



## Real-time Explosives Trace Detection

### Features and Benefits

- Automatic, continuous self-calibration:
  - Adjusts automatically to changes in environment
  - No calibration traps
  - No verification traps
  - No dopant
- Choice of sampling modes:
  - Simultaneous vapor and non-contact particle detection
  - Wipe sampling
  - No reconfiguration required to switch modes
- Detects and identifies military, commercial, and homemade explosives (HMEs) within seconds
- Detected substances displayed on built-in screen
- Ultra-fast clear-down means the QS-H150 is ready for the next sample in seconds
- One handed operation
- Low maintenance design delivers low total cost of ownership
- Non-radioactive ion source eliminates licensing, inspection, transport, and end-of life issues

## Quantum Sniffer™ QS-H150 Portable Hand-held Explosives Trace Detector

### Quantum Sniffer Technology

The Quantum Sniffer QS-H150 is a hand-held explosives detector that rapidly detects and identifies trace amounts of a wide variety of military, commercial, and homemade explosives (HMEs). Its innovative design provides operational advantages that make it highly effective in real world detection situations—advantages proven time and again in customer evaluations.

The QS-H150 employs a patented heated vortex collector for the simultaneous detection of explosives particulates and vapors, with or without contact and in real-time. It also includes a patented non-radioactive ionization source and a low maintenance, contamination resistant design.

### Accurate and Efficient

Using the same Ion Mobility Spectrometry (IMS) analysis technology as bench top explosives trace detectors, the QS-H150 is portable, easy to use, and offers the choice of collecting samples directly from a surface or using sample traps. The Quantum Sniffer performs real-time detection, alarming and stopping the sampling process as soon as a threat is identified in order to limit equipment contamination and enable ultra-fast clear-down.

The presence of a threat is indicated by both visible and audible alarms, with the substance identification displayed on the integrated LCD screen. Optionally, and at any time, a monitor and keyboard may be connected for convenient access to spectrogram display and analysis tools, administrative tools, and diagnostics.

Automatic and continuous self-calibration prevents errors that could result from forgetting to calibrate. The QS-H150 monitors its environment, senses changes that would affect its analysis, and re-calibrates accordingly. No user intervention, no calibration consumables, no system down-time.

### Lower Total Cost of Ownership (TCO)

Operation and maintenance expenses are extremely low with the QS-H150. Consumables costs are greatly minimized; no dopants are used, no calibration or verification consumables are required.

Routine maintenance consists only of care and cleaning using common supplies, and desiccant replacement as required.

There is no radioactive material used in the QS-H150, so there are no associated certifications, licenses, inspections, or end-of-life disposal issues.

## System Characteristics

|                          |  |
|--------------------------|--|
| Detector Type            | Ion Mobility Spectrometer (IMS) with photonic non-radioactive ionization (U.S. Patent #6828795)  |
| Analysis Time            | User-selectable, 5-30 seconds (10 second default)  |
| Clear-down Time          | 10 seconds or less (typical) • No user intervention  |
| Sample Acquisition       | Non-contact vapor collection • Particulate collection via wiping   |
| Power                    | AC Input: 100-240VAC, 47-63Hz • DC Input: 12-15VDC, 15A via battery (included) or vehicle adapter (optional)                                     |
| Batteries                | Lithium Ion (Li-ion) rechargeable (2 ea) • Up to 4 hrs operating time per battery  |
| Warm-up Time             | Less than 15 minutes typical   |
| Operating Temperature    | -10 to 55°C (14 to 131°F)  |
| Operating Altitude (max) | 4572 m (15,000 ft)   |
| Operating Humidity       | 0 to 95% non-condensing  |
| Substances Identified    | Wide variety of military, commercial, and homemade explosives (HMEs) • Additional substances can be added through user expandable threat library |
| Alarm Method             | Visible and configurable audible alarm   |
| Data Display             | Integrated LCD • Connections for optional external monitor and keyboard  |
| Calibration              | Automatic and continuous self-calibration  |
| Dimensions (L W H)       | 493 mm x 127 mm x 188 mm (19.4 in x 5 in x 7.4 in)   |
| Weight                   | 5.2 kg (11.4 lbs) with Li-ion battery  |

The **QS-H150** has been Designated a Qualified Anti-Terrorism Technology by the U.S. Department of Homeland Security pursuant to 6 U.S.C. § 441-444 (the Support Anti-terrorism by Fostering Effective Technologies Act of 2002, or "SAFETY Act") and 6 C.F.R. Part 25 (Regulations to Support Anti-terrorism by Fostering Effective Technologies).

## Cost of Ownership Worksheet

|  | QS-H150                           | Other ETD System |
|--|-----------------------------------|------------------|
| Calibration Traps                        | \$0                               | _____            |
| Verification Traps                       | \$0                               | _____            |
| Dopant                                   | \$0                               | _____            |
| Desiccant                                | Less than \$200 per year          | _____            |
| Sample traps                             |                                   |                  |
| Non-contact mode                         | \$0                               | _____            |
| Swipe sampling                           | # of traps _____ x \$0.43 = _____ | _____            |
| Maintenance supplies                     | Less than \$50 per year           | _____            |
| Monthly maintenance labor                | Less than 1 hour                  | _____            |
| TOTAL annual operating expense           | _____                             | _____            |
| Multiply by 3                            | _____                             | _____            |
| Add cost of system                       | _____                             | _____            |
| TOTAL Cost of Ownership over three years | _____                             | _____            |

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