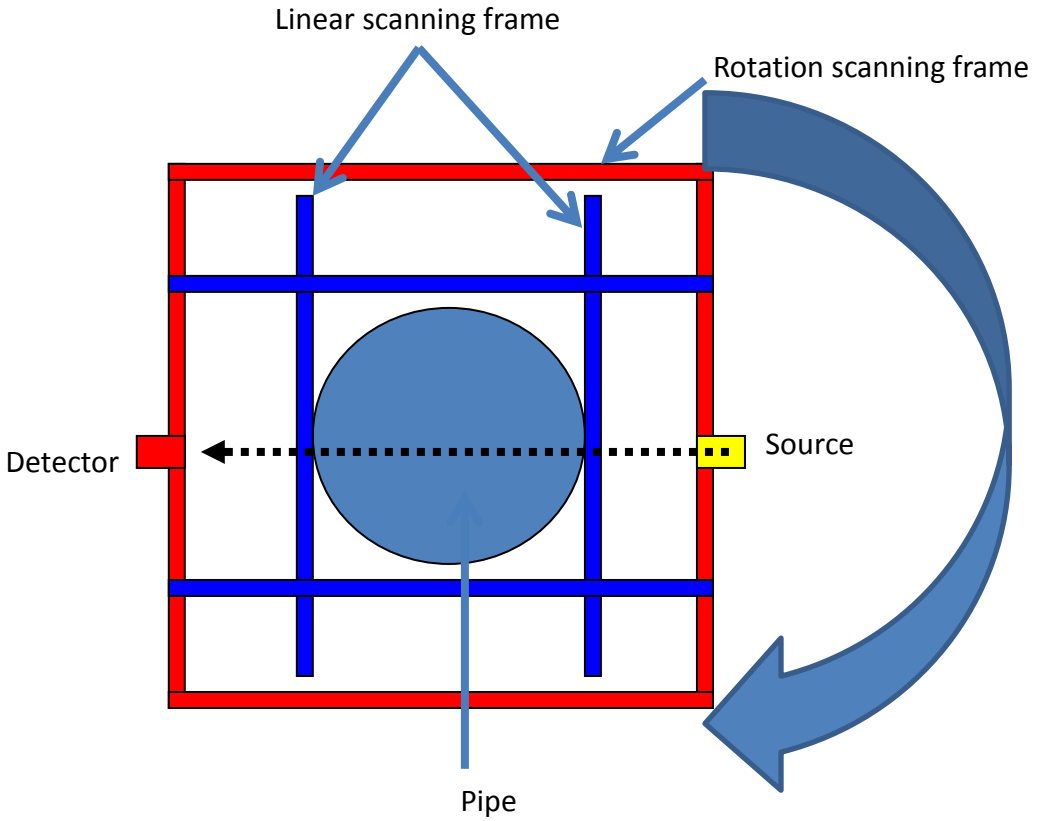
SPECIFICATION

Portable Clampable Computed Tomography 1st Generation System

1. Scope

This specification describes the requirements for a Portable clampable computed tomography 1st generation system (hereinafter referred to as “the System”). The System shall be supplied to the IAEA Laboratories in Seibersdorf, Austria (hereinafter referred to as “the Site).



Scheme of the Tomography

2. Requirements

2.1. Technical Requirements

The System shall meet the following technical requirements:

2.1.1. Mechanical gantry with:

2.1.1.1. Main frame for pipes diameter max 50 cm;

2.1.1.2. Source holder and collimator (for source Cs-137 activity max 50 mCi);

2.1.1.3. Rotation frame by step motor;

2.1.1.4. Linear motion scanning frame by step(s) motor; and

2.1.1.5. Clamping device with 3 steel screws and plates at 120°.

2.1.2. Electronic part

Control command and acquisition box with:

2.1.2.1. Power supply the detector with HV up to 1200 V;
2.1.2.2. Motors control (for linear motion and rotation);
2.1.2.3. Data communication through TCP/IP and/or USB;
2.1.2.4. Cables and accessories as needed; and
2.1.2.5. Detector NaI(Tl) 2''x2'' or other as appropriate.

2.1.3. Software and acquisition part:

2.1.3.1. Operation software for acquisition and control command of mechanical gantry including possibility to define and scan only a part of the pipe (definition of a Region of interest ROI):
2.1.3.2. Reconstruction software:
2.1.3.3. Laptop as appropriate (windows and keyboard in English) with software installed.

2.1.4. Options :

2.1.4.1. Option 1: MCA 1024 channels or more.

Weight max of the full system: < 50 kg approx.

Power supply of the system 220 VAC, 50 Hz or battery (eventually with inverter > in this case autonomy as needed for a full scan)

Note: the source is not included and has not to be supplied.

2.2. Supplier may propose alternatives that differ from this Specification, but are intended to produce the same or better results for this application. In such cases, these must be clearly stated and justified in the offer and sufficient technical information has to be provided for assurance of compliance with this Specification.

3. Marking

The System shall have all safety markings in English language.

4. Packing

The System, for the shipment by air to the Site, 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 IAEA.

7. Deliverable Data Items

The Contractor shall provide two complete sets of operation and servicing manuals and technical drawings in the English language. A video tutorial would be appreciated.
