

Operation of Electrical Lifting Modules in Synchronism

Remarks for application

M4.005

Issue 5-20 E

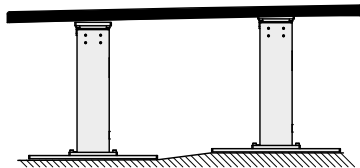


Application example: table plate with two lifting modules in synchronism

Compensation of basic heights

When lifting modules are operated in synchronism, the top plates of the lifting modules must have the same height in retracted position.

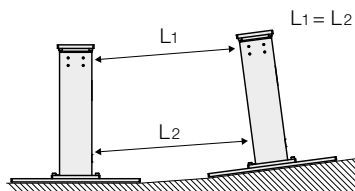
The differences in height of the customer's connecting construction are for example due to uneven floors or manufacturing tolerances must be compensated.



A flatness of the top plates of maximally 0.20 mm is required.

Parallel alignment

The lifting modules must be arranged parallel to each other, otherwise the guide of the lifting modules can be damaged by the resulting forces.

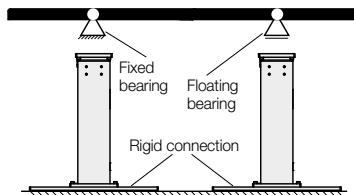


A parallelism of the lifting modules of maximally 0.50 mm is required.

Version with fixed and floating bearing

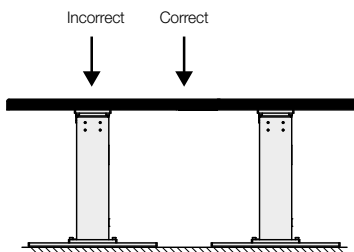
When operating several lifting modules in synchronism, in practice, there are constantly small height differences between the individual lifting units which are recognized as control deviation from the synchronization control and are compensated.

This is the reason why lifting modules must not be firmly connected to the rigid connecting construction. Thus, the connection must be made with spherical bearings or elastic elements. This is the only way to ensure that no tension will be produced when moving the lifting modules. The connection must be protected against the introduction of tensile and shearing forces.



Uniform load distribution

An unequal load distribution can cause an overload of the lifting modules. The admissible lifting force of each lifting module must not be exceeded.



Synchronization

When operating two or more electrical lifting modules in synchronism, the following guidelines are to be observed:

- Compensation of basic heights
- Parallel alignment
- Version with fixed and floating bearing
- Uniform load distribution

Achievable lifting forces

The achievable lifting force of several lifting modules in synchronism is not the sum of the lifting force of all individual lifting modules but smaller by a factor.

This is a result of the influences of the connecting construction and the interaction between the lifting modules.

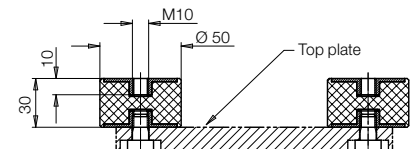
In practice, the following correction factors have proven to be successful having regard to the above guidelines:

- 4 lifting modules
max. lifting force = 4 x max. lifting force of the individual module x 0.6
- 3 lifting modules
max. lifting force = 3 x max. lifting force of the individual module x 0.7
- 2 lifting modules
max. lifting force = 2 x max. lifting force of the individual module x 0.8

Accessories

1 set of compensating elements consisting of:
4 off buffer, Ø 50 x 30 mm long
4 off socket head cap screw, M10 x 16

Part no. 0891-885



Note:

The compensating elements must only be subject to compressive load and not to tensile load!