

FRANKLIN

3-D Technology X-ray Screening System

- Airports
- Seaports
- Railway Stations
- Military Base
- Border Crossings
- Security Checkpoints



HP-SE5335S

The HP-SE5335S is an easy to operate, single source scanner, compact design, features with innovative technology of **3-D Perspective Technology with 7 Colors Imaging System**, screener can see most of the threats. It also provides versatile detection tools, outstanding material discrimination of **Organic Stripping, Mixture Stripping, Inorganic Stripping, Organic Alarm, High Density Alert, Zeff 7.8.9 Scan on screen, etc**, perfectly meets the most demanding of potential threat inspection needs at different security checkpoints.

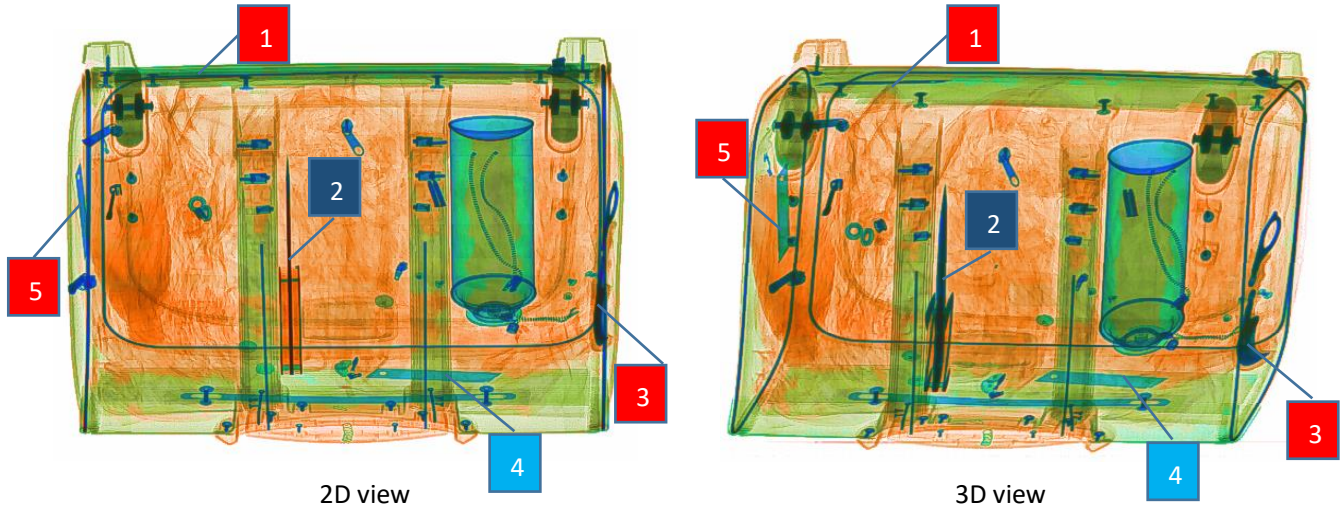
HP-SE5335S with 140kV generator, high quality image can be enhanced by vary processing tools in real-time, no need to stop the belt, greatly improved the screening performance.

- ✓ 3-D Perspective Dual-energy X-ray Imaging
- ✓ Exclusive Spectrum Switchable 4/7-color Imaging Technology
- ✓ Auxiliary Explosives and Narcotics Detection Tools
- ✓ More Than 30 Versatile Image Processing Functions
- ✓ Advanced Material Classification (atomic number) with Threats Alert
- ✓ Multiple Split-Screen and Full-Screen for Optimal Viewing
- ✓ Unique Double Symmetrical Swing Door for Easy Access to Scanner Interior
- ✓ Network Enabled, Support Remote Upgrade

Key Advantages

3-D PERSPECTIVE TECHNOLOGY

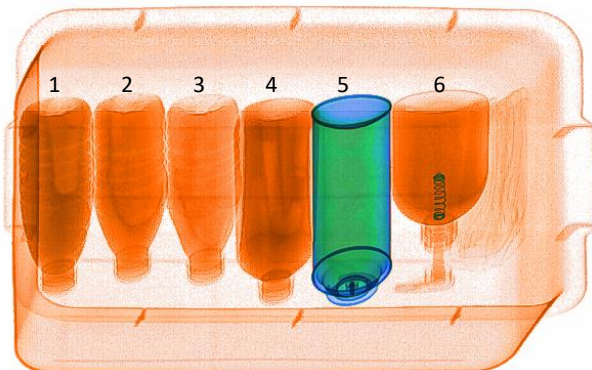
Malicious people are improving their techniques to avoid detection in existing X-ray scanners, these threats become increasingly difficult to detect with typical 2D techniques, so our methods must also evolve. Compared with traditional 2D imaging technology, the 3D can see more blind spots, making threats easier to detect. As below representative images, the 3D can see the threat 1,2,5 clearer than 2D.



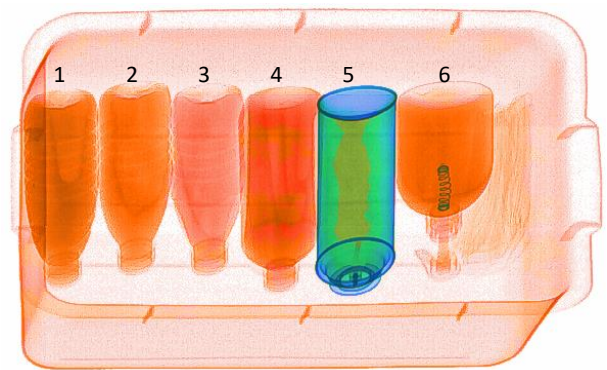
4 and 7-COLOR IMAGING & ASSISTANT EXPLOSIVE AND NARCOTICS DETECTION

The HP-SE5335S's innovative design with exclusive 7-color Dual-energy Technology, advanced material classification enables operator to view screened objects in 7 colors, each color correlate to a specific range of atomic number. It colors the 3-Kerosene with RED, more easier to see.

* 1-Water, 2-Alcohol, 3- Kerosene, 4-Edible Oil, 5-Liquefied Natural Gas, 6-Antibacterial Hand Gel

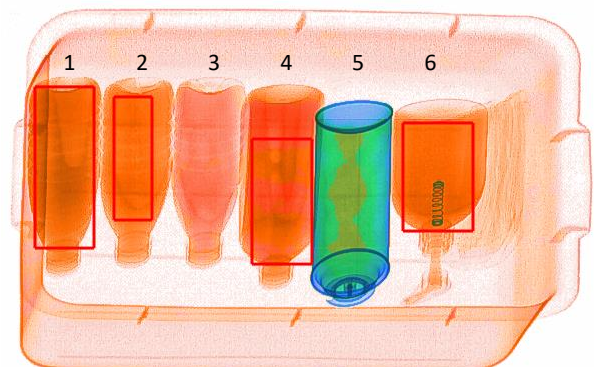


4 Colors Mode



7 Colors Mode

Combine with the Zeff-scan function to auto-highlighting and marking with Red Box the potential threat of explosive and narcotic (Zeff 7.8.9) on x-ray image in real time during scanning process according to the characteristics range of explosives and narcotics atomic number, which help to identify the suspicious more effectively.



Zeff-scan

Material Type	Atomic No.	4 Colors	7 Colors	Example	Possible Threat
Light Organics	6	Orange	Orange	Polyethylene light hydrocarbons	Natural gas, gasoline, Kerosene
Organics	6-8	Orange	Orange	Timber, oil, alcohol, water	Explosives pure drugs, diamonds
Light Inorganics	8-10	Orange	Yellow	Paper, teflon	Drugs
Inorganics	10-12	Green	Green	Glass	Gems
Nonmetals and Light Metals	12-18	Green	Green	Aluminum,silicon	Gunpowder, detonators
Heavy Metals	18-30	Blue	Blue	Iron, steel, copper, brass,nickel,titanium	Weapons,ammunition knives
Dense Metals	30+	Blue	Violet	Zirconium,tin,bronze	Precious
Impenetrable	-	Black	Black	Lead,bismuth	Hidden threats

HUMANIZED STRUCTURE WITH HIGH PROTECTION LEVEL

- Leded rigid-steel structure and double layer leaded curtain to block x-ray dose;
- Equipped with double symmetrical swing door at its both sides for convenient repair and maintenance;
- Provided with system energized, X-Ray on indicators and emergency stop buttons at both ends of X-Ray tunnel;
- 4 high-strength caster wheels at its base for ease of maneuverability, enable operator to move the scanner easily;
- Offer adjustable wear-resistant foot cups to achieve stability and security during use;
- The shift knob and key switch are securely located on top of the scanner, one-key start and shutdown anytime.

Software Advantages

The software is to control the x-ray baggage scanner as well to acquire and process the x-ray image with different tools to find the potential threat, all the tools can be controlled by our Exclusive Control Panel*.

IMAGING PROCESSING TOOLS

- Switchable 4 and 7 Colors Mode
- Inverse Mode
- Gray
- Variable Gamma
- Organics & Inorganic & Mixture Striping
- Plus 6 kinds Pseudo Color Display
- Variable High & Low Penetration
- Log & Exp Trans
- Gaussian Blur& Sharpen
- Super &Partial Enhancement
- High & Low & Fusion Energy
- Density Threshold Alarm(DTA)
- Continuous Zoom(64X)
- Splicing-scan(S-scan)
- Continuous Scan(C-scan)
- Zeff-scan(Z-scan)
- AI Roller(optional)
- Reset Image
- Calibration

AUXILIARY FUNCTIONS

- Bidirectional Scanning
- Recall Historical Image
- Query & Backup & Mark Image
- Print Image
- Baggage Counter
- Day/Time Display
- Multi-language Operation
- Auto Image Archiving
- Storage Type:PNG, JPEG, BMP
- Start-up Self-diagnostics
- Real-time Image Manipulation
- Different Access Level Account
- Network Ready
- Secure Access Key
- Emergence Stop Button
- 0.5m Roller Table
- Interlock(optional)
- Threat Image Projection(TIP)(optional)
- Operator Training System (OTS)(optional)

Technical Parameters

GENERAL SPECIFICATION

- Tunnel Size: 556(W)x 355(H)mm [21.89x13.98 in.]
- Belt Speed: 0.23m/s (45ft/min) Bidirectional
- Conveyor Load: 150 kg(330.7 lb) Evenly Distributed
- Conveyor Height: 711mm(27.99 in.)
- Noise: <45DB

X-RAY GENERATOR

- Voltage: 140kV
- Wire Detectability: 40 AWG
- Spatial Resolution: 1.0 mm Horizontal, 1.0 mm Vertical
- Steel Penetration: 36 mm steel Typical
- Tube Current: 0.7 mA
- Cooling: Sealed Oil Bath with Forced Air
- Duty Cycle: 100%, No Warm-Up Procedure Required
- Beam Direction: Diagonally Upward
- Detector: L-Shaped Array
- Dual-energy: Yes

WORKING ENVIRONMENT

- Operating Temperature: 0° C- 40° C \ 32° F - 104° F
- Storage Temperature: -20° C- 60° C \ -4° F- 140° F
- Humidity: Up to 95% Non-Condensing
- Power Requirements: 220VAC $\pm$ 10%, 50/60Hz, 10A Max

COMPUTER

- Processor: Intel Pentium G4560
- Memory: 4 GB RAM
- Storage: 1TB SSD (standard)
- Platform: Windows® OS
- Display Type: Single 21.5" LCD Color Monitors
- Display Resolution: 1980 x 1080; 24 bit/Pixel Color
- Image Archiving: 2,00,000 images

HEALTH AND SAFETY

- Compliant with National Radiation Safety Standards for Cabinet X-Ray Systems.
- Typical Radiation leakage is less than 0.1 mR/hr(1.0 μ Sv/hr)

Certificate and Standard



* US. FDA: Title [21, CFR, Part 1020.40]

* CE Compliance:

Directive 2014/30/EU Electromagnetic Compatibility

The Machinery Directive 2006/42/EC

LVD Directive 2014/35/EU

* RoHS: EN62321:2008

* FCC Compliance

* Film Safety: Up to ISO 1600(33 DIN)

* Radiation Safety Certificate

* ISO9001 Quality Management System

* RADIATION SAFETY CERTIFICATE

The Systems comply with all applicable international health and safety regulations including USA FDA X-ray systems (Federal Standard 2.1-CFR 1020.40), Ministry Security and Radiation Safety Certificate by Human Settlement and Environment Commission. The x-ray leakage is lower than the limit of 1.0 μ Sv/hr(100 μ R/hr) at all panels and ports measured at the distance of 5cm. The external radiation emission of U.S. Federal Limit is 5 μ Sv/hr.



Optional Functions(Additional cost)

➤ The Exclusive Control Panel

Integrated with Start-up System, Finger-print System, touch-pad, and E-stop Button. All software commands integrated into shortcut of this keyboard, realize one key control more than 2 functions, make the operation more.

Part#: SE-XR001



➤ 21.5" LCD Touch Screen

Clarity with touch: 21.5 inch Full HD touch screen, get a easier and faster operation.
Resolution: 1920*1080

Part#: SE-XR002



➤ Built-in Multi-Angle Cameras (3+3)

6 built-in cameras in the protective covers Respectively, 3 on each side, one for baggage, one for passenger, Other for environment monitoring. Support data tracing via mobile phone.

(PS: need one more monitor to display monitoring screen.)

Part#: SE-XR003



➤ Power-driven Conveyor

The conveyor will be mounted on both exit or entry for transportation, the direction of rotation can be same as the x-ray baggage scanner.

Part#: SE-XR011



➤ UV Disinfection Solution

Embedded the UV light in both exit and entry covers inside left, right and top to eliminate bacteria and viruses on the surface of the scanning parcels and inspection tunnel.

UVC: 270-280nm

Part#: SE-XR004-1



➤ Supervisor Monitor Platform(Console)

Operator working station to put the monitor and keyboard. Equipped with Start System, Emergency Stop, wheels for quick portability.

Can choose: 2*21.5 inch display
Or 1*34 inch Curved-display

Part#: SE-XR004



➤ Superior Roller Tables

The rollerbeds are all made of 304# superior stainless steel, mounted on both exit and entrance platform to transmit the baggage easily. Adjust freely according to the height of machine.

Length: 0.5 m increment

Part#: SE-XR007



➤ Intelligentized(AI) Roller

Belt rolling only when the IR be triggered, or it remains static, which is energy-saving and helps to extend machine lifetime.

Part#: SE-XR006



➤ Voltage Stabilizer

Filter out the unstable current voltage crest value, stable output with rated current voltage, to protect device.

Part#: SE-XR008



➤ Uninterrupted Power Supply

For Computer: 20 min
For Machine: 2 hours
For Data protection when electricity cut off.

Part#: SE-XR009



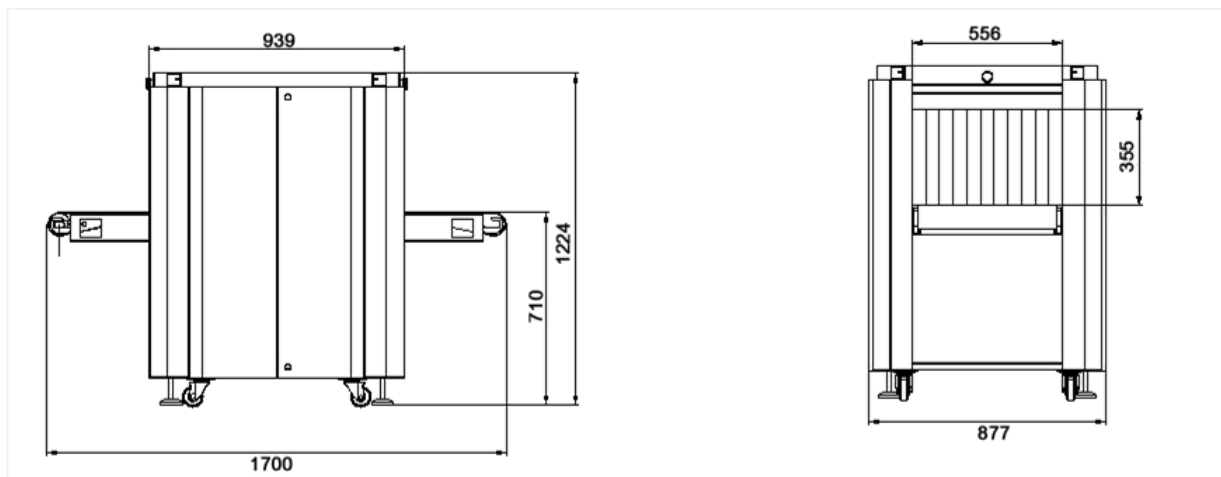
Warranty and Service

➤ Warranty

- 2 years warranty for Basic Spare Parts, 1 year for Critical Spare Parts in free after delivery (Non-artificial damage);
- Replacement parts and shipping cost at our expense;
- Software upgrade included;
- An extended warranty is available;
- The warranty shall take effect seven days after receipt of the goods.

➤ Service

- **Free Factory Training**, included technical training, operator training;
- **Remote Control**, all our Systems embedded with Wireless LAN, can remote support any time;
- **On-site Support**, the engineer is allowed to send oversea to give professional technical support;
- **24-hours Online Service**, technical personnel will be assigned to solve your problem immediately after receiving telephone and hear feedback idea of users and deal with them in time;
- **Support OEM service.**



* Dimensions are in centimeters.