

HCVM™ L

HIGH ENERGY MOBILE X-RAY SERIES



Feature Highlights

- Inspect loaded trucks, containers and vehicles at ports, airports and border crossings
- High throughput of up to 25 trucks per hour in scan mode; and up to 100 trucks per hour in pass through mode.
- Steel Penetration up to 320mm (12.6") @ 6MeV
- Small footprint
- Advanced technology, viZual™, provides a high performance imaging capability with organic/inorganic material discrimination and colourisation in a single scan

The HCVM L series of X-ray screening systems is designed to optimise security checks at ports, airports and border crossings. It reduces the need for manual inspection of complete trucks (cabin included), containers and vehicles by verifying manifests and checking for threats such as explosives, narcotics, weapons of mass destruction (WMDs) and contraband.

The series of systems use a range of accelerators from 4MeV to 6MeV, allowing steel penetration ranging from 310mm (12.2") to 320mm (12.6"). A high maximum throughput of 25 (typical 20) trucks per hour can be achieved in scan mode; and a maximum of 100 trucks per hour in pass through mode. Up to four system operators can be accommodated in the cabin.

High performance imaging equips operators with detailed radioscopic images of the container or vehicle to generate rapid and reliable results.

The optional addition of automatic radioactive material detection (ARD™), enables simultaneous X-ray inspection and analysis to detect the presence of radioactive gamma and/or neutron materials.

Modular in design, the HCVM L series supports mobility with the system ready for use as required in a new location in under 30 minutes. It offers ease of operation and a small footprint with minimal external infrastructure requirements; and yet meets the most demanding, international security screening standards.

General Specifications

Nominal energy (MeV)	Levels available from 4 – 6MeV
Scanning principle	The HCVM moves while the object does not, or it can be the opposite according to requirements

System specifications

Chassis	Mercedes Actros (compliant with most road regulations)
Weight	26 tons
Engine	320Cv
Truck dimensions (LxWxH)	12m (39.4')x 2.5m (8.2') x 4.0m (13.1')
Scanning speed	24 or 12m/min - 36m/min available in option • Passage of the trucks in stationary mode up to 7km/ 4mph
Speed	90km/ 56mph
Footprint (LxWxH)	11m (36.1') x 8.6m (28.2') x 5.6m (18.4')
Scanning height	From 0.20m (.7') to 4.75m (15.6')
Maximum height below gantry	4.80m (15.7')
Installation time	Less than 30 min (average 15 min)
Inspection throughput	Up to 25 trucks per hour (typical 20) in mobile mode and up to 100 in pass through mode*
Minimum crew requirement	1 image operator/driver and 1 traffic marshal
Operating temperature	-20 to +43°C (-25 to 50°C in option)
Storage temperature	-30 to +55°C
Relative humidity	Up to 95%
Electrical consumption	24 kVA in average
Maximum dimensions (LxWxH)	4.75m (15.6') x 3.50m (11.5') x 28m (91.9')
Cabin comfort	A/C, refrigerator, radio, natural light, individual storage racks – accommodates up to 4 operators in the cabin

Computer system

Image workstation (RIW)	Two 22" flat LCD screen workstations
Image analysis tools	Contrast and edge enhancement, filters, marks and annotations, histogram equalisation, review of stored images and manifest data for comparison, image conversion to standard formats, objects measurement
Database workstation (DBW)	SQL data base
Data storage	280,000 images as standard
Printer	Color laser printer

Radiation protection safety

Surveillance	Cameras (PTZ) + radio intercom
Markings	3-color safety light + siren
Regulations	Compliant with WHO, ICRP 103-2007, EU & US regulations
Radiation protection	Security perimeter zone defined by infrared markers

Health & security

Dose in the environment	Average <0,5µSv/h <1mSv/an
Dose rate in operator cabin	Average <0,5µSv/h <1mSv/an

Options

ARD	Automatic radioactive material detection (gamma)
ARD n	Automatic radioactive material detection (gamma, neutron)
Check-in workstation (CIW)	Station(s) with manifest and data recording scanner
Image Operator Post	Additional workstation with 22" LCD flat screen/manifest screen optional
Tow bar (3T500)	Tow Hitch

	Configurations 4031	6032 viZual
Nominal energy (MeV)	4.5	6/4
Steel penetration (mm)	310	320
Contrast (%)	0.6	1.12
Steel wire (mm)	0.5	1.5
Safety area - ground to 2.5m (8.2') for a 20m (65.5') truck @ 0.5µSv/h 20t/h	46m(L) x 45m(l) 150.9' x 147.6'	40m(L) x 41m(l) 131.2' x 134.5'
Absorbed dose per scan*	Less than 7µSv/scan	Less than 6µSv/scan
Organic/inorganic material discrimination	no	yes (mobile mode)

* Typical values - may differ depending on freight and scanning conditions.

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

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