

C-ARM MOBILE STAND

Dimensions and Mechanics

- Motor-driven vertical travel: 42 cm
- Horizontal travel: 22 cm
- Orbital rotation: -90° / +45°
- Angulation: $\pm 225^\circ$
- Swiveling (panning): $\pm 10^\circ$
- Source-image receptor distance: 96 cm
- C-arm vertical free space: 76 cm (without skin cone or laser positioning device integrated in generator)
- C-arm depth: 68 cm
- Width: 80 cm
- Length: 162 cm / 184 cm
- Height: 175 cm / 217 cm
- Weight C-arm mobile stand (weight can vary depending on balancing and configuration): 273 kg $\pm 3\%$

Brakes

- Steering & braking lever, with parallel movement of the mobile stand in all directions
- Color-coded brake handles for all movements

X-Ray Generator

- X-ray tube: stationary anode
- Dual focus: 0.5 / 1.5 mm (IEC 60336)
- Max. anode heat content: 48 kHU / 34 kJ
- Max. anode heat dissipation: 600 W / 51 kHU/min
- 1.14 million HU system heat capacity
- Generator type:
 - high-frequency generator
 - frequency: 40 kHz
 - microprocessor-controlled
- Nominal output (100 kV): 2.000 W
- Maximum output: 2.200 W

Filtration

- Total filtration: ≥ 3.9 mm Al + 0.1 mm Cu

Collimator System

- Collimator rotation: $\pm 90^\circ$
- Iris collimator: 50-230 mm diameter

Operating Values

- Fluoroscopy:
 - kV range: 40-110 kV
 - mA range: 0.2-6.0 mA (200-240 V)
- Digital radiography (snapshot):
 - kV range: 40-110 kV
 - mA: up to 8 mA (200-240 V)
- Radiography (option):
 - kV range: 40 -110 kV
 - mA: up to 20 mA (200-240 V)

Image Intensifier*

- Type: cesium iodide
- DQE (IEC 61262; 0 lp/mm): $\geq 61\%$
- Conversion factor: 240 Cdm⁻² / mRs⁻¹
- Anti-scatter grid: Pb 8/40
- Grayscale: 4,096 shades of gray (12 bit)
- Removable grid (option)

23 cm Image Intensifier

- Central resolution: 23-15-10 cm: 49-56-60 lp/cm
- Contrast ratio: 27:1

Digital Video Chain

Digital Video Camera (high contrast, non-interlaced)

- Active pixels: 1,048,576
- Camera matrix: 1,024 x 1,024 pixels
- Bandwidth of video signal: 20 MHz
- Bandwidth of video amplifier: 50 MHz
- Video (monitor): 1,125 lines
- Signal-to-noise ratio: 68 dB
- Control: ADR / AVR

*The I.I. values represent the minimum specification.

MONITOR CART

Dimensions and Mechanics

- Width: 64 cm
- Depth: 61 cm
- Height: 180 cm
- Weight Monitor Cart (weight can vary depending on configuration): 112 kg ± 10 %

Monitors

- Standard FullHD 27" split monitor:
 - screen size: 27" (69 cm)
 - native resolution: 1,920 x 1,080 pixels
 - viewing angle (horizontal and vertical): 170° / 160°
 - contrast ratio : typ. 1,000:1
 - brightness (panel): typ. 300 cd/m²
 - dimensions: 65 cm x 39 cm x 7 cm
- High-brightness and high-contrast 19" DUO monitor (option):
 - screen size: 2 x 19" (48 cm)
 - native resolution: 1,280 x 1,024 pixels
 - viewing angle (horizontal and vertical): 178° (with contrast ratio: 10:1)
 - tilt range: ± 10°
 - contrast ratio: typ. 1,000:1
 - brightness (panel): typ. 1,000 cd/m²
 - brightness (calibrated): ≥ 550 cd/m²
 - dimensions: 68 cm x 45 cm x 9 cm

Digital Image Processing

Real-Time Processing Functions

- Recursive filter: 4 levels (out of 16)
- Stack filter ('Last Image Hold'): 5 levels
- Edge enhancement filter: 5 levels
- Windowing and step windowing
- Digital image rotation and reversal without radiation

Postprocessing Functions

- Edge enhancement: 5 levels
- Zoom: 3 levels
- Image rotation
- Windowing and step windowing
- Grayscale inversion

Digital Memory

- Storage capacity: 150,000 images
- Digital image processing: 16 bit

Data Organization

- Patient-based data management with 16-image mosaic display

Archiving

- Printer (option):
 - paper and film
 - paper
- USB port:
 - storage capacity depends on storage medium
 - formats: DICOM, TIFF
 - downsized formats: DICOM, JPG
- DVD-RW drive (option):
 - 4.7 GB storage capacity
 - formats: DICOM, TIFF, Multimedia (AVI)
 - downsized formats: DICOM, JPG

Networking

- Ziehm NetPort (option): DICOM 3.0 interface (LAN interface or WLAN connection) for digital network integration
- 'Primary Capture' mode
- Available DICOM Classes:
 - Storage Class incl. multiframe capability and Storage Commitment
 - Print Class
 - Media Class
 - Worklist Class incl. Modality Performed Procedure Step (MPPS)
 - Query Class
 - Retrieve Class
 - Verification Class
- WLAN interface for wireless data transfer (option)

Electrical Requirements

- Power supply: 100-240 V_{AC} (± 10 %), 50/60 Hz
- Current consumption:
 - 14 A continuous (100-120 V)
 - 10 A continuous (200-240 V)
- Max. impedance:
 - ≤ 0.3 Ω (100-120 V)
 - ≤ 0.6 Ω (200-240 V)
- Installation fuse (release characteristic compliant to VDE 0641, Part 11; EN 60898 & IEC 60898):
 - 100-200 V: C 20 A or C 32 A
 - 220-240 V: C 16 A

Safety Features

- Electrical Protection Class I equipment, Type B (IEC 60601-1)
- Security key switch (X-ray)
- Emergency stop button on the C-arm

Options

- Laser positioning device integrated in I.I. and /or generator housing
- Skin Cone for the generator: A removable mechanical extension of the generator cap in order to avoid a focal spot to skin distance smaller than 30 cm.
- Virtual collimator
- Measured dose area product (DAP) and measured Air Kerma

- Emergency stop button on the monitor cart
- Handrail around the I.I.
- Connection for external radiation warning lamp
- Additional handrails on the C-arm for orbital rotation support
- Additional zoom (10 cm mag. I.I.)
- Power-on key switch

Accessories

- Disposable sterile covers for all sizes
- Universal film cassette holder

Regulatory Compliance

Device Classification

- MDD 93/42 EEC, Annex IX: IIb

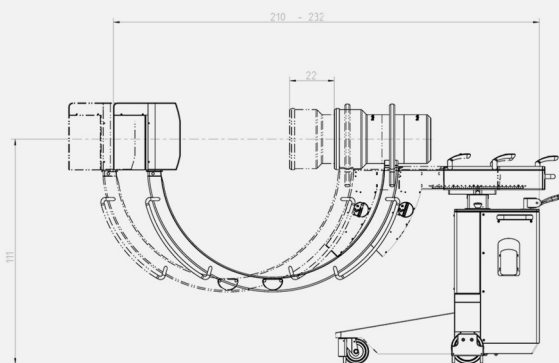
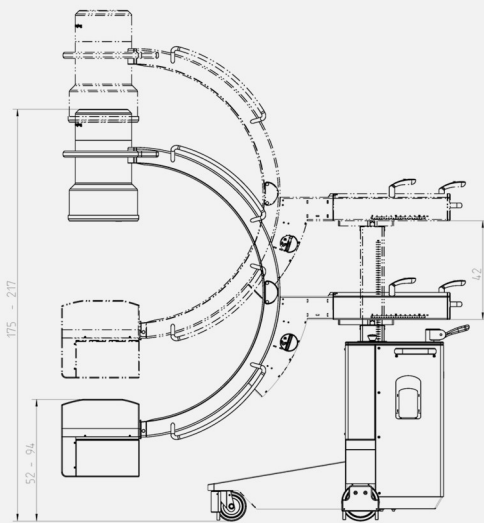
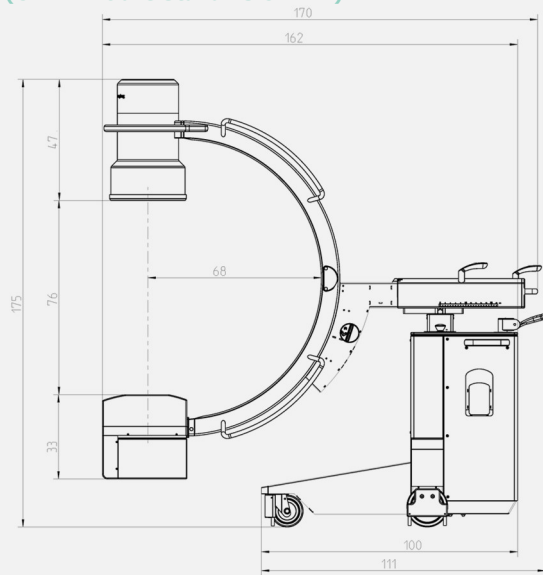
Compliance to QM Requirements

- EN ISO 13485 certified
- MDD 93/42/EEC, Annex II certified
- MDSAP certified
 - Australian Therapeutic Good Regulation
 - Brazil RDC ANVISA n. 16/2013, RDC ANVISA n. 23/2013, RDC ANVISA n. 67/2009
 - Canada Medical Device Regulations Part 1 – SOR 98/282
 - Japan MHLW Ministerial Ordinance 169
 - United States 21 CFR 820
- ISO 14971
- IEC 62304
- IEC 62366

Product Compliance

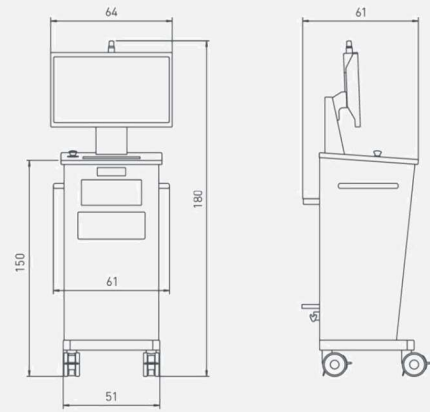
- IEC 60601-1 and relevant collateral and particular standards

**Ziehm 8000
(C-Arm Mobile Stand 23 cm I.I.)**



All dimensions in cm.

**Ziehm 8000
(Monitor Cart)**



* Specification may vary depending on the device configuration and the status of the regulatory registration.

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