



Siddharth II SUPERIA

Technical Specification

Magnetron as the RF power source
Ring Gantry system with bore dimension of 150cm
Robotic couch with 6-degrees of freedom
Patented In-Gantry Stereotactic Imaging technology
Dynamic 46 leaf pairs of MLC
Standing Wave Accelerator guide
Unsealed Electron gun
Krystal Record and Verification System
Intuitive workflow with 4-step treatment delivery for all treatment modalities
Capability to deliver treatment modalities 3D CRT, IGRT, IMRT, VMAT, SBRT
The system is CE marked and FDA 510(k) cleared

MV Beam Energy without Flattening Filters (FF 6MV for field 10 x 10cm)	
Photon Energy	6MV
% Dose depth at 10cm depth (10x10, 20x20, 30x30cm ²)	67± 1.0%
Dmax(cm)(10x10,20x20, 30x30cm ²)	1.5 ± 0.2
Beam Flatness	±2%
Beam Symmetry	1%
Beam Stability	200 milli seconds
MV Beam Energy without Flattening Filters (FFF 6MV for field 10 x 10cm)	
D max (cm)	1.5 ± 0.2
% Dose depth at 10 cm depth	63 ±1.0 %
Symmetry	1 %
Minimum dose rate (MU/min)	50MU/min
Maximum dose rate (MU/min)	800MU/min

Type of gantry	Ring gantry
Minimum Speed	0.9° /sec
Maximum Speed	6.9°/sec
Rotational Accuracy	≤ 0.2 degrees
Rotational Range	± 185 °
Bore D _í a	150cm
Patient Positioning	Laser guided

Target to Isocentre	100 ± 0.2cm
Floor to Isocentre height	120 ± 0.1cm
Gantry and collimator Isocentre accuracy	≤ 1mm radius
Collimator and couch Isocentre accuracy	≤ 1mm radius

Couch Top	Carbon fiber
Length	284cm
Width	51.2cm
Maximum load	160kg
Vertical range	60cm
Longitudinal range	157.5cm
Lateral range	±15cm
Couch-Theta range	± 30°
Roll	±2.5 deg
Pitch	±2.5 deg
Minimum level of tabletop above floor	65cm

No of Leaf pairs	46 Pairs
Type of MLC	Tertiary
Leaf width at ISO centre	5mm (Central field of 16cm) 10mm (Outer 14cm field)
Minimum Definable field Size	1 cm x 1cm
Maximum field size	30cm x 30cm
Average leaf transmission	< 2.0 %
Maximum interleaf leakage	< 4.0 %
Maximum leaf speed	Up to 2.5cm/sec
Accuracy of leaf speed	$\pm 0.5\text{cm/s}$
Over travel distance	Complete over travel of 15cm at isocentre
Readout Resolution	0.1mm
Penumbra	< 6mm
Rotational Accuracy	< 0.5°
Rotational Range	$\pm 100^\circ$ (260° to 100°)
Upper jaw positional accuracy	± 1 mm for static fields
Lower jaw positional accuracy	± 1 mm for static fields
Travel Range - Lower Jaw (X1)	-15cm to +7.5cm
Travel Range - Lower Jaw (X2)	+15cm to -7.5cm
Travel Range - Upper Jaw (Y1)	-15cm to +7.5cm
Travel Range - Upper Jaw (Y2)	+15cm to -7.5cm
Minimum Jaw speed	9mm/s
Maximum Jaw speed	30mm/s

Dual kV X-ray Tube	
Focal Spot	0.4-0.8mm
Target angle	14 °
kV range	40-150kV
mA Range	10-700mA

Power	15-45kW
Anode heat capacity	600KHU
Maximum anode heat dissipation	162,000HU/MIN
Source Spot (Small)	0.4mm×0.4mm
Source Spot (Large)	0.8mm×0.8mm
kV Focal to Imager Distance	1700mm
kV Focal to Isocentre Distance	920mm
kV Detector to Isocentre Distance	780mm
Dual kV X-ray Generator	
kW Range	40kW
kV range	40 - 150kV
mA range	10-500mA
Exposure time Range accuracy	0.001 – 10s
mAs Range	0.1 – 500mAs
Anatomical programs	Yes
Dual kV X-ray Tube Housing	
Nominal X-ray tube voltage	150kV
Housing Heat Storage capacity	1111kJ (1500 kHU)
Maximum Housing Temperature	78 °C
X-Ray Tube Assembly Permanent Filtration	0.7mm Al
X-ray tube Assembly Added Filtration	1.8mm Al
Dual kV X-ray Detector	
Pixel Pitch	139 μm
Pixel matrix	3,072 (h) x 3,072 (w)
Pixel Area	42.7cm (h) x 42.7cm (w) (16.8 x 16.8 in)
Detector Type	Amorphous Silicon
Scintillator	Cesium Iodide (CsI)

Krystal ROIS is a dedicated Radiation Oncology Information System to streamline and simplify the workflow of complete department. The system acts as a repository of complete patient information starting from registration to complete treatment cycle. It is compatible with DICOM RT and DICOM 3.0 and can be integrated with any therapy machine present in the Radiation Oncology facility.

KRYSTAL Workflow Management

1. Patient Demographics Registration

The Patient list to be treated along with the progress of the treatment will be populated. Patient selection through quick search button-Configurable to hospital specific. Complete patient information will be captured in patient demographics. Patient information can be automatically populated based on RT ID from HIS to minimize the manual entry errors.

2. Prescription

User is at liberty to define the treatment protocols with templates (Defining the Imaging cycle, treatment techniques etc) which will reduce the treatment plan time. Disease specific clinical protocols can be created ensuring standard and quality treatment to patients. Tab's view to compare different plans of single prescription. Supports multiple energy, multi-modality treatment techniques. OAR constraints, Beam Accessories, Patient immobilization, positioning can be defined.

3. Plan Review and Approval

Plans are validated with respect to Gantry, MLC positions, Doses, Machine parameters. Prior to the treatment, the gantry positions MLC positions can be simulated. Doses delivered to each patient upto date can be monitored at each plan validation. Visual representation of Image acquisition and plan revision, if any. Integrated MLC field shaping and play back option. Each Step undergoes electronic authorization. Single click plan approval

4. Schedule Patients

Drag and drop appointment scheduling. Colour coded based status for treatment for pending and treatment completed, Fractions completed, remaining appointments for the patient.

5. Vitals and Toxicity

Graphical Representation of Vitals of the patient such as Height, Weight, BP. The graphical representation helps the clinician to analyse the vital signs result.

6. Treatment Review

Treatment review allows you to evaluate and monitor your patient's health during the entire treatment process. Here you will have all the information you needed to treat your patients effectively.

Online Record & Verification System

An integrated Online R&V system to ensure correct positioning of patient with respect to treatment beam.

Auto image enhancement

Perform Automatic Registration/Manual Registration to calculate couch shift- 2D-2D, 3D-3D and Stereo

Review of CBCT reconstructed slices in different views

KRYSTAL System Configuration

High-end Workstation with 32GB RAM

2TB Internal Hard Drive

24-inch Monitor with wired mouse and keyboard

Control Console System Configuration

High-end Workstation with 128GB RAM

512GB SSD and 4TB Internal Hard Drive

Two 24" monitors with wired mouse and keyboard

One In-room monitor- TV 4K resolution, 42"

Bunker Live Video monitoring camera capable of monitoring 4K resolution videos

DICOM Server System Configuration

High-end Workstation with 32GB RAM

480GB SSD and 24TB Internal Hard Drive

24-inch Monitor with wired mouse and keyboard

Ray Plan TPS System Configuration

High-end Workstation with 64GB RAM

Dual 256GB Solid-State Drive and 1TB SATA HDD

One 27" monitor with wired mouse and keyboard

** The above configuration is base configuration and is subject to change based on customer requirement*



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Important Safety Information : Radiation Treatment may cause side effects that can differ depending on the part of the body being treated, radiation dose, treatment frequency, Physical condition of the patient to name a few. Physicians are responsible to direct all medical decisions based on its side effects, care and treatment of the patient. Refer to Panacea's product User Manual for more detailed information on product safety, effectiveness and its intended use.

Version 4-TPL102

Specifications are subject to change without any prior notifications.