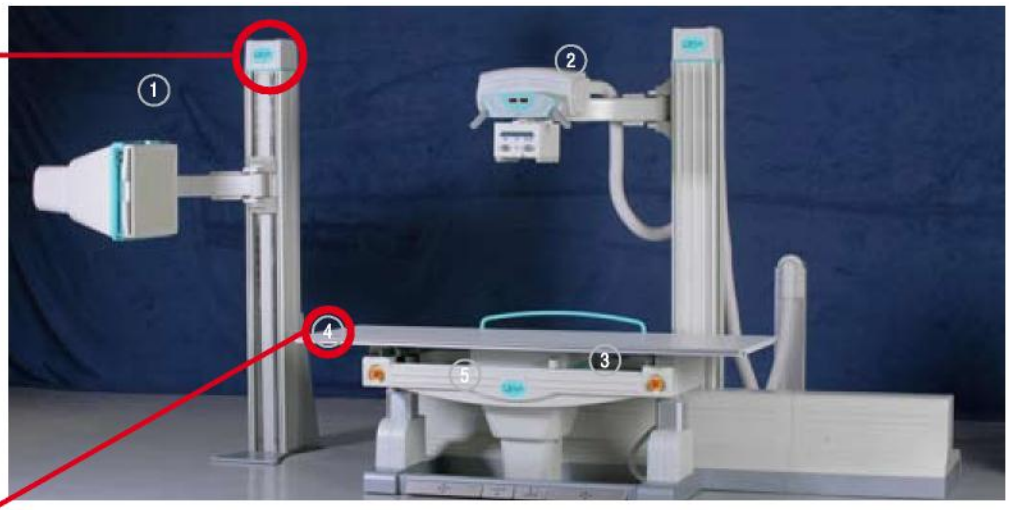
Position measurement on X-ray machines

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 drawwire 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. Horizontal camera position

Ambient conditions:
- Temperature: 20 °C
- Medium: Air

Suitable sensor series:
- WPS-2100-MK77 (1) (2) (3)
- WPS-500-MK30 (4)
- WPS-750-MK30 (5)

Requirements for the measurementsystem:
- Measuring ranges: 500 mm to 1,700 mm
- Linearity: 0,25% of the measurement

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