



Position measurement on X-ray machines

X-ray machines must provide high quality images in different positions. Previously, an X-ray cassette with film had to be manually aligned with the X-ray tubes. Today, this is performed digitally and is fully automatic. Modern equipment functions with a camera that digitalises the recordings directly. This saves time and development costs. The camera must be exactly aligned with the X-ray tubes so that high-resolution recordings are produced for digital equipment. The cameras, the X-ray tubes, the table and the wall stands can be moved on several axes, providing as much flexibility as possible.

Draw-wire sensors from the WPS-MK series are used to position the mechanically movable parts at the manufacturer of the digital X-ray systems, Roesys. The synchronisation controller in the X-ray unit uses the displacement information from the draw-wire sensors to enable the camera and X-ray tubes to move parallel to each other.

This parallel running means that the best possible focussing of the X-ray tubes for the camera is achieved. A total of five sensors are located in the wall stands, in the X-ray table and in the vertical traversing unit for the X-ray table.

Due to ease of installation, the customer can use the sensor without having to modify existing systems. It is critical that optimum focussing of the X-ray image is achieved using intelligent software and precise displacement measurement of the draw-wire sensors. This results in reduced radiation exposure for the patient and perfect images for more extensive diagnoses.

- ① Height position of the camera
- ② Height position of the X-ray tubes
- ③ Horizontal table position
- ④ Vertical table position
- ⑤ Kameraposition horizontal

Requirements for the measurement system

- Measuring ranges: 500mm to 1,700mm
- Linearity: 0.25% of the measurement

Ambient conditions

- Temperature: 20°C
- Medium: air

Suitable sensor series

- WPS-2100-MK77 ① ② ③
- WPS-500-MK30 ④
- WPS-750-MK30 ⑤