

CS 9300 / CS 9300C

A SYSTEM FOR BOTH ENT AND DENTAL IMAGING.

Designed for a variety of clinical applications, the affordable CS 9300 System delivers high-quality panoramic, paranasal sinus, temporal bone, and dental cone beam CT (CBCT) images at a fraction of the dose of conventional multi-detector CT systems. And, it can be upgraded to include cephalometric imaging—making its versatility as exceptional as its low dose and affordability.



CS 9300 / CS 9300C SYSTEM

ADVANTAGES AT A GLANCE.

- Suitable for a broad range of dental, sinus and temporal bone applications
- Panoramic, CBCT, and optional one-shot cephalometric imaging in one solution
- Selectable CBCT fields of view from 5 cm x 5 cm to 17 cm x 13.5 cm
- Very low dose and superb image quality up to 90 μ m resolution



TRUE VERSATILITY.

Using cone beam CT technology, the CS 9300 offers a range of selectable fields of view (5 x 5 cm to 17 x 13.5 cm), isotropic resolutions (0.09 mm to 0.5 mm), and scan times. In addition, the system's field of view adjusts automatically—confining radiation to the region of interest to ensure a safer exam for your patients.



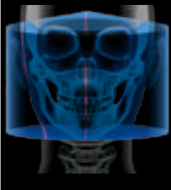


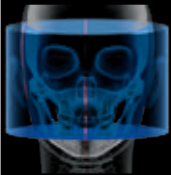




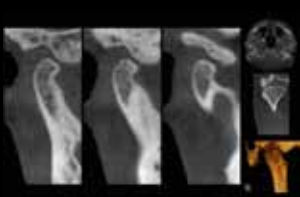


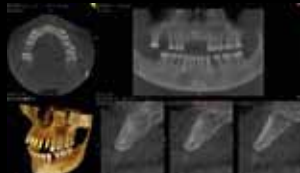
SINUS AND TEMPORAL BONE FIELDS OF VIEW

FIELDS OF VIEW SCANNING TIME RESOLUTION	REGION OF INTEREST	SAMPLE IMAGES	RECOMMENDED APPLICATIONS
Sinus 17 x 13.5 cm 28 sec. 0.3 – 0.5 mm			<ul style="list-style-type: none"> • Paranasal sinus evaluation • Chronic sinusitis with and without polyps • Image guided sinus surgery • Craniofacial evaluation
Sinus 17 x 11 cm 12 or 20 sec. 0.25 - 0.5 mm			<ul style="list-style-type: none"> • Chronic sinusitis with and without polyps • Treatment follow up (17x11 fast) • Pediatric sinus evaluation (17x11 fast)
Temporal bone 17 x 6 cm 20 sec. 0.20 - 0.5 mm			<ul style="list-style-type: none"> • Cochlear implant evaluation and follow up • Otosclerosis and cholesteatoma • Superior semicircular canal dehiscence • Image guided temporal surgery
Temporal bone 8 x 8 cm 20 sec. 0.20 - 0.3 mm			<ul style="list-style-type: none"> • Chronic otitis media • Cholesteatoma • Superior semicircular canal dehiscence
Temporal bone 5 x 5 cm 12 or 20 sec. 0.09 - 0.2 mm			<ul style="list-style-type: none"> • Cochlear implant evaluation and follow up • Otosclerosis and cholesteatoma • Superior semicircular canal dehiscence

TRUE FLEXIBILITY.


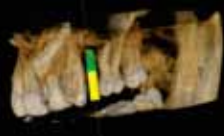

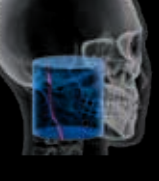

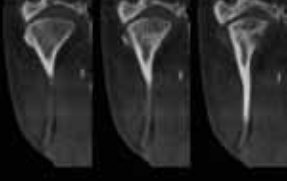






With resolution up to 0.09 mm, the CS 9300's superb image quality allows you to collect valuable diagnostic information for a range of dental and maxillofacial applications, including endodontics, implantology, orthognathics, orthodontics, and oral and maxillofacial surgery.

MAXILLOFACIAL AND ORAL FIELDS OF VIEW

FIELDS OF VIEW SCANNING TIME RESOLUTION	REGION OF INTEREST	SAMPLE IMAGES		RECOMMENDED APPLICATIONS
17 x 13.5 cm 20 sec. 0.3 – 0.5 mm				<ul style="list-style-type: none"> • Sinus and airway analyses • Orthodontics assessment • Orthognathic surgery • Facial reconstruction • Trauma
17 x 11 cm 12 or 20 sec. 0.25 - 0.5 mm				<ul style="list-style-type: none"> • Sinus and airway analyses • Implantology • Orthodontics assessment • Orthognathic surgery • Facial reconstruction • Trauma
17 x 6 cm TMJx2 12 sec. 0.18 – 0.3 mm				<ul style="list-style-type: none"> • Double TMJ assessments
10 x 10 cm 12 sec. 0.18 – 0.3 mm				<ul style="list-style-type: none"> • Implantology • Complex impactions • Other cases involving both dental arches



MAXILLOFACIAL AND ORAL FIELDS OF VIEW

FIELDS OF VIEW SCANNING TIME RESOLUTION	REGION OF INTEREST	SAMPLE IMAGES		RECOMMENDED APPLICATIONS
10 x 5 cm 12 sec. 0.18 - 0.5 mm				<ul style="list-style-type: none"> • Implantology • Impactions • Other cases involving one dental arch
8 x 8 cm TMJx1 20 sec. 0.2 - 0.3 mm				<ul style="list-style-type: none"> • Single TMJ assessments
8 x 8 cm 20 sec. 0.2 - 0.3 mm				<ul style="list-style-type: none"> • Implantology • Complex impactions • Other cases involving both dental arches
5 x 5 cm 12 or 20 sec. 0.09 - 0.2 mm				<ul style="list-style-type: none"> • Dental local cases: Endodontics, single implants, impactions • Any examinations requiring a high level of detail (90µm)

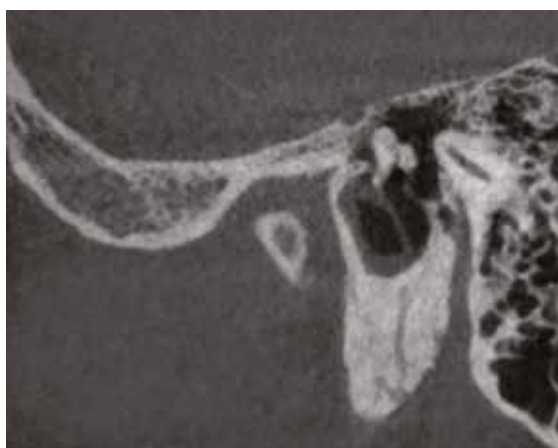
OUTSTANDING IMAGES IN ALL MODALITIES.

Sinus and Temporal Bone Imaging

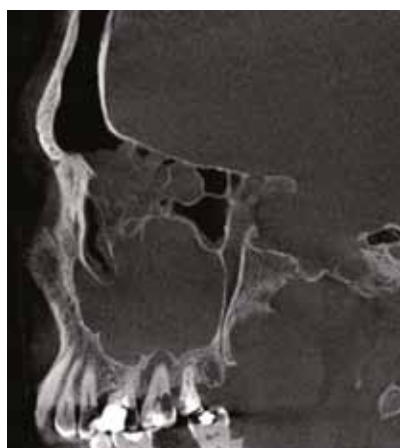
The CS 9300's industry-leading superior isotropic spatial resolution promotes better visualization of sinus structures, sub-millimeter structures at air-bone interfaces, and middle and inner ear components and interfaces—such as the tympanic membrane, ossicles, semicircular canals, mastoid air cells, and cochlea.¹



Bilateral temporal bone (17 x 6 cm)



Unilateral temporal bone (5 x 5 cm)



Dental origin sinusitis



Before and after sinus surgery case and 3D rendering of image guided surgery mask

¹ Xu J, Reh D, Carey J, Mahesh M, Siewerdsen JH. Technical assessment of a cone beam CT scanner for otolaryngology imaging: image quality, dose and technique protocols. Med. Phys. Accepted for publication, July 2012.

Oral and Maxillofacial Imaging

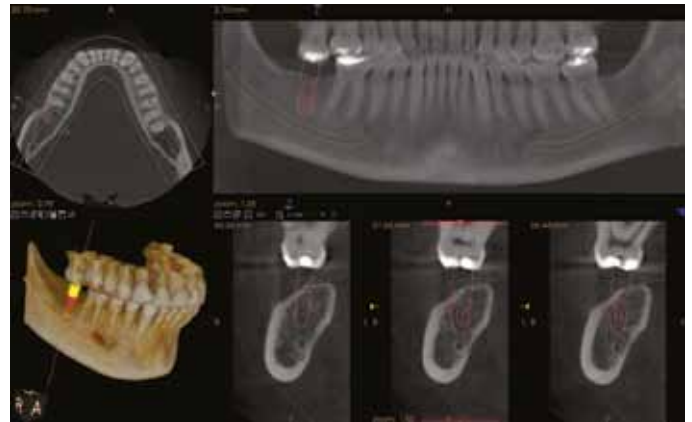
Providing anatomical image data similar to MDCT—but with higher definition and at a significantly lower radiation dose—CBCT imaging is the new standard for oral and dental imaging. Large size volumes combined with excellent bony structure visualization make the CS 9300 the ideal tool for maxillofacial imaging.



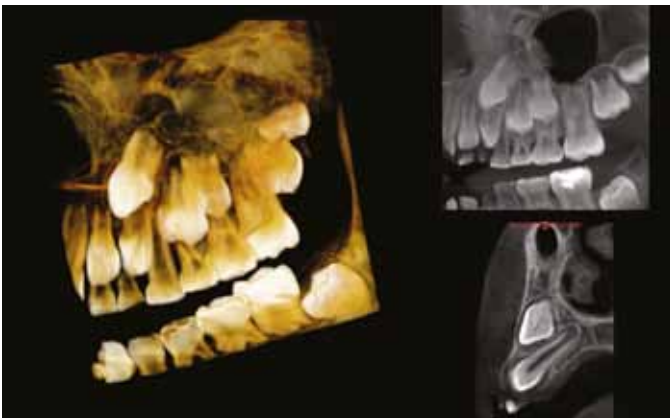
Create all necessary images from just one scan, including cephalometric, panoramic, and TMJ images



Postoperative maxillofacial reconstruction, with limited metallic artifacts (17 x 11 cm)



Pre-surgical implant examination (10 x 5 cm)



Supernumerary assessment (5 x 5 cm)



Impacted third molar (5 x 5 cm)

THREE-IN-ONE IMAGING EFFICIENCY.

True Panoramic Technology, One-Shot Cephalometric Imaging

Featuring true panoramic imaging and one-shot cephalometric abilities, the CS 9300 gives you an unprecedented number of imaging possibilities. And, regardless of which modality you use, the system delivers consistently superb image quality.

- Variable focal trough adapts to patient's jaw morphology—generating high-quality, true panoramic images
- One-shot cephalometric imaging captures images in less than a second and reduces risk of motion blur and retakes
- Features broadest range of cephalometric imaging options—5 sizes ranging from 18 x 18 cm to 30 x 30 cm
- Exclusive landmark cephalometric tracing software automatically traces anatomical structures to save referring dentists' time



True panoramic exam



Cephalometric exam using one-shot technology

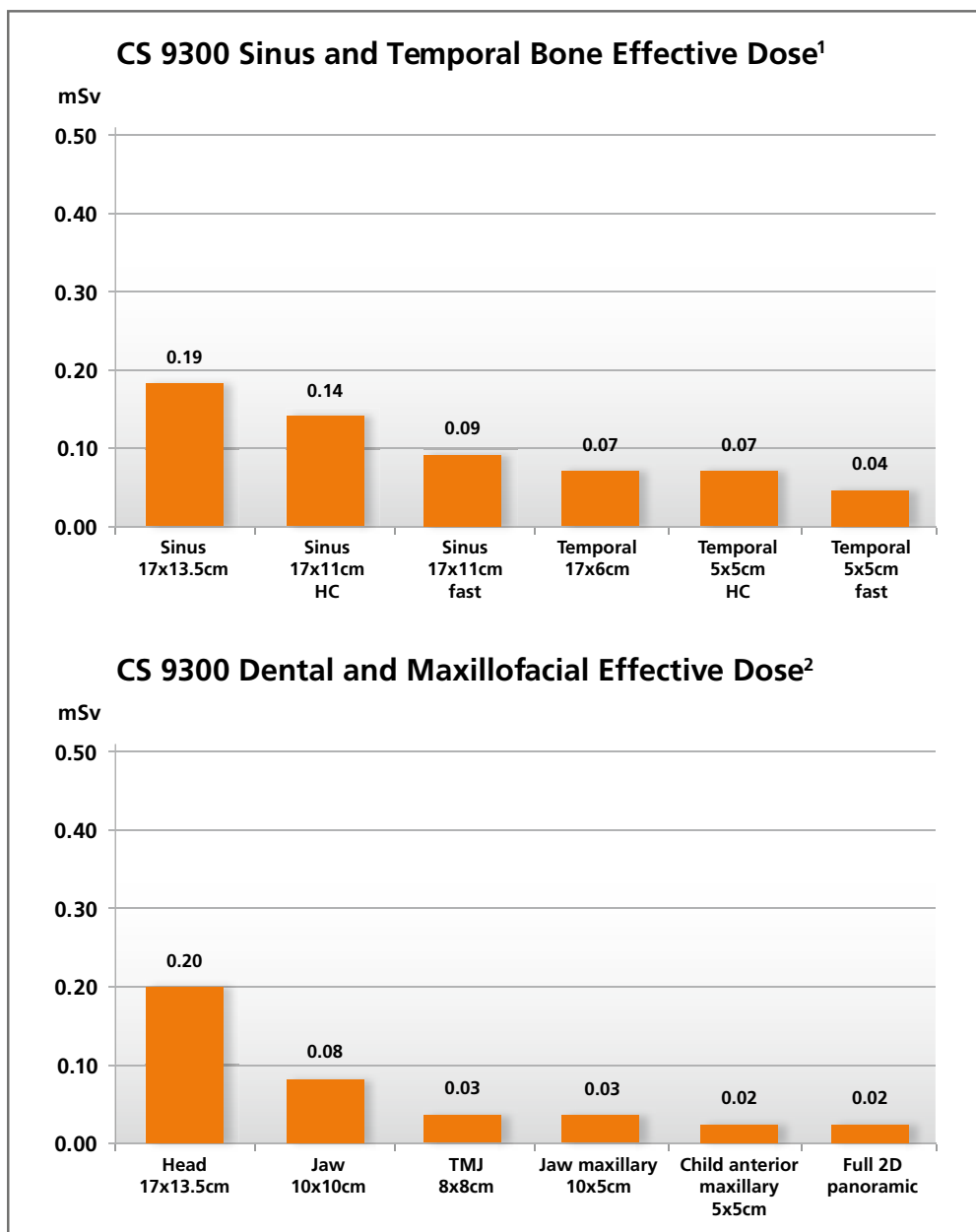


Unlike other digital cephalometric systems on the market, the CS 9300C features a full skull option (30 x 30 cm)

LOW RADIATION DOSE.

The CS 9300's selectable fields of view, resolutions, and scan times confine radiation to the region of interest to ensure a safer exam for your patients. As a result, the system delivers a fraction of the dose of conventional multi-detector CT (MDCT) systems.^{1,2} For example, MDCT systems typically deliver dose levels between 0.8 mSv and 2.0 mSv for sinus and temporal bone exams using standard protocols.^{3,4,5,6}

The CS 9300's half-scan protocols (all fields of view except 17x13.5cm) also promote considerable dose sparing of the anterior region—including the eyes—when compared to full-scan protocols commonly used in MDCT and other cone beam CT systems.¹ The system's ability to minimize radiation dose is particularly important when examining children and adults who require multiple CT scans.



¹ Xu J, Reh D, Carey J, Mahesh M, Siewerdsen JH. Technical assessment of a cone beam CT scanner for otolaryngology imaging: image quality, dose and technique protocols. Med. Phys. Accepted for publication, July 2012.

² J. B. Ludlow, University of North Carolina, June 2011.

³ Ludlow JB, Ivanovic M. Comparative dosimetry of dental CBCT devices and 64-slice CT for oral and maxillofacial radiology. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2008;106:106-114.

⁴ Niu Y, Wang Z, Liu Y, Liu Z, Hao V. Radiation dose to the lens using different temporal bone CT scanning protocols. Amer J Neuroradiol 2010;31:2:226-229.

⁵ Mettler FA, Wiest PW, Locken JA, Kelsey CA. CT scanning: patterns of use and dose. J Radiol Prot 2000;20:4:353-359.

⁶ Huda W, Chamberlain CC, Rosenbaum AE, Garrisi W. Radiation doses to infants and adults undergoing head CT examinations. Med Phys 2001;28:3:393-399.

A SYSTEM THAT ADAPTS TO YOU.

The CS 9300 system is designed to integrate into your workflow—not the other way around. The system’s DICOM conformance ensures the unit works with your PACS, RIS, and printing systems. You can even use your current imaging software with the system or take advantage of our included imaging software. Intuitive and easy to use, the software is a perfect way to share and review images with referring dentists and physicians.

- Supports DICOM 3.0 protocols for storage and printing and DICOM DIR capabilities
- Compatible with major image-guided surgery systems and leading imaging software such as Simplant, NobelGuide and SureSmile software

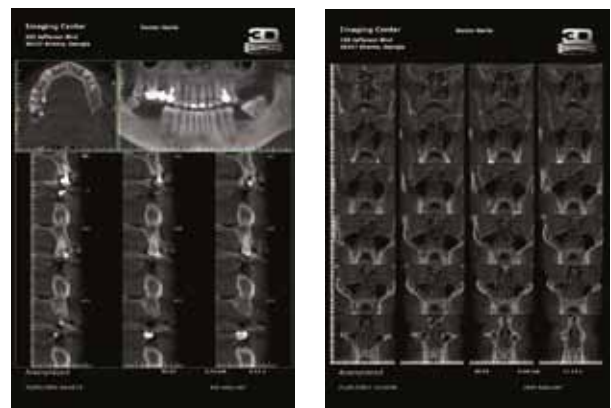


Feature-rich review software including multiplanar review, robust implant planning module and TMJ features

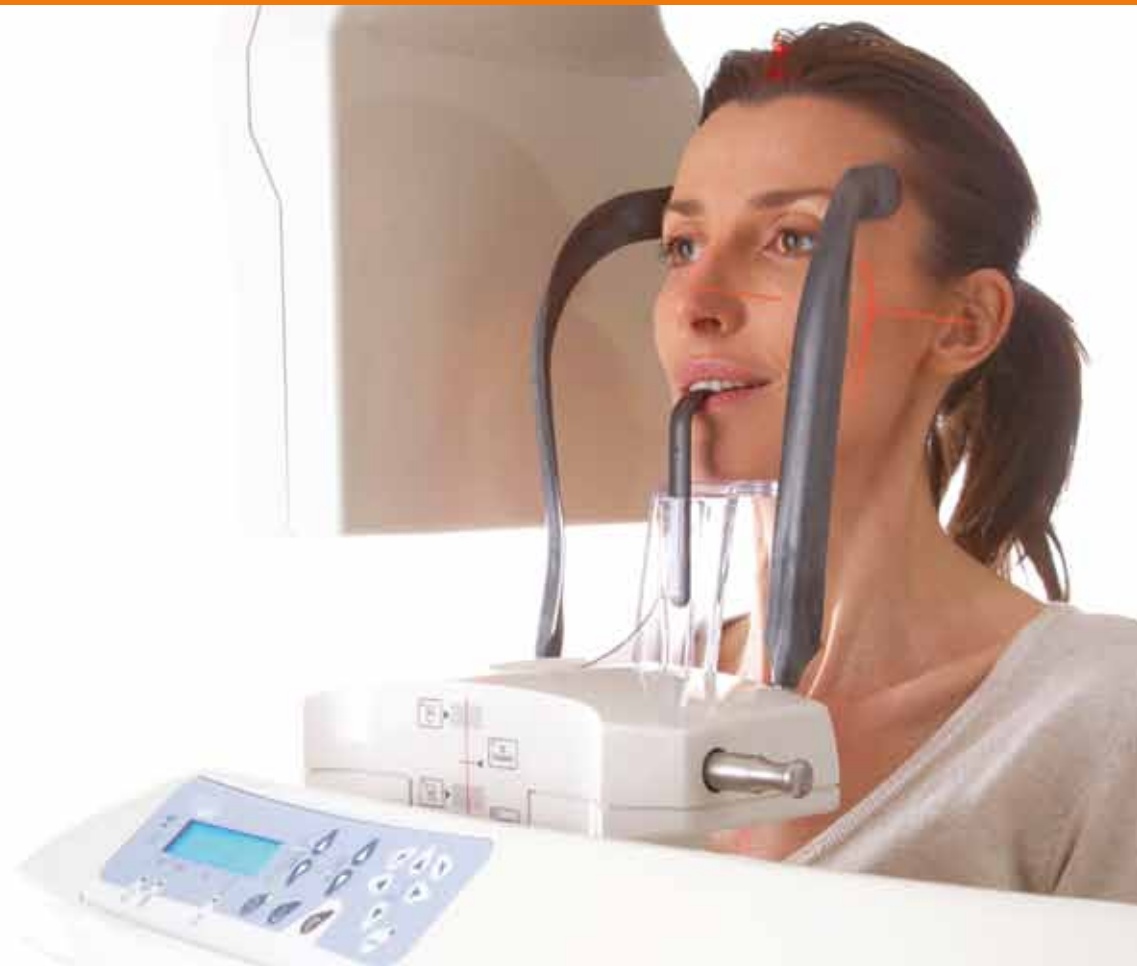
IMPROVED WORKFLOW.

The CS 9300 system features a new intuitive interface to decrease exam times and increase patient throughput. Thanks to this new interface, the CS 9300 works exactly the way you do with other modalities.

- Faster and familiar acquisition, quality control and print workflow—all in five simple steps
- Improved DICOM Worklist integration
- New embedded visualization tools for easier quality control
- New time-saving feature automatically selects print template based on exam type



Customizable print options



WHERE SIMPLICITY AND PRODUCTIVITY MEET.

With its face-to-face positioning and open design, the CS 9300 is clearly designed for usability and patient comfort. Preset programs automatically adjust exposure settings and collimate field of view based on the program you select, while the intuitive user interface makes exams faster and more precise than ever.

Designed for Efficiency and Comfort

- Streamlined user interface and computer-controlled system make exams quick and simple
- Specially designed positioners ensure stable positioning
- Laser beams and motorized movement promote precise alignment
- Exams can be performed while patients are sitting or standing
- Wheelchair accessible



Streamlined user interface for fast exam set up

A TRUSTED COMPANY, A PROVEN PRODUCT.

With over a century of experience, no one knows medical and dental imaging like Carestream. From installation and training to technical support and integration services, we provide the expert services you need to keep your equipment operating at peak performance—and the CS 9300 is no exception: with more than 4,000 units installed, the system is built on a proven CBCT platform and backed by our comprehensive service and support packages.

TECHNICAL SPECIFICATIONS

Cone Beam CT Modality

Sensor type: TFT
Scan mode: Continuous and pulse
Scanning time: 12–28 seconds (+/-10%)
Gray scale: 16384 – 14 bits
Voxel size (µm): 90 to 500
Field of view (cm): 5x5, 8x8, 10x5, 10x10, 17x6, 17x11, 17x13.5
Reconstruction: Less than 2 minutes based on the time: recommended computer system configuration requirements

Panoramic Modality

Sensor technology: TFT
Exposure time: 4 to 16 seconds
Radiological exam options: Panoramic, segmented panoramic, maxillary sinus, LA TMJ x 2, LA TMJ x 4

Cephalometric Modality

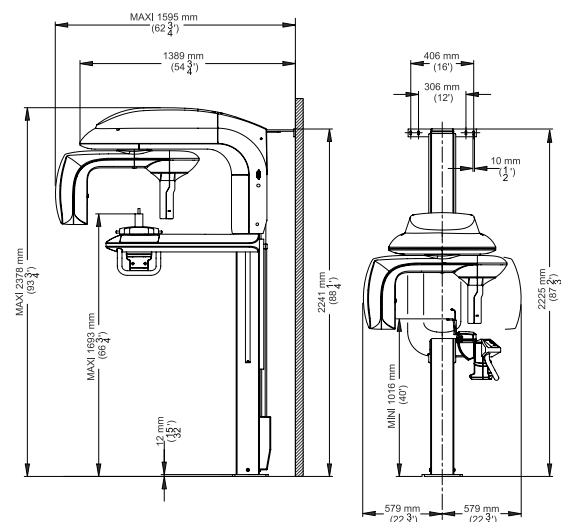
Sensor technology: CCD
Exposure time: 0.1 to 3.2 seconds
Radiological exam options: Lateral, frontal AP or PA, oblique, submento-vertex, carpus
Acquisition format size (cm): 18x18, 18x24, 24x24, 24x30, 30x30

X-Ray Generator and Other Specifications

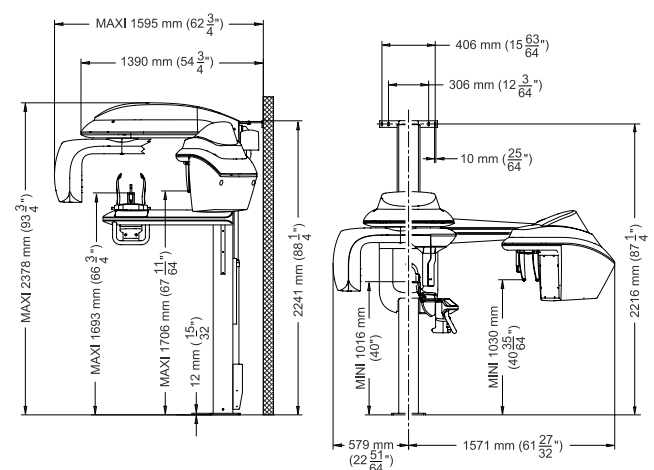
Tube voltage: 60–90 kV
Tube current: 2–15 mA
Frequency: 140 kHz
Tube focal spot: 0.7mm (IEC 60336)
Input voltage (AC): 220/230/240V – 50/60Hz
 110/110/130V – 50/60Hz
Weight: 160 kg (353 lb)
 With cephalometric module: 199 kg (438 lb)
Recommended space: Without cephalostat: 1500 (L) x 2000 (D) x 2400 (H) mm (59 x 78.8 x 94.5 in.)
 With cephalostat: 2230 (L) x 2000 (D) x 2400 (H) mm (87.8 x 78.8 x 94.5 in.)

Warning: Class 2 laser product; do not stare into the beam.

CS 9300



CS 9300C



For more information, contact your Carestream representative or visit www.carestream.com/9300

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