



International
Standard

ISO 20957-2

**Stationary training equipment —
Part 2:
Strength training equipment
— Additional specific safety
requirements and test methods**

Appareils d'entraînement fixes —

*Partie 2: Appareil d'entraînement de force — Exigences
spécifiques de sécurité et méthodes d'essai supplémentaires*

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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 document 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).

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This document was prepared by Technical Committee ISO/TC 83, *Sports and other recreational facilities and equipment*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 136, *Sports, playground and other recreational facilities and equipment*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 20957-2:2020), which has been technically revised.

The main changes are as follows:

- referenced standards have been updated with year of publication;
- NOTE 2 has been added to [Clause 1](#);
- [Clause 3](#) has been updated to add definition and corresponding figure for rack station;
- [Clause 5](#) has been restructured;
- [6.1.5](#) "Finger entrapment test" has been added.

A list of all parts in the ISO 20957 series can be found on the ISO website.

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.

Stationary training equipment —

Part 2:

Strength training equipment — Additional specific safety requirements and test methods

1 Scope

This document specifies safety requirements for stationary strength training equipment, in addition to the general safety requirements of ISO 20957-1:2013.

This document is applicable to stationary strength training equipment with stacked weight resistance or alternative means of resistance, such as elastic cords, hydraulic, pneumatic, electrical, magnetic, springs and externally loaded weights (hereinafter referred to as stationary training equipment) with the classes H, S and I according to ISO 20957-1:2013.

NOTE Accuracy classes are not applicable to this type of stationary training equipment as accuracy classes do not affect the safety of this equipment.

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 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 20957-1:2013, *Stationary training equipment — Part 1: General safety requirements and test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 20957-1:2013 and the following 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

selectorized equipment

strength training equipment where the resistance means is a load that is an integral part of the device that can be varied by the user without adding or removing components to and from the equipment

Note 1 to entry: An example is shown in [Figure 1](#).

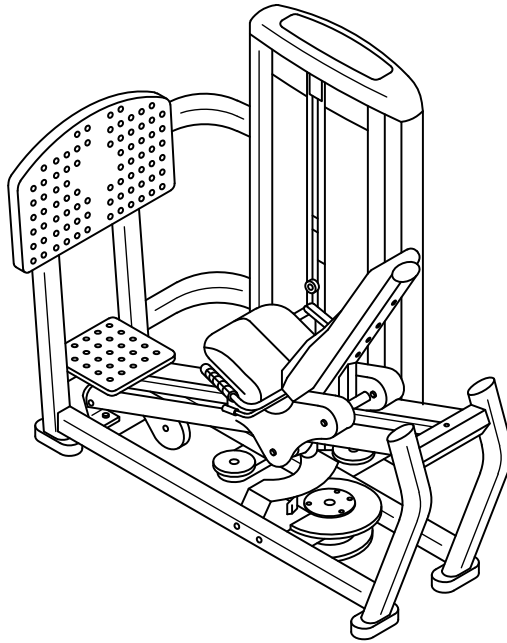


Figure 1 — Example of selectorized stationary training equipment

3.2

externally loaded equipment

strength training equipment where the main resistance means is a load that is not an integral part of the device that can be varied by the user by adding or removing components to and from the equipment

EXAMPLE Weight discs or resistance bands.

Note 1 to entry: Free-weight barbell racks are also subject to the requirements of ISO 20957-4:2016 and ISO 20957-1:2013.

3.3

drop stop

permanent or adjustable constructive element creating a pre-set minimum stop position that provides the user with clearance to avoid entrapment without any further action of the user

3.4

catch mechanism

rest or holder for a barbell or for a carriage on *guided equipment* (3.9), which needs to be engaged by the user, from which the user can begin the exercise motion or end at the completion of the exercise

3.5

work arm

component of strength training equipment that allows the user to activate resistance means for a specific exercise

Note 1 to entry: An example of equipment where this component is relevant is shown in [Figure 2 a](#)).

3.6

training resistance

force or torque exerted by the user to perform the exercise

3.7

weight post

structure protruding from the frame of *externally loaded equipment* (3.2) for the purpose of holding weight either for a resistance means or for storage

Note 1 to entry: An example of equipment where this component is relevant is shown in [Figure 2 b](#)) and [Figure 2 c](#)).

3.8

work arm actuated equipment

equipment where the external load is attached directly or indirectly to a movement mechanism that is displaced intentionally by the user

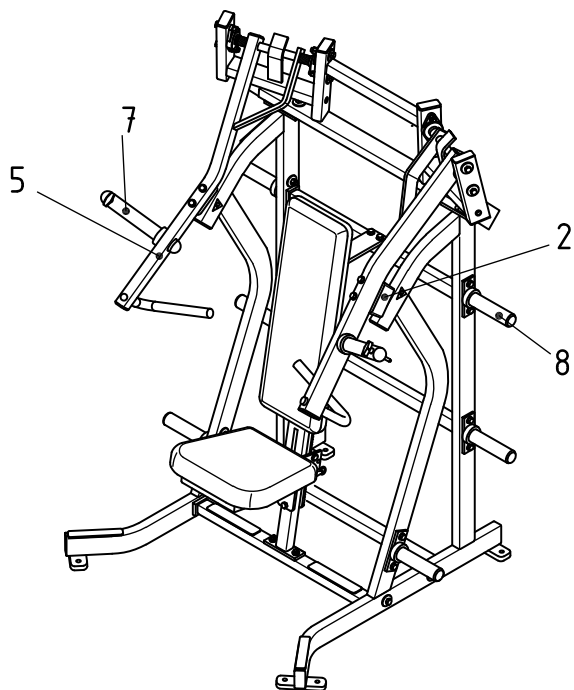
Note 1 to entry: An example is shown in [Figure 2 a\)](#).

3.9

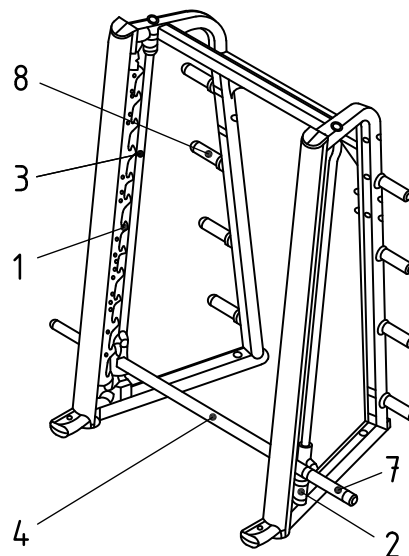
guided equipment

equipment where the external load is placed on a *weight post* ([3.7](#)) affixed to a carriage that is moving on a guided path

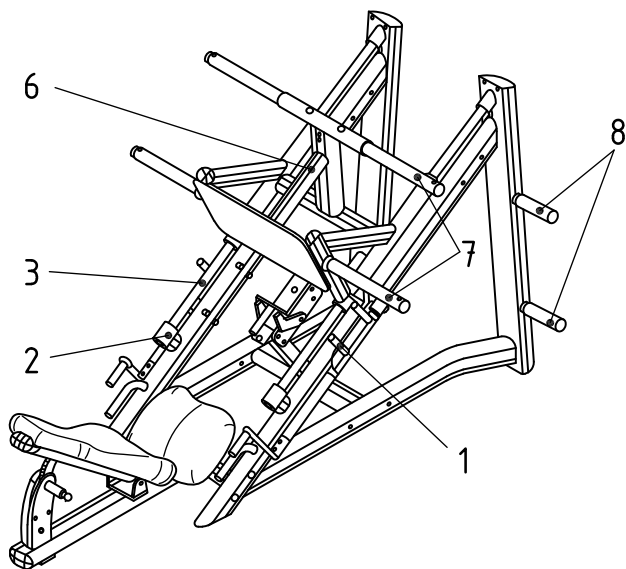
Note 1 to entry: Examples are shown in [Figure 2 b\)](#) and [Figure 2 c\)](#). Commonly used names for this equipment are "Smith press", "Smith machine" and "multi-press".



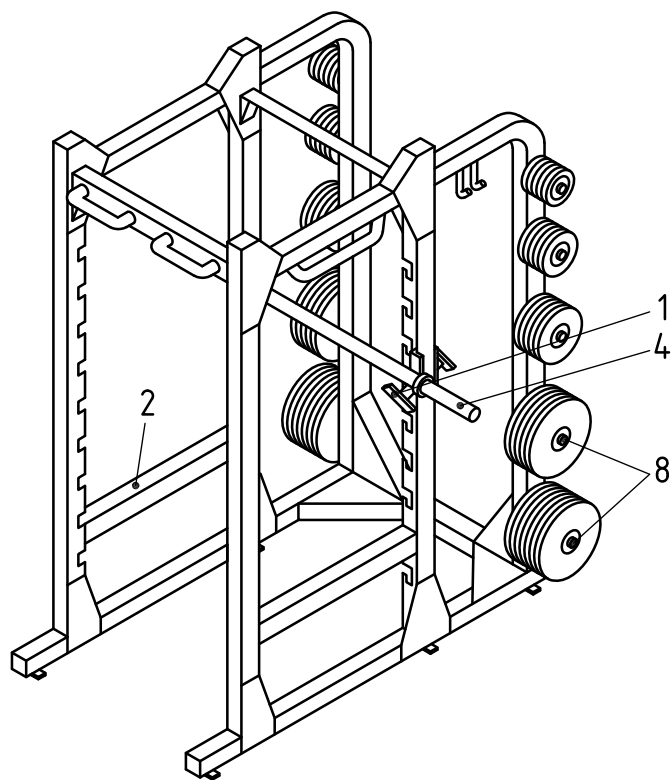
a) Chest press



b) Multi press



c) Leg press



d) Rack station