



SPECIFICATION

Portable X ray generator for industrial radiography (ARM1001)

1. Scope

This specification describes the requirements for a portable X ray generator for industrial radiography (hereafter referred to as “the System” to be used at the Armenian Nuclear Power Plant CJSC (hereinafter referred to as the “End-User”) in Armenia.

The procurement is related to the technical cooperation project ARM/1001 "Ensuring Inspections of the Nuclear Power Plant are Conducted by Staff Certified in Non-Destructive Testing".

2. Technical Requirements

The System shall meet the following technical requirements:

- 2.1.1. X Ray tube with a weight less than 5kg
- 2.1.2. Anode voltage (Tube Voltage): 150 to 250 kV
- 2.1.3. Anode current (Tube current): 0.5 mA to 5 mA
- 2.1.4. Exposure time: 1s to 15 minutes
- 2.1.5. Penetration: 15 to 20 mm steel
- 2.1.6. Focal spot: Less than 3.0 mm x 3.0 mm
- 2.1.7. Angle of X-ray beam: About 40x60 degrees
- 2.1.8. Anode power: less than 1500 W
- 2.1.9. Power consumption: less than 1500 W (single phase 230V, 50Hz)
- 2.1.10. Operating temperature range: Range of -20 °C to 40 °C
- 2.1.11. Power and control unit: Weight less than 10 kg
- 2.1.12. Signal lamp (safety lamp)
- 2.1.13. Cooling system: Forced air
- 2.1.14. Weatherproof level: IP65
- 2.1.15. Removable protective cover of built in lead protection: Weight less than 20 kg if removable
- 2.1.16. Power supply battery operated: AC 230 V, 50-60 Hz 12 to 24 V
- 2.1.17. Other Accessories: Adjustable three legs stand for X-ray tube; laser pointer; charger; remote control unit with 50m cable, set of cables (power, other connections); mounting belts; system of radio control (optional).
- 2.1.18. Language: Russian and English (English is not mandatory, but Russian is mandatory required)
- 2.1.19. Shipping Cases: Portable

3. Marking

The System shall have all safety markings in English language.



4. Packing

The System, for the shipment by air to the End-User, shall be packed in accordance with international standards that are applicable for the shipment by air of this kind of equipment.

5. Quality Requirements

5.1. The System shall be manufactured, shipped and installed in accordance with the Contractor's ISO quality assurance system or an equivalent quality assurance system.

5.2. The Contractor shall document the compliance with this quality assurance system.

6. Testing and Acceptance

The System, prior to shipment, shall be tested for conformance of the System with manufacturer's performance specifications and the minimum requirements specified herein.

The results of the testing of the System shall be documented by the Contractor in an acceptance protocol that shall be signed by the End-User.

7. Deliverable Data Items

The Contractor shall provide two (2) complete sets of operation and servicing manuals and technical drawings in the Russian and English language (English is not mandatory).
