InsitumCT 768 Product datasheet

SINOVISION Technologies (Beijing) CO., LTD

Low-dose, high-clarity imaging, 128-slice acquisition with an intelligent combination of radiology and cardiology clinical capabilities ,and the ability to personalize image quality patient by patient. Expect excellence in routine imaging, with consistent image quality across a range of patients. InsitumCT 768 offers you all of this.

Specifications

Gantry	
Scan bore	76 cm
Tilt range	±30°
Tilt speed	1°/sec
Max.Slice number/rotation (Axial mode)	128
Scan FOV	50 cm
Rotation speed	0.25s, (Cardiac scanning) 0.37,0.4,0.5, 0.6,0.7,0.8,0.9,1.0,2.0sec (Per 360°)
Slip-Ring	Low voltage Slip ring
Cooling	Oil and air
Breath guiding	Lamp
Fast setup	≤5minutes
Focus to detector distance	1015 mm
Focus to ISO center distance	570 mm
ISO center to ground distance	1012 mm
Scan Localizer	(Laser positioning lamp) Sagittal and transverse localizer
Multi-function LCD screen	Patient information, scan parameters, ECG- wave, Breath demo e.g.
Remote control from console	Table and gantry movement ：Tilt • Table in/out/up/down • Emergency stop • X-ray indicator
ECG Interface	Integrated with gantry

Patient table	
Table width	42 cm
Load capacity	250 kg
Maximum scannable range	1800mm
Horizontal travel range	1950 mm
Horizontal accuracy	±0.25mm
Longitudinal speed	5 mm/s ~ 150 mm/s ±3%
Step range	0.5 mm
Vertical range	565 mm
Vertical speed	≧11.5 mm/s
Minimum height	≤425 mm
Auto-Positioning	Preset 3 protocols
One-key Release	Home Positioning
Console	
CPU	Intel Xeon 6 cores CPU， 3.5 GHz
Memory	DRR4 ECC 32 GB
Disk	7 TB
Raw data capacity	4 TB
Image storage	≥ 3200000 images（ 512 × 512 DICOM format ）
Data Interface	DVD，USB
Monitors	24” LCD
Display matrix	1024×1024
Image reconstruction	512×512，768×768，1024×1024
Resolution	1920X1200
Networking	DICOM 3.0 Standard
Auto voice	A standard set of commands for patient communication before, during, and after scanning is available.
X-ray Tube	
Anode heat capacity	8.0MHu（5.8MJ）

Anode max. cooling rate:	equivalent to 1200KHU/min with IDREAM IR Algorithm
Focal Spot (mm):	Large : 1.0mm x 1.2mm Small : 0.6mm x 1.2mm
mA-Modulation	XY-Z direction ；ECG-mA modulation
Generator	
Power rating output	80 kW;
mA range	10 -667mA @ 1mA step
kV range	70,80,100,120,140 kV
Continuous scan time	100 seconds
Detector	
Material	Solid-state GOS
Number of physical detector rows	64 rows
Acquisition slice @ 360°	128
Acquisition channel per row	864
Total number of detector elements	55296
Total channels per slice	1728
Min.Slice thickness	0.625 mm
Coverage with 64 rows	40 mm
Slip ring	4.25 Gbps transfer rate
Sampling rate	4608 Views/rotation
Acquisition modes	128×0.625 mm、64×0.625 mm、 32×0.625 mm、24×0.625 mm、 16×0.625 mm、8×0.625 mm
Image Quality	
Spatial resolution（X-Y direction）	50% MTF： ≥10 lp/cm ； 10% MTF： ≥17 lp/cm ； 0% MTF：≥21 lp/cm。 @120 kV/120 mA/2.0 s/1.25 mm
Spatial resolution（Z direction）	10% MTF： ≥11 lp/cm 0% MTF：≥15 lp/cm @120kV/200mA/1s/0.625mm/0.5pitch

<table>
<tr><td>Image Noise</td><td>0.35%</td></tr>
<tr><td>Low Contrast resolution</td><td>3.0 mm @ 0.3%
（ 23 mGy @Center ）</td></tr>
<tr><td>CT Hounsfield units</td><td>Water：0±4 HU
Air： - 1000±10 HU</td></tr>
<tr><td>Absorption range</td><td>-1024 ~ +3072</td></tr>
<tr><td colspan="2">Dose optimization</td></tr>
<tr><td>Dedicated pediatric protocols</td><td>Age and weight-based infant and preset pediatric protocols enhance image quality with low dose.</td></tr>
<tr><td>Bolus tracking</td><td>An automated injection planning technique to monitor actual contrast enhancement and initiate scanning at a predetermined level.</td></tr>
<tr><td>X-Y-Z mA modulation</td><td>Automatically controls the tube current, adjusting the signal along the length of the scan. Up to 70% dose reduction</td></tr>
<tr><td>ECG mA modulation</td><td>Dose modulated cardiac scan for dose reduction during the systolic heart phase</td></tr>
<tr><td>Dose Check</td><td>During exam protocol set-up when reference radiation dose levels will be exceeded based on predetermined reference dose levels that can be selected by your facility.</td></tr>
<tr><td>Dose Structured Report</td><td>Captures per-patient dose information for each individual series acquired and reports the total dose for the entire study.</td></tr>
<tr><td>Iterative reconstruction</td><td>IDREAM is an advanced iterative reconstruction technique designed to improve image noise at low dose.
<table>
<tr><td>Level</td><td>Noise reduction to</td><td>Dose reduction to</td></tr>
<tr><td>1</td><td>87.84%</td><td>77.15%</td></tr>
<tr><td>2</td><td>74.81%</td><td>55.97%</td></tr>
<tr><td>3</td><td>68.11%</td><td>46.39%</td></tr>
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4	62.56%	39.14%
5	60.52%	36.63%

CTDI100 Values (mGy) / 100 mAs

Model	Position	70kV	80kV	100kV	120kV	140kV
16cm	A	2.32	3.78	7.45	12.21	17.70
	B	2.14	3.60	6.87	11.26	16.43
32cm	A	0.67	1.16	2. 9	4.46	6.69
	B	1.65	2.77	5.37	8.66	12.47

Scanning Performance

Continuous scan time	up to 100 seconds
Acquisition mode	128×0.625 mm ; 64×0.625 mm
Maximum scan length	1800 mm
Pitch range	0.2~1.75
Scout scan	1800 mm
Scout width	50 cm
Scan direction	Patient in/out
Cardiac Scan Modes	Prospective ECG Gating with Axial SnapShot mode Retrospective ECG Gating Arrhythmia handling
Dynamic scan	40mm Perfusion

Reconstruction Performance

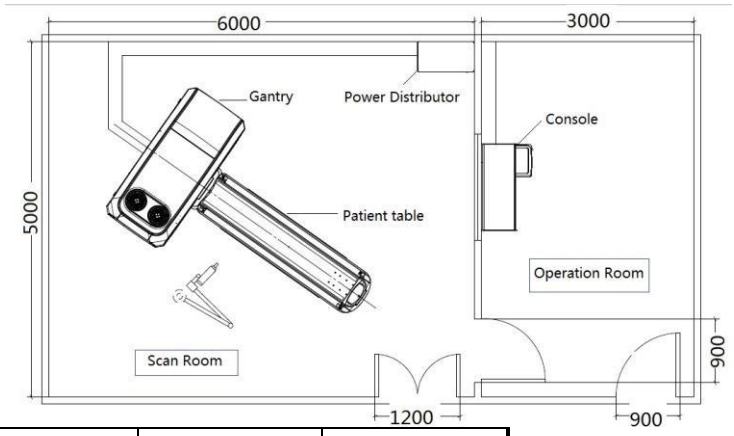
Cone Beam Reconstruction	Cone Beam Reconstruction Algorithm (COBRA) enables true three-dimensional data acquisition and reconstruction from spiral scanning.
Reconstruction speed	40 ips
Reconstruction matrix	512×512 , 768×768 , 1024×1024
Reconstruction FOV	50 mm ~ 500 mm

Extended FOV	50 mm ~ 650 mm
Artifact reduction	Reduce beam hardening and scatter artifact Metal Artifact Reduction
Cardiac Reconstruction	ECG edit Preview Reconstruction RTF (Real time focus) Cardiac FROZEN technology, reduce motion artifact
Console Applications	
Application	Patient management
	2 D image review
	Measurement tools
	MPR，CPR
	3D，Virtual endoscopy
	Film layout ，edit，printing
Post-Processing Insight Vision Workstation	
Advanced Application	-2D Image Graphics Text annotation Cursors for pixel value measurements. Regions of Interest (ROI) measurements Lines, grid and scales for distance measurements, curved and freehand lines for measuring any shape. Arrows for pointing to features. Angle measurements. Histogram of pixel values in a user-defined region of interest.Profile of the pixel values along any line.Grid with adjustable spacing for distance assessment -Volume Rendering 3D -Cardiac Calcium Scoring -Coronary Analysis -Brain Perfusion -Body Perfusion -Virtual Colonoscopy -Lung Nodule Analysis

	-Lung function Analysis -Vessel Analysis -Nerve System DSA -Tumor Analysis -Dental analysis -CT-Filming -CT-Report

Outline Dimensions & Weight :

System Gantry	length (mm) mm	Width (mm) mm	height (mm) mm	Weight kG kg
Table	2200	1021	1969	1800
Console	680	2678	1073	450
Distributor	450	716	652	60



System	800	430	663	170

Working Environment & Siting Requirement

Temperature

Scan room :20 ~ 26 ℃

Operation room:18 ~ 28 ℃

Humidity of Scanning room :

Scan room:30% -70%,Control room:20%- 80%

Atmospheric Pressure : 70 kPa ~ 106 kPa

Power Supply Requirements

Power Capacity ：100 kVA

Input Voltage : Equipped with transformer

Power supply option: 380-480VAC

Voltage Variation : Tolerance < ±10%

Frequency ：50Hz/60Hz±1Hz

Environment Requirements

Min. Area of scanning room :

22.4m^2 (5.6m×4.0m)

Recommended Room Size : 30m^2 (6.0m×5.0m)