INTERNATIONAL STANDARD

ISO 13948-2

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Diesel engines — Fuel injection pumps and fuel injector low-pressure connections —

Part 2: Non-threaded (push-on) connections

Moteurs diesels — Raccords basse pression pour pompes d'injection de combustible et porte-injecteurs de combustible complets —

Partie 2: Raccords non filetés (à pression)

Reference number
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this part of ISO 13948 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 13948-2 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 7, *Engine equipment and filters for use on road vehicles*.

ISO 13948 consists of the following parts, under the general title *Diesel engines — Fuel injection pumps and fuel injector low-pressure connections*:

— *Part 1: Threaded connections*

— *Part 2: Non-threaded (push-on) connections*

Introduction

It is recognized that a large variety of low-pressure connections on fuel injection pumps and injectors exist, using different sealing principles as well as designs. This International Standard attempts to provide the user with a common set of preferred types.

ISO 13948 is divided into two parts, covering threaded connections (ISO 13948-1) and non-threaded (push-on) connections (ISO 13948-2) for use with low-pressure fuel supply and return, boost air pressure and lubricating oil supply and return.

Diesel engines — Fuel injection pumps and fuel injector low-pressure connections —

Part 2: Non-threaded (push-on) connections

1 Scope

This part of ISO 13948 specifies requirements for mechanical, push-on connections used on diesel fuel injection pumps and fuel injectors for the connection of low-pressure fuel supply.

Two types of push-on connections (types A and B) are described in this part of ISO 13948. Type A is commonly used on diesel fuel injectors and type B on diesel fuel injection pumps.

NOTE Low-pressure connections to fuel filters are covered in other International Standards; see the bibliography. High-pressure end-connections for pumps and injectors are covered in ISO 2974.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 13948. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 13948 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 7876-1, *Fuel injection equipment — Vocabulary — Part 1: Fuel injection pumps*.

ISO 7876-2, *Fuel injection equipment — Vocabulary — Part 2: Fuel injectors*.

ISO 7876-3, *Fuel injection equipment — Vocabulary — Part 3: Unit injectors*.

ISO 7876-4, *Fuel injection equipment — Vocabulary — Part 4: High-pressure pipes and end-connections*.

3 Terms and definitions

For the purposes of this part of ISO 13948, the terms and definitions given in ISO 7876-1 to -4 apply.

4 Connection designs and applications

4.1 Type A: nipple connection (see Figure 1)

This design is intended for use directly with the mating hose or in conjunction with a retaining clip around the hose for a more secure connection.

4.2 Type B: stand pipe connection (see Figure 2)

This design is used in conjunction with proprietary push-on connections attached to the mating hose that seal by compressing a ring seal around the outside diameter of the stand pipe. An identification may be applied to indicate to the user that the hose is fully engaged.

5 Dimensions and tolerances

For dimensions and tolerances for each low-pressure connection type, see Tables 1 and 2.

Connection sizes shall be determined by the fuel injection system designer, taking system flow rate requirements into account, among other considerations.

6 Designation

Connections in accordance with this part of ISO 13948 shall be designated by the following elements:

a) reference to this part of ISO 13948;

b) the type of connection in accordance with Figures 1 and 2;

c) the diameter D_1 of the connection in accordance with Tables 1 and 2.

EXAMPLE

A low-pressure fuel connection of type A with a diameter D_1 of 8 mm is designated as follows:

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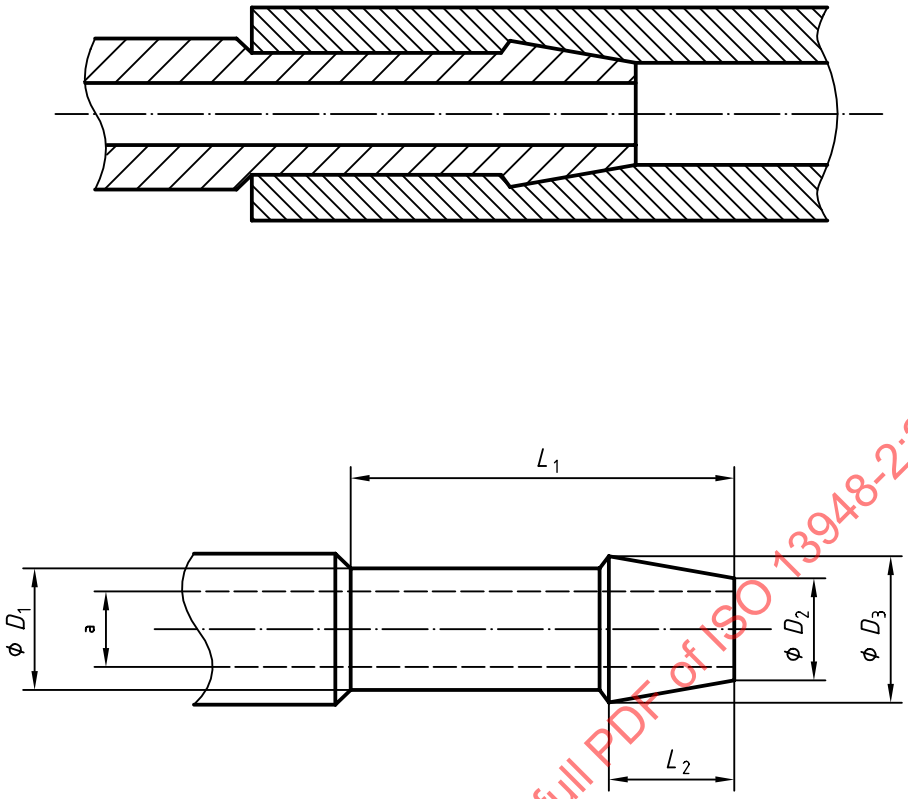


a Bore size specified by manufacturer.

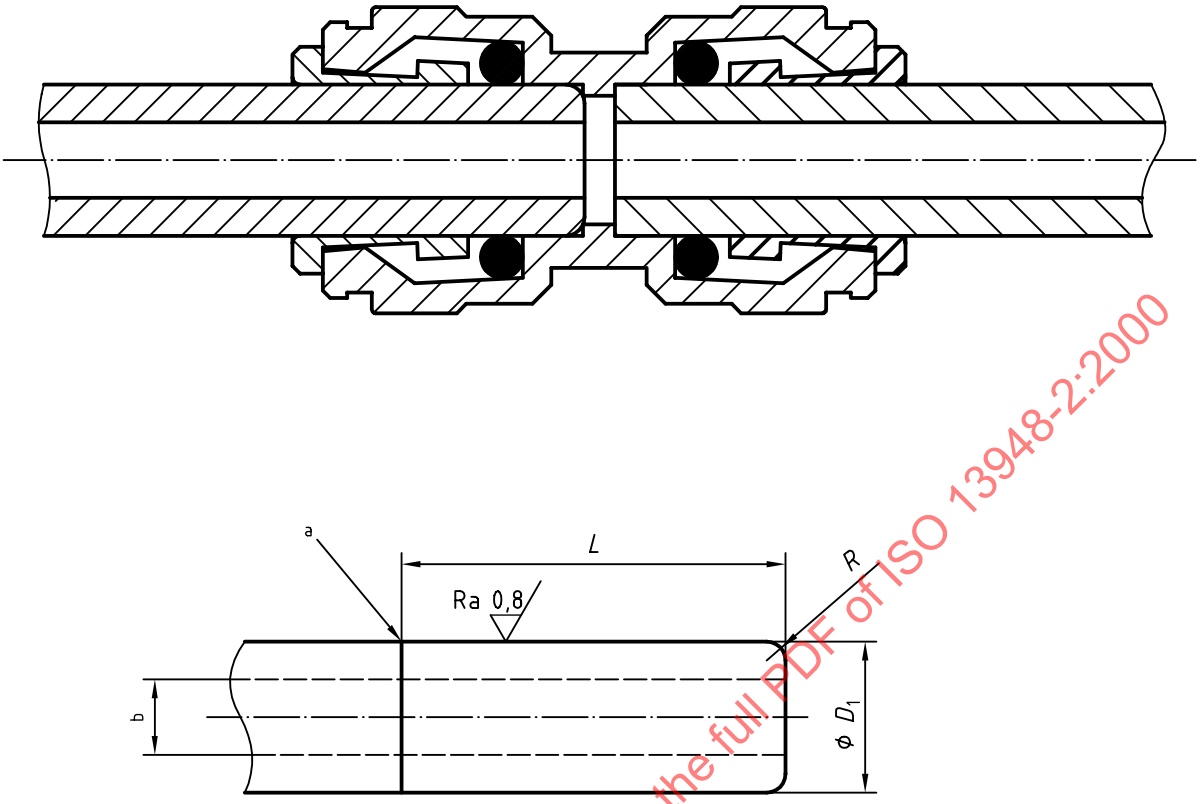
Figure 1 — Type A connection

Table 1 — Dimensions for type A

Dimensions in millimetres

L_1	D_1	D_2	D_3	L_2 ± 1,0
21	8	7,5	9	4,5
16	6,35	6,2	7,4	4,5
12	4,0	3,8	5,0	4,5

Surface roughness in micrometres



a Identification optional

b Bore size specified by manufacturer.

NOTE Materials may be different, for example plastics.

Figure 2 — Type B connection

Table 2 — Dimensions for type B

Dimensions in millimetres

D_1 ± 0,05	L ± 0,5	R +0,5 −0,3
8	28,5	1,2
10	28,5	1,2