
**Drilling and foundation machinery —
Horizontal directional drilling
(HDD) machines — Commercial
specifications**

*Machines de forage et de fondation — Machines de forage horizontal
dirigé (HDD) — Spécifications commerciales*

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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 documents 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 195, *Building construction machinery and equipment*, Subcommittee SC 3, *Drilling and foundation machinery and equipment*.

This second edition cancels and replaces the first edition (ISO 21467:2004), which has been technically revised.

The main changes are as follows:

- the title has been updated;
- the Scope has been updated, including machines that were previously excluded;
- the term "machine" has been replaced by "HDD machine" throughout the document;
- [Clause 2](#) has been updated with the removal of ISO 6165;
- in [Clause 3](#), several HDD machine type definitions have been added to align with [Clause 4](#); additional definitions have been added to align with the figures in [Annex A](#); definitions have been removed (for example, performance definitions) if not covered in the body text; [Clause 3](#) has been divided into sub-sections for better flow and readability;
- in [Clause 4](#), nomenclature has been removed because it was out of the scope; [Clause 4](#) now covers machine types; figures that are still appropriate have been moved to [Annex A](#);
- [Clause 5](#) for commercial specifications has been added;
- [Annex A](#) has been added to include figures and key items previously in [Clause 4](#);
- [Annex B](#) has been added to illustrate key drilling tool components;
- [Annex C](#) has been added to illustrate external structures used with large HDD machines;
- Bibliography has been added.

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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Drilling and foundation machinery — Horizontal directional drilling (HDD) machines — Commercial specifications

1 Scope

This document establishes content for commercial specifications for horizontal directional drilling (HDD) machines.

It is not applicable to:

- soil drilling machines (see ISO 11886);
- soil/rock drilling machines (see ISO 11886);
- foundation machines (see ISO 11886);
- pile driving machines (see ISO 11886);
- rock drill rigs (see ISO 18758-1).

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 9249, *Earth-moving machinery — Engine test code — Net power*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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 General

3.1.1

horizontal directional drilling machine HDD machine

machine that uses a steerable *drill head* (3.3.1) attached to the end of a *drill string* (3.3.2) to drill through the earth in a mostly horizontal direction

Note 1 to entry: HDD machines typically apply force to the drill string using a *drill frame* (3.3.8) parallel to, or inclined up to 30° relative to, the operating earth surface.

Note 2 to entry: For examples, see [Annex A](#).

3.2 HDD machine types

3.2.1

portable HDD machine

HDD machine (3.1.1) designed to be hand-carried or transported manually entirely or partly

Note 1 to entry: See [Figure 1](#).

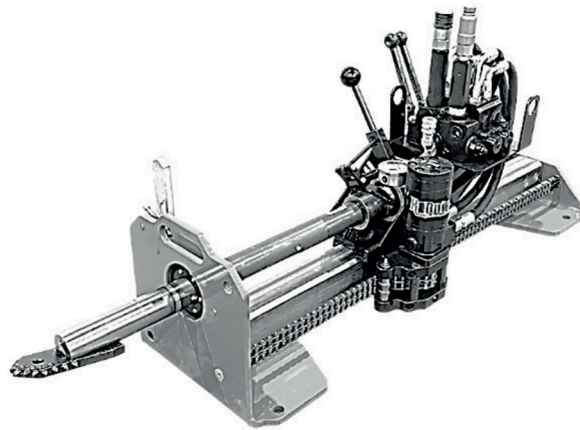


Figure 1 — Example of portable HDD machine

3.2.2

pedestrian-controlled HDD machine

self-propelled HDD machine (3.2.4) operated by a pedestrian operator with on-board or cabled controls

Note 1 to entry: See [Figure 2](#).

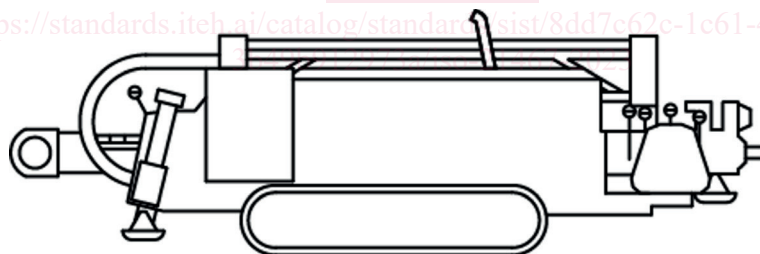


Figure 2 — Example of pedestrian-controlled HDD machine

3.2.3

towed HDD machine

HDD machine (3.1.1) with an integrated trailer chassis for transport

Note 1 to entry: See [Figure 3](#).

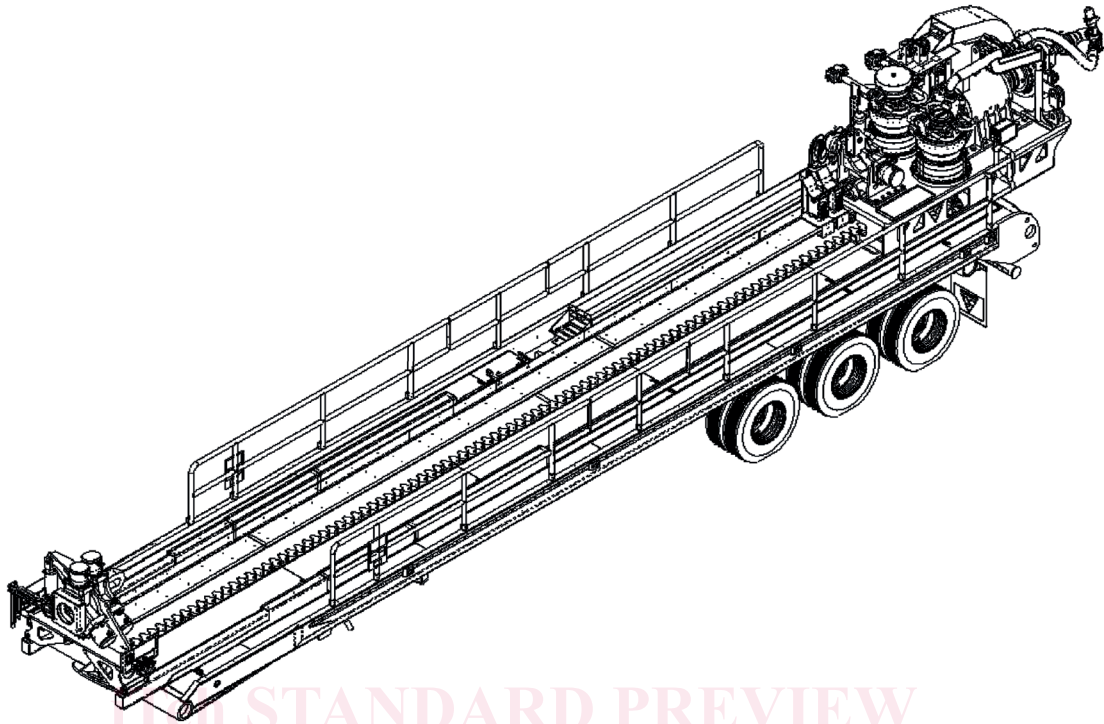


Figure 3 — Example of towed HDD machine

3.2.4

self-propelled HDD machine

HDD machine (3.1.1) that trams under its own power

Note 1 to entry: See [Figure 4](#).

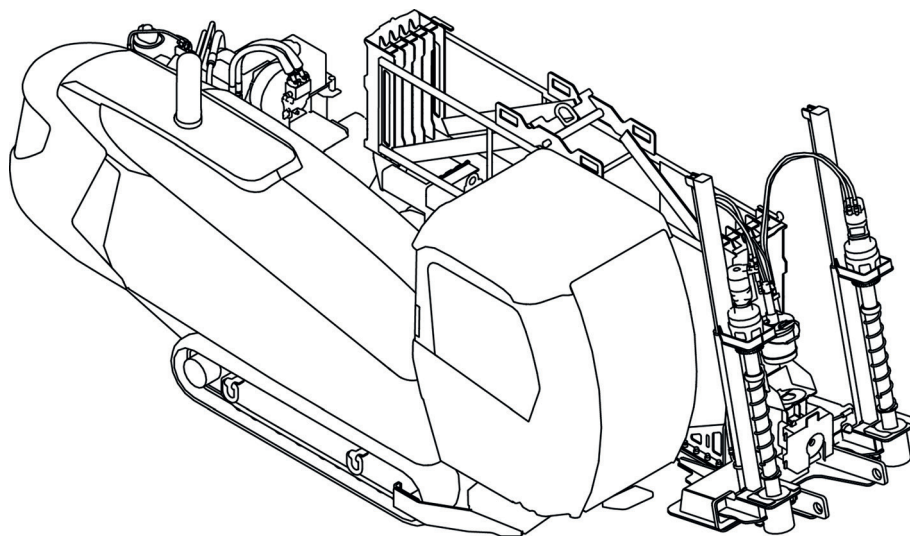


Figure 4 — Example of self-propelled HDD machine

3.2.5

ride-on HDD machine

self-propelled HDD machine (3.2.4) that is controlled by a seated or standing operator on the machine while tramming

Note 1 to entry: See [Figure 5](#).

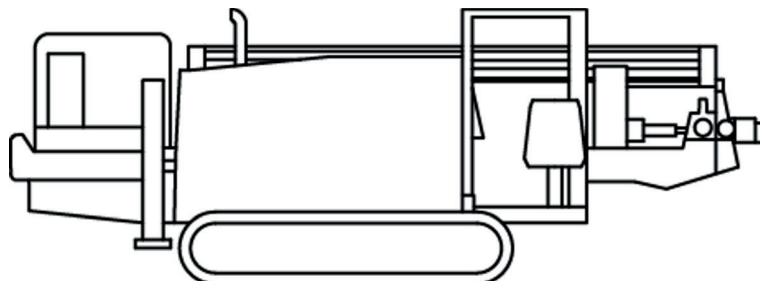


Figure 5 — Example of ride-on HDD machine

3.2.6

remote-controlled tramming HDD machine

self-propelled HDD machine (3.2.4) that is operated with a wireless remote control

Note 1 to entry: See [Figure 6](#).

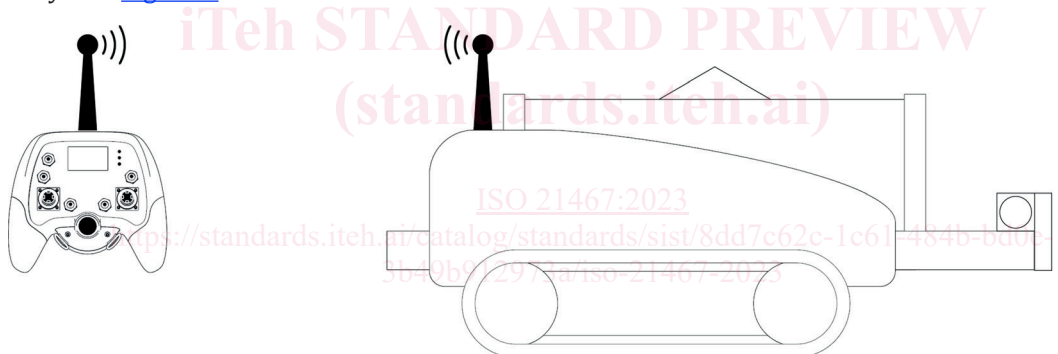


Figure 6 — Example of remote-controlled tramming HDD machine

3.2.7

skid-mounted HDD machine

stationary HDD machine (3.1.1) mounted on a frame with provisions for it to be transported

Note 1 to entry: See [Figure 7](#).

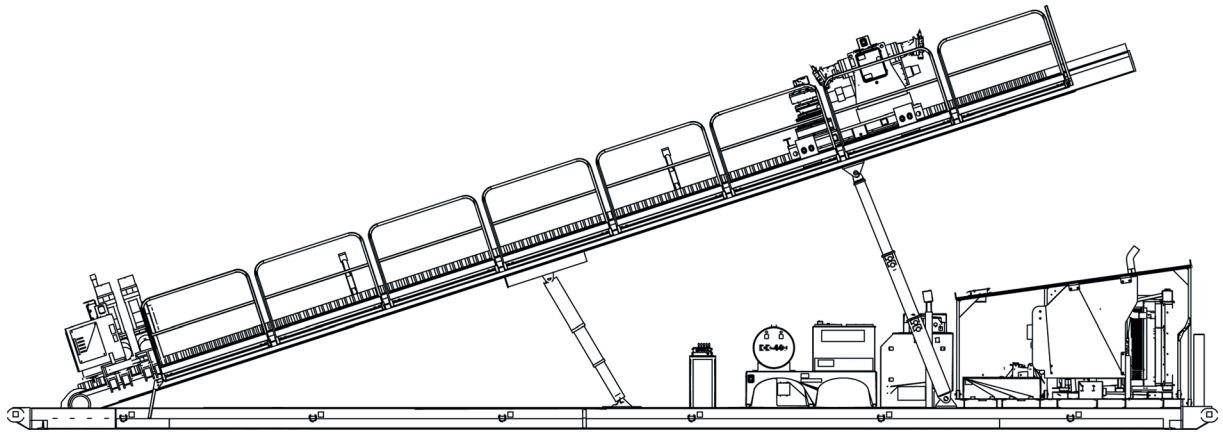


Figure 7 — Example of skid-mounted HDD machine

3.2.8

pit-launched HDD machine

portable HDD machine (3.2.1) that is set up in an excavated pit to perform the drilling operation

Note 1 to entry: See [Figure 8](#).

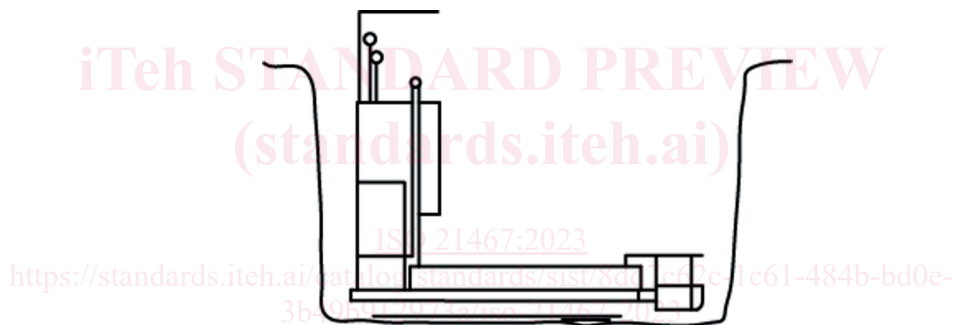


Figure 8 — Example of pit-launched HDD machine

3.2.9

surface-launched HDD machine

HDD machine (3.1.1) that is set up on the ground surface

Note 1 to entry: See [Figure 9](#).

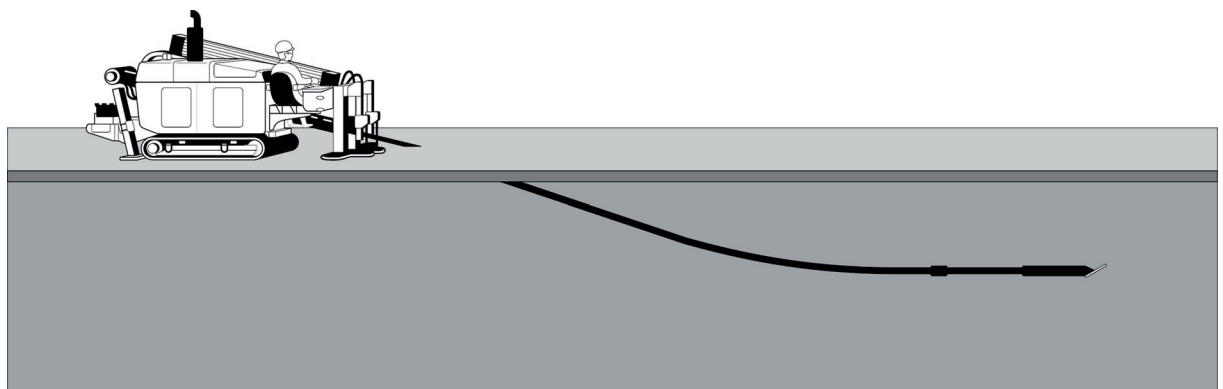


Figure 9 — Example of surface-launched HDD machine