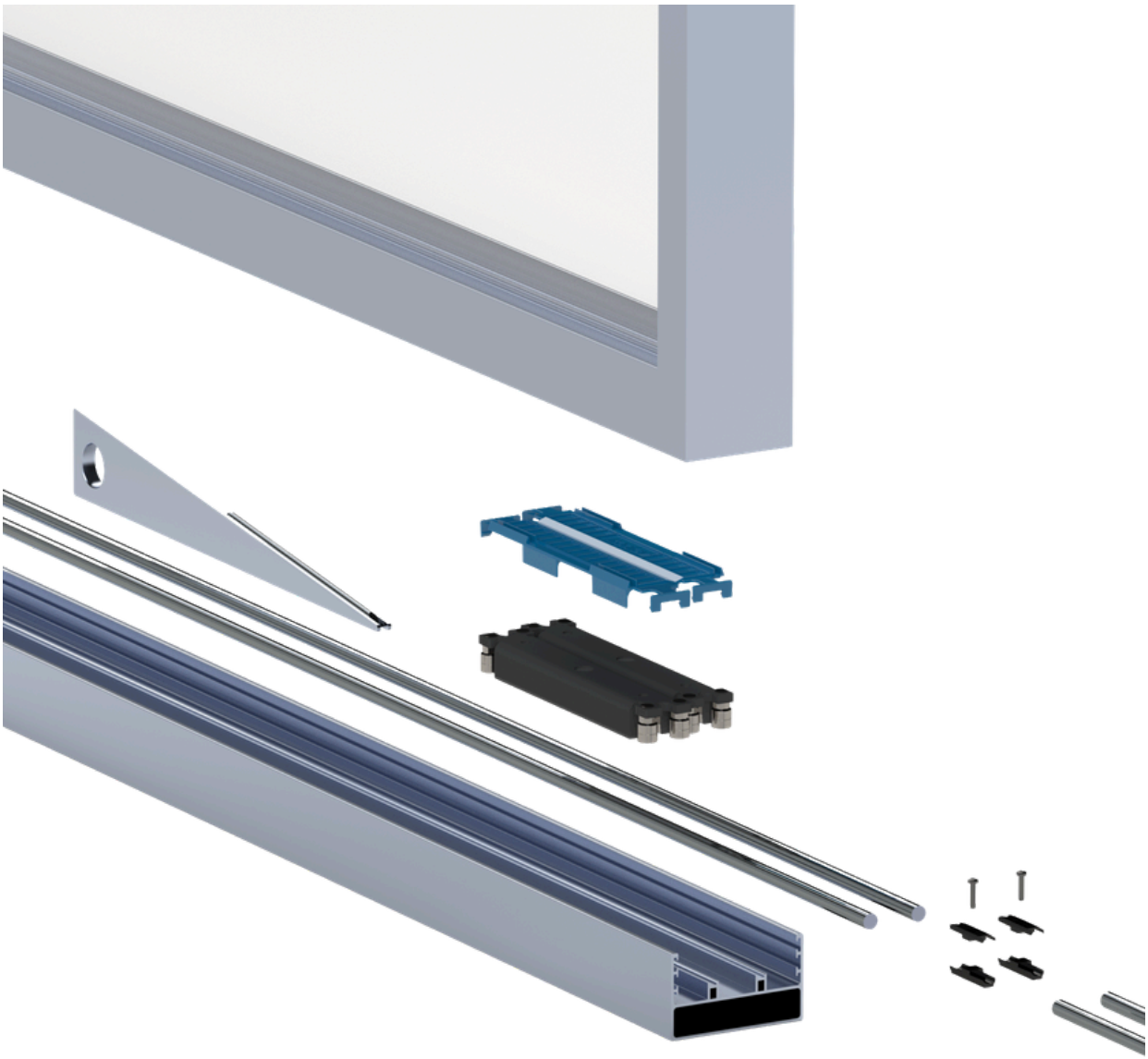
Slim Slider

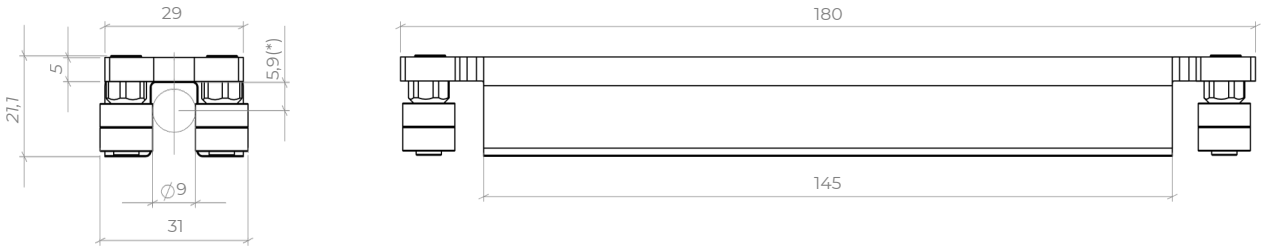
Description

Ironlev levitation slider is a device that slides in a horizontal plane whilst magnetically supporting a load perpendicular to the sliding direction. The magnetic centering is maintained by mechanical guides consisting of roller bearings, while the load application interface consists of a plastic clip positioned above the slider. The surface coating provides resistance to wear and to atmospheric agents. Ironlev Slim slider is specifically designed for sliding windows and exterior door applications. Ironlev technology enables large, extremely heavy windows and exterior doors to be moved with minimal manual force in a friction-free environment, without electricity, as if they were free from the effects of gravity.



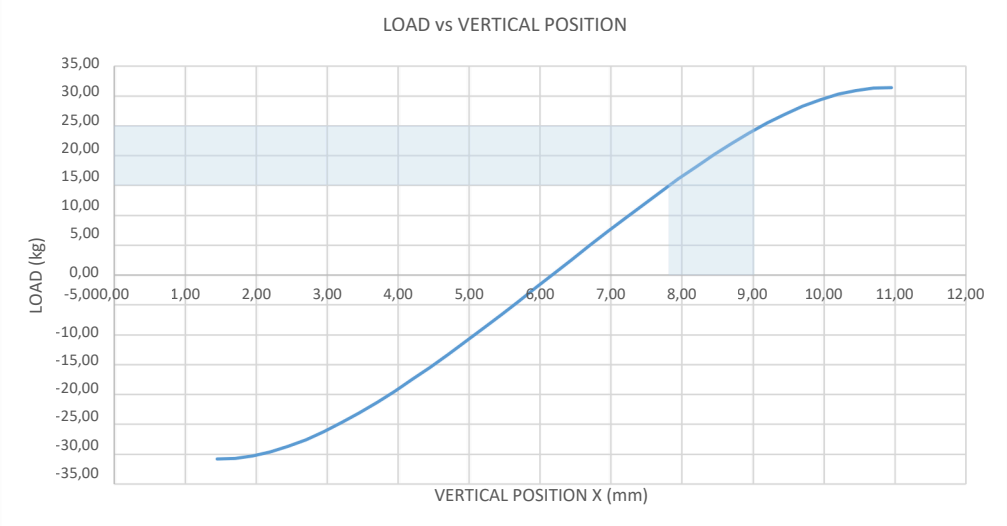
Technical data

Producer	Ironlev One Srl
Name	Slim
Brand	Ironlev
PN	WD368
Load capacity	25 kg
Overall dimensions (mm)	180x31x21,1
Rail section diameter (mm)	D9 mm



(*): 25 kg nominal position

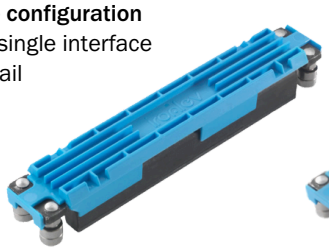
Ironlev levitation slider has a magnetic behavior characterized by a variation of the vertical position with respect to the rail as the load varies. Therefore, it is advisable to take this aspect into consideration in the design phase, in order to verify the deviation between the nominal position and 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.
The graph below represents the curve of the vertical position X (see reference to Figure) as a function of the load applied.

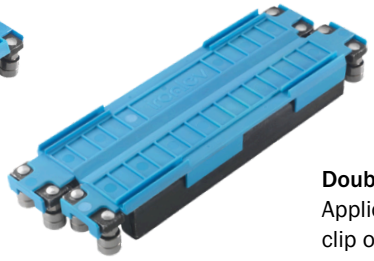


Module configuration

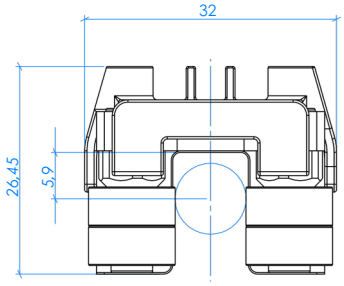
The system is available in single rail configuration for compact profiles and double rail configuration for heavier loads.

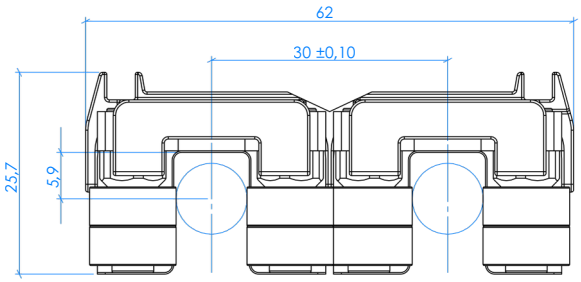
Single module configuration
Application of single interface clip on single rail

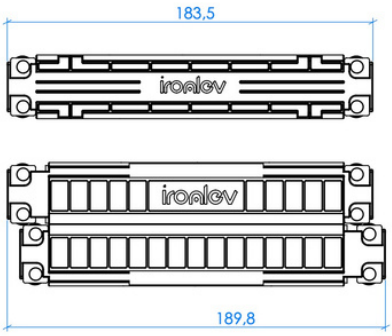




Double module configuration
Application of double interface clip on double rail

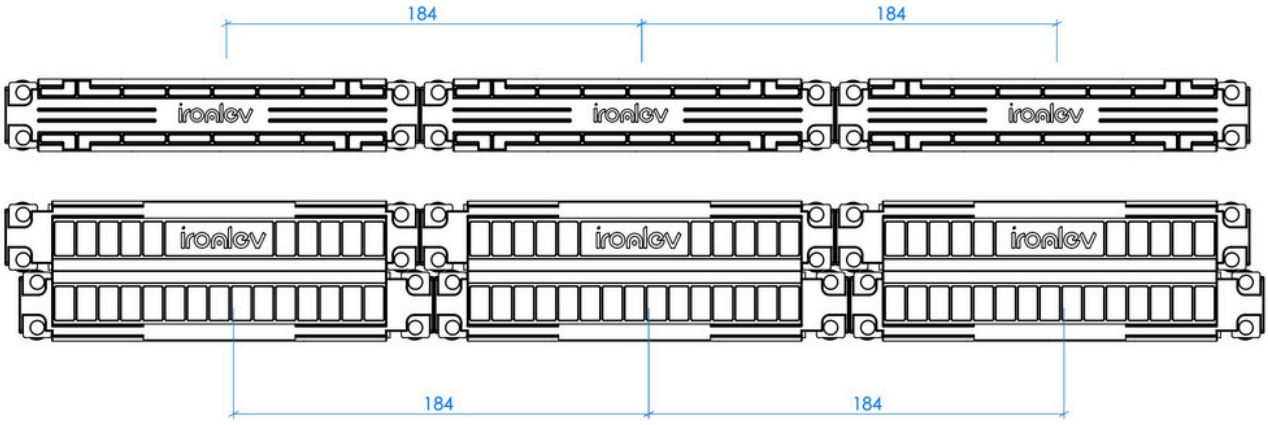






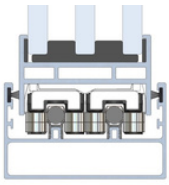
Size	Module	Slider weight		Rail	Load capacity Max. load		Linear load capacity Max. linear load		Pitch Min. pitch
		kg	lb	kg/m	kg	lb	kg/m	lb/ft	mm
Slim	Single	0,35	0,77	0,5	25	55	125	84	184
Slim	Double	0,7	1,54	1	50	110	250	168	184

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 line, reducing the spacing to the minimum distance allowed by the module couplings.

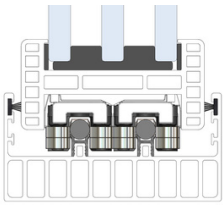


Guide for integration into the window

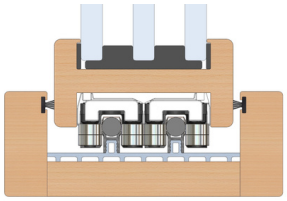
Ironlev sliders are compatible with profiles of different materials, adopting the connection interfaces to facilitate installation and maintain thermal insulation performance



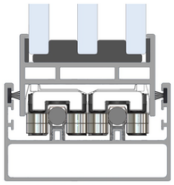
ALUMINUM



PVC

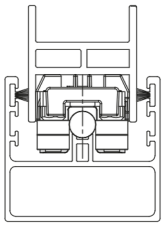


WOOD

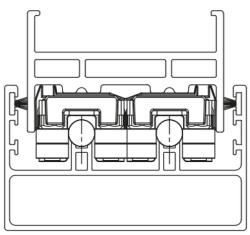


STEEL

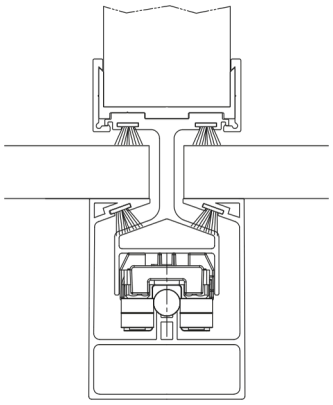
To ensure proper system operation and achieve maximum performance in terms of smoothness and low-noise operation, several design considerations should be taken into account during the integration of the sliding system into the window or door assembly.
The Ironlev sliding system is installed at the bottom interface; therefore, both the support profile and the sash profile must provide the appropriate interfaces and housing for the guide rails and the Ironlev levitation modules. Below are some examples of integration into generic profiles in single, double and recessed configurations.



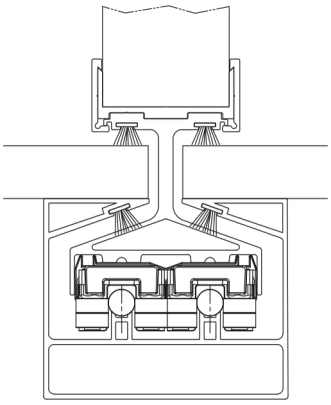
Single
protruding sash



Double
protruding sash



Single
recessed sash

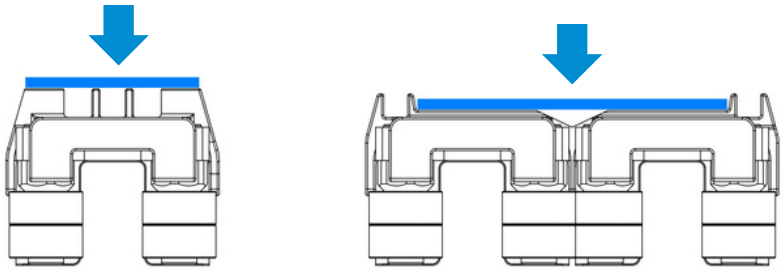


Double
recessed sash

Sash frame interface

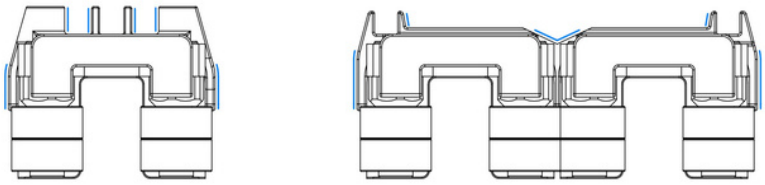
The modules are equipped with standard single or double interface clips, designed for correct connection to the sash frame. The clips are made of plastic material to maintain performance in terms of thermal break and have a suitable geometry to transfer the load to the slider.

The load transmission area is located on the upper face of the slider; therefore, the sash profile must ensure a continuous contact surface along its entire length. Unlike wheel-based applications, where point contact occurs at the carriage, an evenly spaced distribution of the load transfer from the glazed panel to the slider is recommended.

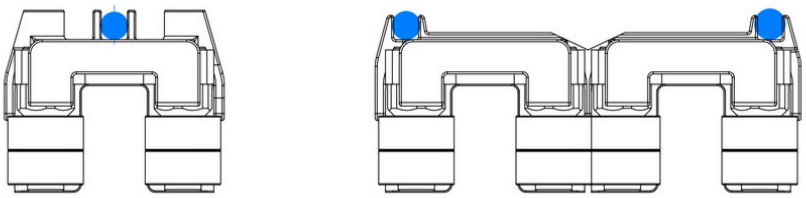


The lateral centering of the sash frame with respect to the sliding module is obtained using the lateral surfaces of the interface clips, which maintain lateral centering and also transmit any lateral loads (e.g. wind thrust) to the slider and therefore to the rails.

The centering surfaces are arranged both on the lateral side of the slider - when a profile wrapping the Ironlev module with lateral elements is used - and on the upper part of the frame - when a profile is only placed on the module to minimize the lateral dimensions.



Finally, grooves are present in the clip to allow the use of M4 threaded bars which act as spacers between the sliders if it is required to maintain the separation between the elements themselves. If this solution is to be adopted, these grooves must be kept free of profiles.



Rail support interface

Ironlev Slim slider is designed to be used in conjunction with rails comprising surface-ground chrome-plated bars with a circular section having a diameter of 9mm. The rails can be purchased from Ironlev One Srl or independently sourced by the end user.

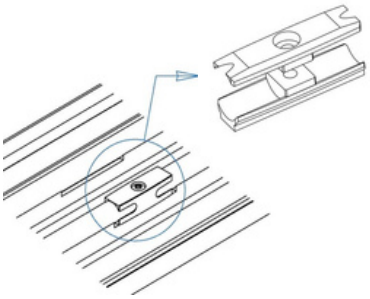
IRONLEV ONE Srl - 2025
Via Galvani 6A - 31027 Spresiano (TV) - IT

To ensure correct operation of the system and to guarantee desired performance, the rails must be surface-ground and chrome-plated. Following are the rail specifications required for the proper behaviour of the Slim slider.

Rail specifications

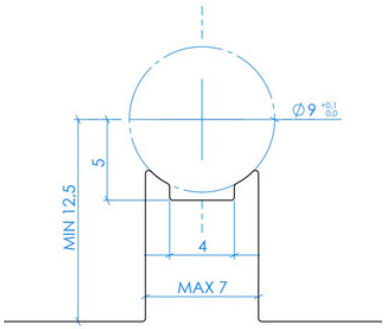
- Centerless-grinding bars – Surface finish: ground – 16RA
- Diameter dimension: 9 mm – Diameter tolerance: 9 mm +0 / -0.04 mm
- Chrome-plated surface treatment – Chrome thickness (per side): 10/20 microns
- Material: Standard steel– European grade adopted: C45 steel

In order to maximize ease of installation and optimal performance, it is preferable to use 6 m long rails to be cut on site according to the total length of the sash. If this option is not possible due to transport requirements or extended window travel, rail connectors are supplied to allow the correct coupling and alignment of contiguous rail sections.

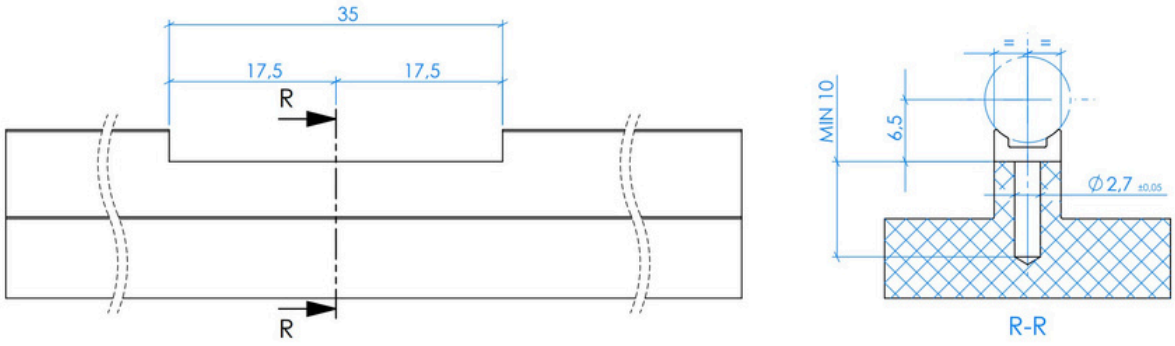


ATTENTION! It is essential to use Ironlev connectors to join lengths of rail. Failure to use connectors can lead to sub-optimal performance of the sliding system and damage to the sliders themselves. Ironlev does not guarantee system performance under such conditions of use.

The rail support profile must be suitably designed to allow for correct housing and fixing of the rail. The profile can be made of aluminium 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 joint connectors with screw connection to the bottom profile.



The connectors must be positioned in recesses machined into the support profile which must also have a hole for fixing the locking screw supplied, as shown in the drawings below.



Accessory list

PRODUCT	DESCRIPTION	CODE
	Single interface clip	100411
	Double interface clip	100412
	Mounting tool	100427
	Rail connector assembly	100510
	Iron rail: d9mm – 3m Iron rail : d9mm – 6m	100424 100425
	Connection bar 1m	100709
	Double-sided adhesive 3m VHB GPH-060 3x0.6mm x 33m	100563

PRODUCT	DESCRIPTION	CODE
	Rail support Single profile – 3m	100705 – Aluminium 100909 – PE
	Double profile – 3m	100531 – Aluminium 100910 – PE 100901 – Comp. PASASE67PD 100902 – Comp. PASASE70PD 100903 – Comp. PAM175HESLUX

Safety instructions

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

- Window systems

WARNING! Any use outside the applications specified is considered incorrect or improper use, resulting in the warranty becoming void and releasing the manufacturer from any liability. In case of doubt, contact the manufacturer at the address provided in this manual.

Risk	Description
	During installation and maintenance operations, the attractive force between the magnets and the rails, or with ferrous tools, may cause crushing injuries to the operators' fingers and hands. Follow the installation instructions provided in the relevant section and wear the required PPE. Do not leave ferrous objects near the system during the installation phase when the slider is not inserted into the rail 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 physician and the device manufacturer for information regarding the need to maintain a safety distance. In the case of users with Implantable Medical Devices, a safety distance of 20 centimetres from the slider must be maintained, to avoid potential interactions. Cleaning of the system, when correctly installed, is also permitted for users with Implantable Medical Devices, provided that the safety distance is maintained. However, such users are not permitted to perform maintenance operations that require disassembly or removal of the sliders from the system.
	When the slider is installed in a window assembly, pinch points may occur between the slider and the rail or other moving parts. The sliders must therefore be installed in a position that prevents access during operation.
	Due to loosening or failure of fastening or support devices, the objects to which the slider or rail is anchored may fall. Do not exceed the system's maximum load capacity, even for short periods, taking into account the installation orientation. Tighten any fastening devices (screws and bolts) where present. Use only fastening and support components with proven strength and reliability.

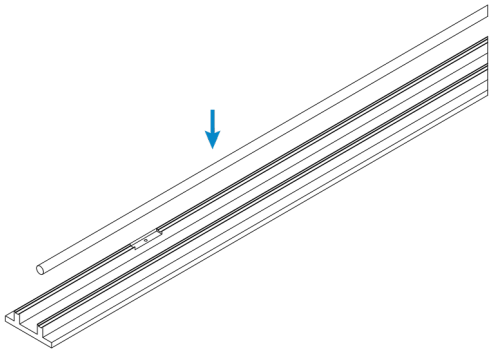
WARNING! Some risks for users depend on the design of the window/door assembly in which the sliders are installed. A specific risk assessment must be carried out by the full system manufacturer in order to eliminate them or, where this is not possible, to reduce them to an acceptable level.

These instructions form an integral part of the supply. They contain important information regarding the safety of users throughout the entire service life of the component, from installation through to disposal as waste. They must therefore be kept carefully and consulted whenever necessary.

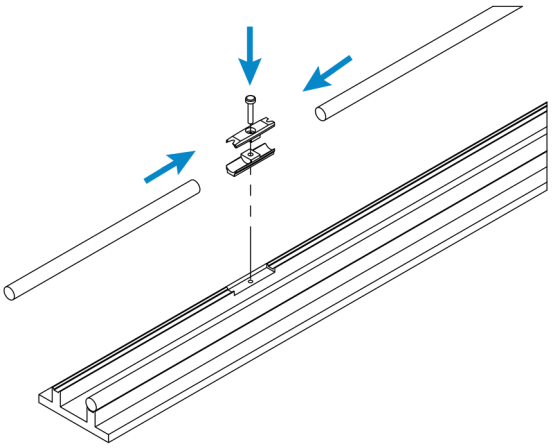
The instructions must be included in the technical construction file of the machines and/or equipment into which the slider is incorporated and must consequently be retained.

Installation instructions

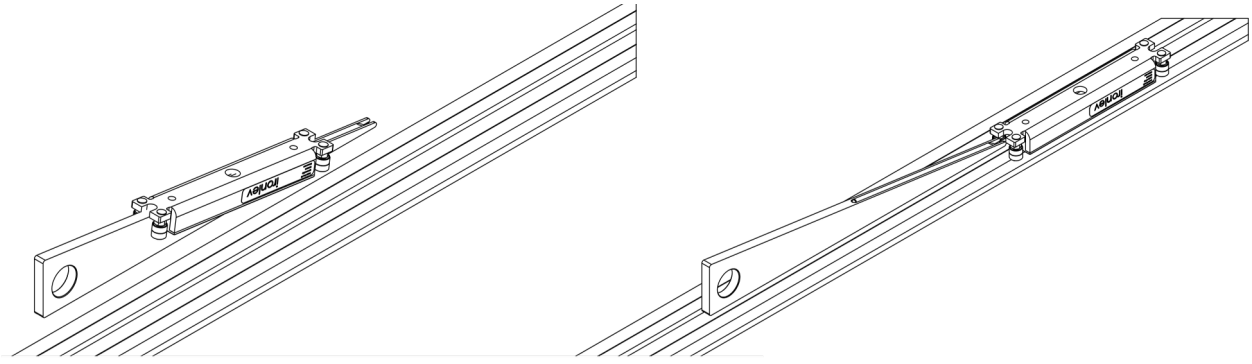
1 Position the rail and apply the joint connectors, if required. Secure the rail using the appropriate double-sided adhesive.



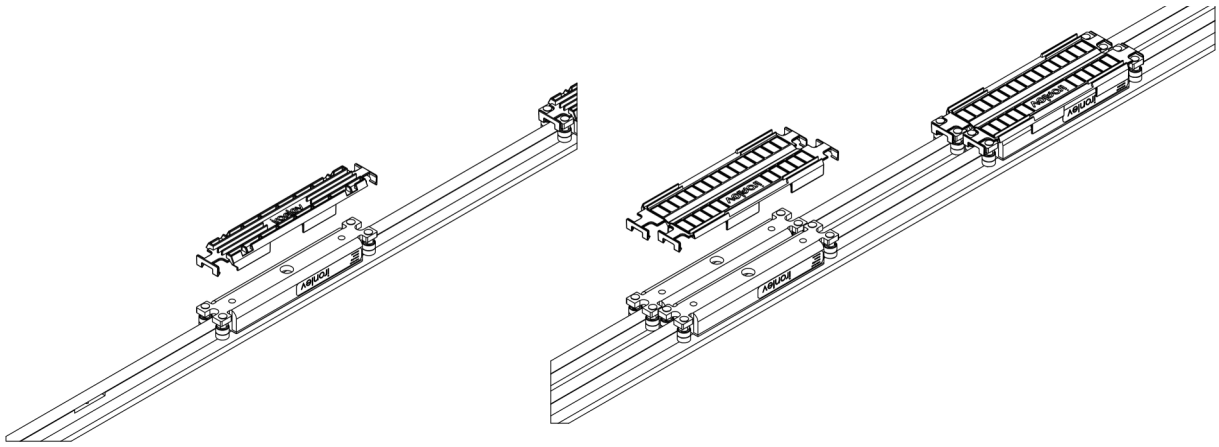
If it is necessary to increase the rail length, join multiple rail sections together using the supplied connector. Ensure that the various sections are securely fastened together with the appropriate screw, and that the connector is correctly housed in the prearranged slots on the support profile.



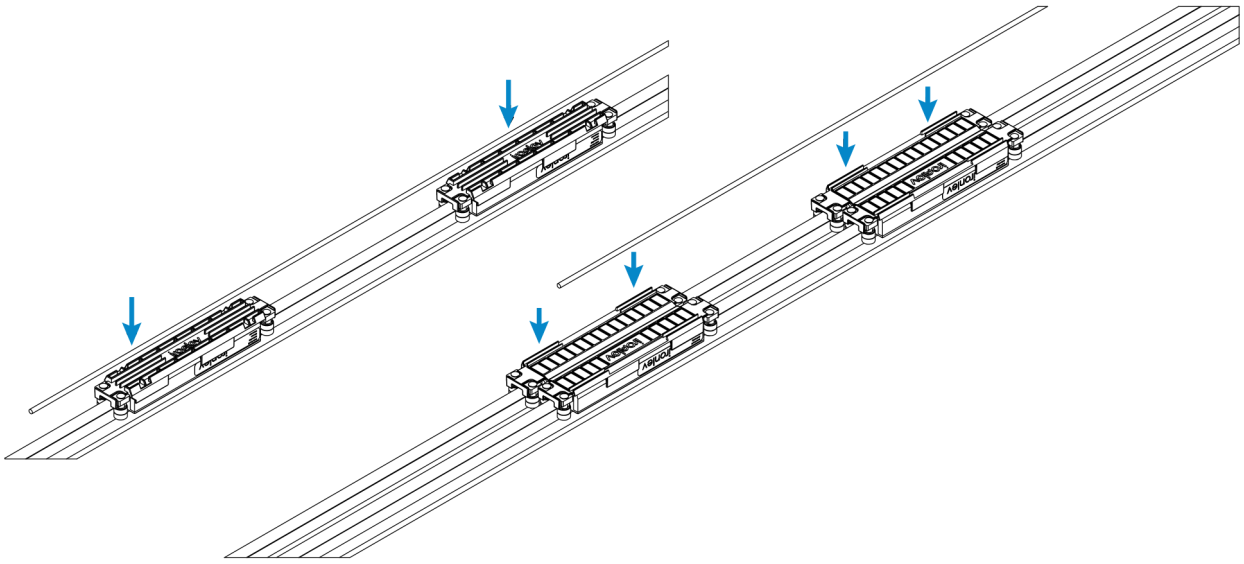
2 After removing the slider(s) from the packaging, position them along the rail(s) using the dedicated tool (keeping it resting on the rail as shown in the figure below), which allows easy insertion and/or removal of the sliders on the rail. This operation facilitates the assembly/disassembly of the slider from the rail by sliding it along the inclined surface of the tool.



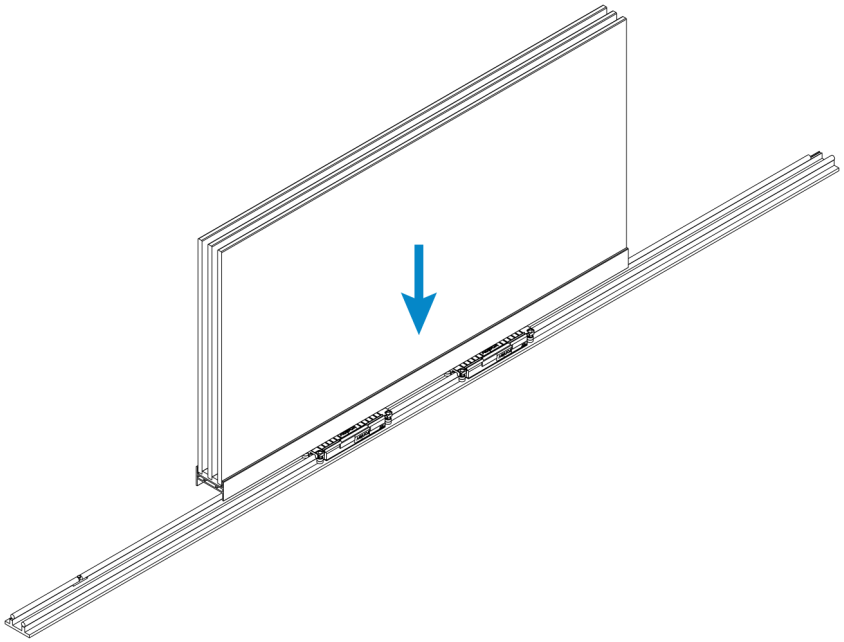
3 After positioning the number of sliders required for the application along the guides, proceed with the possible coupling of the sliders, joining them together using the appropriate interface clip. Proceed by bringing them together and then insert the clip from above.



4 At this stage, position the slider groups at the required centre distance, spacing them using the bar supplied. Secure the bar fitting it into the appropriate recesses. If necessary, repeat the operation for all the required slider groups.



5 Proceed with the assembly of the sash, positioning it on top of the sliders. Check the balance by arranging the sliders symmetrically with respect to the center of the window.



WARNING! Protective gloves must be used during installation.

Performance and test performed

Salt spray test	1.000 h
Cycling test	100.000 cycles

Maintenance

To ensure optimal performance, sliders must be kept clean. Cleaning should be carried out according to the characteristics of the installation environment.

WARNING! Slider maintenance may only be performed by IRONLEV ONE personnel. In the event of component failure, the slider must be removed from its housing and sent to the addresses indicated in the relevant section, following prior contact by telephone or e-mail.

Dismantling

The following table lists the materials composing the slider. At the end of its service life, 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
Connector	Galvanized steel
Packaging	Cardboard

Service and warranty

For any issue or information, please contact the technical support service of **Ironlev One Srl.**

info@ironlev.com
via Galvani 6/A - Spresiano (TV) - Italy
+39 0422 192 0026

At the time of contact, the model and serial number of the slider must be provided to ensure the best possible assistance. Before making the call, locate the information engraved, printed, or shown on the label attached to the slider body.

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