

HOWTO Mount the the *mar345* image plate detector onto the *mar dtb*

To mount the mar345 image plate detector onto a mardtb desktop beamline, please follow these steps:

1. Drive the distance translation of the dtb to > 400 mm
2. With a marker, mark the position of the legs of the dtb, so that after physically moving the dtb, you can bring it back into its original position later on without having to do a long beam search
3. Take the detector out of the box and put it upright on a table as shown on the next 7 images.



4. Locate the mounting plate of the dtb (arrow). This mounting plate has a counter-part on the base plate of the detector. The detector will fit perfectly onto this mounting plate. When putting the detector on top of the dtb, try to avoid scratching the parts painted in red. It may turn out to be easier for a single person to lift up the scanner (50 kg!) as shown in the 2nd picture and place it with one corner on the mounting plate. If most part of the weight rests on the mounting plate you can slowly push it forward on that mounting plate (indicated by the arrow), until the entire mounting plate fits into its counter-part on the base plate of the detector. When this happens, the detector “falls” a little bit down.



5. Fasten the screw that will keep the detector on the mounting plate. You will find a little hole inbetween the screw that holds the red back cover and the front cover. In that hole, there is a 2.5 mm screw. With a 2.5 mm Allen key, turn clockwise until feeling a major resistance. Do not overdo the screw! Hint: it is easier to turn the screw if you first push the detector horizontally towards you, so it can slide a little bit on the mounting plate towards you.



6. Put the dtb back into its original position.
7. Turn on the dtb and the detector. From the mar345dtb software, initialize the DISTANCE motor!
8. Turn on the X-rays. If the dtb has really returned to the same position where it came from, you will see positive ionization chamber readings in both chambers. It is not unlikely, though, that there is some misalignment and you will have to go into the "Align" page and start a "Find beam" procedure followed by an "Optimize".