

Industrial-process control valves —

Part 2: Flow capacity —

Section 2: Sizing equations for compressible fluid flow under installed conditions

The European Standard EN 60534-2-2:1993 has the status of a
British Standard

UDC 621.646.2-553.4:681.523:681.533.38

Cooperating organizations

The Industrial-process Measurement and Control Standards Committee, under whose direction this British Standard was prepared, consists of representatives from the following:

- British Gas Corporation*
- British Industrial Measuring and Control Apparatus Manufacturers' Association*
- British Steel Corporation
- Control and Automation Manufacturers' Association (BEAMA)
- Department of Industry
- Department of Industry (Computers Systems and Electronics)
- Department of Industry (National Engineering Laboratory)
- Department of the Environment (Water Engineering Division including Water Data Unit)
- Electrical, Electronic, Telecommunications and Plumbing Union
- Electricity Supply Industry in England and Wales*
- Energy Industries Council*
- Engineering Equipment Users' Association*
- Institute of Measurement and Control
- Institution of Gas Engineers
- Oil Companies Materials Association*
- Post Office Engineering Union
- Scientific Instrument Manufacturers' Association*
- Sira Institute

The organizations marked with an asterisk in the above list, together with the following, were directly represented on the Technical Committee entrusted with the preparation of this British Standard:

- British Pressure Gauge Manufacturers' Association
- National Coal Board
- National Water Council
- British Chemical Engineering Contractors' Association
- British Valve Manufacturers' Association
- Chemical Industries' Association

This British Standard, having been prepared under the direction of the Industrial-process Measurement and Control Standards Committee, was published under the authority of the Board of BSI and comes into effect on 30 November 1981

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The following BSI references relate to the work on this standard:
Committee reference PCL/1
Draft for comment 78/26649 DC

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Amendments issued since publication

Amd. No.	Date of issue	Comments
7817	July 1993	Indicated by a sideline in the margin

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National foreword

This British Standard has been prepared under the direction of the Industrial-process Measurement and Control Standards Committee. It is identical with IEC Publication 534-2, “Industrial-process control valves” Part 2 “Flow capacity” Section 2 “Sizing equations for compressible fluid flow under installed conditions” published in 1980 by the International Electrotechnical Commission (IEC). This standard supersedes BS 4740-2 which is withdrawn.

In 1993 the European Committee for Electrotechnical Standardization (CENELEC) accepted IEC 534-2-2:1980 as European Standard EN 60534-2-2:1993. As a consequence of implementing the European Standard this British Standard is renumbered as BS EN 60534-2-2 and any reference to BS 5793-2.2 should be read as a reference to BS EN 60534-2-2.

Terminology and conventions. The text of the international standard has been approved as suitable for publication, as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is especially drawn to the following.

Wherever page numbers are quoted, they are IEC page numbers.

Cross-references

International standard	Corresponding British Standard
IEC 534-2	BS 5793 Specification for industrial-process control valves
Section 1:1978	Part 2: Flow capacity
	Section 2.1:1979 Sizing equations for incompressible fluid flow under installed conditions
	(Identical)

The Technical Committee has reviewed the provisions of IEC 534-1 to which reference is made in clauses 2 and 3, and has decided that it is acceptable for use in conjunction with this standard.

Reference is made in 8.1 to the proposed Section 3 of IEC 534-2, which has only appeared in draft form and has not yet been approved for publication by the IEC. However, the reference is only informative and in no way affects the use or application of this British Standard.

NOTE *Textual error.* When adopting the text of the international standard one printing error was noticed. It has been marked with an asterisk and corrected in this British Standard and has been reported to IEC in a proposal to amend the text of the international standard.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 14, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

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Descriptors: Industrial-process, control valves, flow coefficient, compressible fluid flow, sizing equations of control valves

English version

Industrial-process control valves
Part 2: Flow capacity —
Section 2 — Sizing equations for compressible fluid flow
under installed conditions

(IEC 534-2-2:1980)

Vannes de régulation des processus industriels
Deuxième partie: Capacité d'écoulement —
Section deux — Equations de dimensionnement
pour l'écoulement des fluides compressibles
dans les conditions d'installation
(CEI 534-2-2:1980)

Stellventile für die Prozeßregelung
Teil 2: Durchflußkapazität
Hauptabschnitt zwei —
Bemessungsgleichungen für kompressible
Fluide unter Einbaubedingungen
(IEC 534-2-2:1980)

This European Standard was approved by CENELEC on 1992-12-09. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

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Foreword

The CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 534-2-2:1980 could be accepted without textual changes, has shown that no common modifications were necessary for the acceptance as European Standard.

The reference document was submitted to the CENELEC member for formal vote and was approved by CENELEC as EN 60534-2-2 on 9 December 1992.

The following dates were fixed:

- latest date of publication of
an identical national standard (dop) 1993-12-01
- latest date of withdrawal of
conflicting national standards (dow) 1993-12-01

For products which have complied with the relevant national Standard before 1993-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1998-12-01.