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**Industrial-process control valves - Part 8: Noise considerations - Section 1:  
Laboratory measurement of noise generated by aerodynamic flow through control  
valves (IEC 60534 -8-1:1986)**

Industrial-process control valves -- Part 8: Noise considerations -- Section 1: Laboratory measurement of noise generated by aerodynamic flow through control valves

Stellventile für die Prozeßregelung -- Teil 8: Geräuschbetrachtungen -- Hauptabschnitt 1: Laboratoriummessungen von Geräuschen bei gasdurchströmten Stellventilen

Vannes de régulation des processus industriels -- Partie 8: Considérations sur le bruit -- Section 1: Mesure en laboratoire du bruit créé par un débit aérodynamique à travers une vanne de régulation

**Ta slovenski standard je istoveten z: EN 60534-8-1:2000**

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**ICS:**

17.140.20	Emisija hrupa naprav in opreme	Noise emitted by machines and equipment
23.060.40	V æ } ã^* ~  æ   ã	Pressure regulators
25.040.40	Merjenje in krmiljenje industrijskih postopkov	Industrial process measurement and control

**SIST EN 60534-8-1:2001****en**

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EUROPEAN STANDARD

EN 60534-8-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2000

ICS 17.140.20; 23.060.40; 25.040.40

English version

**Industrial-process control valves**  
**Part 8: Noise considerations**  
**Section 1: Laboratory measurement of noise generated by**  
**aerodynamic flow through control valves**  
(IEC 60534-8-1:1986)

Vannes de régulation des processus  
industriels  
Partie 8: Considérations sur le bruit  
Section 1: Mesure en laboratoire du bruit  
créé par un débit aérodynamique à  
travers une vanne de régulation  
(CEI 60534-8-1:1986)

Stellventile für die Prozeßregelung  
Teil 8: Geräuschbetrachtungen  
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Laboratoriummessungen von Geräuschen  
bei gasdurchströmten Stellventilen  
(IEC 60534-8-1:1986)

<https://standards.iteh.ai/catalog/standards/sist/02235a08-a084-4e1c-8dbb-8b7379fc241c/sist-en-60534-8-1-2001>

This European Standard was approved by CENELEC on 2000-08-01. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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 Central Secretariat has the same status as the official versions.

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**CENELEC**

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

## Foreword

The text of the International Standard IEC 60534-8-1:1986, prepared by SC 65B, Devices, of IEC TC 65, Industrial-process measurement and control, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 60534-8-1 on 2000-08-01 without any modification.

The following dates were fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2001-08-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2003-08-01

Annexes designated "normative" are part of the body of the standard.  
In this standard, annex ZA is normative.  
Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 60534-8-1:1986 was approved by CENELEC as a European Standard without any modification.

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**Annex ZA (normative)****Normative references to international publications  
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60534-2-2	1980	Industrial-process control valves Part 2: Flow capacity -- Section 2: Sizing equations for compressible fluid flow under installed conditions	EN 60534-2-2 <sup>1)</sup>	1993
IEC 60534-2-3	1983	Part 2: Flow capacity -- Section 3: Test procedures	EN 60534-2-3 <sup>2)</sup>	1993
IEC 60651	1979	Sound level meters	EN 60651	1994
ISO 7-1	1982	Pipe threads where pressure-tight joints are made on the threads Part 1: Designation, dimensions and tolerances	-	-
ISO 65	1981	Carbon steel tubes suitable for screwing in accordance with ISO 7-1	-	-
ISO 3744	1981	Acoustics -- Determination of sound power levels of noise sources - Engineering methods for free-field conditions over a reflecting plane	-	-
ISO 3745	1977	Acoustics -- Determination of sound power levels of noise sources - Precision methods for anechoic and semi-anechoic rooms	-	-
ISO 4200	1985	Plain end steel tubes, welded and seamless - General tables of dimensions and masses per unit length	-	-

1) EN 60534-2-2 is superseded by EN 60534-2-1:1998, which is based on IEC 60534-2-1:1998.

2) EN 60534-2-3 is superseded by EN 60534-2-3:1998, which is based on IEC 60534-2-3:1997.

COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE  
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**Vannes de régulation des processus industriels**

**Huitième partie: Considérations sur le bruit**

**Section un — Mesure en laboratoire du bruit créé par un débit  
aérodynamique à travers une vanne de régulation**

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**Industrial-process control valves**

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**Part 8: Noise considerations**

**Section One — Laboratory measurement of noise generated  
by aerodynamic flow through control valves**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## INDUSTRIAL-PROCESS CONTROL VALVES

## Part 8: Noise considerations

Section One — Laboratory measurement of noise generated  
by aerodynamic flow through control valves

## FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

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This standard has been prepared by Sub-Committee 65B: Elements of Systems, of IEC Technical Committee No. 65: Industrial-process Measurement and Control.

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

Six Months' Rule	Report on Voting
65B(CO)42	65B(CO)47

Further information can be found in the Report on Voting indicated in the table above.



## INDUSTRIAL-PROCESS CONTROL VALVES

### Part 8: Noise considerations

#### Section One — Laboratory measurement of noise generated by aerodynamic flow through control valves

##### 1. Scope

This standard defines equipment, methods, and procedures for obtaining laboratory measurements of airborne sound pressure levels radiated by control valves and/or associated piping configurations, including fixed restrictions, through which compressible fluids are passing.

*Note.* — Control valves discharging directly to the atmosphere are excluded from this standard.

##### 2. Object

To provide a method of testing the noise generating characteristics of control valves. A uniform method of measuring the radiated noise from the valve and associated test piping allows a comparison of various measuring results which is beneficial for both user and manufacturer. The noise criteria are expressed by determining the sound pressure level (SPL) of the valve under consideration. The determination and use of the sound power level are not practical and therefore are beyond the scope of this standard.

The noise characteristics to be determined are useful for the following reasons:

- 1) to compare the performance of different valves,
- 2) to plan measures for noise abatement.

##### 3. Standards to be considered

###### *IEC publications:*

Publication 534-2-2: Industrial-process Control Valves, Part 2: Flow Capacity. Section (1980) Two — Sizing Equations for Compressible Fluid Flow under Installed Conditions.

Publication 534-2-3: Section Three — Test Procedures. (1983)

Publication 651: Sound Level Meters. (1979)

###### *ISO publications:*

ISO Standard 7/1: Pipe Threads where Pressure-tight Joints are Made on the Threads (1982) — Part 1: Designation, Dimensions and Tolerances.

ISO Standard 65: Carbon Steel Tubes Suitable for Screwing in Accordance with (1981) ISO 7/1.

ISO Standard 3744: Acoustics — Determination of Sound Power Levels of Noise (1981) Sources — Engineering Methods for Free-field Conditions over a Reflecting Plane.

ISO Standard 3745: Acoustics — Determination of Sound Power Levels of Noise (1977) Sources — Precision Methods for Anechoic and Semi-anechoic Rooms.

ISO Standard 4200: Plain End Steel Tubes, Welded and Seamless — General Tables of (1985) Dimensions and Masses per Unit Length.