

Tööstusprotsessi kontrollklapid

Industrial process control valves

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1349:2000 sisaldab Euroopa standardi EN 1349:2000 + AC:2001 ingliskeelset teksti. Käesolev dokument on jõustatud 17.07.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 1349:2000 consists of the English text of the European standard EN 1349:2000 + AC:2001. This document is endorsed on 17.07.2000 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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English version

Industrial process control valves

Robinets de régulation des processus industriels

Stellgeräte für die Prozessregelung

This European Standard was approved by CEN on 8 July 1999.

CEN 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 CEN 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 CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 69 "Industrial valves", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2000, and conflicting national standards shall be withdrawn at the latest by July 2000.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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Introduction

This European Standard has been established on the basis of the EN 60534-1, IEC 60534-2-3, IEC 60534-2-4, IEC 60534-5.

It differs from the IEC 60534-2-3 by addition of basic series of face-to-face dimensions, and addition of other control valve types.

The functional characteristics from IEC 60534-2-4 and IEC 60534-5 are basically the same.

The terminology specific to control valves issued from EN 60534-1 is incorporated in the Standard. The general valve terminology can be found in the EN 736-1, EN 736-2 and EN 736-3.

1 Scope

This standard is applicable to all industrial process control valves (hereafter referred to as control valves). It establishes definitions and seat leakage classifications. It specifies the face-to-face dimensions and the requirements for inspection, testing and marking.

This standard covers control valves from PN 10 to PN 100 and Class 150 to Class 600.

The range of DN is according to the dimensions listed in the basic series from the EN 558-1 and EN 558-2.

2 Normative references

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 the 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.

EN 19, Industrial valves – Marking.

EN 558-1, *Industrial valves – Face-to-face and centre-to-face dimension of metal valves for use in flanged pipe systems –Part 1: PN-designated valves.*

EN 558-2, *Industrial valves – Face-to-face and centre-to-face dimension of metal valves for use in flanged pipe systems –Part 2: Class-designated valves.*

EN 736-1, *Valves – Terminology –Part 1: Definition of types of valves.*

EN 736-2, *Valves – Terminology –Part 2: Definition of components of valves.*

EN 736-3, *Valves – Terminology –Part 3: Definitions of terms.*

prEN 1503-1:1994, *Valves – Materials for bodies, bonnets and covers - Part 1 : Steels specified in European Standards.*¹⁾

prEN 1503-2:1994, *Valves - Materials for bodies, bonnets and covers - Part 2 : Steels other than those specified in European Standards.*¹⁾

prEN 1503-3:1994, *Valves - Materials for bodies, bonnets and covers - Part 3 : Cast irons specified in European Standards.*¹⁾

prEN 1503-4:1997, *Valves - Materials for bodies, bonnets and covers - Part 4 : Copper alloys specified in European Standards.*¹⁾

prEN 12266-1:1996, *Industrial valves – Testing of valves - Part 1 : Tests, test procedures and acceptance criteria to be fulfilled by every valve.*¹⁾

prEN 12516-1, *Industrial valves – Shell design strength- Part 1 : Calculation method for shells of steel valves.*¹⁾

prEN 12516-2, *Industrial valves – Shell design strength- Part 2 : Tabulation method for steel valves.*¹⁾

prEN 12516-3:1999, *Industrial valves – Shell design strength- Part 3 Experimental Method.*¹⁾

EN 60534-1, *Industrial process control valves - Part 1 Control Valve terminology and general considerations (IEC 60534-1 : 1987).*

1) Being prepared.

EN 60534-2-1, *Industrial process control valves - Part 2 : Flow capacity*
Section one: Sizing equations for incompressible fluid flow under installed conditions (IEC 60534-2 : 1978).

EN 60534-2-2, *Industrial process control valves - Part 2 : Flow capacity*
Section two: Sizing equations for compressible fluid flow under installed conditions (IEC 60534-2-2 : 1980).

EN 60534-2-3, *Industrial process control valves - Part 2 : Flow capacity*
Section three: Test procedure (IEC 60534-2-3 : 1997).

IEC 60534-2-4, *Industrial-process control valves -Part 2 Flow capacity*
Section 4 : Inherent flow characteristics and rangeability.

IEC 60534-7, *Industrial-process control valves -Part 7: Control valve data sheet.*

NOTE This European Standard supports some of the essential requirements of the Pressure Equipment Directive 97/23/EC. The essential requirements covered are listed in Annex ZA (informative). It should be noted that this standard is not self sufficient and must be used with some of the normative references listed above.

3 Definitions

For the purposes of this standard, the definitions given in EN 736 - 1, EN 736 - 2 and EN 736 - 3 and the following definitions apply.

3.1

control valve

a power operated device which changes the fluid flow rate in a process control system. It consists of a valve connected to an actuator (with or without positioner) that is capable of changing the position of an obturator in the valve in response to a signal from the controlling system

3.1.1 Control valves with a linear motion obturator

3.1.1.1

globe control valve

a valve in which the obturator moves in a direction perpendicular to the plane of the seat (or seats in the case of double seated and three way valves)

3.1.1.2

diaphragm control valve

a valve in which a flexible obturator isolates the line fluid from the actuating mechanism and provides a seal to the atmosphere

3.1.2 Control valves with a rotary motion obturator

3.1.2.1

ball control valve

a valve with an obturator that is a sphere with an internal passage. The axis of the spherical surface is coincident with the axis of the shaft

3.1.2.2

segmented ball control valve

a valve with an obturator that is a segment of a spherical surface. The axis of the spherical surface is coincident with the axis of the shaft

3.1.2.3

plug control valve

a valve with an obturator that is cylindrical or conical, having an internal passage

3.1.2.4

eccentric plug control valve

a valve with an eccentric obturator that may be a spherical or conical segment in shape