

SLOVENSKI
PREDSTANDARD

SIST EN
13786:2004/oprA1:2006

julij 2006

Samodejni preklopni ventili z največjim izhodnim tlakom do vključno 4 bar, s pretokom do vključno 100 kg/h in pripadajočimi varnostnimi napravami za butan, propan ali njuni zmesi - Dopolnilo A1

Automatic change-over valves having a maximum outlet pressure of up to and including 4 bar with a capacity of up to and including 100 kg/h, and their associated safety devices for butane, propane or their mixtures - Amendment A1

ICS 23.060.20

Referenčna številka
SIST EN 13786:2004/oprA1:2006(en)

iTeh STANDARD PREVIEW
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Full standard:
<https://standards.iteh.ai/catalog/standards/sist/a136e40-a39c-4f53-bdae-503b37e946cd/sist-en-13786-2004-kpral-2008>

ICS

English Version

Automatic change-over valves having a maximum outlet pressure of up to and including 4 bar with a capacity of up to and including 100 kg/h, and their associated safety devices for butane, propane or their mixtures

Inverseurs automatiques de débit inférieur ou égal à 100 kg/h, à pression de détente nominale maximale inférieure ou égale à 4 bar, et leurs dispositifs de sécurité associés, pour butane, propane ou leurs mélanges

Automatische Umschaltventile mit einem höchsten Ausgangsdruck bis einschließlich 4 bar und einem Durchfluss bis einschließlich 100 kg/h für Butan, Propan oder deren Gemische sowie die dazugehörigen Sicherheitseinrichtungen

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 181.

This draft amendment A1, if approved, will modify the European Standard EN 13786:2004. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN 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 Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 13786:2004/prA1:2006) has been prepared by Technical Committee CEN/TC 181 “Dedicated liquefied petroleum gas appliances”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document has been elaborated mainly in order to :

- address the comments received during the formal vote on EN 13786:2004 and that was not taken into account in the published version;
- take into account evolution of other standards written by CEN/TC 181WG8 (EN 12864, EN 13785 and their amendments);
- include new CEN Members.

This document modifies or completes relevant clauses of EN 13786:2004, only the modified or completed clauses are mentioned.

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2. Normative references

Add the following normative references

EN 12164, *Copper and copper alloys - Rod for free machining purposes*

EN 12165, *Copper and copper alloys - Wrought and unwrought forging stock*

EN ISO 7253, *Paints and varnishes - Determination of resistance to neutral salt spray (fog)*

3.3.4 lockout pressure

Replace the title **lockout pressure** by **lock up pressure** and everywhere in the standard.

For English version only.

5.3.2 Regulation subassembly

Replace the last paragraph by the following :

"After the test defined in 7.2.3, the valve, as defined in 3.1.7, shall not be displaced or come out of its housing."

5.3.4 Connection subassembly

Replace the two first paragraphs by the followings :

"Automatic change over devices shall be fitted with an inlet filter. The filter shall be made of a corrosion and gas resistant material, and situated upstream of the valve pad. The filter mesh shall not exceed the recommended dimensions for the 125 opening in accordance with ISO 565, or exceed 0,14 mm diameter in case of perforated sheet.

If the filter is not integral with the automatic change over device the instructions shall state the location of separate filter upstream."

5.3.5 Supply-reserve indicator

Replace the first paragraph by the following :

"The supply-reserve indicator, if any, shows which cylinder is in use via a signal related to the pressure at the automatic change over device outlet."

5.3.6 Knob for selection of the operational cylinder

The note is removed.

Add the new following subclause:

"5.3.8. Non Return Valves

To prevent the leakage of gas from the inlet connection when changing cylinders, the automatic change-over device shall be fitted with non return valves on each inlet.

This requirement is considered as met if the leak observed, at the end of the test carried out under the conditions described in 7.2.4.2 does not exceed 200 cm³/h."

6.3.1 Gas flow safety

This subclause is deleted (replaced by 5.3.8 above).

7.1.4 Test samples

The two first paragraphs and the note are replaced by:

"For tests six identical devices shall be tested in the order specified in table 5.

After those tests the devices are dismantled and requirements of 5.1 to 5.3 are visually and dimensionally checked."

7.2.1 Resistance to pressure

Add the following last paragraph:

"When the device has a safety valve, these tests shall be carried out in accordance with annex A."

Replace 7.2.1.3 by the following:

"7.2.1.3 Another automatic change over device is connected by its outlet to a pipe supplied with water. The inlet connection, the vent and any other orifice opening to the atmosphere are blocked. For test purposes, the diaphragm may be pierced to allow for the free passage of water.

After reaching the required temperature, the water pressure is increased to the maximum supply pressure. The test shall not last less than 15 min after the application of the pressure. This test is intended to check the mechanical strength of the cover/body assembly, therefore leakage at joints shall be disregarded during the test.

At the end of this test, the requirements of 5.4.1.3 shall be met."

7.2.2 Mechanical strength of connections

Replace the third paragraph by the following:

"For threaded connections, the checks of 5.4.2 shall be carried out with the change over device installed in accordance with the manufacturer's instructions."

7.2.4.1 Soundness of the automatic change over devices

Replace the sixth paragraph by the following:

"The automatic change over device is then connected through its outlet connection to a pipe supplied with air at a pressure of 1,5 times the regulated pressure with a minimum of 150 mbar, the two inlet connections being sealed."

7.2.4.2 Gas flow safety device

The complete subclause 7.2.4.2 is replaced by the following:

"7.2.4.2 Non Return Valve

This test shall be carried out with a 0,4 mm injector connected to the outlet connection allowing air to flow constantly through the test.

Each inlet connection shall be supplied in turn with air at pressures of 300 mbar and 8,25 bar for butane, 1 bar and 17,5 bar for propane and 300 mbar and 17,5 bar for LPG mixtures. The opposite Non Return Valve shall be checked for soundness with the manual change over device in both supply and reserve positions.

The requirements of 5.3.8 shall be met."

7.2.5.1 Automatic change over devices endurance

The complete subclause 7.2.5.1 is replaced by the following:

"7.2.5.1 Automatic change over devices endurance

Both inlets of the automatic change over device, in its normal operating position, are connected to an air supply of 1,4 bar for Butane and 7,5 bar for Propane and LPG, at a temperature of $(20 \pm 5) ^\circ\text{C}$.

The flow rate is adjusted to 20% of the guaranteed rate.

10 000 cycles are carried out, consisting of:

- a) Interruption of the outlet flow to induce lockup;
- b) Restoration the outlet flow;
- c) Every 10 cycles the manual change-over valve is alternated.

Each cycle should allow the diaphragm to flex and for the valve to be held on its seat for 1 second. Minimum cycle time shall be 5 seconds.

The requirements of 5.6 shall be met."

Annex B

Replace the Annex B by the new following Annex B:

Annex B

(Normative)

Special requirements for automatic change over devices and automatic change over device systems for caravans, motor caravans or fresh water boats

An automatic change over device system shall be supplied as a complete assembly by the manufacturer or as an assembly of parts ("kit") which, once assembled, will be equivalent to an automatic change over device meeting the requirements of this European Standard.

Automatic change over devices and change over device systems for use in seawater boats are dealt with in Annex J.

This annex B is applicable when the vehicle or boat is equipped with appliances operating in category I_{3B/P(30)}, supplied by means of LPG cylinders within the temperature and pressure ranges specified in Clauses 1 and 6.

In the following text "caravan" is used either for caravan or freshwater boats.

If the system is supplied as a kit it shall be easy to assemble correctly and difficult to assemble incorrectly. If special tools are specified for the assembly of the system they shall be supplied with the kit. It shall be possible to verify with tests the operation and soundness of the system once it is assembled and installed. Clear and sufficient instructions for the assembly and tests shall be supplied with the kit.

Flexible hoses used in the system shall meet the requirements of prEN 1763.

The length of flexible hoses used shall be in accordance with EN 1949.

All the connections used in the automatic change over device system shall be designed so as to prevent interchangeability with other devices which are not designed to be used in the system and to prevent parts of the system from being used independently.

The inlet and outlet connections shall comply with Annex D of EN 12864. Intermediate connections shall be different from the system inlet and outlet connections if the assembly can be taken apart.

The second regulator included in the assembly is a fixed type as described in EN 13785. The tests on this regulator shall be carried out using the methods given in EN 13785, under the pressures declared by the manufacturer.

The regulated pressures shall be in accordance with Annex D of EN 12864.

The nominal rate shall not be greater than 1,5 kg/h.

The automatic change over device or the automatic change over device system shall incorporate a safety device limiting pressure as in Annex D of EN 12864.

Cylinder mounted regulators used in change over device systems shall meet the resistance to impact requirements of EN 12864, with the outlet connection protected.

Automatic change over devices and automatic change over devices systems complying with this annex shall carry in a durable, legible and visible fashion the marking "Caravan(e)".

In addition when the two stages of regulation are identified separately:

— first stage of regulation shall only indicate the values of the supply pressure as information on the pressure;

— second stage of regulation shall only indicate the regulated pressure 30 mbar as information on the pressure;

— nominal rate shall be indicated in the information of the second stage of regulation.

The instructions shall include a warning of the type " Only for use in caravans, motor caravans and freshwater boats ".

The instructions of the caravan automatic change over devices or automatic change over device systems shall also include the following warning "This automatic change over device (system) is not suitable for mobile homes".

Note: Requirements of 5.3.6 are not mandatory for such automatic change over devices and change over device systems.

Table G.1 is replaced by the following:

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