



X-Ray Inspection Systems and Portable Scanners Specification Sheet

X-ray imaging beyond the fixed tunnel: handheld backscatter, portable panels and cargo systems.

Models in this sheet: PB-140 Handheld Backscatter X-Ray Imager, VKS-140S Handheld Backscatter X-Ray Imaging System, VBXC-9000 Handheld Backscatter X-Ray Scanner, Logistics Security Screening X-Ray Cargo Scanner, Ultra-Thin Portable X-Ray Baggage Scanner Panel, VX8065 Entrance Security X-Ray Baggage Scanner, Customised Cargo Inspection X-Ray Luggage Scanner, Airport Bag Scanners and X-Ray Machines, Large Tunnel Luggage and Pallet Scan X-Ray Machine, Airport Baggage Scanner in 6550 Tunnel Size, VKX8065 Multi-Energy X-Ray Luggage Scanner, VKX 6550 Dual Energy X-Ray Baggage Scanner, VKX 6040 X-Ray Security Screening Machine, VKX 5030C Dual Energy Baggage X-Ray Scanner, VKX5030A X-Ray Baggage Scanner

Figures in this document are those published by the factory for each model. Where a value is shown as TBC it is not published, and we confirm it with the factory before order rather than estimate it. Specifications are subject to change without notice.

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1. PB-140 Handheld Backscatter X-Ray Imager

The Averguard PB-140 images from one side only, so there is nothing to place behind the target. That is what makes walls, vehicle panels, containers and aircraft panels inspectable at all in the field. A 140 kV tube penetrates 8 mm or more of steel at 1.5 mm wire resolution, and the whole system weighs 4.8 kg including battery with 8 hours of operating time.

Key benefits

- Single-sided imaging removes the need for rear access to the target
- 140 kV tube with steel penetration of 8 mm or more
- 4.8 kg including battery and 8 hours of operating time per charge
- Scan speed 150 to 300 mm/s with a maximum scan time of 25 seconds
- Rated from -20°C to 50°C for field rather than indoor-only use

Specification

Technology	Handheld backscatter X-ray, single-sided
Tube Voltage	140 kV
Steel Penetration	8 mm or more
Wire Resolution	1.5 mm
Scan Speed	150 to 300 mm/s
Maximum Scan Time	25 seconds
System Weight	4.8 kg plus or minus 0.1 kg including battery
Operating Time	8 hours
Storage	128 GB configurable
Dimensions	229 x 275 x 197 mm
Operating Temperature	-20°C to 50°C
Storage Temperature	-25°C to 60°C
Humidity	0 to 90% non-condensing

2. VKS-140S Handheld Backscatter X-Ray Imaging System

The Averguard VKS-140S is a handheld backscatter imaging system for teams that have to make a decision at the object, not back at a fixed scanner. A 140 kV / 10 W tube penetrates 4 mm or more of steel, images appear in real time on an 8-inch display, and the IP54 body with a 10.8 V / 6600 mAh battery runs 4 hours or more depending on operation mode. The whole unit is under 5 kg at 239 x 288 x 195 mm.

Key benefits

- Real-time imaging with stitching so adjacent passes read as one picture
- 140 kV / 10 W tube penetrating 4 mm or more of steel
- Under 5 kg and IP54 rated for field rather than bench use
- 4 hours or more per charge from a 10.8 V / 6600 mAh battery
- Linux system storing more than 10,000 scans

Specification

Technology	Handheld backscatter X-ray imaging
Tube Voltage	140 kV
Tube Power	10 W
Steel Penetration	4 mm or more
Scan Speed	150 to 300 mm/s

Maximum Scan Time	25 seconds
Display	8-inch
Operating System	Linux
Storage	more than 10,000 scans
Battery	10.8 V / 6600 mAh
Battery Life	4 hours or more depending on operation mode
Ingress Protection	IP54
Dimensions	239 x 288 x 195 mm
Weight	under 5 kg

3. VBXC-9000 Handheld Backscatter X-Ray Scanner

The VBXC-9000 images from one side, so objects against a wall, inside furniture, in a car door or in a tyre can be inspected at all. It discerns a 0.32 mm metal wire, reports a signal-to-noise ratio over 100 times higher than comparable foreign products, and is operated by one person from an integrated 8-inch tablet with dual laser positioning. The device weighs 5.8 kg without battery.

Key benefits

- Single-sided imaging reaches objects against walls, in doors and in tyres
- Discerns a 0.32 mm metal wire with superior noise control
- Signal-to-noise ratio over 100 times higher than comparable foreign products
- Single-person operation with a detachable 8-inch tablet
- 160 mm field of view at 5 cm, expanding with distance

Specification

Imaging Technology	Single-sided backscatter
Wire Discrimination	0.32 mm metal wire
Field of View	160 mm wide at 5 cm, expanding with distance
Detection Speed	300 mm/second with real-time image capture
Device Weight	5.8 kg excluding battery
Dimensions	212 x 300 x 143 mm excluding handle
Display	8-inch detachable tablet computer
Operating Time	approximately 4 hours

4. Logistics Security Screening X-Ray Cargo Scanner

This cargo scanner takes a 1500 x 1800 mm tunnel and 2000 kg on the conveyor, which puts full pallets inside the machine rather than beside it. Penetration is 32 mm of steel guaranteed and 34 mm typical from a 160 kV source, at 38 AWG guaranteed wire resolution, and X-ray leakage stays below 0.1 microsievert per hour at 5 cm from the housing.

Key benefits

- 1500 x 1800 mm tunnel with a 2000 kg conveyor load
- 32 mm steel penetration guaranteed, 34 mm typical
- 38 AWG wire resolution guaranteed, 40 AWG typical
- X-ray leakage below 0.1 microsievert/h at 5 cm from the housing
- Bi-directional conveyor running

Specification

Tunnel Size	1500 x 1800 mm
Conveyor Speed	0.22 m/s
Conveyor Height	350 mm
Conveyor Maximum Load	2000 kg
X-Ray Dose per Inspection	under 2.8 microsievert
Wire Resolution	38 AWG guaranteed, 40 AWG typical
Spatial Resolution	1.3 mm horizontal and vertical
Penetration	32 mm steel guaranteed, 34 mm typical
Penetration Resolution	32 AWG guaranteed, 34 AWG typical
Film Safety	ASA/ISO1600 guaranteed
X-Ray Leakage	under 0.1 microsievert/h at 5 cm from the external housing
Generator	160 kV, 1.2 mA
Conveyor Direction	Bi-directional
Noise	under 58 dB
Power	250 W

5. Ultra-Thin Portable X-Ray Baggage Scanner Panel

A 15 mm amorphous silicon panel imaging 430 x 350 mm at 2560 x 3072, with 16-bit dynamic range across 65536 grayscale levels. At 3.5 kg with a blind spot no greater than 18 mm above and below, it is the panel for portable screening where the detector has to be placed rather than the item brought to it. Gigabit Ethernet and 2.4 or 5.8 GHz wireless are both supported.

Key benefits

- 15 mm panel thickness at 3.5 kg for portable placement
- 2560 x 3072 image resolution over a 430 x 350 mm area
- 16-bit dynamic range with 65536 grayscale levels
- Blind spot no greater than 18 mm above and below
- Gigabit Ethernet plus 2.4 GHz or 5.8 GHz wireless

Specification

Receiving Screen Material	Amorphous silicon
Imaging Size	430 x 350 mm
Dimensions	460 x 460 x 15 mm
Image Resolution	2560 x 3072
Thickness	15 mm
Weight	3.5 kg
Blind Spot	not greater than 18 mm above and below
Image Dynamic Range	16 bits, 65536 grayscale levels
Wired Communication	100 Mbps and 1 Gbps Ethernet
Wireless Communication	2.4 GHz or 5.8 GHz
Storage Temperature	-15°C to 55°C
Humidity	93% non-condensing, continuous operation for 48 hours

6. VX8065 Entrance Security X-Ray Baggage Scanner

The VX8065 is an entrance scanner that works on hand luggage and checked baggage alike, with no set-up time before it is usable. It can stand alone at a door or be integrated into an existing security system, and it also handles cargo and container screening, which makes it a reasonable single purchase for a building with more than one screening need.

Key benefits

- Works equally on hand luggage and checked baggage
- Runs standalone or integrates into an existing security setup
- No set-up time required before use
- Also suitable for cargo and container scanning
- Frees staff from watching every bag entering the building

Specification

Model	VX8065
Application	Hand luggage, checked baggage, cargo and container scanning
Operation	Standalone or integrated into an existing security system
Tunnel Size	TBC - confirm at quotation
Steel Penetration	TBC - confirm at quotation
Conveyor Load	TBC - confirm at quotation

7. Customised Cargo Inspection X-Ray Luggage Scanner

This is a customised cargo and luggage X-ray system rather than a catalogue model: the configuration is built to the site. It detects concealed weapons, explosives and contraband in passenger luggage and in goods, with adjustable sensitivity, for airports, customs and border control. Machines from this line are supplied to military, police and airport customs users.

Key benefits

- Configuration customised to the site rather than a fixed catalogue model
- Adjustable sensitivity for different cargo and luggage types
- Detects concealed weapons, explosives and contraband
- Supplied to military, police department and airport customs users
- Suitable for both passenger luggage and goods

Specification

Application	Passenger luggage and cargo inspection
Sensitivity	Adjustable
Configuration	Customised to the site requirement
Tunnel Size	TBC - specified per project
Steel Penetration	TBC - specified per project
Conveyor Load	TBC - specified per project

8. Airport Bag Scanners and X-Ray Machines

This is the airport screening range rather than a single model: baggage scanners aimed at detecting explosives, liquids and hazardous materials in hand luggage, and X-ray inspection systems that scan carry-on and checked bags at the same position. The second type matters most where an airport has limited space or needs to compress screening time.

Key benefits

- Baggage scanners targeted at explosives, liquids and hazardous materials

- X-ray systems scanning carry-on and checked bags simultaneously
- Suited to airports with space constraints or accelerated screening needs
- Customisable models to match a specific airport's operation
- Reduces passenger waiting time at security checkpoints

Specification

Product Type	Airport baggage scanners and X-ray baggage inspection systems
Detection Focus	Explosives, liquids and hazardous materials
Scanning	Carry-on and checked bags, simultaneously on the inspection systems
Configuration	Customisable models per airport
Tunnel Sizes	TBC - specified per terminal requirement

9. Large Tunnel Luggage and Pallet Scan X-Ray Machine

This large-tunnel machine takes pallets and containers up to 1.5 m long, 1 m wide and 1.5 m high, so goods are screened as they are loaded rather than broken down first. It uses dual-energy imaging with backscatter reduction, LED tunnel lighting and real-time data processing, at image resolution up to 500 dpi.

Key benefits

- Accepts pallets and containers up to 1.5 x 1.0 x 1.5 m
- Dual-energy imaging with backscatter reduction technology
- Image resolution up to 500 dpi
- Real-time data processing
- LED tunnel lighting for clear item handling

Specification

Maximum Item Size	1.5 m long x 1.0 m wide x 1.5 m high
Imaging	Dual energy with backscatter reduction
Image Resolution	up to 500 dpi
Lighting	LED
Data Processing	Real time
Conveyor Load	TBC - confirm against your pallet weight

10. Airport Baggage Scanner in 6550 Tunnel Size

A 6550-size airport baggage scanner supplied with a 1 year warranty and easy installation, from a manufacturer with over 8 years in this equipment. The X-ray machine scans passenger luggage and passes the data to a computer system that flags bags for further examination, so operator attention goes to the bags that need it.

Key benefits

- 6550 tunnel size, the common standard for passenger checkpoints
- 1 year warranty included
- Easy to install with software designed for straightforward use
- Supplied by a manufacturer with over 8 years in this equipment
- Customised solutions available beyond the catalogue

Specification

Tunnel Size Class	6550
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Warranty	1 year
Application	Airport and train station passenger luggage screening
Steel Penetration	TBC - confirm at quotation
Conveyor Load	TBC - confirm at quotation
Customisation	Available on request

11. VKX8065 Multi-Energy X-Ray Luggage Scanner

The VKX8065 takes an 805 x 652 mm tunnel with a 308 mm belt height, which is low enough that heavy cases are lifted onto it rather than up to it. Wire resolution is 38 AWG at 0.0787 mm, penetration 25 mm of steel from a 140 kV tube, and sealed oil cooling gives a 100% duty cycle at 53.8 dB(A).

Key benefits

- 805 x 652 mm tunnel taking carry-on through to oversized bags
- 308 mm belt height, low enough to load heavy cases easily
- 38 AWG wire resolution at 0.0787 mm metal wire
- 100% duty cycle from sealed oil cooling
- 53.8 dB(A) noise, quiet enough for a passenger terminal

Specification

Tunnel Size	805 x 652 mm
Conveyor Speed	0.20 m/s
Belt Height	308 mm
Maximum Load	under 100 kg, adequately distributed
Wire Resolution	38 AWG, 0.0787 mm metal wire
Spatial Resolution	1.0 mm horizontal and vertical
Penetration Definition	34 AWG
Penetration	25 mm steel board
Monitor	19 inch
Film Safety	ASA/ISO1600 standard
Tube Voltage	140 kV
Cooling	Sealed oil cooling, 100% duty cycle
Power Consumption	1 kVA
Noise	53.8 dB(A)

12. VKX 6550 Dual Energy X-Ray Baggage Scanner

The VKX 6550 pairs a 656 x 501 mm tunnel with 34 mm of steel penetration and a full operator toolkit: high density alarm, explosive and drug auxiliary detection, Threat Image Projection and a luggage counter, plus system and X-ray emission timers. Radiation leakage is 0.1 microgray per hour measured 5 cm from the surface.

Key benefits

- 34 mm steel penetration through a 656 x 501 mm tunnel
- Explosive and drug auxiliary detection with high density alarm
- Threat Image Projection for operator training and assessment
- System running and X-ray emitting timers for maintenance planning
- Leakage 0.1 microgray/h at 5 cm from the surface

Specification

Tunnel Size	656 x 501 mm
Conveyor Speed	0.20 m/s
Belt Height	664 mm
Maximum Load	under 100 kg, adequately distributed
Wire Resolution	38 AWG, 0.0787 mm metal wire
Spatial Resolution	1.0 mm horizontal and vertical
Penetration Definition	34 AWG
Penetration	34 mm steel board
Monitor	19 inch LED
Tube Voltage	140 kV
Cooling	Sealed oil cooling, 100% duty cycle
Single Inspection Dose	under 1.0 microgray
Radiation Leakage	0.1 microgray/h at 5 cm from the surface
Machine Size	1875 x 934 x 1300 mm
Package Size	2040 x 1020 x 1530 mm
Package Weight	220 kg
Power Consumption	1 kVA
Noise	53.8 dB(A)

13. VKX 6040 X-Ray Security Screening Machine

The VKX 6040 publishes both typical and guaranteed figures, which is the honest way to quote a scanner: 38 mm steel penetration typical against 34 mm guaranteed, AWG40 wire resolution typical against AWG38 guaranteed. It takes 150 kg on the conveyor through a 615 x 418 mm tunnel at 0.22 m/s, drawing at most 0.8 kVA.

Key benefits

- Typical and guaranteed figures published separately for penetration and resolution
- 150 kg conveyor load, higher than most scanners in this tunnel class
- 0.22 m/s conveyor speed through a 615 x 418 mm tunnel
- Maximum 0.8 kVA power consumption
- Film safety guaranteed to ASA/ISO1600

Specification

Unit Weight	455 kg
Unit Size	2648 x 844 x 1234 mm
Tunnel Size	615 x 418 mm
Conveyor Speed	0.22 m/s
Conveyor Height	680 mm
Conveyor Maximum Load	150 kg
Penetration	38 mm steel typical, 34 mm guaranteed
Wire Resolution	AWG40 typical, AWG38 guaranteed
X-Ray Dose per Inspection	2.5 microgray/h typical, 3.5 microgray/h guaranteed
Boundary Leakage	1.0 microgray/h typical, 1.5 microgray/h guaranteed
Power Consumption	maximum 0.8 kVA
Signal to Noise Ratio	under 60 dB

Film Safety	guaranteed ASA/ISO1600
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14. VKX 5030C Dual Energy Baggage X-Ray Scanner

The VKX 5030C is the mail-room and parcel machine: a compact 506 x 300 mm tunnel, but 38 mm of steel penetration, which is more than the larger VKX 6550 manages. It carries the full operator toolset including explosive and drug auxiliary detection and Threat Image Projection, in a heavy-duty steel body drawing only 0.5 kVA.

Key benefits

- 38 mm steel penetration, the highest in the VKX range, in the smallest tunnel
- Compact 506 x 300 mm tunnel for mail and parcels
- Explosive and drug auxiliary detection with high density alarm
- Only 0.5 kVA power consumption at 53.8 dB(A)
- Heavy duty steel body with an internal cooling system

Specification

Tunnel Size	506 x 300 mm
Conveyor Speed	0.20 m/s
Belt Height	664 mm
Maximum Load	under 100 kg, adequately distributed
Wire Resolution	38 AWG, 0.0787 mm metal wire
Spatial Resolution	1.0 mm horizontal and vertical
Penetration Definition	34 AWG
Penetration	38 mm steel board
Monitor	19 inch LED
Tube Voltage	140 kV
Cooling	Sealed oil cooling, 100% duty cycle
Single Inspection Dose	under 1.0 microgray
Radiation Leakage	0.1 microgray/h at 5 cm from the surface
Package Size	1475 x 784 x 1100 mm
Console Desk Size	1690 x 870 x 1330 mm
Package Weight	220 kg
Power Consumption	0.5 kVA
Noise	53.8 dB(A)

15. VKX5030A X-Ray Baggage Scanner

The VKX5030A is the 80 kV entry point of the VKX line: the same 506 x 300 mm tunnel and 38 AWG wire resolution as the 5030C, at 8 mm steel penetration. It runs an embedded Windows system on a multicore ARM platform, low power and energy saving, with real-time status monitoring of the device.

Key benefits

- 506 x 300 mm tunnel for mail, parcels and small luggage
- 38 AWG wire resolution at 0.0787 mm metal wire
- Embedded Windows system on multicore ARM, low power and energy saving
- Real-time status monitoring of the device
- Explosive and drug auxiliary detection with TIP and luggage counter

Specification

Tunnel Size	506 x 300 mm
Conveyor Speed	0.20 m/s
Belt Height	664 mm
Maximum Load	under 100 kg, adequately distributed
Wire Resolution	38 AWG, 0.0787 mm metal wire
Spatial Resolution	1.0 mm horizontal and vertical
Penetration Definition	34 AWG
Penetration	8 mm steel board
Monitor	19 inch LED
Tube Voltage	80 kV
Cooling	Sealed oil cooling, 100% duty cycle
Single Inspection Dose	under 1.0 microgray
Package Weight	220 kg
Noise	53.8 dB(A)
Construction	304 stainless steel elements