Figures of the Final Report

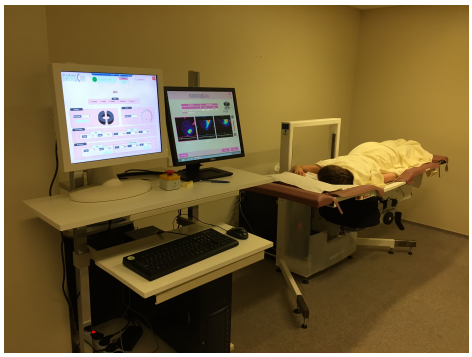


Figure 1. MAMMOCARE installed on NKI

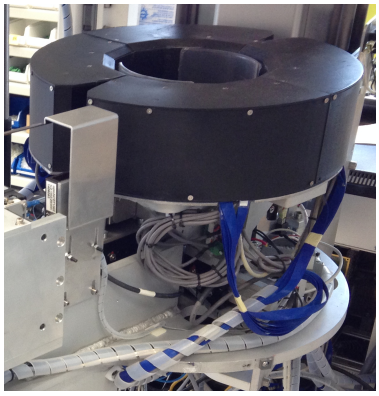


Figure 2. Double ring detector with detailed mechanics for open a close procedure

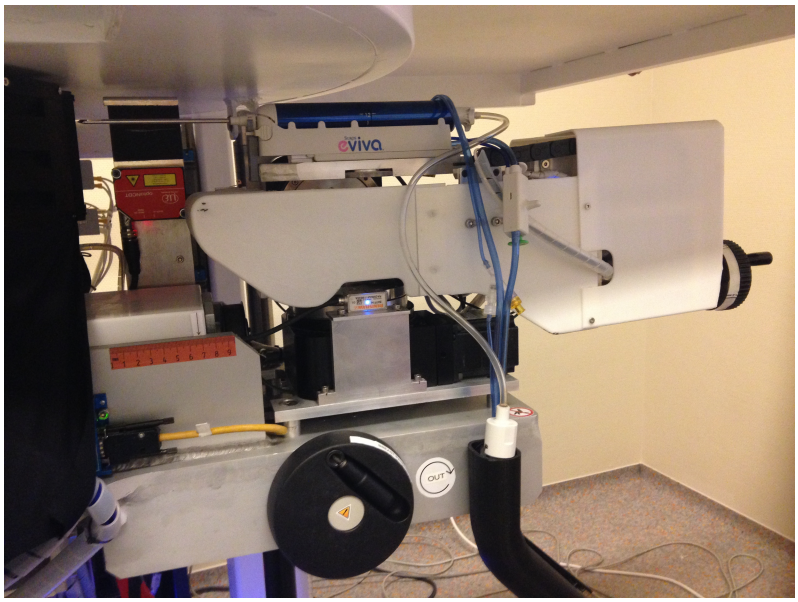


Figure 3. Needle mechantronics system

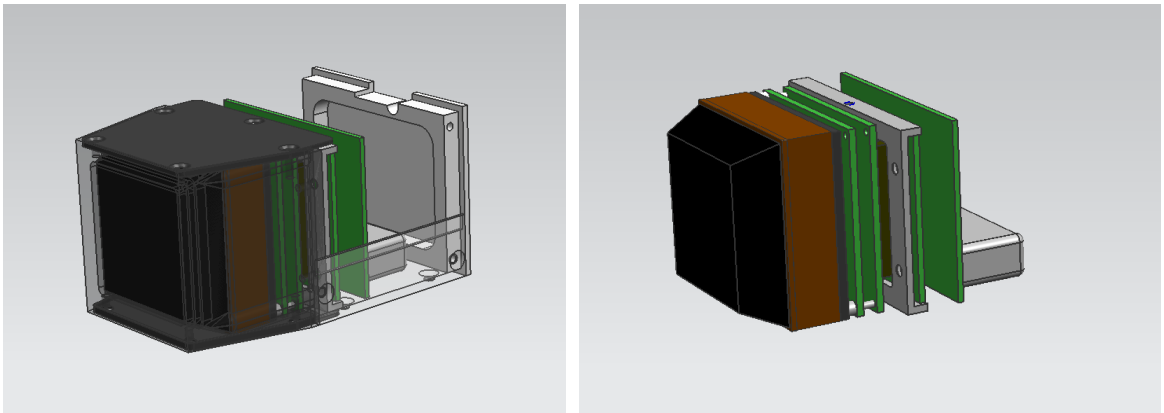
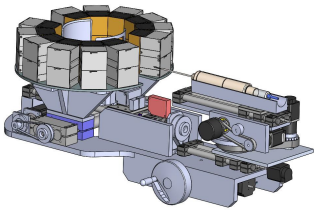


Figure 4. Module assembling distribution



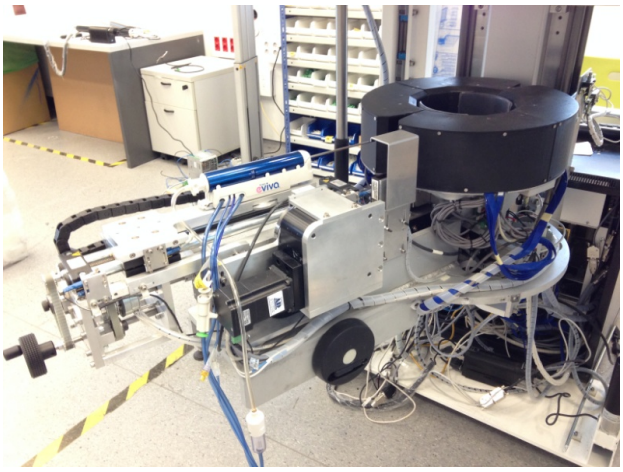


Figure 5 CAD detector design. Figure 6 final PET detector configuration

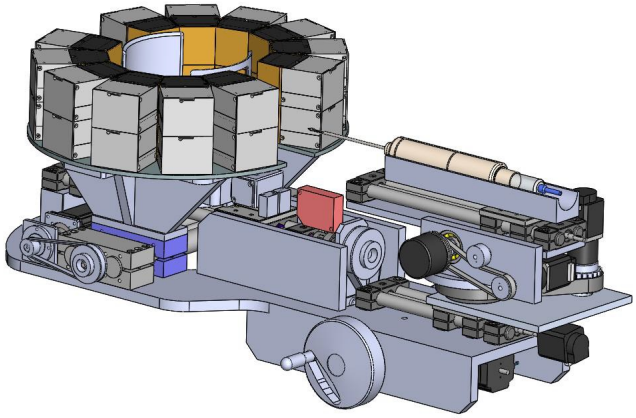


Figure 7. Open ring position

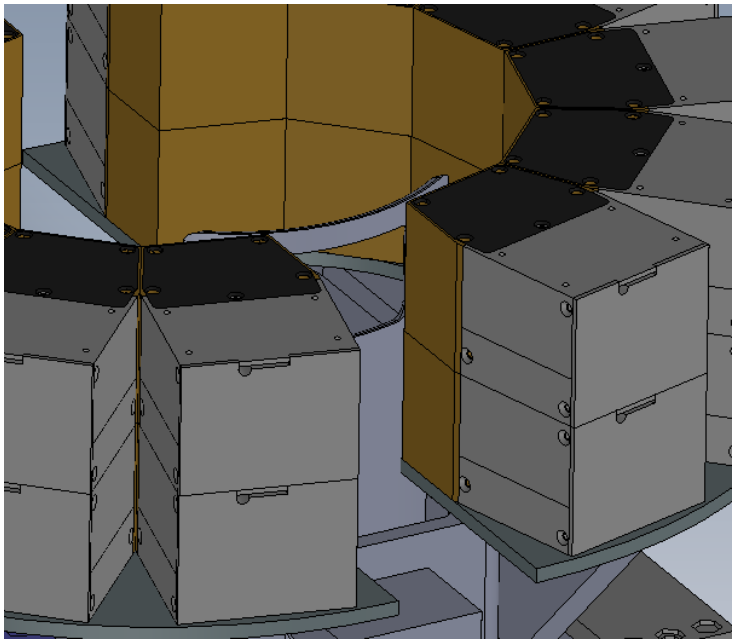


Figure 8. Open ring detail

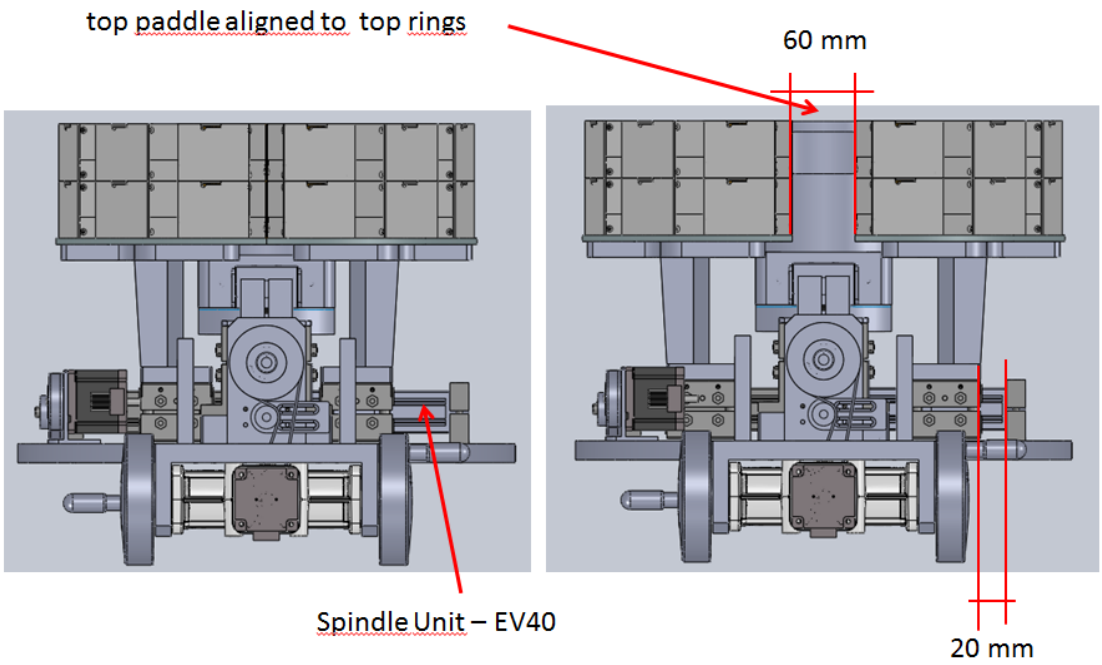


Figure 9. Opened and closed semi-rings

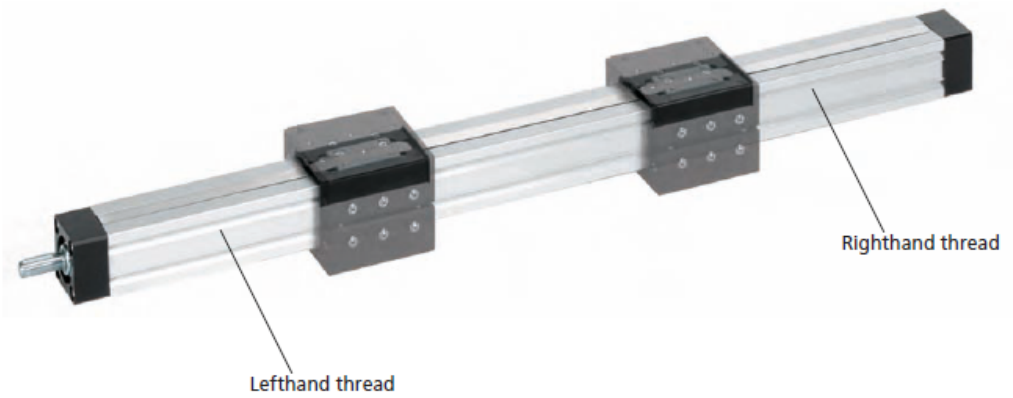


Figure 10: Spindle unit

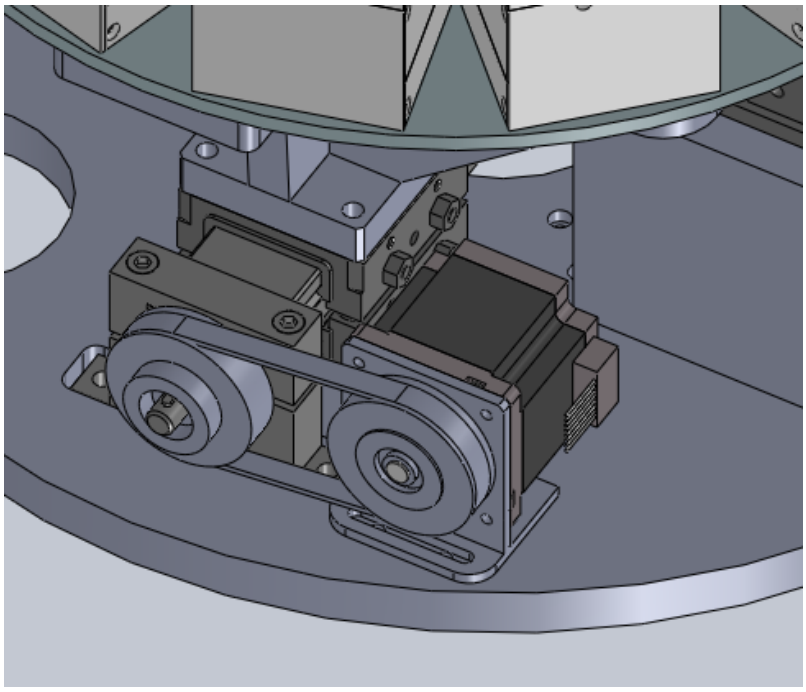


Figure 11: System detail

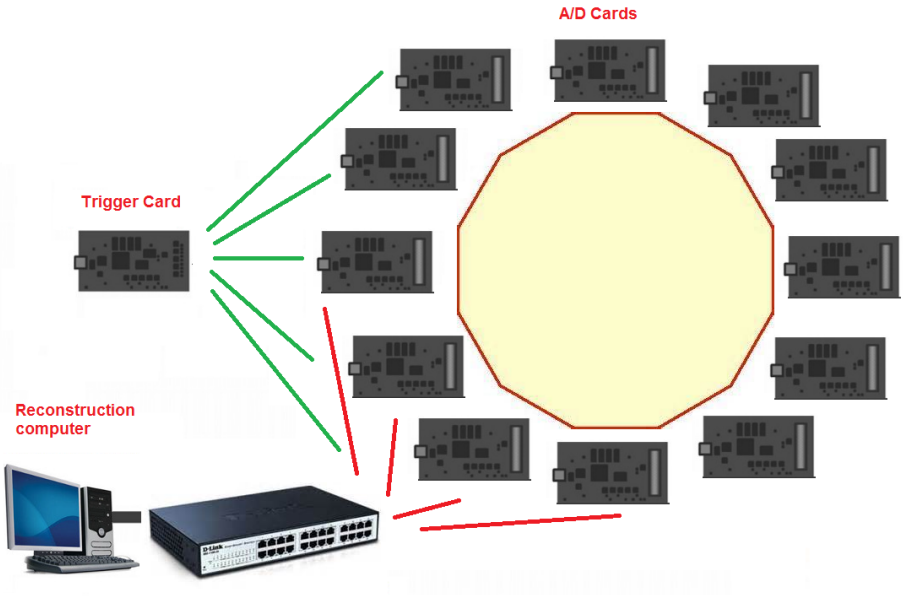
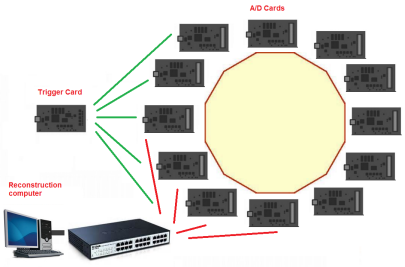


Figure 12. Ring electronics configuration



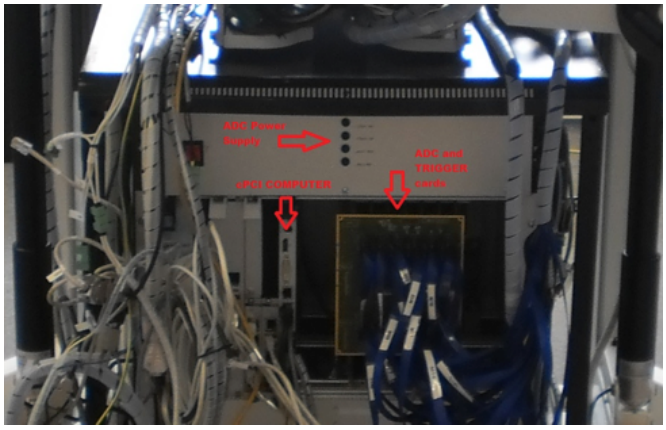


Figure 13 Schematic detector cabling. Figure 14 final detector electronics distribution

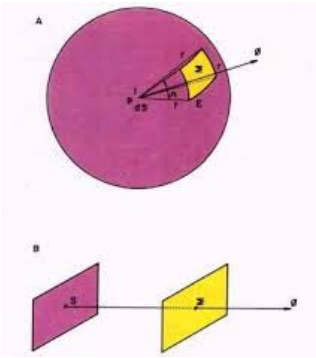


Figure 15. Pixel projection.

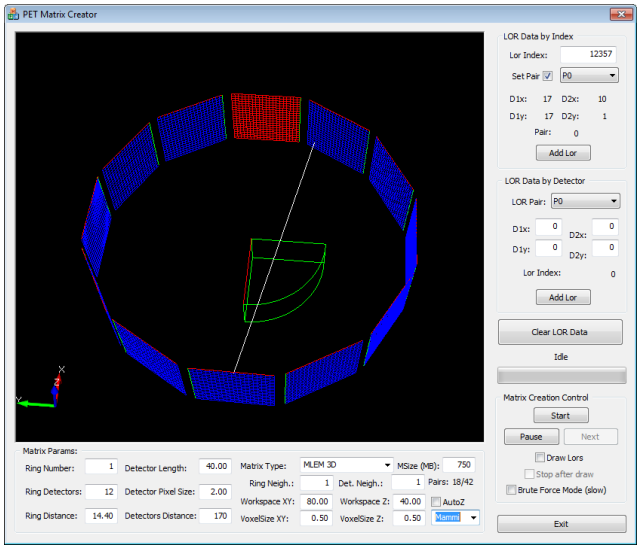


Figure 16. Calculation software. Closed ring.

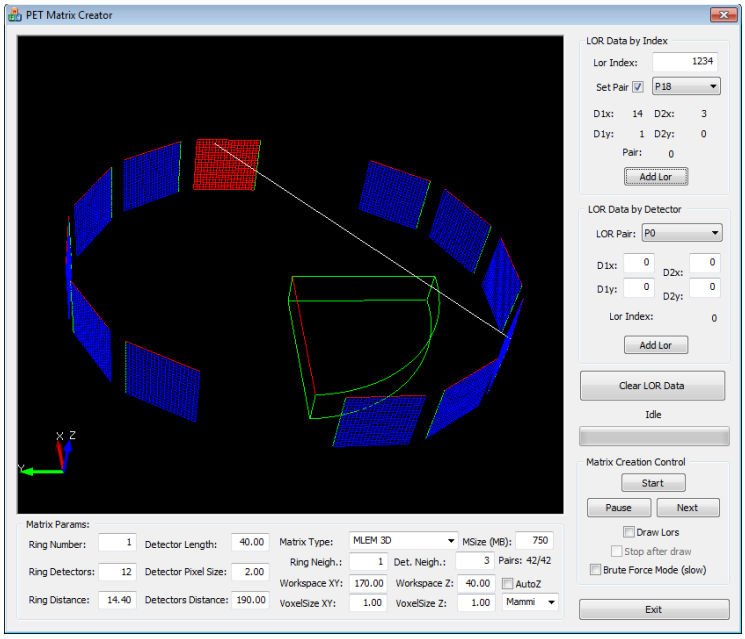


Figure 17. Calculation software. Open ring.

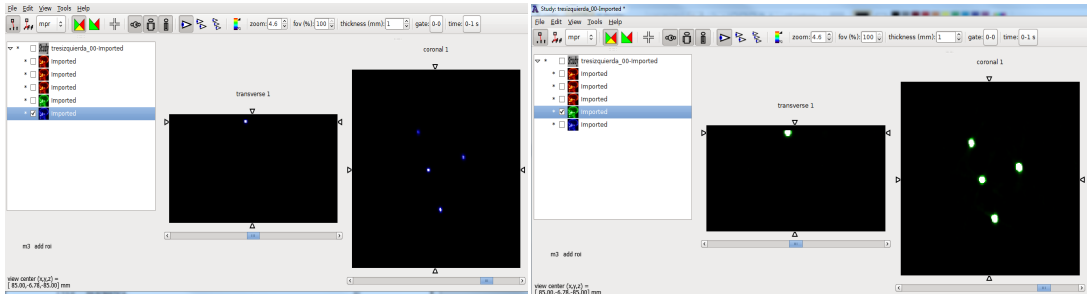


Figure 18 Closed ring cross correlation. Figure 19 Open ring close correlation

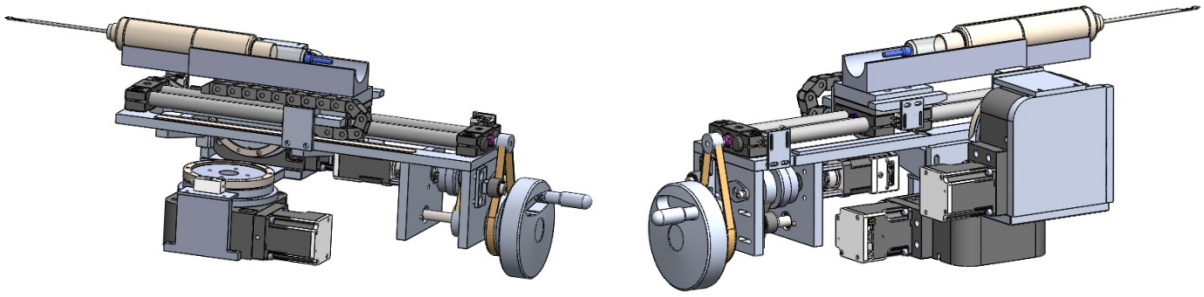


Figure 20. Biopsy needle positioning system

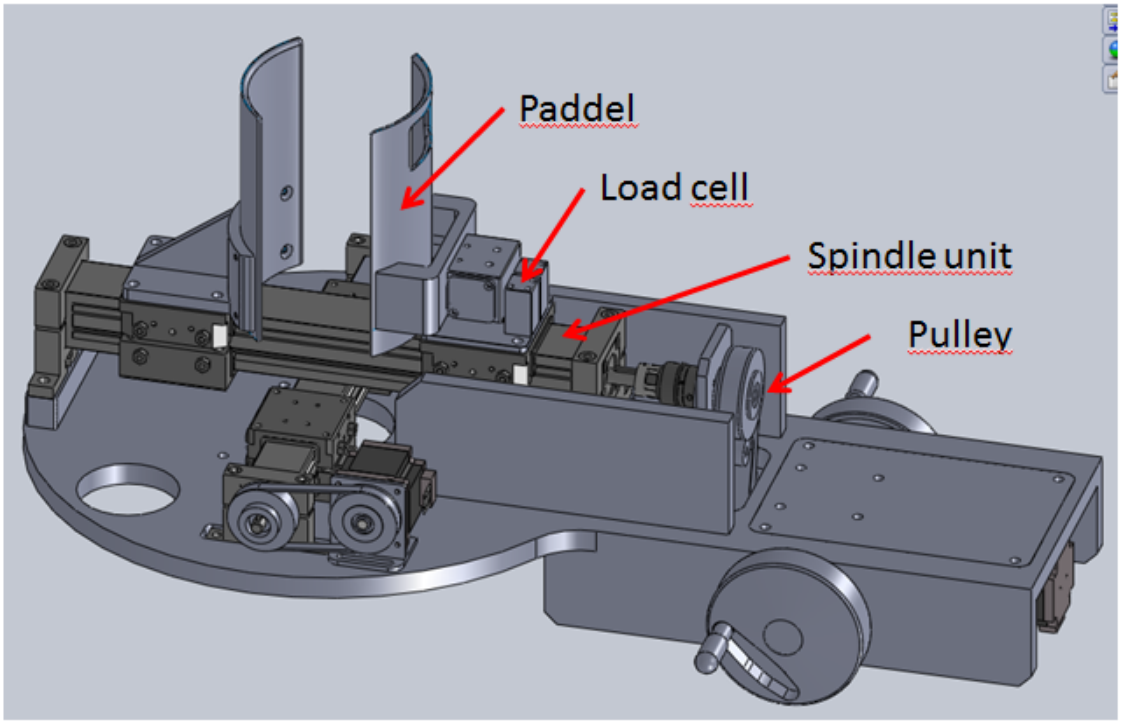


Figure 21. Breast immobilization system

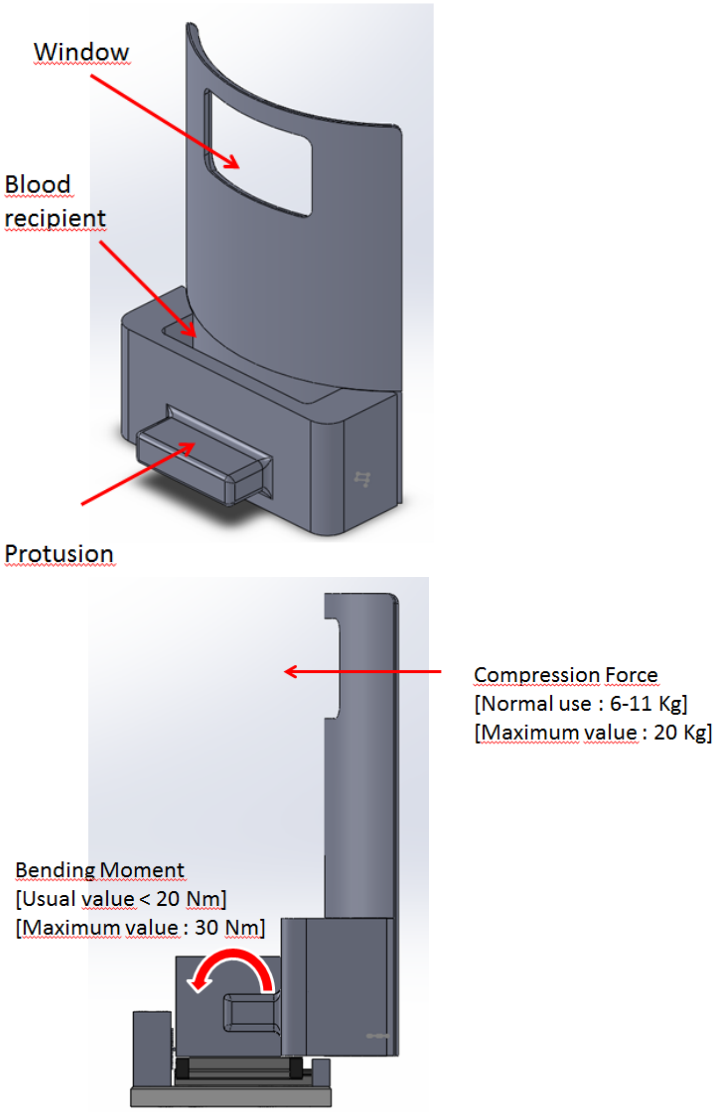


Figure 22. Paddle

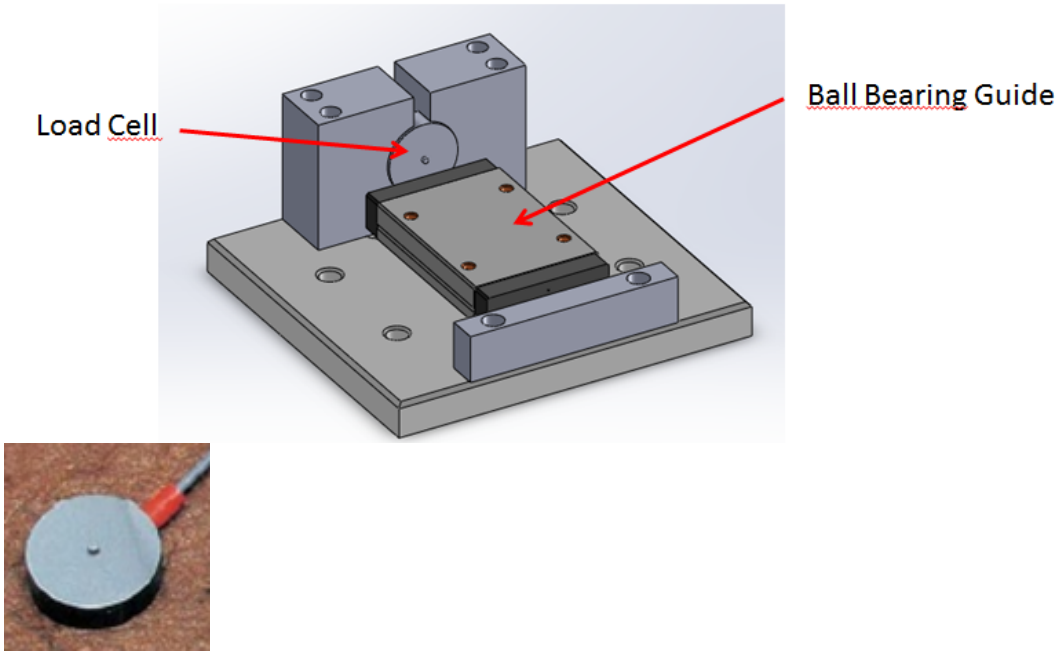


Figure 23: Load cell mounting

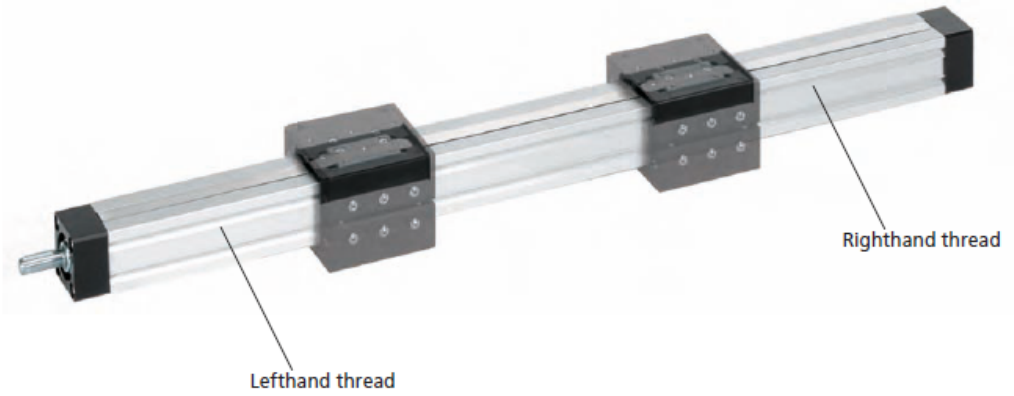


Figure 24: Spindle unit

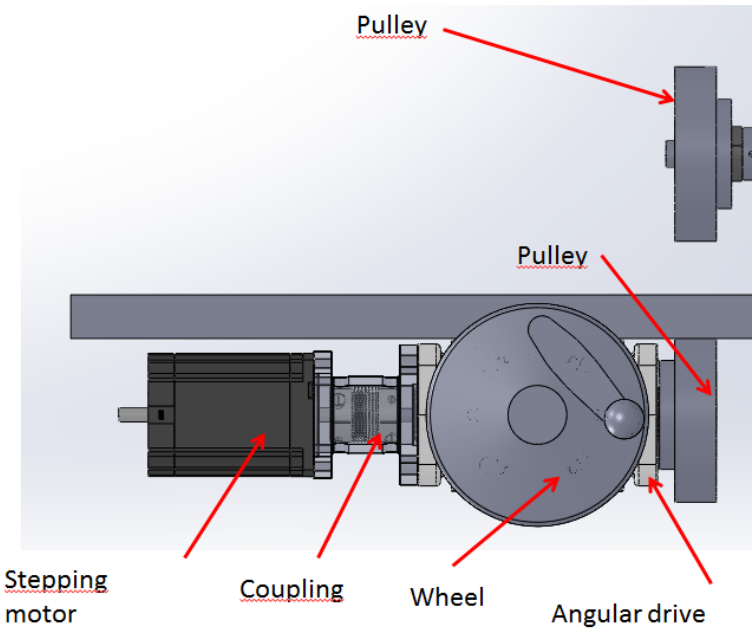


Figure 25: Paddle drive system

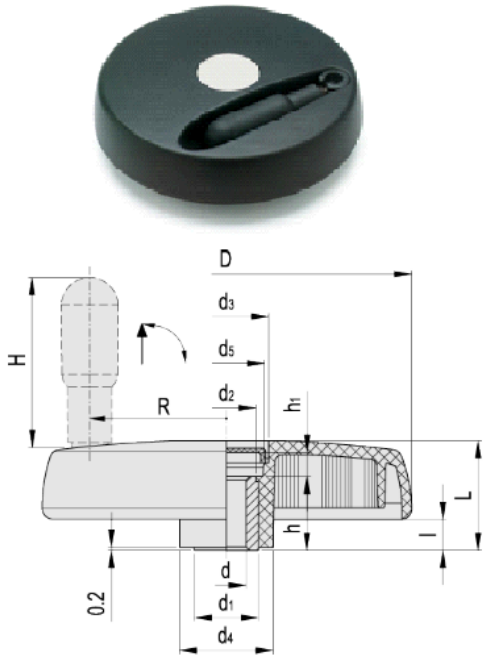


Figure 26: Wheel

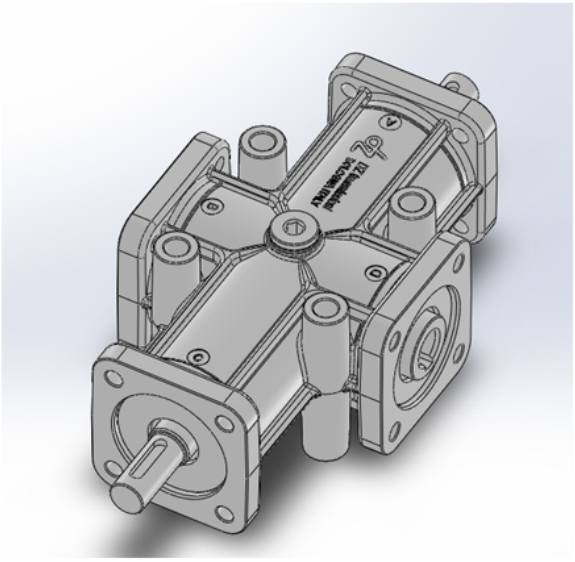


Figure 27: Angular drive

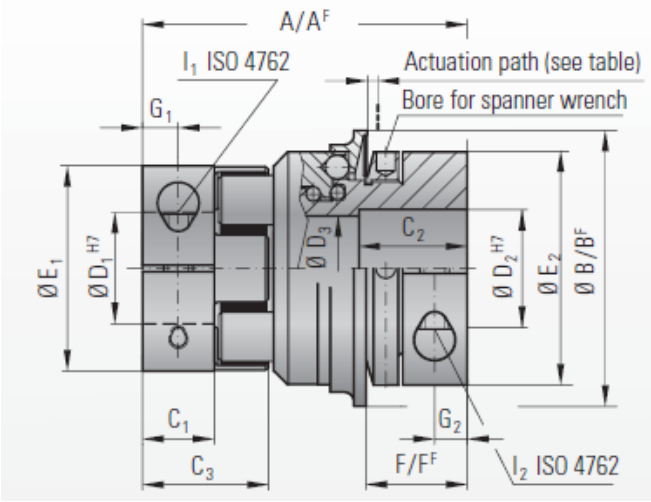


Figure 28: Torque limiter

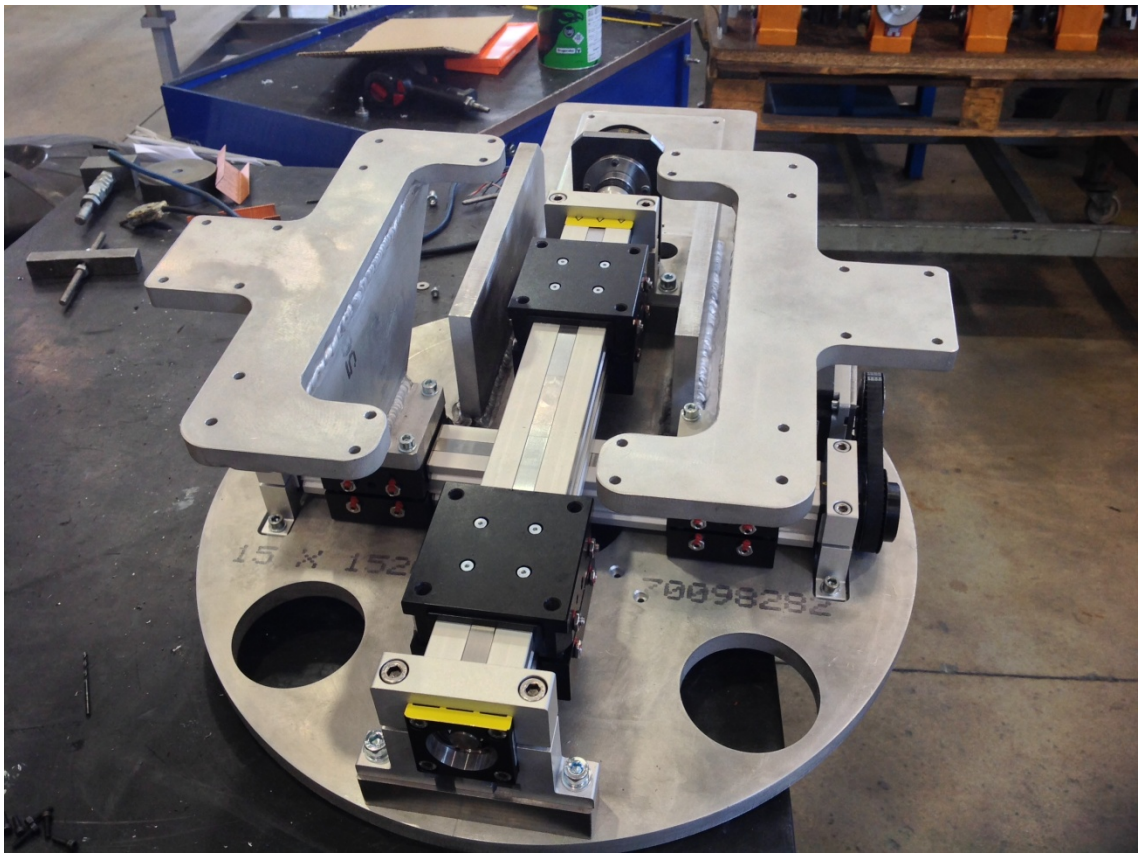


Figure 29. Prototype assembling (I)

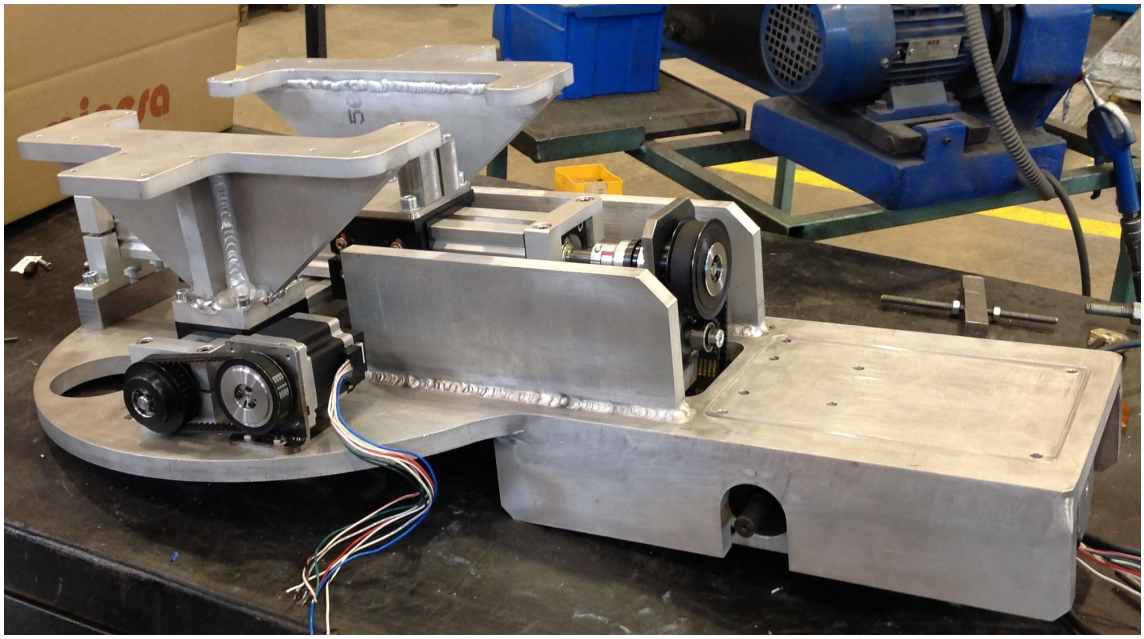


Figure 30. Prototype assembling (II)

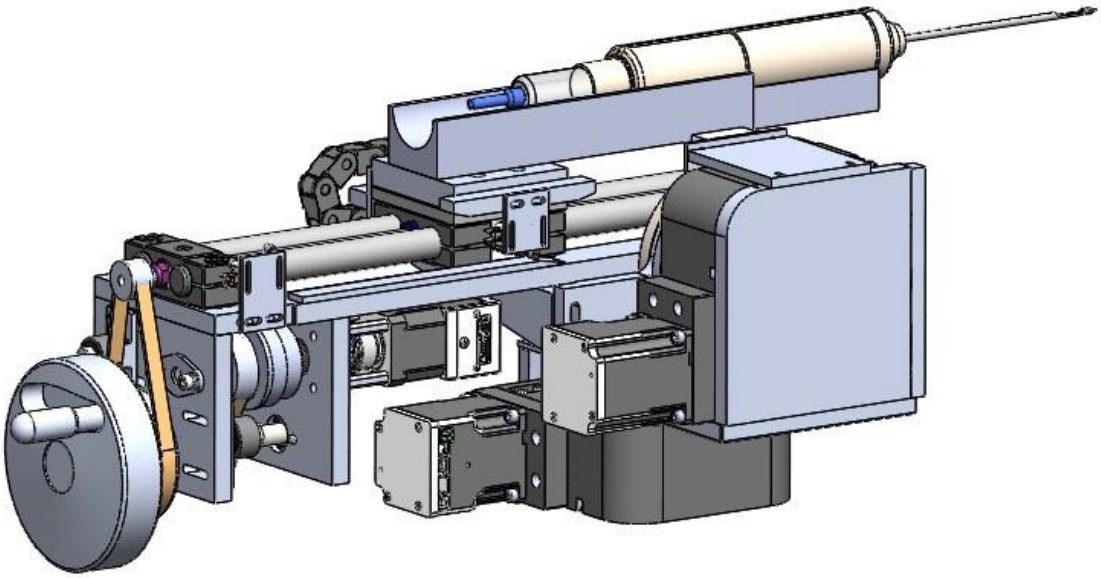


Figure 31. Needle movement description

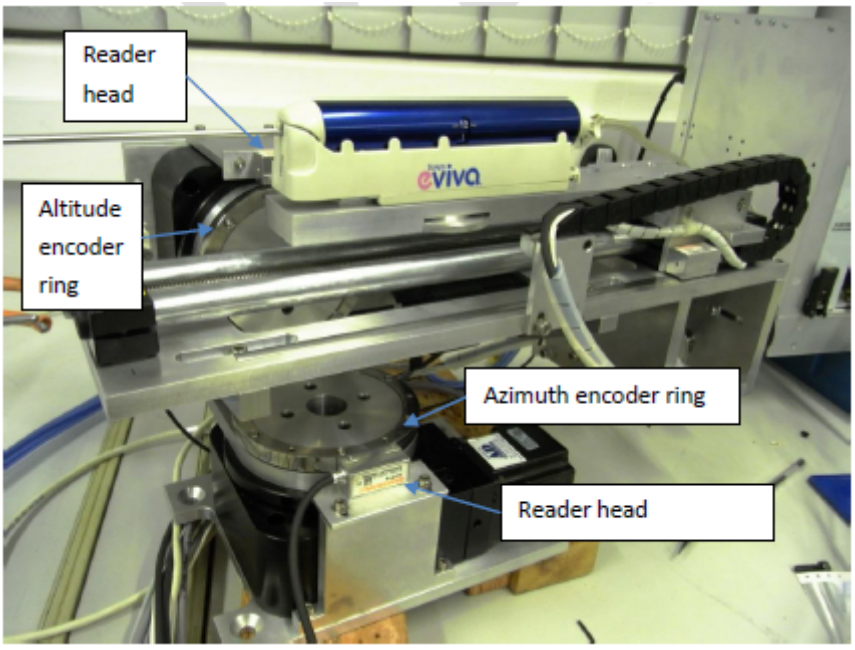


Figure 32. Location of encoder rings and reader heads

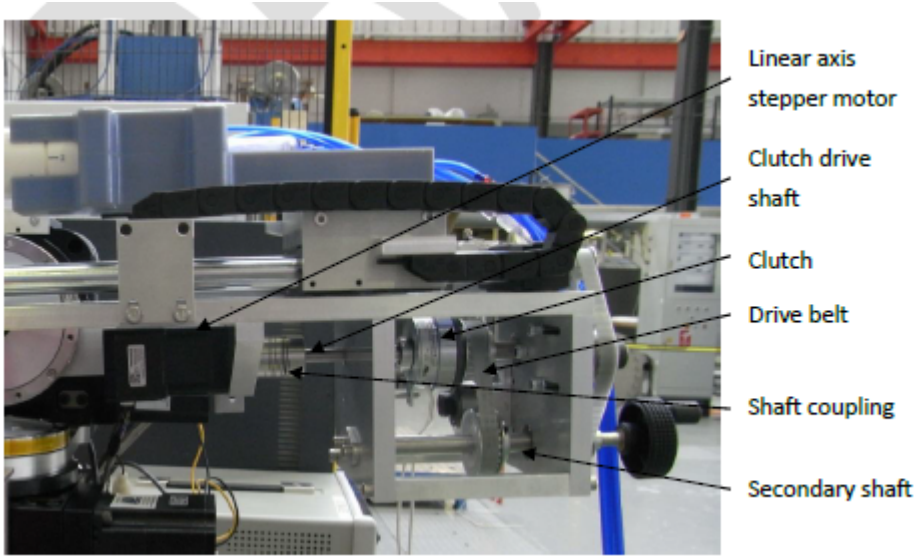


Figure 33. Clutch system description

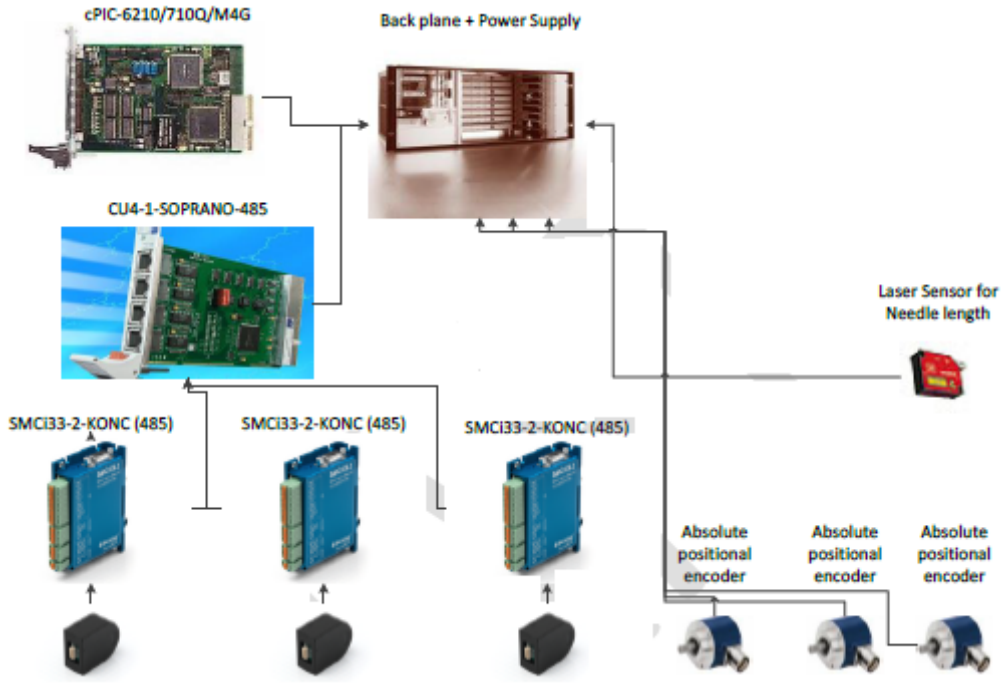


Figure 34. Biopsy electrical system design

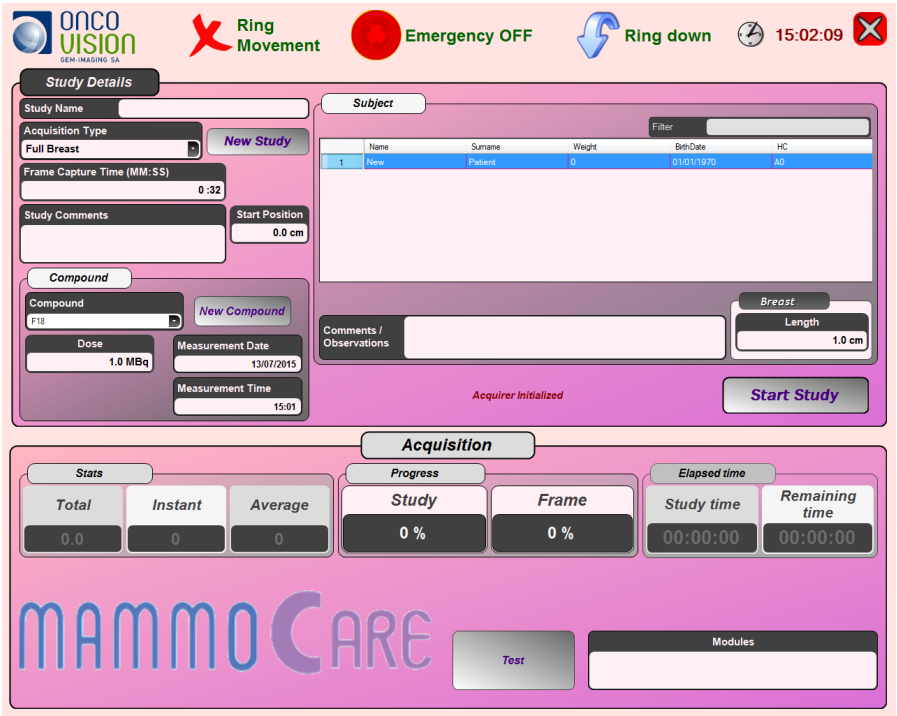


Figure 35. MAMMOCARE Acquirer

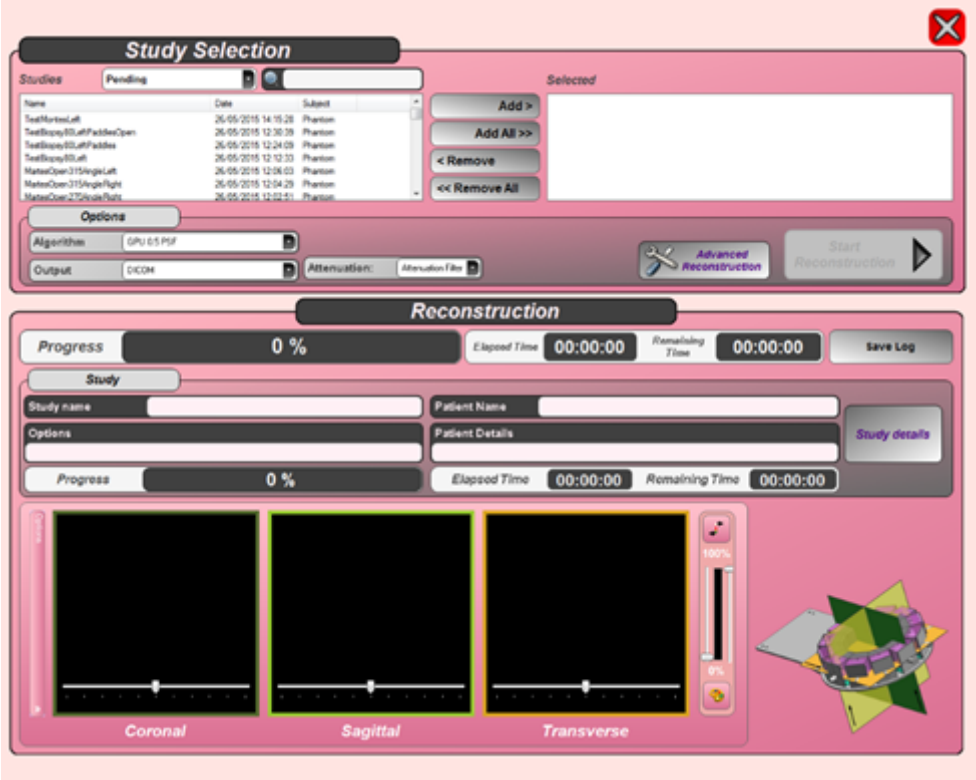


Figure 36. MAMMOCARE reconstructor

Figure 37 MAMMOCARE viewer

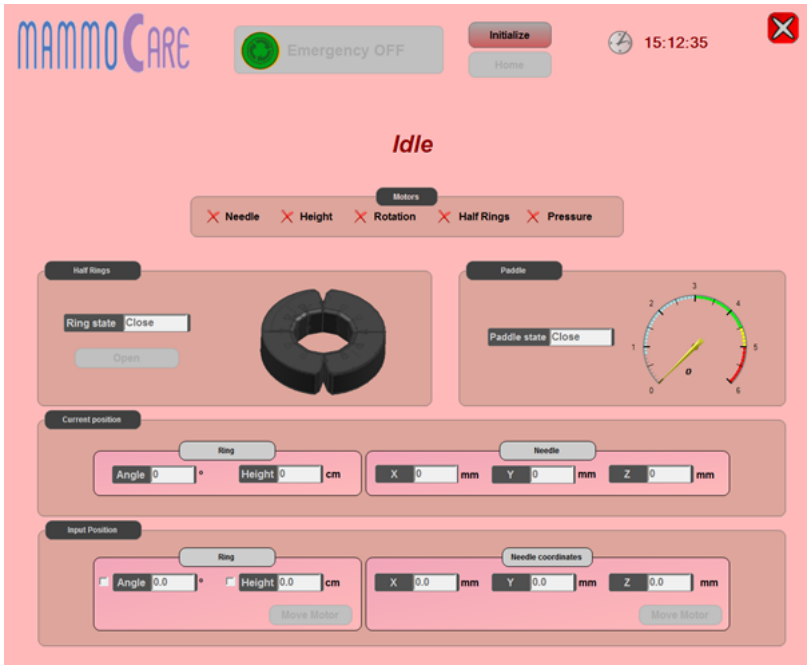


Figure 38. MAMMOCARE Motor module

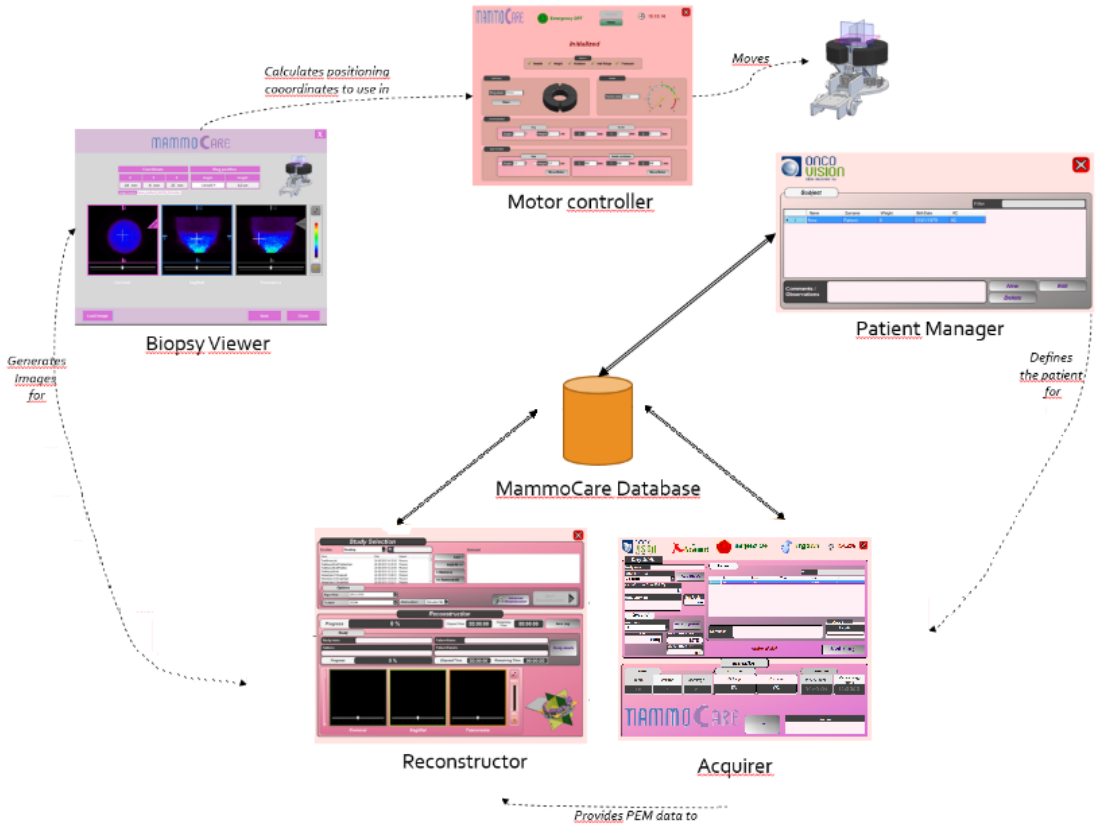


Figure 39. Software Architecture

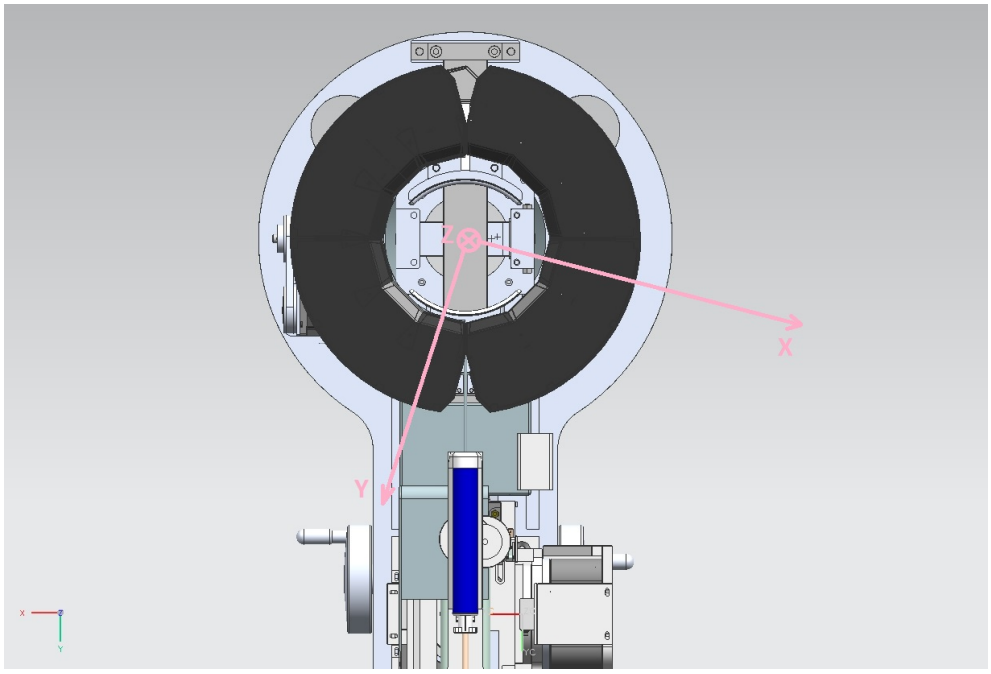


Figure 40: PEM System Coordinates System

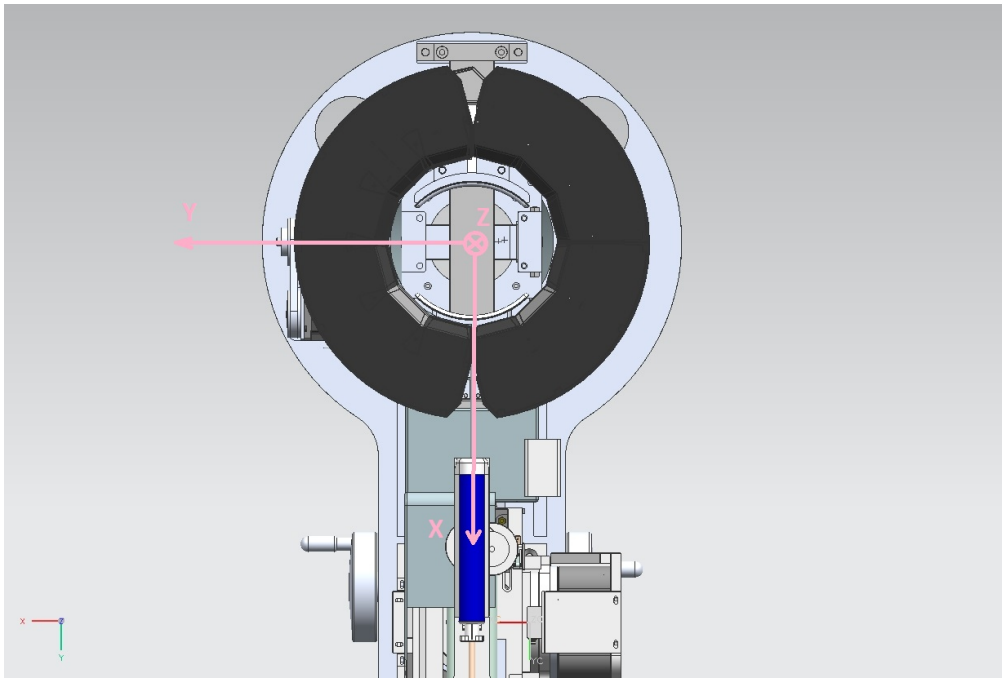


Figure 41: MammoCare System Coordinates system

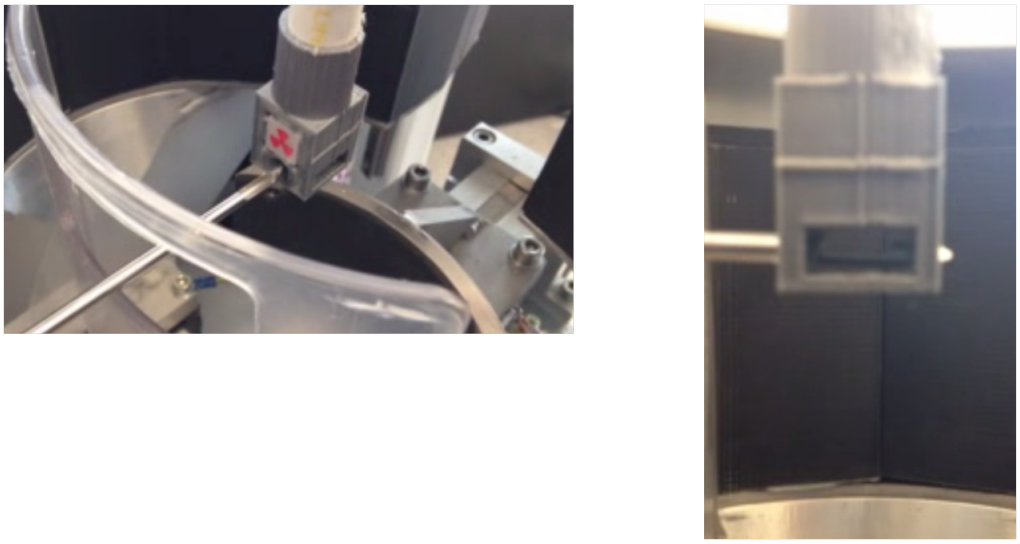


Figure 42: Radioactive source holder to verify needle position

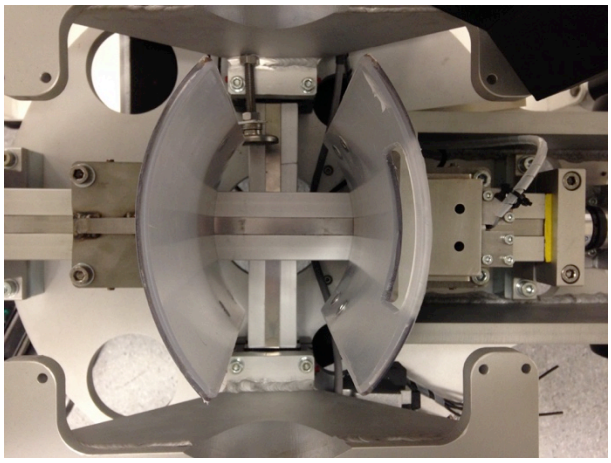


Figure 43: Compression paddles integration

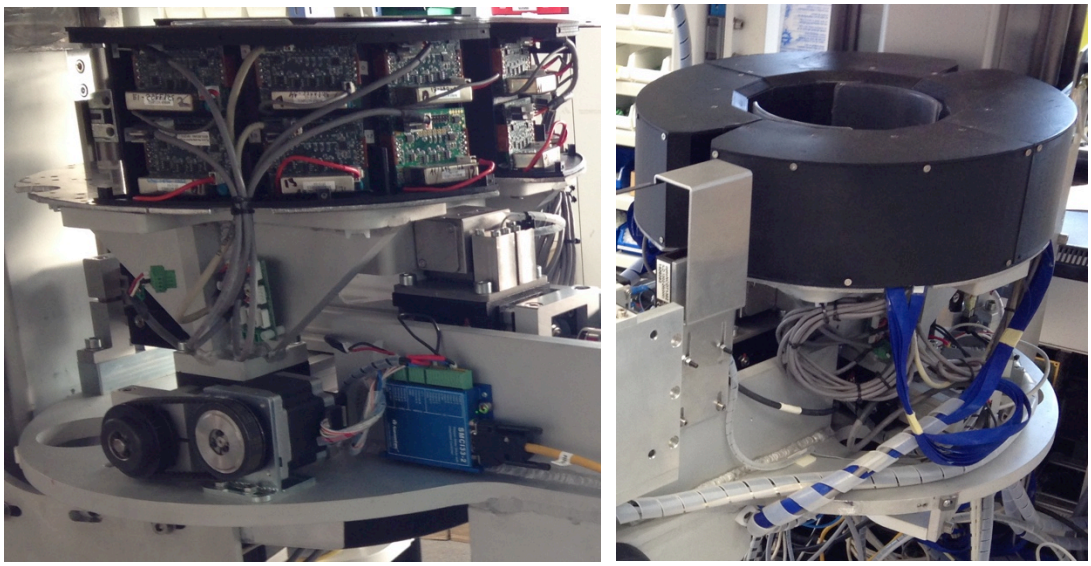


Figure 44: PET detector integration]

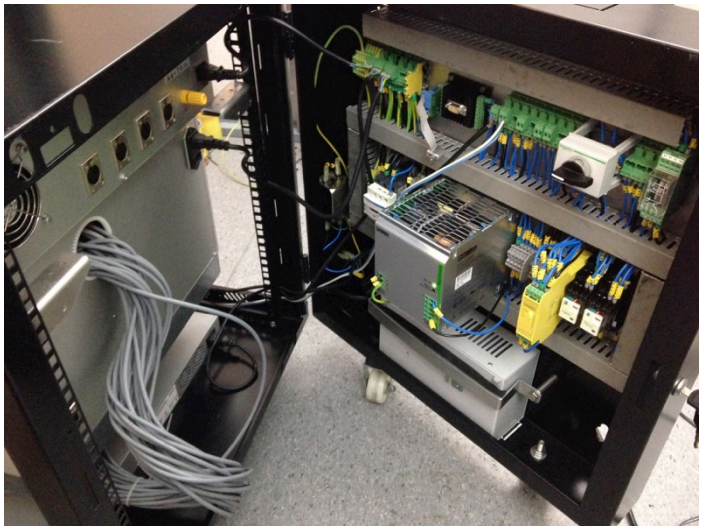


Figure 45: Computer and main electrical panel integration

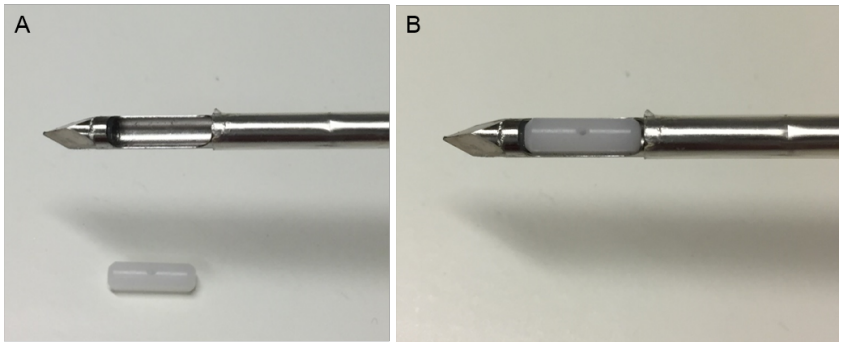


Figure 46: Photographs taken from the Eviva biopsy needle without (A) and with (B) the piece of plastic inside the opening of the needle