



# RE-2000RT



## TLD Reader for Radiotherapy Applications

- **universal, low cost and high precision TLD-reader for processing of single rods, chips or pellets**

- **evaluation of single TL-elements or TL-dosimeter cards**
- **ultra high measurement reproducibility with standard industrial N<sub>2</sub> heating**
- **fully programmable pre-heat, measurement and anneal cycles**

WinTLD Light application software running on a separate PC provides the easy-to-learn and -operate reader control and user interface for the reader.

The reader can automatically process up to 80 single TL-elements at one load.

The maximum processing speed is 180 single elements or 100 two element cards per hour. The photon counting method used over the whole measurement range provides an excellent signal to noise ratio for the measurement. Cooled PMT and built in self diagnostics guarantee high measurement stability and an error free operation.



## Mechanical characteristics

Dimensions: (HxWxD) 40 x 57 x 34 cm  
Weight: 33 kg

## Electrical characteristics

- voltage: 100 - 250 VDC 50/60 Hz
- consumption: 150 VA at 50 Hz
- data interface: RS-232 (9 pin D-connector) or LAN (RJ-45 optional)

## Environmental characteristics

- operating temperature: from +10 to +40 °C
- storage temperature: from -10 to +50 °C



## Operational characteristics

- **Capacity:**
  - 80 single elements per loading
- **Processing speed:**
  - up to 180 ea. single elements per hour
- **Element types:**
  - round pellets 4.5 mm  $\varnothing$
  - square chips 3.2 x 3.2 x 0.9 mm
  - square chips 3.2 x 3.2 x 0.4 mm
  - rods<sup>1)</sup> 1 mm  $\varnothing$  x 6 mm
- **Dynamic range:**
  - 7 decades (9 decades with neutral filter)
- **Signal measurement:**
  - photon counting with max. count rate of 100 MHz
- **Linearity:**
  - < 1% deviation
- **System stability:**
  - dose: < 1  $\mu$ Sv (standard deviation)
  - high voltage: negligible while using photon counting
- **Reference light:**
  - high stability temperature controlled reference light source, short term stability < 0.5%
- **Heating method:**
  - contactless hot nitrogen, typically 5 l/min
- **Time temperature profile:**
  - hot blast gas heating
  - temperature range 60 - 400 °C; stability  $\pm 1$  °C
  - pre heat, readout and post heat time: adjustable up to 140 seconds
- **Dark current:**
  - negligible while using photon counting
  - variation in the bgr. count rate < 1  $\mu$ Sv <sup>137</sup>Cs equivalent dose
- **User interface:**
  - WinTLD Light Software running on a separate PC
- \* **Optional Software: WinTLD Pro**
  - automatic element-sensitivity correction and background subtraction with calibration database
  - pre-and post-calibration capability

**Option:** Manual loading tool for loading the rods/chips into the readout platform.

1) Vacuum needle change needed, separate needle for rods and chips included in the delivery