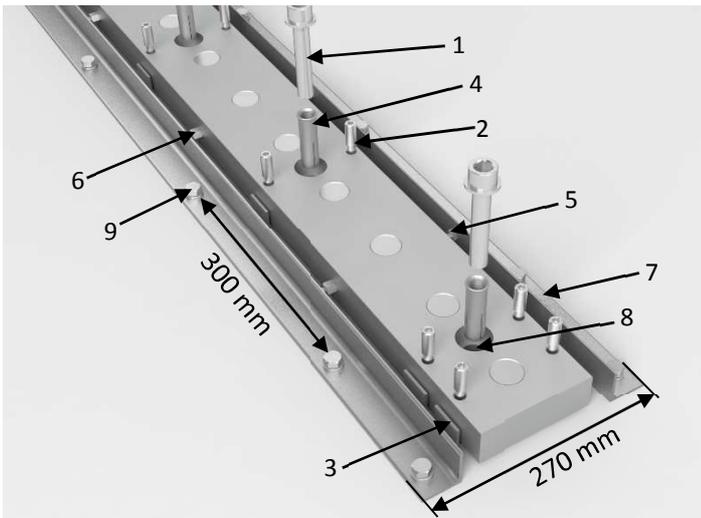




• Installation onto the floor

With this data sheet we provide you some assistance for the assembly of the support and fundamental rails. The following assembly instruction is only a recommendation. You can also install or assemble the fundament rails according to your conceptions. We point out that all the ground work (e. g. cutting the gaps, pouring the slots, etc.) are not included in delivery of the Bernd Siegmund GmbH. This can be made by one of our contractors or established onsite. In addition the Bernd Siegmund GmbH assumes no responsibility for soil conditions.

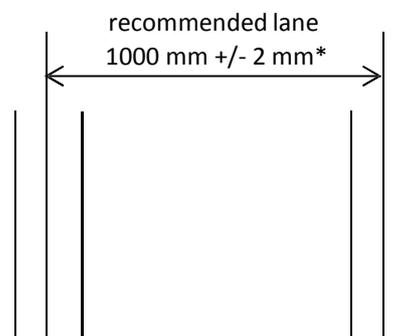


- 1 Cylinder head screw DIN 912 – M16x60 + Spring washer DIN 127 - D16,2
- 2 Headless pins DIN 915 – M12x35/ 40/ 45/ 50/60 (according to customer requirement)
- 3 Packing plate
- 4 Dowel M16x65
- 5 Hexagon bolt DIN 933 - M8x16/ 20/ 25/ 30/35* (according to customer requirement), (see page 2)
- 6 Hexagon nut DIN 6330 – M8*, (see page 2) Spreading tool* (not pictured) for dowel
- 7 Angle steel 40x40x3*
- 8 Plastic cap* (covered) (see page 2)
- 9 Fixing anchor for cracked concrete M8x75

*(not included in shipment)

To get the right accuracy in distance between the rails, you have to fix them to avoid slipping. This can for example be achieved by adjusting between two floor-mounted angle steels (L-profiles). We recommended to use for mounting fixing anchor for cracked concrete M8x75 all 300 mm.

Flatness of the hall floor should be +/- 2 mm



*at table 3000x1500x200 mm
1500 mm +/- 2 mm 3 lanes



Assembly Instruction for the fundament rail system

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An assembly of the fundament rails without any problems is only possible if the tolerances are maintained accurately (tolerances see page 1).

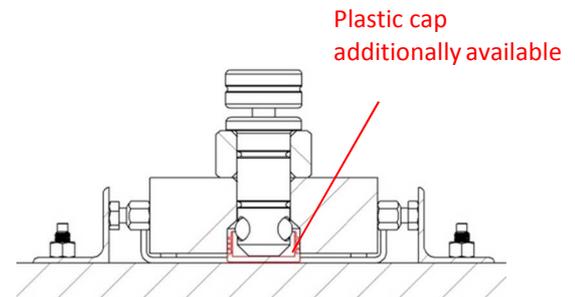
If there are – despite accurate work – some missing tenths in the tolerance, you have the possibility to borrow a hand broach to widen the wholes on the bottom side of the connection frames.

Please note that there can be an accordant deficit in tolerance and accuracy on the whole rail system.

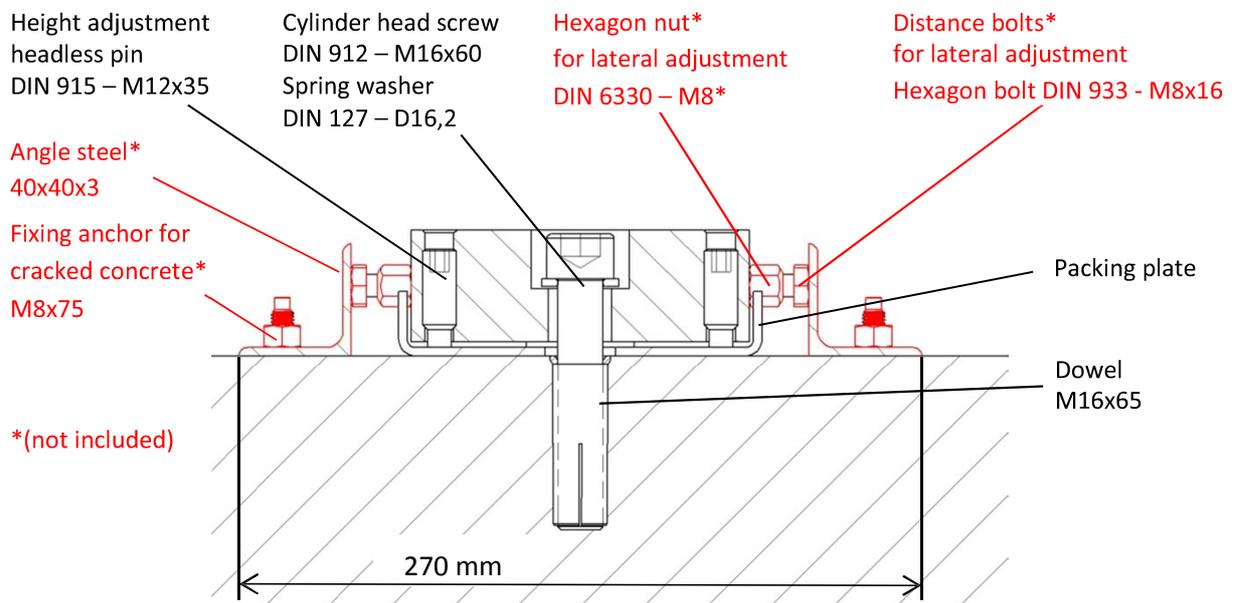
We suggest to take enough time for assembling the rails so that the fundament rails can be put into a perfect position and that the connection frames can be positioned without any problems.

Furthermore we recommend you to close the holes for the bolts from the bottom with plastic caps.

The packing plates are necessary to prevent that the headless pins invade into the concrete floor. We advise you that by insertion of the M16 cylinder head screw the level of the fundament rails will change. Because of the pressure the height of the rail will be changed.



Before inserting the dowels, the dust has to be removed. That can be made by brush or by blowing out. Subsequently the anchors are driven into the holes and braced with the associated spreading tool until the stop of the spreading tool builds on the anchorage.



The rails might contain imprecisenesses, this can be compensated by fitting the lateral adjustment screws. The adjustment of the rails in their horizontal position is made in an approximation procedure. (1. Step: rough adjustment and then precise adjustment in little steps).

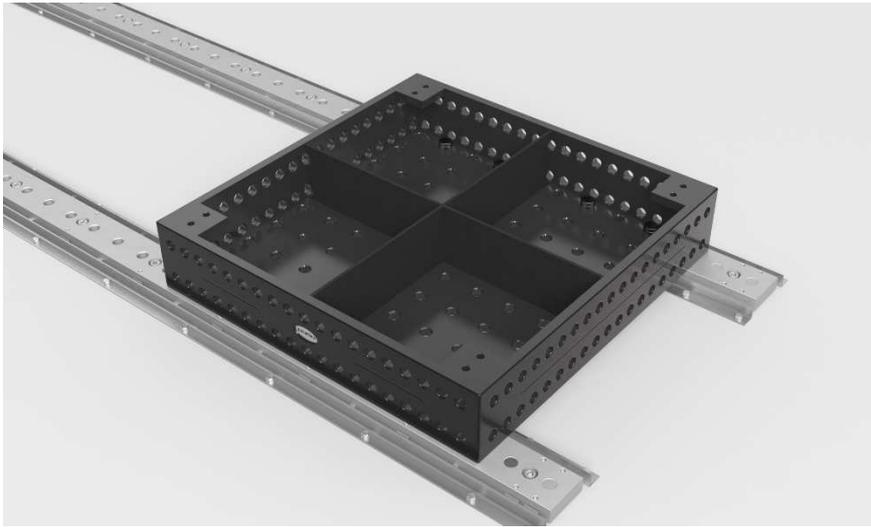


Assembly Instruction for the fundament rail system

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For the alignment of the rails you should ideally use tables, which are placed upside down and are fixed on the rails with countersunk bolts. Additional positioning bolts can be used for centering.

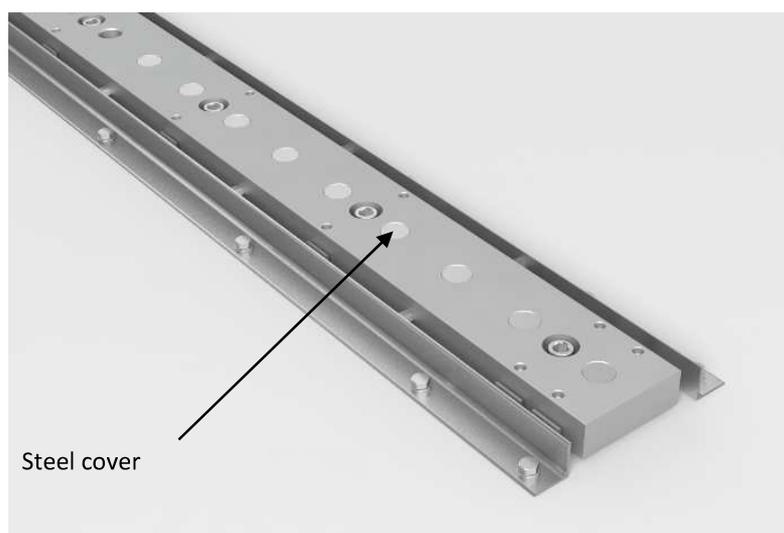
The installation pattern (which can be borrowed), should only be used if there aren't any tables available for adjustment (the tables are much more stable than the installation pattern). The pattern can also be used for rough adjustment.



We advise a distance of maximum 300mm, preferably 200 mm, optimum 100 mm between the spacing-screws.

By using qualified measurement equipment, for example a laser tracker, you can reach positioning accuracies of +/- 1-2 mm on a length of, for example, 20 m. And these tolerances can even be minimized throughout right techniques of measurement. Please also note the fluctuations of the material (expansion coefficient), which are caused by temperature.

The steel cover prevents dirt from ingressing. It is advantageous to remove them with the help of a magnetic bolt.



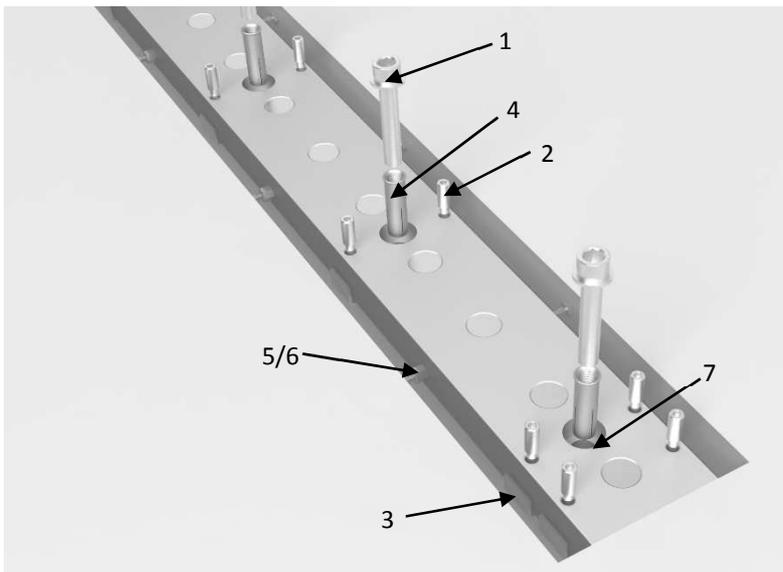
According to experiences you need approx. 1-2 hours of works per meter of rail.

We recommend rail lengths of 3 or 4 meters. Longer rails are hard to handle and adjust because of their weight (37 kg per meter).



• Installation below the floor

With this data sheet we provide you some assistance for the assembly of the support and fundamental rails. The following assembly instruction is only a recommendation. You can also install or assemble the fundament rails according to your conceptions. We point out that all the ground work (e. g. cutting the gaps, pouring the slots, etc.) are not included in delivery of the Bernd Siegmund GmbH. These can be made by one of our contractors or established onsite. In addition the Bernd Siegmund GmbH assumes no responsibility for soil conditions.

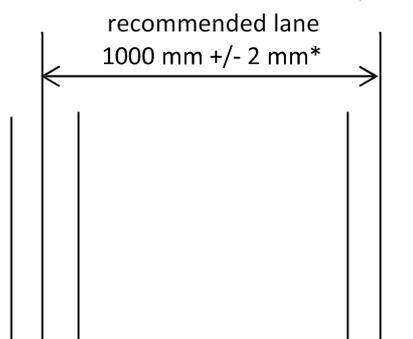


- 1 Cylinder head screw DIN 912 – M16x60 +
Spring washer DIN 127 - D16,2
- 2 Headless pins DIN 915 – M12x35/ 40/ 45/ 50/60
(according to customer requirement)
- 3 Packing plate
- 4 Dowel M16x65
Spreading tool* (not pictured) for dowel
- 5 Hexagon bolt DIN 933 - M8x16/ 20/ 25/ 30/35*
(according to customer requirement), (see page2)
- 6 Hexagon nut DIN 6330 – M8*, (see page 2)
- 7 Plastic cap* (covered) (see page 2)

* (not included in shipment)

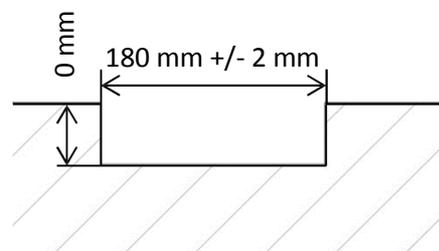
To get the right accuracy in distance between the rails, you have to fix them to avoid slipping. This can for example be achieved by sealing the rails into the ground.

Flatness of the hall floor should be +/- 2 mm



*at table 3000x1500x200
1500 mm +/- 2 mm

3 lanes





Assembly Instruction for the fundament rail system

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An assembly of the fundament rails without any problems is only possible if the corresponding cut-outs in the surface have been done proper (tolerances see page1).

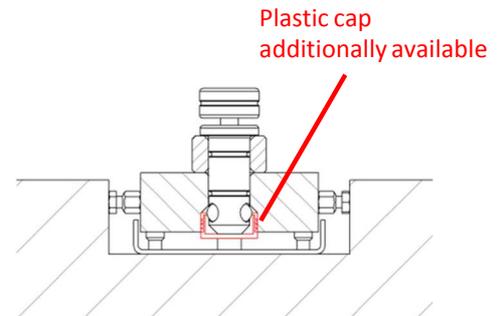
If there are – despite accurate work – some missing tenths in the tolerance, you have the possibility to borrow a hand broach to widen the wholes on the bottom side of the connection frames.

Please note that there can be an accordant deficit in tolerance and accuracy on the whole rail system.

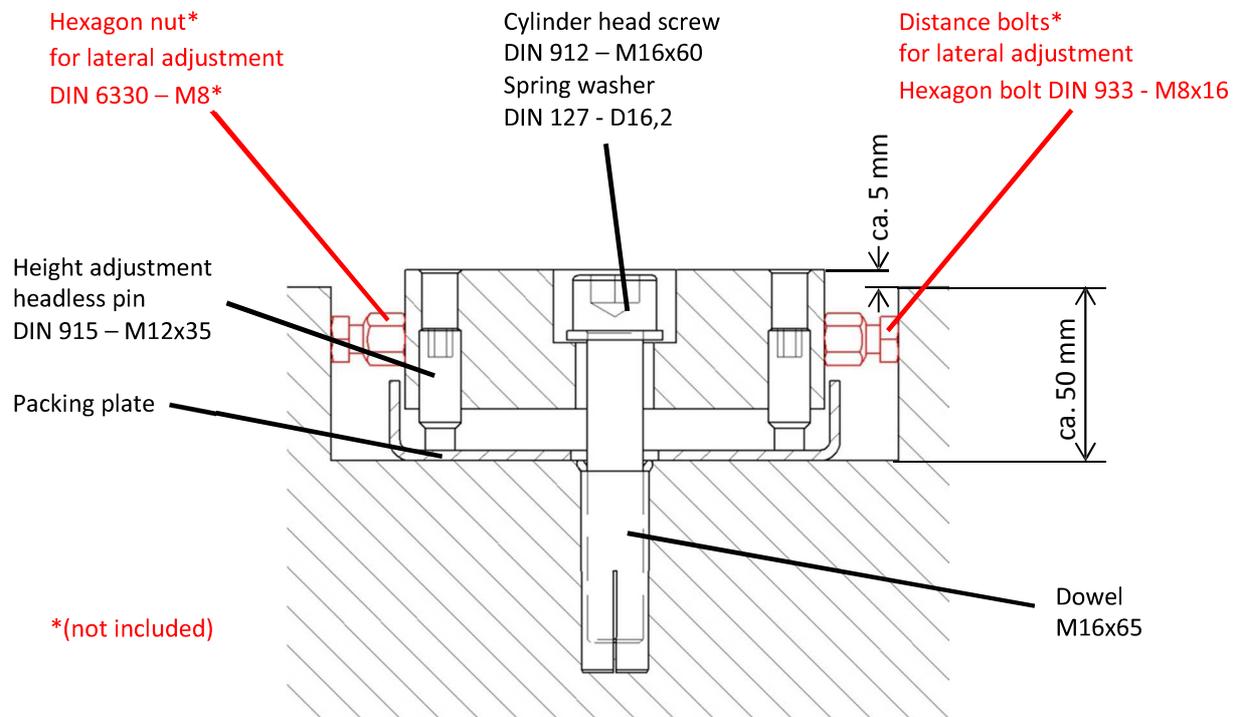
We suggest to take enough time for assembling the rails so that the fundament rails can be put into a perfect position and that the connection frames can be positioned without any problems.

Furthermore we recommend you to close the holes for the bolts from the bottom with plastic caps.

The packing plates are necessary to prevent that the headless pins invade into the concrete floor. We advise you that by insertion of the M16 cylinder head screw the level of the fundament rails will change .Because of the pressure the height of the rail will be changed.



Before inserting the dowels, the dust has to be removed. That can be made by brush or by blowing out. Subsequently the anchors are driven into the holes and braced with the associated spreading tool until the stop of the spreading tool builds on the anchor edge.



The rails might contain imprecisenesses, this can be compensated by fitting the lateral adjustment screws. The adjustment of the rails in their horizontal position is made in an approximation procedure. (1. Step: rough adjustment and then precise adjustment in little steps). The final arrangement can be achieved by filling with concrete.

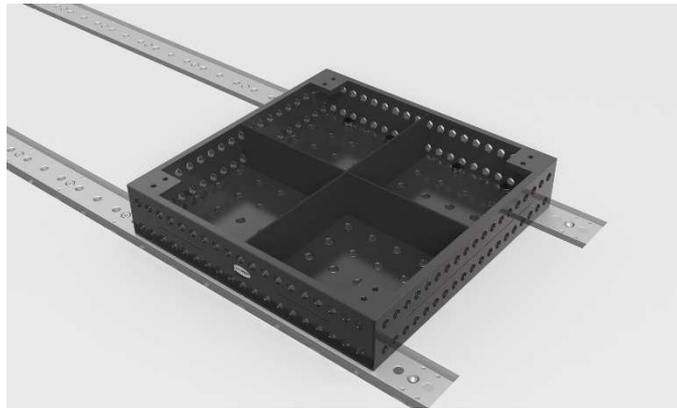


Assembly Instruction for the fundament rail system

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For the alignment of the rails you should ideally use tables, which are placed upside down and are fixed on the rails with countersunk bolts. Additional positioning bolts can be used for centering.

The installation pattern (which can be borrowed), should only be used if there aren't any tables available for adjustment (the tables are much more stable than the installation pattern). The pattern can also be used for rough adjustment.

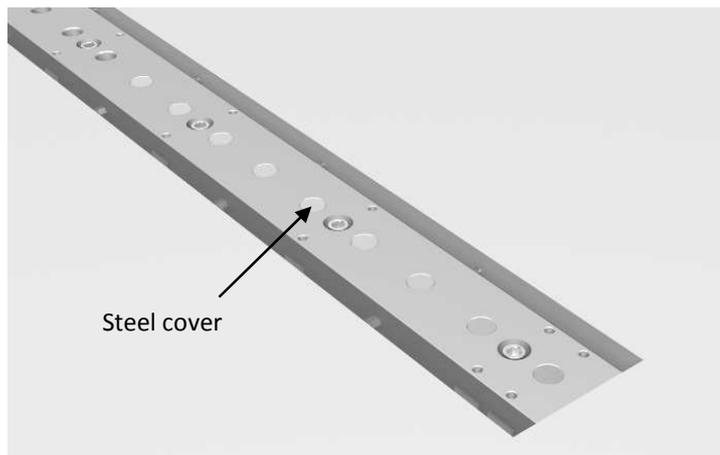


We advise a distance of maximum 300 mm, preferably 200 mm, optimum 100 mm, between the spacing-screws.

The spacing-screws on the right and left side of the rails are also been filled in the concrete.

By using qualified measurement equipment, for example a laser tracker, you can reach positioning accuracies of +/- 1-2 mm on a length of, for example, 20 m. And these tolerances can even be minimized throughout right techniques of measurement. Please also note the fluctuations of the material (expansion coefficient), which are caused by temperature.

The steel cover prevents dirt from ingressing. It is advantageous to remove them with the help of a magnetic bolt.



When assembling, it is important that the rails stand out of the floor round about 3-10 mm on their whole length.

According to experiences you need approx. 1-2 hours of works per meter of rail.

We recommend rail lengths of 3 or 4 meters. Longer rails are hard to handle and adjust because of their weight (37 kg per meter).