



International
Standard

ISO 22760-3

**Road vehicles — Dimethyl ether
(DME) fuel system components —**

**Part 3:
85% stop valve**

*Véhicules routiers — Composants des systèmes de combustible
Diméthyle Ether (DME) —*

Partie 3: Valve de réservoir 85%

**First edition
2024-05**

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Published in Switzerland

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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 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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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 22, *Road vehicles*, Subcommittee SC 41, *Specific aspects for gaseous fuels*.

A list of all parts in the ISO 22760 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.

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Road vehicles — Dimethyl ether (DME) fuel system components —

Part 3: 85% stop valve

1 Scope

This document specifies definitions of and general requirements to the 85 % stop valve, intended for use on the types of motor vehicles defined in ISO 3833. It also provides general design principles and specifies requirements for instructions and marking.

This document is applicable to vehicles using gaseous fuels in accordance with ISO 16861. It is not applicable to the following:

- a) fuel containers, except to the extent explicitly referred to in this document;
- b) stationary, ship, railroad vehicle or aircraft dimethyl ether (DME) engine installations;
- c) electronic fuel management;
- d) refuelling receptacles.

NOTE 1 It is recognized that miscellaneous component properties not specifically addressed herein can be examined for compliance with the criteria of any applicable part of the ISO 22760 series, including subjecting the component to the appropriate functional tests.

NOTE 2 All pressures referred to in this document are gauge pressures unless otherwise specified.

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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 22760-1, *Road vehicles — Dimethyl ether (DME) fuel system components — Part 1: General requirements and definitions*

ISO 22760-2, *Road vehicles — Dimethyl ether (DME) fuel system 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 22760-1 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

cut-off valve position

valve state characterized by its flow area being drastically reduced to a minimum

Note 1 to entry: This relates to the 85 % stop valve's cut-off position.

Note 2 to entry: The maximum flow of liquid dimethyl ether through the valve in the cut-off position shall not exceed 0,5 l/min at the differential pressure of 700 kPa.

4 Marking

Marking of the component shall provide sufficient information to allow the following to be traced:

- a) the manufacturer's or agent's name, trademark or symbol;
- b) the model designation (part number);
- c) the working pressure or working pressure and temperature range.

The following additional marking entries are recommended:

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

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5 Design and assembly

The 85 % stop valve shall comply with the applicable provisions of ISO 22760-1 and ISO 22760-2, and pass the tests specified in [Clause 6](#) when installed with the fuel container of the size recommended by the valve manufacturer and assembled with the level indicator using the standard installation methods and procedures stipulated by the manufacturer(s) of the equipment. Exemptions from this requirement are allowed only as per specific provisions of this document.

The 85 % stop valve shall comply with the following additional requirements:

- The valve is in the cut-off position when the liquid volume in the container is equal to or above 85 % of the internal geometrical container volume and is in an open position at a lower liquid volume. The tolerance on this value is (+0/-5) % of the internal geometrical container volume. This requirement applies when the spatial position of the fuel container corresponds to the horizontal (both length- and cross-wise) position of a relevant vehicle.
- The liquid volume at which the valve switches positions is within the above-specified tolerance at any filling rate of the fuel container/any differential pressure across the valve, over the entire allowed range of rate/pressure.
- If the valve is electrically operated, it is in the cut-off position at electric power-off.

NOTE Insulation resistance and overvoltage tests are mandatory for electrically operated valves.