valve and the method for determining the characteristic increase of noise due to the onset of cavitation. It also defines the equipment, methods and procedures for the laboratory measurement of the airborne sound needed to determine these characteristics.

Two methods are provided for testing the noise generating characteristics of control valves.

The first is a uniform method of measuring the radiated noise from the valve and the associated test piping including fixed flow restrictions through which the test fluid (water) is passing (see Note 1). The noise criteria are expressed by determining the sound pressure level of the valve under consideration.

The second is a procedure for measuring the sound pressure levels within pipe systems upstream and downstream of the valve under fixed operating conditions. Since inaccuracies due to the pipe transmission are eliminated, this method shall be preferred for evaluation of the acoustical characteristic of valves.

The noise characteristics to be determined are useful:

a) to determine acoustical characteristics of valves and valve assemblies and the characteristic pressure ratio factor x_{FZ} of a control valve;
b) to predict valve noise for given process conditions;
c) to compare the performance of different valves and various measuring results;
d) to plan measures for increasing service life and noise abatement;
e) to determine possible adverse effects on ultra-sonic flow meter measurements;
f) to enable proper sizing of sound absorbers.

NOTE 1 Test fluids other than water or valves without downstream piping are not within the scope of this section of IEC 60534-8.

NOTE 2 The factor x_{FZ} is used in a noise prediction method which is covered in IEC 60534-8-4.

2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 60534-1:2005, *Industrial-process control valves – Part 1: Control valve terminology and general considerations*

IEC 60534-2-3:1997, *Industrial-process control valves – Part 2-3: Flow capacity – Test procedures*

IEC 60534-8-4, *Industrial-process control valves – Part 8-4: Noise considerations – Prediction of noise generated by hydrodynamic flow*

IEC 61672-1:2002, *Sound level meters – Part 1: Specifications*

ISO 3744:1994, *Acoustics – Determination of sound power levels of noise sources using sound pressure – Engineering methods in an essentially free field conditions over a reflecting plane*

ISO 3745:2003, *Acoustics – Determination of sound power levels of noise sources using sound pressure – Precision methods for anechoic and hemi-anechoic rooms*