ziehm imaging



Ziehm Vision FD

The new imaging standard for surgery

CMOS LINE

Broader range of clinical applications to support the full spectrum of patient needs
↗ 06

Powered with the streamlined QuantumStream imaging chain, the system delivers a seamless resolution of 2k x 2k – from acquisition to display
↗ 04



Beam Filtration[1] for reduced skin entrance dose without compromising on image quality
↗ 13

Optimized process efficiency with Wireless Footswitch
↗ 10



Enhanced SmartDose[2] functions to reduce dose for patients and staff
↗ 12

Advanced Active Cooling to ensure continuous use during complex procedures
↗ 06

Pulsed 2.4 kW monoblock generator for high performance
↗ 04

Ziehm Vision FD. As hospitals and outpatient surgery centers expand their procedural spectrum while facing increasing efficiency demands, imaging systems must deliver consistent performance – even during long and complex procedures. The Ziehm Vision FD is designed for sustained clinical use. Its active cooling system enables prolonged and continuous operation, supporting high case volumes without compromising system stability or image quality. Powered with the streamlined QuantumStream imaging chain, the system delivers a seamless resolution of 2k x 2k – from acquisition to display. Optimized workflows and intuitive software features support efficient and confident decision-making across orthopedic, trauma, and vascular procedures.

01 / Maximized clinical precision with QuantumStream the first 2k2k imaging chain

Designed as a versatile imaging solution to support a broad spectrum of surgical procedures, the Ziehm Vision FD delivers consistent, high-quality 2D imaging for reliable intraoperative visualization. Powered with QuantumStream, Ziehm Imaging's streamlined 2k2k imaging chain, the system provides clear, non-interpolated images from acquisition to display, enabling precise visualization of anatomical details across orthopedic and vascular applications. The system supports confident clinical decisions while maintaining efficient dose management in everyday surgical practice.

QuantumStream – Ziehm Imaging's next-generation imaging chain – is designed to transmit true, non-interpolated resolution of 2k x 2k across the entire imaging system. It enables higher imaging efficiency and streamlines intraoperative workflows by delivering superior image clarity, enhanced surgical precision, and ultimately safer interventions with improved patient outcomes – for better care.



PERFORMANCE
Leading in its class with **2.4 kW** generator



IMAGE ACQUISITION
CMOS detector with **100 µm pixel** size

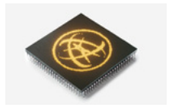


IMAGE PROCESSING
True **2k x 2k resolution** image processing



IMAGE OUTPUT
32" **4k** UHD monitor

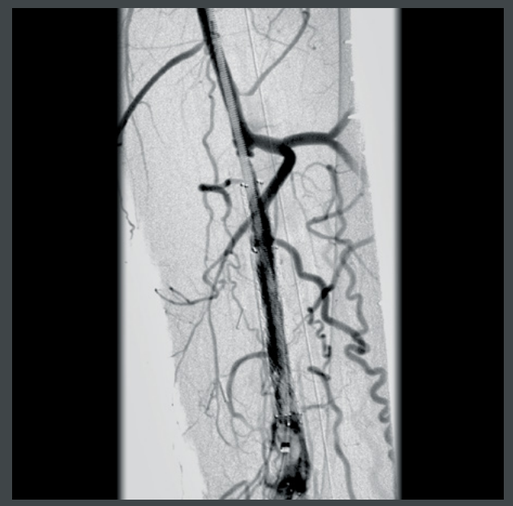


IMAGE INSIGHTS
Relevant **patient** and **C-arm information**

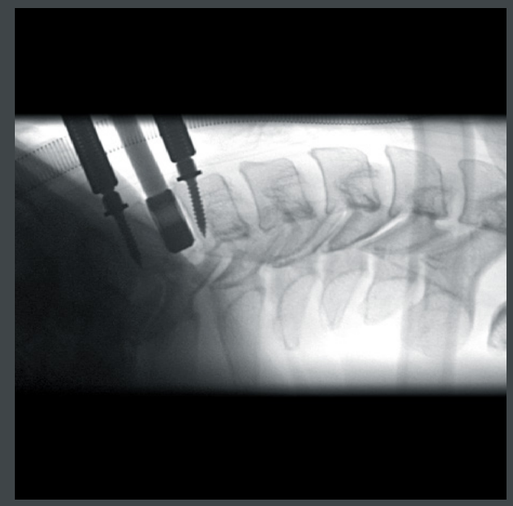
Clinicians benefit from:
- Sharper image details through higher spatial resolution
- Improved visibility of critical anatomical structures such as bone edges and joints
- Streamlined workflows with consistent image quality
- More stable imaging performance across all patients

Find out more about QuantumStream →

THE FIRST **TRUE 2K2K IMAGING CHAIN**



DSA



Cervical spine



Peripheral revascularization



PTA

Performance within QuantumStream

High-performance imaging – sharp images, optimized dose

The Ziehm Vison FD's compact generator technology delivers short, precise pulses, producing razor-sharp images – even in cases of patient movement. In combination with the enhanced SmartDose Concept, image quality is optimized while radiation exposure is minimized.

Image acquisition and processing within QuantumStream

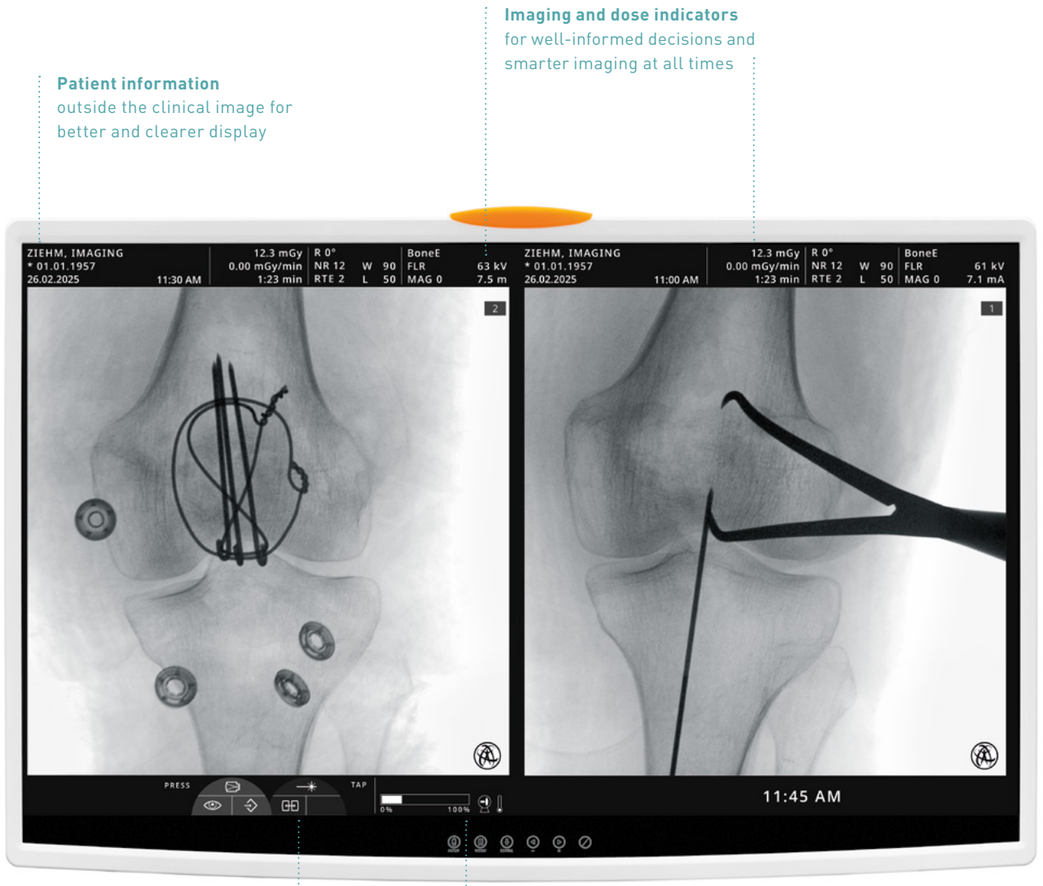
High-contrast visualization for confident decision-making

Compared to conventional C-arm detectors, flat-panels within our premium CMOSline[3] achieve higher spatial resolution with lower noise thanks to their 100 µm pixel size. The CMOS detector technology is inherently resistant to magnetic fields, ensuring distortion-free imaging with consistent image quality and more than 65,000 shades of gray. Combined with true 2k2k image processing, the system delivers exceptional imaging precision – which is especially noticeable in magnification modes.

Image output and Image Insights within QuantumStream

Every detail in sight with 4k UHD and Image Insights

For optimal image review, the Ziehm Vision FD features a high-resolution 32" 4k UHD monitor featuring Image Insights, showing key data directly on the live image – without obscuring critical clinical information. This integration supports efficient communication and informed decisions, especially in fast-paced hybrid OR environments.



Patient information outside the clinical image for better and clearer display

Imaging and dose indicators for well-informed decisions and smarter imaging at all times

Individual footswitch configuration to ensure clear and effective C-arm use at all times

Anode heat capacity and oil temperature for safe and sensible use of the C-arm

02/Built for prolonged use – designed for clinical versatility

Growing clinical demands and increasing competition require imaging systems that support a broad range of procedures with consistent image quality. The Ziehm Vision FD is designed for versatile clinical applications, from orthopedic and trauma surgery to vascular and interventional procedures. Its active cooling system enables continuous operation, supporting high case volumes and extended procedures with reliable performance. With multiple flat-panel detector options, the system allows visualization of both focused anatomical structures and larger regions – supporting efficient workflows and confident imaging across diverse clinical needs.

→ Prolonged use

C-arms need to be in continuous use during lengthy, demanding procedures such as vascular interventions. The Ziehm Vision FD is ideal for these applications. Its Advanced Active Cooling (AAC) system keeps the generator at an optimum operating temperature. In the event of a temperature increase, the pulse frequency is automatically reduced until the generator's temperature has cooled down. Discover more about our IGZO detector options in the dedicated Ziehm Vision FD IGZO brochure.



Larger flat-panel detector option

In addition to the standard 21 cm × 21 cm detector, the Ziehm Vision FD is available with a larger 31 cm × 31 cm IGZO flat-panel detector. The extended detector area enables visualization of larger anatomical regions, supporting efficient workflows and confident imaging in orthopedic and vascular procedures.

Sophisticated system to avoid generator overheating

Advanced Active Cooling keeps the generator temperature down through automatic adaptation of the pulse rate combined with a powerful liquid cooling system.



03/Benefit from seamless integration with finely tuned workflows

Heavy case loads and a large number of different users call for a highly standardized operating concept. The Ziehm Vision FD offers a number of hardware enhancements that support handling and improve ergonomics further. Seamlessly integrated workflows ensure consistently high and predictable quality levels, thus ensuring optimal patient outcomes.

→ Best-in-class ergonomics

With a footprint of 0.8 m², the Ziehm Vision FD is one of the smallest C-arms on the market. The big C-arm opening and 165 degrees of orbital movement ideally support the workflow and provide easier patient coverage. In addition, different-colored scales and handles allow the surgeon and staff to quickly and simply select the desired function.



Easy handling

165 degrees of orbital movement and an 87 cm C-arm opening provide ideal support for clinical workflows.

→ Intuitive workflow

The Ziehm Vision Center is a rotating and tilting touchscreen control panel mounted on the mobile stand and the monitor cart. It provides access to the same synchronized controls found on both units. Additionally, the SmartArchive function gives surgeons instant, simple access to the latest patient data.

→ Fit for the future

The Ziehm Vision Center features a modular software architecture, ensuring maximum flexibility. This interface can be easily upgraded and expanded with additional software modules without the need for hardware changes.



Easy access even from the sterile field

Ziehm SmartEye technology mirrors the live image on the touchscreen, enabling the operator to keep track of orientation and object position.





→ Seamless integration

The interface, Ziehm NetPort, enables easy integration into existing IT networks. X-ray images saved in DICOM 3.0 format are transferred to the PACS, and patient data can be exchanged with HIS/RIS. X-ray images can be retrieved at any time. They can also be backed up to DVD or USB stick and printed on transparencies or paper.

→ Wireless freedom

Ziehm Imaging's Wireless Freedom Concept bundles three different opportunities to increase efficiency and safety in the OR. Firstly, WLAN allows operators to transfer images wirelessly to the PACS from any location. Secondly, with the Ziehm Wireless Video option, live images can be transferred to wall- or ceiling-mounted monitors in real time for even greater flexibility. Thirdly, key functions such as X-rays can be actuated with the wireless dual-plus footswitch. The footswitch has the added bonus of increasing safety by reducing cables on the OR floor.



04 / Reduce exposure significantly with the next-generation SmartDose Concept

The Ziehm Vision FD is designed to meet growing demand among surgeons and their staff for minimized dose exposure without compromising on image quality. Optimal filtration and advanced anatomical programs deliver on these demands, making this device perfect for dose-sensitive applications.

→ Best image quality. Minimized dose.

The comprehensive concept consists of a broad, clinically proven application portfolio to address daily challenges of low dose and high image quality. With significant dose savings, Ziehm Imaging sets the benchmark in user-friendly adjustments of dose exposure. SmartDose[2] helps display even the smallest details of complex anatomical areas and reduce dose with intelligent pulse regulation and optimized anatomical programs. Furthermore, dedicated SmartDose functions significantly reduce exposure in pediatric surgery[4].



SmartDose
Best image quality. Minimized dose.

LASER POSITIONING DEVICE
integrated in flat-panel and generator housing for accurate and dose-free positioning of C-arm

REDUCTION OF PULSE FREQUENCY
manually or fully automatically to lower the accumulated dose

OBJECT DETECTED DOSE CONTROL (ODDC)
to automatically analyze the area of interest and minimize dose while optimizing image quality

ANATOMICAL PROGRAMS
with automatic optimization of dose and image quality for best results

HIGH-SPEED ADR
for intelligent, fast regulation of pulse rate to lower the dose level

ZAIP ALGORITHM AND FILTERS
to display fast-moving objects like guide wires and even the smallest vessels in razor-sharp image quality

LOW DOSE MODE
in all anatomical programs for particularly dose-sensitive procedures, e.g. in pediatrics

PREMAG
for exposure-free magnification of X-ray images

AUTOMATIC ADJUSTMENT
for large patients – with no additional increase in dose

REMOVABLE GRID
to reduce dose in pediatric and other dose-sensitive procedures

VIRTUAL COLLIMATORS
for exposure-free positioning of collimators

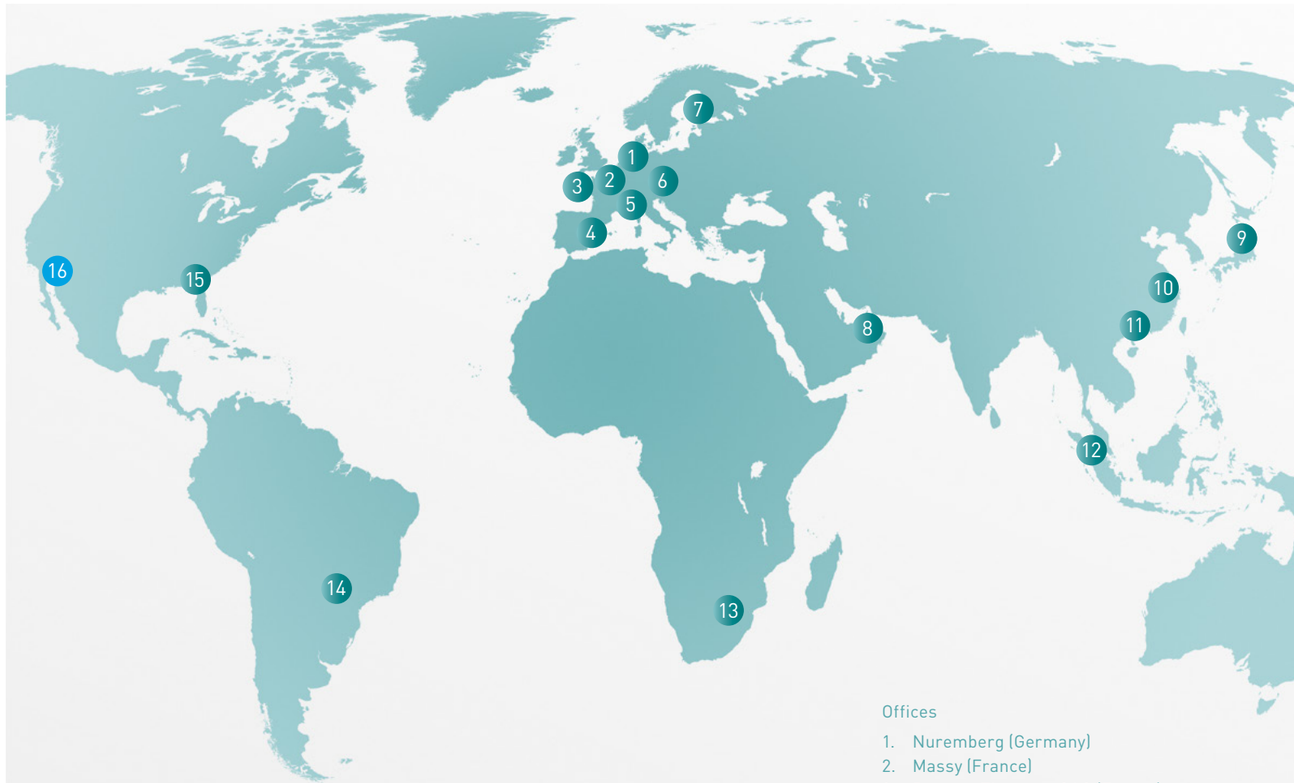
BEAM FILTRATION[1]
for reduced entrance skin dose without compromising on image quality



FEATURES

Flat-panel technology	CMOS, 21 cm x 21 cm	IGZO, 21 cm x 21 cm / 31 cm x 31 cm
Detector resolution	2 k x 2 k	IGZO, 1.5 k x 1.5 k
Imaging chain	2 k x 2 k (QuantumStream)	1 k x 1 k
Image Insights	■	–
Power generator	2.4 kW, pulsed monoblock generator	2.4 kW, pulsed monoblock generator
Ziehm Usability Concept	■	■
SmartDose	■	■
Advanced Active Cooling (AAC)	■	■
Orbital movement	165°	165°

available ■ | not available –



PASSION FOR SERVICE

Ziehm Global Service

WORLDWIDE COVERAGE | TAILORED SOLUTIONS | KNOWLEDGE BASE | SMART SERVICES

Rely on Ziehm Imaging for flexible and fast service to stay on the cutting edge of technology. Tailored service packages, remote service and individual upgrade paths keep you competitive in your daily hospital routine.

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15. Orlando, FL (USA)
16. Scottsdale, AZ, Orthoscan (USA)

www.ziehm.com/VisionFD

Ziehm Imaging is constantly improving its products and reserves the right to change the specifications without notice. Presented data are subject to tolerances. The product descriptions and images mentioned herein may include optional hardware and software features, which may vary by country. The products/features mentioned herein may not be commercially available in all countries and/or may not be available for sale in the United States due to lacking FDA clearance. Some of them may currently be under development. Due to regulatory reasons future availability cannot be guaranteed. Please contact your local Ziehm Imaging sales representative for detailed information.

[1] Beam Filtration reduces dose exposure for Ziehm Imaging flat-detector systems in comparison with conventional filtration techniques. Data on file. Results may vary.

[2] SmartDose includes a variety of hard- and software features.

[3] CMOSline represents a system configuration that is based on a Ziehm Imaging CMOS flat-panel detector.

[4] Gosch D. et al. "Influence of grid and ODDC on radiation exposure and image quality using mobile C-arms – First results," RöFo, 09/07

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