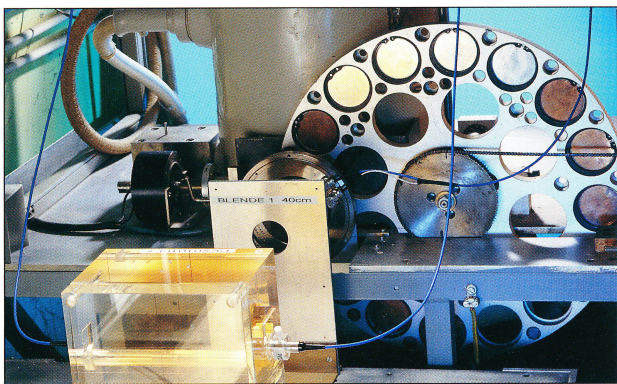


Calibration Service - Laboratory



PTW-Freiburg operates an accredited secondary standard dosimetry laboratory for radiological measuring quantities

- ▶ PTW-Freiburg is a member of the IAEA international SSDL network and the German Calibration Service DKD
- ▶ The calibrations are directly traceable to the primary standards of:
 - ▷ BIPM (Bureau International de Poids et Mesure, Paris)
 - ▷ PTB-Braunschweig (German Federal Institute of Physics and Metrology)
- ▶ Nine calibration facilities for various radiation qualities, measuring quantities and dose rate ranges are available
- ▶ Regular external audits are performed by PTB

The calibration laboratory has been a most important part of PTW-Freiburg since its first days. The task to produce accurate dosimetric instrumentation implies the necessity to provide accurate calibration. PTW-Freiburg operates Germany's first Secondary Standard Dosimetry Laboratory for radiation quantities accredited by the DKD German Calibration Service, under direct supervision of the National Laboratory. It operates as an ADCL (Accredited Dosimetry Calibration Laboratory) and it is also a member of the international SSDL network, organized by the International Atomic Energy Agency IAEA. With nine calibration benches in continual use, the PTW calibration lab is one of the most active calibration labs for ionizing radiation in the world. The following radiation therapy beam qualities can be calibrated:

- ^{60}Co (1.3 MeV)
- ^{137}Cs (662 keV)
- X-rays (100 ... 280) kV
- Soft X-rays (15 ... 70) kV

In addition, well-type chambers can be calibrated to measure brachytherapy sources. Besides the therapy dosimetry calibrations, the PTW lab provides for dose and non-invasive kV calibrations in diagnostic imaging, nuclide radioactivity calibrations of isotope calibrators in nuclear medicine and calibrations of health physics dosimetry equipment.