2 Precautions at Installation, Moving and Storage

2.1 Installation of the Motor

Linear motors have evolved in several guises but perhaps the most commonly encountered are tubular types, flat or “U” channel types, which are finding increasing use thanks to their low profiles and high output.

The motor can be used by installing it either horizontally or vertically. If the motor is not installed properly or installed in an inappropriate location, the motor's lifetime may be shortened or failures may occur. Observe the following instructions and install the motor correctly.

The Linear motors do not have dust-, splash, nor water (oil)-proof structures. If it is required to protect the motor from dust, splash, water or oil, it is the customer's responsibility to prepare and install such protection.

Caution:

The baseplate on which the magnetic way is fastened must be more rigid than the magnetic way itself!

The linear guides and the mechanical end stops must be assembled according to the instruction given by the manufacturer.

■ Installation Location

The motor is intended to be used in normal indoor conditions.

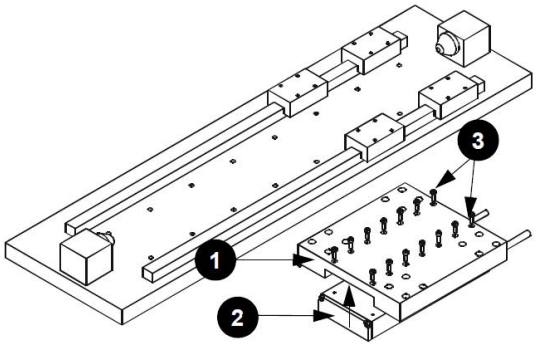
- Well ventilated places with little dust and debris
- Avoid installing the motor in an atmosphere with high temperature/high humidity or which contains dust, dirt, metal powder, corrosive gasses, etc.
- Linear motors can be used in most industrial environments, however, contact with ferromagnetic components and oils (can be very aggressive) must be avoided.

		Motor	Remarks
Application	Temp.	5 ~ 45°C: Standard	
	Humidity	5 ~ 85% RH	There must be no condensation.
Average	Temp.	-20 ~ 85°C	
	Humidity	20 ~ 85% RH	There must be no condensation.
Atmosphere		There must be no corrosive gasses, dirt or dust. Must be used at an maximum altitude of 1000 meters above sea level (CE mounting condition)	

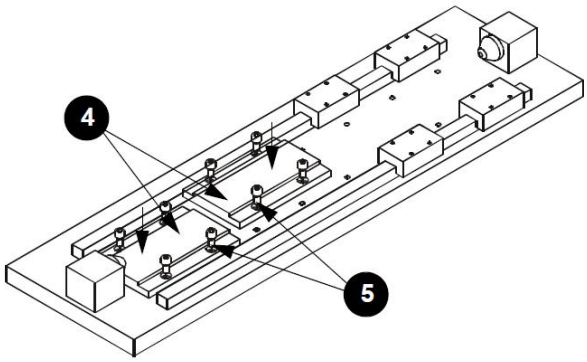
■ Mounting procedure with ironcore motor

- ***Motor and 'segmented magnetic ways' assembly***

This procedure is used for an axis made up of **more than one** segment of magnetic way.



1: Mount and secure the customer interface (1) on the motor (2) with the fixing screws (3).

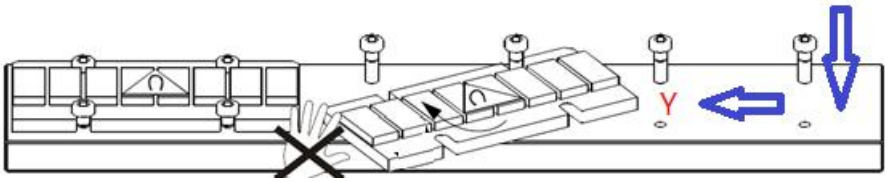


2: Mount and secure the magnetic way segments (4) on the baseplate with the fixing screws (5).

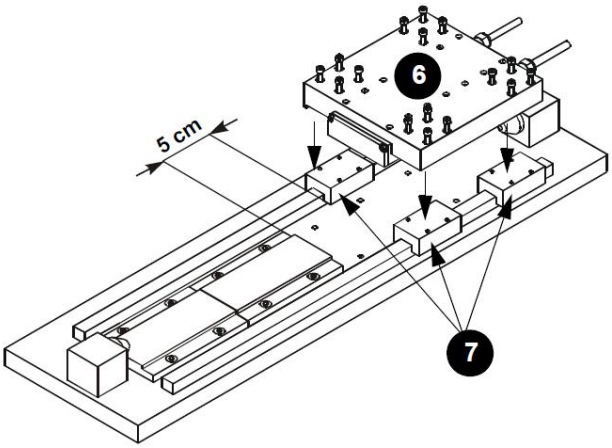
Warning: Pay attention to the attraction forces between the magnetic way and the linear guides.

Bring the magnetic way from the top and parallel to the baseplate.

Be careful not to get your fingers caught between the two magnetic ways.

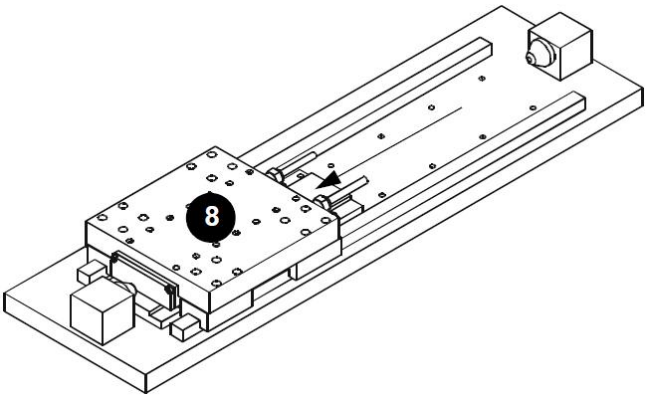


Remark: To remove a magnetic way, follow the above-mentioned procedure in the reverse order.

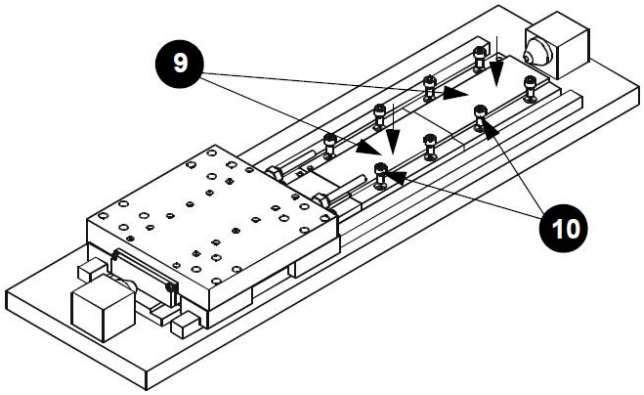


3: Mount and secure the motor assembly (6) on the linear guides (7).

Warning: Pay attention to leave a minimum gap of 5 cm between the magnetic way and the motor assembly in order to avoid unintentional movement of the motor assembly.



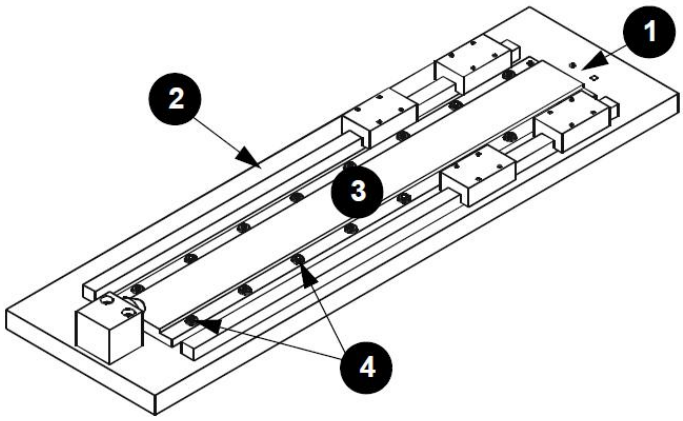
4: Slide the motor assembly (8) over the mounted magnetic ways and temporarily secure the motor against the mechanical end stop.



5: Mount and secure the remaining magnetic way segments (9) with the fixing screws (10).
6: Test whether the motor moves without contact with the magnetic ways over the entire stroke. It is normal to observe variations in the forces depending on the position (detent force).

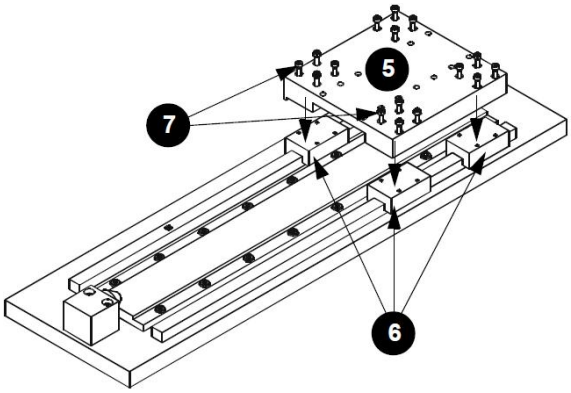
- ***Motor and 'single magnetic way' assembly***

Caution: Make sure that the linear guides allow this type of mounting!

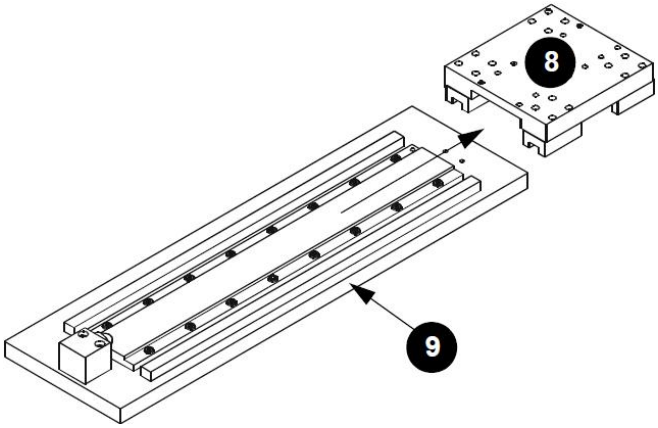


1: Make sure that the mechanical end stop(s) (1) is removed on one side of the baseplate (2).

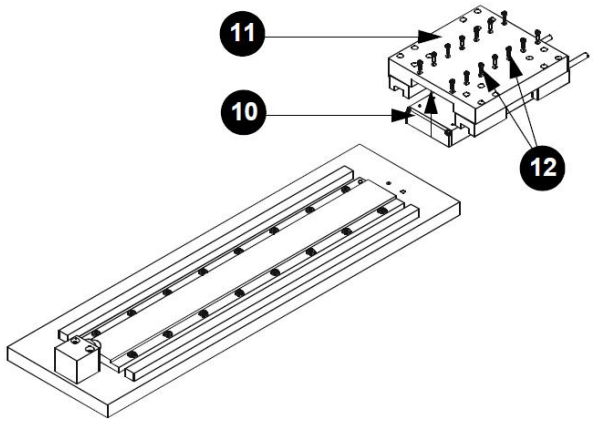
2: Mount the magnetic way (3) on the baseplate with the fixing screws (4).



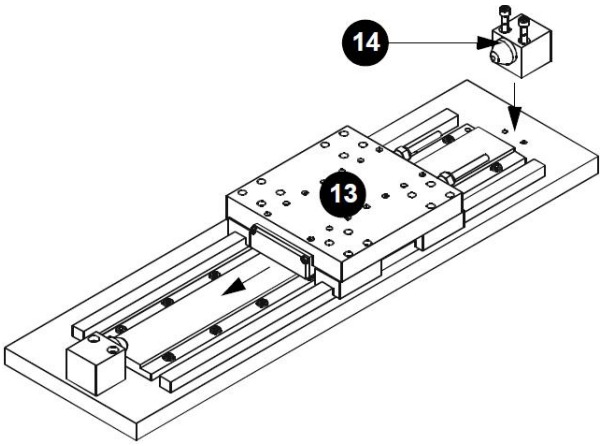
3: Mount and secure the customer interface (5) on the linear guide (6) with the fixing screws (7).



4: Pull out the customer interface (8) from the baseplate (9).



5: Mount and secure the motor (10) on the customer interface (11) with the fixing screws (12).



6: Carefully slide the motor assembly (13) on the magnetic way.

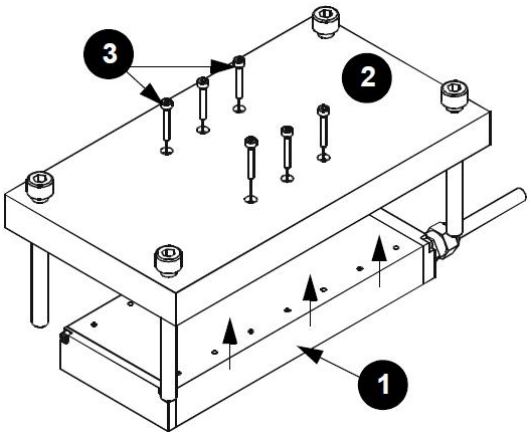
Warning: Pay attention to the strong attraction forces between the motor assembly and the magnetic way.

7: Mount and secure the mechanical end stop(s) (14).

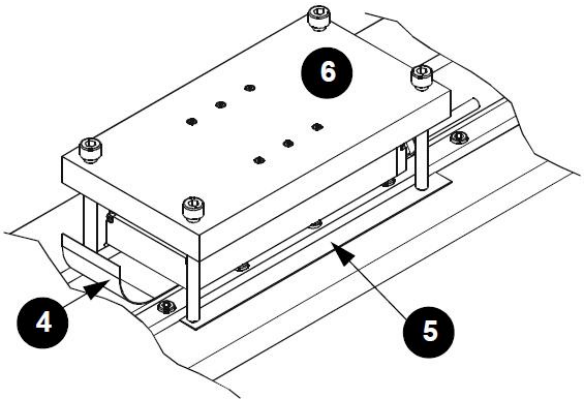
8: Test whether the motor moves without contact with the magnetic way over the entire stroke. It is normal to observe variations in the forces depending on the position (detent force).

- ***Motor and 'single magnetic way' assembly using a lifting tool***

This procedure is used when the linear guide installed does not have a ball cage and when the axis is made up of only one segment of magnetic way.

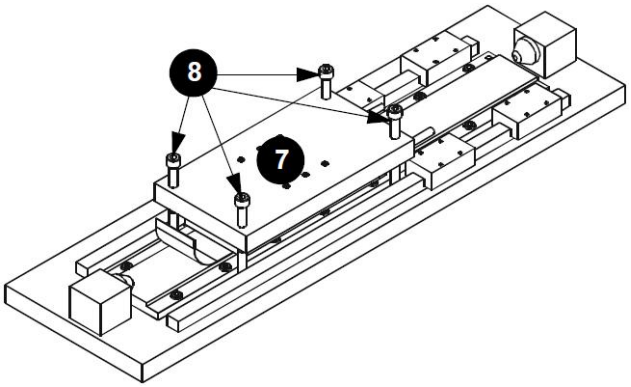


1: Mount and secure the motor (1) under the lifting tool (2) with the fixing screws (3).



2: Place a protecting plastic sheet (4) over the magnetic way.

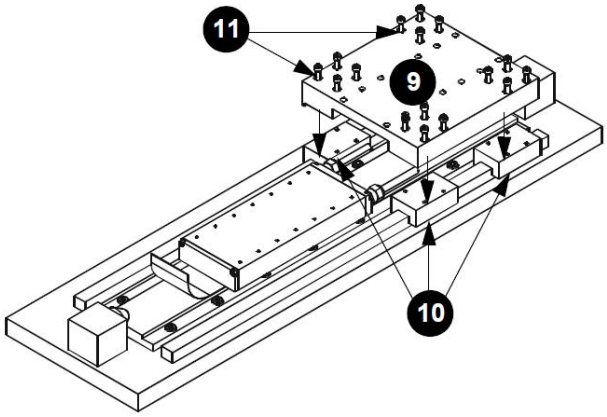
3: Place a protecting plastic sheet (5) where the lifting tool (6) feet touch the baseplate.



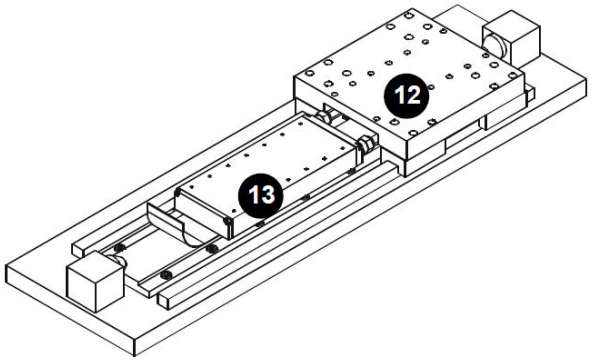
4: Bring down the motor and the lifting tool (7) using the screws (8).

Remark: Keep the motor in a horizontal position.

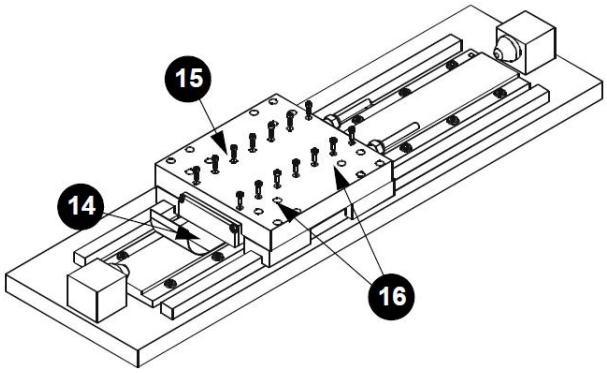
5: Dismount the lifting tool and remove the protecting plastic sheet under it.



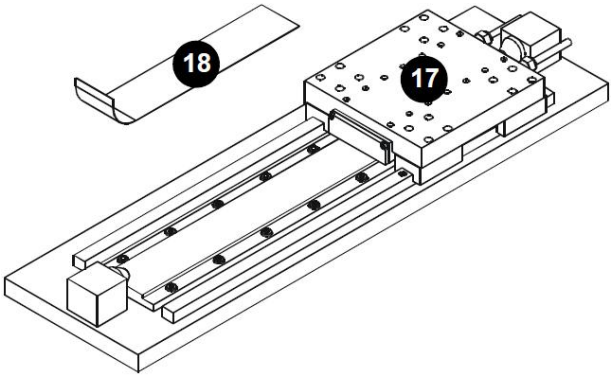
6: Mount and secure the customer interface (9) on the linear guides (10) with the fixing screws (11).



7: Slide the customer interface (12) over the motor (13).

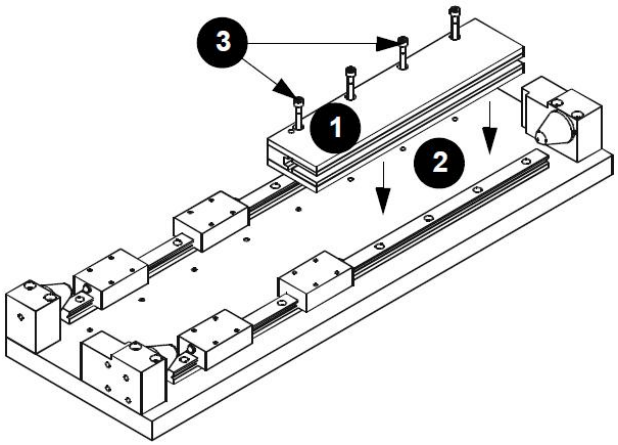


8: Secure the motor (14) against the customer interface (15) with the fixing screws (16).
Remark: The fixing screws lift the motor, however, it is important to uniformly move up the motor in order to insure a proper fixture.

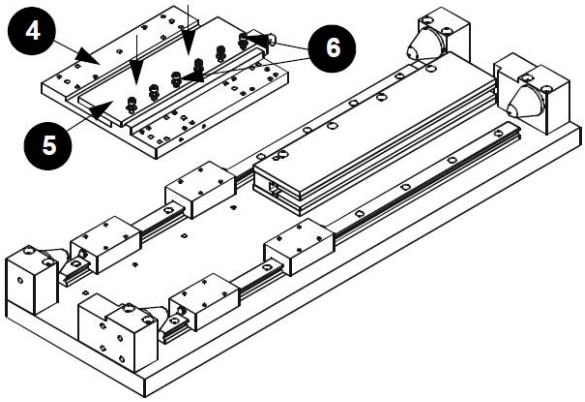


9: Move the motor assembly (17) in order to remove the protecting plastic sheet (18).
10: Test whether the motor moves without contact with the magnetic way over the entire stroke. It is normal to observe variations in the forces depending on the position (detent force).

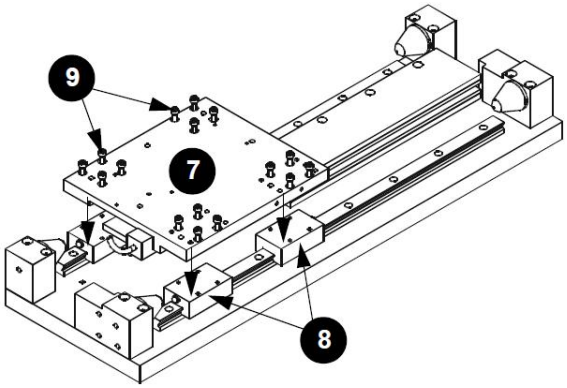
- **Mounting procedure with ironless motor**



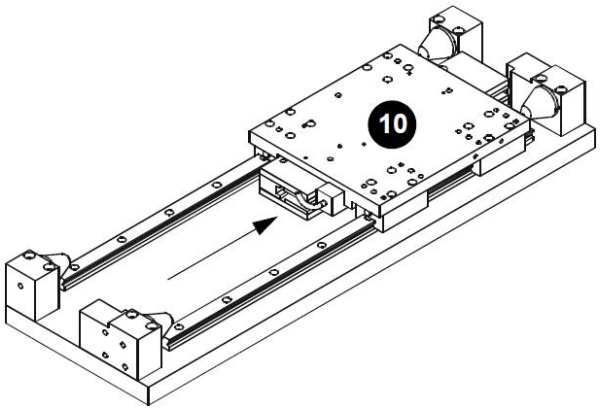
1: Mount and secure the first magnetic way (1) on the baseplate (2) with the fixing screws (3).



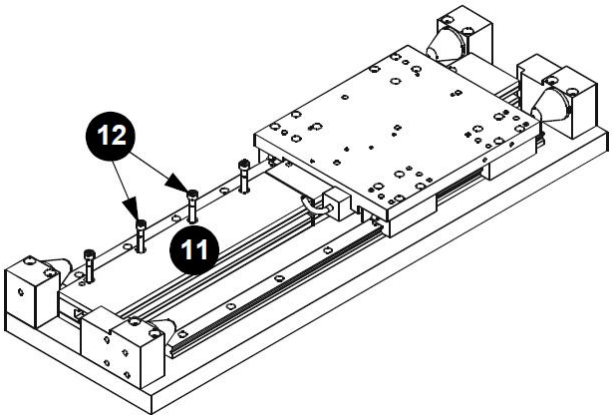
2: Mount and secure the customer interface (4) on the motor (5) with the fixing screws (6). Check the parallelism between the motor and the customer interface.



3: Turn the motor assembly (7) over. Mount and secure it on the linear guides (8) with the fixing screws (9).



4: Slide the motor assembly (10) in the magnetic way already mounted and temporarily secure it against the mechanical end stop. Check that the gap on both sides of the motor is equal.



5: Mount and secure the remaining magnetic way segments (11) with the fixing screws (12).

6: Test whether the motor moves without contact between the motor and the magnetic way over the entire stroke.