DIN	EN	ISO	412	6-1
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ICS	12	240
IUS	13	.240

Supersedes DIN EN ISO 4126-1:2013-12

Safety devices for protection against excessive pressure – Part 1: Safety valves (ISO 4126-1:2013 + Amd 1:2016); English version EN ISO 4126-1:2013 + A1:2016, English translation of DIN EN ISO 4126-1:2016-12

Sicherheitseinrichtungen gegen unzulässigen Überdruck – Teil 1: Sicherheitsventile (ISO 4126-1:2013 + Amd 1:2016); Englische Fassung EN ISO 4126-1:2013 + A1:2016, Englische Übersetzung von DIN EN ISO 4126-1:2016-12

Dispositifs de sécurité pour protection contre les pressions excessives – Partie 1: Soupapes de sûreté (ISO 4126-1:2013 + Amd 1:2016); Version anglaise EN ISO 4126-1:2013 + A1:2016, Traduction anglaise de DIN EN ISO 4126-1:2016-12

Document comprises 26 pages

Translation by DIN-Sprachendienst.

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A comma is used as the decimal marker.

National foreword

This document (EN ISO 4126-1:2013 + A1:2016) has been prepared by Technical Committee ISO/TC 185 "Safety devices for protection against excessive pressure" in collaboration with Technical Committee CEN/TC 69 "Industrial valves" (Secretariat: AFNOR, France).

The responsible German body involved in its preparation was *DIN-Normenausschuss Armaturen* (DIN Standards Committee Valves), Working Committee NA 003-01-10 AA *Sicherheitseinrichtungen gegen Drucküberschreitungen*.

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

Amendment A1:2016 has been incorporated in this standard and indicated in the text by tags \square \square

Users of this standard are advised to take note of the following:

Ever since DIN EN 12828:2003 came into effect there has been a lack of information on the German market regarding the applicability and scope of various technical rules in Germany on safety valves used in water-based heating systems.

Since December 2002, the German technical rules for steam boilers, the "TRD" rules, have not been further revised and developed and thus do not reflect the current state of the art. They are also no longer legally binding. The only legally binding regulation in Germany relating to the manufacturing of pressure equipment is European Directive 97/23/EC, the "Pressure Equipment Directive (PED)", while the *Betriebssicherheitsverordnung (BetrSichV)* (German Ordinance on industrial safety and health) governs the operation of such equipment.

EN ISO 4126-1:2013 only lays down general specifications for safety valves and does not address requirements for specific applications. Because of this, and because the DIN 4751 series of standards has been replaced by EN 12828, safety valves used in heating systems are not directly covered by any European technical rules. For example, the lack of protective devices (membranes, bellows etc.) as described in TRD 721 can lead to serious damage to the heating system, which can also have safety repercussions. For this reason, particular requirements for safety valves used in heating systems are described in detail in the informative National Annex NA.

Amendments

This standard differs from DIN EN ISO 4126-1:2013-12 as follows:

a) the text in Subclause 7.2.1 "General requirements" has been revised.

Previous editions

DIN EN ISO 4126-1: 2004-05, 2013-12

National Annex NA (informative)

Classification of safety valves for heating systems

- a) Safety valves with a response overpressure of 2,5 or 3,0 bar and marked with the letter "H" (according to TRD 721, Clause 7, 08/1997);
- b) Safety valves marked with the letters D/G/H (in English: S/G/H, Steam/Gas/Hot water, according to TRD 721, Clause 6, 08/1997);
- c) Safety valves for indirectly heated systems (according to the withdrawn standard DIN 4751-2:1994-10, Subclause 8.1).

Safety valves marked with the letters D/G/H

Such safety valves are to meet the following additional requirements:

The protective device for the spring and sliding or rotating elements shall be pressure relieved when the safety valve is closed. This protective device shall not have a sealing function for the valve seat at the same time. The spring shall be positioned in a closed cap. The spring cap shall have two ports located at the lowest possible point with a diameter of at least 6 mm each or one port located at the lowest possible point with a diameter of at least 10 mm.

The sealing surface of the valve disc shall be compressible and designed with a metallic support. Sliding and rotating elements as well as springs shall be protected against the medium's effects by means of bellows or a membrane or a similar device made from metal or elastomer.

In addition to the requirements of Subclause 7.2.1, when the operating overpressure is below 3 bar, an overpressure in excess of maximal 0,3 bar is admissible.

In Germany, instead of marking with "G", "S" and "L" as specified in 10.1, the letters "D/G/H" are to be used.

Safety valves with a response overpressure of 2,5 or 3,0 bar and marked with the letter "H"

Such safety valves shall meet the following additional requirements:

The medium's pressure shall be exerted on the valve disc. The protective device for the spring and sliding or rotating elements shall be pressure relieved when the safety valve is closed. The spring cap shall have two ports with a diameter of at least 6 mm each. The connection between the body and the spring cap shall be able to sustain the expected forces and designed so that after the removal and re-assembly of the spring cap, the set pressure remains unchanged and the protective device is not damaged. The threaded connection of the outlet shall be at least one nominal size category higher than the threaded connection at the inlet.

Safety valves shall be able to reliably prevent a pressure in excess of more than 0,5 bar. When the pressure drops within a range of 0,5 bar, the closing pressure shall be below the response overpressure.

In Germany, instead of marking as specified in 10.1, the letter "H" shall be used.

Specifications for the design and dimensions of such safety valves are given in DIN EN 12828:2014-07, Annex E.

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