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Gaseous hydrogen — Fuelling stations

Part 1: General requirements

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National foreword

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Foreword

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For an explanation on 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: Foreword – Supplementary information.

The committee responsible for this document is ISO/TC 197, *Hydrogen technologies*.

ISO/TS 19880-1 has been prepared with the ultimate goal of developing an International Standard and it replaces ISO/TS 20100:2008, on the same subject, which was withdrawn in 2015.

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Gaseous hydrogen — Fuelling stations —

Part 1: General requirements

1 Scope

This document recommends the minimum design characteristics for safety and, where appropriate, for performance of public and non-public fuelling stations that dispense gaseous hydrogen to light duty land vehicles (e.g. Fuel Cell Electric Vehicles).

NOTE These recommendations are in addition to applicable national regulations and codes, which can prohibit certain aspects of this document.

This document is applicable to fuelling for light duty hydrogen land vehicles, but it can also be used as guidance for fuelling buses, trams, motorcycles and fork-lift truck applications, with hydrogen storage capacities outside of current published fuelling protocol standards, such as SAE J2601.

Residential applications to fuel land vehicles and non-public demonstration fuelling stations are not included in this Technical Specification.

This Technical Specification provides guidance on the following elements of a fuelling station (see Figure 1 and Figure 2):

- hydrogen production/delivery system
  - delivery of hydrogen by pipeline, trucked in gaseous and/or liquid hydrogen, or metal hydride storage trailers;
  - on-site hydrogen generators using water electrolysis process or hydrogen generators using fuel processing technologies;
  - liquid hydrogen storage;
  - hydrogen purification systems, as applicable;
- compression
  - gaseous hydrogen compression;
  - pumps and vaporizers;
- gaseous hydrogen buffer storage;
- pre-cooling device;
- gaseous hydrogen dispensers.

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