

Ziehm Vision



ziehm imaging

... dedicated to clinical innovation

TECHNICAL SPECIFICATIONS

C-Arm Mobile Stand

Dimensions & Mechanics

- Motor-driven vertical travel: 17" [43 cm]
- Horizontal travel: 9" [22 cm]
- Orbital rotation:
- 90° / +45° [9" [23 cm] i.i.] / +25° [12" [31 cm] i.i.]
- Angulation: ± 225°
- Swiveling (panning): ± 10°
- Source/image receptor distance: 38" [97 cm]
- C-arm vertical free space: 30" [76 cm]
- C-arm depth: 27" [68 cm]
- Width: 32" [80 cm]
- Length: 74 - 83" [188 - 210 cm]
- Height: 70 - 87" [179 - 222 cm]

Brakes

- Patented steering & braking lever, with parallel movement of the mobile stand in all directions

X-Ray Generator

- X-ray tube: rotating anode
- Dual focus (IEC): 0.3 mm/0.6 mm
- Target angle: 10°
- Anode speed: 3450 RPM
- Max. anode heat content: 300 kHU/222 kJ
- Max. anode heat dissipation: 870 W
- Generator type:
 - monoblock
 - 20 kHz high frequency
 - microprocessor-controlled

Operating Values

- Nominal output (100 kV): 7.5 kW
- Maximum output: 7.5 kW
- Pulsed fluoroscopy:
 - kV range: 40-120 kV
 - mA range: 1.5-75 mA
 - pulse width: 4-30 ms
8 ms (in HQ mode without boost caps)
 - pulse rate: 1, 2, 5, 10, 15, 30 pulses/s (60 Hz)
- Digital radiography (snapshot):
 - kV range: 40-120 kV
 - mA: up to 75 mA
- Radiography (not available without boost caps / factory only option):
 - kV range: 40-120 kV
 - mA: up to 75 mA
 - mAs: up to 250 mAs

Image Intensifier

Filtering

- Total filtering: ≥ 4,3 mm Al equivalent

Output

- Pulsed fluoroscopy: up to 75 mA
- Digital radiography (snapshot): up to 75 mA
- Tube housing heat capacity:
 - powered by integrated Advanced Active Cooling and heat management system
 - 5 million HU system heat capacity
 - 1200 W continuous dissipation in average clinical performance

Collimator System

- Collimator rotation: ± 90°
- Iris collimator:
 - 9" [23 cm] i.i.: 2-9" [50-230 mm] diameter
 - 12" [31 cm] i.i.: 2-12" [50-310 mm] diameter
- Slot collimator:
 - 9" [23 cm] i.i.: 2-9" [50-230 mm] diameter
 - 12" [31 cm] i.i.: 2-12" [50-310 mm] diameter
- Virtual collimation without radiation

- Type: cesium iodide
- DQE (IEC): 65 %
- Conversion factor: 240 Cd m⁻²/mR s⁻¹
- Anti-scatter grid: Pb 8/40

9 inch [23 cm] I.I.

- Central resolution 9-6-4" [23-15-10 cm]: 52-58-68 lp/cm
- Contrast ratio: 30:1

12 inch [31 cm] I.I.

- Central resolution 12-9-6" [31-23-15 cm]: 44-50-56 lp/cm
- Contrast ratio: 22:1

Digital Video Chain

Digital Video Camera (high contrast, non-interlaced)

- Active pixels: 1,048,576
- Camera matrix: 1024 x 1024 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

Monitor Cart

Monitors

- Super-high-resolution and high-brightness twin flat-screen monitors
 - screen size: 18.1" [46 cm]
 - native resolution: 1280 x 1024 pixels
 - viewing angle [horizontal & vertical]: 170°
 - contrast ratio: 600:1
 - dimensions: 16 x 13 x 3" [41 x 34 x 7 cm]

User Interface

- TFT touchscreens on C-arm stand and monitor cart:
 - synchronized
 - intuitive icons for easy use
 - multi-lingual user interface

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
- Grayscale inversion
- Digital shutters

Application-Oriented Anatomical Programs

- Bone, Heart, Abdomen, Endo (option)
- Motion, Metal, Soft, Large Patient

Image Acquisition

- Autosave
- Cine loop with auto-playback (option)
 - sequential image storage and display: 1, 2, 5, 10, 15, 30 frames/s
 - start, stop and replay rate controls

DSA Package (Option - only available on systems with boost caps)

- DSA real-time subtraction with re-masking capability
- MSA max. opacification sequence
- RSA roadmapping
- Pixel shift / landmarking
- Digital measurement functions (distance/angle)

Cine Loop

- Sequential image storage and display 1, 2, 5, 10, 15, 30 frames/s
- Cine loop start, stop and replay rate controls

Postprocessing Functions

- Edge enhancement: 5 levels
- Zoom: 3 levels
- Image rotation
- Windowing
- Grayscale inversion
- Image cropping (digital shutters)

Digital Memory

- Storage capacity: up to 55,000 images
- Memory matrix: 1024 x 1024 pixels
- Image matrix: 1024 x 1024 pixels
- Digital image processing: up to 32 bit
- Grayscale: 4096 shades of gray (12 bit)



Digital Image Processing

Data Organization

- Patient-based data management with 16-image mosaic display
- Pre-registration via DICOM Worklist
- Manual input or emergency registration
- Air Kerma Dose Display
- Air Kerma value tagged to stored image

Archiving

- Video printer (option):
 - paper printer: Sony® UP 970
 - paper and film: Sony® UP 990
- USB port:
 - storage capacity depends on storage medium
 - formats: DICOM, TIFF
 - downsized formats: DICOM, JPG
- DVD-RW drive:
 - 4.7 GB storage capacity
 - formats: DICOM, TIFF, Multimedia (AVI)
 - downsized formats: DICOM, JPG
- DICOM viewer software for DVD and USB device

Networking (Option)

- Ziehm NetPort: DICOM 3.0 interface for digital network integration (RJ45)
- 'Primary Capture' mode
- Available DICOM Classes:
 - Storage Class incl. multiframe capability, Storage Commitment and Media Class
 - Print Class
 - Worklist Class incl. Modality Performed Procedure Step (MPPS)
 - Query Class
 - Retrieve Class

Options

- Laser positioning device, mounted on image intensifier and/or generator
- Emergency stop button
- Video output for external documentation
- Endo functionality
 - 4-pedal foot switch
 - landscape colour monitor
 - endoscope s-video connection

Weight

- C-arm mobile stand:
 - 9" [23 cm] i.i.: 838 lbs [380 kg]
 - 12" [30 cm] i.i.: 877 lbs [398 kg]
- Monitor cart: 353 lbs [160 kg] (without printer and other options)

Electrical Requirements

- Power supply: 120/230 V_{AC}, 50/60 Hz
- Current consumption:
 - 120 V_{AC}: 20 A continuous, 28 A short-time
 - 230 V_{AC}: 14 A continuous, 20 A short-time
- Max. impedance: $\leq 0.6 \Omega$
- Class I equipment, Type B applied parts
- Security key switch (x-ray)

Approvals

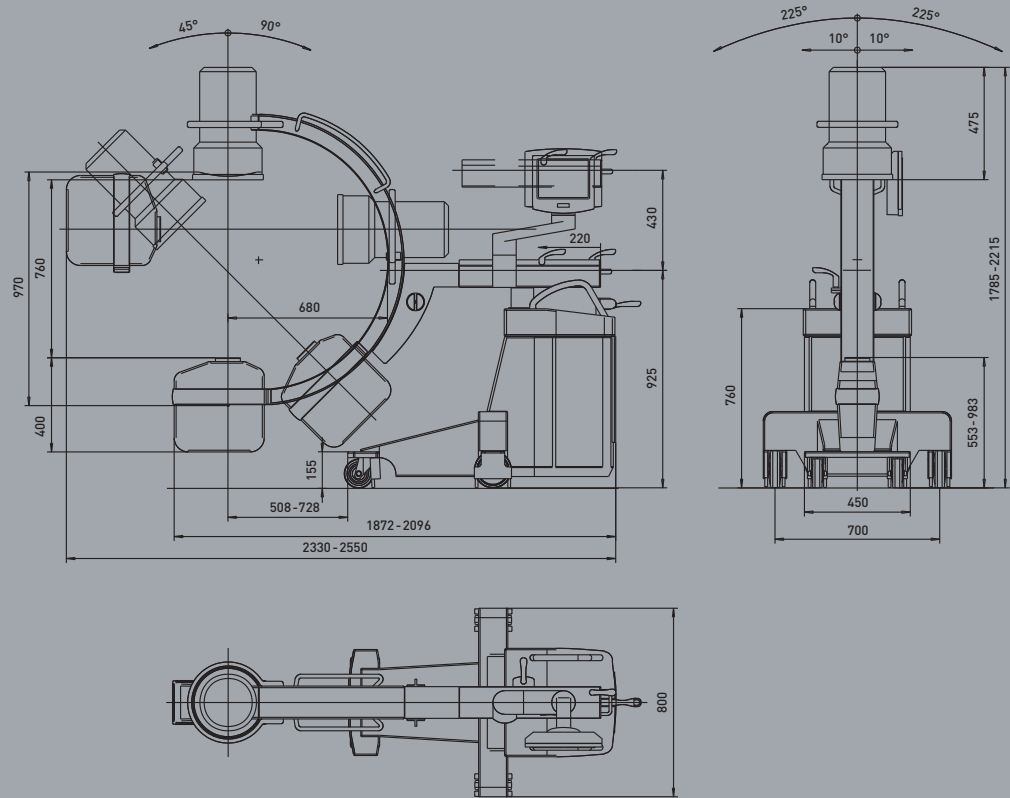
- U.S. 21 CFR subchapter J
- CE mark in accordance with MDD 93/42/EEC: IEC 60601-1 ff
- UL 60601-1

Certifications

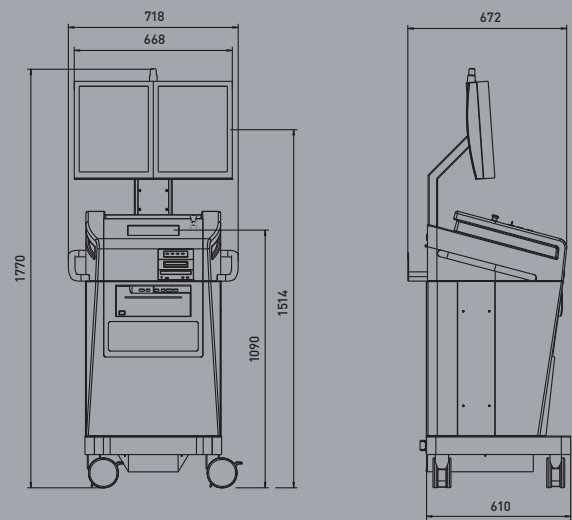
- CE mark
- UL / CSA



Ziehm Vision R
(C-Arm Mobile Stand)
Dimensions



Ziehm Vision R
(Monitor Cart)
Dimensions



Metric Conversion

1 cm	= 0.39 inch
1 mm	= 0.039 inch
1 inch	= 2.54 cm
1 inch	= 25.4 mm

All dimensions in mm.

www.ziehm.com



Offices

Ziehm Imaging GmbH

Donaustrasse 31
90451 Nuremberg
Germany
Phone: +49 (0) 9 11 - 21 72 0
Fax: +49 (0) 9 11 - 21 72 390
info@ziehm-eu.com

Ziehm Imaging Srl.

Via Roma 24 int 9
42035 Castelnovo Monti
Reggio Emilia / Italy
Phone: +39 - 05 22 - 61 08 94
Fax: +39 - 05 22 - 61 24 77
sergio.roncaldi@ziehm-eu.com

Ziehm Imaging Inc.

4181 Latham Street
Riverside, CA 92501
USA
Phone: +1 (951) 781 - 2020
Fax: +1 (951) 781 - 6457
mail@ziehm.com

Ziehm Imaging Oy.

Leonorankuja 21
04420 Järvenpää
Finland
Phone: +3 58 - 40 77 70 044
Fax: +3 58 - 92 92 38 26
sakari.korja@ziehm-eu.com

Ziehm Imaging Pte. Ltd.

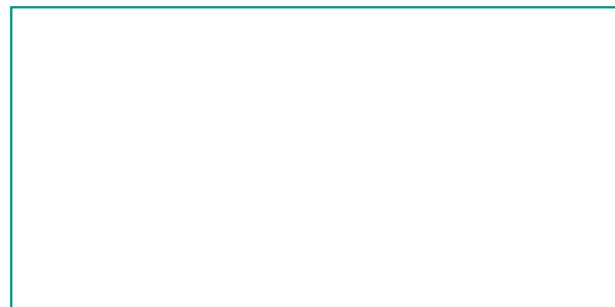
10 Ubi Crescent #01-84
Ubi Techpark Lobby E
Singapore 408564 / Singapore
Phone: +65 - 6 39 - 1 86 00
Fax: +65 - 6 39 - 6 30 09
colin.loo@ziehm-eu.com

Ziehm Imaging Moscow, Russia

4/17 bldg. 4A, Pokrovsky bulvar
101000 Moscow
Russia
Phone: +7 - 4 95 - 7 75 73 21
Fax: +7 - 4 95 - 7 75 73 24
dmitry.makovkin@ziehm-eu.com

Manufacturing complies with DIN EN ISO 13485 and DIN EN ISO 9001.

Ziehm Imaging is constantly improving its products and reserves the right to change these specifications without notice.



ziehm imaging

... dedicated to clinical innovation