

Long term reputation in the medical industry.

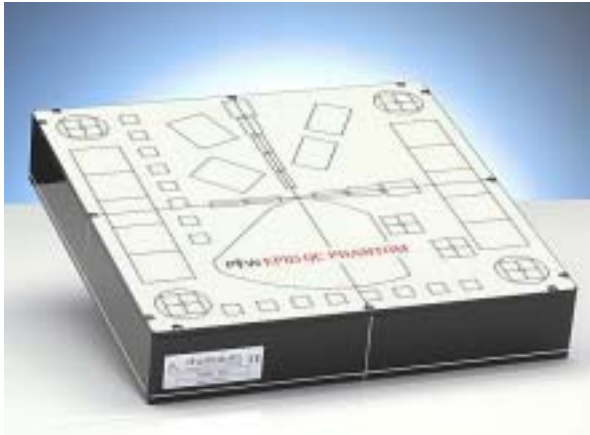
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### Features

- \* Suitable for conventional EPIDs and flat Panel Imagers
- \* Checks linearity, isotropy, noise, low and high contrast resolution, focal spot geometry
- \* All parameters, including resolution in horizontal and vertical direction, are measured by a single image
- \* Software localizes test elements automatically, and evaluates images without user interference

Electronic Portal Imaging Devices (EPID) are used in radiation therapy to verify the patient's position in the radiation beam during treatment. EPIDs are intended to detect physiological structures of the patient and to refer them to the photon beam's coordinate system. Regular quality checks of the EPIDs are therefore crucial to ensure constant image quality and thus a high safety level for the patient. The EPID QC Phantom<sup>1</sup> is easy to use. Baseline images and subsequent test images are taken by EPID. After position calibration, the EPID QC software package automatically detects the location of the test elements, performs evaluations without further interference of the user, and displays the results by comparison with the baseline values. The EPID QC Phantom includes a wide range of high-contrast test patterns to perform tests even of the most advanced EPIDs available. The analysis includes a separation of quantum noise caused by the detected photons, and noise generated in the EPID. The low-contrast device enables service personnel to adjust EPID brightness and contrast using well-established procedures, and without the need of additional test devices. The wide-range copper step wedges provide data to create absorption correction tables for dosimetry purposes.

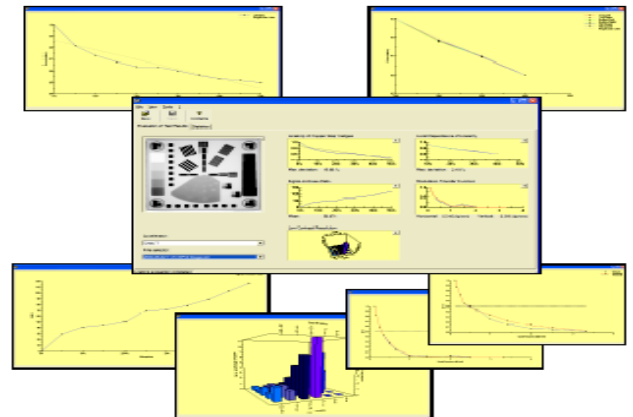
<sup>1</sup> The EPID QC Phantom was designed by Schmidt, Decker, Winkes, Rittler, Kretner and Hervig, Westfalzklinikum Kaiserslautern, Germany.

## EPID QC Phantom

*Test object for quality control of Electronic Portal Imaging Devices used in high-energy photon beams*

### Specifications

- |                                |  |
|--------------------------------|--|
| * Type of Product              | QC test object   |
| * Application                  | EPID Test w/(4 ... 25) MV photons                                |
| * Focus distance               | 100cm  |
| * Linearity and noise test     | Copper steps (2/4, 1/6.3/8.6) mm & (11.1/13.5/16.6/19.6/26.7) mm |
| * High contrast                | (0.5 ... 3.33) lp/mm, bidirectional                              |
| * Spatial resolution           | (0.15 ... 0.33) lp/mm  |
| * Low contrast                 | Depths (0.5/1/2/3.2/4.8) mm                                      |
| * Recesses                     | 0 (1.1/2/4/7/10/15) mm   |
| * Outer dimensions (W x L x H) | 250 mm x 250 mm x 42 mm<br>9.84 in x 9.84 in x 1.65 in           |
| * Weight                       | Approx. 3.8 kg, 8.4 lbs  |



The EPID QC Phantom was designed together with epidSoft EPID QC Software to ensure an efficient and easy way of quality control of Electron Portal Image Devices (EPID). With the focal spot geometry all important parameters for quality control can be evaluated in one image, acquired with a single beam. Do a complete QC with tests for low contrast, high contrast, signal to noise ratio, signal linearity, and local dependence of signal linearity.