SWEDISH STANDARDS INSTITUTE

SVENSK STANDARD
SS-ISO 4010:2005

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Utgåva 1

Vägfordon – Dieselmotorer – Kalibrerings-munstycke för pumpprovbänk
(ISO 4010:1998, IDT)

Diesel engines – Calibrating nozzle, delay pintle type (ISO 4010:1998, IDT)

ICS 43.180

Språk: engelska

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Den internationella standarden ISO 4010:1998 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av ISO 4010:1998.

Denna standard ersätter SMS-ISO 4010, utgåva 1.

The International Standard ISO 4010:1998 has the status of a Swedish Standard. This document contains the official English version of ISO 4010:1998.

This standard supersedes the Swedish Standard SMS-ISO 4010, edition 1.

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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.

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 4010 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 7, *Injection equipment and filters for use on road vehicles*.

This second edition cancels and replaces the first edition (ISO 4010:1977), which has been technically revised to include method 2.

Annex A of this International Standard is for information only.

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Printed in Switzerland

Diesel engines — Calibrating nozzle, delay pintle type

1 Scope

This International Standard specifies a nozzle intended for the testing and setting of injection pumps on injection pump test benches. It specifies the dimensions and test methods for determining the clearance at the “pintle” of the needle (method 1) and the clearance at the needle guide (method 2).

The exact limit of the application of the calibrating nozzle depends upon the test values specified for the injection pump. The applicability is to be verified in each case by the pump manufacturer and stated on the pump test specification for each pump type. The typical range is up to 150 mm^3/stroke.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2697:—[1)], *Road vehicles — Fuel nozzles — Size “S”.*

3 Designation and marking

The nozzle designation shall be marked on that part of the shank which protrudes beyond its cap nut. This designation is the number of this International Standard; i.e. ISO 4010.

4 Dimensions and tolerances

Dimensions and tolerances are given in figure 1.

All other dimensions of the nozzle, except the clearance at the needle guide, shall be as specified in ISO 2697 for type B. However, the two dowel holes are dropped.

The clearance of the needle in its guide shall be determined by the method given in 5.3.

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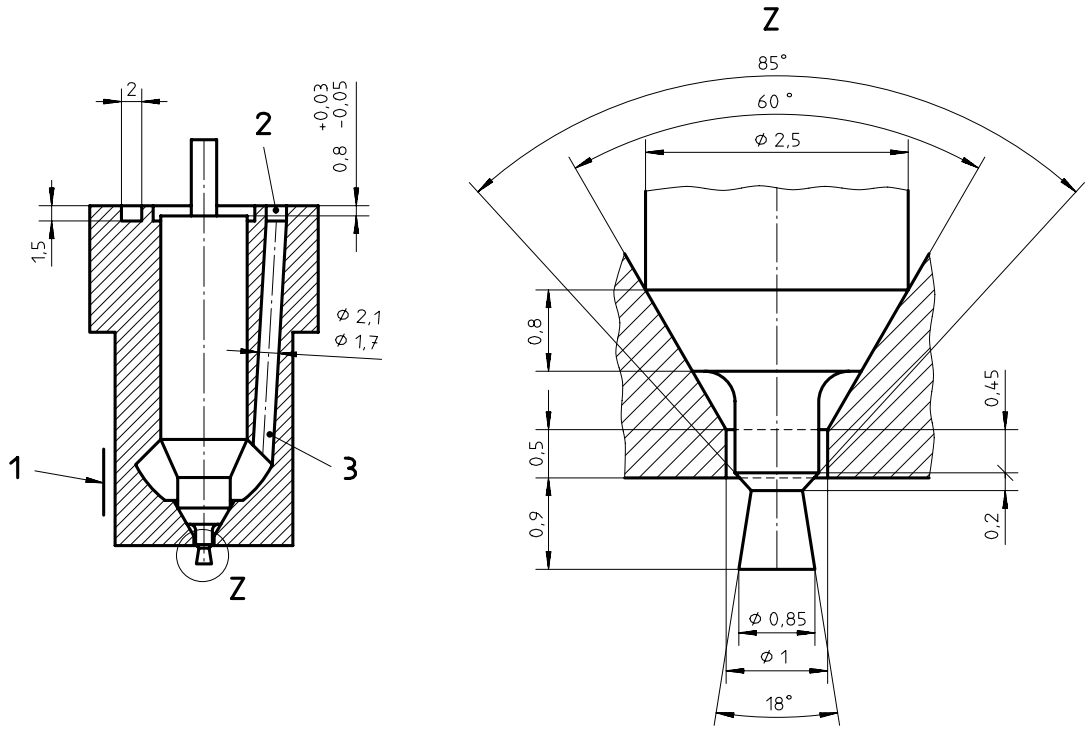
1) To be published. (Revision of ISO 2697:1974)

Dimensions in millimetres



Key

1 Nozzle designation
2 Annular groove
3 Three holes

Figure 1 — Nozzle cross-section

5 Test methods

5.1 General

All measurements of the following two test methods shall be performed on clean, dry nozzles.

For the flow measurements, calibrated measuring devices with a measuring precision of ± 0,5 % of the value indicated shall be used.

5.2 Test method 1: Clearance at the “pintle”

Method 1 measures the clearance between the needle protrusion (pintle) and the nozzle hole in the nozzle body by air flow.

5.2.1 Flow characteristics for air

When measuring with the measuring installation given in figure 3, the calibrating nozzle shall achieve the control values given in table 1.