

HCVS™

HIGH ENERGY X-RAY STATIONARY 9000 SERIES



Feature Highlights

- Inspect loaded trucks, containers, and vehicles at ports, airports and border crossings
- A dual X-Ray views product
- High throughput of up to 20 trucks per hour
- Steel penetration up to 410mm (16.1in) @ 9MeV
- Adapted footprint and security perimeter

The HCVS 9000 series of X-ray screening systems is designed to optimize security checks at ports, airports and border crossings. These systems are used to inspect whole trucks (cabin included), containers, and vehicles for threats such as explosives, narcotics, weapons of mass destruction (WMDs) and contraband, as well as manifest verification, reducing the need for manual inspection.

The HCVS systems use 2 accelerators delivering an energy of 9MeV, allowing a steel penetration of 410mm (16.1in) on the side view while providing a high throughput of up to 20 trucks per hour.

The system's high performance imaging capability provides the operator with detailed radioscopic images of container or vehicle and its contents, allowing for rapid and reliable results. With viZual™ technology configuration available on the side view, radioscopic images deliver container or vehicle loads with organic and inorganic material discrimination and colorization based on atomic number.

When equipped with the optional iCmore radioactivity the HCVS simultaneously carries out both the X-ray inspection and an analysis to detect the presence of radioactive gamma and/or neutron materials within the container or vehicle.

The HCVS 9000 series is a dual view product which provides both a top and a side X-ray image of the truck scanned, assisting in the detection and exact location of suspicious items.

The HCVS systems have proven to be an indispensable tool for Customs agencies and law enforcement authorities worldwide.

General Specifications

Nominal energy (MeV) 9MeV

Scanning principle Container or vehicle is transported via conveyor through the stationary X-ray screening system

System specifications

Inspection throughput 20 trucks / hour

Minimum crew requirement 1 image operator, 1 system operator & 1 check-in operator

Operating temperature -20°C to +40°C (-4°F to +104°F)

Storage temperature -30°C to +50°C (-22°F to +122°F)

Relative humidity Up to 100%

Electrical consumption Average consumption: 135 kVA minimum

viZual configuration Material discrimination on side view only. Organic/inorganic/mixed/ material colorization based on atomic numbers

Computer system

Image workstation (RIW) 3 workstations equipped with one 27in flat screen (dataset) and one 34in wide flat screen (images) each

Image analysis tools Contrast and edge enhancement, filters, marks and annotations, histogram equalization, review of stored images and manifest data for comparison, image conversion to standard formats, objects measurement

Check-in workstation (CIW) One workstation equipped with one 24in flat screen and one A4 scanner

Re-check workstation (RCW) One workstation equipped with one 27in flat screen (dataset) and one 34in wide flat screen (images) each

Database workstation (DBW) SQL database

Data storage RAID 5-up to 50.000 images

Supervision station (CMW) One 24in flat LCD screen

Printer Color laser printer

Network DMS ready (Dataset Management System)

Radiation protection safety

Safety area [W x L] 17m x 47m (55.8' x 154.2')

Video surveillance 6 cameras

Markings Three, three-color indicator lamps, sirens & regulatory displays

Regulations In compliance with WHO, ICRP 103 ('09 update of ICRP 60), EU & US regulations

Health & security

Dose in the environment Less than 0.5µSv/hour (average outside safety area) and less than 1mSv/year

Dose rate in operator cabin Less than 0.5µSv/hour (average) and less than 1mSv/year

Building features

Building parts Scanning building, operators premises, technical rooms & spare parts storage room

Optional building parts Manual search area & check-in room

Conveyor system Flat conveyor

Installation footprint [W x L] 17m x 47m (55.8' x 154.2')

Scanning height 4.7m (15.4')

Inspected vehicle/container

Max. standard dimensions [H x W x L] 4.7m x 3.5m x 20m (15.4' x 11.5' x 65.6')

Max. total weight 60 tons

Options

iCmore radioactivity gamma Automatic radioactive material detection (gamma)

iCmore radioactivity gamma & neutron Automatic radioactive material detection (gamma, neutron)

Image workstation (RIW)

Station(s) equipped with one 27in flat screen (dataset) and one 34in flat screen (images) each

Check-in workstation (CIW) Station(s) with manifest and data recording scanner

Re-check workstation (RCW) Workstation to re-check suspicious images (easier searching)

Maintenance workstation (RMW) Remote maintenance workstation

Training workstation (TS) Integrated system dedicated to image operator training

Archiving Portable hard disks, 35 to 90 GB/disk, 560 GB with autoloader

Configurations 9041 viZual DV (dual view)

Side View Nominal energy (MeV) 9

Side View Steel penetration 410mm (16.1in)

Top View Nominal energy (MeV) 9

Top View Steel penetration 360mm (14.1in)

Absorbed dose per scan @ 24m/min Less than 256µSv

Radiation protection Concrete building & shielding doors

For product information, sales or service, please go to www.smithsdetection.com/locations

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