MEDIRAYS
Imaging. Redefined.

MEDIRAYS CORPORATION
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32 Slice Acquisition CT

Insitum CT 338

GOLDEN PIN DESIGN AWARD

Winner of "Golden PIN Design Award" for best designed product under " Product Design " Category

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Description:

Enter the high-precision world with the Insitum CT 338. Designed to deliver high image quality and advanced dose reduction for maximum diagnostic versatility. Detect pathologies and view anatomical structures with unprecedented detail , thanks to SINOVISION innovative technologies and design.

Detector Width : 0.6 mm x 32 slices = 19.20 mm Detector width

Confidence for your clinical performance

Large Aperture	70cm
High power rate	42kW ; equivalent to 65kW with IDream
High Tube current	350 mA : equivalent to 540 mA with IDream
Multi-tube voltage	70,80,100,120,140kV
High Definition	**32 slice acquisition**
High heat capacity	3.5MHu ; equivalent to 6.0 MHu with IDream
Reconstruction Matrix	**Upto 1024 x1024**
High Load capacity	206kg
Rotation speed	0.7 second@360°

High-quality thin-slice images	Easy to use	Optimize your Workflow

**With iterative reconstruction technology at maintained image quality the same clinical results can be achieved with less dose,filling up the heat storage of the system more slowly, therefore increasing the heat storage capacity*

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InsitumCT 338 System Specifications

Gantry System

Gantry Aperture: 70cm

Tilt: +/-45° digital

Rotation speed（@360°）: **0.7sec**, 0.8sec, 0.9sec 1.0sec, 1.5sec, 2.0sec

Focus to detector Distance: 968mm

ISO Center to ground Distance: 900mm

Axial position accuracy：≤ 1 mm

Coronal and Sagittal position accuracy：≤ 2mm

Multifunction LCD touch screen.

Operation console

CPU：4 cores, 3.0GHz

Memory：DRR4 ECC 16GB

Hard disk capacity：2TB

Image storage capacity：up to 1,200,000

DVD-RW Driver

USB Interface Driver Monitor

Display：24” LCD monitor

Display matrix: 1024×1024

X-Ray Tube

Designed for long life with no tube cooling delay. Fast heat dissipation minimizes the need for waiting times due to cooling

Anode heat capacity- 3.5 MHU ;

equivalent to 6.0 MHU with IDream.

Focal Spot size : 1.2mm x 1.4mm (L)
0.7mm x 0.8mm (S)

Max. anode heat dissipation Rate：735 kHU/min；

Patient Table with Up/Down Movement

Table board width：42 cm

Table load capacity：206 kg

Max. range of horizontal movement：1600 mm

Position accuracy：±0.25 mm

Horizontal movement speed：2.5-150 mm/s

Vertical Movement Range：350 mm

Min. table height: 540 mm

Control mode: remote and operation panel

Operation control speed: 20 mm/s and 150 mm/s

Detector system

Detector channel: 18432

Total channel no per row：768

Slice thickness：0.6mm

Detector width：19.2mm

Data transfer rate：4.25 Gbps

Data sampling rate：2304 Views/rotation

Data acquisition mode：

32×1.2mm,32×0.6mm

Generator

Max. Output: 42kw ; equivalent to 65kW with IDream.

MA range: **10mA~350mA**

kV range: **70kV**/80kV/100kV/120kV/140kV
Continuous scan time : 100 sec

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Spiral scan

Scan speed @ 360° : 0.7s, 0.8s, 0.9s, 1.0s
kV option : 70, 80, 100, 120, 140kV
mA option : 10-350mA
Max. exposure time : 100 sec
Helical Pitch Factor : 0.3~1.5 multi option

Reconstruction Parameters

*I*mage Slice Thickness :

0.6mm,1mm,2mm,3mm,5mm,7mm,10mm
Image Interval : 0.1mm Reconstruction FOV:
50 mm ~ 600 mm Reconstruction Matrix
512 × 512,768 × 768,**1024 × 1024**
Reconstruction speed:12 images/sec

Scanning Modes:

Continuous scan :360°
Continuous scan time: 100 second
Maximum helical scan range: 1400mm
Scan mode: table in/table out
Image reconstruction: multi added reconstruction

Axial Scan

32 slice per rotation acquisition

Scan speed @ 360° : 0.7s, 0.8s, 0.9s, 1.0s
1.5s, 2.0s
Image Slice Thickness
0.6mm, 1.2mm, 2.4mm, 4.8mm, 9.6mm
Image kV option : 70, 80, 100, 120, 140kV
mA option : 10-350mA

Acquisition mode : 16 × 0.6 mm,32 × 0.6 mm
16 × 1.2 mm,32 × 1.2 mm

Reconstruction Parameters

Image Slice Thickness :
0.6mm,1.2mm,2.4mm,4.8mm,9.6mm
Reconstruction Matrix
512 × 512,768 × 768,**1024 × 1024**
Reconstruction speed :12 images/sec
Auto mA
Optimizes the dose for patient based on the planned scan by suggesting the lowest possible mAs settings to maintain constant image quality at low dose throughout the exam.

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Dose Management

Auto mA modulation

Optimizes the dose for each patient based on the planned scan by suggesting the lowest possible mAs settings to maintain constant image quality at low dose throughout the exam.

DoseCheck

DoseCheck enables the ability to set dose thresholds and provides alerts and notifications to the scan operator when radiation dose levels will be exceeded.

Dose summary table

Captures per-patient dose information for each individual series acquired and reports the total dose for the entire study. The dose summary table can be sent to PACS or a workstation along with the study for easy review by the radiologist.

DICOM structured report for Dose

Dose SR complies with the IEC, DICOM PS and IHE standards for dose reporting. The report includes CTDIvol and DLP dose values.

Dose Displays

Volume Computed Tomography Dose Index (CTDIvol)
Dose Length Product (DLP)
Dose Efficiency

Dedicated Pediatric Protocols

Developed in collaboration with top children's hospitals, Age and weight-based infant and pediatric protocols ensure the best clinical results with minimal dose.

Iterative Reconstruction

IDream（Iterative dose reduction algorithm）
The benefit of this reconstruction is that it moves the iterative reconstruction loop based on system noise model , significantly reduce noise and enhance object contrast step-by step. IDream can be used to significantly reduce dose while preserving and even improving image quality compared to standard full dose exams.

Clinical Applications

Image Viewer

user-defined preset windows provide fast and convenient window setting. Mouse-driven fine adjustments of the window center and width enable optimal image viewing

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

-Multi Planar reconstruction（MPR）-
Maximum intensity Projection (MIP) -
Minimum intensity Projection (MinIP) -3-D
SSD Reconstruction
-3-D Volume Rendering -
Endo-3D
-Bolus Tracking -
Image Filming

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Application on workstation：

-Lung nodule analysis*

Providing quantitative information about the size, shape, and change over time of physician-indicated lung nodules.

The package provides one-click volume segmentation and view lesions information;

-CT Perfusion*

Perfusion generated advanced data like perfusion map and blood flow imaging application , ROI analysis can be performed.

-Vascular Analysis *

Bone Removal function;

Vessel Extraction and Labeling ;

Editing vessel centerline; Vessel Measurement Tool;

Saving and reading processing results .

-Virtual Colonoscopy *

CT Virtual Colonoscopy allows clinicians to perform a "virtual dissection" of the colon by unfolding or unrolling along the centerline and displaying a portion of the colon for inspection,

Auto-segmentation Colon;

Extraction Colon centerline;

Editing segmentation result and centerline;

Fly-through;

Saving and reading processing results

Volume Rendering

-3-D SSD Reconstruction

-3-D Volume Rendering

-3-D Endoscopy

-Dental analysis*

Images can be rotated and adjusted to find the appropriate location, angle, and depth for surgery.Displaying Axial Image and 3D Image; Define and edit curve; Creating panoramic image and sectional images; Creating true-size film images; Saving and reading processing results；

-Advanced Vascular analysis(DSA) *

Can subtract CTA data between contrast and non-contrast; Can remove bone and display subtract result and generate new data series ；

-Tumor Analysis *

Providing tumor segmentation and measurement

Displaying tumor measurement result, including RECIST Diameter, WHO Area, Lesion Volume, etc.;

-Lung Function Analysis *

Extraction of both lung, and displaying 3D image of the left and right lungs and the trachea;

Can calculate the volume of emphysema, left lung, right lung and trachea;

Can calculate the percentage of emphysema volume;

-MPR review

-Multi Planar reconstruction（MPR）-

Maximum intensity Projection (MIP) -

Minimum intensity Projection (MinIP)

-Vessel Analysis

Vessel analysis is a great tool that can be used to identify the composition of the contents of vasculature. Measurements are provided for vessel assessment, including maximum and minimum cross section diameters, lumen areas. Following functions is supported in Vessel Analysis Application.

*Optional item on workstation