



# SLOVENSKI STANDARD

## SIST ISO 4190-5:2012

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**Dvigala (lifti) - 5. del: Krmilja, signali in pripadajoča oprema**

Lift (Elevator) installation - Part 5: Control devices, signals and additional fittings

**iTeh STANDARD PREVIEW**  
Installation d'ascenseurs - Partie 5: Dispositifs de commande et de signalisation et accessoires complémentaires  
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# INTERNATIONAL STANDARD

**ISO**  
**4190-5**

Third edition  
2006-11-01

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## Lift (Elevator) installation —

Part 5:

### Control devices, signals and additional fittings

*Installation d'ascenseurs —*

*Partie 5: Dispositifs de commande et de signalisation et accessoires complémentaires*

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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 4190-5 was prepared by Technical Committee ISO/TC 178, *Lifts, escalators and moving walks*.

This third edition cancels and replaces the second edition (ISO 4190-5:1987), which has been technically revised.

ISO 4190 consists of the following parts, under the general title *Lift (Elevator) installation*<sup>1)</sup>:

- *Part 1: Class I, II, III and VI lifts*
- *Part 2: Class IV lifts*
- *Part 3: Service lifts class V*
- *Part 5: Control devices, signals and additional fittings*
- *Part 6: Passenger lifts to be installed in residential buildings — Planning and selection*

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1) The title, which differs in various respects in the other, previously published, parts, is to form the subject of a Technical Corrigendum for each of the parts concerned.

## Introduction

This third edition of ISO 4190-5 takes into account the latest studies concerning ergonomics and the needs of various people with disabilities.

Many regional disabled people's associations were associated with this work and were in agreement with these new concepts. A general consensus had been obtained on the data recorded in this part of ISO 4190.

However, due to existing regulations and, in particular, local habits, in some countries it could be difficult to introduce a part of these specifications without certain precautions being taken (for example, modification of a well-known symbol).

Concerning provisions expressed in terms of values (dimensions, sound level, etc.), this part of ISO 4190 often gives two ranges of values: a general range, followed by a recommended range. The range of recommended values is intended as the target to be reached, as far as is possible, in each country.

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# Lift (Elevator) installation —

## Part 5: Control devices, signals and additional fittings

### 1 Scope

This part of ISO 4190 specifies the control devices, buttons and indicators to be provided when a lift (US: elevator) is constructed and installed, taking into account the type of control intended for the lift and also ensuring the ease of access for disabled persons (motor and/or sensory). Annex B gives particular requirements for access. The description of the controls is given only in order to define the buttons and indicators. It does not constitute a complete description of these controls nor does it attempt to standardize them.

This part of ISO 4190 also specifies the requirements for handrails when provided in the car.

It is applicable to lifts of classes I to IV and VI as defined in ISO 4190-1 and ISO 4190-2.

Group collective lifts have common controls and are electrically interconnected so as to provide a better service and for reasons of economy. The system can be more or less complex according to the number of lifts and the expected traffic. Consequently, this part of ISO 4190 does not deal with supplementary signals which the manufacturer may consider useful (e.g. "next car", "stand clear of the doors").

The following are not dealt with in this part of ISO 4190:

- a) special features (and their corresponding signals), such as certain features for improving the service of bed lifts, touch screens or voice activators;
- b) any devices for speeding the traffic in the case of automatic doors (variable time delays according to different criteria, closing button, light ray, etc.).

The requirements of this part of ISO 4190 are intended to be followed in all cases where the controls and the basic signals are concerned, and can also be used as a guide in developing supplementary signals.

### 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 4190-1, *Lift (Elevator) installation — Part 1: Class I, II, III and VI lifts*

ISO 4190-2, *Lift (Elevator) installation — Part 2: Class IV lifts*

### 3 Specifications relating to controls

#### 3.1 Types of control systems

##### 3.1.1 Down collective control (DC)

With the down collective control (DC), landing calls can be registered whether or not the car is available.

The calls are registered by pressing the call button provided on each landing. If the car is free or coming down, it will answer the landing call from the highest landing and then the other calls in succession as it approaches the main floor.

The calls registered in the car will be retained at any time and answered in logical sequence according to the direction of travel.

This control can be used when there is no passenger traffic between upper floors — passengers make use of the lift from the main floor to the required floor or vice versa — and when there is no level served below the main floor. It requires one call button per landing. It can be used with a single or group collective lift (see Clause 1) and where one or more levels below the main floor level are to be served.

The control shall be DC for the levels above the main floor, but *up collective* for the levels below the main floor.

The precise name for this type of control is *up-distributive/down-collective*.

##### 3.1.2 Directional (full) collective control (FC)

This control requires two call buttons on each intermediate landing — one for ascent and another for descent — so that the passengers can indicate the direction in which they wish to travel, with a single button at the terminal landings.

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Both landing and car calls registered are answered in logical sequence according to the direction of travel of the car.

This system is installed when inter-floor traffic is expected during upward and downward travel. It can be used with a single lift or in group collective lifts (see Clause 1).

##### 3.1.3 Destination-oriented lift systems (DO)

For destination controls, see Annex A.

##### 3.1.4 Lift group

A lift group is formed of lifts having the management of landing calls in common.

Group operation can be provided for DC, FC or DO controls.

For destination controls using a keypad, see Annex A.

##### 3.1.5 Car call sequential step scanning

Lift car call sequential step scanning shall be provided where car control buttons are provided more than 1 220 mm above the car floor.

Floor selection shall be accomplished by applying momentary or constant pressure to one of the two special buttons (up and down scan button).

— The up scan button shall sequentially select floors above the current floor.

— The down scan button shall sequentially select floors below the current floor.

When pressure is removed from the up or down scan button for more than 2 s, the last floor selected shall be registered as a car call.

The up and down scan button shall be located adjacent to, or immediately above, the emergency control buttons.

## 3.2 Control devices

### 3.2.1 On landings

#### 3.2.1.1 Down collective control

Each landing station shall be provided with one call button (no marking required).

If the lift serves floors above and below the main floor, the main floor shall be provided with two call buttons marked with the symbols ▼ and ▲ (see Table C.1, 6).

#### 3.2.1.2 Directional full collective control in the two directions of operation

At each intermediate floor, the landing station shall be provided with two call buttons, one marked with symbol ▲ and the other with symbol ▼ (see Table C.1, 6).

At each terminal landing, the landing station shall be provided with one call button, marked with symbol ▲ or ▼, as appropriate.

For all types of control, if a special device is used to improve accessibility, the international symbol of accessibility shall be used (see Table C.1, 10).

#### 3.2.1.3 Lift group

Every floor shall be equipped with landing stations having one or two call buttons. The minimum quantity of landing stations shall be

- one per face for lifts facing on another (opposite lift),
- one for a maximum of four adjacent lifts (if the landing station is located between two lifts).

Lift groups containing only one wheelchair-accessible lift shall be equipped with a special button marked with the wheelchair symbol, used to call the wheelchair-accessible lift (see Table C.1, 10).

This lift shall be identified by the standard symbol of accessibility (see Table C.1, 10).

#### 3.2.1.4 Buttons (not applicable to keypads, see Annex A)

The following is applicable to landing buttons other than those on keypads.

- a) For call registration, the necessary operating force on the active part of the button shall be not less than 1 N and not more than 5 N, with an operating force of between 2,5 N and 5 N recommended.
- b) The dimension of the active part shall be as follows:
  - the minimum area shall be not less than 280 mm<sup>2</sup>, with a minimum area of not less than 490 mm<sup>2</sup> recommended;