

eQC

In-Situ L.A. Energy Detector

The only energy detector
"at the sample"

Teledyne Photon Machines introduces **eQC**, an embedded energy detector (patented) inside the HELEX laser ablation sample chamber that captures real-time energy and energy density measurements on the sample holder where samples are analyzed.

- Real-time energy density **at the sample**
- The only **uncontestable**, TRUE measurements
- An on-board diagnostic tool that **monitors system health**
- Detect laser, optic & beam path **losses/degradation**

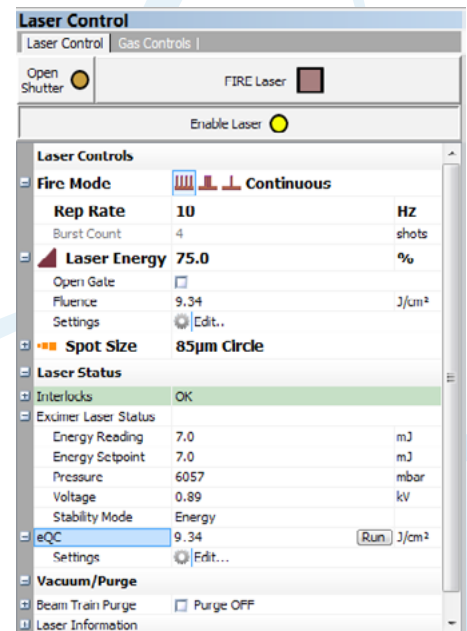
The In-situ Solution

All laser ablation systems have an energy detector that is in the laser or relegated to locations that are far removed from the sample, until now. The eQC is the **first and only** energy detector that is built-in to the Teledyne Photon Machines HELEX II sample chamber, providing the only accurate, TRUE measurement of energy density (or energy) at the sample, where the ablation occurs.

Energy detectors that are "upstream" of the sample chamber are blind to losses caused by degradation of the laser and beam delivery optics, and other losses in the beam path that result in erroneous readings at the sample, whereas **eQC sees what the sample sees** during ablation.

In addition to providing the most accurate energy & energy density measurements of any laser ablation system, eQC is an **on-board diagnostic tool** that monitors the health of the system by comparing the energy output of the laser (as measured by excimer laser's integrated energy detector) with the eQC readings. Any changes from the original factory measurements that occur are immediately apparent and the software automatically calibrates the energy density display within Chromium for user assurance that the desired energy density is truly achieved at the sample surface.

The eQC is the ultimate in Energy Quality Control.



CETAC Technologies and Photon Machines joined forces back in June 2010 with a view to advance laser ablation technology for elemental analysis, and to offer a full range of products globally. This collaboration brought together the experience in Photon Machines' design team with the sample introduction expertise of CETAC. This partnership has taken the next natural step and both companies have merged under the Teledyne Instruments banner.

Teledyne Photon Machines, a brand of Teledyne CETAC Technologies, provides laser ablation systems including CO₂ and diode lasers, 213 nm solid state Nd:YAG, 193 excimer laser systems and femtosecond laser systems. In addition, the company provides accessories to enhance the capabilities of laser ablation systems.



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