PaX-i3D Green Product Data

(Model: PHT-60CFO)

(Detector: AnyPano / AnyCeph, TOK-Troy, R-Troy / Concord1 Master Plus, Concord2 Master Plus)

Version : v1.0.0

1. General Description

1.1. Key Function

The brand PaX-i3D (model named PHT-6500) is an advanced digital dental diagnostic system that provides 3D CT imaging, Panoramic, and Cephalometric imaging capabilities into one equipment securing the space efficiency and cost saving. Also, the revolutionary platform of PaX-i3D provides a wide range of imaging option based on the customer's diagnostic needs. Its advanced digital imaging process allows for a considerably more efficient diagnosis, well-rounded management of information, and a real-time sharing of image information over a network.

- 3 in 1 – CBCT, Panoramic, Cephalometric
- Auto-Switching between PANO and CT sensors, without the mounting and removal of sensor.
- CT FOV
  - Xmaru1215CF Master Plus : 10x8 multi(10x8, 8x8,5x5)
  - Xmaru1524CF Master Plus : 16x10 multi(16x10,12x9, 8x8,5x5)
- Superior Image Processing Algorithm
  - MAR (Metal Artifact Reduction): the effects of metal artifact reduction, in order to acquire a much clearer image
  - Auto-Focusing: Acquire accurate images, regardless of the arch shape and positioning of the patient (optional)
  - UHD: Generates High-definition quality panoramic images (optional)
  - Magic PAN: a feature with an AF to acquire the sharper image, based on the principle of reconstruction through the optimal focal points to correct the improper patient positioning and rotating unit's trajectory (Optional)
- Multiple modes supported, based on the Cephalometric sensors
  - Multi-FOV (FOV 12 x 10, 9 x 10, 8 x 8) : OP type
  - Multi-FOV (FOV 9 x 10, 8 x 8) : OS type
  - Full lateral mode : Scan type
- Supports DICOM format based on the governing international standards.

1.2. Product options

Option	Description	Remark
PaX-i3D Green SP	Panoramic & CT	
PaX-i3D Green SC	Panoramic, Cephalometric & CT	CEPH: Scan type
PaX-i3D Green OS	Panoramic, Cephalometric & CT	CEPH: One shot type (TOK Troy)
PaX-i3D Green OP	Panoramic, Cephalometric & CT	CEPH: One shot type (R-Troy)

2. Functional Specification

2.1. PANORAMIC

2.1.1. Summary

PaX-i3D conditionally offers 4 levels of panoramic imaging system.

Level	Imaging Option	Market	
		Global	Korea
Basic	Pano examination / Special examination	Default	Default
Intelligent	Auto-Focusing function is applied in only Standard Examination	Optional	Default
Ultra HD	Pano examination except of Special Examination	Optional	Default
Magic Pan	Magic PAN function is applied in only Standard Examination.	Optional	Default
Fast Scan	Pano examination	Nonuse	Default

2.1.2. Examination MODE & Scan Time

EXAMINATION	ARCH SELECTION	MODE	SCAN TIME (s)			
			UHD	HD	Normal	Fast
PANO EXAMINATION	Narrow	Standard	20.2	13.5	10.1	7.4
		Right	10.1	6.7	5.1	3.7
		Front	16.7	11.1	8.4	6.1
		Left	10.1	6.7	5.1	3.7
	Normal	Standard	20.2	13.5	10.1	7.4
		Right	10.1	6.7	5.1	3.7
		Front	16.7	11.1	8.4	6.1
		Left	10.1	6.7	5.1	3.7
	Wide	Standard	20.2	13.5	10.1	7.4

EXAMINATION	ARCH SELECTION	MODE	SCAN TIME (s)			
			UHD	HD	Normal	Fast
		Right	10.1	6.7	5.1	3.7
		Front	16.7	11.1	8.4	6.1
		Left	10.1	6.7	5.1	3.7
	Child	Standard	17.2	11.5	8.6	7.4
		Right	8.6	5.7	4.3	3.7
		Front	13.7	9.2	6.9	6.1
		Left	8.6	5.7	4.3	3.7
	Orthogonal	Standard	20.2	13.5	10.1	7.4
		Right	10.1	6.7	5.1	3.7
		Front	16.7	11.1	8.4	6.1
		Left	10.1	6.7	5.1	3.7
		Bitewing	14.4	9.6	7.2	-
		Bitewing Incisor	3.7	2.5	1.9	-
		Bitewing Right	7.2	4.8	3.6	-
		Bitewing Left	7.2	4.8	3.6	-
SPECIAL EXAMINATION	-	TMJ LAT Open		6.1	4.6	-
		TMJ LAT Close				
		TMJ PA Open		7.0	5.3	-
		TMJ PA Close				
		Sinus LAT		6.0	4.5	-
		Sinus PA		10.3	7.7	

Panoramic Sample Image

[Pano_Normal_Standard_HD]

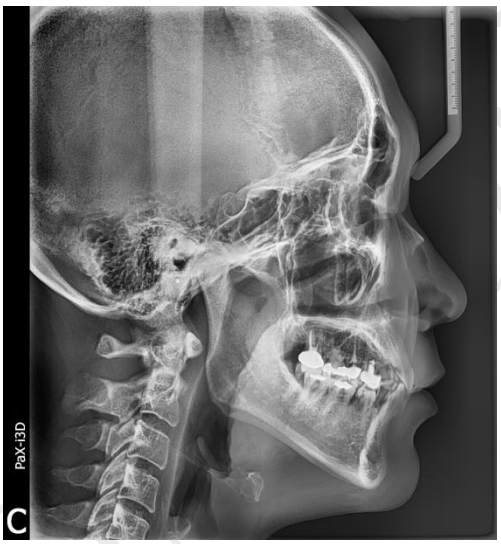
2.2. CEPHALOMETRIC

2.2.1. Examination Programs & Scan Time

<SC type : Function is being developed>

EXAMINATION PROGRAM	Normal SCAN TIME (s)	Fast SCAN TIME (s)
Lateral	12.9	3.9
PA	12.9	4.9
SMV	12.9	4.9
Waters View	12.9	4.9
Carpus	12.9	4.9
Full Lateral	16.9	-

Cephalometric sample image



[SC Lateral]

[SC PA]

<OS/OP Type>

EXAMINATION PROGRAM	OS EXPOSE TIME (s)	OP EXPOSE TIME (s)
Lateral	0.7	0.7
PA	0.9	0.9
SMV	0.9	0.9
Waters View	0.9	0.9
Carpus	0.9	0.9

Cephalometric sample image

[OP Lateral]

[OP PA]

2.3. CBCT

2.3.1. FOV & Examination Position

FOV Size	VERTICAL POSITION		HORIZONTAL POSITION			Remark
			Right	Center	Left	
50 x 50	Mx.	O	a specific tooth selectable			
	Occl.	X				
	Mn.	O				
	TMJ	X				
80 X 80	Mx.		O	O	O	
	Occl.		O	O	O	
	Mn.		O	O	O	
	TMJ		O	X	O	
100 x 80 120 X 90	Mx.		X	O	X	
	Occl.		X	O	X	
	Mn.		X	O	X	
	TMJ		X	X	X	
160 x 100	Mx.		X	O	X	
	Occl.		X	O	X	
	Mn.		X	O	X	
	TMJ		X	O	X	

2.3.2. Scan Time

	Standard	High
Scan time	5.9 s	5.9 s

2.3.3. Reconstruction Time & File Size(Xmaru1215CF Master Plus)

FOV(mm)	Voxel Size	Reconstruction Time (s)				File Size (MB)
		STANDARD (SCAN TIME: 5.9 s)		HIGH (SCAN TIME: 5.9 s)		
		*MAR SKIP	*MAR APPLY	MAR SKIP	MAR APPLY	
50 x 50	0.12	20	38	20	38	137
	0.20	14	26	14	26	29.4
80 x 80	0.20	24	48	24	48	122
	0.30	18	40	18	40	35.4
100 x 80	0.20	32	70	32	70	188
	0.30	22	53	22	53	54.5

** MAR: Metal Artifact Reduction*

** Image reconstruction time varies depending on computer specification and/or working condition.*

The above data is obtained from a computer system which is based on the HP Workstation Z420:

*Intel Xeon E5-1607 3Ghz 1600 4C or faster CPU, 8GB(4GB*2) DDR3-1600 RAM, NVIDIA Geforce GTX 660 TI/2.0GB.*

2.3.4. Reconstruction Time & File Size(Xmaru1524 Master Plus)

*

FOV(mm)	Voxel Size	Reconstruction Time (s)				File Size (MB)
		STANDARD (SCAN TIME: 5.9 s)		HIGH (SCAN TIME: 5.9 s)		
		*MAR SKIP	*MAR APPLY	MAR SKIP	MAR APPLY	
50 x 50	0.12	20	34	20	34	137
	0.20	13	24	13	24	29.4
80 x 80	0.20	27	50	27	50	122
	0.30	20	40	20	40	35.4
120 x 90	0.20	36	78	36	78	308
	0.30	26	56	26	56	90.7
160 x 80	0.20	60	142	60	142	188
	0.30	35	77	35	77	54.5

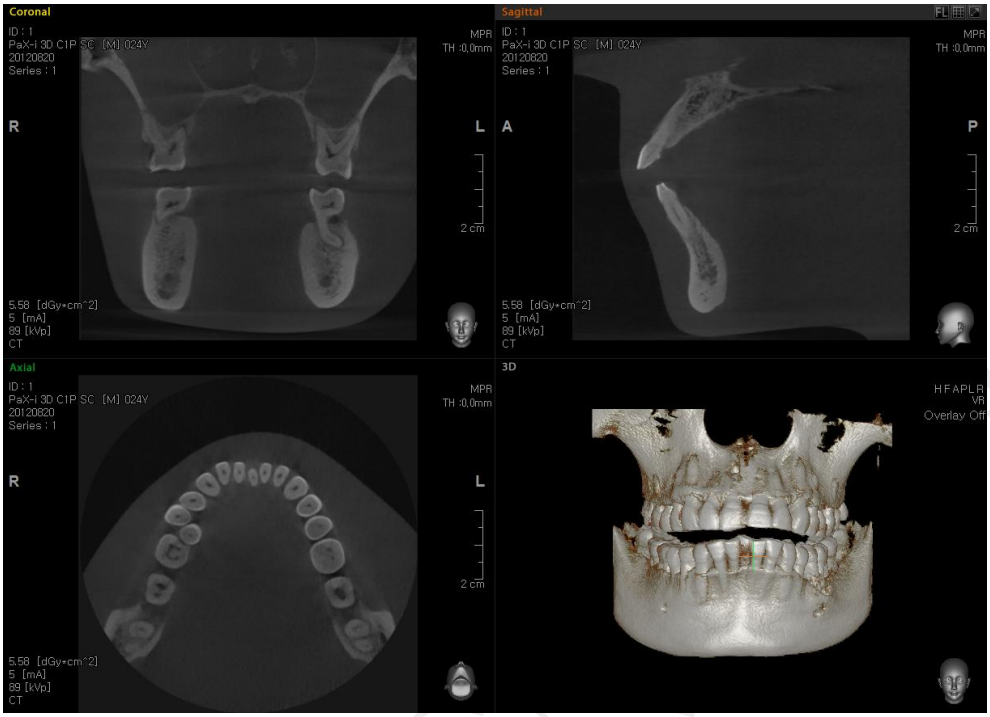
MAR: Metal Artifact Reduction

** Image reconstruction time varies depending on computer specification and/or working condition.*

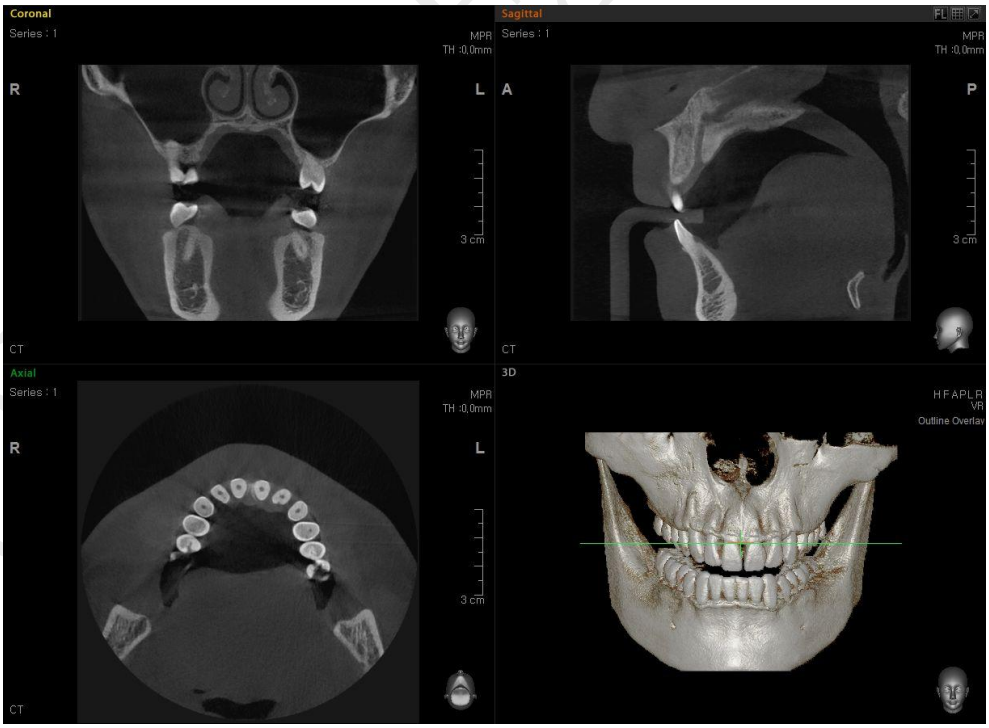
The above data is obtained from a computer system which is based on the LENOVO Workstation S30:

*Intel Xeon E5-1620 3.6Ghz CPU, 8GB(4GB*2) DDR3-1600 RAM, NVIDIA Geforce GTX 660 TI/2.0GB.*

Computed Tomography(CT) sample image



[High: FOV 100 X 80_0.2 Voxel Image, MAR Skip]



[High: FOV 160 X 100_0.2 Voxel Image, MAR Skip]

3. Recommended PC Specification

항목	HP	LENOVO
CPU	Intel Xeon E5-1607 3GHz 1600 4C or Faster	Intel Xeon E5-1620 3.6GHz or Faster
RAM	8GB DDR3-1600 ECC RAM	8GB DDR3 1600MHz UDIMM
Hard disk drive	1TB SATA 1st HDD	1TB SATA 1st HDD
Graphic board	NVIDIA GEFORCE GTX660 TI 2.0GB Graphics	NVIDIA GEFORCE GTX660 TI 2.0GB Graphics
Ethernet interface	Broadcom 5761 Gigabit Ethernet	Intel 82579 Gigabit Ethernet
Serial Port (RS232)	HP Serial Port Adapter kit	1(On Board)
Power supply	≥ 600 Watts (90% efficient)	≥ 610 Watts (85% efficient)
Slots	1 PCI Express Gen3 x8 Slot 2 PCI Express Gen3 x16 slot 1 PCI Express Gen2 x8 Slot 1 PCI Express Gen2 x4 Slot	2 PCI Express Gen3 x16 Slot, 1 PCI Express Gen3 x16 Slot(x4 Electrical) 1 PCI Express Gen2 x 4 Slot
	1 PCI Slot	1 PCI Slot
CD/DVD drive	DVD-ROM, DVD+/-RW, Blu-Ray	DVD-ROM DVD R/W, Blu-Ray R/W Multi-card reader
Monitor	19" 1280 x 1024 screen resolution	19" 1280 x 1024 screen resolution
Operating system	Windows 7 Professional 64-Bit OS	Windows 7 Professional 64-Bit OS
Recommended system	Z420	S30

4. Mechanical Specification

4.1. Image Magnification

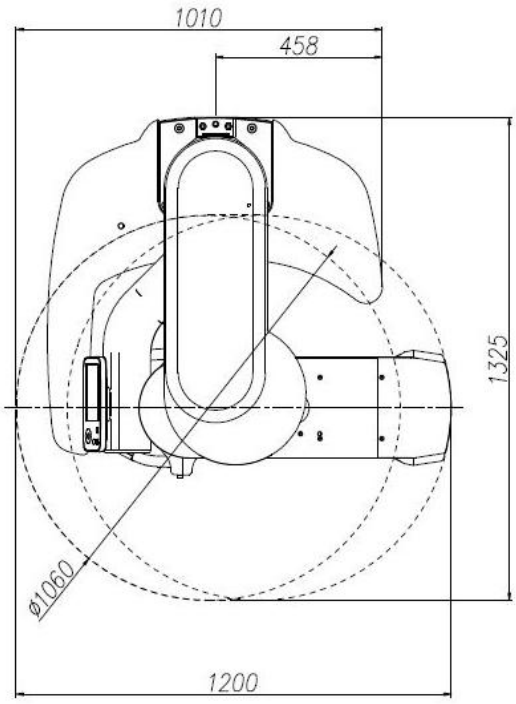
Mode	FDD	FOD	ODD	magnification
CT	642.3 mm	449.7 mm	192.6 mm	1.43 constant
Panoramic	628.8 mm	479.7 mm	147.1 mm	1.31 constant
Cephalometric	1745 mm	1524 mm	221 mm	1.14 constant

* FDD : Focal Spot to Detector Distance
* FOD : Focal Spot to object Distance
* ODD : Object to Detector Distance (ODD = FDD – FOD)
* Magnification = FDD / FOD

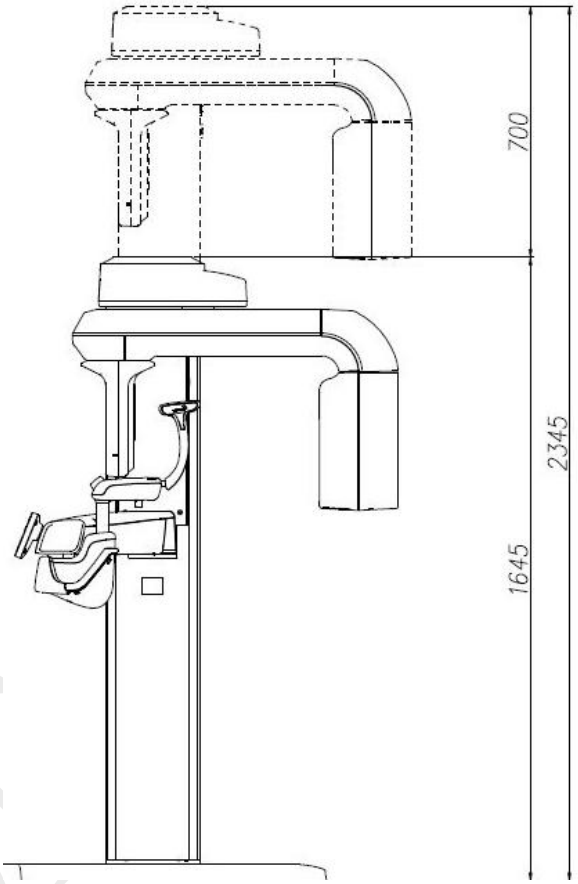
4.2. Dimensions of Unit

Item		Description
Weight	without cephalometric unit	175 kg (385.8 lbs)
	with cephalometric unit	205 kg (451.9 lbs)
Total height		Max. 2340 mm (92.13 in.)
Vertical column movement		Max. 700 mm (Max. 27.56 in.)
Length x Width x Height	without cephalometric unit	1140(L) x 1335(W) x 2340(H) mm (44.88(L) x 55.56(W) x 92.13(H) in.)
	with cephalometric unit (Scan type)	1950(L) x 1335(W) x 2340(H) mm (76.77(L) x 55.56(W) x 92.13(H) in.)
	with cephalometric unit (One shot type)	1930(L) x 1335(W) x 2340(H) mm (75.98(L) x 55.56(W) x 92.13(H) in.)
Type of installation		Base Stand / Wall Mount

Without cephalometric unit



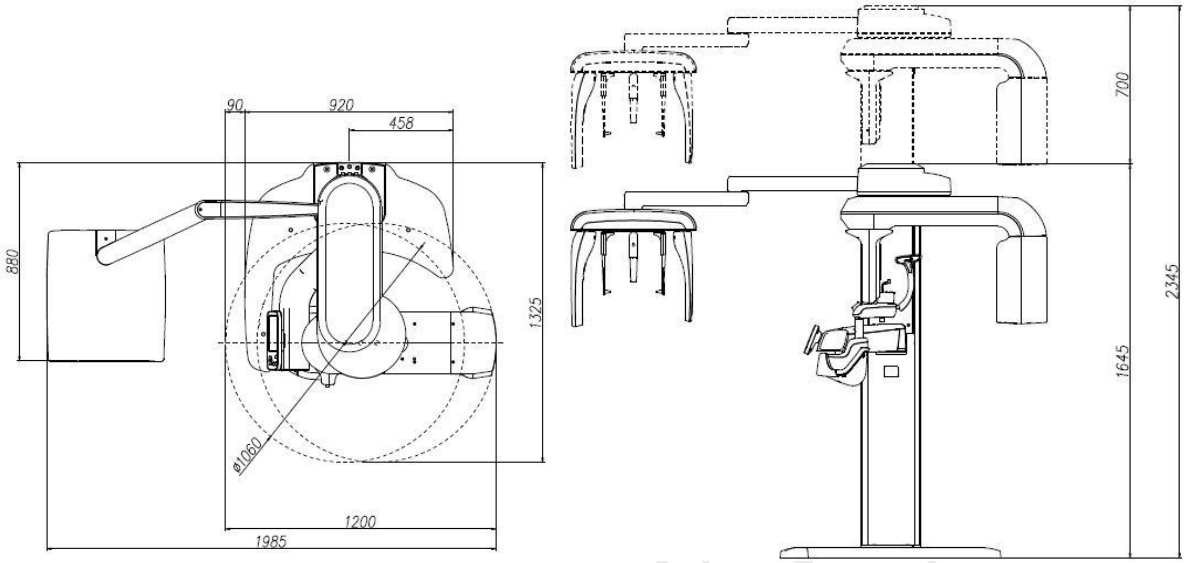
Top view



Front view

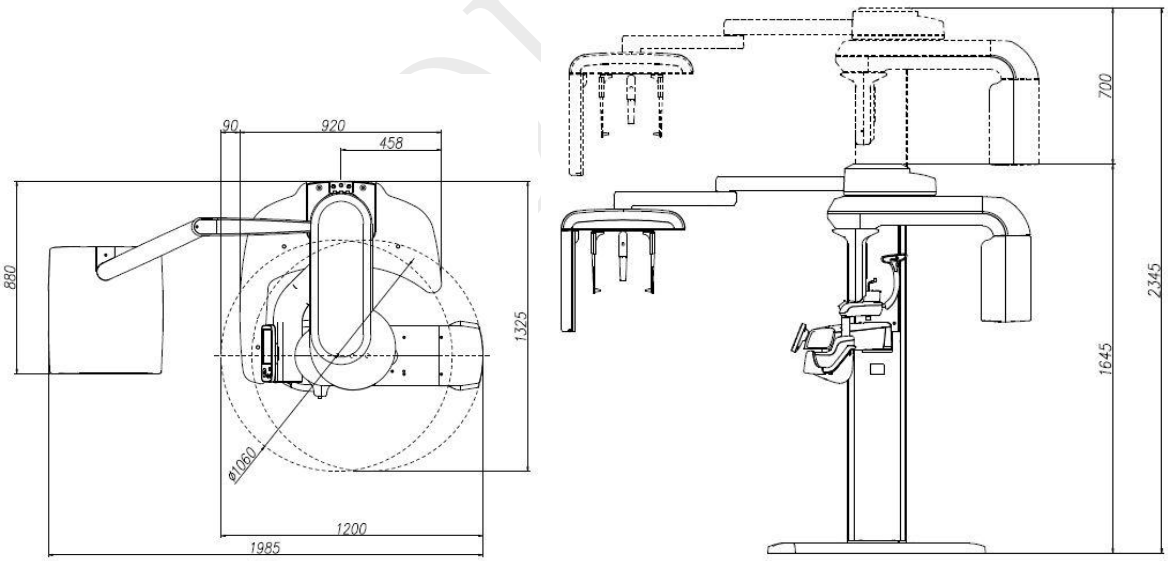
[Unit : mm]

With cephalometric unit (SC type)



[Unit : mm]

With cephalometric unit (OS/OP type)



[Unit : mm]

5. Technical specification

5.1. X-ray Generator(DG-07C11T2)

Item			Description
Model			DG-07C11T2
Rated output power			1.6 KW
Generator Specification	Type		Inverter
	Normal/ Pulse	kV	50 ~ 100 kV(1kV Step)
		mA	4 ~ 16 mA(0.1mA Step)
	Cooling		1:60 or more(Exposure time : Interval time) Automatically controlled / Protect ≥ 60℃ Option: Air Cooling
	Total filtration		Min. 2.8 mm Al
X-ray Tube	Manufacturer		Toshiba
	Model		D-052SB (Stationary Anode type)
	Focal spot size		0.5 mm (IEC60336)
	Target Angle		5 degree
	Inherent Filtration		At least 0.8mm Al equivalent at 50kV
	X- ray Coverage		95 x 380mm at SID 550mm
	Anode Heat Content		35 kJ
	Duty Cycle		1:60 or more (Exposure time : interval time)

5.2. Detector Specification

PANO/CEPH Sensor

Item	Description			
	Panoramic	Cephalometric		
Model	Xmaru 1501CF	Xmaru 2301CF	910SGA	1210SGA
Detector Type	CMOS photodiode array	CMOS photodiode array	Amorphous silicon TFT with scintillator	Amorphous silicon TFT with scintillator
Pixel size (㎛)	100	100	127	127
Active area (mm)	6 x 150.4	5.9 x 230.4	222 x 254	264 x 325
Frame Rate	300 fps	200 fps	240 fph	240 fph
A/D(bit)	14	14	14	14
Sensor Size LxWxH(mm)	175.4 x 86 x 21.6	251.2 x 69 x 27.1	314 x 279 x 24	402 x 364 x 32
Sensor Weight(kg)	0.47	0.89	2.5	3.0

CT Sensor

Item	Description	
	CT	
Model	Xmaru1215CF Master Plus	Xmaru1524CF Master Plus
Detector Type	CMOS photodiode array	CMOS photodiode array
Pixel size (㎛)	49.5 - Full Resolution 99.0 - 2 x 2 binning 198.0 - 4 x 4 binning	49.5 - Full Resolution 99.0 - 2 x 2 binning 198.0 - 4 x 4 binning
Active area (mm)	116.42 x 145.72	143.9 x 232.5
Frame Rate	5 fps – Full 30 fps – 2 x 2 binning 100 fps – 4 x 4 binning	5 fps – Full 30 fps – 2 x 2 binning 100 fps – 4 x 4 binning
A/D(bit)	14	14
Sensor Size LxWxH(mm)	159.0 x 238.4 x 27.0	235.0 x 330.0 x 33.0
Sensor Weight(kg)	1.5	4.25

6. Electrical Characteristics

Item	Description
Power supply voltage	AC 100-240 V ±10%
Frequency	50/60 Hz
Power rating	2.2 kVA ±10%

** The input line voltage depends on the local electrical distribution system.*

** Allowable input voltage fluctuation requirement: ±10%*

7. Environmental Characteristics

Item	Description
Operating temperature	10 ~ 35℃
Operating relative humidity	30 ~75%
Operating atmospheric pressure	860 ~ 1060 hPa
Transport and storage temperature	-10 ~ 50℃
Transport and storage relative humidity	10 ~75%
Transport and storage atmospheric pressure	860 ~ 1060 hPa

8. Standards and Regulations

This product is designed and produced to meet the following standards:

IEC/EN/UL 60601-1, IEC/EN 60601-1-1, IEC/EN 60601-1-2, IEC/EN 60601-1-3, IEC/EN 60601-2-7, IEC/EN 60601-2-28, IEC/EN 60601-2-32, IEC/EN 60601-2-44, ISO 9001, ISO 13485

CE 0120

CE symbol grants the product compliance to the European Directive for Medical Devices 93/42/EEC as amended by 2007/47/EC as a class IIb device.

9. Additional Information

For additional information regarding any other products, please contact us by one of the following methods:

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