International Standard

ISO 20766-19

First edition
2025-03

Road vehicles — Liquefied petroleum gas (LPG) fuel system components —

Part 19: Gas-tube pressure relief valves

Véhicules routiers — Équipements pour véhicules utilisant le gaz de pétrole liquéfié (GPL) comme combustible —

Partie 19: Soupape de sécurité à tube de gaz

Reference number
ISO 20766-19:2025(en)

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Published in Switzerland

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Foreword

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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 document 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).

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This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 41, *Specific aspects for gaseous fuels*.

A list of all parts in the ISO 20766 series can be found on the ISO website.

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.

Road vehicles — Liquefied petroleum gas (LPG) fuel system components —

Part 19: Gas-tube pressure relief valves

1 Scope

This document specifies general requirements and definitions of liquefied petroleum gas fuel (LPG) components, intended for use on the types of motor vehicles as defined in ISO 3833. It also provides general design principles and specifies requirements for instructions and marking.

This document is applicable to vehicles (mono-fuel, bi-fuel or dual-fuel applications) that use gaseous fuels in accordance with ISO 9162. It is not applicable to:

— fuel containers;

— stationary gas engines;

— container mounting hardware;

— electronic fuel management;

— refuelling receptacles.

Miscellaneous components not specifically addressed in this document can be examined for conformity with the criteria of any applicable part of the ISO 20766 series, including testing to the appropriate functional tests.

All references to pressure in this document are considered gauge pressures unless otherwise specified.

This document applies to devices that have a service pressure in the range of 110 kPa (butane rich at 20 °C) and 840 kPa (propane at 20 °C). Other service pressures can be accommodated by adjusting the pressure by the appropriate factor (ratio).

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 20766-1, *Road vehicles — Liquefied petroleum gas (LPG) fuel systems components — Part 1: General requirements and definitions*

ISO 20766-2:2018, *Road vehicles — Liquefied petroleum gas (LPG) fuel systems components — Part 2: Performance and general test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 20766-1 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
discharge pressure
pressure at which the pressure relief valve opens to release the pressure

3.2
flow capacity
relieving capacity of a gas-tube pressure relief valve measured at the flow-rating pressure

Note 1 to entry: Flow capacity is expressed in m^3/min of air at a temperature of 15 °C and at a pressure of 100 kPa.

4 Markings

Marking of the component shall provide sufficient information to trace:

a) the manufacturer or agent's name, trademark or symbol;

b) the model designation (part number);

c) the discharge pressure or discharge pressure and temperature range;

d) the flow capacity;

e) the direction of flow (when necessary for correct installation).

The following additional markings are recommended:

— the type of fuel;

— electrical ratings (if applicable);

— the symbol of the certification agency;

— the type approval number;

— the serial number or date code;

— a reference to this document.

NOTE This information can be provided by a suitable identification code on at least one part of the component when it consists of more than one part.

5 Construction and assembly

The gas-tube pressure relief valve is a device used to prevent the build-up of pressure in the tubes above a pre-set value. The gas-tube pressure relief valve shall comply with the applicable provisions of ISO 20766-1 and ISO 20766-2, and with the tests specified in Clause 6 of this document.

General provisions for the gas-tube pressure relief valve are:

— mounting location shall ensure the unrestricted discharge flow and shall not impinge on enclosed areas, other vehicles, exterior-mounted systems with air intake (i.e. air-conditioning systems), engine intakes, or engine exhaust;

— gas-tube pressure relief valves shall have the following discharge pressures:

  — 3,200 ± 100 kPa if the working pressure (WP) is <3 MPa;