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STN	**Plynný vodík Plniace stanice Časť 3: Ventily**	**STN ISO 19880-3** 30 2340

Gaseous hydrogen
Fuelling stations
Part 3: Valves

Carburant d'hydrogène gazeux
Stations-service
Partie 3: Vannes

Táto slovenská technická norma obsahuje anglickú verziu medzinárodnej normy ISO 19880-3: 2018 a má postavenie oficiálnej verzie.

This Slovak standard includes the English version of the International standard ISO 19880-3: 2018 and has the status of the official version.

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Anotácia

Tento dokument obsahuje požiadavky a skúšobné metódy na bezpečnú prevádzku vysokotlakových plynových ventilov, ktoré sa používajú v staniciach na plynný vodík do označenia H70.

Tento dokument sa týka nasledujúcich plynových ventilov:

- spätný ventil;
- ventil na obmedzovanie prietoku;
- ventil na reguláciu prietoku;
- zariadenie na oddelenie hadice;
- ručne ovládaný ventil;
- tlakový poistný ventil;
- uzatvárací ventil.

Národný predhovor

Normatívne referenčné dokumenty

Na nasledujúce dokumenty sa odkazuje v texte takým spôsobom, že časť ich obsahu alebo celý obsah predstavuje požiadavky tohto dokumentu. Pri datovaných odkazoch sa používa len citované vydanie. Pri nedatovaných odkazoch sa používa najnovšie vydanie citovaného dokumentu (vrátane akýchkoľvek zmien).

POZNÁMKA 1. – Ak bola medzinárodná publikácia zmenená spoločnými modifikáciami, čo je indikované označením (mod), použije sa príslušná EN/HD.

POZNÁMKA 2. – Aktuálne informácie o platných a zrušených STN a TNI možno získať na webovom sídle www.unms.sk.

IEC 60079-0 prijatá ako STN EN IEC 60079-0 Výbušné atmosféry. Časť 0: Zariadenia. Všeobecné požiadavky (33 2320)

Vypracovanie

Spracovateľ: Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, Bratislava

Technická komisia: TK 125 Vodíkové technológie

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by ISO/TC 197, *Hydrogen technologies*.

A list of all parts in the ISO 19880 series can be found on the ISO website.

Introduction

Over the course of several years, international efforts have been initiated for the development of regulations, codes and standards that are required for the introduction of hydrogen energy systems. Hydrogen has unique properties and therefore presents unique safety concerns.

One of the many hydrogen energy applications is the automobile sector for which commercialization begun recently. For the success of this application, however, hydrogen infrastructure for fuelling vehicles is as essential as the hydrogen vehicles themselves. Thus, the development of safety standards for fuelling stations and components is of paramount importance.

This document provides safety performance requirements and test methods for valves to be used in gaseous hydrogen environment. Valves are critical to the safety of hydrogen fuelling stations, because they control the flow of gaseous hydrogen, shut it down in an emergency and, at the same time, may become a potential source of hydrogen release or leakage.

This document will facilitate the development of hydrogen infrastructure that is needed to pave a way for the widespread deployment of hydrogen-fuelled vehicles. Benefits to be gained by the implementation of this document include: the establishment of a certain level of safety performance for valves, a safety-critical component; the streamlining of the design and construction processes for fuelling stations by providing standardized components; and the promotion of public acceptance of hydrogen stations through the transparency of the international standardization processes.

This document is based on the Canadian Standards Association references CSA HGV3.1-2013, ANSI/CSA HGV 4.4-2013, ANSI/CSA HGV 4.6-2013 and ANSI/CSA HGV 4.7-2013.

This document is not intended to exclude any specific technologies that meet the performance requirements herein.

This document is to be applied in conjunction with other International Standards relevant to hydrogen fuelling stations and components.

INTERNATIONAL STANDARD ISO 19880-3:2018(E)

Gaseous hydrogen — Fuelling stations —

Part 3: Valves

1 Scope

This document provides the requirements and test methods for the safety performance of high pressure gas valves that are used in gaseous hydrogen stations of up to the H70 designation.

This document covers the following gas valves:

— check valve;

— excess flow valve;

— flow control valve;

— hose breakaway device;

— manual valve;

— pressure safety valve;

— shut-off valve.

2 Normative references

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.

IEC 60079-0, *Explosive atmospheres — Part 0: Equipment — General requirements*