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HCVM™ L

HIGH ENERGY X-RAY MOBILE 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 150 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 colorization in a single scan**

The HCVM L 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), contraband, as well as manifest verification, reducing the need for manual inspection.

The HCVM L series systems use a range of accelerators from 4MeV to 6MeV, allowing steel penetration ranging from 280mm (11") to 320mm (12.6") while providing a high throughput of up to 25 (typical 20) trucks per hour in scan mode and up to 150 trucks per hour in pass through mode, with up to 4 system operators in the cabin.

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.

When equipped with the automatic radioactive material detection - ARD™ (optional), the HCVM L 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 modular design of the HCVM L provides the ability for the system to be driven from location to location and ready to use in under 30 minutes,adapting to the customer's specific needs. The HCVM L is designed for ease of operation requiring a minimal footprint and external infrastructure while still integrating the most demanding international security screening requirements.

Technical Data **HCVM L**

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 the needs

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 30mn (average 15mn)
Inspection throughput	Up to 25 trucks per hour (typical 20) in mobile mode and up to 150 (typical 120) in pass through mode*
Minimum crew requirement	1 image operator/driver and 1 traffic marshal
Operating temperature	-20°C to +43°C (-25°C to 50°C in option)
Storage temperature	-30°C to +55°C
Relative humidity	Up to 100%
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 – Accommodate 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 equalization, review of stored images and manifest data for comparison, image conversion to standard formats, objects measurement
Database workstation (DBW)	SQL data base
Data storage	14,000 images as standard
Data archiving	DVD burner (standard)
Printer	Color laser printer

Radiation protection safety

Surveillance	Cameras (PTZ) + radio intercom
Markings	3-color safety light + siren
Regulations	Compliant with WHO, ICPR-60 13-17, 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
Maintenance workstation (R2S)	Remote maintenance workstation
Image Operator Post	Additional workstation with 22'' LCD flat screen/manifest screen optional
Tow bar (3T500)	Tow Hitch

Configurations

	3528	4031	6032 viZual
Nominal energy (MeV)	4	4.5	6/3.9
Steel penetration (mm)	280	310	320
Contrast (%)	0.91	0.6	1.12
Steel wire (mm)	1	0.5	1.5
Safety area - ground to 2.5m (8.2') for a 20m (65.5') truck @ 0.5µSv/h 20t/h	36m(L) x 29m(l) 118.1' x 95.1'	46m(L) x 45m(l) 150.9' x 147.6'	40m(L) x 41m(l) 131.2' x 134.5'
Safety area - ground to 2.5m (8.2') for a 20m (65.5') truck @ 20µSv/h 20t/h	34m(L) x 29m(l) 111.5' x 95.1	46m(L) x 45m(l) 150.9 x 147.6'	38m(L) x 36m(l) 124.7' x 118.1'
Absorbed dose per scan*	Less than 3µSv/scan	Less than 7µSv/scan	Less than 6µSv/scan
Organic/inorganic material discrimination	no	no	yes

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

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

Smiths Heimann S.A.S., 36, rue Charles Heller, 94400 Vitry sur Seine, France
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