General installation information

When installing telescopic slides, the following installation information should be observed, which should ideally already be taken into account when designing the extensions. This will ensure smooth-running, quiet, and low-wear motion of the slides over a long period of time and guarantees their function in the long run.

- Telescopic slides are generally installed in pairs so that the mounting surfaces of the housing and extension side are level, parallel and at a right angle as well as correctly aligned with one another in regard to their position. Furthermore, attention should be given to sufficient stability of the mounting structure so as to keep geometric errors, caused by elastic deformation, as minimal as possible.
- Mounting holes should be applied in such a way that the slides cannot twist or warp during installation. In addition, the slides need to be positioned in the direction of extension in such a way that the extensions reach the end position at the same time when they are retracted or extended. This results in an even load on the rubber stops and locking devices.
- The width of the respective slide installation spaces should be designed with a tolerance of +0.2 / +0.5 mm. This ensures that the slides are subjected to a slight tensile stress in the direction of the middle of the extension. This promotes optimum performance and a long service life.
- Before installation, the inner slides should be moved to the extended and retracted end position once to allow the ball cages to assume their intended position. Installation should also take place at room temperature.
- After installation, the telescopic slides and extensions are to be checked for ease of movement. In case of discrepancies, such as sticking or warping, the cause has to be determined and eliminated through appropriate actions.

Mounting holes, mounting screws

When installing telescopic slides, always use all holes provided for mounting. This will ensure that the forces resulting from the maximum load capacity F_S (nominal load) can be transferred safely from the telescopic slides to the surrounding structure. Failure to use mounting screws reduces the specified load capacity accordingly.

The outer and inner slides have further recesses and auxiliary holes in addition to the holes intended for mounting. The catalog drawings and the CAD data available for download do not show these holes to avoid confusion and design faults. These holes are needed, for example, for the mounting of type-dependent equipment features, such as the self-retracting mechanisms.

Some slide versions have mounting options for screws of various sizes. In this case, all positions of a size or type should be used. Auxiliary holes, which ensure that all mounting holes can be reached, are included in the CAD data but are not shown in the catalog drawings.

The type and specification of the suitable screws are indicated on the respective catalog pages. It is generally recommended to use screws of property class 8.8 in compliance with the specified tightening torque.

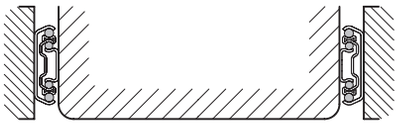
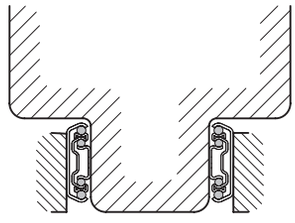
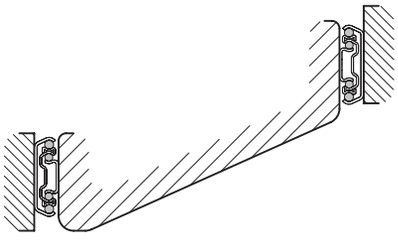
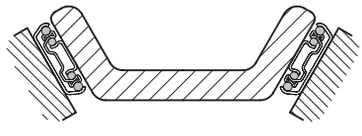
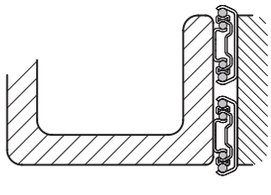
Installation position

Telescopic slides are preferably side-mounted and installed in pairs in a horizontal position. This ensures that the highest possible stability and torsional stiffness is achieved in the smallest installation space and allows for absorption of the maximum load (nominal load). The performance features are optimum in this installation position and wear is reduced to a minimum.

The top and / or bottom mount of the slide is also possible with certain restrictions. The maximum load in this case is only about 20 % to 25 % of the specified nominal load. This more unfavorable slide cross-section results in considerably higher bending in the extended state. As a result, the ball cages may touch the heads of the mounting screws. In case of doubt, the function under load is to be checked in a test setup.

Installing slides in a perpendicular position to the direction of extension is not recommended as increased cage slip occurs in this case. This means that the upper and lower end position of the slide may only be reached with an increased amount of force after a few cycles since the force of gravity causes the ball cage to become dislocated from its correct position.

The following examples show possible **installation positions** of telescopic slides that are considered favorable or acceptable and some that are regarded as unfavorable and should therefore be avoided.

Favorable	**Side mount, on both sides**	 
Acceptable	**Side mount, vertical offset, on both sides**	
	Side mount, inclined offset, on both sides	
Unfavorable	**Side mount, on one side**	
	Top and / or bottom mount, on both sides