

# CS 2100 & 2200

Our Next Generation Intraoral Generators



LET'S REDEFINE **EXPERTISE**



# CS 2100 & CS 2200

- Product introduction
- Product enhancements
- CS 2100
- CS 2200
- Irix mounting configuration
- Options and accessories

# CS 2100 & CS 2200

## Next Generation CS 2100

- Affordable, high frequency technology
- Designed for dental professionals seeking ease of use and reliability
- Provides high quality results for accurate and safe diagnostics.
- Flexible and smart design helps meet the needs of almost any practice



# CS 2100 & CS 2200

## Next Generation CS 2200

- Improved design for added durability and reliability
- Designed with safety, comfort and efficiency in mind
- High frequency generator
  - Supports superior image quality
  - Better safety conditions for your patients and staff
- Features an intuitive timer



# CS 2100 & CS 2200

## Next Generation CS 2200

- Timer interface improves the user-friendliness and the reliability
- Complies with modern quality control and Euratom directives
  - Regarding failsafe procedures
  - Emitted dose display for better patient dose tracking
- Interface is very intuitive and easy-to-use
- Makes exposure setting failsafe and helps avoid retakes
  - User friendly and intuitive interface
  - Simplification of the exposure setting process
  - Clear displays, allowing easier reading even from distant location
- Timer includes a complete diagnostic tool for easier servicing by technicians, which helps improve uptime



# CS 2100 & CS 2200

## What is the role of the CS 2100 and CS 2200?

- Intraoral generators are a key component of Carestream Dental Systems total intraoral solution, which includes:
  - X-ray tube manufacturing
  - Image capture technology
  - Imaging software
- Intraoral products are designed to work together seamlessly



**Product Enhancements**

**CS 2100 & CS 2200**

# Reliability is Our Key Goal

## GOAL

To work to continuously improve the reliability of our CS 2100 and CS 2200 Intraoral X-Ray Systems

We have implemented the following changes:

- Modified the manufacturing process to improve product quality
- Improved the materials used in manufacturing
- Changed the product design to improve reliability
- Introduced new system components used in manufacturing
- Improved the testing process for each unit, both during manufacturing and upon completion
- Simplified the installation process via product enhancement and a Quick Start Guide

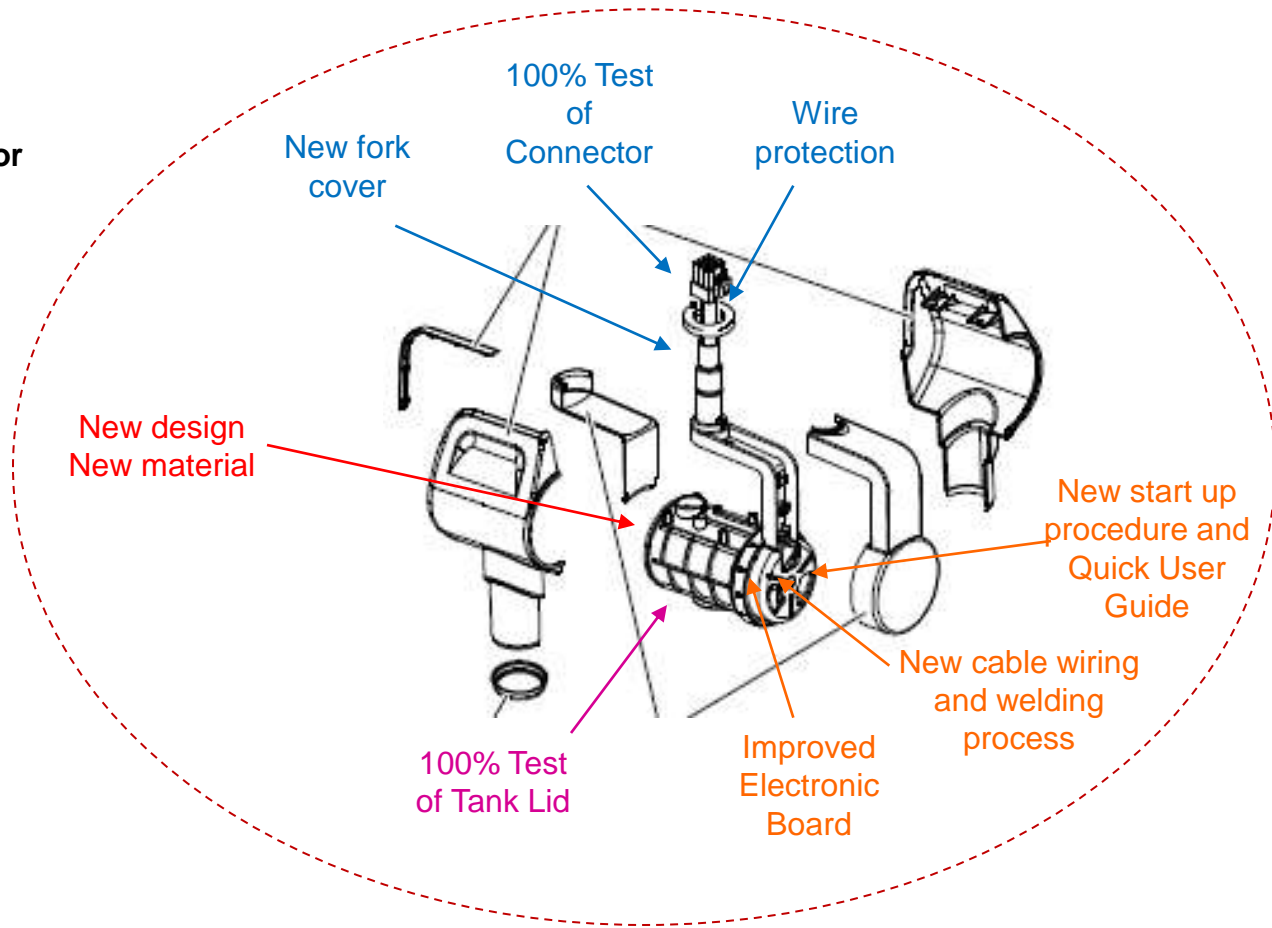




# Improvements to Generator Head

## ERROR CODES

- E13 cut HTR power
- E14 HT internal sparking
- External wire cut at connector
- Oil leakage

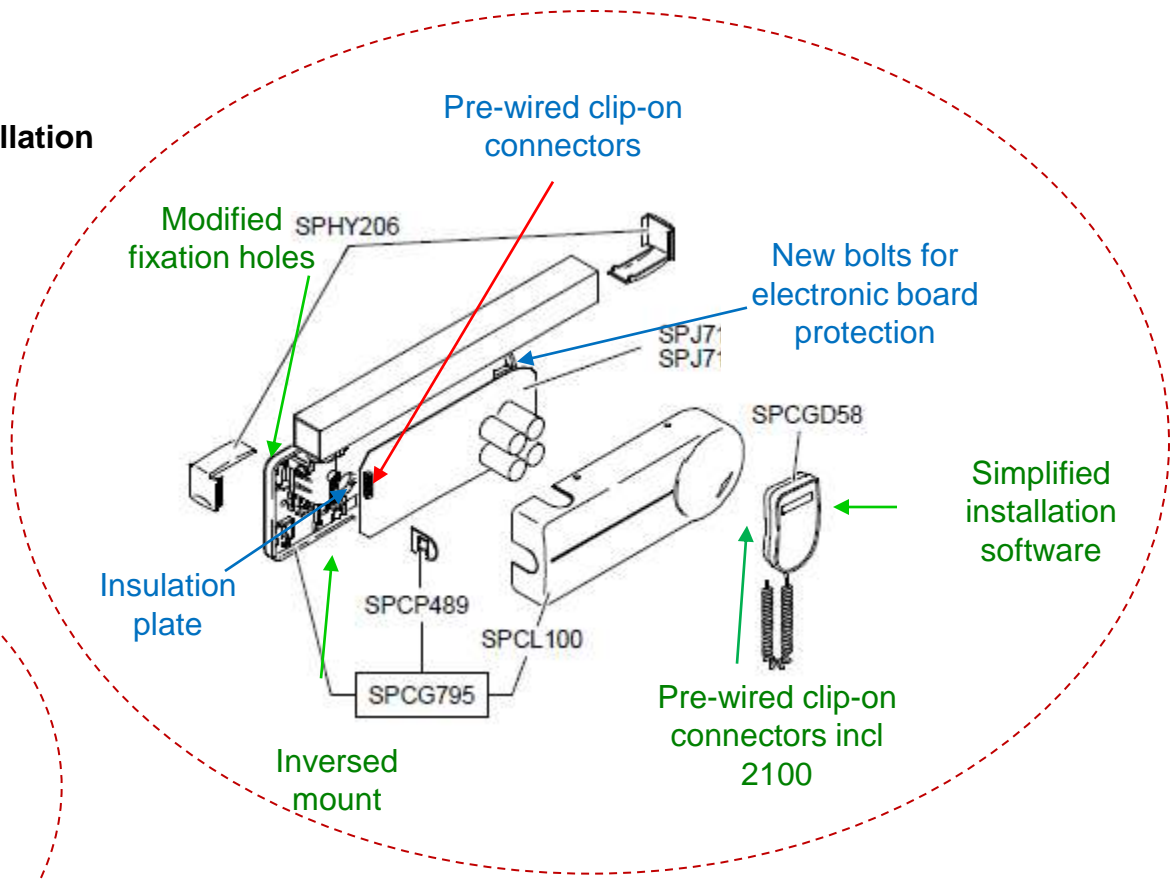
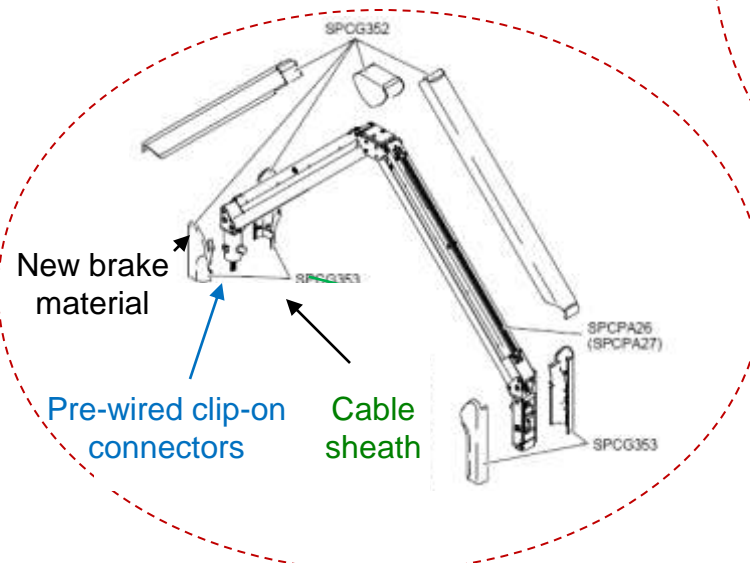


# Improvements to Wall Mount and Arm

## ERROR CODES

**Electronic board damaged at installation**

**Easier installation**



# Additional Product Improvements

- 100% unit testing has been implemented
  - Additional tests of the connector and tank lid will also be performed during manufacturing
  - Each unit will be tested after full assembly
- Packaging has been adapted
  - Packaging now includes handles for easier movement
  - Package can be placed flat on long edge or stood upright
- A Quick Start Installation Guide
  - Reminds and guides users through restarting procedure
  - Addresses seasoning needs
- Manuals have been updated
  - Reflect changes to the products
  - Facilitate maintenance, diagnostics and parts replacement



**New updated packaging showing redesigned handles**

Introducing the Next Generation  
**CS 2100**



# Benefits

- Affordable, yet feature-rich intraoral imaging
- DC technology (Very High Frequency), replacing AC technology
  - Dose reduction (up to 30%) thanks to the VHF
  - Better control of exposure parameters: reproducibility and consistency
- Extremely simple to use
- User-friendly exposure time selection button
- Dose display after each exposure
- Ergonomic design
- Full range of options and accessories that maximise the overall flexibility of the unit
- Improved servicing



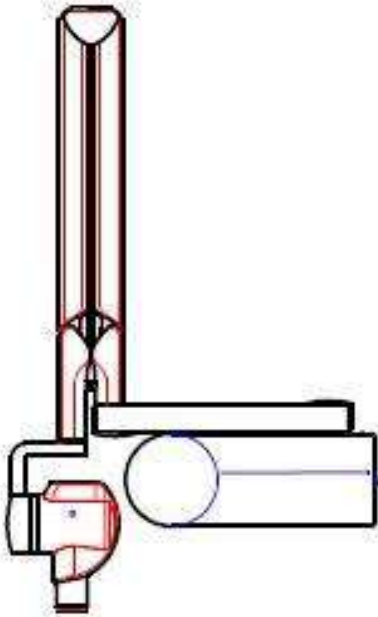
# Timer

Unique, easy to use timer with multiple functions:

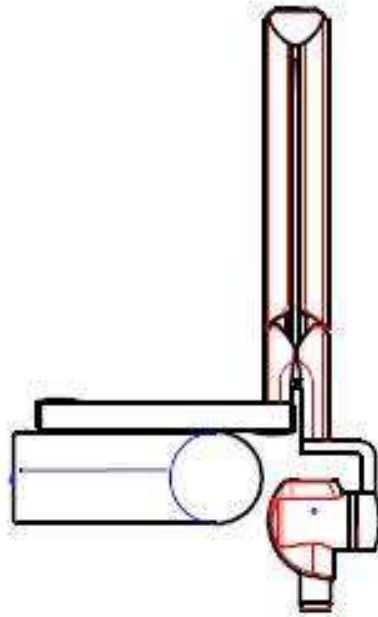
- Timer
  - Manual time setting
  - Film / Digital mode
- Emitted dose display
- User Menu
  - Settings customization
  - Tube seasoning
- Technical Menus
  - Interface with firmware
  - 2 counters for exposures
  - Up to 59 management error codes
  - Calibrated generator parameters



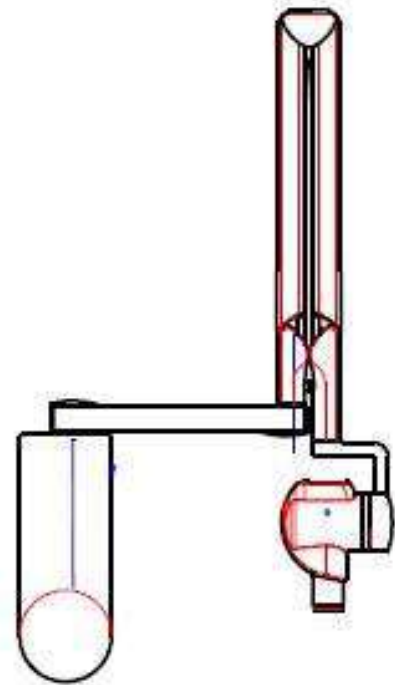
# Installation Layouts



Left orientation



Right orientation

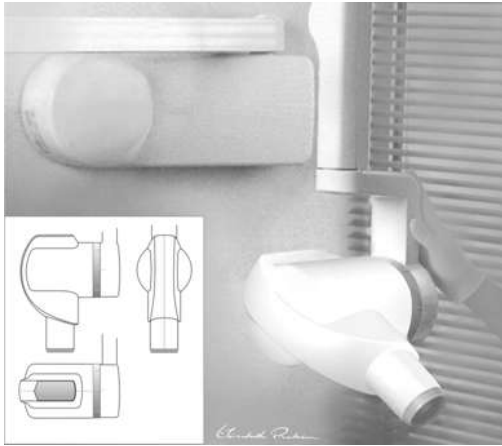


Vertical orientation

# Configurations

## STANDARD CONFIGURATION

3 over-twinned pairs + 1 shield cable

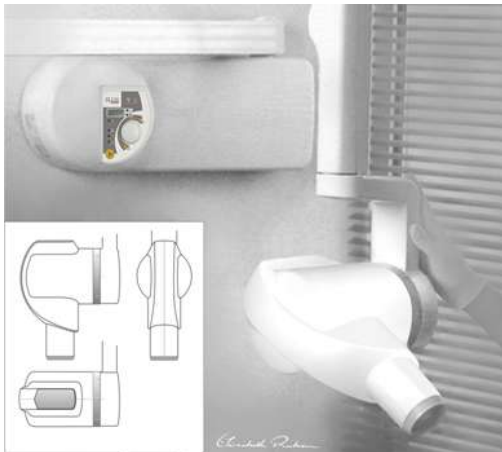


Remote timer. Can be located anywhere from close to the unit to outside of the operating room

## OPTIONAL CONFIGURATION

(with additional Cat 5154307 accessory)

Standard 2-wire cable

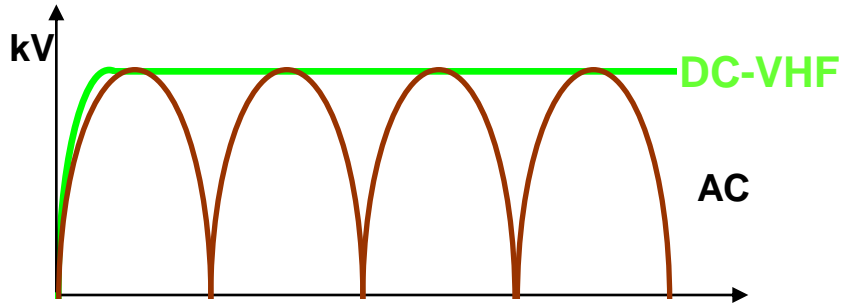


Timer can also be mounted on the wall-framework (fixing kit and link cable supplied in std configuration).

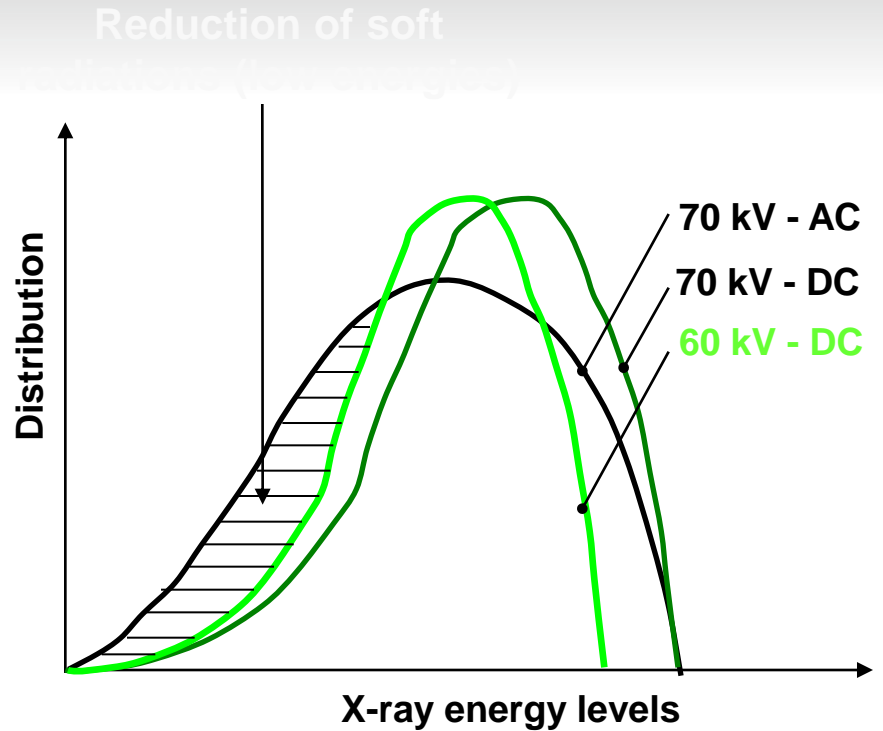
A reliable and ergonomic designed exposure button to trigger each exposures.



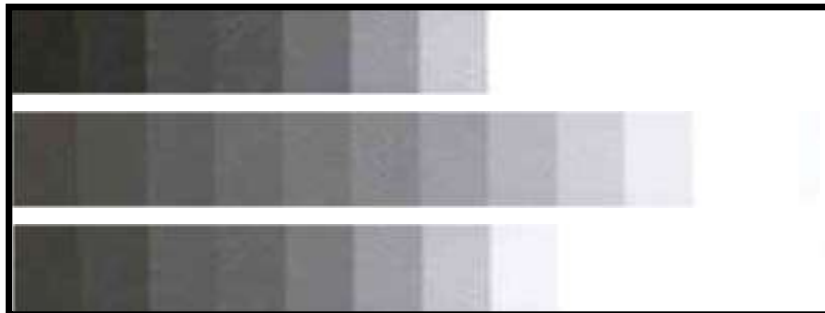
# Why 60 kV DC ?



70 kV AC vs 60 kV DC



Resulting radiographic contrast



More penetrating x-ray beam is consecutive to a technology change from AC to DC (VHF). Consequently, to match radiographic contrast obtained with Irix 70kV AC, beam energy has to be reduced down from 70 to 60kV DC.

# Technical Specifications

MEASUREMENT	VALUE
Tube Voltage	60 kV
Tube Current	7 mA
Frequency	300 kHz Very High Frequency
Tube Focal Spot	0.7 mm CEI
Total Filtration	2.5 mm eq. Al
Input Voltage	230-240 V – 50/60 Hz
Weight	~ 18 kg - ~ 40 lbs

## 3 arm lengths available:

Short (170 cm / 67 in.); Standard (188 cm / 74 in.); Long (205 cm / 81 in.)

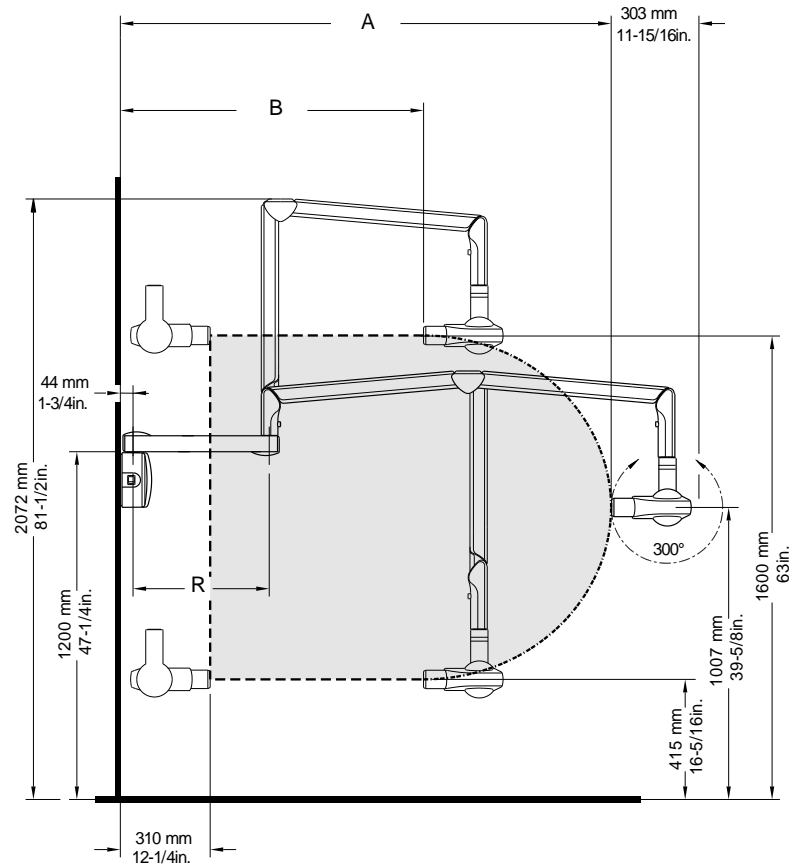
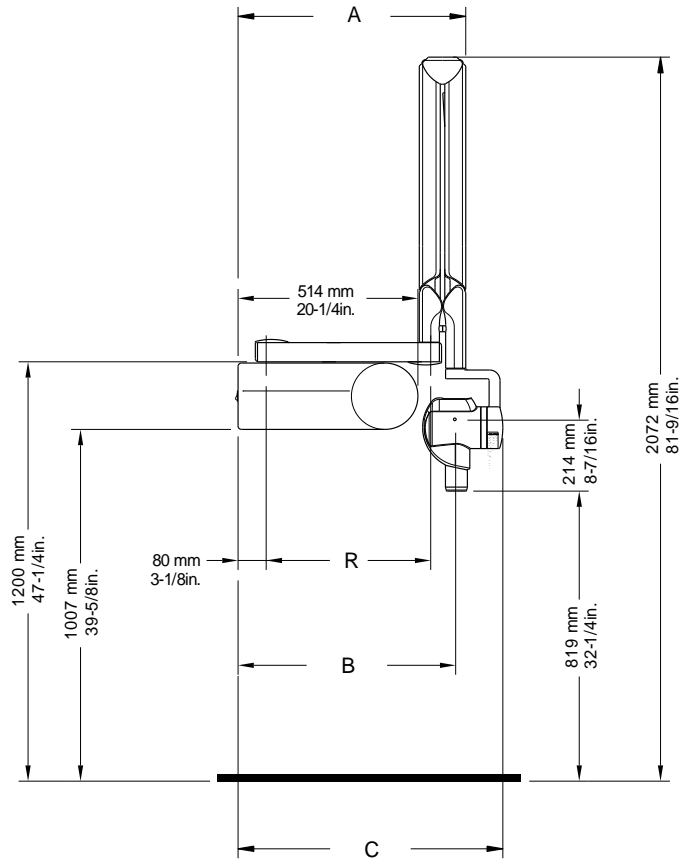
## Accessories:

Mobile stand  
Floor mounting column  
Rectangular collimators (size A, B and C), ....

## Mounting options:

Standard wall mount  
Ceiling mount

# Dimensions

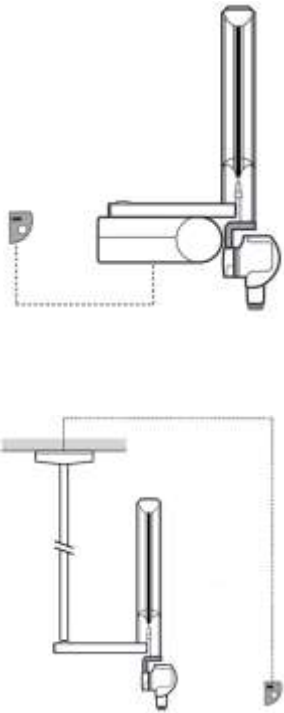


R	A	B	C
470 mm (18-1/2 in.)	651 mm (25-5/8 in.)	622 mm (24-1/2 in.)	757 mm (29-13/16 in.)
648 mm (25-1/2 in.)	829 mm (32-5/8 in.)	800 mm (31-1/2 in.)	935 mm (36-13/16 in.)
825 mm (32-1/2 in.)	1 006 mm (39-5/8 in.)	977 mm (38-1/2 in.)	1 112 mm (43-3/4 in.)

R	A	B
470 mm (18-1/2 in.)	1 700 mm (67 in.)	1 047 mm (41-1/4 in.)
648 mm (25-1/2 in.)	1 880 mm (74 in.)	1 225 mm (48-1/4 in.)
825 mm (32-1/2 in.)	2 050 mm (80-3/4 in.)	1 402 mm (55-1/4 in.)

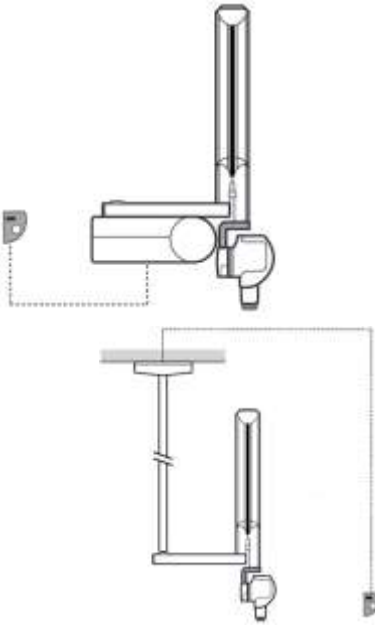
# Cat Numbers

There are 5 Cat Numbers for 230 V systems

Cat Number	Description	
5153671	CS 2100 230V / 170 cm Short Wall Mount	
5153663	CS 2100 230V / 188 cm Standard Wall Mount	
5153655	CS 2100 230V / 205 cm Long Wall Mount	
5154349	CS 2100 230V / Ceiling Mount	
5155304	CS 2100 230V / Ceiling Mount Faro	

# Cat Numbers

There are 4 Cat Numbers for 110 V systems

Cat Number	Description	
5153648	CS 2100 110V / 170 cm Short Wall Mount	
5153630	CS 2100 110V / 188 cm Standard Wall Mount	
5153622	CS 2100 110V / 205 cm Long Wall Mount	
5154356	CS 2100 110V / Ceiling Mount	

Introducing the Next Generation  
**CS 2200**



# Benefits

- Choice between 60 or 70 kV for high contrast or high latitude images
- DC technology (Very High Frequency technology)
  - Dose reduction (up to 30%) thanks to the VHF
  - Better control of exposure parameters: reproducibility and consistency
- One level of mA (7 mA): simplification, shorter exposure times, failsafe, reduction of motion blur
- Hand-held timer for freedom of movement in the practice
- Easy-to-use, intuitive and failsafe timer
- Simplified and mistake-proof setting of exposure parameters
- Dose display after each exposure
- Full range of options and accessories that maximise the overall flexibility of the unit
- Improved servicing

# Timer

## Multiple user functions:

- Exposure settings
  - 60 / 70 kV
  - 3 patient sizes: child / adult / large patient
  - 3 pre-set modes: phosphor plate/digital/film
  - 1 manual mode → timer
  - 1 intuitive tooth selection wheel:
    - Incisor / premolar / molar - maxillary or mandibular
    - Bite-wing anterior / posterior - Occlusal
- Emitted dose display





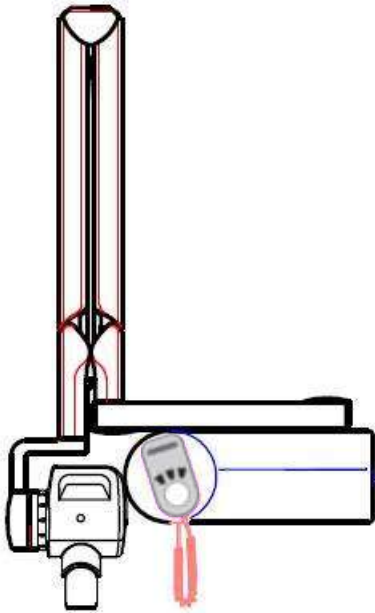
# Timer

## Multiple service functions:

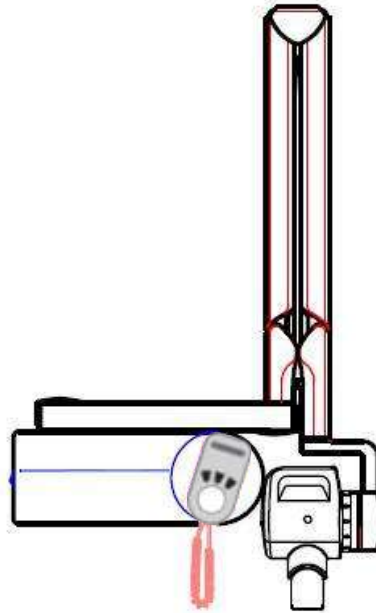
- User Menu
  - Settings adjustments
  - Tube seasoning
- Technical Menus
  - Interface with firmware
  - 2 counters for exposures
  - Up to 59 management error codes
  - Calibrated generator parameters



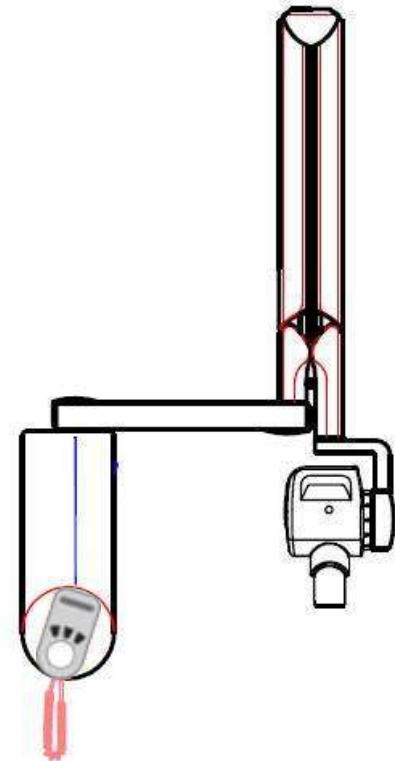
# Installation Layouts



Left orientation

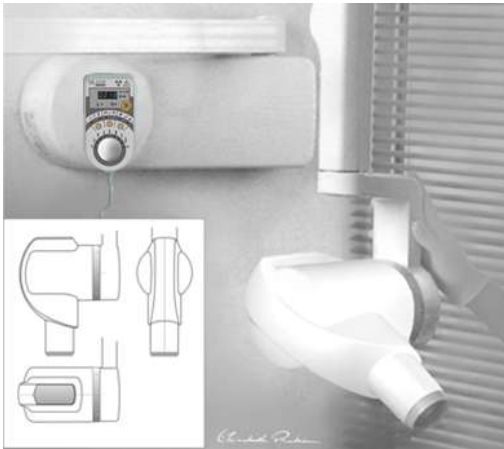


Right orientation



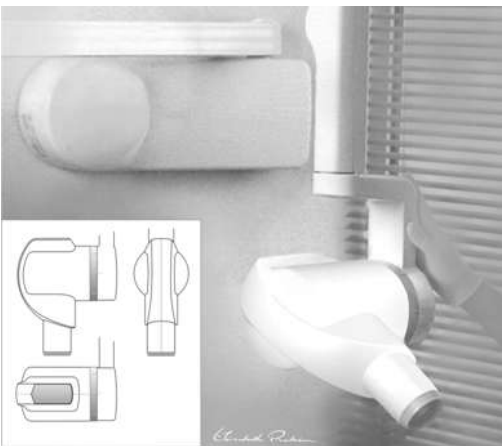
Vertical orientation

# Configurations



## STANDARD CONFIGURATION

Timer is fixed on the wall apply with a back magnetic plate.



## OPTIONAL CONFIGURATION

(with additional **Cat 5159678** accessory)

**3 over-twinned pairs + 1 shield cable  
included in the accessory**

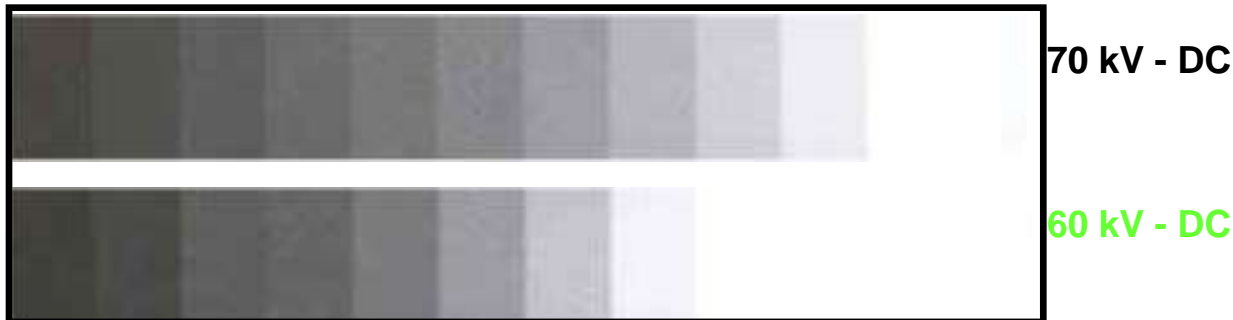


Timer can also be mounted remotely on the wall.

# 60kV and 70kV DC

- Selecting 60 or 70 kV will adjust the contrast (gray shade) levels of the radiographic image
- Provides the dentist freedom of choice according to the type of examination (periodontics, endodontics), diagnostic standards, and the morphology of the patient
- 60 kV will provide radiographs with high contrast
- 70 kV will provide radiographs with high latitude, and with additional dose reduction

## Resulting radiographic contrast



# Technical Specifications

MEASUREMENT	VALUE
Tube Voltage	60 kV – 70 kV
Tube Current	7 mA
Frequency	300 kHz Very High Frequency
Tube Focal Spot	0.7 mm CEI
Total Filtration	2.5 mm eq. Al
Input Voltage	230-240 V – 50/60 Hz
Weight	~ 18 kg - ~ 40 lbs

## 3 arm lengths available:

Short (170 cm / 67 in.); Standard (188 cm / 74 in.); Long (205 cm / 81 in.)

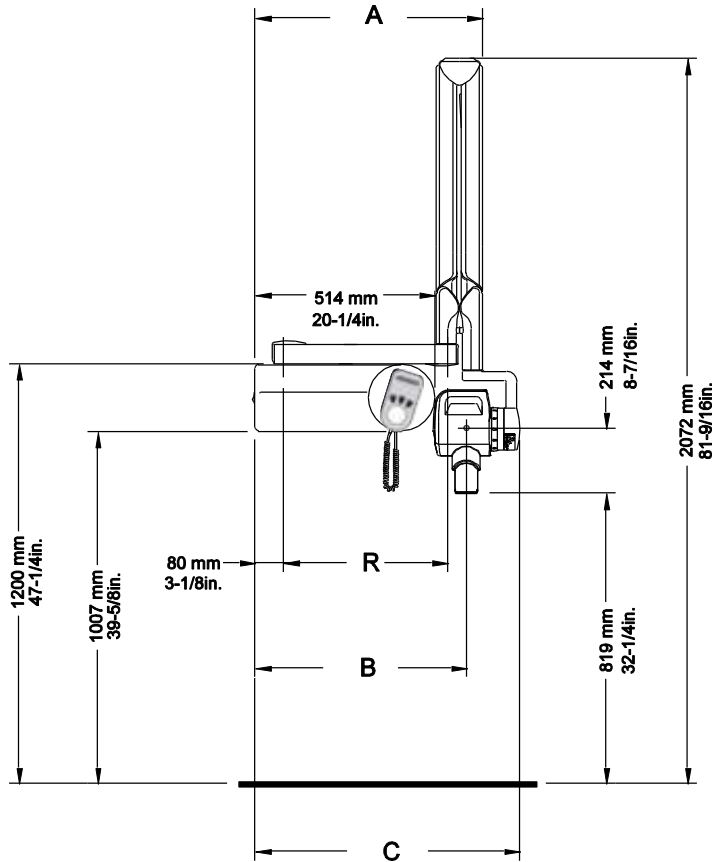
## Accessories:

Mobile stand  
Floor mounting column  
Rectangular collimators (size A, B and C), ....

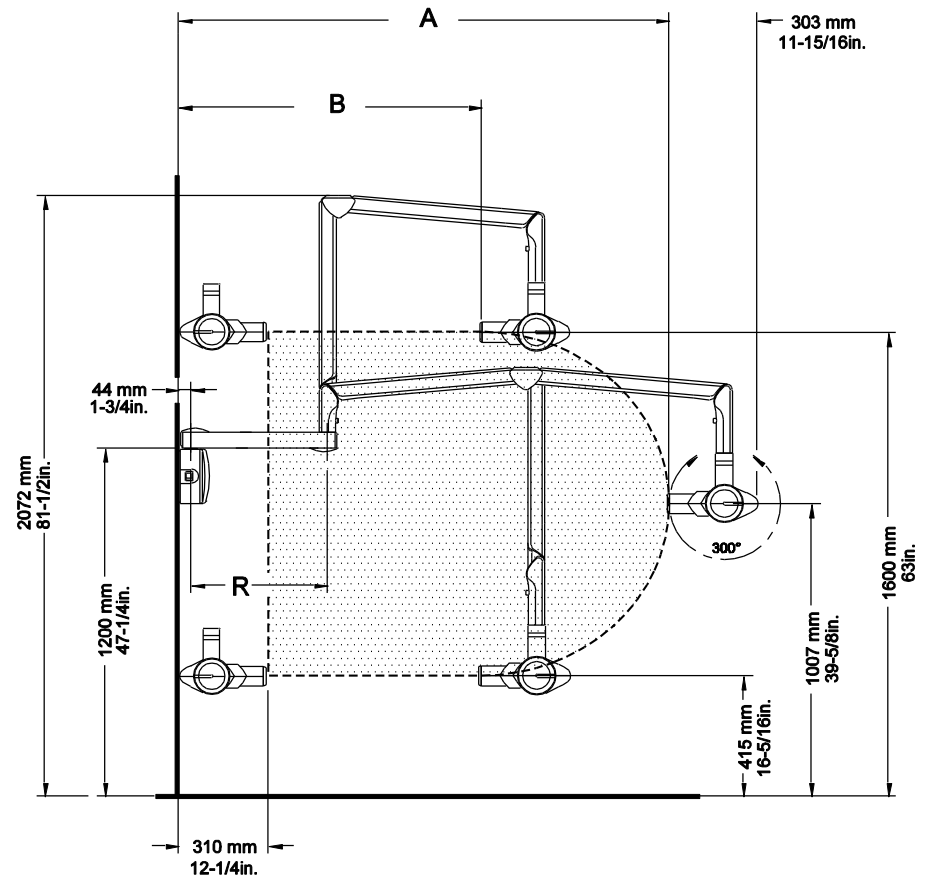
## Mounting options:

Standard wall mount  
Ceiling mount

# Dimensions



R	A	B	C
470 mm (18-1/2 in.)	651 mm (25-5/8 in.)	622 mm (24-1/2 in.)	757 mm (29-13/16 in.)
648 mm (25-1/2 in.)	829 mm (32-5/8 in.)	800 mm (31-1/2 in.)	935 mm (36-13/16 in.)
825 mm (32-1/2 in.)	1 006 mm (39-5/8 in.)	977 mm (38-1/2 in.)	1 112 mm (43-3/4 in.)



R	A	B
470 mm (18-1/2 in.)	1 700 mm (67 in.)	1 047 mm (41-1/4 in.)
648 mm (25-1/2 in.)	1 880 mm (74 in.)	1 225 mm (48-1/4 in.)
825 mm (32-1/2 in.)	2 050 mm (80-3/4 in.)	1 402 mm (55-1/4 in.)

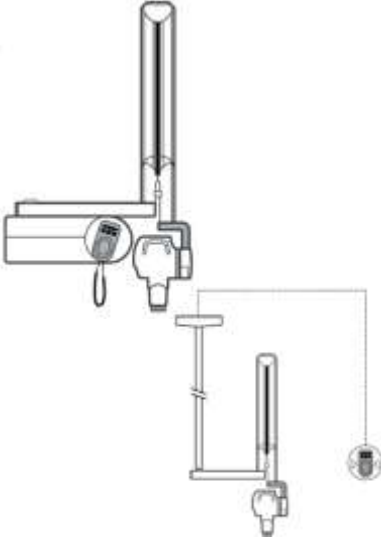
# Cat Numbers

There are 5 Cat Numbers for 230 V Systems

Cat Number	Description	
5153580	CS 2200 230V / 170 cm Short Wall Mount	
5153572	CS 2200 230V / 188 cm Standard Wall Mount	
5153564	CS 2200 230V / 205 cm Long Wall Mount	
5154331	CS 2200 230V / Ceiling Mount	
5155288	CS 2200 230V / Ceiling Mount Faro	

# Cat Numbers

There are 4 Cat Numbers for 110 V Systems

Cat Number	Description	
5153614	CS 2200 110V / 170 cm Short Wall Mount	
5153606	CS 2200 110V / 188 cm Standard Wall Mount	
5153598	CS 2200 110V / 205 cm Long Wall Mount	
5154323	CS 2200 110V / Ceiling Mount	



**IRIX Mounting Configuration**  
**CS 2200**

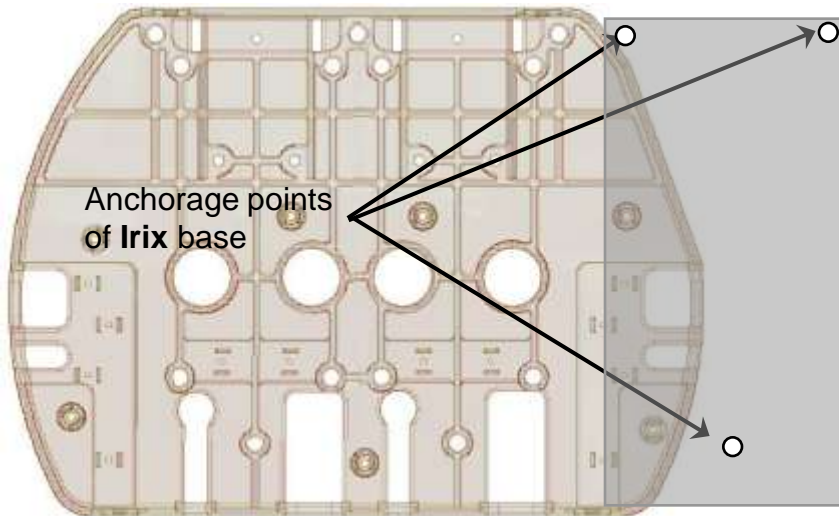


# Benefits

- Use of Trophy Irix anchorage points (and Gendex Oralix AC)
- No impact to existing practice environment
- Simplified installation
- DC technology (Very High Frequency technology)
  - Dose reduction (up to 30%) thanks to the VHF
  - Better control of exposure parameters: reproducibility and consistency
- Choice between 60 or 70 kV for high contrast or high latitude images
- One level of mA (7 mA): simplification, shorter exposure times, failsafe
- New easy-to-use, intuitive and failsafe interface
- Simplified and mistake-proof setting of exposure parameters
- Dose display after each exposure
- Improved servicing

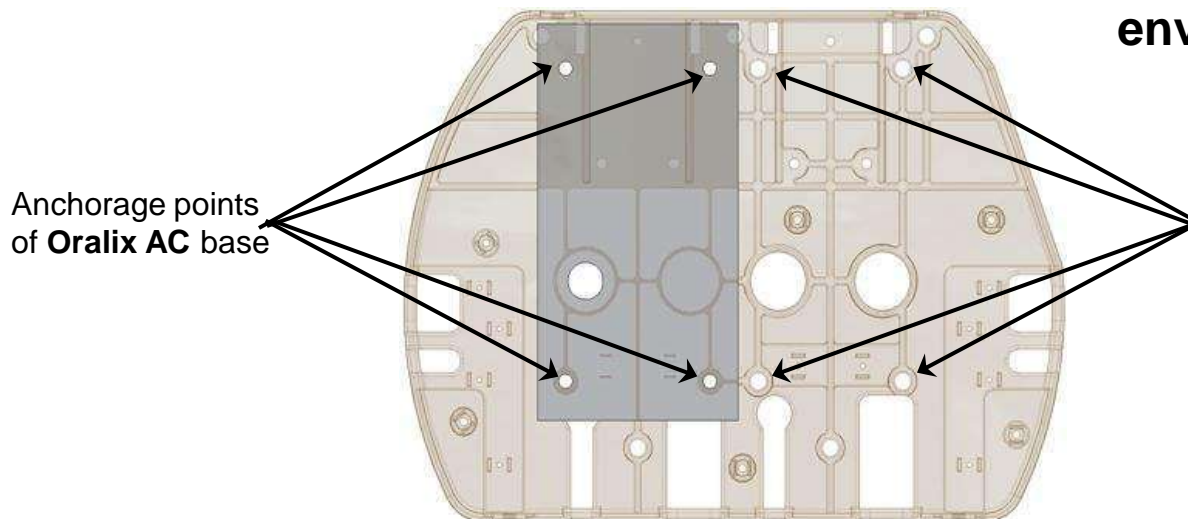


# Wall Mount Compatibility



Trophy Irix

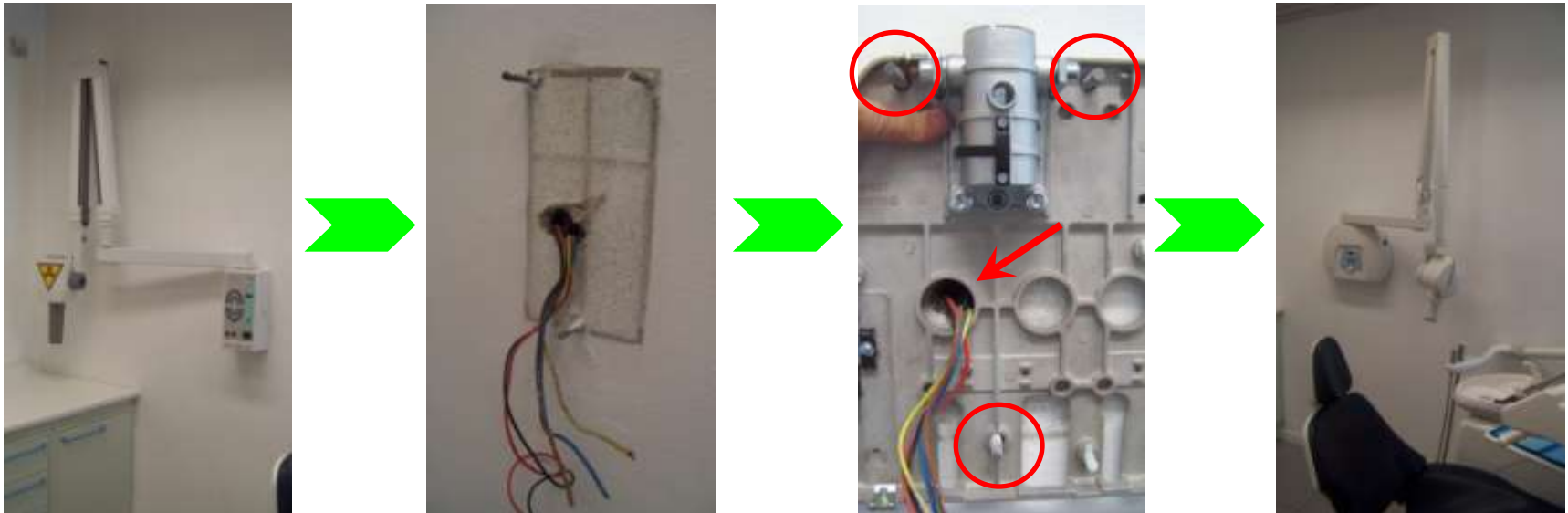
Left or right orientations are possible to suite the practice environment



Gendex Oralix AC

# Irix Replacement: EASY and Fast

- The former Irix unit can be replaced in less than 1 hour, using the same anchorage points and cables (power supply, exposure switch command).
- There is no additional work required to redecorate the area after installation



# User's Interface

## Multiple user functions:

- Exposure settings
  - 60 / 70 kV
  - 3 patient sizes: child / adult / large patient
  - 3 pre-set modes: phosphor plate/digital/film
  - 1 manual mode → timer
  - 1 intuitive tooth selection wheel:
    - Incisor / premolar / molar - maxillary or mandibular
    - Bite-wing, anterior / posterior, occlusal
- Emitted dose display



X-ray activation  
by existing switch  
or supplied  
exposure button



# User's Interface

## Multiple service functions:

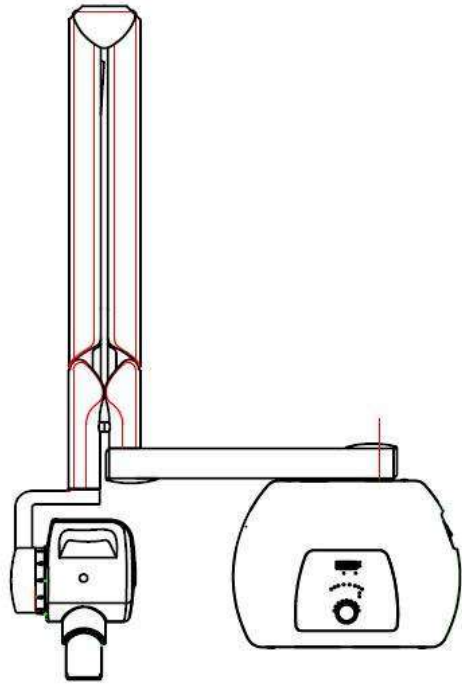
- Anterior / posterior - Occlusal
- Emitted dose display
- User Menu
  - Settings adjustments
  - Tube seasoning
- Technical Menus
  - Interface with firmware
  - 2 counters for exposures
  - Up to 59 management error codes
  - Calibrated generator parameters



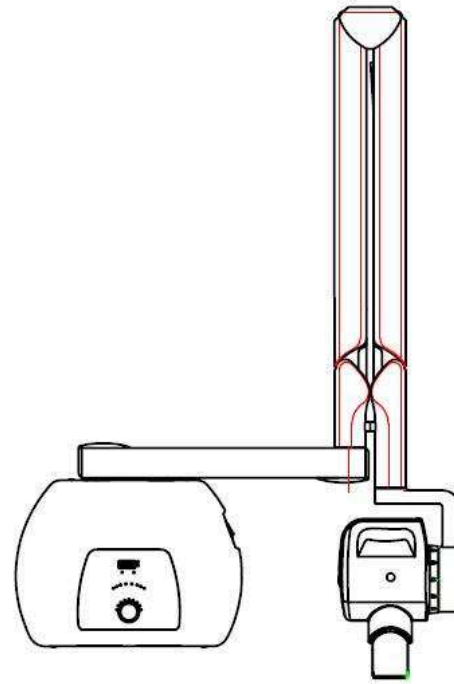
X-ray activation  
by existing switch  
or supplied  
exposure button



# Installation Layouts



Left orientation



Right orientation

# Configuration



Standard 2-wire cable



User's interface is attached on the wall apply.

X-rays are activated by a separate exposure switch.



# Technical Specifications

MEASUREMENT	VALUE
Tube Voltage	60 kV – 70 kV
Tube Current	7 mA
Frequency	300 kHz Very High Frequency
Tube Focal Spot	0.7 mm CEI
Total Filtration	2.5 mm eq. Al
Input Voltage	230-240 V – 50/60 Hz
Weight	~ 18 kg - ~ 40 lbs

## 3 arm lengths available:

Short (170 cm / 67 in.); Standard (188 cm / 74 in.); Long (205 cm / 81 in.)

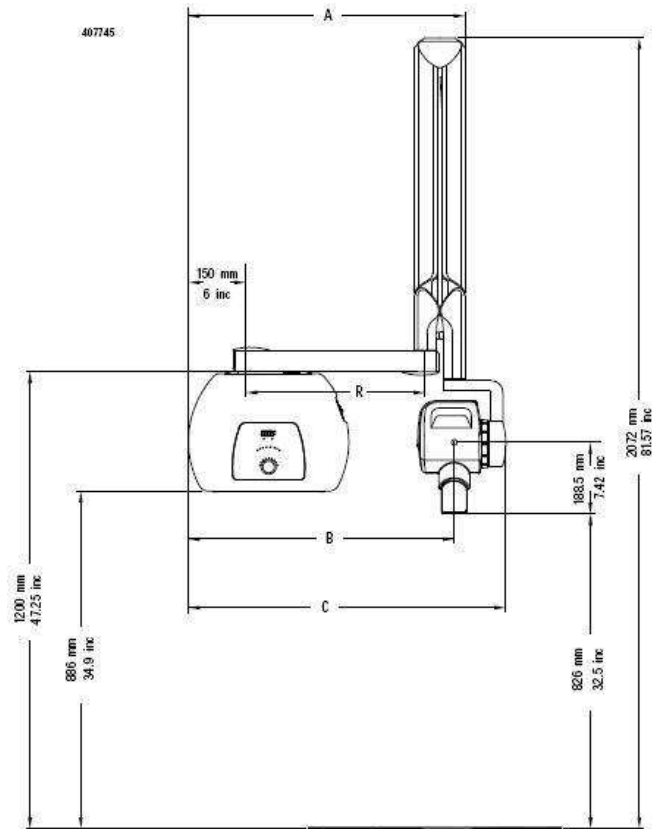
## Accessories:

Rectangular collimators (size A, B and C), ....

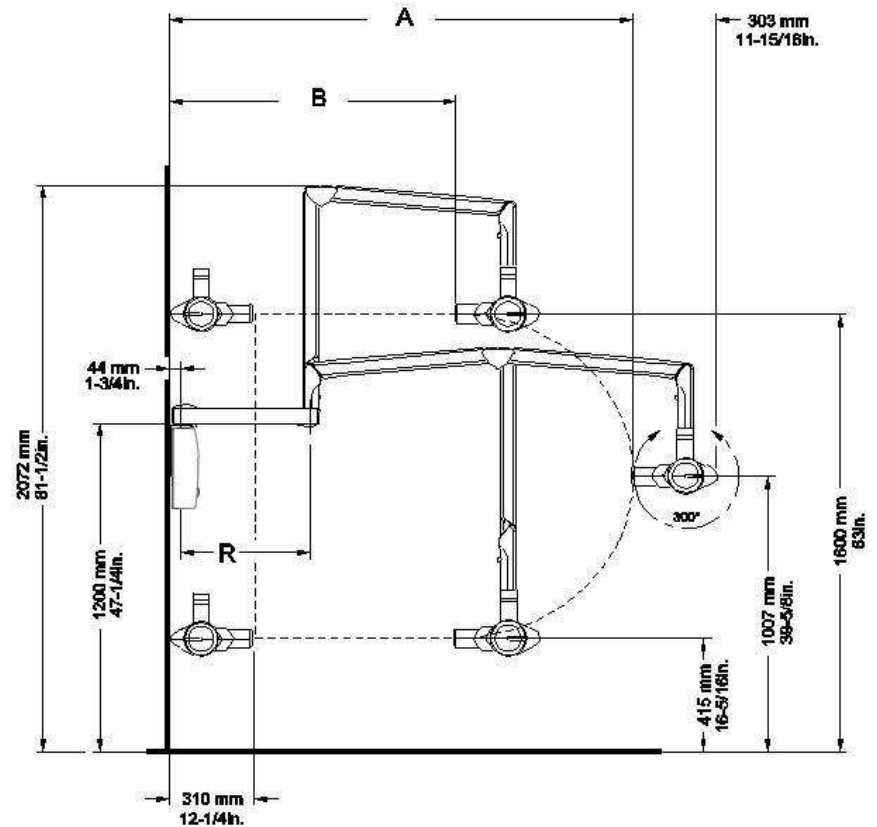
## Mounting options:

wall mount

# Dimensions



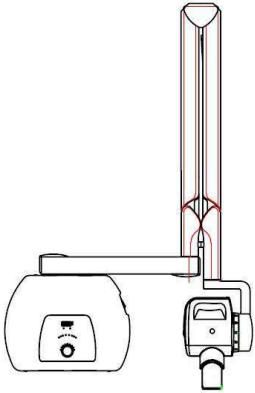
R	A	B	C
470 mm 18.5 inc	725.5 mm 28.5 inc	817 mm 32 inc	832 mm 32.8 inc
648 mm 25.5 inc	903.5 mm 35.5 inc	995 mm 39 inc	1010 mm 39.7 inc
825 mm 32.4 inc	1080.5 mm 42.5 inc	1172 mm 46 inc	1187 mm 46.7 inc



R	A	B
470 mm (18-1/2 in.)	1 700 mm (67 in.)	1 047 mm (41-1/4 in.)
648 mm (25-1/2 in.)	1 880 mm (74 in.)	1 225 mm (48-1/4 in.)
825 mm (32-1/2 in.)	2 050 mm (80-3/4 in.)	1 402 mm (55-1/4 in.)

# Cat Numbers

There are 3 Cat Numbers (only available 230 V )

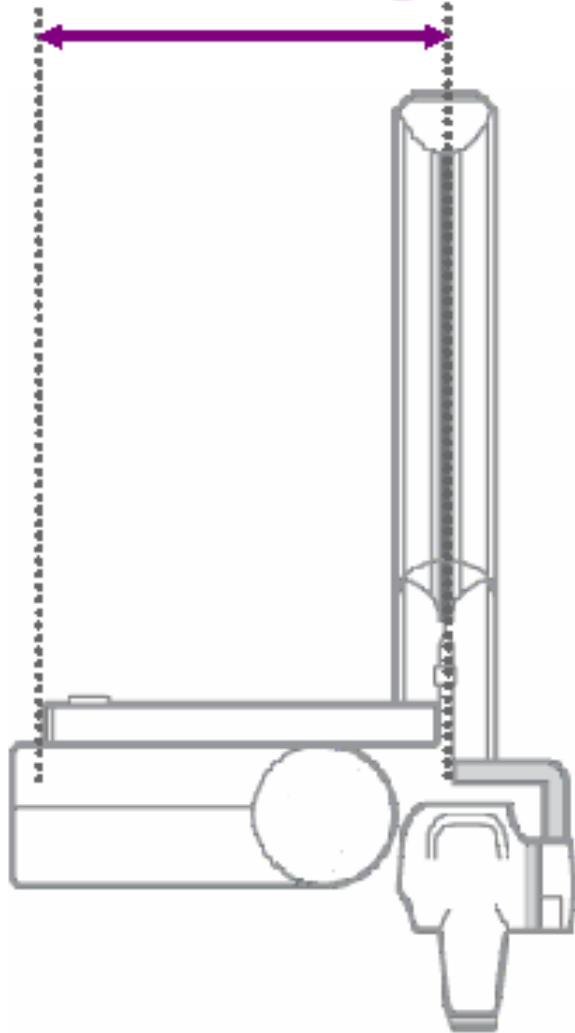
Cat Number	Description	
5159652	CS 2200 230V / 170 cm Short Wall Mount / Irix Mounting Configuration	
5159645	CS 2200 230V / 188 cm Standard Wall Mount / Irix Mounting Configuration	
5159660	CS 2200 230V / 205 cm Long Wall Mount / Irix Mounting Configuration	

CS Intraoral X-ray Systems

# **ACCESSORIES & OPTIONS**

# 3 Extension Arms

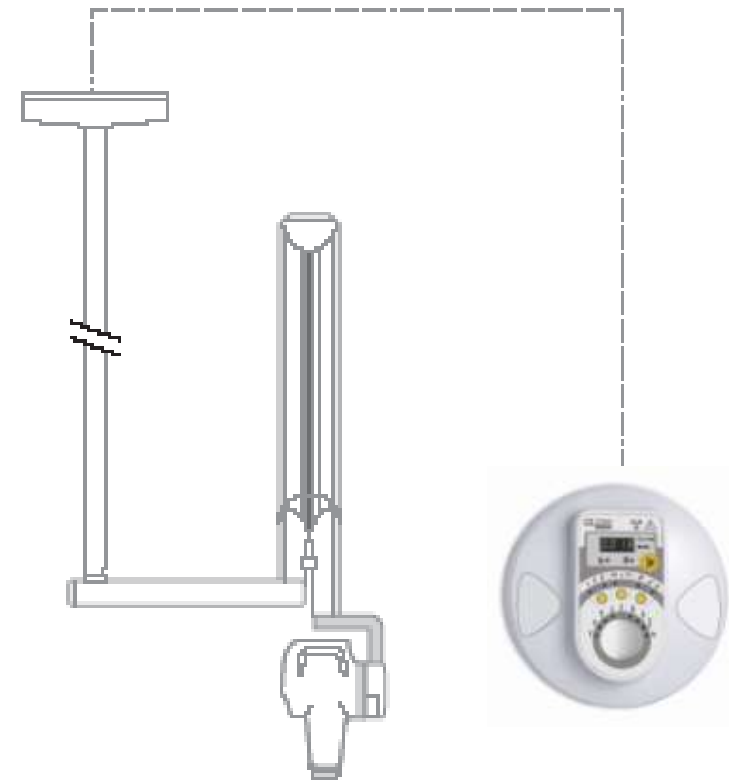
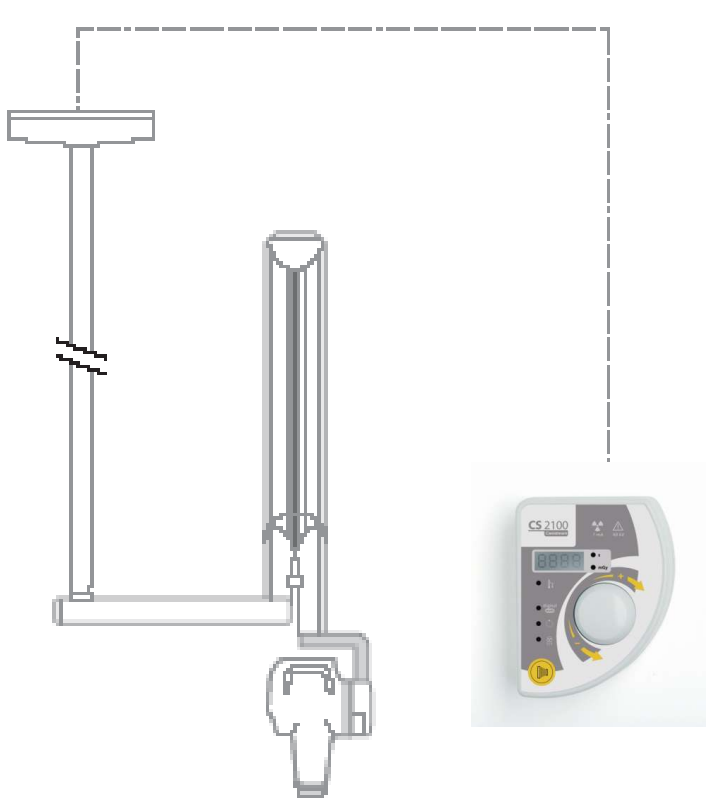
Extension length



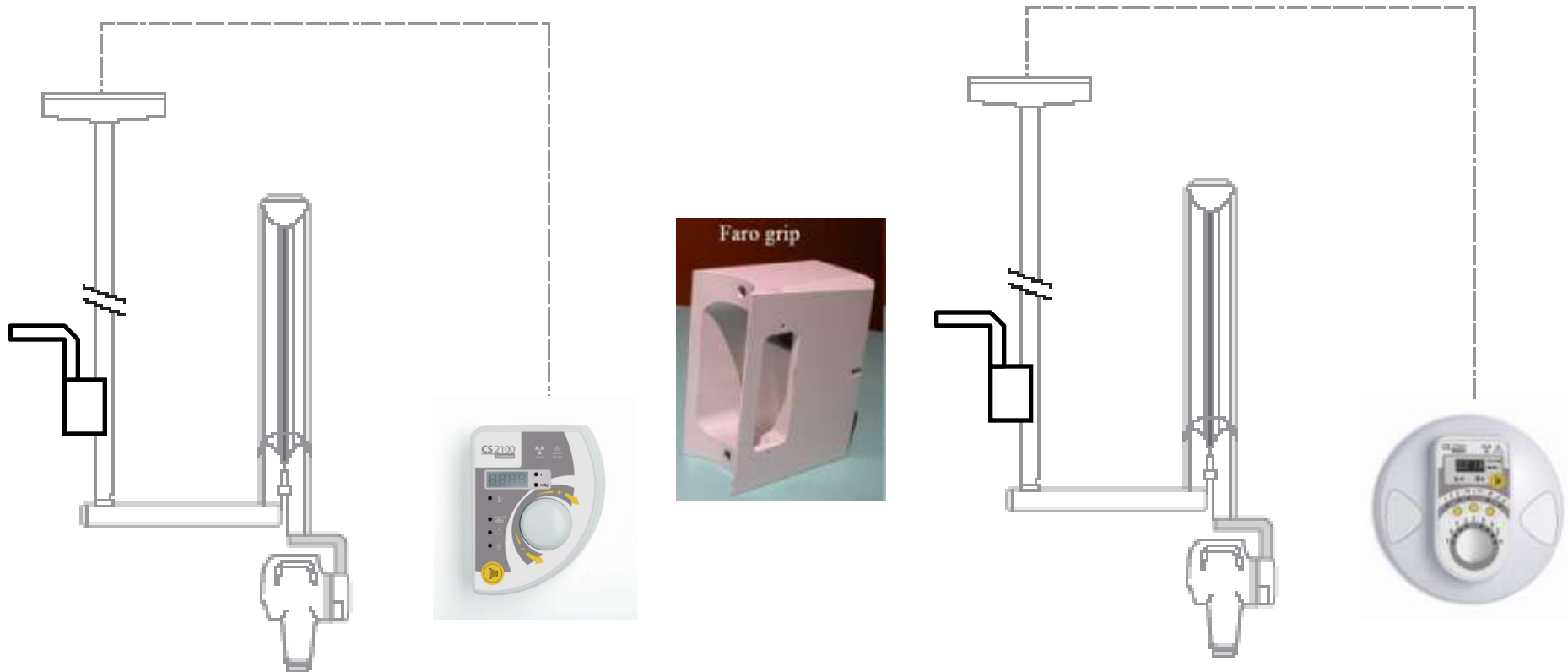
Extension arms available for CS2100 & CS 2200 :

- ❶ Extension arm of 470 mm (18.50") – short → 170 cm span
- ❷ Extension arm of 648 mm (25.5") – standard → 188 cm span
- ❸ Extension arm of 850 mm (32.5") – long → 205 cm span

# Ceiling Mount (available for 110V & 230 V)

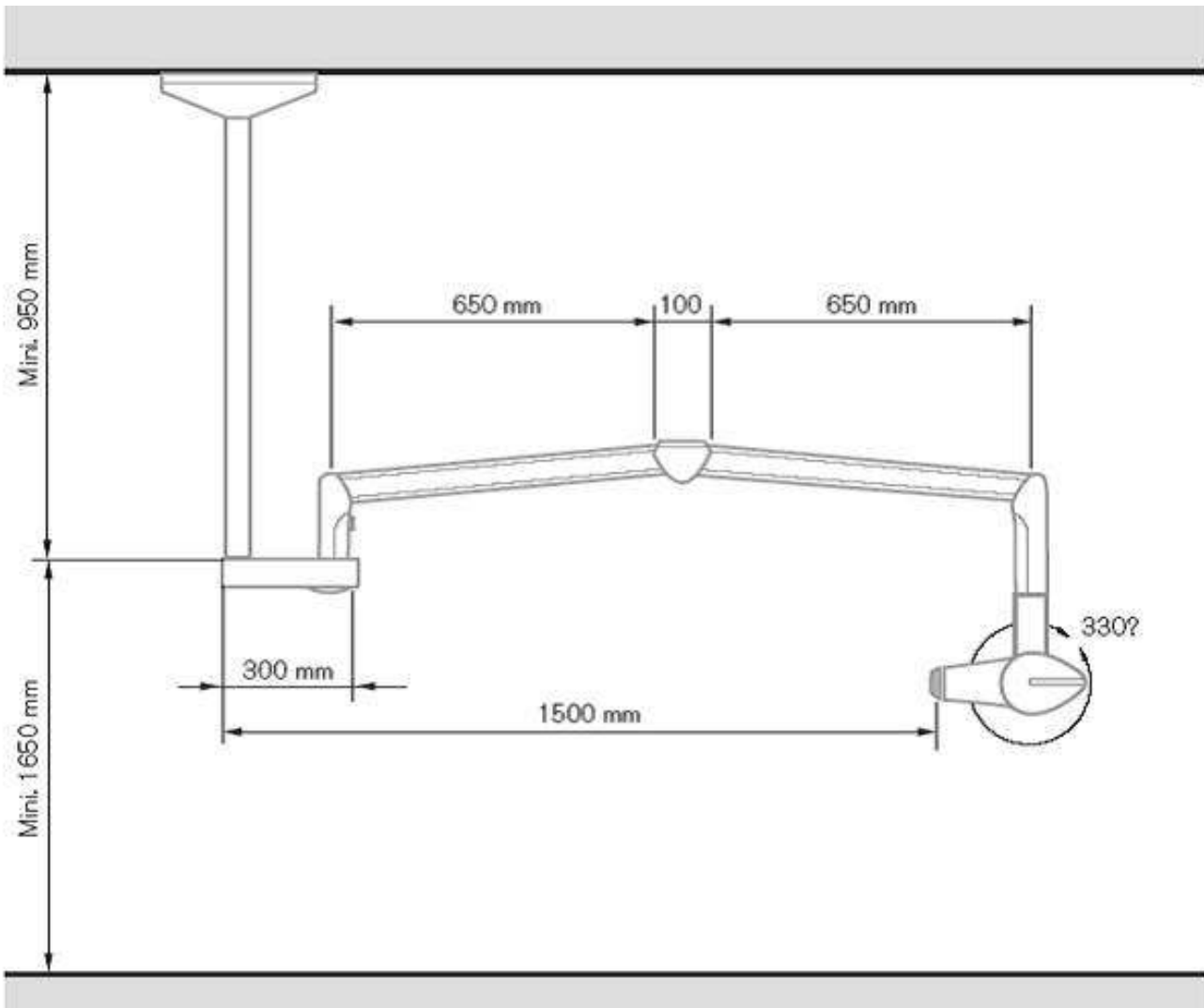


# Ceiling Mount Faro (only available for 230 V)



**Faro Grip for adapting a Faro lightning system  
on the ceiling column** (included in package)

# Ceiling Mount





# Mounting Configurations

- These mounting options are usable with both CS 2100 & CS 2200, but can only be associated with the standard wall-mounting configurations
- They are not compatible with the CS 2200 / Irix Mounting Configuration

## Mounting Options

- Mobile base
- Floor column stand
- Counter plate
- Metal plate for pass-through configuration
- Irix wall mask apply

# Mounting Options – Mobile base



**CS 2100  
Mobile Unit**



**CS 2200  
Mobile Unit**

**Mobile base**      Cat  
5154281

**Must be combined together with  
either CS 2100 or CS 2200 /  
Standard wall-mounting  
configuration.**

**CE and C-UL Certified for highest  
safety**

# Mounting Options – Floor Column Stand



**CS 2100  
Floor Mounting  
Column Unit**



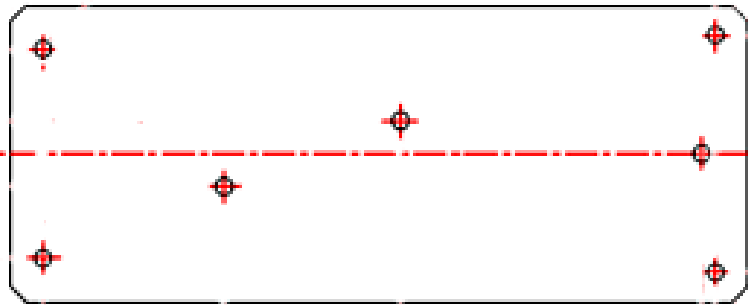
**CS 2200  
Floor Mounting  
Column Unit**

Floor column stand Cat 5154273

Must be combined together with  
either CS 2100 or CS 2200 /  
Standard wall-mounting configuration.

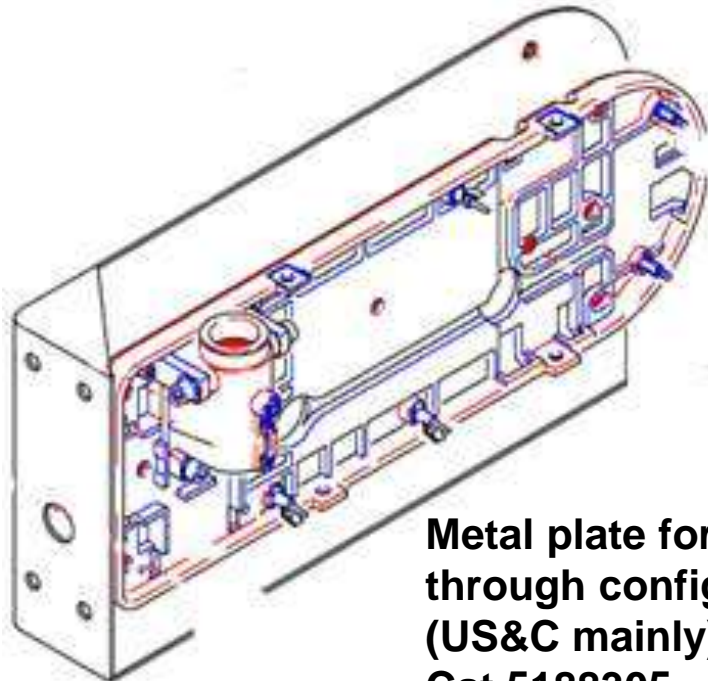
CE and C-UL Certified for highest  
safety

# Installation plates

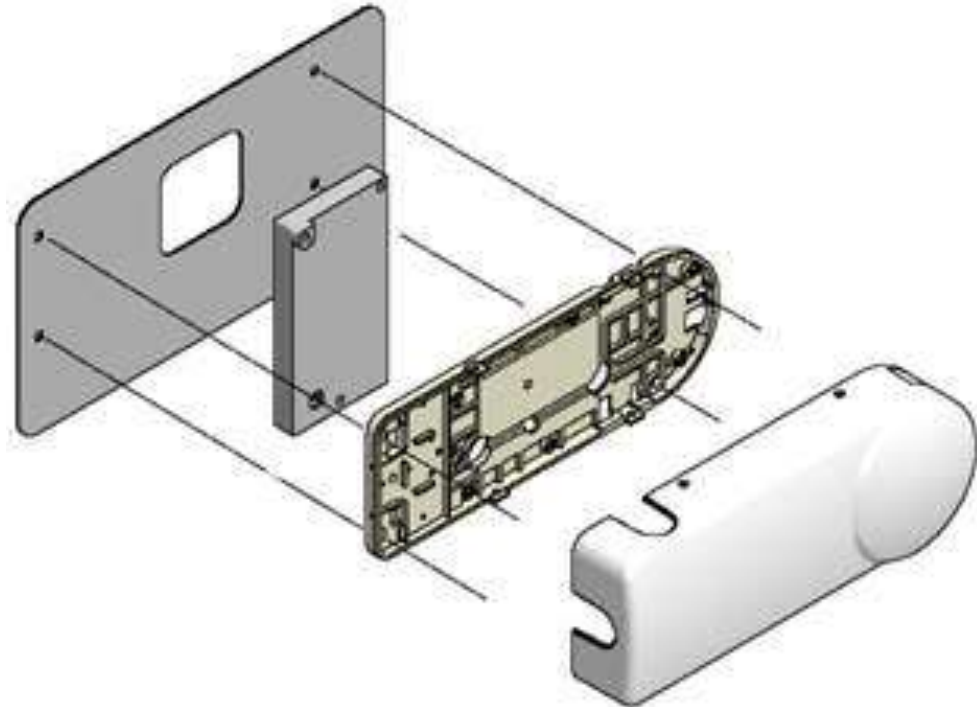


**Counter plate for standard wall-mounted configurations**  
Cat 5154265

**Irix wall mask apply**  
Cat 5156369  
(in case of horizontal layout)



**Metal plate for pass-through configuration (US&C mainly)**  
Cat 5188305



# Accessories for the intraoral product range

- X-ray exposure switch - **Cat 5154307**  
(it is compulsory when mounting the CS 2100 with the timer on the wall-apply cover)
- Separate timer box for CS 2200 - **Cat 5159678** (\*)  
(it is compulsory to mount the CS 2200 with the timer on the wall)
- Square collimator size C (delivered with the unit) for sizes 1 & 2 film/plate and size 2 sensor
- Square collimators size A and B for other smaller sized sensors and/or films/plates

(\*) note: for former Trophy Elitys, Kodak 2000 or Kodak 2200 (with 4 and 7 mA), use Cat 5154315



# List of Cat Numbers for Collimators

5154232	Collimator - size A - 19 x 24 mm
5154240	Collimator - size B - 23 x 35 mm
5154257	Collimator - size C - 31 x 39 mm



COLLIMATOR TYPE			
	Format (mm)	For use with digital sensor	For use with film or CR
A	19 x 24	Size 0	
B	23 x 35	Size 1	Size 0 22 x 35
C	31 x 39	Size 2	Size 1 24 x 40 Size 2 31 x 41
Standard cone	60 mm diameter		Size 3 27 x 54 Size 4 57 x 76

- Collimators fit the size of imaging receptor to limit patient dose by limiting the surface exposed to radiations.
- Labeled A, B and C to avoid confusions between film/plate sizes (ISO 3665 – sizes 0, 1, 2, 3 & 4) and sensor sizes (internal – sizes 0, 1 & 2)