
**Earth-moving machinery — Cable
excavators — Terminology and
commercial specifications**

*Engins de terrassement — Pelles à câbles — Terminologie et
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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 15219 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 4, *Commercial nomenclature, classification and rating*.

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Earth-moving machinery — Cable excavators — Terminology and commercial specifications

1 Scope

This International Standard establishes terminology and the content of commercial literature specifications for self-propelled, crawler and wheeled cable excavators and their equipment. Cable excavators are primarily used for dragline, grab and clamshell applications and temporarily for lifting applications. While the base machine is often used as a carrier of equipment in special applications such as drilling and piling, specification of the dimensions of such equipment is outside the scope of this International Standard.

2 Normative references

The following referenced documents are indispensable for the application 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 6016, *Earth-moving machinery — Methods of measuring the masses of whole machines, their equipment and components*

ISO 6746-1:2003, *Earth-moving machinery — Definitions of dimensions and codes — Part 1: Base machine*
<https://standards.iso.org/standards/catalog/standards/sist/1817d464-59a5-48b1-b2b0-a5e2a1789f22/iso-15219-2004>

ISO 6746-2:2003, *Earth-moving machinery — Definitions of dimensions and codes — Part 2: Equipment and attachments*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

excavator

self-propelled machine on crawlers, wheels or legs, having an upper structure normally capable of a 360° swing with mounted equipment, primarily designed for excavating with a bucket, without moving the undercarriage during the work cycle

[ISO 6165:2001, definition 1.2.4]

NOTE 1 An excavator work cycle normally comprises excavating, elevating, swinging and discharging material.

NOTE 2 An excavator can also be used for object or material handling.

3.2

cable excavator

excavator having a wire rope-operated upper structure primarily designed for excavating with a dragline bucket, a front shovel or grab, used for compacting material with a compaction plate, for demolition work by hook or ball and for material handling with special equipment and attachment

[ISO 6165:2001, definition 1.2.4.3]

3.3

base machine

machine with a cab or canopy and operator-protective structures if required, without equipment or attachments but possessing the necessary mountings for such equipment and attachments

[ISO 6746-1:2003, definition 3.3]

NOTE The base machine has the necessary mountings to secure the equipment and attachments specified in Clause 5.

3.4

equipment

set of components mounted onto the base machine which allows an attachment to perform the primary design function of the machine

[ISO 6746-2:2003, definition 3.4]

3.5

attachment

assembly of components that can be mounted onto the base machine or equipment for specific use

[ISO 6746-2:2003, definition 3.5]

3.6

component

part or an assembly of parts of a base machine, equipment or an attachment

[ISO 6746-2:2003, definition 3.6]

3.7

ground reference plane

GRP

plane on which the machine is placed for measurements: in the case of the base machine, a hard, level surface; in the case of equipment and attachments, either a hard, level surface or compacted earth

NOTE The surface used depends on the intended use of the machine and its equipment and attachments. This needs to be defined when developing specific ISO terminology standards or commercial specifications.

[ISO 6746-1:2003, definition 3.2]

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4 Base machine

4.1 Types of cable excavator

4.1.1 Crawler excavator

See Figure 1.

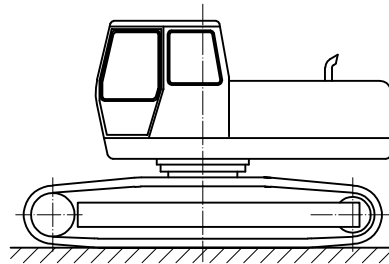


Figure 1 — Crawler excavator

4.1.2 Wheeled excavator

See Figure 2.

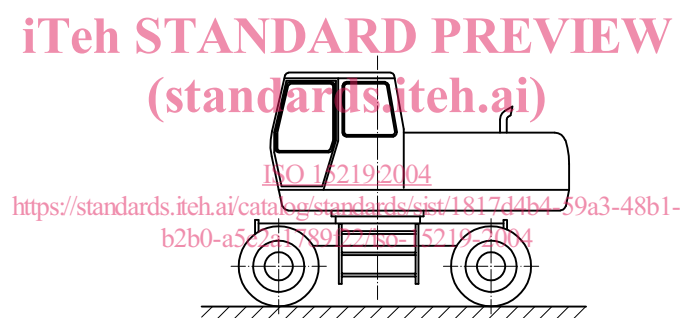
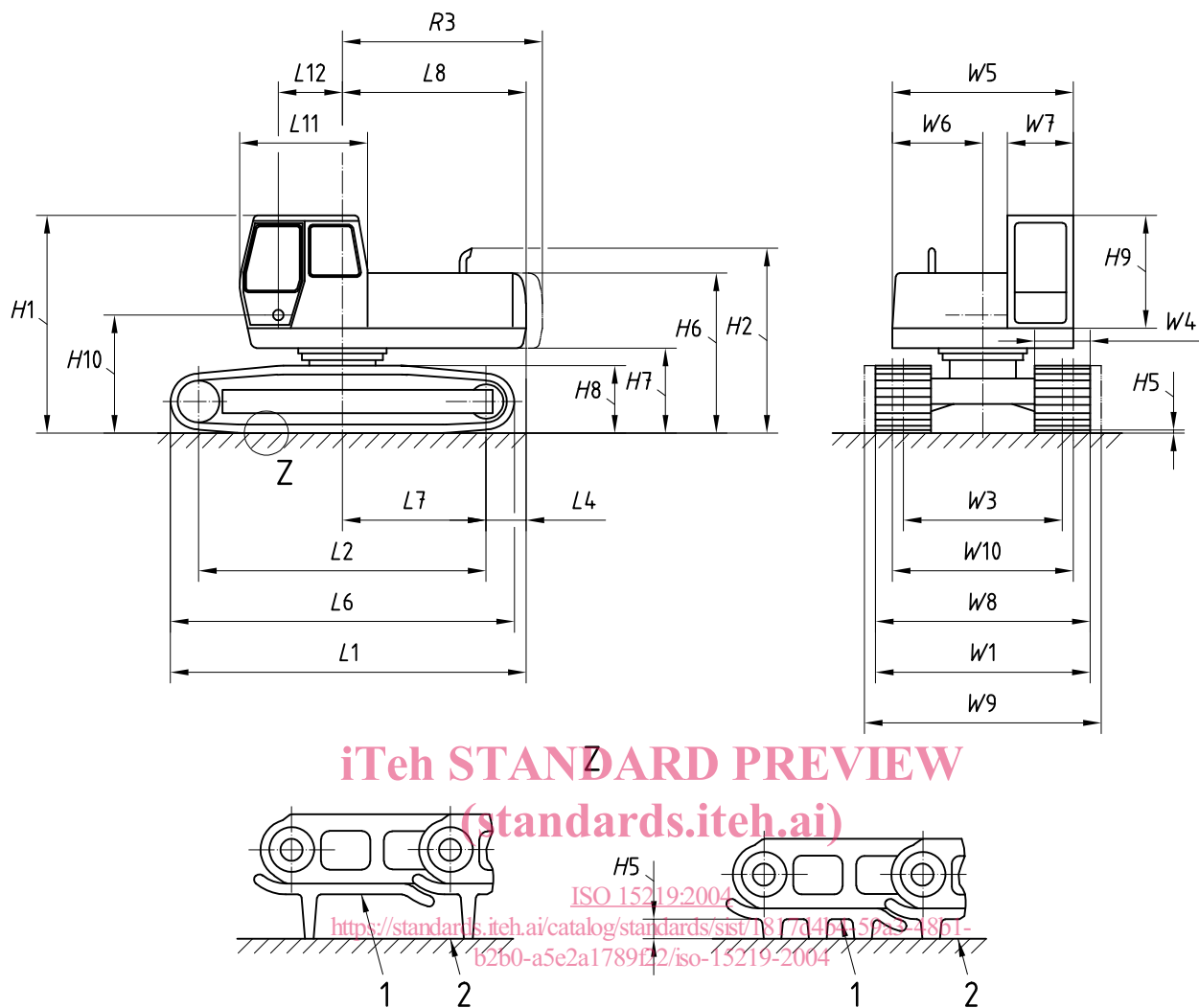


Figure 2 — Wheeled excavator

4.2 Dimensions

The dimensions of the base machine shall be as shown in Figures 3 and 4, in accordance with Annex A (dimensions strictly related to cable excavators) and ISO 6746-1:2003, Annexes A to D (basic dimensions).



Key

- 1 face
- 2 GRP

Figure 3 — Dimensions of base machine — Crawler excavator

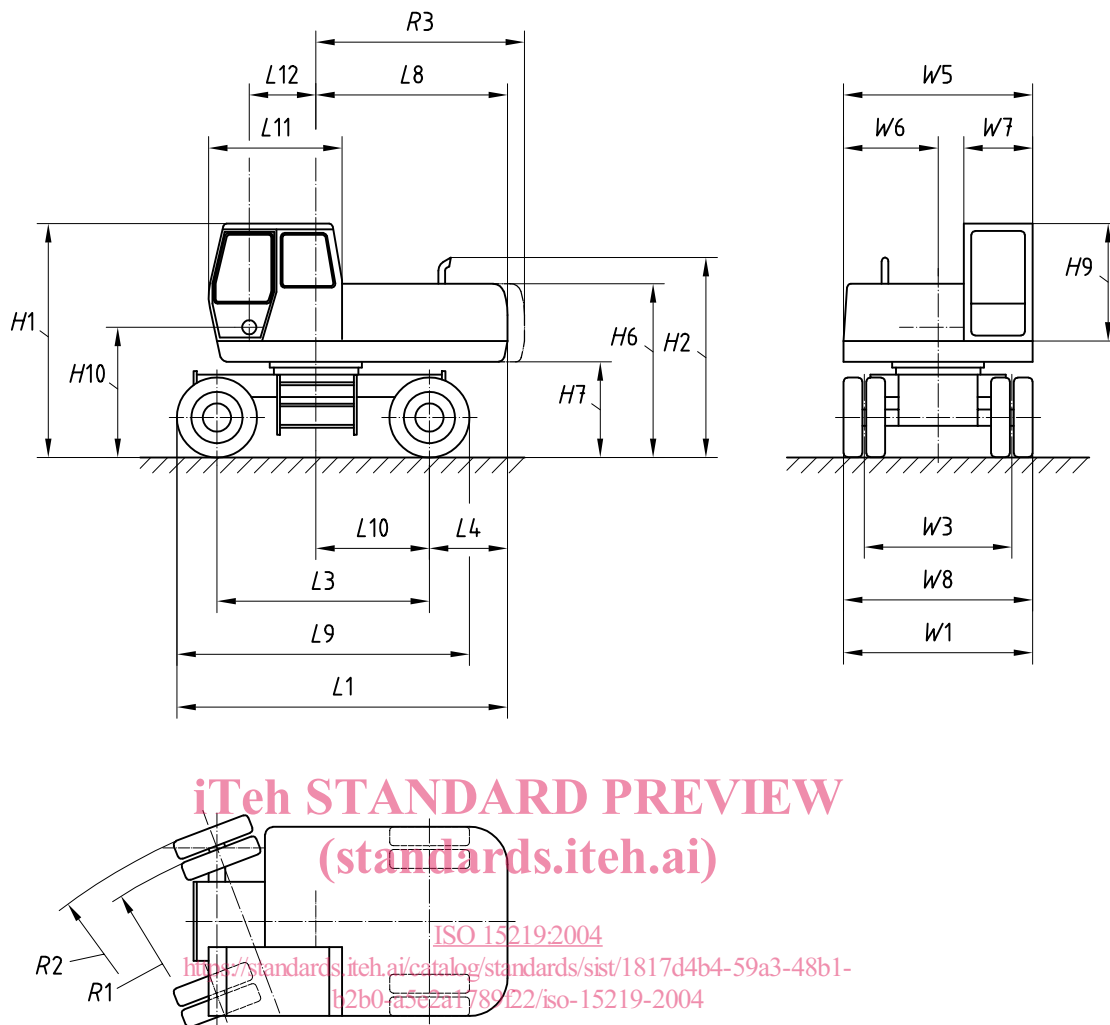


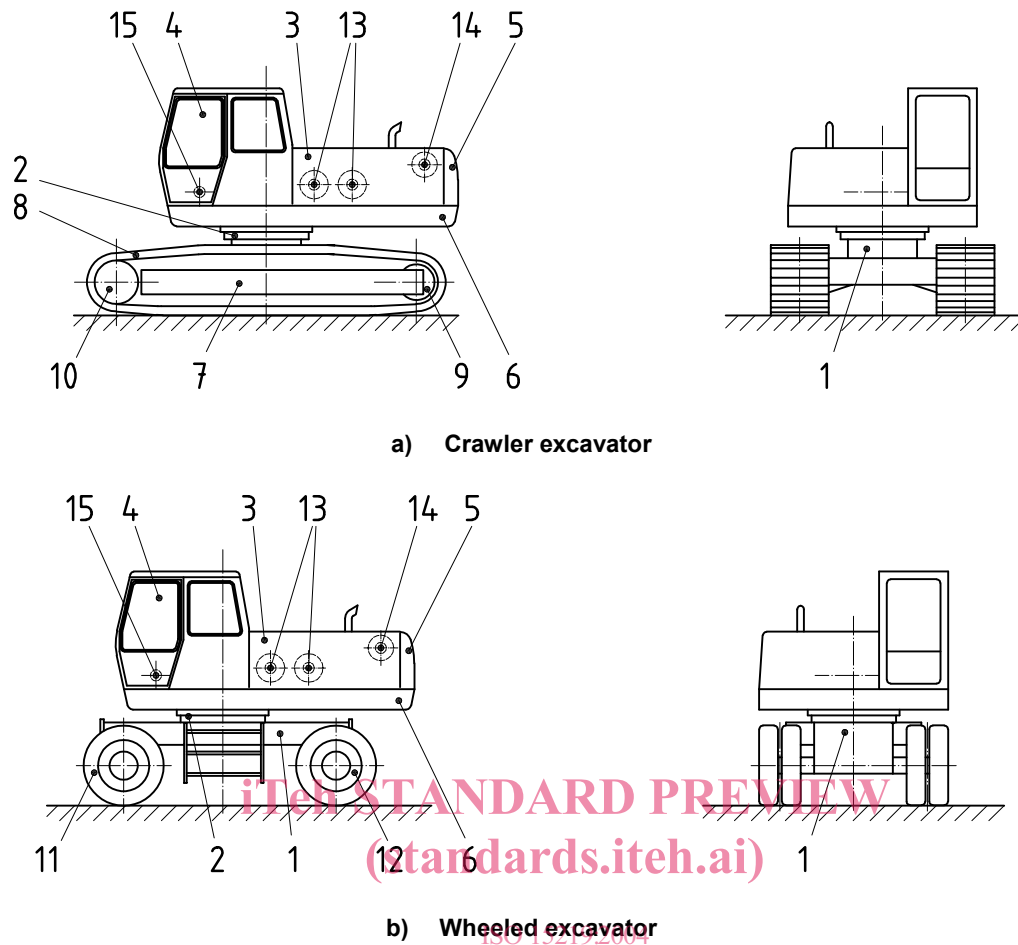
Figure 4 — Dimensions of base machine — Wheeled excavator

4.3 Masses

Masses shall be determined in accordance with ISO 6016.

4.4 Nomenclature

See Figure 5.



Key

- 1 undercarriage
- 2 swing bearing
- 3 upper structure
- 4 cab
- 5 counterweight
- 6 revolving frame
- 7 track frame
- 8 track assembly
- 9 idler
- 10 sprocket
- 11 steering axle (front)
- 12 rigid axle (rear)
- 13 main winch
- 14 boom luffing winch
- 15 boom pivot

Figure 5 — Base machine nomenclature

5 Equipment and attachments

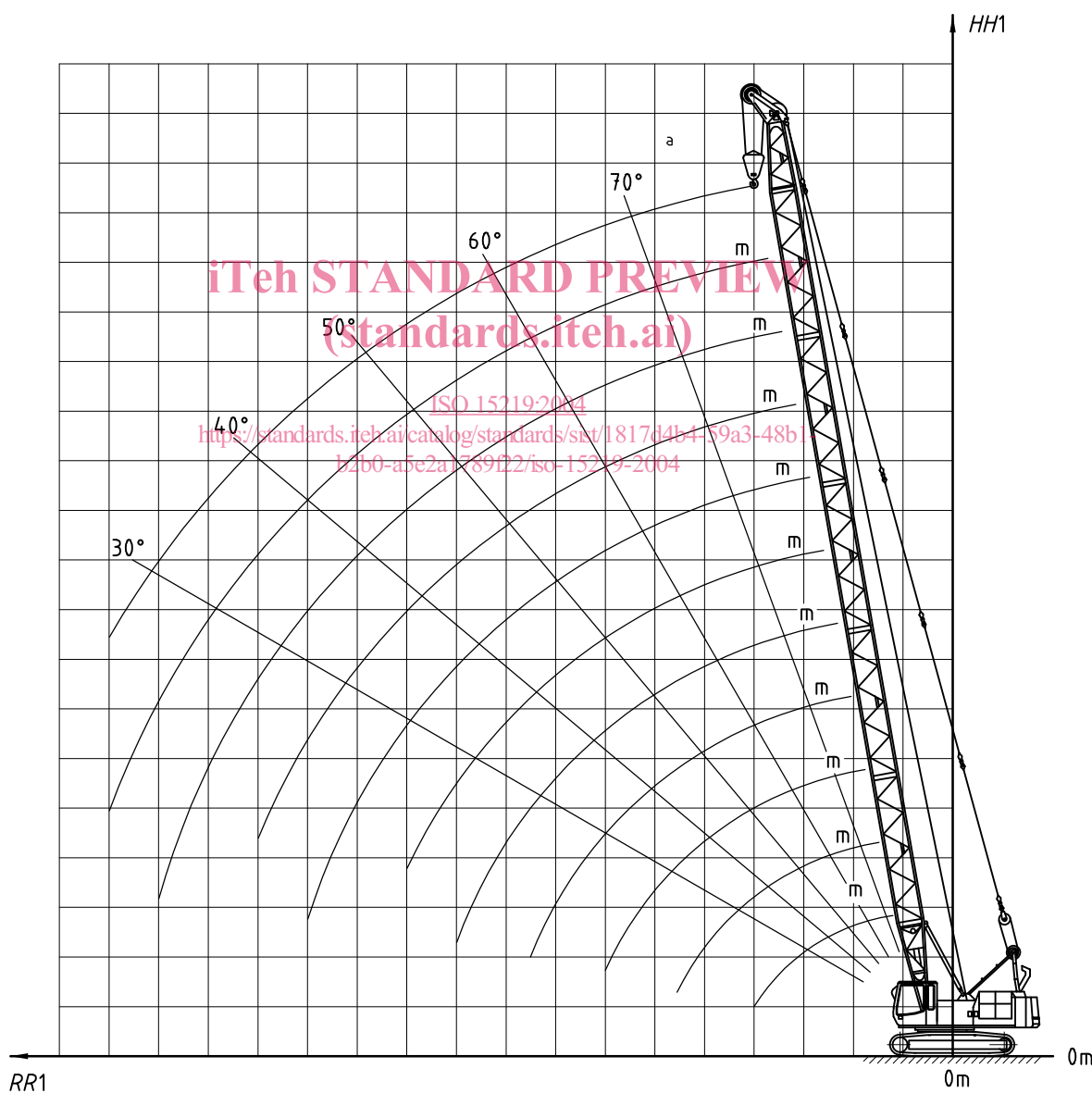
5.1 Dimensions

5.1.1 General

The descriptions of the equipment and attachments whose dimensions are shown in Figures 6 to 8 are based on the main geometrical working area of the most common applications of cable excavators.

5.1.2 Lifting equipment

Lifting equipment consists of a boom, boom-head and pulley-block, and primarily describes the boom working area in relation to the boom configuration. The dimensions shall be as shown in Figure 6 and according to Annex B.

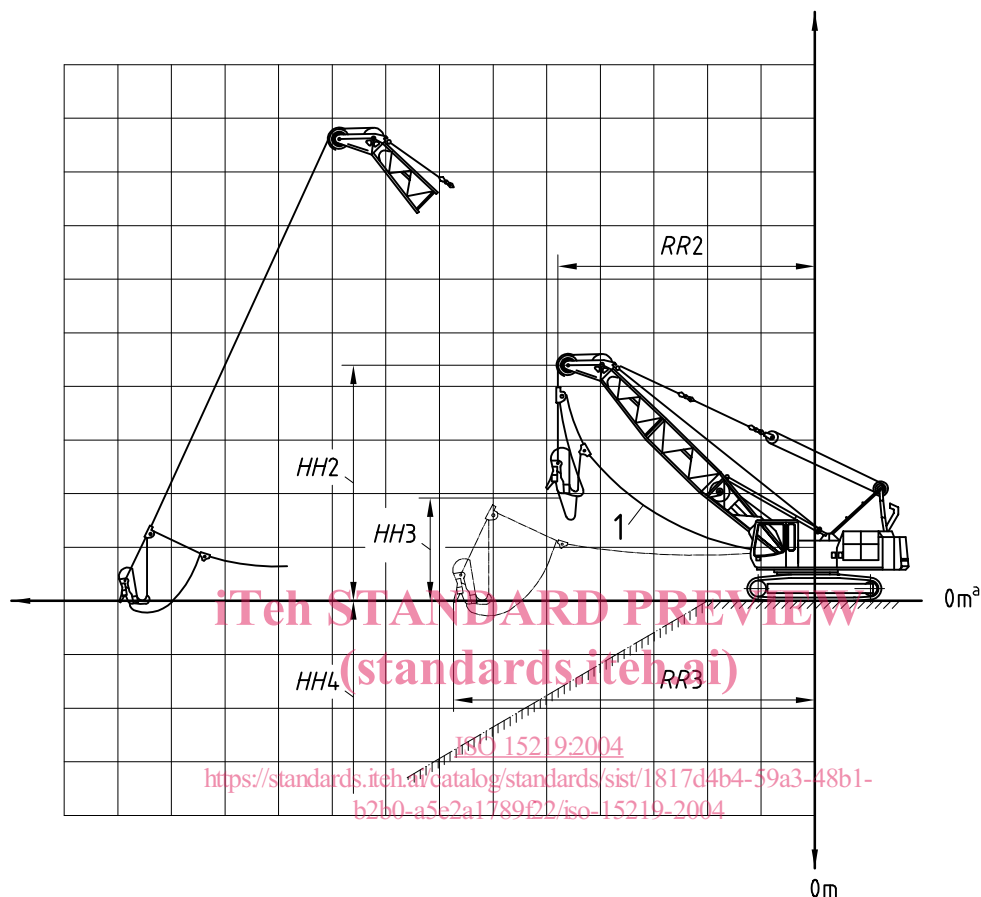


^a At boom length of ...

Figure 6 — Reach of equipment in lifting application

5.1.3 Dragline equipment

Dragline equipment consists of a boom, bucket, rope and fair lead that cuts material — generally towards the machine — by pulling the bucket by the dragging winch. The dimensions shall be as shown in Figure 7 and according to Annex B.



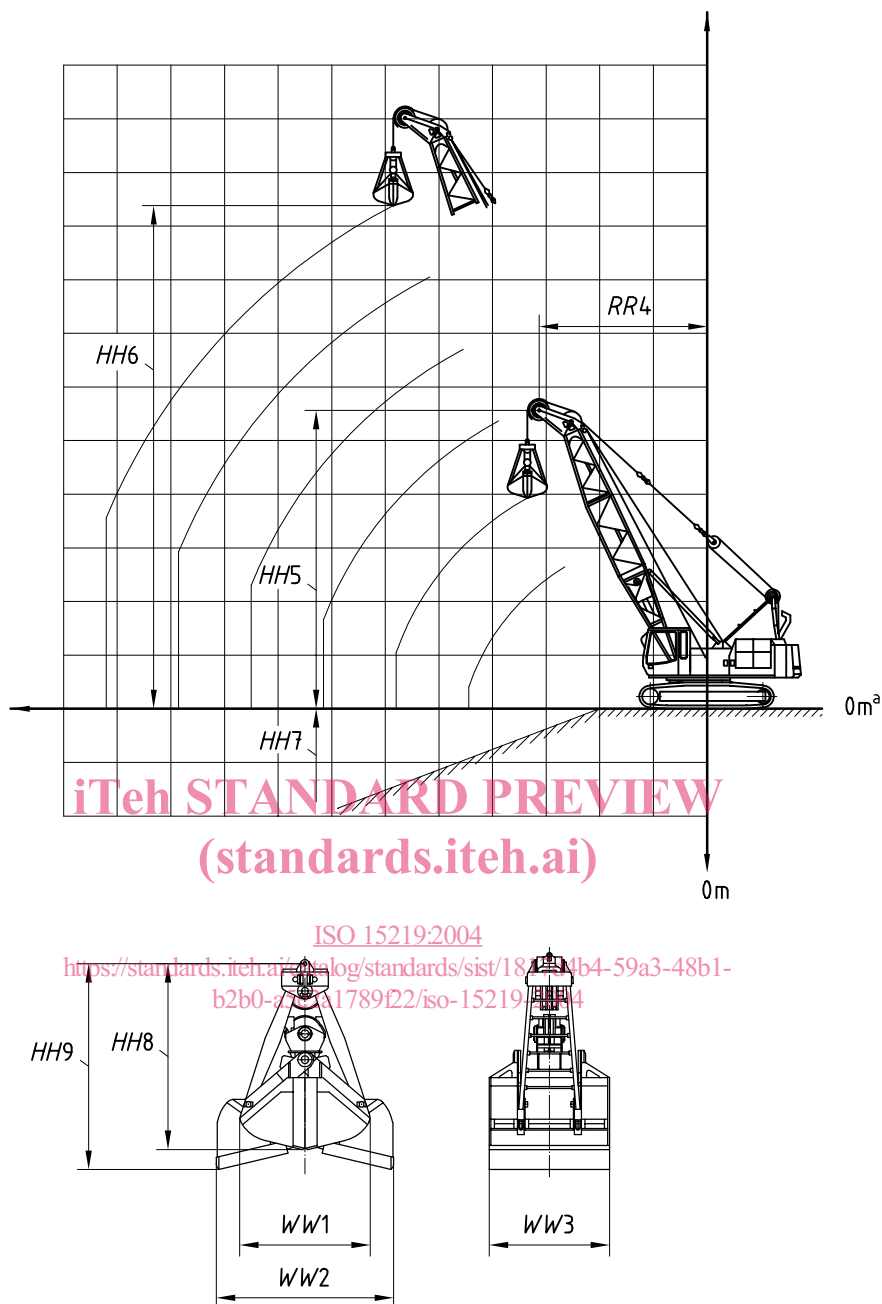
Key

- 1 dressing rope
- ^a GRP.

Figure 7 — Dimensions of dragline equipment

5.1.4 Clamshell equipment

Clamshell equipment consists of a boom, rope and clamshell, with digging and grabbing done generally vertically, discharging below and above GRP. The dimensions shall be as shown in Figure 8 and according to Annex B.



a GRP.

Figure 8 — Dimensions of grab/clamshell and its equipment

5.1.5 Stabilizer equipment

Stabilizer equipment consists of a frame to the front and another to the rear, with two single, telescopic, adjustable, outrigger units at front and rear that are fitted with vertical movable outrigger pads. The dimensions shall be as shown in Figure 9 and according to Annex B.