

Calibration instructions for exposure index digipaX2

1 Equipment needed

- Additional filter of either 21 mm aluminum or 0,5 mm copper and 2 mm aluminum
- Dose measuring device

2 Requirements



- The image receptor is calibrated in accordance with the manual.
- The dose measuring device is calibrated.

3 Preparation

- Put the additional filter (see above)
- No grid
- Place the detector on the bucky resp. imaging table
- Set the focus-film-distance to the detector on 150 cm
- Collimate the full detector surface

4 Course of action



- On systems with multiple detectors the calibration of the exposure index must be performed individually for each detector.
 - To do so, select the respective detector (table, wall or. free settings) for image acquisition.
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- Start digipaX2.
 - Activate the expert mode (lower right corner in the footer).
 - Go to tab „X-Ray“ (Name may vary according to configuration).
 - Push button „Calibrate exposure index“.
 - Select target detector (only for systems with multiple detectors).
 - 5 orders are created for a series of images, each with 70 kV and different mAs values (2.5, 4, 6.4, 10, 16 mAs).
 - Place sensor of the measuring device under center on the detector so that the central 10% of the detector surface remain free.
 - Produce the radiographs with the above parameters (values are already preset)-
 - Ensure for each radiograph that the sensor is not placed within the displayed rectangle for calculation.
 - Enter for each radiograph the measured dose of the sensor μGy (convert it using the formula given below if the image receptor is installed permanently) into the edit field (right in the toolbox).
 - Push the button „Complete calibration“.

5 Conversion for permanently installed detectors

If the detector is installed permanently and cannot be put on the bucky or imaging table you need to use the following formula to convert the measured dose:

$$D_T = (FFD_M / FFD_D)^2 \times D_M$$

D_T : exposure target value

FFD_M : focus-film-distance dose measuring device

FFD_D : focus-film-distance detector

D_M : displayed value on the dose measuring device

6 Tips for recalibration



If major exposure deviations occur repeatedly despite proper settings of X-ray parameters, mask and target value, the exposure index or even the entire X-ray system needs recalibration.