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BSI Standards Publication

Safety and control devices for burners and appliances burning gaseous and/or liquid fuels — Valve proving systems for automatic shut-off valves

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National foreword

This British Standard is the UK implementation of EN 1643:2022. It supersedes BS EN 1643:2014, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GSE/22, Safety and control devices for gas and oil burners and gas burning appliances.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 November 2022.

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EUROPEAN STANDARD **EN 1643**

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2022

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Supersedes EN 1643:2014

English Version

Safety and control devices for burners and appliances burning gaseous and/or liquid fuels - Valve proving systems for automatic shut-off valves

Dispositifs de commande et de sécurité pour brûleurs à gaz et appareils à gaz - Systèmes de contrôle d'étanchéité pour robinets automatiques de sectionnement

Sicherheits-, Regel- und Steuereinrichtungen für Brenner und Brennstoffgeräte für gasförmige und/oder flüssige Brennstoffe - Ventilüberwachungssysteme für automatische Absperrventile

This European Standard was approved by CEN on 2 October 2022.

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European foreword

This document (EN 1643:2022) has been prepared by Technical Committee CEN/TC 58 “Safety and control devices for burners and appliances burning gaseous or liquid fuels”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by May 2023, and conflicting national standards shall be withdrawn at the latest by November 2025.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1643:2014.

The following significant changes compared to the previous edition have been incorporated in this document:

a) alignment with EN 13611:2019;

b) modification of the contents of Annex A: “Gas connections in common use in the various countries” replaced by “Abbreviations and Symbols”.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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Introduction

This document is intended to be used in conjunction with EN 13611:2019.

This document refers to clauses of EN 13611:2019 or adapts clauses by stating “with the following modification”, “with the following addition”, “is replaced by the following” or “is not applicable” in the corresponding clause.

This document adds clauses or subclauses to the structure of EN 13611:2019 which are particular to this document. Subclauses which are additional to those in EN 13611:2019 are numbered starting from 101. Additional Annexes are designated as Annex AA, Annex BB, Annex CC, etc. It should be noted that these clauses, subclauses and Annexes are not indicated as an addition.

If by reference to EN 13611:2019 the term “control” is given, this term should be read as valve-proving system.

EN 1643 compliance for valve-proving systems cannot be claimed based upon SIL classification according to EN 61508.

SIL classification cannot be claimed based upon compliance with this standard only. A supplementary method for SIL determination is specified in EN 13611:2019, Annex J.

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1 Scope

EN 13611:2019, Clause 1 is replaced by following:

This document specifies the safety, design, construction and performance requirements, and testing for valve-proving systems, hereafter referred to as “VPS”, intended for use with gas burners and gas-burning appliances burning one or more gaseous fuels.

This document applies to all types of VPS used for the automatic detection of leakage in a gas burner section having at least two automatic shut-off valves, and which give a signal if the leakage of one of the valves, the piping in-between the valves or of the VPS itself and its components exceeds the detection limit.

This document applies to VPS for gases with a maximum inlet pressure up to and including 500 kPa.

This document does not apply to VPSs for use in explosive atmospheres.

This document is applicable to *AC* and *DC* supplied VPS (for VPS supplied by stand-alone battery system, battery systems for mobile applications, or VPS which are intended to be connected to *DC* supply networks, see Annex I).

2 Normative references

EN 13611:2019, Clause 2 applies with the following additions:

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 161:2022, *Automatic shut-off valves for gas burners and gas appliances*

EN 1854:—[1], *Pressure sensing devices for gas burners and gas burning appliances*

EN 13611:2019[2], *Safety and control devices for burners and appliances burning gaseous and/or liquid fuels — General requirements*

EN 60730-1:2016[3], *Automatic electrical controls — Part 1: General requirements (IEC 60730-1:2013, modified)*

EN 60730-2-5:2015[4], *Automatic electrical controls — Part 2-5: Particular requirements for automatic electrical burner control systems (IEC 60730-2-5:2013)*

EN 60947-5-1:2017[5], *Low-voltage switchgear and controlgear — Part 5-1: Control circuit devices and switching elements — Electromechanical control circuit devices (IEC 60947-5-1:2016, modified)*

1 Under preparation. Stage at the time of publication: FprEN 1854:2022.

2 As impacted by EN 13611:2019/AC:2021.

3 As impacted by EN 60730-1:2016/A1:2019 and EN 60730-1:2016/A2:2022.

4 As impacted by EN 60730-2-5:2015/A1:2019 and EN 60730-2-5:2015/A2:2021.

5 As impacted by EN 60947-5-1:2017/AC:2020-05.