

Industrial-process control valves —

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

The European Standard EN 60534-8-1:2005 has the status of a
British Standard

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National foreword

This British Standard is the official English language version of EN 60534-8-1:2005. It is identical with IEC 60534-8-1:2005. It supersedes BS EN 60534-8-1:2001 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee GEL/65, Measurement and control, to Subcommittee GEL/65/2, Elements of systems, which has the responsibility to:

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Summary of pages

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**Industrial-process control valves
Part 8-1: Noise considerations -
Laboratory measurement of noise
generated by aerodynamic flow
through control valves
(IEC 60534-8-1:2005)**

Vannes de régulation des processus industriels
Partie 8-1: Considérations sur le bruit -
Mesure en laboratoire du bruit créé
par un débit aérodynamique
à travers une vanne de régulation
(CEI 60534-8-1:2005)

Stellventile für die Prozessregelung
Teil 8-1: Geräuschbetrachtungen -
Laboratoriumsmessungen von
Geräuschen bei gasdurchströmten
Stellventilen
(IEC 60534-8-1:2005)

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CENELEC

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

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Foreword

The text of document 65B/558/FDIS, future edition 2 of IEC 60534-8-1, prepared by SC 65B, Devices, of IEC TC 65, Industrial-process measurement and control, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60534-8-1 on 2005-09-01.

This European Standard supersedes EN 60534-8-1:2000.

This standard has been revised to obtain consistency in describing the methods for measuring internal and external sound pressure measurements and to update the description of the instrumentation from analog to digital.

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) | 2006-07-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2008-09-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60534-8-1:2005 was approved by CENELEC as a European Standard without any modification.

CONTENTS

1	Scope	4
2	Normative references	4
3	Terms and definitions	5
4	Symbols	5
5	Method A (external sound pressure measurement)	6
5.1	Test system	6
5.1.1	Pressure regulating devices	6
5.1.2	Test specimen	6
5.1.3	Test section piping	6
5.1.4	Pressure taps	7
5.1.5	Acoustic environment	7
5.1.6	Instrumentation	7
5.2	Test procedure	7
5.2.1	Test fluids	7
5.2.2	Sound level sensor position	7
5.2.3	Blow-down test limitations	7
5.2.4	Test data accuracy	8
5.2.5	Test data	8
5.2.6	Accuracy	9
5.3	Data evaluation	9
6	Method B (internal sound pressure measurement)	12
6.1	Test system	12
6.1.1	Pressure regulating devices	12
6.1.2	Test specimen	13
6.1.3	Test section piping	13
6.1.4	Pressure taps	13
6.1.5	Number of measuring points	13
6.1.6	Instrumentation for noise measurement	13
6.2	Testing procedures	14
6.2.1	Test fluid	14
6.2.2	Fluid velocity	14
6.2.3	Background noise	14
6.2.4	Sound level sensor position	14
6.2.5	Blow-down test limitations	15
6.2.6	Test data accuracy	15
6.2.7	Test data	15
6.2.8	Accuracy	16
6.3	Data evaluation	16
	Annex ZA (normative) – Normative references to international publications with their corresponding European publications	17
	Figure 1 – Control valve noise test – System components	9
	Figure 2 – Test arrangements	11
	Figure 3 – Arrangement of a test stand (principle)	12
	Figure 4 – Mounting position of the sound level meter in the pipe for Δh 0,5 mm	14

INDUSTRIAL-PROCESS CONTROL VALVES –

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

1 Scope

This part of IEC 60534-8 defines equipment, methods, and procedures for obtaining laboratory measurements of sound pressure levels radiated by control valves and/or associated piping configurations, including fixed restrictions, through which compressible fluids are passing. Control valves discharging to atmosphere are excluded from this standard.

Method A is a uniform method of measuring the radiated noise from the valve and associated test piping and 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 of the valve under consideration.

Method B 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 is preferred for evaluation of the acoustical characteristic of valves.

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

- a) to compare the performance of different valves;
- b) to plan measures for noise abatement;
- c) to determine acoustical characteristics of valves and valve assemblies;
- d) to enable proper sizing of sound absorbers;
- e) to determine possible adverse effects on ultra-sonic flow meter measurements.

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

IEC 60534 (all parts), *Industrial-process control valves*

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

IEC 60534-8-3, *Industrial-process control valves – Part 8-3: Noise considerations – Control valve aerodynamic noise prediction method*