



# OEC Brivo Plus

## Digital Mobile C-arm Technical Data

### **Adding more to your surgical imaging capabilities.**

Advanced hardware, optimized image processing and dose management software provide superb image quality at a lower dose. The clinically versatile OEC Brivo 865 Plus promises features to help add to your mobile surgical imaging capabilities.

- 1k x 1k high resolution imaging technology from a fully digital image processing system
- 9" Image Intensifier provides high spatial resolution
- Brilliant radiation safety features ensure you get the right image at the right dose
- Carbon fiber grid reduces scatter radiation effect while improving image detail
- Available Pediatric package for clear images with lower dose when imaging children
- Intuitive user interface with touch screen can reduce procedure time and improve efficiency
- Advanced connectivity including wireless DICOM, MPPS and DVI options
- Data protection and compliance including a UPS to protect patient data



## X-ray System

### Generator

- 40kHz high frequency
- 2.2kW monoblock
- Housing heat capacity: 900,000HU
- Housing cooling rate: 12,500HU/min
- Up to 110kVp
- Up to 20mA for radiographic film exposure
- Continuous high level fluoro (HLF) up to 12mA
- Digital spot up to 16mA

### X-ray Tube

- Stationary anode X-ray tube
- Dual focal spot:
  - Small focal spot: 0.6mm x 1.4mm
  - Large focal spot: 1.4mm x 1.4mm
- Tube assembly total filtration 3.35mm Al
- Anode heat capacity: 76,000HU
- Maximum anode cooling rate: 37,000HU/min
- On-screen tube heat capacity indicator

### PreView Collimator

- On-screen collimator position indication
- PreView iris collimator
- PreView tungsten rotatable double leaf collimator
- Adjusts collimators without X-ray exposure

### Normal Fluoro Mode

- kVp range: 40 -110
- mA range: 0.1 - 4
- Auto and manual fluoro modes

### Low Dose Fluoro Mode

- kVp range: 40 -110
- mA range: 0.1 - 2
- Auto and manual fluoro modes

### High Level Fluoro Mode

- kVp range: 40 -110
- mA range: up to 12
- Auto and manual fluoro modes

### Pulsed Fluoro Mode

- kVp range: 40 -110
- mA range: 0.1 - 4
- Pulse rate: 1, 2, 4, 8 PPS
- Auto and manual fluoro modes
- Can reduce X-ray dose to patient and operator

### Low Dose Pulsed Fluoro

- kVp range: 40 -110
- mA range: 0.1 - 2
- Pulse rate: 1, 2, 4, 8 PPS
- Auto and manual fluoro modes

### High Level Pulsed Fluoro

- kVp range: 40 -110
- mA range: up to 12
- Pulse rate: 1, 2, 4, 8 PPS
- Auto and manual fluoro modes

## Digital Spot Mode

- kVp range: 40 - 110
- mA range: up to 16 (up to 10mA for 100-120V system)
- Automatic exposure termination and automatic image save

## Radiographic Mode

- mA range: 20 (10 for 100-120V system)
- mAs range: up to 80 (40 for 100-120V system)
- Computer controlled exposure time
- Film cassette holder: 10" x 12" (25.4cm x 30.5cm)

## Video Imaging System

### Precise-Imaging features

- **AutoTrak**
  - Automatically seeks the subject anatomy anywhere within the imaging field and selects the optimum imaging technique
  - Automatically adjusts to anatomical size and location
  - Provides uniform image quality throughout entire image
  - Simplifies operation
- **Smart Window**
  - Dynamically senses the collimator position and automatically adjusts brightness and contrast to produce high image quality
- **Smart Metal**
  - Automatically detects the metal in field and optimizes image quality
  - Allows user to adjust automatic brightness and contrast sensitivity levels to metal
  - Provides optimum image quality even when metal is introduced to the field

### 9" Image Intensifier

- Tri-mode 9"/6"/4.5" (23cm/15cm/11cm) image intensifier, The central resolution (typical value at image intensifier):
  - 9" (23cm): 52 lp/cm
  - 6" (15cm): 58 lp/cm
  - 4.5" (11cm): 68 lp/cm
- Minimum central resolution (at monitor):
  - 9" (23cm): 2.2 lp/mm
  - 6" (15cm): 3.0 lp/mm
  - 4.5" (11cm): 3.5 lp/mm
- DQE: 65% (typical)

### Tungsten Collimator

- Denser collimator limits X-ray exposure area
- Reduces scatter radiation
- Improves image detail

### Carbon Fiber Grid

- 60L/cm 10:1 anti-scatter grid
- Reduces scatter radiation effect
- Improves image detail

## Video Camera

- High resolution 1k x 1k CCD camera
- Full digital interface
- Variable gain control

## Video Display

- Dual medical 19" (48cm) monochrome LCD with anti-glare panel.
  - Tilt motion: 7 degree up / 10 degree down
  - Swivel motion: 180 degree
  - Viewing angle: 170 degree horizontal and vertical
- Maximum brightness: 1000 Cd/m<sup>2</sup>
- Maximum contrast: 900:1
- 1280 x 1024 high resolution
- Digital Visual Input (DVI) interface for external monitors (Optional)

## Image Processing

### Image Processing

- 1k x 1k x 16 bit image processing
- Dynamic recursive filter with adaptation to motion
  - Allows user to adjust noise filter levels to produce high image quality
  - Provides optimum image quality even when motion is introduced to the field
- Automatic digital brightness and contrast control
- Manual digital brightness and contrast control
- Auto adaptive non-uniformity correction
- Image edge enhancement
- Image negate mode
- Image save and auto-save
- Image swap and auto-swap
- Last image hold (LIH)
- Image zoom and roam
- Left-right image reversal
- Top-bottom image invert
- Digital Image Rotation
  - 360 degree real-time rotation for live and static images
  - Image positioning without additional exposure
- HIPAA SecureView
  - Password protection
  - Blank screen function
  - Delete all
- Measurement Software (Optional)
  - Distance measurement
  - Angle measurement
  - Multi-unit support (French, mm, Inch)
  - User calibration
- Image Annotation
  - Arrows and markers
  - Comments
  - Cropping
- 100,000 images storage

### Exam Management

- Patient information
  - Examination list
  - Customized patient information

- X-ray DAP/Dose display & summary
- X-ray DAP/Dose summary export & print out
- Full DICOM interface
  - Storage & commitment
  - Print
  - Work-list
  - Radiation Dose Structured Report (RDSR)
  - Query & Retrieve (Optional)
  - MPPS (optional)
- Wireless DICOM (Optional)

## User Interface

- Entire system is computer controlled and software upgradeable
- Touchscreen control simplifies operation
- Automated system operation requires minimum operator interface
- Emergency login mode
  - No password needed
  - Basic imaging function available
- Multi-functional controls
  - Footswitch with save button (Optional)
  - Handswitch
- Simplified water resistant keyboard
- Multi-purpose image directory
  - Retrieve and review images
  - Export images
  - Import images
  - Delete images
- Customize functions
  - Workstation set-up
  - Mainframe set-up
  - Multi-language set-up
  - Date/time set-up
  - DICOM interface set-up
  - Wireless network set-up
- Review station
  - Workstation works alone
  - Image review and DICOM operation available
- Image Intensifier side and tube side laser aimer (Optional)

## Brilliant-Dose Management Platform

- Superb imaging unit with high dose efficiency
  - High DQE (65%) image intensifier
  - 60L/cm 10:1 carbon fiber grid
  - Unique hardware & software design to get balance of dose and image quality
  - Dynamic camera gain control for low dose imaging
  - Full digital image processing
- Doseless positioning
  - Laser aimer on tube and image intensifier
  - Preview collimator
  - Real time rotation for static images
- Provide real-time dose information
  - Dose rate, accumulative dose, DAP
  - Multi-unit support, (Gy, Rad)
- Lower dose imaging mode for pediatrics
  - Removable grid (Optional)
  - Additional filter (Optional)
  - Low dose mode
  - Pulsed imaging mode
- Dose summary data output & archive
  - Dose summary export & print out
  - Dose information transfer via DICOM (RDSR)

## Physical Specifications

Mainframe	
System length	70.3 in (179 cm)
System height	67.1 in (170.5 cm)
System width	30.7 in (78 cm)
Weight	573 lbs (260 kg)
C-arm	
SID	39.4 in (100 cm)
Free space in arc	30.7 in (78 cm)
Depth in arc	26 in (66cm)
Orbital rotation	120° (90°underscan /30°overscan)
Lateral rotation	410° (+205°/-205°)
Lateral height	40.2 in (102 cm)
Wig/wag	25° (+12.5°/-12.5°)
Horizontal travel	8.0 in (20 cm)
Vertical travel	17.5 in (44.5 cm)
Workstation	
Height	65.7 in (167 cm)
Width	35.4 in (90 cm)
Depth	25 in (64 cm)
Weight	375 lbs (170 kg)
Monitor swivel	±90°
Monitor tilt motion	+7°/-10°

## Additional Features

### Other Image Storage Options

- CD/DVD writer (Optional)
- USB memory stick port
- Integrated DICOM storage

### Hardcopy Options

- Integrated film/paper printer (Optional)
  - No film developing required
- DICOM printer support
  - Multi-format, 1, 2, 4 on 1
  - Multi-copy capability
- Radiographic film cassette holder (Optional)

### Pediatric Application Kit

- Removable grid (Optional)
- Additional filter (Optional)

### Integrated Uninterruptible Power

- Patient Image data protection
- Orderly shutdown

### Electrical

- Input power (60 Hz or 50 Hz)
  - 100V/110V/120V @ 20A
  - 200V @ 12A
  - 220V/230V/240V @ 10A

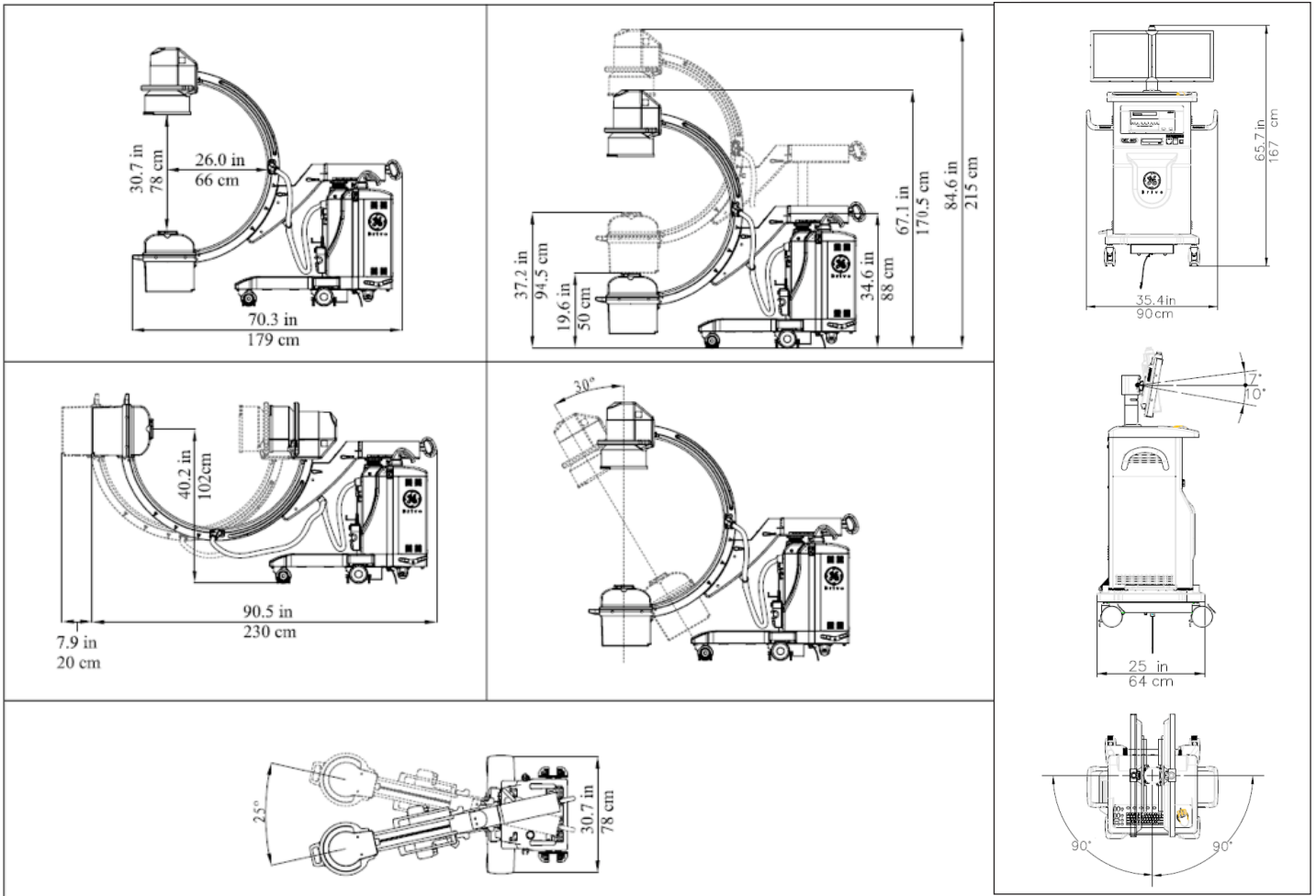
### Operating Range

- Temperature: 10° to 40°C
- Humidity: 20%-80% non-condensing

### Regulatory Compliance

- IEC60601-1 2nd Ed. and 3rd Ed. (Plus Collateral and Particular Standards)
- JIS 4704, 4702, 4703
- MDD 93/42/EEC
- GB9706.1

# Dimensions



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