



### High Dose Measurement System

In order to measure the dose rate or ambient dose rate in an area of high radiation, KHG keeps various high-dose-measurement systems available. They are mainly used together with remote-controlled vehicles.

### High-Dose Probes

Ionisation chambers with differing volumes are used for measuring extremely high local dose rates. They are connected to the evaluation unit by a max. 100-metre long cable. The measuring range is from 0.1 Gy/h to 10 kGy/h.



### ESR-Dosimetry

High doses can be detected with alanine dosimeters and the appropriate evaluation system. The principle of measurement is based upon the fact that the unpaired electrons generated by radiation in the alanine dosimeter, possess a magnetic moment and specific resonance frequencies which can be measured in an alternating magnetic field, (Electron Spin Resonance Dosimetry). The dosimeter comprises of alanine pressed into tablet form. The e-scan can measure doses of less than 1 Gy, and is calibrated for readings between 10 Gy and 200 kGy.



### BeO Dosimetry

BeO dosimeters have a measuring range from 5 µGy to 100 Gy. The dose measuring process is based on Optically Stimulated Luminosity (OSL). Part of the absorbed radiation energy is stored in the BeO detector. For evaluation purposes, the detectors are stimulated by blue light which causes the transmission of luminescent light, the strength of which is proportional to the exposure dose. This dose measurement procedure is suitable for persons, surroundings and manipulator vehicles.