

## Linear Rail Mounting

The availability of both countersunk (S-type) and counterbored (L-type) rail mounting holes allows optimization of alignment and orientation of the rails, depending on load direction and geometry.

Generally the countersunk S-type rail is mounted with flathead screws and does not require special alignment, because the taper of the fastener and rail mounting hole, forces a rail into a specific position. Such rail mounting holes, allow for easy and fast rail installation, however the precision of the tapped hole placement in the mounting surface will affect the position of the rail.

The counterbored holes in L-type rails allows for a small amount of lateral movement during installation.

This type of mounting is preferred when the tapped holes in the mounting surface are not precisely placed. This type of mounting holes are necessary, when aligning the rail with an external reference surface, as the holes will allow the rail to move slightly, to sit against the reference surface.

The rail must be secured to a structure sufficiently rigid to support the full load. The surface mounting holes should include a chamfer as shown in the table.

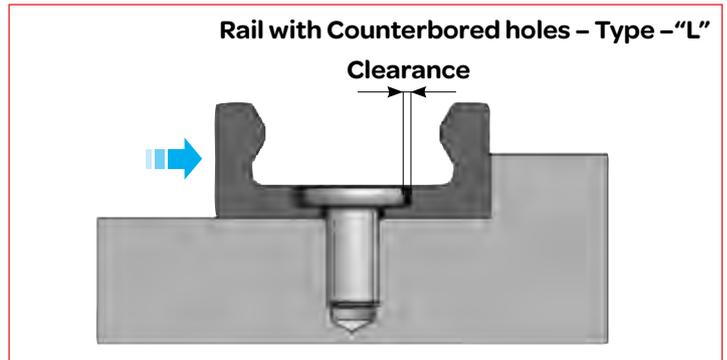
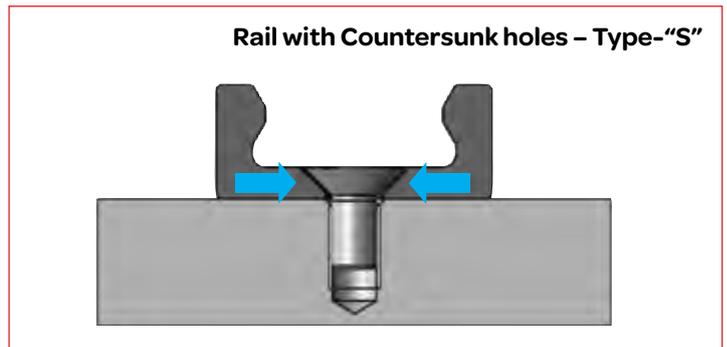
## Slider Assembly

R sliders for MR and ML rails, have threaded holes parallel with the holes of the rail and aligned within the tolerance shown on page 36. In case of more sliders in same rail, the misalignment of the fixing holes of various sliders is compensated by making a bit larger holes on the fixing structure. It is recommended to only fully tighten the sliders mounting screws after installing all sliders in all the rails.

This allows the sliders to align to the rail, avoiding creating additional stress on the sliders. R\_S and RLS sliders have a slim slider body and allow for double slider fixing, with either threaded holes (standard) or a through hole, by adding a "C" designation to the part number (i.e. RLS28C-3).

In case of through holes, it is advisable to drill some holes in the rail for access to the screws, for tightening after the sliders with screws are inserted into the rail. The RT sliders have mounting holes perpendicular to the rail mounting holes and offer the options of mounting from above or from below.

In case where two sliders in respective version A and B, are installed in same rail, it might be necessary to shim the slider body thickness support, as eventual presence of minor misalignment (see tolerance on page 36) of slider body thickness.



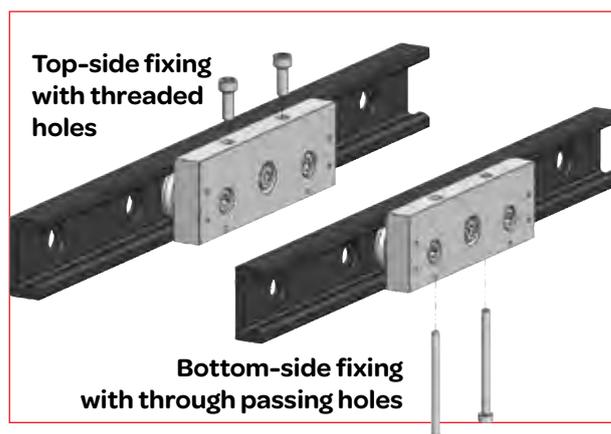
Rail type	Chamfer (mm)
MRG18	0.5x45°
MR28	1x45°
MR43	1.5x45°
ML28	1x45°
ML43	1.5x45°

Chamfer

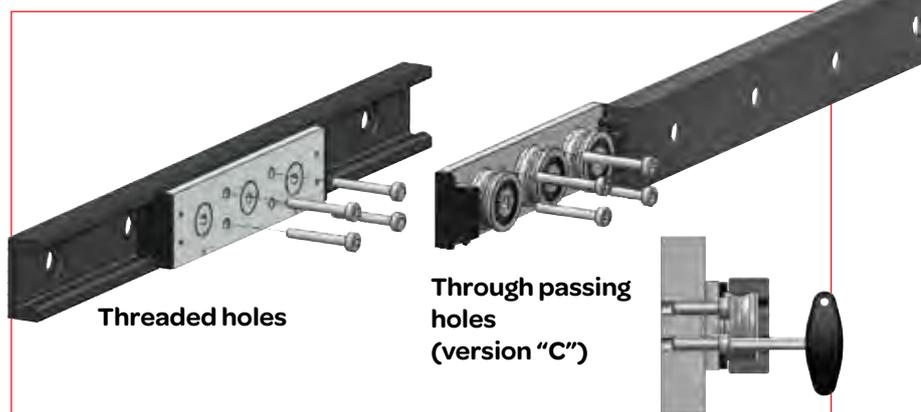
## Slider fixing for series R.



## Slider fixing for series R.T



## Slider fixing for series R.S



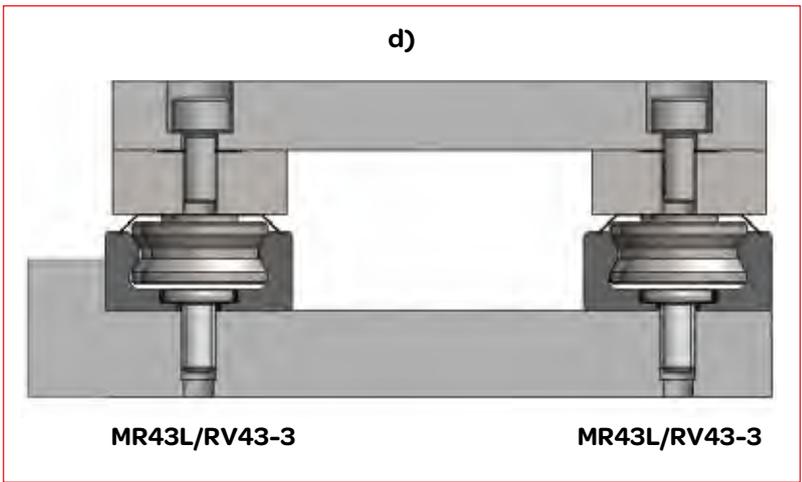
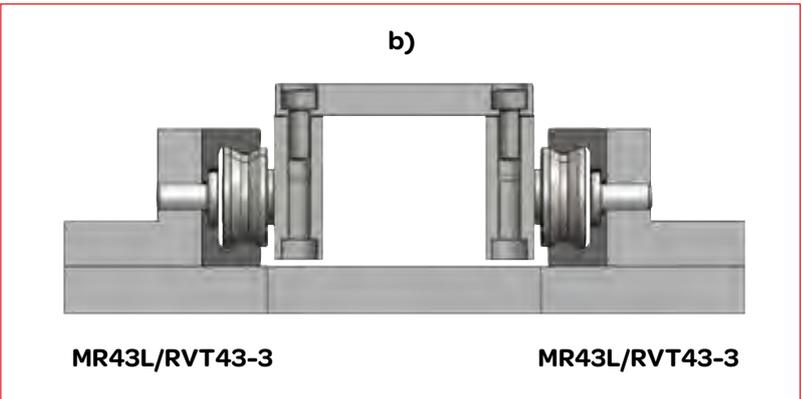
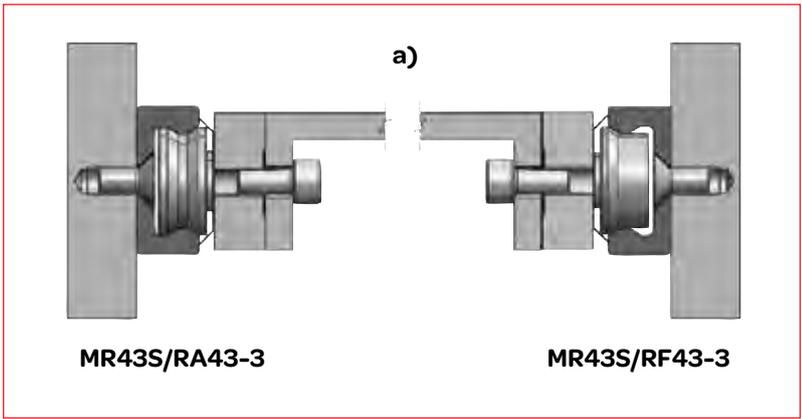
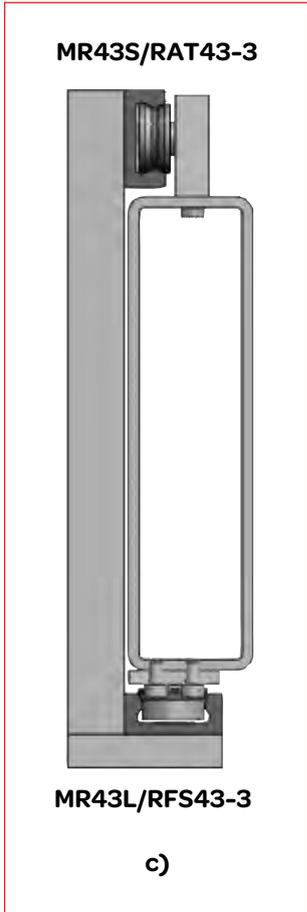
## Examples of Mounting Arrangements

**a)** A pair of rails mounted on facing walls with S-type mounting holes, for fast installation. Combined with self-aligning RA sliders (rotating) and RP or RF sliders (floating), such linear system is capable of self adjusting for some mm of parallelism errors between the two walls, see also page 37 for further info.

**b)** A pair of rails mounted to the same horizontal surface with "L" brackets to rotate the rails so they are loaded radially. The "L" type rails with counterbored holes are used to ensure full support of the rail on the horizontal surface. RVT sliders are fixed to a plate from above. Use of "L" type rails provides maximum rigidity of parallel rails.

**c)** Rails are mounted on perpendicular surfaces. The upper rail is of type S with countersunk holes for quick mounting and combined with a RAT slider to support the weight, but also for allowing some rotational movement. The lower rail is with counterbored holes to allow rail adjustment against the vertical surface and is combined with an RFS slider to allow for unlimited vertical compensation. The system simplifies installation and allows alignment of the rails on both the vertical plane and horizontal plane.

**d)** Rails are mounted flat on a horizontal surface and loaded axially. The two rails are "L" type with counterbored mounting holes to allow proper rail alignment. One of the two rails should be pushed against a lateral support for precise alignment of the movement's linearity. The sliders are fixed to a carriage plate and the second rail is fastened in place while moving the carriage assembly along the full travel to ensure parallelism of the rails. The RV-sliders offer maximum stiffness and load capacity in the axial direction



## Slider orientation

Sliders with 3 and 5 rollers provide maximum load capacity in the radial direction with the greater number of rollers on the same raceway of the rail. The side is marked with two circular impressions on the slider body.

For example, sliders carrying a load as shown in the picture below should be oriented with the marks opposite the load direction. The marks indicate where the maximum reaction force is available.

