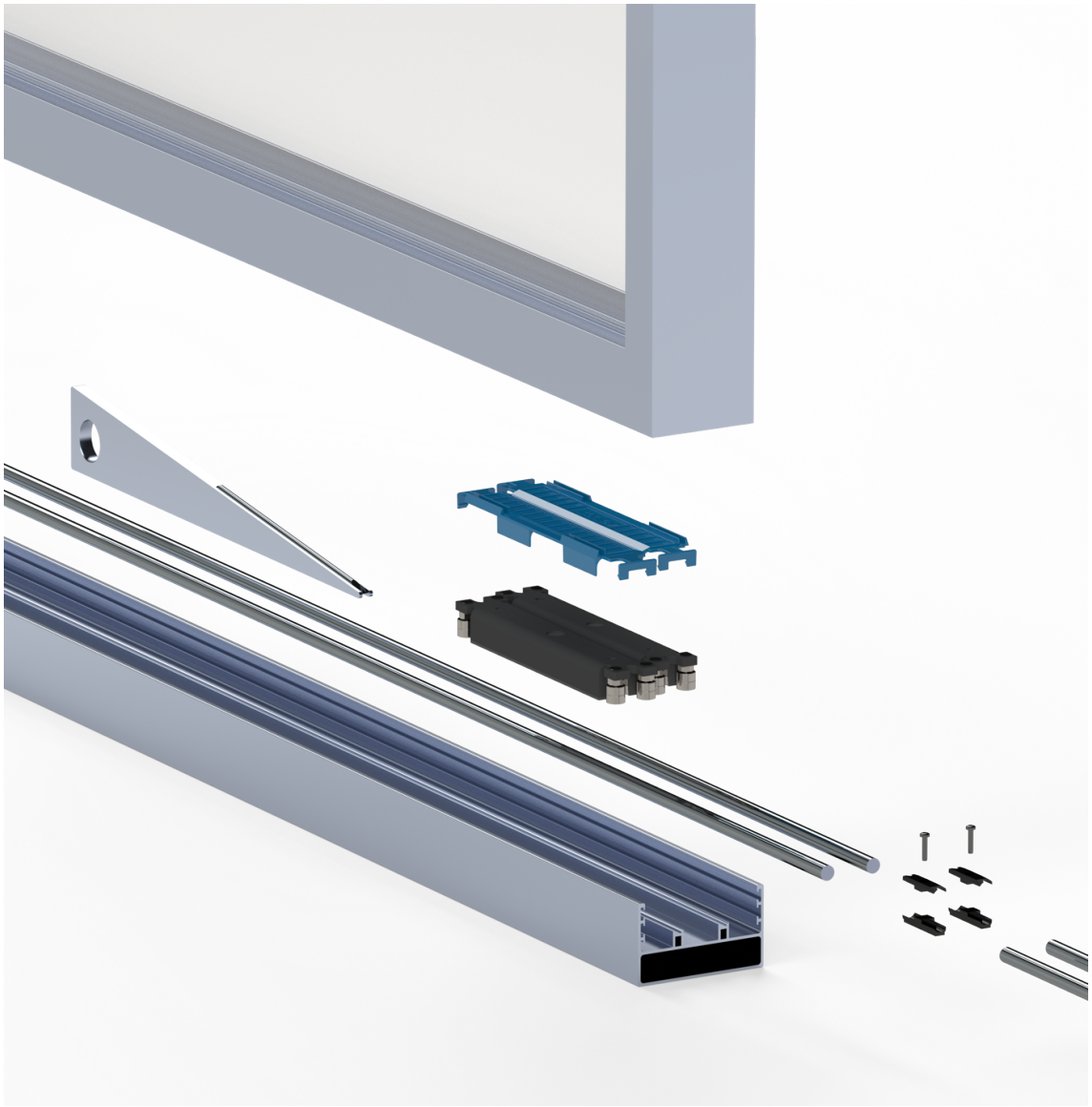
WD Slim - Exterior

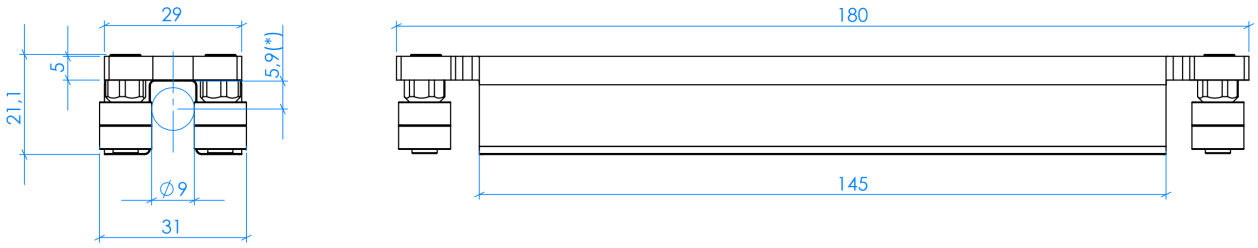
Description

The Ironlev® levitation slider is a device that allows sliding along a longitudinal dimension and the magnetic support of a load in a direction perpendicular to the sliding direction. The magnetic centering is obtained by means of mechanical guides consisting of rolling bearings, while the load application interface consists of an interface clip arranged on the upper surface of the slider. The external coating allows resistance to use and to atmospheric agents. Ironlev WD Slim Slider is specifically designed for sliding windows and exterior doors' application. Ironlev technology allows for large, extremely heavy windows and exterior doors to move with minimum manual force in a friction free environment, without electricity, as if they were in the absence of gravity.



Technical data

Producer	**Ironlev One Srl**
Name	WD Slim - Exterior
Brand	Ironlev®
Load capacity	25 kg
PN	WD368
External dimensions (mm)	180x31x21,1
Rail size diameter (mm)	D 9

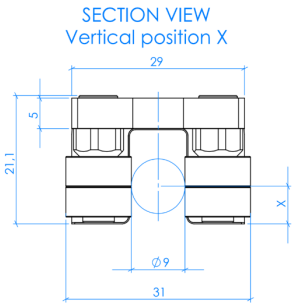


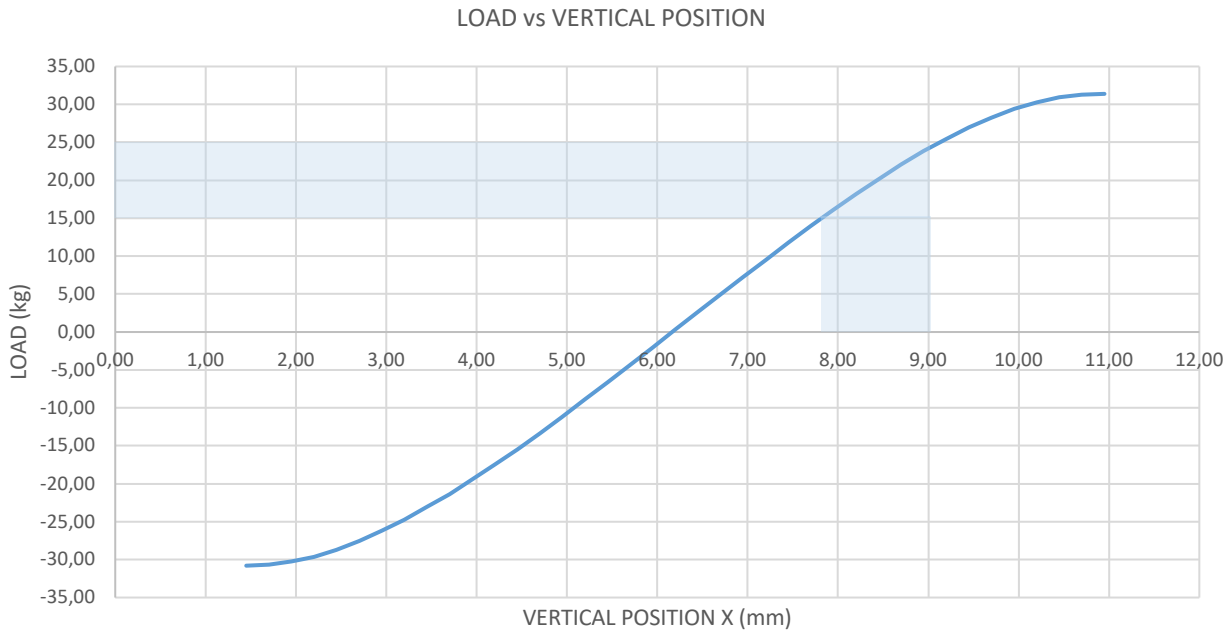
(*): 25 kg nominal position

The Ironlev levitation slider has a magnetic behavior characterized by a variation of the vertical position with respect to the rail as the load varies. Therefore, it is advisable to take this aspect into consideration in the design phase in order to verify the deviation between the nominal position and the position in operating conditions regarding the weight of the applied frame.

For a correct functioning it is suggested to use the slider in a load range between 15 and 25 kg.

Below is a graph that represents the curve of the vertical position X (see reference to Figure) as a function of the applied load.

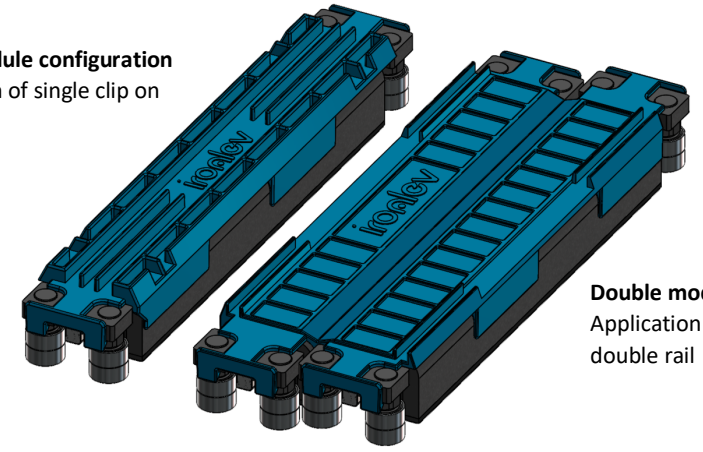




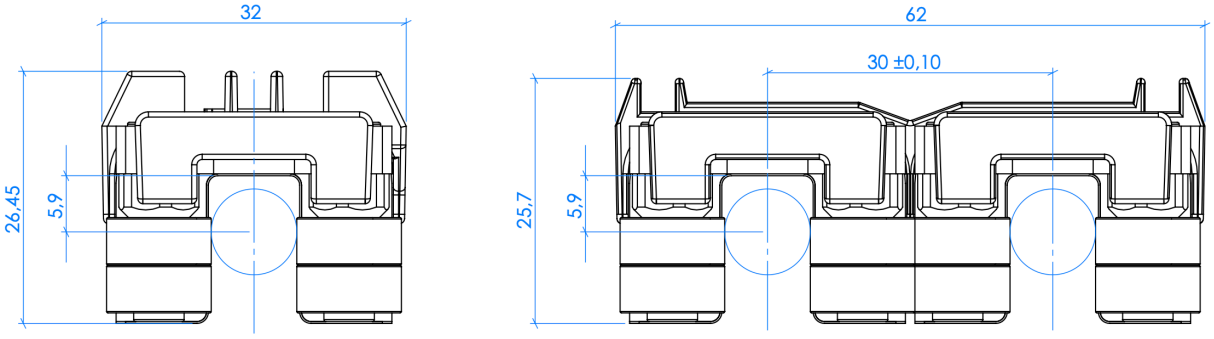
Module configuration

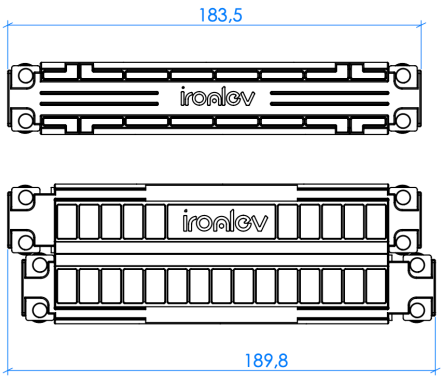
The system is available in single rail configurations for compact profiles and dual rail configurations for higher loads.

Single module configuration
Application of single clip on single rail



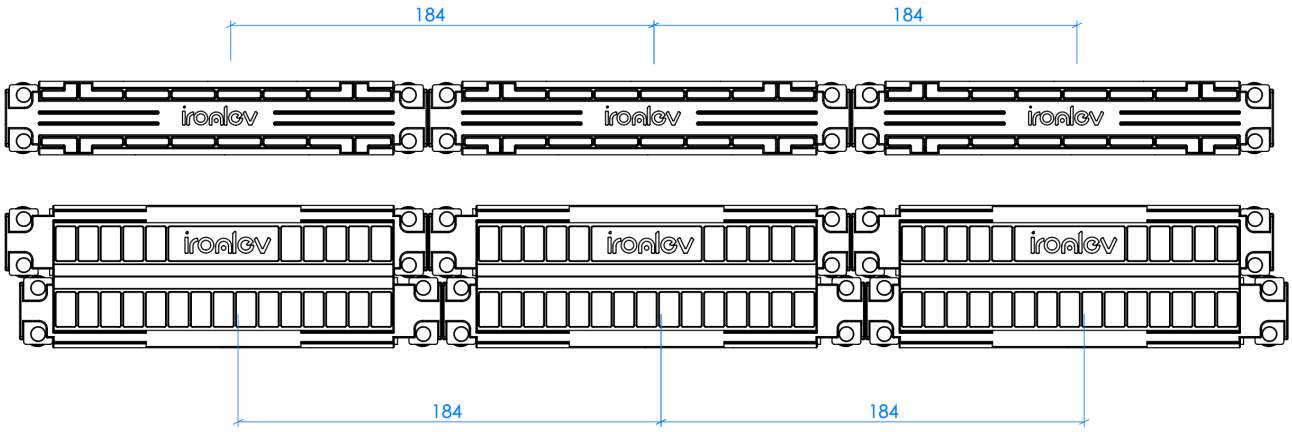
Double module configuration
Application of double clip on double rail





Size	Module	Weight			Load		Linear Load Capacity		Pitch
		Slider		Rail	Max net load		Max Linear Load		Min Pitch
		kg	lb	kg/m	kg	lb	kg/m	lb/ft	mm
WD Sim - Exterior	Single	0.35	0.77	0.5	25	55	125	84	184
WD Sim - Exterior	Double	0.7	1.54	1	50	110	250	168	184

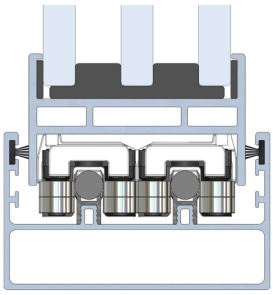
The magnetic suspension allows the adoption of multiple aligned sliders on which the weight is distributed equally. To obtain the maximum linear capacity of the system, the sliders can be arranged in a row and the spacing can be reduced to the minimum value corresponding to the contact condition between the modules.



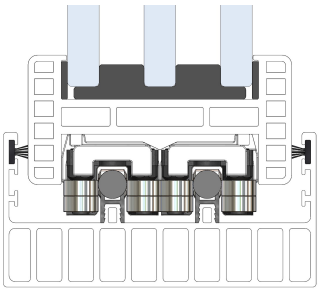
Guide for window integration

Ironlev sliders are compatible with profiles of different materials, adapting the connection interfaces to facilitate installation and maintain thermal insulation performance.

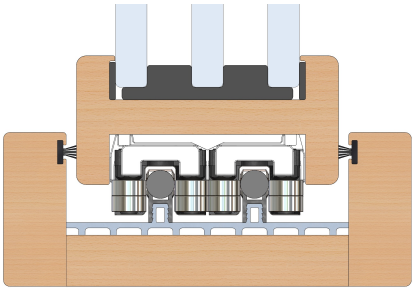
Aluminum



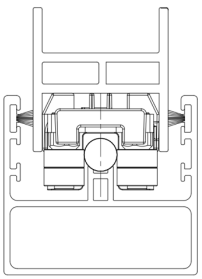
PVC

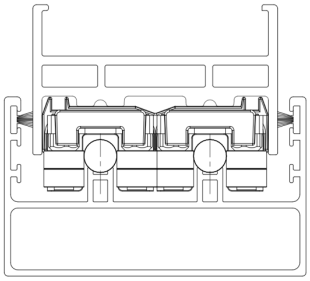


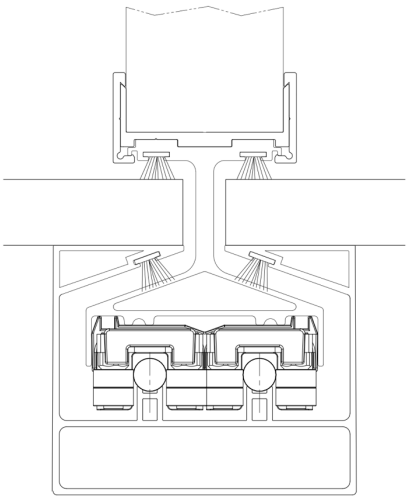
Wood



In order to guarantee correct functioning of the system and maximum performance in terms of silence and sliding, it is advisable to adopt some precautions during the study phase of integrating the sliding system into the window. The Ironlev sliding system is arranged at the lower node and therefore both the support profile and the profile of the door must guarantee correct interfacing and housing for the rails and for the Ironlev levitation modules. Below are some examples of integration into generic profiles in single, double and recessed configurations.



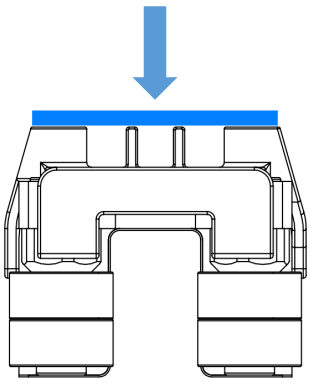


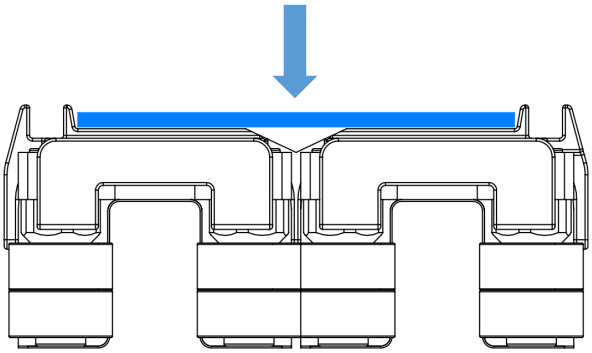


Door-sash interface

The modules are equipped with standard single or double interface clips, designed for correct coupling with the sash frame. The clips are made of plastic material to maintain high performance in terms of thermal break and have a suitable geometry to transfer the load to the slider.

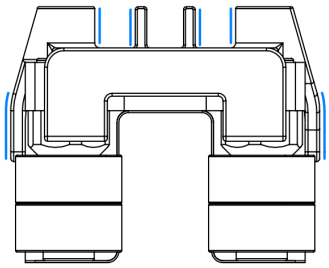
The load transmission area is located on the upper face of the slider; therefore, the leaf profile must guarantee a continuous contact surface along its entire length. Unlike wheeled applications where point contact occurs at the carriage, an evenly spaced distribution of the load from the glass panel to the sliders is suggested.

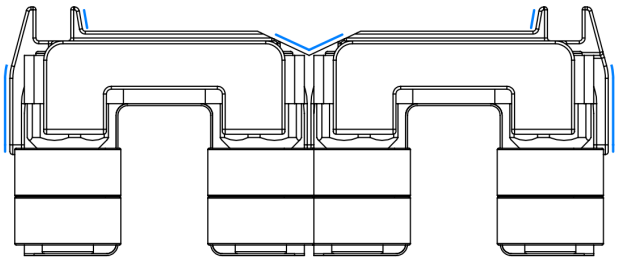




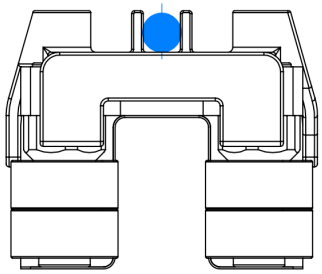
Lateral centering of the leaf with respect to the sliding module is obtained using the lateral surfaces of the interface clips, which allow both to obtain lateral centering and to transmit any lateral loads (e.g. wind thrust) to the runner block and therefore to the rails.

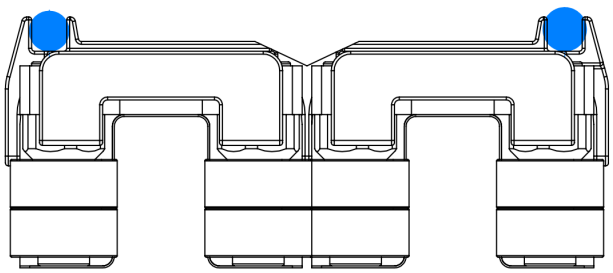
The centering surfaces are arranged both in the lateral part of the sliding block, if you want to use a profile that wraps the Ironlev module laterally with lateral elements, and in correspondence with the upper part if a profile is arranged only above the module to minimize the lateral dimensions.





Finally, grooves are present in the clip to allow the use of M4 threaded rods which act as spacer elements between the pads if it is required to control and maintain the relative longitudinal position between the elements themselves. If this solution is to be adopted, these grooves must be kept free of profiles.





Rail support interface

The Ironlev WD Slim slider is designed to be coupled to rails made up of ground chromed rods with a circular section having a diameter of 9mm. The rails can be purchased from Ironlev One Srl or directly by the user.

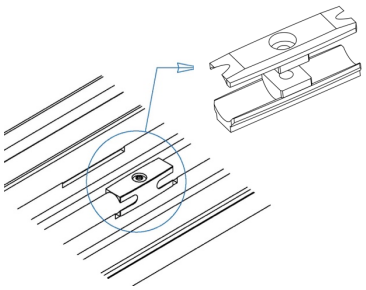
To allow the correct behaviour of the system and to guarantee desired performance, the rails should be ground and chrome-plated. Here below the rail specifications requested for the proper behavior of the slider WD Slim – Exterior.

Rail specifications:

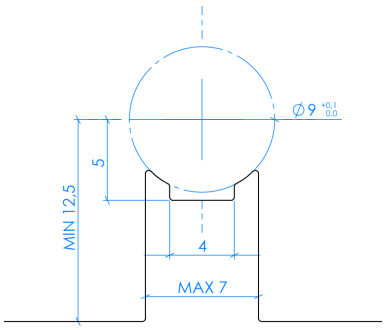
- Centerless Grinding bars - Surface Finish – grounded – 16RA
- Dimension 9mm diameter – Diameter Tolerance – 9mm +0-0.04mm
- Chromium plating surface treatment - Chrome Thickness (per side): 10/20microns
- Material standard steel – European material adopted C45

In order to have greater ease of installation and optimal performance, it is preferable to use 6m long rails to be cut on site according to the total length of the window. If this option is not possible due to transport requirements or high window strokes, joint elements are supplied which allow the correct coupling and alignment of contiguous sections of rail.

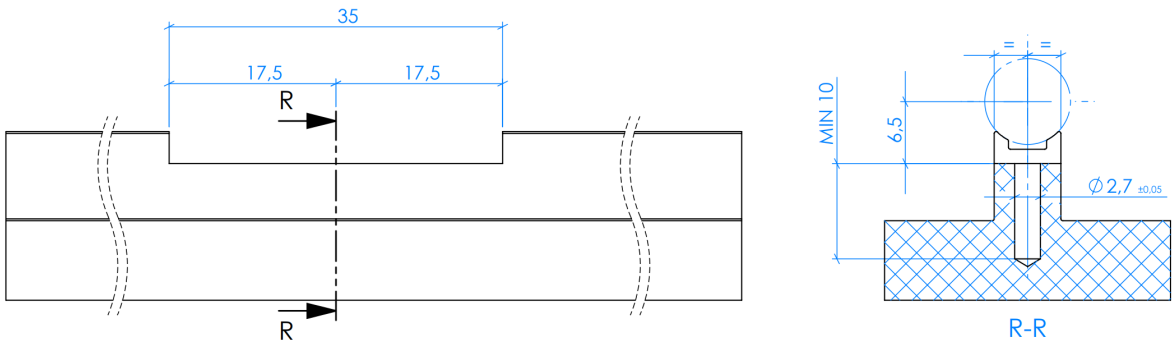
ATTENTION! It is strongly discouraged to use portions of rail without the Ironlev junction elements. Application without joining elements can lead to undesirable performance of the sliding system and damage to the pads themselves. Ironlev does not guarantee system performance under such conditions of use.



The rail support profile must be suitably designed to allow for correct housing and fixing of the rail. The profile can be made of aluminum or plastic material, while the rail can be fixed by applying 3x1mm or 3x0,6mm technical double-sided adhesive tape to be housed in the appropriate central slot and using Ironlev joints with screw connection to the bottom profile.

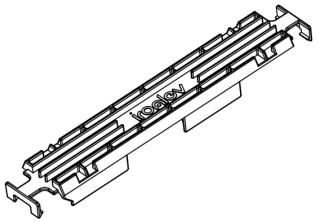


The joints must be applied on housings obtained by working the support profile and they must have a hole for fixing the locking screw supplied by Ironlev, as shown in the drawings below.

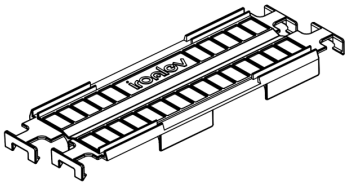


Accessories list

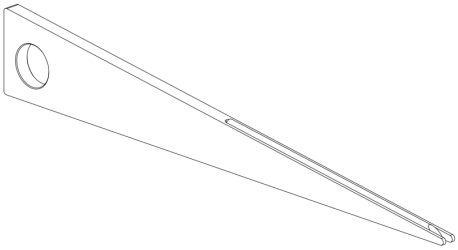
Single clip – cod. 100411



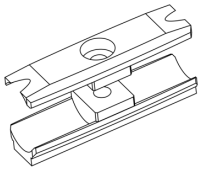
Double clip – cod. 100412



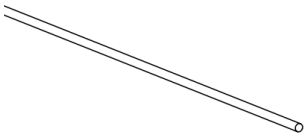
Mounting tool – cod. 100427



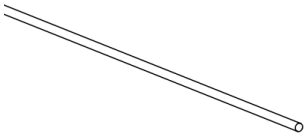
Junction assembly – cod. 100510



Iron rail d9mm – 3m bar cod. 100424



Iron rail d9mm – 6m bar cod. 100425



Via Galvani 6A – 31027 Spresiano (TV) - Italy

Safety instructions

The carriage described in this manual can be used for applications related to the movement of components in the following sectors:

- Windows and exterior doors

ATTENTION! Any use outside the indicated sectors can be identified as incorrect or improper use, voiding the guarantee and relieving the manufacturer from any liability. Contact the manufacturer at the address indicated in this manual in case of doubts.

Hazard	Description
	During installation and maintenance operations, the attractive force of the magnets with the rails or with tools in ferrous material can cause crushing of the fingers and hands of the operators. Follow the instructions regarding installation methods in the appropriate chapter wearing the required PPE. Do not leave ferrous objects near the system during the installation phase, when the slider is not inserted on the rail.
	A static magnetic field is naturally present in the immediate proximity of the sliders due to the presence of permanent magnets, that could interfere with medical devices. Wearers of medical devices are advised to consult their doctor and the device manufacturer for information on the need to maintain a safe distance. In the case of the presence of Implantable Medical Devices, it is necessary to maintain a safety distance of 20 centimeters from the slider, to avoid potential interactions. The cleaning of the system, if correctly installed, is also allowed for those with Implantable Medical Devices, maintaining a safe distance. However, it is forbidden for those wearing these devices to carry out maintenance that requires the disassembly or removal of the pads from the system.
	When the slider is installed in a window, points of possible crushing may arise between the sliding block and the rail or other moving parts. The sliders must therefore be installed in such a position that they are unreachable during normal operation.
	Objects to which the slider or rail are anchored may fall due to slippage or breakage of the fasteners or support devices. Do not exceed, even for short periods, the maximum load of the system, taking into account the direction of installation. Tighten any fastening devices (screws and bolts) if present. Use only fasteners and mounts that have been tested for strength and reliability.

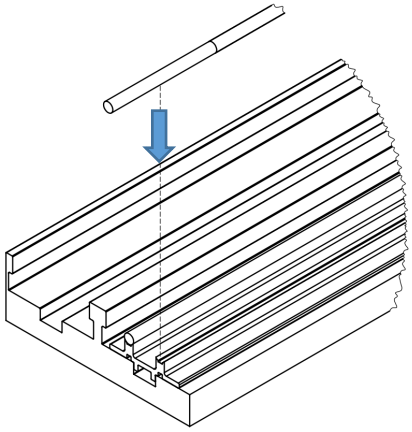
ATTENTION! Some risks for users depend on the design of the window in which the runners are installed. A specific risk assessment must be carried out by the full system manufacturer in order to eliminate them or, if impossible, to reduce them to an acceptable level.

These instructions are an integral part of the supply. They contain important information relating to the safety of those who use the component throughout its useful life, from construction to disposal as waste. They must therefore be stored with care and consulted when necessary.

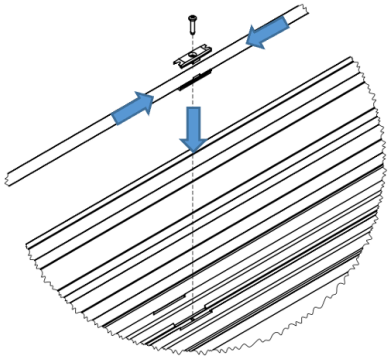
The instructions must be included in the technical construction file of the machines and/or devices in which the slider will be integrated, and consequently stored.

Installation instructions

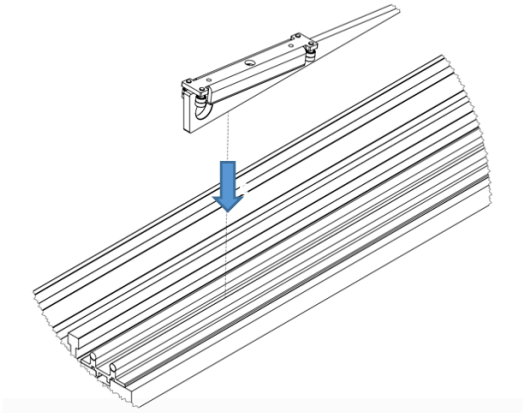
1. Position the ferromagnetic rail on the appropriate support profile already prepared on the floor or on the support.

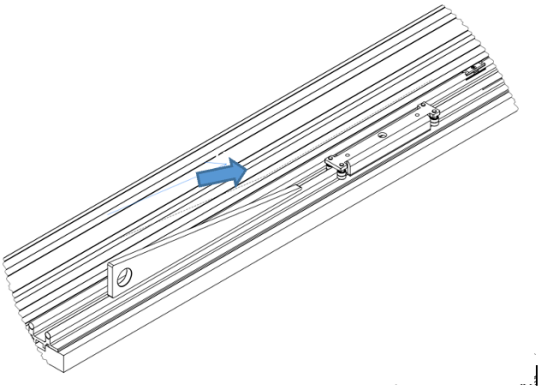


If it is necessary to increase the length of the rail, join several rail elements together using the special joint supplied. Be careful to lock the various elements together well with the appropriate screw, making sure that the joint is housed in the seats already prepared on the support profile.

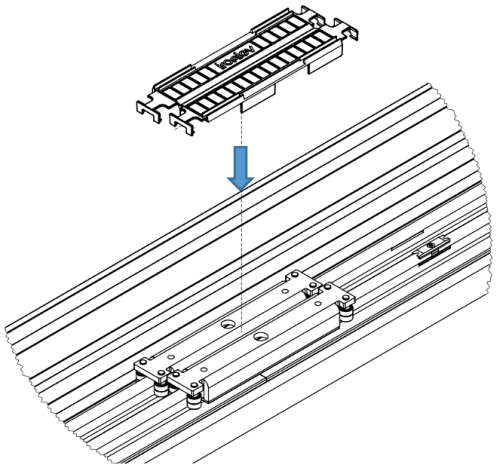


2. After having removed the slider/sliders from the special packaging, position them on the rail/rails, using the appropriate tool (keeping it on the rail during operations as shown in the following figure) which allows easy insertion and/or or disengagement of the sliders on the rail. This operation allows easy assembly/disassembly of the slider from the rail, by sliding it along the inclined plane of the tool.

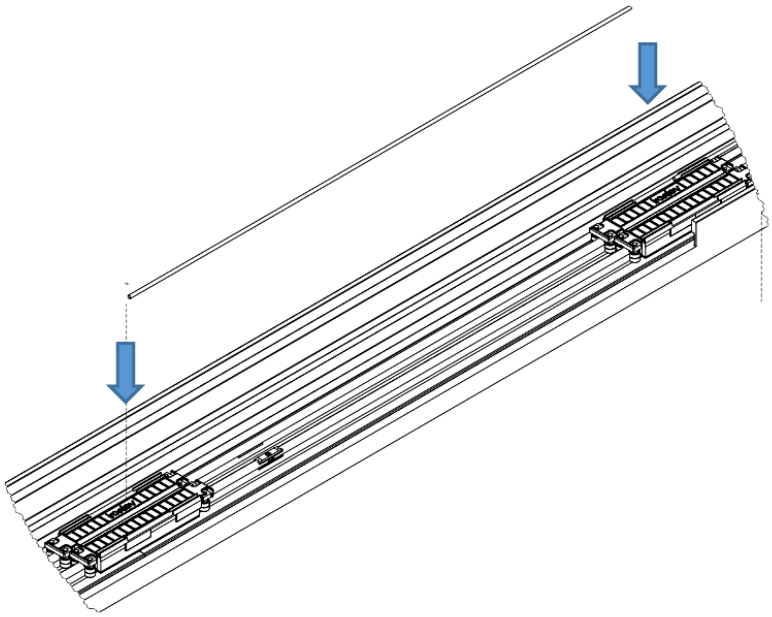




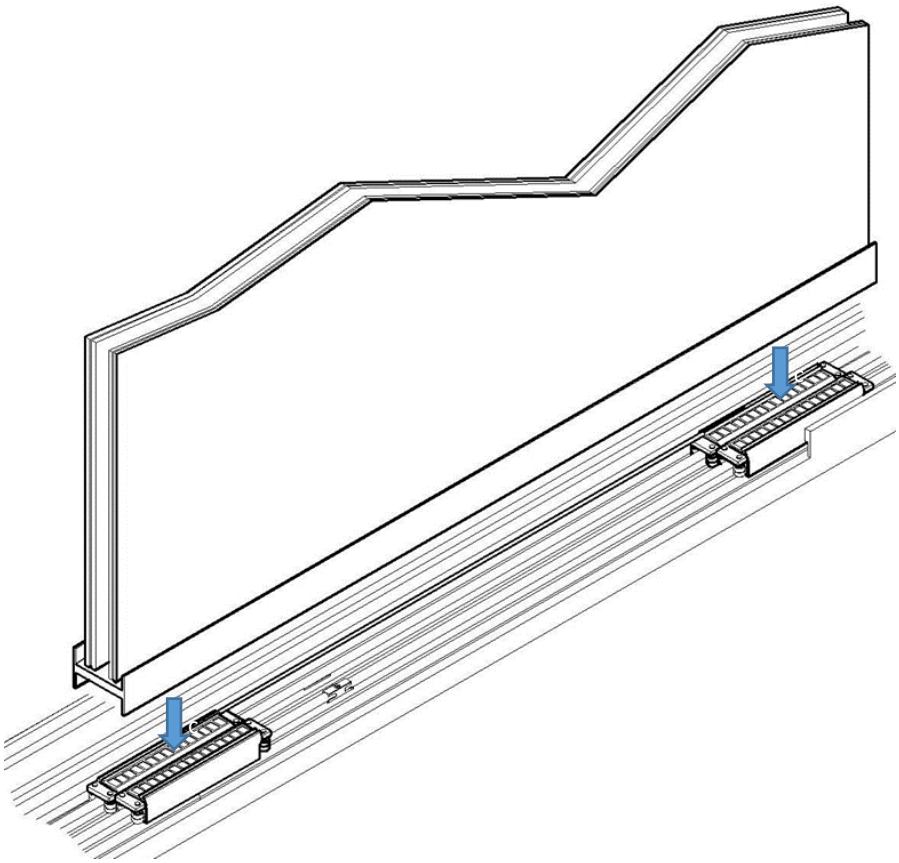
3. After arranging the number of sliders calculated along the guides, you can proceed with the possible coupling of the sliders, joining them together with the appropriate containment shell. Proceed by bringing them together and then insert the shell from above.



4. At this point, position the slider groups at the correct and desired spacing distance, spacing them using the given bar supplied. Fix the bar, fitting it into the appropriate seats. If necessary, repeat the operation for all the required slider groups.



5. At this point it is possible to proceed with the assembly of the window, positioning it over the sliding blocks, being careful to equally divide the width of the window with respect to the distance between the sliding blocks mounted along the guides.



ATTENTION! Protective gloves must be used during installation.

Performance and tests performed

Salt spray test	1.000 h
Cycling test	100.000 cycles

Maintenance

In order to perform their work at their best, sliders must be kept clean. Provide for cleaning according to the characteristics of the installation environment.

ATTENTION! Slider maintenance can only be performed by IRONLEV ONE personnel. In the event of component breakage, it is necessary to disassemble the skate from its housing and send it to the addresses indicated in the appropriate chapter by telephone or e-mail contact.

Dismantling

The following table shows the materials of which the skate is made. Once its useful life is over, the slider must be disposed of in accordance with the environmental regulations in force in the country of use.

Component	**Material**
Slider body	Galvanized steel
Magnetic plates	Neodymium magnets
Bearings and pins	Stainless Steel
Magnet protection clip	Stainless Steel
Sealing	Silicon sealing
Interface clip	Plastic
Mounting tool	Aluminum
Junction	Galvanized steel
Packaging	Cardboard

Assistance and warranty

For any problems or information, contact the technical assistance of **Ironlev One srl**

info@ironlev.com

via Galvani 6/A - Spresiano (TV) – Italy

At the time of contact, the model and serial number of the slider must be indicated, in order to provide the best possible assistance. Find the data stamped (or printed or shown on the label) on the body of the slider before making the call.

This product is sold new directly from the manufacturer and is covered by the warranty on consumer goods provided by the Directive (EU) 2019/771. Any modification of the product by the user, including removal of the label, or failure to comply with the instructions contained in this document, relieves the manufacturer from any obligation and invalidates this warranty.