CIMAT	Pripájacie zariadenia na tankovanie plynného vodíka do pozemných vozidiel (ISO 17268: 2020)	STN EN ISO 17268
STN		69 7230

Gaseous hydrogen land vehicle refuelling connection devices (ISO 17268:2020)

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/20

Obsahuje: EN ISO 17268:2020, ISO 17268:2020

Oznámením tejto normy sa ruší STN EN ISO 17268 (69 7230) z apríla 2017

EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN ISO 17268

February 2020

ICS 43.180; 71.100.20

Supersedes EN ISO 17268:2016

English Version

Gaseous hydrogen land vehicle refuelling connection devices (ISO 17268:2020)

Dispositifs de raccordement pour le ravitaillement des véhicules terrestres en hydrogène gazeux (ISO 17268:2020)

This European Standard was approved by CEN on 24 January 2020.

CEN 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 CEN-CENELEC Management Centre or to any CEN 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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 17268:2020 (E)

Contents	Page
European foreword	3

European foreword

This document (EN ISO 17268:2020) has been prepared by Technical Committee ISO/TC 197 "Hydrogen technologies" in collaboration with Technical Committee CEN/TC 268 "Cryogenic vessels and specific hydrogen technologies applications" the secretariat of which is held by AFNOR.

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 August 2020, and conflicting national standards shall be withdrawn at the latest by August 2020.

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 ISO 17268:2016.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 17268:2020 has been approved by CEN as EN ISO 17268:2020 without any modification.

INTERNATIONAL STANDARD

ISO 17268

Third edition 2020-02

Gaseous hydrogen land vehicle refuelling connection devices

Dispositifs de raccordement pour le ravitaillement des véhicules terrestres en hydrogène gazeux



Reference number ISO 17268:2020(E)

ISO 17268:2020(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Fax: +41 22 749 09 47 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

Co	ontents			
Fore	eword		v	
1	Scope	e	1	
2	Norm	mative references		
3		1		
4	Gene	ral construction requirements	3	
5	Nozzl	les	5	
6	Rece	ptacles	7	
7	Desig	gn verification test procedures	8	
	7.1	General requirements		
	7.2	Test conditions	8	
	7.3	Nozzle tests	8	
	7.4	Receptacle tests	8	
	7.5	User — Machine interface	8	
	7.6	Dropping	9	
	7.7	Leakage at room temperature	9	
	7.8	Valve operating handle	10	
	7.9	Receptacle vibration resistance	10	
	7.10	Abnormal loads	10	
	7.11	Low and high temperatures	11	
		7.11.1 Purpose	11	
		7.11.2 General	11	
		7.11.3 Leakage tests	11	
		7.11.4 Operation tests	11	
	7.12	Durability and maintainability	12	
		7.12.1 Purpose	12	
		7.12.2 Nozzle durability test	12	
		7.12.3 Receptacle check valve durability test	13	
		7.12.4 Receptacle durability test		
		7.12.5 Connected nozzle and receptacle durability test	13	
	7.13	Sealing material aging test	13	
		7.13.1 Purpose	13	
		7.13.2 Oxygen aging test procedure		
		7.13.3 Ozone aging test procedure		
	7.14	Non-metallic material hydrogen resistance test		
	7.15	Electrical resistance		
	7.16	Hydrostatic strength		
	7.17			
		7.17.1 Purpose		
		7.17.2 General		
		7.17.3 Nozzle test		
		7.17.4 Receptacle test		
	7.18	Deformation		
	7.19	Contamination test		
	7.20	Thermal cycle test		
	7.21	Pre-cooled hydrogen exposure test		
		7.22 Misconnected nozzle test		
	7.23	Upward/downward nozzle compatibility test		
		7.23.1 General		
		7.23.2 Upwards nozzle compatibility test		
		7.23.3 Downwards nozzle compatibility test		
	7.24	Washout test		
	7.25	User abuse test	18	

ISO 17268:2020(E)

	7.26 Freez	ring test	18		
	7.27 Rocki	ing test	19		
	7.28 Com	ing testnunication test	20		
8	Instructions	S	20		
9	Marking				
Annex	A (normative	e) Receptacle/nozzle interface envelope	22		
Annex B (normative) Hydrogen receptacles		23			
Annex	C (normative	e) Loose fit test fixtures	29		
Annex	D (normative	e) Tight fit test fixtures	34		
Annex	E (normative	e) Wear pattern test fixtures	39		
Annex	F (informativ	ve) Example hex design	44		
Bibliog	graphy		45		

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).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 197, *Hydrogen technologies*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 268, *Cryogenic vessels and specific hydrogen technologies applications*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 17268:2012), which has been technically revised.

The main changes compared to the previous edition are as follows:

— <u>Clause 1, Clause 2, 3.1, 4.9. 5.8, 5.9, 5.17, 6.1, 6.9, 7.2, 7.5, 7.7, 7.8, 7.12.2, 7.12.3, 7.12.4, 7.16, 7.22, 7.25, 7.26, 7.27, 7.28, Clause 9, Table 1, Figure 3, Figure 4, Annex A, Annex B, Annex C, Annex D, Annex E and Annex F have been modified.</u>

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Gaseous hydrogen land vehicle refuelling connection devices

1 Scope

This document defines the design, safety and operation characteristics of gaseous hydrogen land vehicle (GHLV) refuelling connectors.

GHLV refuelling connectors consist of the following components, as applicable:

- receptacle and protective cap (mounted on vehicle);
- nozzle;
- communication hardware.

This document is applicable to refuelling connectors which have nominal working pressures or hydrogen service levels up to 70 MPa.

This document is not applicable to refuelling connectors dispensing blends of hydrogen with natural gas.

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.

ISO 188, Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests

ISO 1431-1, Rubber, vulcanized or thermoplastic — Resistance to ozone cracking — Part 1: Static and dynamic strain testing

ISO 9227, Corrosion tests in artificial atmospheres — Salt spray tests

ISO 12103-1, Road vehicles — Test contaminants for filter evaluation — Part 1: Arizona test dust

ISO 15501-1, Road vehicles — Compressed natural gas (CNG) fuel systems — Part 1: Safety requirements

koniec náhľadu – text ďalej pokračuje v platenej verzii STN