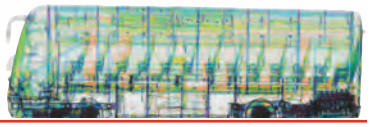
SCANTRONIC systems



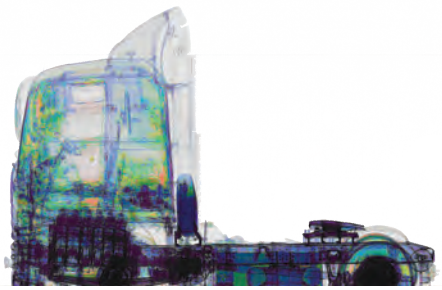
Mobile X-ray inspection system ST-2630M

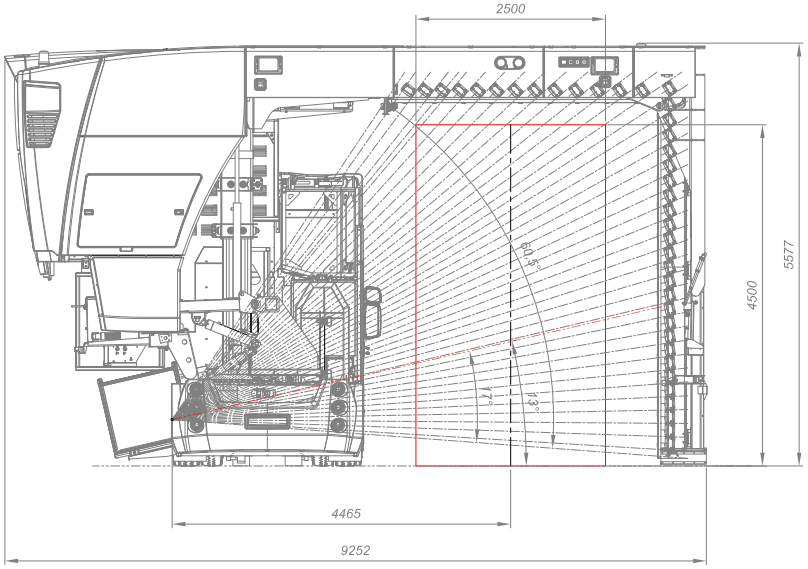
In February 2018, LLC "Scantronic systems" produced and delivered to the customer the first developed and manufactured in Russia mobile inspection system ST-2630M for inspection of vehicles and sea containers, which according to its technical characteristics and functionality significantly superior to its foreign counterparts.

Operation of the system is based on obtaining and analysis of a high-quality radioscopic image, displayed on a monitor during the process of vehicle scanning by X-ray beam with energy modulation. As a source of X-ray radiation the system ST-2630M uses a linear electron accelerator with duplet energy modulation. Usage of innovative technologies as well as an optimized local radiation shielding allowed development of the accelerator with small size and weight at the same time keeping high characteristics of X-ray beam, which allows to achieve improved mobility of the system ST-2630M and to provide reliable discrimination of 4 groups of materials by their atomic number.

In the mobile inspection system ST-2630M there is realized a number of technical and technological solutions that ensures radiation safety for operators and population in accordance with the Russian and international regulations, and also provides operation of the system in different climatic conditions.

Using the system ST-2630M, a Customer gets a possibility to construct a distributed control system, controlled from a common center, regardless of the remoteness of inspection points from each other the remoteness of inspection points from each other.





Technical parameters

The detection system	Detector pitch Scanning height ADC capacity	5,5 mm from 0,15 to 4,5 m 20 bits
Image quality	Maximal steel penetration Wire sensitivity: - in air - behind 100 mm steel Contrast sensitivity Number of discriminated by Z_{eff} groups of materials Material discrimination mass thickness range	320 mm Ø 0,8 mm Ø 2 mm less than 1.5 % 4 5-80 g/cm^2
Throughput and dimesions	Throughput Vehicle maximal dimensions	up to 25 vehicles in hour 20m x 3m x 4.5m (L x W x H)
Radiation safety	Annual radiation dose for operators and people Dimensions of safety zone	less than 1 mSv/year 50 x 30 m (for 12 vehicles in hour) 50 x 40 m (for 25 vehicles in hour)
Performance characteristics	Operation time Climatic conditions	24/24 from -30°C to +50°C
The computer system	Software Database capacity Basic functions of image analysis	Based on Linux OS 12TB Image contrast control, histogram equalization, gamma correction, deconvolution, segmentation, filtration, work with markers, discrimination of groups of materials, evaluation of atomic number, weight of cargo and x-ray energy

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