



## Full Height Railings

# MB-15

INSTALLATION & OPERATION MANUAL



CE



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***MB-15***

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***Dear Customers!***

*We thank you for choosing the railings manufactured by PERCo. You have purchased the high quality product which will be long lasting in operation provided that installation and operation rules are observed.*

The installation manual (hereinafter – the Manual) for MB-15 full height railings contains data necessary for transportation, storage, installation and maintenance of this product as well as the warranty obligations of PERCo.

Only qualified personnel, following the instructions of this manual, must carry out installation and maintenance.

**1 APPLICATION**

The **MB-15 full height railings** (hereinafter referred to as the “Railings”) are meant to separate the functional area at entrance points of facilities with high security requirements.

The railings are available in two modifications:

- main section **PERCo-MB-15R**;
- extension section **PERCo-MB-15D** (the latter does not have any fittings to be independently fixed to the floor, but is used to fill gaps of not standard size).

It is possible to use the railings in two ways:

- As a separate railing system regardless of any access control device.
- As an option to PERCo full height access control devices (full height rotor turnstiles of RTD-15 series, hereinafter referred to as the “Turnstile” and WHD-15 full height electromechanical security gate, hereinafter referred to as the “Security gate”). The railings have the same design with the named devices and can be joined with them in a single construction.

The required quantity of the railing sections is calculated based on their dimensions (Ref. Section 3).

**2 OPERATION CONDITIONS**

The railings on resistance to environmental exposure are compliant with GOST 15150-69, category U2 (for outside usage under the roof protection).

Operation of the railings is allowed at ambient temperature between -40°C and +55°C and relative air humidity of up to 98% at +25°C.

**3 TECHNICAL SPECIFICATIONS**

General view and dimensions of railings are shown in Table 1 and Figure 1.

Railing sections of both modifications are made of durable aluminum and covered with high quality powder paint. An example of the railings connected in one unit is shown in Figure 2.

**Table 1. Overall dimensions MB-15**

Characteristics	Railings Modification	
	MB-15R	MB-15D
Length, mm	820	700*
Width, mm	120	60
Height, mm	2150	2115
Weight, kg	21.5	9.4



**Note:**

Distance between holes for fixing the main section to the extension section is shown on Fig. 3.

\* During the installation can be reduced to 260 mm

**4 DELIVERY SET**

**4.1 Standard delivery set**

**Main Equipment:**

- MB-15R railing ..... required number
- MB-15D extension section ..... required number

**Documentation:**

- Installation manual ..... 1

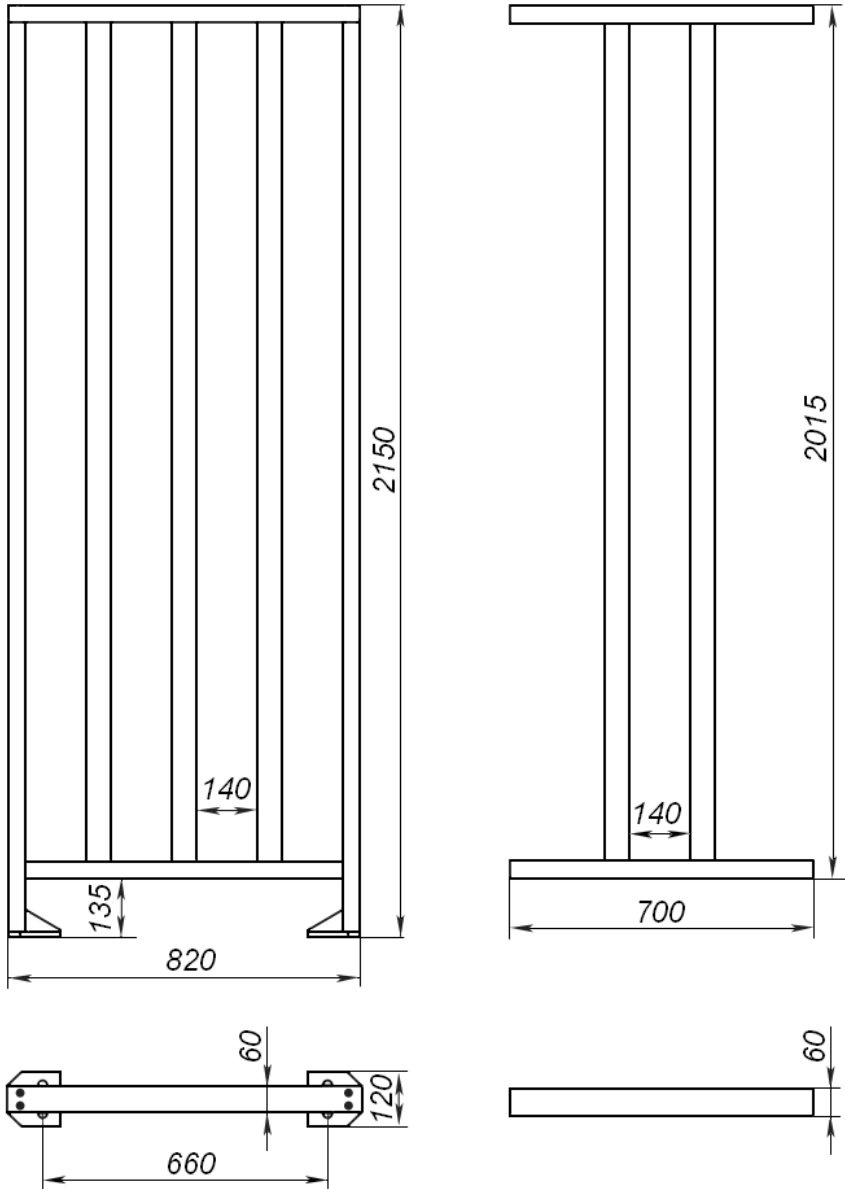
**Packaging:**

- Transportation box for MB-15R railing ..... required number
- Transportation box for MB-15D extension section ..... required number

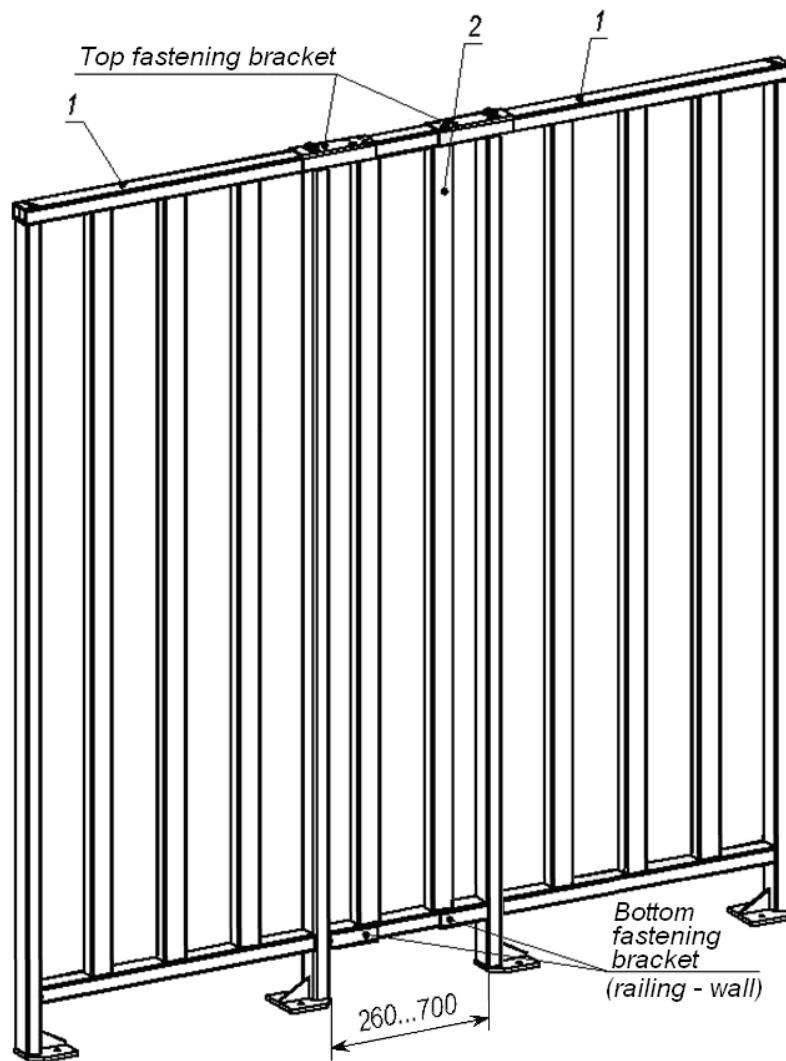
**4.2 Optional equipment supplied on request**

**Additional mounting tools** can be added to the standard delivery set upon request:

- PFG IR 10-15 anchor with bolt M10 ..... 4 pcs. for one main section
- Connecting components:
  - brackets for connection of railing sections together,
  - with a turnstile (or its canopy), with a gate or with a wall ..... required number



**Figure 1. Overall view and dimensions MB-15R railing and MB-15D extension section**



**Figure 2. Sample design of the railings:**  
 1 – MB-15R railings; 2 – MB-15D extension section.

## 5 PRODUCT DESCRIPTION

Main features of the railings are the following:

- Two possible ways of use – as a separate railing located on the passageway regardless of any other access control devices used or in addition to PERCo full height turnstiles and security gates making a joint construction with them;
- High corrosion resistance of the product, which is made of an aluminum alloy, ensures a long term service even in unfavorable environment;
- High strength polymer powder coating keeps surface undamaged even under heavy use.

## 6 MARKING AND PACKAGING

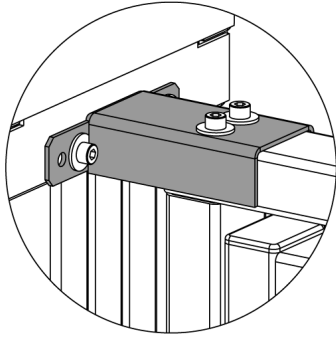
Railings in standard delivery set (Ref. Clause 4.1) are packed in transportation boxes in order to protect them from the damage during transportation and storage.

Refer to Table 2 for overall dimensions and weight of transportation boxes (as standard).

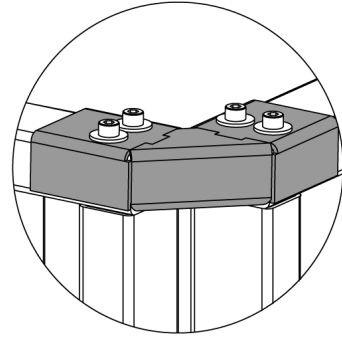
Boxes are labeled with the packaged product's name and additional marking stickers with a number of characters.

**Table 2. Transport boxes for railing sections**

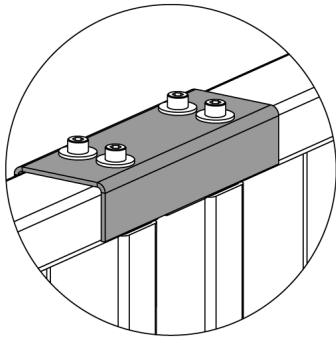
Packaging Type	Box dimensions (length × width × height), mm	Weight of a box, kg
MB-15R	2215×930×202	54
MB-15D	2115×765×136	30



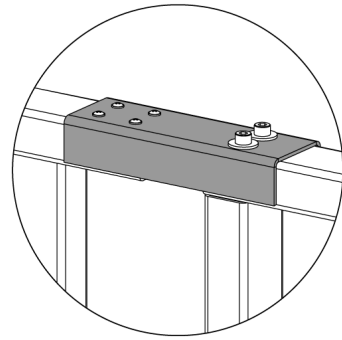
*RF01 0-03 top fastening bracket for joining RTD-15 turnstile with MB-15R railing section or with WHD-15 full height security gate*



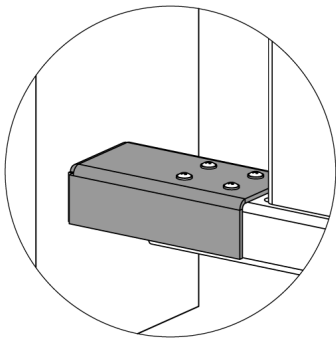
*RF01 0-04 angle top fastening bracket for joining MB-15R railing section between themselves or with WHD-15 full height security gate*



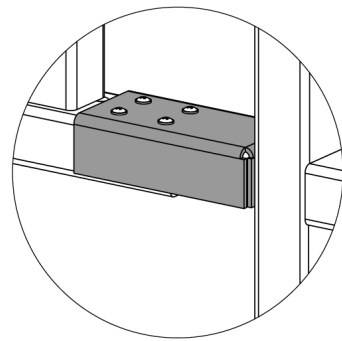
*RF01 0-05 top fastening bracket for joining MB-15R railing section between themselves or with WHD-15 full height security gate*



*RF01 0-06 top fastening bracket for joining MB-15D railing section with MB-15R railing section or with WHD-15 full height security gate*

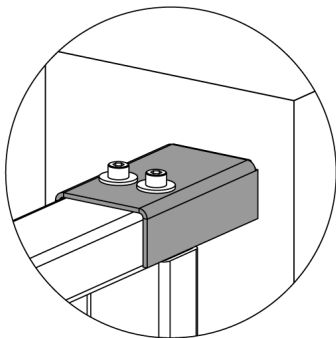


*with wall*

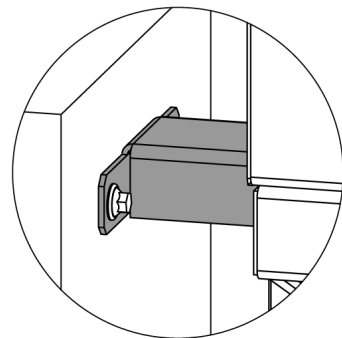


*with MB-15R railing section or with WHD-15 full height security gate*

*RF01 0-07 bottom fastening bracket for joining MB-15D railing section*



*RF01 0-08 top fastening bracket for joining MB-15R railing section or WHD-15 full height security gate with wall*



*RF01 0-11 bracket for joining RTD-15 turnstile with wall*

**Figure 3. Fastening bracket types for joining railing sections**

## 7 SAFETY REQUIREMENTS

### 7.1 Installation safety requirements

The installation should be carried out only by the qualified personnel after the careful study of this manual.



#### **Warning!**

- Use only serviceable tools for installation.
- During the installation of the railing sections one should be especially careful to prevent them from falling.

### 7.2 Operation safety requirements



#### **Don't!**

- Do not subject the railings to jerks and hits;
- Avoid using substances that can cause surface damage when cleaning.

## 8 INSTALLATION

### 8.1 General recommendations

Installation of railings is an important operation which impacts serviceability and life time of the product. Prior to installation works carefully study this section and follow the instructions given here.



#### **Warning!**

The manufacturer is not liable for the damage of railings or any other equipment, as well as for other damages caused by improper installation and rejects any claims of the customer if installation was performed with violation of the manual instructions.

Installation recommendations:

- At least two qualified installers should carry out installation works.
- Install railings on strong and level concrete or stone foundations (concrete with characteristics not less than mark 400, strength B22.5), at least 150 mm thick.
- If the foundation is not strong and level enough use reinforced foundation plates of 300×300×300 mm size.
- Before the railings installations check the horizontality and flatness of the foundation and align it if necessary; the maximum allowable deviation is 1.5 mm.
- Apply «SORMAT» anchor bolts for the installation.

Recommendations for preparing of holes for installation of PERCo-MB-15R are given on condition that PFG IR10-15 (16×60 mm) anchor bolts for concrete floors are used. 4 anchor bolts shall be used for installation of one section.

### 8.2 Installation tools

During the installation works it is recommended to use the following tools:

- 1.2 – 1.5 kW hammer drill;
- Angular cutting machine 0.6 kW;
- An electric drill 0.6 kW;
- Ø16 mm hard alloyed drill bits;
- Drill bit Ø3.5 mm;
- Socket wrench S13; S17;
- Allen key S4; S6; S14;
- Cross-head screwdriver №2 150 mm;
- Flat slot screwdriver № 5 150 mm;
- Measuring tape 3 m;
- Plumb line and level;
- Two ladders with at least four steps.



#### **Note:**

The application of other instruments is allowed if it doesn't reduce the quality of installation works.

### 8.3 Installation of railings

Further in this section the installation operations are described in accordance with the recommendations given above (Ref. Section 8.1).

1. Unpack the railings and check the delivery set compliance according to the Section 4.1.
2. Mark out the installation holes on the mounting surface as per Figure 3.
3. Prepare the mounting holes. Insert the anchors as deep as possible into the holes prepared.



#### **Warning!**

In carrying out further works before fastening the railing sections be very careful to protect sections from falling.

4. Fasten the MB-15R railing with bolts, tighten it only preliminary using little efforts, providing an opportunity of the deviation from the vertical section.
5. Check with the level if the section is installed vertically (mounting pads can be used.) Fasten the bolts properly.
6. The MB-15D extension section can be cut according to the gap width. The length of the additional section can be reduced to 260 mm if necessary (Ref. Figure 2).

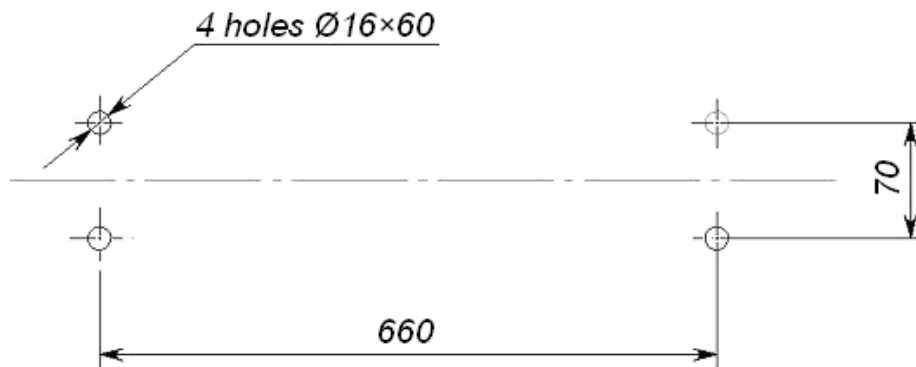


#### **Note:**

The manual provides information on connection of railing sections together with corresponding brackets. Different types of connection with a turnstile (or its canopy), with a gate or with a wall and necessary tools, and also the installation order are not provided. This information is provided by assembly documents for specific complex order of equipment.

7. To the joints between the sections apply corresponding fastening brackets and mark  $\text{Ø}3.5$  mm through the existing holes in the brackets for screws).
8. Drill holes according to the marked out pattern  $\text{Ø} 3.5$  mm, and connect the MB-15R railing and MB-15D extension section together using fastening brackets and screws.
9. Check all the bolted connections of the railings and fasten them if necessary.
10. The railing is installed.

Please contact PERCo technical department if you need assistance.



**Figure 4. Installation holes for the MB-15R railing**

## 9 TRANSPORTATION AND STORAGE

Railings in the original package should be transported in closed type cargo transport units only (trains, containers, closed vehicles, in the holds, planes, etc.). During the transportation the boxes can be stacked in 2 rows.

Storage of the railings is allowed indoors at ambient temperature between  $-40^{\circ}\text{C}$  and  $+55^{\circ}\text{C}$  and at relative air humidity up to 98% at  $+25^{\circ}\text{C}$ . The storage room should be free from acid vapors, alkalis and gases that can cause damage.

After the transportation and storage of the railings at low temperatures or at high air humidity it must be kept unpacked for not less than 24 hours indoors within normal climate conditions corresponding to the operation conditions (Ref. Clauses 2) prior to installation.



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