

MVT-HR

High-Resolution Checked
Baggage Inspection System

**SECURITY
DETECTION**
METAL DETECTORS X-ray MACHINES

Unmatched threat resolution in an automated, high-speed explosives detection system

With the best available on-screen threat resolution in its class, the MVT-HR raises the bar for high-speed, high-throughput automated explosives detection. Designed to screen checked baggage of all sizes for explosives and other threats, the revolutionary MVT-HR uses three independent X-ray views to accurately identify suspicious materials and keep false alarm rates low.

Capable of screening 1,800 bags per hour, the rugged and reliable MVT-HR keeps even oversized baggage moving, automatically adjusting to screen skis, golf clubs, or other large items. Advanced multi-view tomography and L-3's landmark image processing software combine in an easy-to-network system designed to meet the toughest explosives detection standards of regulatory agencies worldwide. Completely film safe, the MVT-HR generates crisp images with unsurpassed clarity.



APPLICATIONS

- Threat detection
- Contraband detection
- Regulatory compliance/inspection
- Manifest & declaration verification

COMPLIANCE

- ISO 9001-2000, CE, CSA, UL NRTL/C
- Complies with the U.S. Code of Federal Regulations:
 - FAA 14 CFR 108.17 Use of X-ray Systems
 - FAA 14 CFR 108.20 Use of Explosive Detection Systems
 - FAA 14 CFR 129.26 Use of X-ray Systems
 - CDRH 21 CFR 1020.40 Cabinet X-ray Systems
- Film safety: Ten passes of ISO 1600/33DIN high-speed photographic film

www.securitydetection.com



Phone: 1-800-930-3766

BOSTON, MA • MYRTLE BEACH, SC • TOLEDO, OH • ORLANDO, FL • CHICAGO, IL • TULSA, OK • LOS ANGELES, CA

MVT-HR

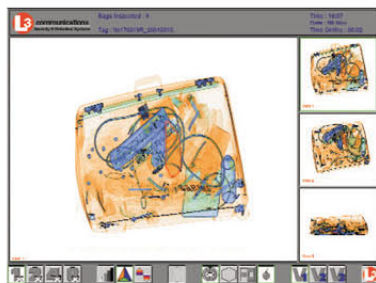
High-Resolution Checked
Baggage Inspection System

**SECURITY
DETECTION**
METAL DETECTORS X-ray MACHINES

Unbeatable Image Quality: Clearer is Better

L-3's proven high-resolution imaging technology and patented, state-of-the-art image processing provide the best on-screen threat resolution and analysis capacity currently available in a multi-view computed tomography explosives detection system.

- The system's dedicated X-ray imaging subsystem operates at higher currents and sample rates using a fine-pitch detector array to create superior high-resolution images.
- Thanks to a high signal-to-noise ratio that produces an image with high dynamic range, the MVT-HR's imaging subsystem simultaneously displays materials of different densities.
- L-3's proprietary Transparent Color™ image processing technique generates crisp images with unsurpassed clarity – without “halo” effects or other distortions.



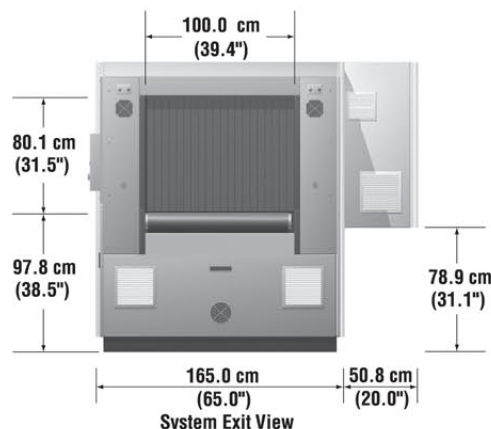
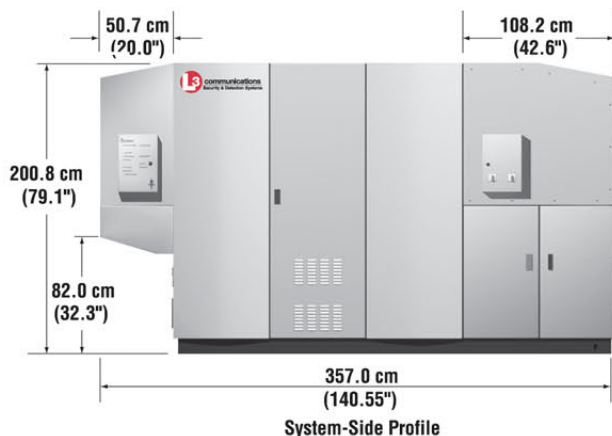
The next-generation MVT-HR incorporates a dedicated X-ray imaging subsystem, operating at higher currents and sample rates using a fine-pitch detector array, to create superior high-resolution images

Innovative Technology:

Advanced Detection for Complex Threats

Designed for flexibility, the MVT-HR delivers peak performance in a variety of settings, whether used as a freestanding unit in a lobby or baggage hall or integrated into a multilevel baggage conveyor system.

- The system's high-speed analysis keeps false alarm rates to a minimum – in any configuration.
- Multiple independent X-ray sources, each with a different viewing angle, accurately and rapidly measure mass, density, atomic number (Zeff), and other physical characteristics of concealed items for outstanding automated threat resolution.
- Multiple detection algorithms can be switched on-the-fly to meet varying explosives detection threat levels.
- Because it automatically adjusts to screen objects up to 250 cm (98.4") long, the MVT-HR reduces the need for manual searches of out-of-gauge checked baggage, such as golf bags and skis.
- L-3's proprietary Scatter Detection Enhancement (SDE) technology automatically detects sheet explosives.
- MVT-HR retains the baseline explosives detection capability of the L-3 MVT that meets the U.S. Transportation Security Administration's criteria for the detection of explosives.



www.securitydetection.com



Phone: 1-800-930-3766

BOSTON, MA • MYRTLE BEACH, SC • TOLEDO, OH • ORLANDO, FL • CHICAGO, IL • TULSA, OK • LOS ANGELES, CA

MVT-HR

High-Resolution Checked Baggage Inspection System



As part of a networked baggage inspection system, the MVT-HR can screen up to 1,800 bags per hour. The system's wide tunnel accepts large or out-of-gauge items and screens objects up to 250 cm (98.4") long

Seamless Networking: Integration Made Easy

The forerunner in automated, high-speed matrix networking, L-3's full matrix architecture provides a complete multilevel security solution from Level 1 X-ray analysis to Level 3 threat resolution. Created with flexibility in mind, the MVT-HR can be integrated into any baggage screening system.

- L-3 developed the MVT-HR to communicate and operate effortlessly with other L-3 automated equipment in networked installations.
- With the same overall length, communication links, and interface as L-3's industry-standard VIS-M system, customers operating integrated VIS systems can upgrade to the MVT-HR with little modification to the existing baggage conveyor and control system.
- Satisfies regulatory and operational requirements for 100% checked-baggage screening at Level 1 operations.
- Level 2 operators access multiple X-ray views for the most rapid and thorough detection possible.
- L-3's patented user-friendly touchpad interface maximizes efficiency and minimizes operator fatigue.
- The system's optional Management Information System (MIS) bridge provides real-time access to critical network data, including Level 1 throughput, alarm rate, fault conditions, and decision times.

Features

Imaging Features

- Transparent Color™
- Organic/inorganic stripping
- Metallic item removal
- Pseudo-color overlay
- True 32-bit color processing
- "Slide and See" functionality
- Optimized grayscale imaging
- Continuously variable contrast adjustment
- Edge enhancement
- Fully interpolated 2X, 4X, 8X zoom
- Reverse video

Standard Features

- 1,800 bag-per-hour throughput when used as part of an integrated baggage inspection system
- 100 cm wide x 80 cm high (39.4" x 31.5") tunnel opening
- Automatically adjusts to screen out-of-gauge items up to 250 cm (98.4") long
- Multiple independent X-ray views
- Supports multiple detection algorithms
- On-the-fly algorithm switching
- Scatter Detection Enhancement (SDE) technology
- Compatible with existing L-3 MVT, VIS-M, and VIS-108 matrix installations
- Meets TSA criteria for automated explosives detection

Optional Features

- Threat image projection
- Seamless image archiving
- MIS bridge
- Additional operator workstations

MVT-HR

High-Resolution Checked Baggage Inspection System



SPECIFICATIONS:

GENERAL

Dimensions: 357 cm (140.5") L x 215.8 cm (85") W x 200.6 cm (79") H
Tunnel Opening: 100 cm (39.4") W x 80 cm (31.5") H
Conveyor Height: 97.8 cm (38.5") on base, 106 cm (41.7") on temporary casters
Conveyor Speed: 0.525 m/sec (104 ft/min), single direction only
Conveyor Capacity: 181 kg (400 lb); maximum bag size: 250 cm (98.4") L x 100 cm (39.4") W x 80 cm (31.5") H
Conveyor Power Requirements:
200/400 VAC \pm 5%, 50 Hz \pm 1%, 6.9/3.45 Amps 3 ϕ , 2 hp motor
208/360 VAC \pm 5%, 60 Hz \pm 1%, 6.9/4 Amps 3 ϕ , 2 hp motor
System Power Requirements: 190/200/208/220/240/380/400/415/440 VAC \pm 10%, 50/60 Hz \pm 1%, 7.5 kVa max, dedicated 3 ϕ service

X-RAY SOURCE

Voltage: 75 kVp/150 kVp
Duty Cycle: 100%
Cooling: Sealed oil bath

PHYSICAL SPECIFICATIONS

Weight (Uncrated): 4,263 kg (9,400 lb)
Weight (Crated): 4,501 kg (10,100 lb)
Construction: Welded steel frame and composite panels

ENVIRONMENTAL

Operating Temperature: 41° to 104° F (5° to 40° C)
Storage Temperature: 0° to 120° F (-18° to 49° C)
Humidity: 8 to 80% non-condensing

WORKSTATION

Dimensions (including optional table)
(Uncrated): 86.4 cm (34") L x 71.1 cm (28") W x 133.4 cm (52.5") H
(Crated): 88.9 cm (35") L x 99.1 cm (39") W x 142.2 cm (56") H

PHYSICAL SPECIFICATIONS

Weight (Uncrated): approx 98 kg (217lb)
(Crated): approx 113 kg (250 lb)

IMAGING AND PERFORMANCE

Resolution: 38 AWG tinned copper wire
Penetration: 30mm steel

Video Display: High-performance 32-bit video display processor, 21" high-resolution color video display monitor

Imaging Modes: TRI-MAT (organic/inorganic/metallic); pseudo-color; reverse video; three-level contrast; edge enhancement; metallic item removal; 2X, 4X, 8X electronic zoom with continuous touch panel positioning; continuously variable contrast adjustment.

Image Analysis Modes: Threat alert and density alert

MATRIX NETWORK ETHERNET SWITCH

Fully redundant configuration available. Also compatible with FDDI network protocols.

Dimensions: (Uncrated) 30.5 cm (12") L x 44.5 cm (17.5") W x 8.8 cm (3.46") H

Weight: (Uncrated) 6.2 kg (13.5 lb)

Power Requirements (internal UPS included on both options):
1 ϕ , 100/120, 50/60 Hz \pm 1%, 1.5 amps full load
1 ϕ , 220/240, 50/60 Hz \pm 1%, 0.8 amps full load

RADIATION SAFETY

All L-3 Communications Security and Detection Systems' X-ray systems are certified to be in full compliance with all radiation safety requirements and external emissions limits as specified in the United States Code of Federal Regulations, Title 21, Section 1020.40 (21CFR1020.40) that apply to our products. Typical leakage radiation is less than 0.1 mR/hr compared to maximum of 0.5 mR/hr permitted by the U.S. Federal Standard.

OPERATIONAL STANDARDS

Complies with the U.S. Code of Federal Regulations:
FAA 14 CFR 108.17 Use of X-ray Systems
FAA 14 CFR 108.20 Use of Explosive Detection Systems
FAA 14 CFR 129.26 Use of X-ray Systems
CDRH 21 CFR 1020.40 Cabinet X-ray Systems

Complies with CDRH (FDA) requirements, including all labeling requirements

Designed in compliance with: CE, CSA, UL NRTL/C

FILM SAFETY

Ten passes of ISO 1600/33DIN high-speed photographic film

DESIGN POLICY

L-3 Communications Security and Detection Systems reserves the right to change specifications in the course of continuous improvement. Specifications are provided for reference only and actual equipment may differ slightly from the description given. Typical dimensions are within \pm 5% of nominal values.

