

This is a preview of "ISO 17268:2020". [Click here to purchase the full version from the ANSI store.](#)

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 2020



**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](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

This is a preview of "ISO 17268:2020". [Click here to purchase the full version from the ANSI store.](#)

## Contents

	Page
Foreword .....	v
<b>1 Scope .....</b>	<b>1</b>
<b>2 Normative references .....</b>	<b>1</b>
<b>3 Terms and definitions .....</b>	<b>1</b>
<b>4 General construction requirements .....</b>	<b>3</b>
<b>5 Nozzles .....</b>	<b>5</b>
<b>6 Receptacles .....</b>	<b>7</b>
<b>7 Design verification test procedures .....</b>	<b>8</b>
7.1 General requirements .....	8
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 .....	13
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 .....	14
7.13.3 Ozone aging test procedure .....	14
7.14 Non-metallic material hydrogen resistance test .....	14
7.15 Electrical resistance .....	14
7.16 Hydrostatic strength .....	14
7.17 Corrosion resistance .....	15
7.17.1 Purpose .....	15
7.17.2 General .....	15
7.17.3 Nozzle test .....	15
7.17.4 Receptacle test .....	15
7.18 Deformation .....	15
7.19 Contamination test .....	15
7.20 Thermal cycle test .....	16
7.21 Pre-cooled hydrogen exposure test .....	16
7.22 Misconnected nozzle test .....	16
7.23 Upward/downward nozzle compatibility test .....	17
7.23.1 General .....	17
7.23.2 Upwards nozzle compatibility test .....	17
7.23.3 Downwards nozzle compatibility test .....	17
7.24 Washout test .....	18
7.25 User abuse test .....	18

This is a preview of "ISO 17268:2020". [Click here to purchase the full version from the ANSI store.](#)

7.26	Freezing test.....	18
7.27	Rocking test.....	19
7.28	Communication test.....	20
<b>8</b>	<b>Instructions.....</b>	<b>20</b>
<b>9</b>	<b>Marking.....</b>	<b>21</b>
<b>Annex A</b>	<b>(normative) Receptacle/nozzle interface envelope.....</b>	<b>22</b>
<b>Annex B</b>	<b>(normative) Hydrogen receptacles.....</b>	<b>23</b>
<b>Annex C</b>	<b>(normative) Loose fit test fixtures.....</b>	<b>29</b>
<b>Annex D</b>	<b>(normative) Tight fit test fixtures.....</b>	<b>34</b>
<b>Annex E</b>	<b>(normative) Wear pattern test fixtures.....</b>	<b>39</b>
<b>Annex F</b>	<b>(informative) Example hex design.....</b>	<b>44</b>
<b>Bibliography</b>	<b>.....</b>	<b>45</b>

This is a preview of "ISO 17268:2020". [Click here to purchase the full version from the ANSI store.](#)

## 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](http://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](http://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](http://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:

— [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.

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](http://www.iso.org/members.html).