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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 30718-2014

**Compressed hydrogen surface vehicle refueling connection
devices**

压缩氢气车辆加注连接装置

(English Translation)

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Foreword

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard uses redrafting method to refer to ISO 17268.2006 "Gaseous hydrogen land vehicle refuelling connection devices" to prepare. The degree of conformance to ISO 17268.2006 is not equivalent.

This Standard was proposed by and shall be under the jurisdiction of National Technical Committee on Hydrogen Energy of Standardization Administration of China (SAC/TC 309).

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Compressed hydrogen surface vehicle refueling connection devices

1 Scope

This document specifies the definitions, design requirements, safety requirements, test methods and inspection rules for compressed hydrogen surface vehicle refueling connection devices. The compressed hydrogen surface vehicle refueling connection devices described in this Standard consists of two parts. receptacle and its protective cap (installed on the vehicle), and nozzle.

This Standard is applicable to compressed hydrogen surface vehicle refueling connection devices where the working medium is compressed hydrogen, the working pressure is 25 MPa and 35 MPa, and the ambient temperature is 15°C.

2 Normative references

The following referenced documents are indispensable for the application 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.

GB/T 24548-2009, Fuel cell electric vehicles - Terminology

GB/T 24549-2009, Fuel cell electric vehicles - Safety requirements

ISO 188, Rubber vulcanized - Accelerated ageing or heat resistance tests

ISO 1817, Rubber, vulcanized - Determination of the effect of liquids

3 Terms and definitions

For the purposes of this document, the terms and definitions defined in GB/T 24548-

3.1 dry air

Air with a maximum dew point of -40°C.

3.2 connector

A receptacle and nozzle assembly that can be quickly loaded and unloaded to refuel compressed hydrogen vehicles or storage systems.

3.3 cycle

An entire process that includes the connection between the nozzle and the receptacle, pressurizing to the design pressure, pressure relief and disconnection.

3.4 design pressure

The maximum pressure that the component can withstand in actual work.

3.5 dry hydrogen

Hydrogen that meets or exceeds the quality requirements of ISO 14687-2.

3.6 dry helium

Helium that the dew point is just right to prevent condensation during testing, and the purity is greater than 99%.

3.7 leak test gas

The gas used for leak testing can be dry hydrogen, dry helium, or nitrogen containing more than 10% hydrogen or helium.

4.1 The nozzle and the receptacle of the compressed hydrogen surface vehicle designed

in accordance with this Standard shall meet safety, durability and maintainability requirements.

4.2 The nozzle and the receptacle of the compressed hydrogen surface vehicle shall

have good matching and be manufactured according to engineering application requirements.

4.3 The design of the nozzle and the receptacle of the compressed hydrogen surface

vehicle shall.

4.4 The materials used for the nozzle and the receptacle of the compressed hydrogen

surface vehicle shall be compatible with compressed hydrogen within the design pressure and temperature range (see 3.4, 5.9 and 7.7).

4.5 Tools shall not be used when connecting and disconnecting the connector of the

compressed hydrogen surface vehicle.

4.6 The receptacle of the compressed hydrogen surface vehicle shall be installed on the

vehicle in accordance with the requirements of GB/T 24549-2009.

5.1 Nozzles shall comply with the dimensional requirements of Chapter 6. The design

of the nozzle shall ensure that it can only be used in connection with the receptacle of a higher working pressure level. Avoid connecting to receptacles with lower operating pressure levels.

5.7 The nozzle shall have filters and other protective measures to prevent upstream solid

matter from entering.

5.8 When the pressure inside the nozzle head is greater than 0.7 MPa, the nozzle shall

not be able to be removed.

5.9 The nozzle shall work normally in the ambient temperature range of -40°C~60°C

and the hydrogen temperature range of -40°C~85°C.

6 Standard receptacle size

The receptacle shall comply with the design parameters in Figures 1 and 2.