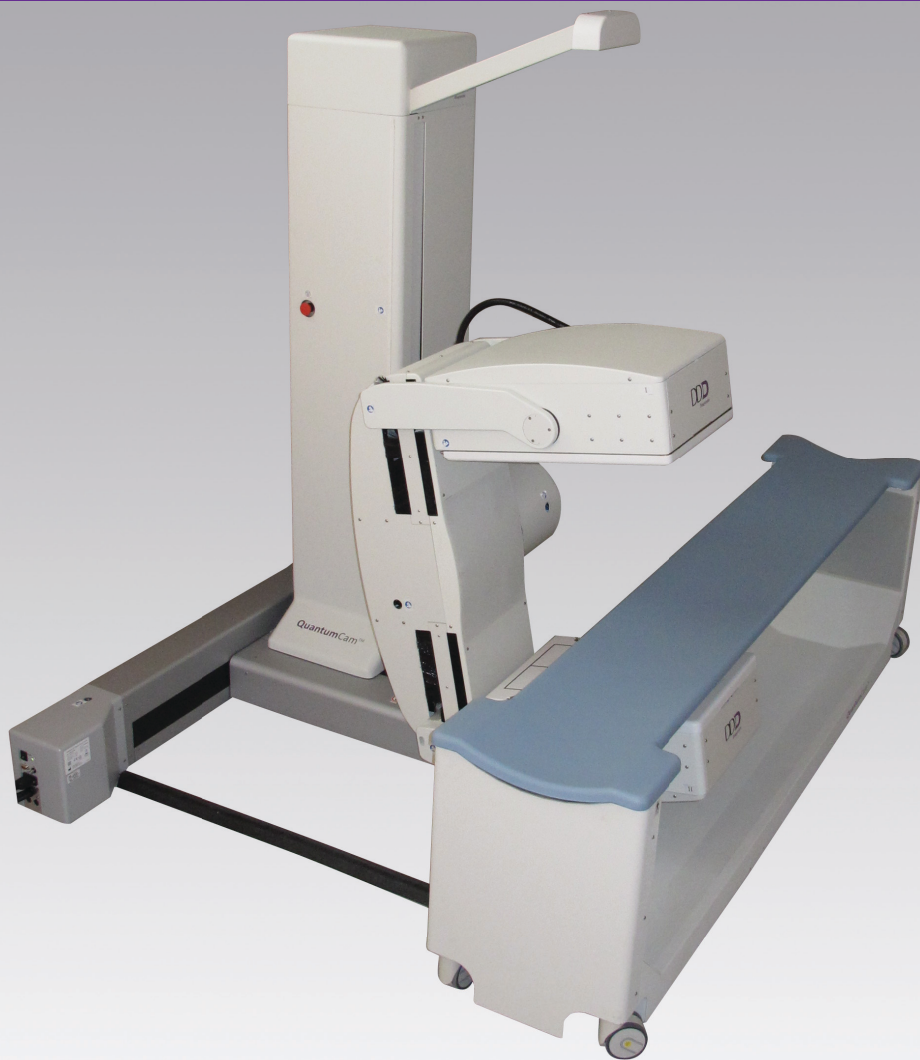




Technical Specifications

QuantumCam™

Detectors

Detector Specifications	Value
Field of View (FOV)	540 mm x 312 mm
Useful Field of View (UFOV)	540 mm x 300 mm
Energy Range	55 – 400 keV
Crystal	Value
Size	592 mm x 358 mm
Thickness	9.5 mm
Photomultiplier Tubes	Value
Total Number	80 (40 in each detector)
Size	78 mm / 3"
Type	Square PMT with built-in Light Emitting Diode
Array	Rectangular

NEMA 2007 Specifications

NEMA Specification	Value
Intrinsic Energy Resolution	
FWHM in UFOV	< 9.7 %
Intrinsic Spatial Linearity	
Differential in CFOV	< 0.2 mm
Differential in UFOV	< 0.2 mm
Absolute in CFOV	< 0.5 mm
Absolute in UFOV	< 0.5 mm
Intrinsic Spatial Resolution	
FWHM in CFOV	< 3.9 mm
FWHM in UFOV	< 3.9 mm
FTM in CFOV	< 7.8 mm
FTM in UFOV	< 7.8 mm
Intrinsic Flood Field Uniformity	
Differential in CFOV	< 2.5 %
Differential in UFOV	< 3.0 %
Integral in CFOV	< 3.5 %
Integral in UFOV	< 4.0 %
Intrinsic Count Rate Performance	
Maximum Count Rate (in air, without scatter)	300 kcps
Maximum Count Rate (with scatter)	180 kcps
Maximum Count Rate (20% loss in air without scatter)	200 kcps
Maximum Count Rate (20% loss with scatter)	120 kcps
System Spatial Resolution Without Scatter (LEHR at 10 cm)	
FWHM in CFOV	< 7.8 mm
FTM in CFOV	< 15 mm
Multiple Window Spatial Registration	< 2 mm
Intrinsic Spatial Resolution @ 75 kcps	
FWHM in UFOV	< 4.0 mm
FTM in UFOV	< 7.9 mm
Intrinsic Flood Field Uniformity @ 75 kcps	
Differential in CFOV	< 2.7 %
Differential in UFOV	< 3.2 %
Integral in CFOV	< 3.7 %
Integral in UFOV	< 4.2 %
System Spatial Resolution with Scatter (LEHR at 10 cm)	
FWHM in CFOV	< 8.5 mm
FTM in CFOV	< 17 mm
Reconstructed Spatial Resolution with Scatter (LEHR)	
Center	< 12 mm
Radial	< 12 mm
Tangential	< 12 mm

Gantry

Gantry Dimensions	Value
Weight with High-Energy Collimators	~ 2340 kg
SPECT Rotation Range	+/- 1800
Angular Sampling	0.70 – 5.60
Rotational Speed	< 1 rpm
SPECT Manual Rotation Speed	0.2 – 0.9 rpm
Detector Configuration Positions	0°, 90°, 180°
Max. Caudal Tilt	No Caudal Tilt
Cardiac Dead Space	2.54 cm
Min./max. Patient Opening (HE Coll)	186 – 674 mm
Min./max. Patient Opening (LEHR Coll)	160 – 700 mm
Brain SPECT	Available
Brain Reach	9 cm
Automatic Bodycontouring	Available
Maximum Scan Length	205 cm
Wholebody Scan Speed	3 – 180 cm / minute
Vertical Outer Room Reach (VORR)	200 cm
Horizontal Outer Room Reach (HORR)	100 cm

Patient Bed

Patient Bed Specifications	Value
Pallet Width	38 cm
Pallet Length	248 cm
Pallet Height (Fixed, from floor)	72 cm
Pallet Material	Aluminium
Pallet Thickness	3.0 mm
Attenuation @ 140 keV	< 10 %
Max. Patient Weight	200 kg (440 lb)

Collimators

Type \ Specification	LEGP	LEHR	LEUHR	MEGP	HEGP
	Low Energy General Purpose	Low Energy High Resolution	Low Energy Ultra-High Resolution	High Energy General Purpose	High Energy General Purpose
Hole Shape	Hexagonal	Hexagonal	Hexagonal	Hexagonal	Hexagonal
Hole Size	1.8 mm	1.4 mm	1.2 mm	2.5 mm	3.0 mm
Septa	0.2 mm	0.15 mm	0.16 mm	1.2 mm	1.75 mm
Hole Length	30 mm	30 mm	30 mm	35 mm	43 mm
Construction	Foil	Foil	Foil	Cast	Cast
Septal Penetration	1.2% @140 keV	1.5% @140 keV	0.69% @140 keV	1.4% @260 keV	4.8% @364 keV
Sensitivity	270 Cpm / μ Ci	190 Cpm / μ Ci	130 Cpm / μ Ci	250 Cpm / μ Ci	183 Cpm / μ Ci
Spatial Resolution @ 0 cm	4.4 mm	4.2 mm	4.1 mm	5.0 mm	N/A
Spatial Resolution @ 10 cm	9.1 mm	7.8 mm	7.0 mm	12 mm	16.5 mm

Collimator Exchange Cart

Collimator Exchange Cart	Value
Exchange System Type	Semi-automatic
Collimator Storage	1 cart/Collimator Pair
Height	~ 85 cm
Width	~ 50 cm
Depth	~ 60 cm

Resolution QC Phantom (Intrinsic Bar Phantom)

Resolution QC Phantom	Value
Field 1	2.5 mm
Field 2	3.0 mm
Field 3	3.5 mm
Field 4	4.0 mm

Cardiac Gating Option

Cardiac Gating Option	Value
ECG Type	External
No. of Frames Gated SPECT	8, 16
No. of Frames Gated Planar	8, 12, 16, 24, 32, 64
% R-R Framed	50 – 100 %
R-R Interval	User Defined when 'Fixed', range 250 – 2500 ms or Determined by patient heart beat
R-R Acceptance Window	10, 15, 20, 25, 50 % or OPEN
BVC PVC Rejection	0 – 3

Room Layout (Footprint)

System Environmental Requirements	Value
Footprint	(W) 290 x (L) 197 x (H) 214 cm (H) 225 cm (with ABC option)
Installed System Weight (without collimators)	~ 2144 kg
Floor Loading	1 kg / cm ² Patient Table Load – 41 kg/ cm ²
Electrical Supply	230 V AC $\pm$ 10% 50/60Hz $\pm$ 5%
Heat Dissipation	700W
Nominal Power on System	2875VA
Fuse (slow blow)	12.5 A
Temperature Range	15 °C – 30 °C
Maximum Temperature Gradient	3 °C per hour

Acquisition Computer

PC Hardware Specifications * Minimum Configuration	Value
Processor	Intel i5 2.7 Ghz
Hard Drive Capacity	500 GB
Memory	4 GB RAM
Optical Drive	Optical DVD Writer
Monitor	24" LCD Monitor