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INTERNATIONAL STANDARD

ISO 7654

Second edition
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Road vehicles — Spin-on fuel filters for compression-ignition engines — Mounting and connecting dimensions

Véhicules routiers — Filtres à combustible vissés pour moteurs à combustion interne à allumage par compression — Dimensions de montage et de raccordement

Reference number
ISO 7654:1991(E)

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 7654 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Sub-Committee SC 7, *Injection equipment and filters for use on road vehicles*.

This second edition cancels and replaces the first edition (ISO 7654:1983). The filter without an inner sealing is the preferred design, but the alternative filter design in annex A may be used.

Annex A forms an integral part of this International Standard. Annex B is for information only.

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Road vehicles — Spin-on fuel filters for compression-ignition engines — Mounting and connecting dimensions

1 Scope

This International Standard specifies the mounting and connecting dimensions for spin-on fuel filters, with and without an inner sealing, to be used with compression-ignition (diesel) engines.

The preferred design of spin-on fuel filters are those without an inner sealing, and they are specified in clause 2. The alternative filter design is specified in annex A and should be used if an inner sealing is required.

The corresponding filter heads are specified in ISO 7310, ISO 7311 and ISO 7577 (see annex B).

2 Dimensions and tolerances

Details not specified in this International Standard are left to the manufacturer's choice.

2.1 The dimensions and tolerances of the filter shall be in accordance with figure 1.

The shape of the sealing ring shown in X shall be such that effective sealing is ensured. The dimensions of the compressed sealing ring shall be within the sealing surface shown in figure 2.

The dimension 0,5 min. shown in X shall be measured after tightening the filter in accordance with the filter manufacturer's recommendations. In cases where moulded sealing rings are used, this dimension may be 0; i.e., metal contact between the sealing surface to which the filter is attached and the face of the spin-on filter is allowed. This special design shall be identified on the filter with necessary fitting instructions.

2.2 The dimensions and tolerances of the sealing surface and connecting thread shall be in accordance with figure 2.

Z_1 shows the main design for the sealing surface; Z_2 shows a secondary design for the sealing surface with circular peaks, which shall be avoided for future applications.

3 Marking

Spin-on fuel filters may optionally be marked as follows:

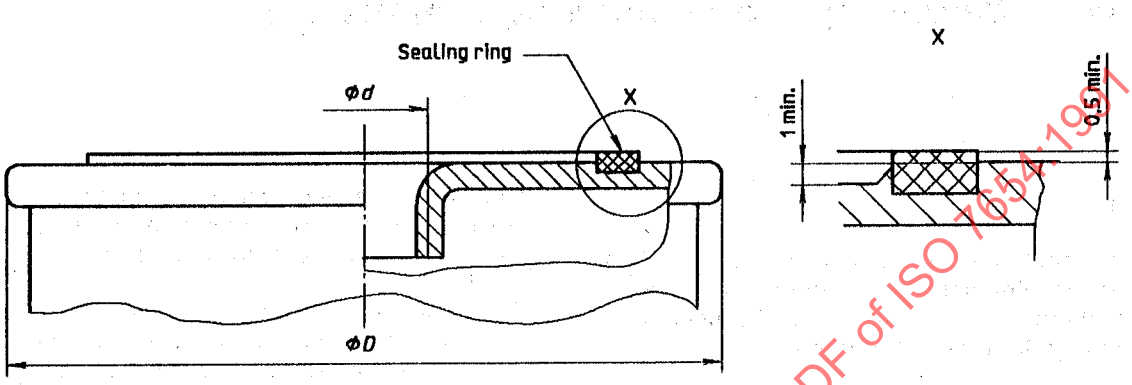
a) designation of filter type: diesel fuel filter;

b) size of connecting thread, for example, M16 × 1,5;

c) instructions for installation.

The appearance and position of this marking on the filter body are left to the discretion of the manufacturer.

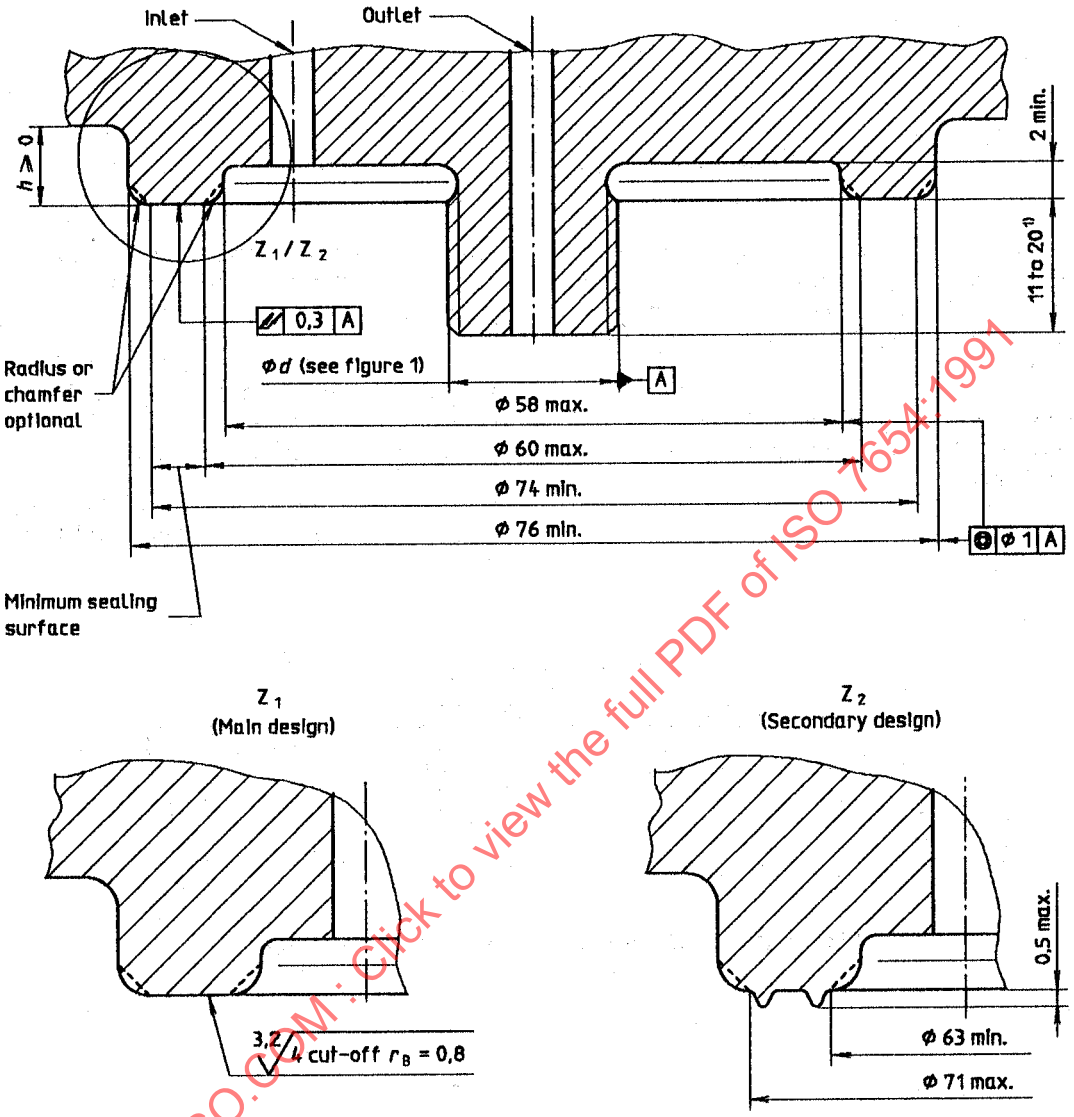
Dimensions in millimetres



Size	D	d
1	$D \leqslant 80$	M16 × 1,5
2	$80 < D \leqslant 88$	
3	$88 < D \leqslant 100$	M16 × 1,5 or M24 × 1,5
4	$100 < D \leqslant 112$	

Figure 1 — Dimensions of filter

Dimensions in millimetres
Surface roughness values in micrometres



1) The thread length shall be adequate to ensure a satisfactory seal between the filter and the sealing surface.

Figure 2 — Dimensions of sealing surface and connecting thread

Annex A
(normative)

Spin-on filters with inner sealing

In cases where an additional sealing ring (inner sealing) at the connecting thread is required, the alternative design shown in figures A.1 and A.2 should be used by mutual agreement between manufacturer and user.

All other dimensions and specifications not shown in figures A.1 and A.2 are in accordance with figures 1 and 2 respectively.

The free height of sealing ring shown in figure A.1 shall be at the discretion of the manufacturer, depending on material and shape.

The shape of the sealing rings shall be such that effective sealing is ensured. The dimensions of the compressed inner sealing ring shall be within the sealing surface shown in figure A.2.

Filter and sealing rings shall be so joined as to necessitate the replacement of all three parts simultaneously.

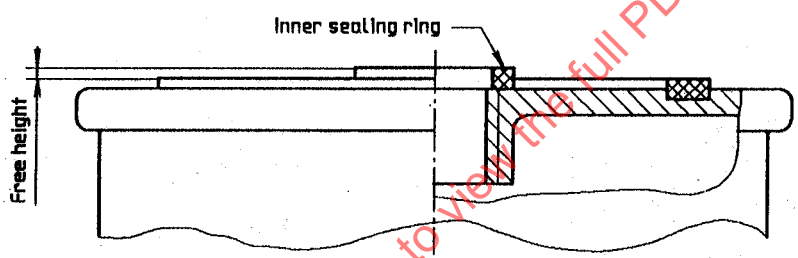
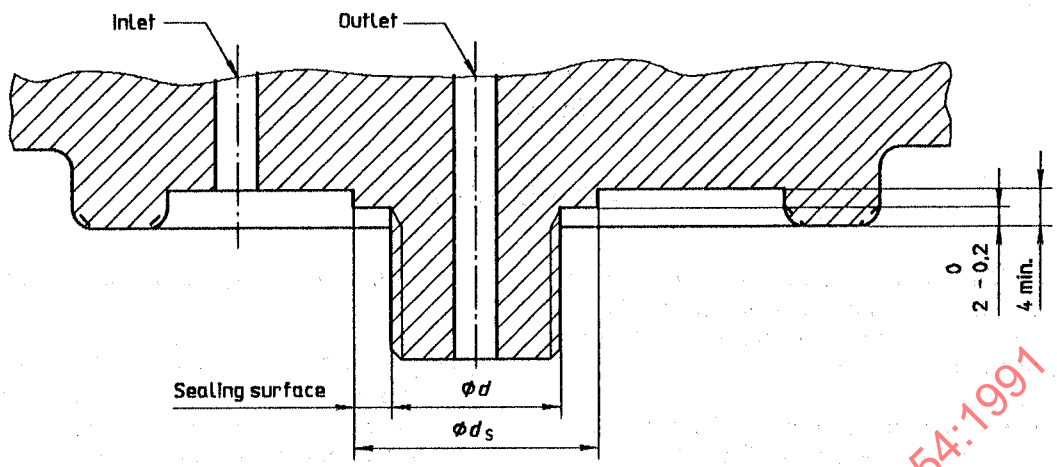


Figure A.1 — Dimensions of filter with inner sealing

Dimensions in millimetres



d	d_s
M16 × 1,5	22,5 max.
M24 × 1,5	30,5 max.

Figure A.2 — Dimensions of sealing surface and connecting thread with inner sealing