

Automatic electrical controls for household and similar use —

Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements

The European Standard EN 60730-2-8:1995 with the inclusion of amendments A1:1997 and A2:1997 has the status of a British Standard

ICS 97.120

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee CPL/72, Electrical control devices for household equipment and appliances, upon which the following bodies were represented:

Association of Control Manufacturers (BEAMA Ltd.)
Association of Manufacturers of Domestic Electrical Appliances
British Combustion Equipment Manufacturers' Association
British Electrotechnical Approvals Board
British Gas plc
British Refrigeration Association
Consumer Policy Committee of BSI
Department of the Environment (Building Research Establishment)
Department of Trade and Industry (Consumer Safety Unit, CA Division)
Electricity Association
ERA Technology Ltd.
Membrane Switch Manufacturers' Association
Society of British Gas Industries

This British Standard, having been prepared under the direction of the Electrotechnical Sector Board, was published under the authority of the Standards Board and comes into effect on 15 August 1995

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National foreword

This British Standard has been prepared by Technical Committee CPL/72 and is the English language version of EN 60730-2-8:1995 *Automatic electrical controls for household and similar use — Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements* including amendments A1:1997 and A2:1997 and Corrigenda July 1997 and March 2001 published by the European Committee for Electrotechnical Standardization (CENELEC). It was derived by CENELEC from IEC 60730-2-8:1992 including amendment 1:1994 and amendment 2:1997 published by the International Electrotechnical Commission (IEC).

CENELEC corrigendum March 2001 changes the latest date of withdrawal of conflicting national standards in the EN foreword and the forewords to amendments A1 and A2.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags **[C]** **[C]**.

Parts of the original IEC text that have been modified by CENELEC have been quoted in National annex NA.

The foreword of EN 60730-2-8 makes reference to the “date of withdrawal”, *dow*, of the relevant national standard. In this case the relevant national standard is BS 3955 which will cease to be applicable to electrically operated water valves within the scope of BS EN 60730-2-8 on 1 January 2004. Certification and marks will not be awarded after this date with respect to BS 3955. BS 3955 will be progressively amended to delete specific controls at the dates of withdrawal agreed.

This British Standard is to be read in conjunction with BS EN 60730-1:1995 *General requirements* and its amendments 1 and 2, which it supplements or modifies. The many references to Part 1 should be read as references to BS EN 60730-1:1995, which is the English language version of EN 60730-1:1995 which was derived from IEC 60730-1:1993. Consideration may be given to future editions of, or amendments to, BS EN 60730-1.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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 26, an inside back cover and a back cover.

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English version

Automatic electrical controls for household and similar use — Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements

(includes amendments A1:1997 and A2:1997)
(IEC 60730-2-8:1992 + A1:1994 + A2:1997, modified)

Dispositifs de commande électrique
automatiques à usage domestique et
analogue —
Partie 2-8: Règles particulières pour les
électrovannes hydrauliques, y compris les
prescriptions mécaniques
(inclut les amendements A1:1997 et A2:1997)
(CEI 60730-2-8:1992 + A1:1994 + A2:1997,
modifiée)

Automatische elektrische Regel-und
Steuergeräte für den Hasgebrauch und
ähnliche Anwendungen —
Teil 2-8: Besondere Anforderungen an
elektrisch betriebene Wasserventile,
einschließlich mechanischer Anforderungen
(enthält Änderungen A1:1997 und A2:1997)
(IEC 60730-2-8:1992 + A1:1994 + A2:1997,
modifiziert)

This European Standard was approved by CENELEC on 1994-09-01; amendment A1 was approved by CENELEC on 1997-03-11 and amendment A2 was approved by CENELEC on 1997-07-01, 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.

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

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

Foreword

This European Standard has been prepared by the CENELEC Technical Committee TC 72: Automatic controls for household use.

It consists of the text of IEC 730-2-8:1992 and a number of common modifications which were submitted to the formal vote and approved by CENELEC as EN 60730-2-8 on 1994-10-04.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1995-07-01
- latest date of withdrawal of conflicting national standards (dow) 2004-01-01

This Part 2 has to be used in conjunction with EN 60730-1:1991 *Automatic electrical controls for household and similar use — Part 1: General requirements*, and its amendments A1:1991, A11:1991 and A12:1993. Consideration may be given to future editions of, or amendments to, EN 60730-1.

Where a particular subclause of Part 1 is not mentioned in this Part 2, that subclause applies as far as is reasonable. Where this standard states “addition”, “modification” or “replacement”, the relevant text of Part 1 is to be adapted accordingly.

Subclauses which are in addition to those in IEC 730-1 are numbered 101, 102 etc., additional appendices are labelled AA, BB etc. CENELEC annexes are numbered ZA, ZB etc.

There are no special national conditions (snc) causing a deviation from this European Standard other than those listed in Annex ZA of EN 60730-1.

Where reference is made to other international or harmonized standards, the edition of that standard quoted in Annex ZB (normative) is applicable.

NOTE In this document, the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type;*
- explanatory matter: in smaller roman type;
- instructions for modification of the reference document: **in bold type.**

Foreword to amendment A1

The text of amendment 1:1994 to the International Standard IEC 730-2-8:1992, prepared by IEC TC 72, Automatic controls for household use, together with common modifications prepared by the Technical Committee CENELEC TC 72, was submitted to the CENELEC formal vote and was approved by CENELEC as amendment A1 to EN 60730-2-8:1995 on 1997-03-11.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1997-10-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2004-01-01

This document: supplements or modifies the corresponding clauses of EN 60730-2-8:1995.

Foreword to amendment A2

The text of document 72/354/FDIS, future amendment 2 to IEC 60730-2-8:1992, prepared by IEC TC 72, Automatic controls for household use, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A2 to EN 60730-2-8:1993 on 1997-07-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1998-04-1
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2004-01-01

NOTE EN 60730-2-8 originally referred to EN 60730-1:1991 and its amendments A1:1991 and A11:1991. This amendment enables EN 60730-2-8, including its amendment A1:1997, to be used with EN 60730-1:1995 and its amendments A11:1996 and A12:1996. Consideration may be given to future editions of, or amendments to, EN 60730-1.

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1 Scope

This clause of Part 1 is replaced by the following:

1.1 This Part 2 applies to electrically operated water valves for use in, on or in association with equipment for household and similar use that may use electricity, gas, oil, solid fuel, solar thermal energy, etc. or a combination thereof, including heating, air-conditioning and similar applications.

Ⓒ EN 60730-2-1 does not apply to water valves. Ⓒ

1.1.1 This Part 2 contains requirements for electrical features of water valves and requirements for mechanical features of valves that affect their intended operation.

1.1.2 This Part 2 applies to the inherent safety, to the operating values, operating sequences where such are associated with equipment protection, and to the testing of automatic electrical controls used in, on or in association with household and similar equipment.

Electrically operated valves for equipment not intended for normal household use but which may nevertheless be used by the public, such as equipment intended to be used by laymen in shops, in light industry and on farms, are within the scope of this Part 2.

This Part 2 does not apply to electrically operated water valves designed exclusively for industrial applications.

This Part 2 does not apply to:

- electrically operated water valves of nominal connection size above DN 50;
- electrically operated water valves for admissible nominal pressure rating above 1,6 MPa;
- food dispensers;
- detergent dispensers;
- steam valves.

Hereinafter, the term “valve” is used to denote an electrically operated water valve (including actuator and valve body assembly).

Throughout this Part 2, the word “actuator” means “electrically operated mechanism or prime mover”.

Throughout this Part 2, the word “valve body” means “valve body assembly”.

Throughout this Part 2, the word “equipment” includes “appliance” and “control system”.

1.1.3 This Part 2 also applies to actuators and to valve bodies which are designed to be fitted to each other.

1.1.4 This Part 2 applies to individual valves, valves utilized as part of a system and valves mechanically integral with multi-functional controls having non-electrical outputs. Ⓒ Ⓒ

2 Definitions

This clause of Part 1 is applicable, except as follows:

2.2.17 Electrically operated valve

Addition:

A semi-automatic valve that is opened manually and closes automatically or vice versa is also covered by this definition.

Additional definitions:

2.2.17.101

valve

valve denotes a device consisting of an actuator connected to a valve body assembly and used to stop or regulate flow of fluid by the closure or partial closure of an orifice

2.2.17.102

water valve

water valve denotes a valve intended to be connected to a water supply and to control water flow

a water valve is a type 1 action. Switching devices incorporated in water valves are Type 1 or Type 2 action

2.2.17.103

heating-water valve

heating-water valve denotes a valve intended to control the water circulation in heating systems

2.2.17.104

actuator

actuator denotes an electrically operated mechanism or prime mover used to effect the opening or closing action of a valve

an actuator may be integral with the valve, fixed to the valve body assembly or delivered as a separate component

an actuator may also include the valve and closure member

2.2.17.105

valve body assembly

valve body assembly denotes an assembly comprising the valve body, inlet and outlet end connections, valve seat, closure member and stem or shaft

in some cases the stem and closure member may be a part of the actuator

2.2.17.106

valve body

valve body denotes the part of the valve body assembly which is the main pressure boundary. It provides the water flow passage-ways with end connections

2.2.17.107

nominal size

nominal size denotes a numerical designation of size which is common to all components in a fluid-conducting system other than components designated by outside diameter or by thread size

it may be designated by DN followed by a convenient round number, for reference purposes only

some older International Standards refer to nominal size as nominal diameter but, for the purpose of this standard, the two terms are synonymous

2.2.17.108

nominal pressure rating

nominal pressure rating denotes a numerical designation of pressure rating

it may be designated by the letters "PN" (also referred to as the pressure number) followed by a convenient round number, for reference purposes only

2.2.17.109

end connection

end connection denotes the valve body configuration provided to make a pressure-tight joint to the fluid-conducting system

2.2.17.110

valve seat

valve seat denotes the surface of the orifice within the valve which makes full contact with the closure member

2.2.17.111

closure member

closure member denotes a movable part of the valve which is positioned in the flow path to modify the rate of flow through the valve

a closure member may be a plug, ball, disc, vane, gate, etc.

2.2.17.112

stem

stem denotes a component which connects the actuator to, and positions, the closure member

for rotary valves the word "shaft" should be used in place of "stem"

in some controls the stem may be part of the actuator