ziehmimaging

Ziehm Vision RFD

The mobile interventional suite

30 cm x 30 cm flat-panel detector for distortion-free imaging

↗ 04

18" TFT monitors provide a bright, high-contrast image with a wide viewing angle

↗ 06

A larger 33" (83.5cm) free space and extended 165° orbital rotation for simplified positioning

↗ 10

Easy integration into existing networks (with WLAN option)

↗ 12

Advanced Active Cooling for extended fluoroscopy time in challenging procedures

↗ 12

Powerful generator with rotating anode for improved penetration of dense anatomy

↗ 06

Ziehm Vision RFD. An innovative and revolutionary concept: The superior image quality once only expected from fixed installed imaging systems is now available in a mobile interventional suite. In addition, you benefit from the flexibility of a mobile C-arm and the cost efficiencies enabled by the elimination of almost all installation costs. Ziehm Vision RFD provides the latest flat-panel technology for distortion-free imaging and an extended field of view. A powerful generator with pulsed fluoroscopy ensures excellent image results while minimizing dose. Outstanding power reserves make this mobile interventional suite the perfect fit for demanding procedures in vascular and cardiac surgery and interventional procedures including AAA and PTCA, and hybrid room applications like aortic heart valve implantations.

01 / More than you expect. Fixed room performance in a mobile solution.

→ Get the full picture

Ziehm Vision RFD sets a new benchmark in mobile imaging. Traditionally, only stationary interventional suites provided such a wide field of view. For the first time ever, you can now enjoy the same range with a mobile suite thanks to the 30 cm x 30 cm detector. The square shape of the flat-panel increases the field of view by up to 2.5 times compared with a conventional 9" image intensifier. This greatly extends the volume of information that can be captured.

→ Distortion-free imaging

Historically, only fixed interventional suites offered distortion-free imaging. This limitation has changed with the Ziehm Vision RFD. Its exceptional precision makes this mobile interventional suite ideal for challenging procedures such as vascular and interventional cardiac surgery. With the flat-panel being insensitive to magnetic fields, the operator can freely position the system without impact on image quality.

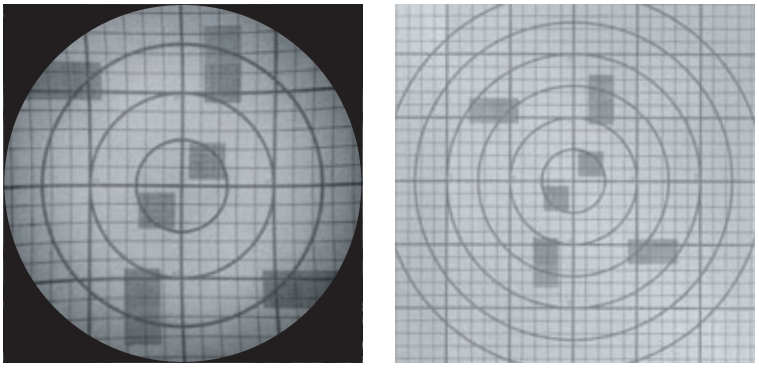
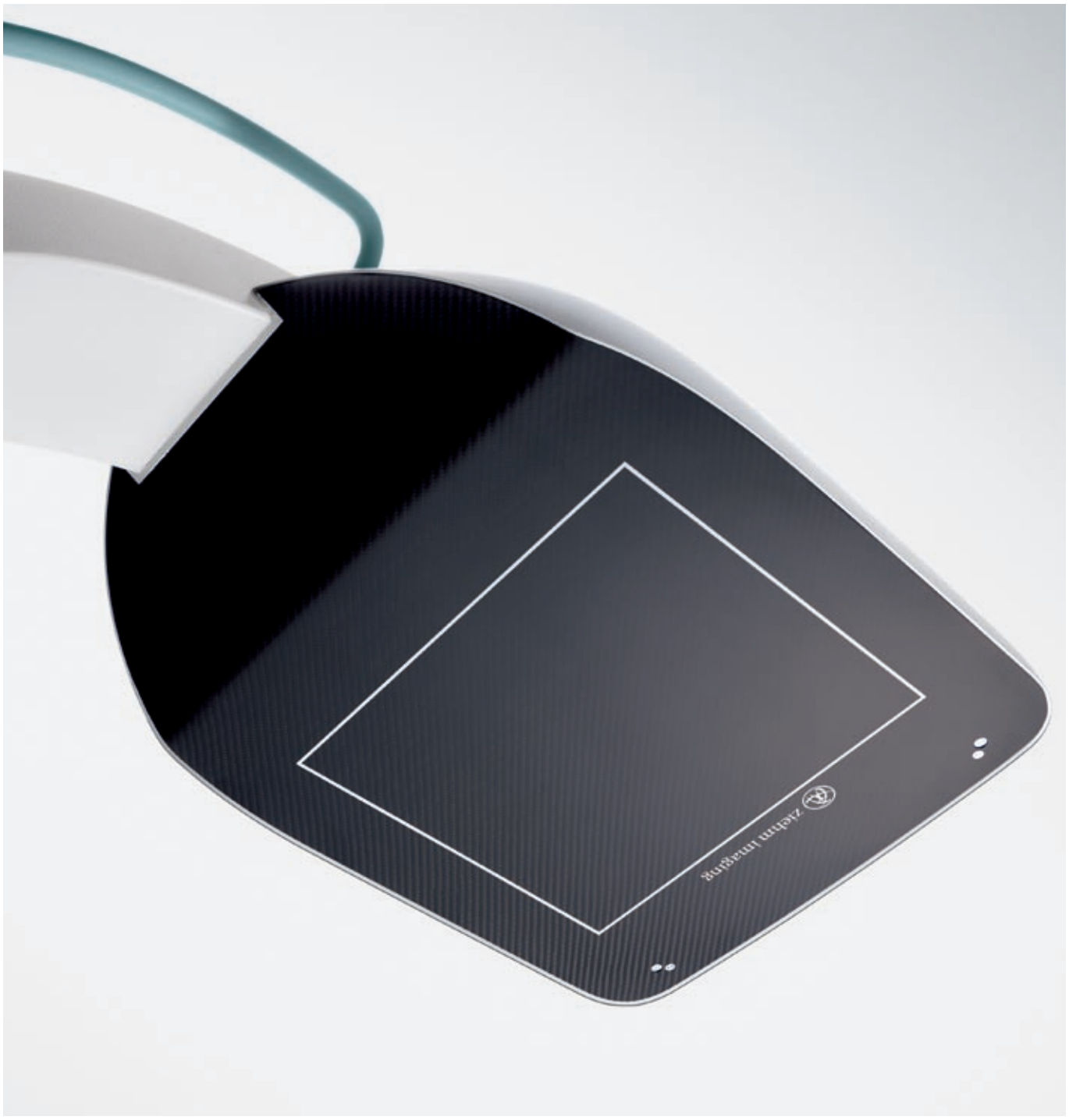


Image intensifier with S-shaped and pin-cushion distortion (left) compared with flat-panel with distortion-free imaging (right)



→ More details

With over 16,000 shades of gray, Ziehm Vision RFD provides excellent contrast range for the most demanding interventions. With 72dB high-dynamic range, this mobile interventional suite enables optimal, concurrent soft tissue and skeletal imaging. The 1.5 k x 1.5 k image matrix allows an even greater resolution than that typically delivered by C-arms.

(1) 

(2) 

Conventional image intensifier: 4,096 shades of gray (1)
Ziehm Vision RFD: 16,384 shades of gray (4 times more) (2)

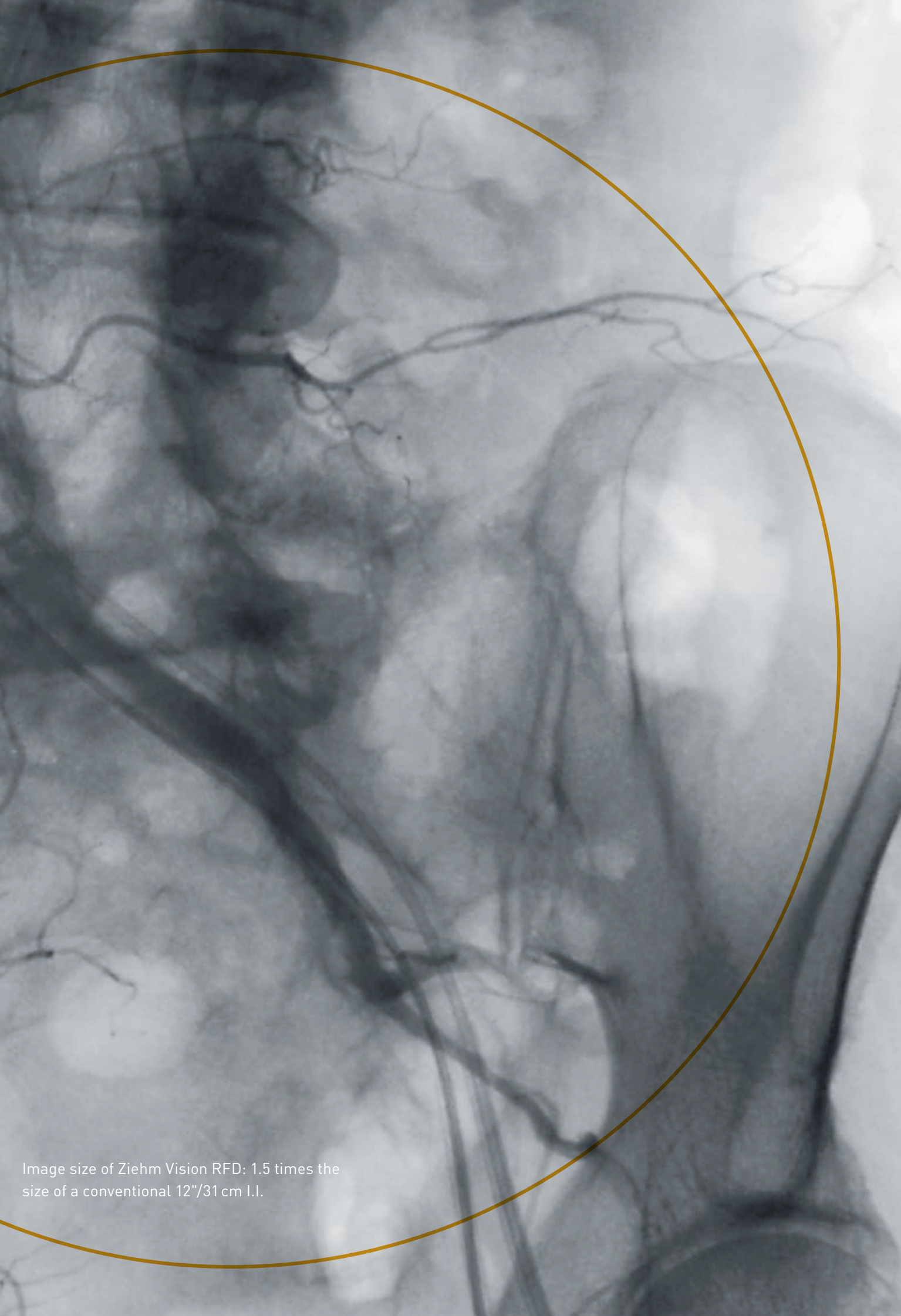


Image size of Ziehm Vision RFD: 1.5 times the size of a conventional 12"/31 cm I.I.

02 / Innovative technology. Premium components for superb image quality.

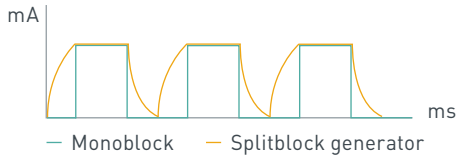
→ Powerful generator for highest quality images

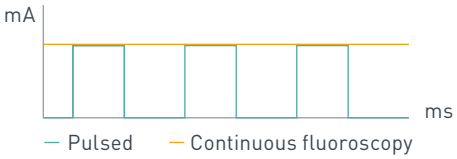
Ziehm Vision RFD features a highly compact and powerful monoblock generator with a rotating anode. This industry-leading high-frequency pulse generator operates with a pulse width between 4 ms and 50 ms. The pulse width, combined with the power reserves of the generator, make this mobile interventional suite the imaging system of choice among physicians specialized in clinical procedures such as AAA and PTCA. Short, sharp pulses at up to 25 frames per second produce crystal-clear images even of moving objects. In addition, Ziehm Vision RFD delivers excellent results during exposures with steep angles and lateral projections.

→ Contrast-rich display

Ziehm Vision RFD features two 18.1" TFT monitors that stand out for their exceptional brightness and contrast. Even at a distance, these high-end monitors provide the physician with optimal information by visualizing even the finest details – from every angle.

Intelligent pulse technology based on short, sharp pulses minimizes radiation exposure and maximizes image quality.






Ziehm Vision RFD
SONY

03 / Automatic adjustment. ODDC provides superb image quality while systematically reducing dose levels without additional effort.

→ Easy positioning

Ziehm Vision RFD greatly simplifies patient positioning and dose control. ODDC technology (object detected dose control) creates a matrix over the entire scan field and uses 256 measurement cells to scan the region of interest in real time. All settings, including the radiation level and noise filters, are automatically adapted to the patient's position.

→ Real-time motion detection

ODDC's measurement cells automatically detect motion. If the patient is not moving, the pulse frequency can be lowered significantly. If, however, motion is detected in the region of interest, the pulse frequency automatically increases to a maximum of 25 frames per second.

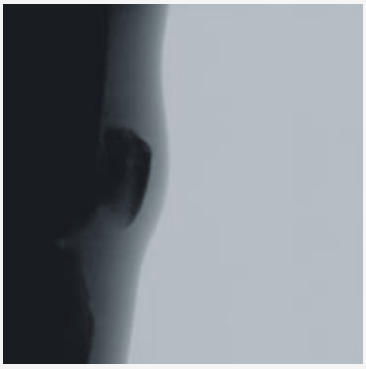
→ Automatic metal correction

ODDC reduces patient dose and overexposure. The system detects metal parts in the scanned zone (e.g. plates, pins, instruments or implants) and automatically adjusts generator output and video levels to reduce metal distortion and improve image quality.

"The average dose reduction when using 25 pulses/sec resulting from object detection and automatic down-pulsing was 21 %, and the maximum dose reduction was 60 %."
(Gosch D. et al. "Influence of Grid and Object Detection on Radiation Exposure and Image Quality using Mobile C-Arms – First Results", RöFo, 09/2007, page 896 onwards)

ODDC inside

ODDC highlights



Conventional image quality

ODDC: Grid-controlled adjustment of radiation levels, filters and pulse frequency

ODDC: crystal-clear images achieved with minimal doses

Application examples

Sharp images are possible even during trauma surgery with frequent patient motion

Optimum quality when region of interest is not centered

Automatic metal correction for optimum sharpness

04 / New dimension in user friendliness. Tailored support for clinical workflows with new levels of intuitive guidance.

→ Best-in-class ergonomics

Stationary interventional suites typically require a lot of space. This is not the case with Ziehm Vision RFD. This mobile suite has a footprint of only 0.8 m^2. Its compact design and easy-drive system mean it can be maneuvered with minimal effort. All steering and braking functions are activated by a single lever. All system movements are fully counterbalanced in every position. The wider C-arm opening enabled by the flat-panel and the 165° orbital rotation make it easier than ever for the operator to position the system.

→ Intuitive user interface

The Vision Center is a rotating and titling touchscreen control panel mounted on the mobile stand and the monitor cart. It provides access to the same, synchronized controls found on both units. This intelligent user interface coupled with clear and easy-to-follow icons makes operating the imaging system easy and intuitive. From a short list of anatomical programs, the operator simply selects the desired option to automatically adjust the imaging parameters to the region of interest, always ensuring the best image quality and lowest dose levels.

Left: Easy to use thanks to intuitive Vision Center interface and predefined anatomical programs

Right: 165° orbital rotation makes it easier to position the system


165°

→ Fit for the future

The graphical user interface and the open, modular software architecture ensure maximum flexibility. Ziehm Vision RFD can be upgraded and expanded as needs change.

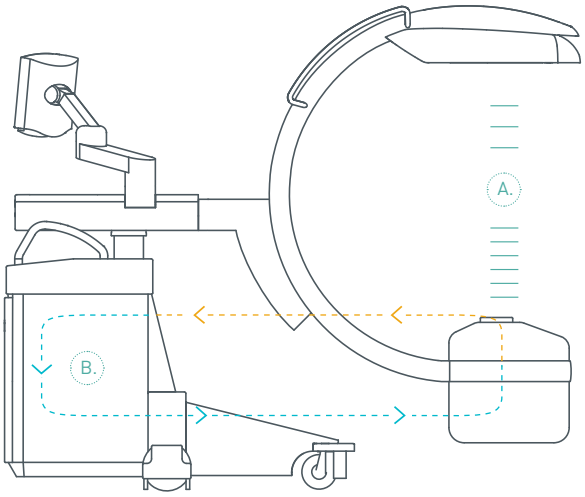
→ Unique reliability

C-arms need to be in continuous use during lengthy, demanding procedures such as vascular and cardiac interventions. Ziehm Vision RFD's Advanced Active Cooling system (AAC) is almost three times more effective than cooling systems of conventional devices and keeps the generator at an ideal operating temperature. This ensures uninterrupted usage even during long and difficult procedures where reliability is crucial.

→ Seamless integration

Ziehm Vision RFD's open NetPort interface enables easy integration into existing IT networks. Patient data saved in DICOM 3.0 format is transferred to the PACS or HIS/RIS. Data can be uploaded to the monitor cart at any time. Data can also be backed up to DVD or USB and be printed on transparencies or paper.

Advanced Active Cooling keeps generator temperatures down and automatically adapts the pulse rate



A.
Automatic pulse regulation ensures continuous imaging

B.
Cooling cycle, heat exchanger

05 / Broadest application spectrum. Engineered for the widest range of clinical applications.

→ Best image quality for demanding interventions

Ziehm Vision RFD has been engineered for the highest levels of flexibility. Distortion-free imaging and a high dynamic range make it the mobile interventional suite of choice for even the most challenging of interventions. It delivers excellent, high-precision results in interventional radiology, neurosurgery, vascular and cardiac surgery and interventional procedures, including AAA and PTCA, and hybrid room applications like aortic heart valve implantation.

Wide range of applications

Ziehm Vision RFD provides superb image quality in all standard applications like orthopedics, traumatology, spine or neurosurgery. (Image 1)

Vascular surgery

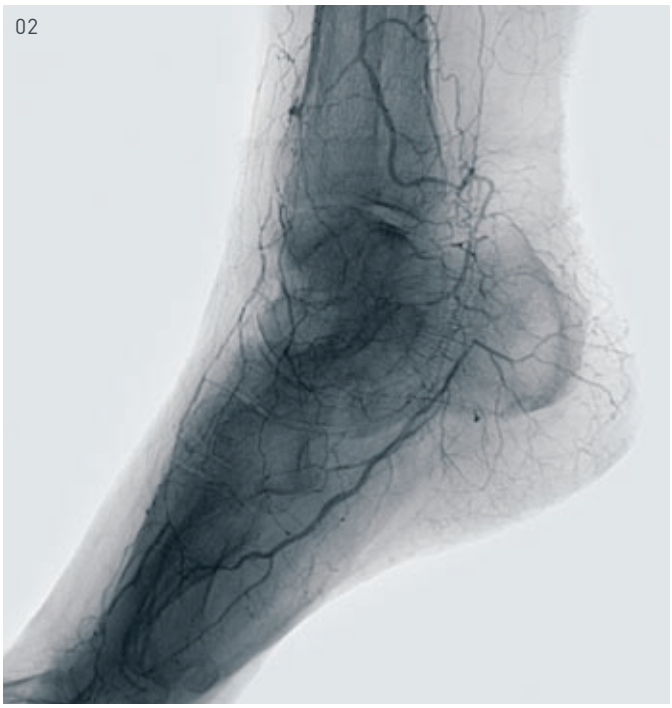
The high dynamic range and the enormous resolution of Ziehm Vision RFD enable the visualization of even the smallest vessels. Specially tailored vascular packages and settings help to provide superb image quality in all vascular procedures. (Image 2 & 3)

Interventional radiology, cardiology and hybrid room applications

Short, powerful pulses in combination with the high dynamic range of the flat-panel detector enable superior visualization of moving objects as needed in cardiac procedures, previously not available on a mobile unit. The Advanced Active Cooling system ensures unobstructed work even in long-lasting operations. (Image 4)

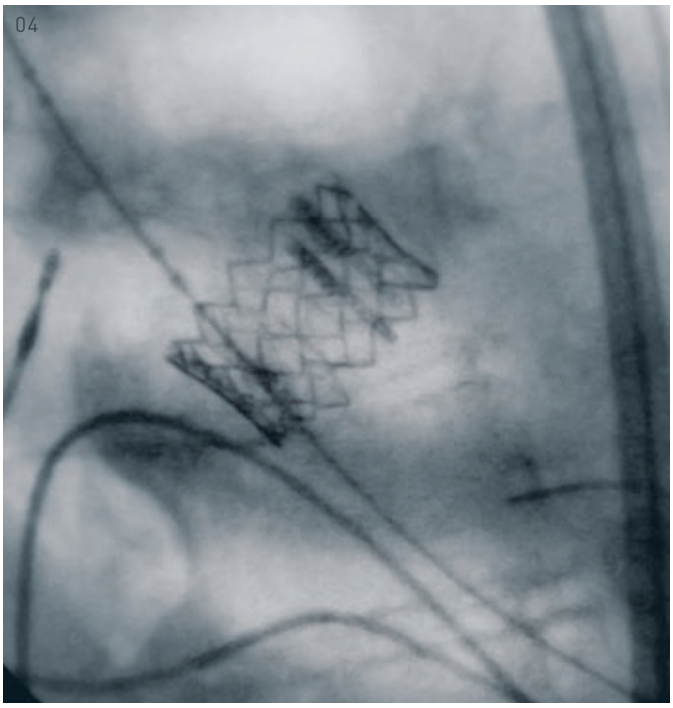
01

02



03

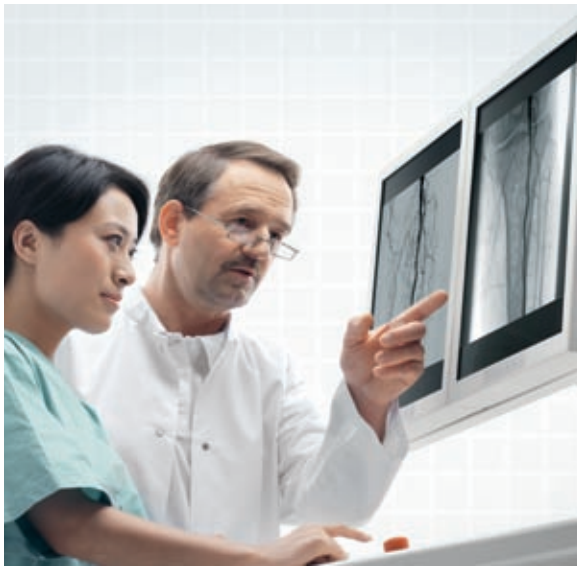
04



06 / The complete solution. Bringing you the best of both worlds.

With Ziehm Vision RFD, Ziehm Imaging sets a new benchmark for C-arm functionality. Not only is this the first system to take stationary levels of image quality to the mobile world. It also bundles the full range of mobility benefits into an exceptionally compact footprint, outperforming even hybrid rooms in terms of flexibility and maneuverability. In addition, it is extremely easy to deploy. Unlike complex stationary installations, Ziehm Vision RFD is up and running in the shortest possible time.

Ziehm Vision RFD offers the superior quality that until now would have been expected only from fixed imaging systems.



Feature	Ziehm Vision RFD
1.5 k x 1.5 k technology	•
Shades of gray	16,384
Distortion-free imaging	•
Fully digital imaging	•
Pulsed monoblock generator	•
ODDC	•
DICOM 3.0	•
WLAN	optional (only CE labeling)
Advanced Active Cooling	•
C-arm opening	83.5 cm / 33"
Field of view 30 cm x 30 cm	~ 900 cm^2

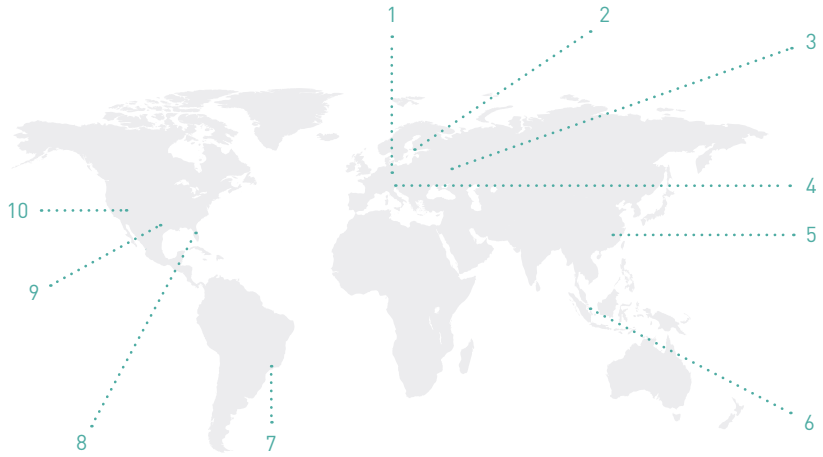
07 / Service. We make sure you get the best results from the best products.

→ Close to you

Regardless of your needs, our experts are on hand. Thanks to our worldwide network of service centers, you can always rely on Ziehm Imaging for flexible and fast service.

→ Keeping you at the cutting edge

With Ziehm Academy you can enhance your clinical knowledge, find out more about mobile C-arms and receive made-to-measure trainings. The courses cover the full clinical spectrum, from general operator training and technical workshops through to high-level training sessions.



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