
**Walking aids manipulated by both
arms — Requirements and test
methods —**

**Part 2:
Rollators**

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*Aides à la marche manipulées avec les deux bras — Exigences et
méthodes d'essai —*
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Partie 2: Déambulateurs

ISO 11199-2:2005

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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 11199-2 was prepared by Technical Committee ISO/TC 173, *Assistive products for persons with disability*.

This second edition cancels and replaces the first edition (ISO 11199-2:1999), which has been technically revised.

ISO 11199 consists of the following parts, under the general title *Walking aids manipulated by both arms — Requirements and test methods*:

- *Part 1: Walking frames* <https://standards.iteh.ai/catalog/standards/sist/f658a50f-bf4c-4802-b6c2-f211e4628eed/iso-11199-2-2005>
- *Part 2: Rollators*
- *Part 3: Walking tables*

Walking aids manipulated by both arms — Requirements and test methods —

Part 2: Rollators

1 Scope

This part of ISO 11199 specifies requirements and methods of testing the static stability braking capabilities, static strength and fatigue of rollators being used as walking aids with wheels, manipulated by the hands, without accessories, unless specified in the particular test procedure. This part of ISO 11199 also gives requirements relating to safety, ergonomics, performance, and information supplied by the manufacturer including marking and labelling.

The requirements and tests are based on every-day usage of rollators as walking aids, for a maximum user mass as specified by the manufacturer. This part of ISO 11199 includes rollators specified for a user mass of no less than 35 kg.

This part of ISO 11199 is not applicable to rollators with horizontal forearm supports, classified as walking tables, for which ISO 11199-3 is applicable.

NOTE Recommendations further to the requirements given in this part of ISO 11199 are given in an Annex A.

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 9999:2002, *Technical aids for persons with disabilities — Classification and terminology*

EN 1041, *Information supplied by the manufacturer with medical devices*

3 Terms and definitions

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

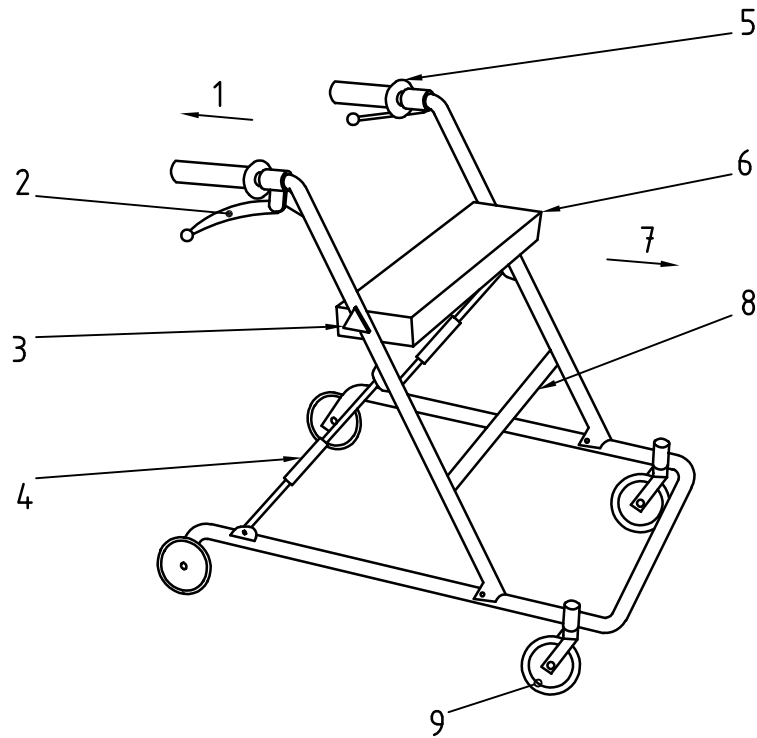
3.1

rollator

walking aids with built-in handgrips and three or more legs of which two or more are having wheels, which provide support whilst walking

See Figure 1.

NOTE Rollators include equipment with a seat for resting, as specified in ISO 9999:2002, Classification No. 12 06 06.



Key

- 1 rear
- 2 brake handle
- 3 height adjustment mechanism
- 4 folding mechanism
- 5 handle/handgrip

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- 6 resting seat
- 7 front
- 8 bracing member
- 9 wheels

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Figure 1 — Example of components of a rollator

3.2 user mass

body mass of the person using the product as a walking aid

3.3 maximum length

maximum outside dimension of a rollator when the height adjustment is at its maximum, measured parallel to the direction of straight forward movement when the rollator is in normal use

See Figure 2.

3.4 maximum width

maximum outside dimension of a rollator when all adjustments are at their maximum, measured at right angles to the direction of straight forward movement when the rollator is in normal use

See Figure 2.

3.5 rollator height

vertical distance from the rear handgrip reference point to the ground

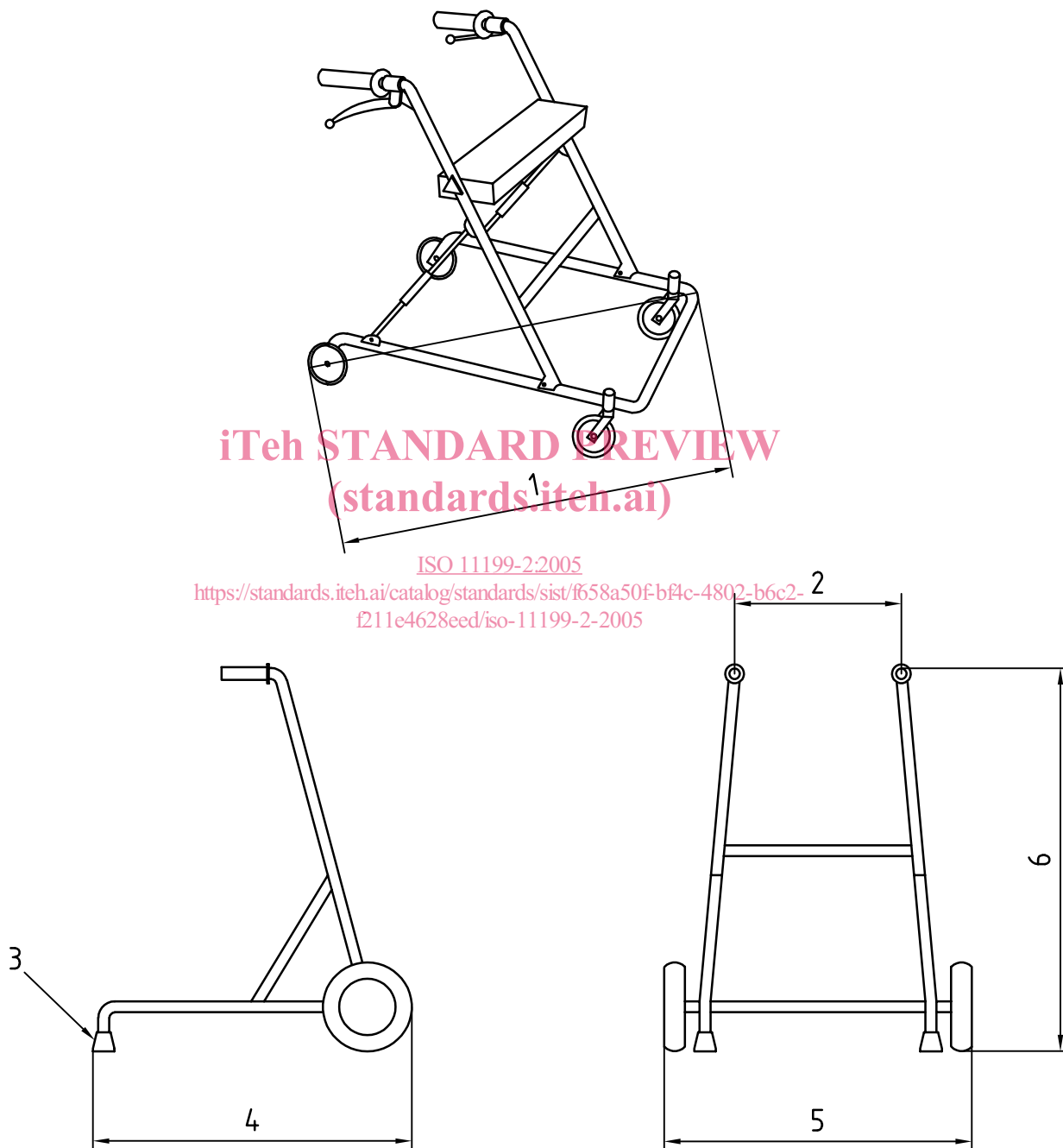
See Figure 2.

3.6 turning width

minimum distance between two parallel limiting walls in between which a rollator can be turned 180° around its own central vertical axis

See Figure 2.

NOTE The adjustments are to be at their maximum



Key

- | | | | |
|---|-----------------------|---|----------------|
| 1 | turning width | 4 | maximum length |
| 2 | width between handles | 5 | maximum width |
| 3 | tip | 6 | height |

Figure 2 — Nomenclature of maximum dimensions for a rollator

3.7
folded dimensions
height, width and length of the rollator measured with the rollator folded together without the use of tools, all adjustments at their minimum

3.8
handgrip
that part of the rollator which is intended by the manufacturer to be held by the hand when the rollator is in use

See Figure 3.

3.9
handle
that part of the rollator to which the handgrip is attached

3.10
front handgrip reference point
that point on the upper surface of the handgrip located 30 mm inwards from the front end of the handgrip length

See Figure 3.

3.11
rear handgrip reference point
that point on the upper surface of the handgrip located 30 mm inwards from the rear end of the handgrip length

See Figure 3.

3.12
handgrip length
dimension of the handgrip measured longitudinally where the hand rests

See Figure 3.

NOTE Where the front end or the rear end of the handgrip is not clear, the full length of the handgrip that may comfortably support the mass of the user is defined as the handgrip length.

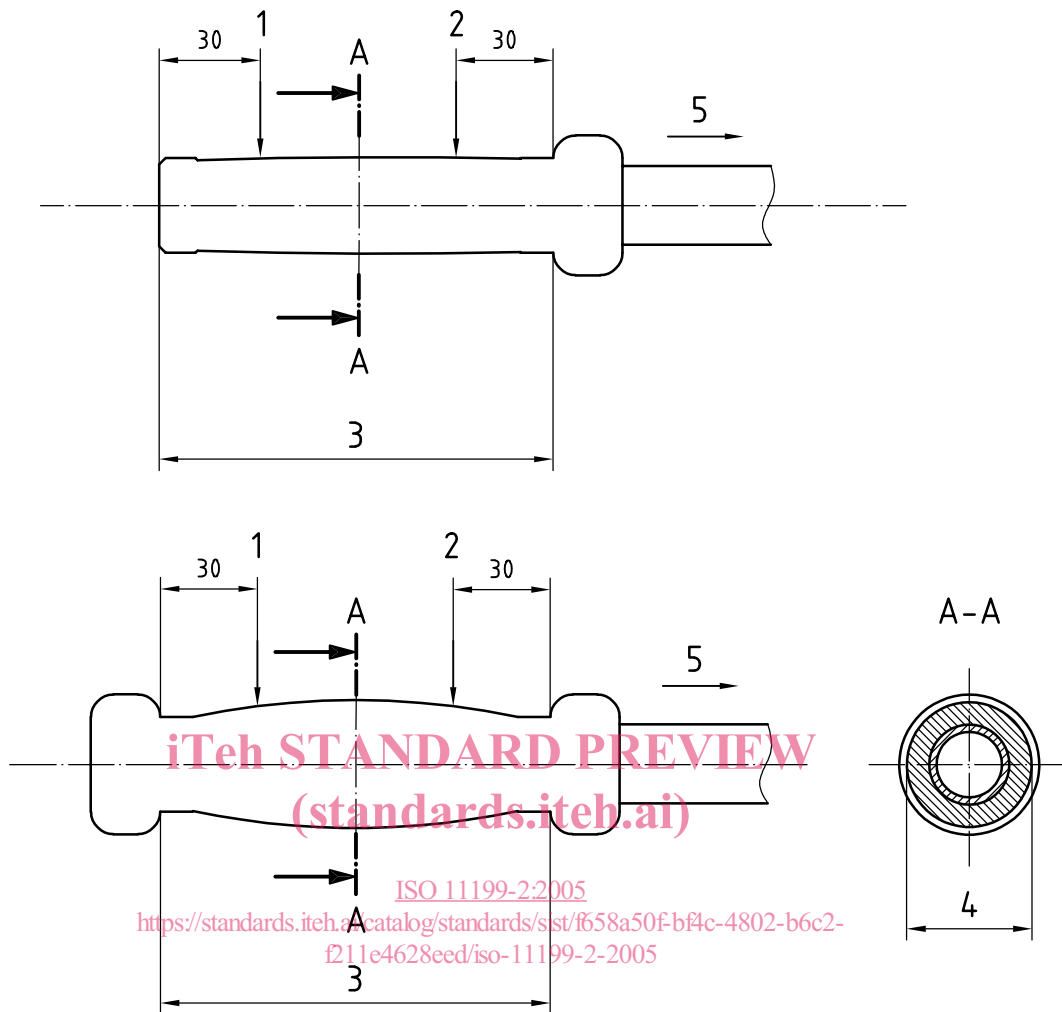
3.13
handgrip width
outside dimension of the handgrip measured horizontally at the thickest point where the hand rests

See Figure 3.

3.14
brake grip distance
distance measured, with the brake handle in the neutral position, at the midpoint of the handgrip length and normal to the centreline of the handle tubing, from the upper surface of the handgrip to the lower surface of the brake handle

See Figure 4.

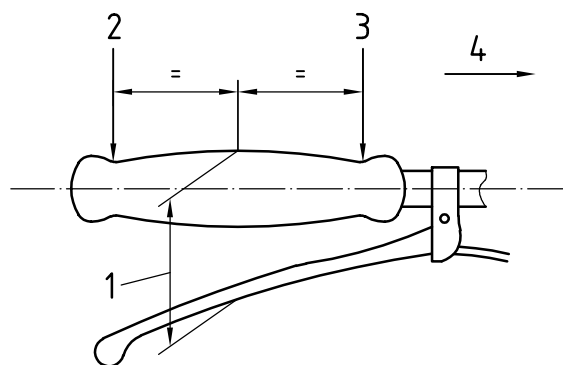
Dimensions in millimetres



Key

- | | |
|----------------------------------|------------------|
| 1 rear handgrip reference point | 4 handgrip width |
| 2 front handgrip reference point | 5 front |
| 3 handgrip length | |

Figure 3 — Detailed drawing of a handgrip



Key

- | | |
|---------------------------------|----------------------------------|
| 1 brake grip distance | 3 front handgrip reference point |
| 2 rear handgrip reference point | 4 front |

Figure 4 — Brake grip distance

3.15

tips

load-bearing parts without wheels, which are in contact with the ground during use of a rollator

See Figure 2.

NOTE Tips are also used as pressure brakes on some four-wheeled rollators in addition to the wheels.

3.16

forearm support

that horizontal part on which the forearm rests, possibly combined with a handle with handgrip to keep the arm in position

3.17

parking brake

brake that stays engaged after being activated

3.18

running brake

brake that is operated by the user during walking and where the braking effect depends proportionally on the activation force applied

3.19

pressure brake

a running brake that engages when a vertical load is applied on the handgrips or on supporting points of the rollator

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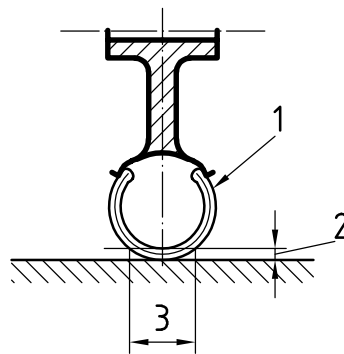
3.20

wheel width

maximum dimension of the tyre of the wheel measured within 5 mm up from the walking surface when the rollator is unloaded

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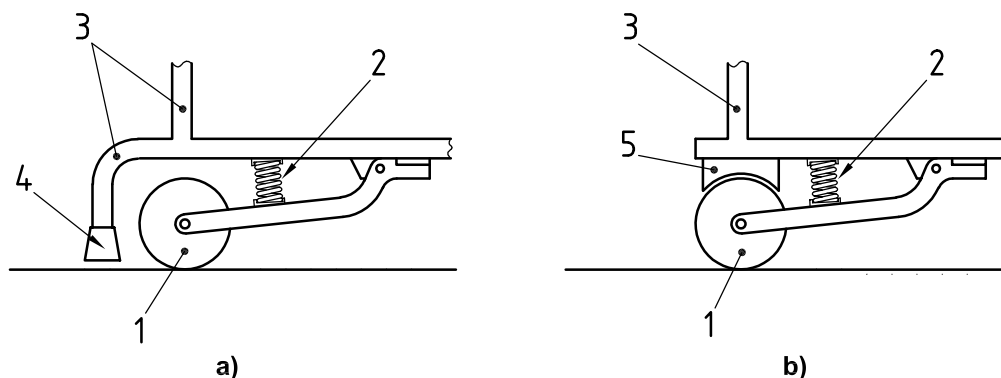
See Figure 5.



Key

- 1 tyre
- 2 0 to 5 mm up from the walking surface
- 3 wheel width

Figure 5 — Wheel width measurement

**Key**

- 1 wheel
- 2 spring
- 3 frame
- 4 rubber tip (brake)
- 5 brake pad

Figure 6 — Two types of pressure brake with technical details

4 Requirements

4.1 Manoeuvrability

The front wheel diameter shall be no less than 75 mm.

The front wheel diameter of rollators manufactured for outdoor use shall be no less than 180 mm.

The wheel width of rollators manufactured for outdoor use shall be no less than 22 mm.

4.2 Stability

When tested according to the forward stability test (see 5.3), the angle of the plane at the point of rollator tilting shall be no less than 15,0° from the horizontal.

When tested according to the backward stability test (see 5.4), the angle of the plane at the point of rollator tilting shall be no less than 7,0° from the horizontal.

When tested according to the sideways stability test (see 5.5), the angle of the plane at the point of rollator tilting shall be no less than 3,5° from the horizontal.

4.3 Brakes

All rollators with more than two wheels shall have running brakes that are easy to operate by the user when the rollator is in motion.

All rollators with more than two wheels and which have a resting seat, or are designed for outdoor use, shall have parking brakes, which may be integrated with the running brakes.

Maximum grip distance for operating running brakes shall be no greater than 75 mm as measured in accordance with 5.7.1.1 (see Figure 4).

When tested according to the running brake test (see 5.7.1), the rollator shall not move more than 10 mm in 1 min.