



# *Essence*

## NeuViz 16

Computed  
Tomography

Elevating routine imaging  
for exceptional results

# NeuViz 16

## Raising the bar on clinical utility in routine imaging.

Get more.

More clinical information for patients.

More insight for your clinicians.

More confidence in your patient care and bottom line.

Despite rapid advances in CT technology, the 16-slice CT scanner remains the most commonly used scanner for non-cardiac imaging. The workhorse of diagnostics, a 16-slice scanner typically costs 30-40% less than a 64-slice system with 20-30% lower annual service expenses. Meanwhile, there's no increase in reimbursement for non-cardiac imaging using a 64 over a 16. With reimbursement stagnating, healthcare providers must compare the clinical and financial benefits of imaging with 16-slice versus 64-slice technology.

Now there is a solution that simplifies the decision with advanced imaging capabilities at 16-slice costs.

Neusoft took the ease of use and reliability of its mature NeuViz 16 CT system and combined it with the technical and clinical innovations of the NeuViz 128-slice platform to create the unparalleled NeuViz 16 Essence. With cutting-edge technology and a full complement of advanced applications – at no additional cost – the Essence represents the best value in the 16-slice market.

## Invest Wisely

Neusoft delivers more functionality and a lower total cost of ownership:

- Extended warranty including non-prorated tube coverage.
- FREE Applications support.
- FREE software upgrades for life — no service contract required.

Advanced Clinical Applications

Improving the Patient Experience

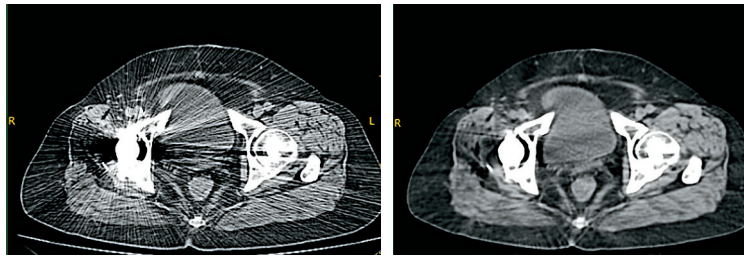
Lowering Patient Dose

Low-Dose Innovation

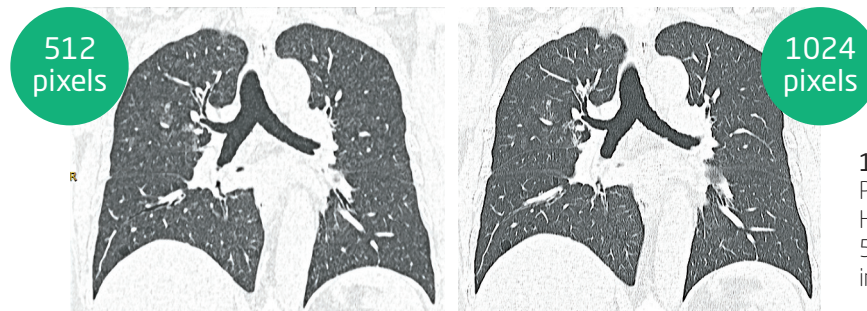
ClearView Iterative Reconstruction

Systems Specifications

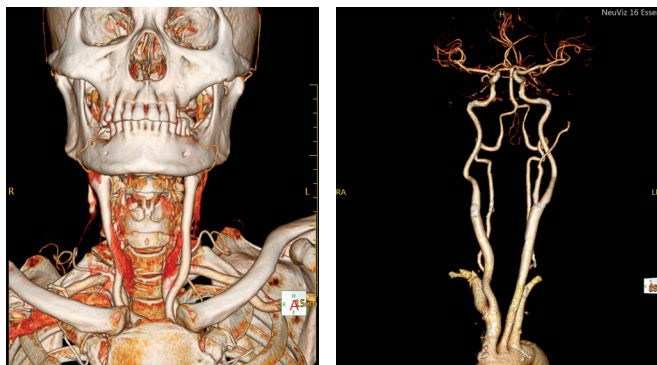
# Advanced Clinical Applications are the Neusoft Standard



**Metal Artifact Reduction (MAR):** Software constructs front projection, anatomy, and noise models from the raw data and image data while removing the streaking artifact.



**1024 Matrix Imaging:** Provides million-pixel HD imaging through 512 and 1024 matrix imaging.



**Head and Neck Bone Removal:** Neuro studies become effortless and can be performed at the CT console.

## Included Applications:

- Clearview Iterative Reconstruction
- O-Dose 3D Dose Modulation
- Metal Artifact Reduction
- 1024 Matrix Imaging
- Head and Neck Bone Removal
- Auto kV
- Virtual Endoscopy
- Vessel Analysis
- 

## Optional Applications:

- Brain Perfusion
- Body Perfusion
- Lung Density Analysis
- Lung Nodule Analysis
- Dental Analysis
- CT DSA
- Tumor assessment



## Improving the Patient Experience

U.S. workers shoulder out-of-pocket healthcare expenses averaging \$1,478.<sup>1</sup> As a result, patients are more informed, cost sensitive and selective in making healthcare purchases.

Attracting patients with competitive technology is the first step in exceeding expectations and delivering a positive scanning experience. The NeuViz 16 Essence offers a wider bore, optimal gantry tilt and minimal couch height of 43 cm for easy access for all patients, and a stable couch for patient comfort.

## Focusing on Lowering Patient Dose

In the longer term, attention to low dose innovation ensures that a patient's radiation dose remains as low as possible to avoid adverse health effects.

Neusoft is continually advancing low-dose imaging technology and has joined other medical imaging manufacturers in the MITA Smart Dose campaign to set dose standards, putting patients first. In line with this commitment, the NeuViz 16 Essence is in full compliance with MITA Smart Dose (XR 29) standards



*Neusoft is continually advancing low-dose imaging technology to improve patient safety. Neusoft has joined other medical imaging manufacturers in the MITA Smart campaign to set dose standards, putting patients first. The NeuViz 16 Essence complies with MITA Smart Dose (XR 29) standards.*

<sup>1</sup>The Kaiser Family Foundation and Health Research & Educational Trust. 2016 Annual Survey: Employer Health Benefits. <http://files.kff.org/attachment/Report-Employer-Health-Benefits-2016-Annual-Survey>.



# Low-Dose Innovation



## Organ Safe

A unique approach to reducing direct x-ray exposure to radiosensitive organs.



## New Detector Design

Improved conversion efficiency and afterglow.



## 240° Exposure

Partial rotations limit exposure to the attending clinician during biopsies and play a central role in organ-based dose modulation.



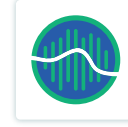
## ClearView

Iterative processing in projection and image spaces delivers dose reduction.



## Pediatric Protocols

Age- and weight-based protocols that lower and optimize dose to pediatric patients.



## 3D-Dose Modulation

O Dose modulates mA ensuring the optimum dose is used for the specific anatomical region being imaged.

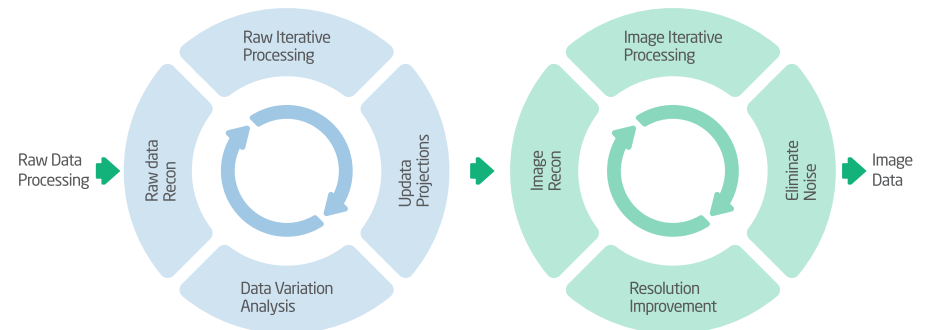


## Dose Check

With NEMA XR-25 compliant functionality, Dose Check prevents accidental over exposure to safeguard patient safety.

## ClearView Iterative Reconstruction

Iterative processing in both projection and image spaces delivers dose reduction while improving overall diagnostic image quality.



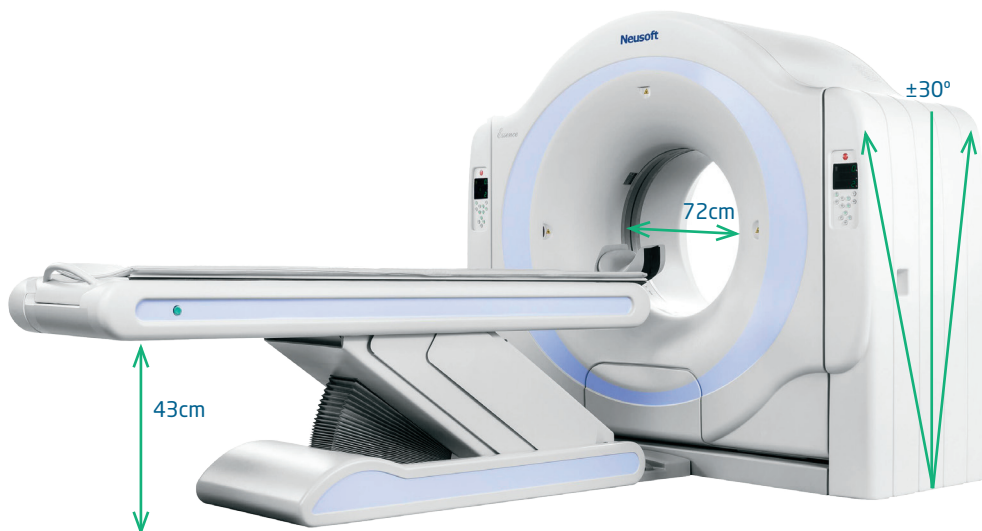
ESSENCE

# NeuViz 16 Essence Specifications

GANTRY	
Aperture	72cm
Scan FOV	50cm
Tilt	±30°
Scan speed (360°)	0.5s, 0.6s, 0.75s, 1.0s, 1.5s, 2.0s
Focus-to-isocenter distance	570mm
Focus-to-detector distance	1040mm
DATA ACQUISITION SYSTEM	
Maximum number of slices/rotation	16
Number of detector rows	32
Number of detector elements	672 x 32
Maximum number of projections/rotation	4640
Surview acquisition modes	2 x 0.625
Axial acquisition modes	16x1.25, 16x0.625, 8x0.625, 2x0.625
Spiral acquisition modes	16x1.25, 16x0.625, 8x0.625
Detector type	Solid-state GOS ceramic
X-RAY TUBE ASSEMBLY	
Tube	Varex GS5179
Tube current range	10mA~420mA
Tube voltage	80kV, 100kV, 120kV, 140kV
Tube anode heat storage capacity	5.3M
Maximum cooling rate	9.6kW (815KHU/min)
Focal spot size	GS5179 0.5x1.0 (Small); 1.0x1.0 (large)
FILTER SYSTEM	
Equivalent	Total filtration: min. 1.5mm Al equivalent
Beam limiting device	Equivalent to 6.68mm Al
GENERATOR	
Maximum power	50kW

COUCH	
Maximum couch load	205kg/452 lbs; 300kg/661 lbs (option)
Horizontal motion speed	1mm/s-160mm/s
Vertical movement range	430mm-970mm (from cradle bottom to ground)
Vertical motion speed	9mm/s-15mm/s
Couch horizontal movement range	0-1770mm
HOST COMPUTER SYSTEM	
The host computer workplace provides an intelligent and reliable workflow for data acquisition, image reconstruction and routine post processing at the CT scanner.	
Standard monitor	19 inches; 1,280 x 1,024 resolution
RAM storage	Host: 8GB; Recon: 32GB
SYSTEM PERFORMANCE	
Surview	
Maximum length	1650mm
Scan width	500mm
Views	A.P., lateral, dual
Real-time surview	Yes
Axial	
Slice thickness	0.625mm, 1.25mm, 2.5mm, 5mm, 10mm
Reconstruction FOV	50mm~500mm
Maximum Length	1700mm
IMAGE RECONSTRUCTION	
Maximum recon speed	12 image (s)
Recon matrix	512 x 512, 768 x 768, 1024 x 1024
CT value	-1024~3072; Support extended -32768~32767
Slice thickness	0.625mm, 0.8mm, 1mm, 1.25mm, 1.5mm, 2mm, 2.5mm, 3mm, 4mm, 5mm, 6mm, 7mm, 8mm, 9mm, 10mm
Reconstruction FOV	50mm~500mm
Scan time	Maximum 100s (uninterrupted)
Scan length	1700mm
Pitch factor	0.3 to 2.0 (continuous)

IMAGE QUALITY	
<b>High contrast resolution</b>	
X-Y-Plane	0%MTF 17lp/cm, 0.29mm
Technique	245mA, 120kV, 1s, 0.625mm
<b>Low contrast resolution</b>	
Low contrast resolution	4.0mm@0.3%
Image noise	≤0.35%
Technique	170mA, 120kV, 1.5s, 10mm
Uniformity of CT value	Less than ±4HU (water CT number)
Accuracy of CT value	Air: -1000HU±10HU



## Siting Information

OUTLINE DIMENSIONS AND WEIGHT	
Gantry dimensions	2244mm (L) x 890mm (W) x 1920mm (H)
Gantry weight	1800kg
Gantry package	2370mm (L) x 1030mm (W) x 2250mm (H)
Couch dimensions	2400mm (L) x 610mm (W) x 1055mm (H)
Couch weight	350kg
Couch package dimensions	2570mm (L) x 970mm (W) x 1230mm (H)
Console dimensions	610mm (L) x 660mm (W) x 685mm (H)
POWER SUPPLY REQUIREMENTS	
Rated power	80kVA
Input voltage	380/400VAC 3-phase 5-line 3-phase 4-line (equipped with isolate transformer), power supply from below options: 190/200/208/220/230/240/380/400/415/440/460/480VAC
Voltage variation	±10%
3-phase unbalance	≥5%
Frequency	50/60Hz±1Hz
Ground resistance	4Ω (independent grounding system); 1Ω (complex grounding system)
Minimum area of scanning room	5550mm × 3650mm
Minimum area of operating room	1700mm × 3650mm
OPERATING ROOM	
Recommended room size	Operating room: 3000mm × 4600mm; Scanning room: 6000mm × 4600mm
Minimum ceiling height	2010mm
Temperature of scanning room	18°C~24°C
Temperature of operating room	18°C~28°C
Humidity of scanning room	30%~60%
Humidity of operating room	20%~80%
Atmospheric pressure	70kPa~106kPa
Temperature of transportation and storage	-20°C~+55°C
Humidity of transportation and storage	10%~90%, (no condensation)
Running noise	No more than 70dBa





Contact Neusoft Medical Systems USA to learn more about the NeuViz 16 Essence and FREE software upgrades for the life of your scanner.

**Call 1-866-520-2626**

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