



## Explosive detection at the Airport Heraeus PID Lamps make the world a safer place

The world is changing and with the worldwide movement of people and goods being such a critical part of the global economy, it is coming under increasingly sophisticated threats from individuals and organisations trying to disrupt our way of life. To counter these threats, governments, airlines and airport operators are increasing security screening to deter and foil attacks on passenger aircraft.

Demand for hazardous materials monitoring is ever increasing: from the growing awareness of the dangers from chemicals used in common industrial processes, to the increasing threat of terrorism at our airports, borders and critical infrastructure. One set of materials – Volatile Organic Compounds (VOCs) – can be detected with very high sensitivity using Photoionisation Detection (PID).

Photoionisation is the term for the absorption of high energy photons by a molecule which results in ionisation of that molecule. The current created by ionisation is proportional to the concentration of the molecule, so this provides a simple method for quantitative analysis of a variety of compounds. Explosives Trace Detectors (ETD) now use Photoionisation Detector (PID) lamps, which have traditionally been employed in general gas chromatography, trace gas monitoring and sample ionisation for mass spectrometry. PID Lamps offer advantages over traditional means of ionisation (typically radiation based technology) because they offer users a solution that can be shipped across borders easily without the paperwork associated with radioactive material.

A major concern of ETD device users is their ability to handle a significant number of samples reliably. No one wants to see a long queue ahead of them at a security checkpoint and the Heraeus PID lamps used in many ETD devices help eliminate this by providing a fast start up time and a reliable and consistent light output that reduces false positive results. The need for monitoring VOCs is driving demand for Heraeus' PID lamps. Customers benefit from our design expertise, as the Heraeus technical team works with OEMs to design and build custom products to satisfy specific dimensional and performance requirements. Automated manufacture of PID lamps – once considered a dream in the distant future – is now a reality! Heraeus Noblelight is the first PID lamp manufacturer to offer automated production. Longer lifetime, higher quality and better lamp-to-lamp consistency.



### Features of Heraeus PID Lamps

- High levels of lamp-to-lamp consistency gives repeatable results
- Industry leading ignition improves system start-up time
- Minimal internal contamination gives intense, clean light output
- Long lifetime – even at elevated temperatures reduces maintenance requirements

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