HITACHI FB-2100 FIB
A few notes on working distance

- It is essential that the sample assembly height is carefully measured with the height gauge, and it should just barely fit under the gauge.

- The working distance ranges between 5 mm and 15 mm (distance between sample and pole piece).

- The FB-2100 can sputter cut at any working distance.

- If you want to use the tungsten deposition system or microsampler probe, the working distance must be set to 5.62 mm. If your sample is too high (working distance too small), these instruments will collide with the sample, and if your sample is too low (working distance too large), these instruments will not be able to reach the sample.

- The shorter the working distance, the better the cutting resolution. However, you must work around the TEM holder support. That means you cannot bring a large sample up to 5 mm working distance, or it will collide with the TEM holder support.

- The largest sample size that can easily move up to 5 mm working distance and rotate, is 7 mm x 7 mm. Larger samples than that must be fabricated at longer working distances to avoid the TEM holder support.

- It is possible to bring large samples up to 5 mm working distance, but you must first move the stage sideways in X, before bringing it up to 5 mm, and then you must remember not to rotate the sample too much, or it will rotate into the TEM holder support.

- When you are moving your stage back to the home position, be aware that it moves all three axes simultaneously. That means that if you are up high beside the TEM holder support, and the large sample is moved left so it will fit beside the TEM holder support, simply clicking “home” will possibly cause the sample to strike the TEM holder support. In this case, move the stage down in Z so that it is below the TEM holder support, before clicking “home”.