

Ion Trap Mobility Spectrometry

PRODUCT NAME

Itemiser® 3 Enhanced

TECHNOLOGY CATEGORY

Spectrometry;

Rapiscan Systems

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Model Number	Not Specified
Synopsis	The Itemiser® 3 Enhanced is a desktop detector that simultaneously analyzes positive and negative ions allowing for trace detection of explosives and narcotics. The Itemiser utilizes patented Ion Trap Mobility Spectrometry (ITMS®) technology. The ITMS technology incorporates a switching system that allows for millisecond alternating from positive to negative ion mode. Detection limits are in the picogram range. The Itemiser is fully portable and includes an on-board printer.
Category	Chemical; Explosives
Detection Method	Ion Trap Mobility Spectrometry ;
Detection Principle	Spectrometry;
Application	Emergency Response; Gas Analysis; Screening; Trace Analysis; Bulk Analysis;
Type	Instrument
Availability	Commercially Available
Readiness Level	9
Market Entry Date	Not Specified
User Feedback Sources	Not Specified
Support Documents	Not Specified

Operational Parameters

Tested for Chemical Agents	Amenable based on technology
Tested for ITF25TICTIMs	Amenable based on technology
Tested For Explosives	TATP, peroxides, nitro-based compounds
Tested For Narcotics	Yes
Other Chemical Targets	Not Applicable
Tested For Biological Agents	Not Applicable
Other Biological Targets	Not Applicable
Radiological Targets	Not Applicable
Library Size	Not Specified
Customize For New Targets	Not Specified
Sample Introduction	Solid;Liquid;
Sensitivity Detection Limits	pg
Known Interferents Inhibitors	Surface Swab: False positive rate typically < 1% Air Samples: False positive rate typically < 0.11%

Itemiser® 3 Enhanced

False Positive Rates	Not Specified
False Negative Rates	Not Specified
Start-Up Time From Cold Start To Sample Ready	30 minutes
Response Time Sample Application To Output	8 seconds
Total Run Time	Not Specified
Alarm Capability	Yes
Software Control	On-board
Other Operational Parameters	Vendor claims sensitivity and selectivity of ITMS is approximately 10 to 100X better than IMS.

Physical Parameters

Dimensions	Display Opened: 19.8 x 18.9 x 14.9 in (50 x 48 x 37 cm) Display Closed: 18 x 18.9 x 7.1 in (46 x 48 x 18 cm)
Weight	26.5 lbs (12 kg)
Power Requirements	100 to 120 V AC, 200 to 240 V AC, 47 to 63 Hz, 150 W max, 65W nominal. 11 to 18 V DC, 10 A max (cigarette lighter adapter included). Back-up battery: up to 60 minutes run-time daily.
Noise Produced	Not Applicable

Logistical Parameters

Transportability	Benchtop/Fixed; Small Footprint
Durability	Rugged
Operating Conditions	0 to 40°C (32 to 104°F)
Consumables	Swabs
Solvents Reagents	Not Applicable
Calibration Schedule	Not Applicable
Suggested Routine Maintenance	Not Specified
Shelf Life	Indefinite
Unit Cost	\$45,200
Expected Operational Life	Indefinite
Available Accessories	Not Specified
Data Analysis Support Equipment	Not Applicable
Data File Type Format	Not Specified
Communications Interface	2 USB 2.0 ports and Ethernet port.
Maintenance Cost	Estimate 10% of purchase price per year; + \$850 for a 3 month consumable kit

Training, Shipping, And Other Information

Operator Skills Required	Non-technical background
Training Available	On-site training included in purchase. Other training at manufacturer's facility also available.
Manuals Available	Operator's manual
Reachback Service	Not Specified
Warranties	1 year
ITAR Export Regulations	U.S. Nuclear Regulatory Agency regulations due to 63Nickel source.
IATA Shipping Restrictions	U.S. Nuclear Regulatory Agency regulations due to 63Nickel source.
Approved Vendors	Not Specified