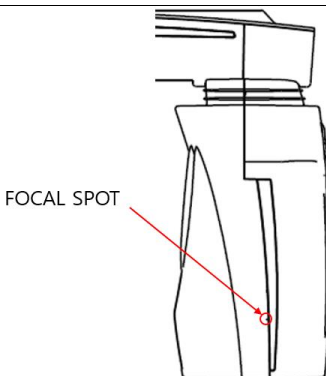


APPENDIX A. Technical Specification

Chassis		
▪ Model designation:	DENTIOIII, DENTIOIII-S	
▪ Rated mains voltage:	100-120 / 200–240 VAC	
▪ the frequency, in hertz	50 Hz / 60 Hz	
▪ Rated current:	16A/ 8A	
▪ Rated power:	1.8 kVA (90 kV)	
▪ Apparent resistance of supply mains	max. 0.4 ohms	
X-ray tube assembly		
▪ X-ray tube	D-054S	
▪ NOMINAL X-RAY TUBE VOLTAGE;	90kV	
▪ Target angle	Target angle 5°	
▪ Anode material:	Tungsten	
▪ Focal spot size acc. to IEC60336, measured in the central X-ray beam:	0.5 mm	
▪ Power output of tube assembly:	Nominal Anode Input Power (at 1.0s)	
▪ Permanent filtration according to IEC 60522;	0.8 mm Al	
▪ Total filtration of X-ray tube assembly:	>2.5mmAl /75 IEC 60522 for volume exposures	
▪ Marking of focal spot:		
▪ range of X-ray tube voltage settings	60kV ~ 90kV± 8 %	
▪ range of X-ray tube current settings	4mA ~ 10mA± 10 %	
▪ range of irradiation time settings	Panorama	Max 14.2 s ± 5 % +50 ms
	Cephalo	Max 8.2 s (Normal) / 4.2 s (Fast) s ± 5 % +50 ms
▪ Reproducibility of the RADIATION output	CV: <0.05	
▪ Cooling conditions	5 minutes after taking one shot	
Geometry		
▪ Source-skin distance	> 150 mm(Pano), > 450 mm(Ceph)	



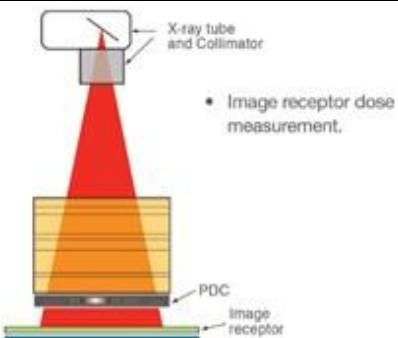
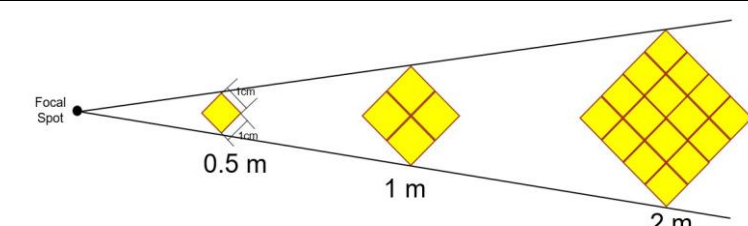
▪ Source Image distance	Pano	DM-20-05K10-00-R	535mm
		DM-20-08K10-00-R	
		Xineos-1501	
		Xineos-2301	
	Ceph (Single detector type)	DM-20-08K10-00-R	1735mm
		Xineos-2301	
Ceph (Dual detector type)	DM-20-08K10-00-R	1729mm	
	Xineos-2301		
Detector			
▪ Detector type	DM-20-05K10-00-R/ DM-20-08K10-00-R : TDI CCD		
	Xineos-1501/ Xineos-2301: CMOS		
▪ Pixel size (μm)	DM-20-05K10-00-R/DM-20-08K10-00-R: 27		
	Xineos-1501/Xineos-2301: 99		
▪ Active area (mm)	DM-20-05K10-00-R - 6.9 x 150 mm		
	DM-20-08K10-00-R - 6.9 x 221 mm		
	Xineos-1501 – 6.5 x 152mm		
	Xineos-2301 – 6.5 x 228mm		
▪ A/D (bits)	DM-20-05K10-00-R/ DM-20-08K10-00-R : 16-bits Xineos-1501/Xineos-2301: 14-bits		
▪ Sensor Front Panel Attenuation Value:	Less than 0.2mm of aluminum equivalent (information for reference only)		
▪ Class I device Degree of protection against electric shock	Type B device (Applied Part: Temple Support, Chin Rest, Handle frame, Nasal Rod & Ear Rod)		
▪ Degree of protection against ingress of water	Ordinary equipment (without protection against ingress of water)		
▪ Year of manufacture:	(on the rating plate)		
▪ Operating mode:	Non-Continuous (Resting Time: 5min)		
▪ Transport and storage condition(Environment):	Temperature: 0°C ~ 40°C Relative humidity : 20% to 75% Atmospheric pressure : 500 hPa to 1060 hPa		
▪ Admissible operating condition(Environment)	Temperature: 10°C ~ 40°C Relative humidity : 20% to 75% Atmospheric pressure : 860 hPa to 1060 hPa		
▪ Dimensions (WxDxH)	1) DENTIOIII-S : 1953 mm X 1222 mm X 2309 mm 2) DENTIOIII : 980 mm X 1222 mm X 2309 mm		
▪ Weight	1) DENTIOIII-S: 160kg 2) DENTIOIII : 130kg		
External supply mains recommendation			
▪ 100~120V	20A or higher / Time lag		
▪ 200~240V	12A or higher / Time lag		
※ No other equipment should be connected to the same fused mains line as the x-ray unit. in some countries an additional external fault current guard is also required.			



NOTE

If the X-ray unit has been stored at temperatures below +10°C for more than a few hours, the temperatures of the equipment must be allowed to reach above +10°C and then use it before connecting it to the mains voltage.

APPENDIX B. DAP Table

a) Method of measurement	b) Test Point
	 Dose: α mGy $\rightarrow$ $\alpha/4$ mGy $\rightarrow$ $\alpha/16$ mGy Area: 1 cm^2 $\rightarrow$ 4 cm^2 $\rightarrow$ 16 cm^2 DAP: $\alpha \text{ mGy cm}^2$ $\rightarrow$ $\alpha \text{ mGy cm}^2$ $\rightarrow$ $\alpha \text{ mGy cm}^2$

- 1) Power-on of PDC(Patient Dose Calibrator).
- 2) As shown in the figure a), prepare the DAP TEST Equipment(PDC) at the image receptor position, and proceed the test with the Test air kerma condition.
- 3) As shown in the result Table, proceed the test according to exposure conditions of the maximum and minimum tube voltage and tube current.
- 4) If the system detects the radiation, the Display automatically displays a dose or Dose Area Product(DAP).
- 5) As the distance increases, the dose value (mGy) decreases. The dose value (mGy) decreases as the distance increases, but the area (cm²) increases proportionally to the distance, so the same DAP (mGy * cm²) value can be obtained at any measurement location.

c) Result value

Test Equipment Information			
	Manufacturer	Model	S/N
Survey Meter	Radcal	PDC-01	15-00001
Dose tolerance($\pm 50\%$)			

a) Panorama Protocol

Protocol		Age Group																Dose Tolerance
		Child				Weak				Adult(man)				Adult(Woman)				
		kV	mA	Scan time (s)	DAP (mGy·cm ²)	kV	mA	Scan time (s)	DAP (mGy·cm ²)	kV	mA	Scan time (s)	DAP (mGy·cm ²)	kV	mA	Scan time (s)	DAP (mGy·cm ²)	
FULL	Normal	85	7	12.5	250.0	85	8	14.2	323.76	90	8	14.2	342.22	90	7	14.2	299.62	± 50%
	Fast	-	-	-		85	8	7	159.60	90	8	7	168.70	90	7	7	147.70	
TMJ	Normal	85	7	6.2	124.0	85	8	6.2	141.4	90	8	6.2	149.4	90	7	6.2	130.8	
	Fast	-	-	-	-	85	8	3.2	73.0	90	8	3.2	77.1	90	7	3.2	67.5	
Sinus	Normal	85	7	9.2	92.0	85	8	9.2	209.8	90	8	9.2	221.7	90	7	9.2	194.1	
	Fast	-	-	-	-	85	8	4.6	104.9	90	8	4.6	110.9	90	7	4.6	97.1	



b) Cephalo Protocol

Protocol		Age Group																Dose Tolerance
		Child				Weak				Adult(man)				Adult(Woman)				
		kV	mA	Scan time (s)	DAP (mGy·cm²)	kV	mA	Scan time (s)	DAP (mGy·cm²)	kV	mA	Scan time (s)	DAP (mGy·cm²)	kV	mA	Scan time (s)	DAP (mGy·cm²)	
LA	Normal	80	7	7.8	136.5	80	8	8.2	164.82	85	8	8.2	186.96	85	7	8.2	164.0	± 50%
	Fast	-	-	-	-	80	8	4.2	84.4	85	8	4.2	95.8	85	7	4.2	84.0	
PA	Normal	80	7	7.8	136.5	80	8	8.2	164.82	85	8	8.2	186.96	85	7	8.2	164.0	
	Fast	-	-	-	-	80	8	4.2	84.4	85	8	4.2	95.8	85	7	4.2	84.0	
SMV	Normal	80	7	7.8	136.5	80	8	8.2	164.82	85	8	8.2	186.96	85	7	8.2	164.0	
	Fast	-	-	-	-	80	8	4.2	84.4	85	8	4.2	95.8	85	7	4.2	84.0	