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| ISB.A | **HIGH-THROUGHPUT** **INSPECTION SYSTEM** |
| General description |
| Key Features* **High penetration** – betatron with energy 7.5 MeV can penetrate 340 mm of steel at speeds up to 12 km/h
* **High throughput –** the portal inspection system can scan up to 200 trucks per hour at speeds up to 12 km/h
* **Low radiation dose** - Dose to cargo is only 2,5 µSv per scan at a scan speed of 12 km/h. Scatter radiation dose to the driver is less than 0.006 µSv per scan at scan speeds up to 12 km/h,
* **Compact design** – the width of the portal inspection system is 8 m, height – 6 m and length 3 m.
 | **X-ray radiation source with the collimator and local radiation shield**.**Detection system** made on the base of scintillation detectors and has a high sensitivity provided the high penetrating ability and contrast sensitivity at the low radiation doses**.****The heat-insulated metal construction** where there are the X-ray radiation source, detection system, and the climate control system provided the functionality of all System at any weather conditions**.****The control system** provided the overall control of the betatron and detection system during the scanning process**.** The Start-Stop subsystem provides registration a moment when a truck cabin passes a beam plane which initiates the X-ray radiation source to scan a container. This function enables to pass through the portal up to 200 trucks per hour, and they drive without stops.**X-ray, electric and mechanic security system****The data processing, visualization and storage system.**  |
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| ISB.A | **HIGH-THROUGHPUT** **INSPECTION SYSTEM** |
| Main parameters |
| SYSTEM CHARACTERISTICS

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| Throughput, Trucks per Hour | 200 | 12 m (40-foot) containers |
| Penetration of steel at scan speeds up to 12 km/h, mm | 340 |  |
| Resolution at scan speeds up to 12 km/h, mm | 12.5 |  |
| Contrast Sensitivity at scan speeds up to 12 km/h, % | 3 |  |
| Minimum number of the operators, person | 1 |  |

 | X-RAY SOURCE

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| High energy X-ray source, MeV | 7.5 |
| Bremsstrahlung dose rate at the peak energy and at 1 m distance from the target, at 300 Hz, not less than at 7.5 MeV, not less than mGy/s | 1.25 |
| Maximum sizes of the focal spot, mm | 0,3×3 |
| The maximum output angle of bremsstrahlung radiation | 520 |
| Repetition frequency, Hz | 300 |

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| SAFETY

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| Radiation dose to the cargo per scan at a scan speed of 12 km/h µSv | 2.9 |
| Scatter radiation dose to the driver per scan at scan speeds up to 12 km/h, less than µSv | 0.006 |
| Maximum radiation boundary (0.5 µSv/h), m | 10×20 |

 | Dimensions

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| Cargo Height, mWidth, mLength, m | 4.5320  |
| Cargo vehicle configuration | Allow any vehicles with multiple containers |
| Scan field of view | from 0,2 m to top of vehicle |
| Standard scan speed, km/h | 12  |
| Speed range, km/h | 5 – 16  |

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