ziehm imaging



Ziehm Solo FD

Versatile design meets premium flat-panel technology

CMOS LINE

Versatile design with configurable viewing options to ensure maximum flexibility
↗ 08

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

Pulsed 2.4 kW monoblock generator for high performance
↗ 04

Ziehm Solo FD. As operating rooms in hospitals and surgery centers become increasingly space-constrained while equipment density continues to rise, the demand for imaging systems with a minimal footprint is growing. With its all-in-one design, the Ziehm Solo FD is one of the most compact C-arms, offering excellent maneuverability even in the smallest treatment environments. Powered with the streamlined QuantumStream imaging chain, the system delivers a seamless resolution of 2k x 2k – from acquisition to display, supporting a broad range of clinical applications with high image quality and workflow efficiency. Versatile viewing options provide maximum flexibility in the OR and seamlessly support daily clinical workflows.

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

Designed as a reliable imaging solution for everyday clinical practice, the Ziehm Solo FD is ideal for routine procedures, satellite clinics, and smaller hospital settings. It combines consistent image quality with a compact all-in-one design. Powered with QuantumStream, Ziehm Imaging's streamlined 2k2k imaging chain, the Ziehm Solo FD delivers outstanding image clarity from acquisition to display. Leveraging advanced CMOS flat-panel detector technology, the system provides true resolution, particularly in the magnification modes, eliminating the need for interpolation at the detector level and thereby enhancing overall imaging efficiency. This ensures dependable visualization of anatomical details while supporting efficient dose management – without unnecessary system complexity.

QuantumStream – Ziehm Imaging's next-generation imaging chain – is designed to transmit a true 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

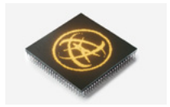


IMAGE PROCESSING
True **2k x 2k resolution** image processing



IMAGE OUTPUT
27" **4k** UHD monitor

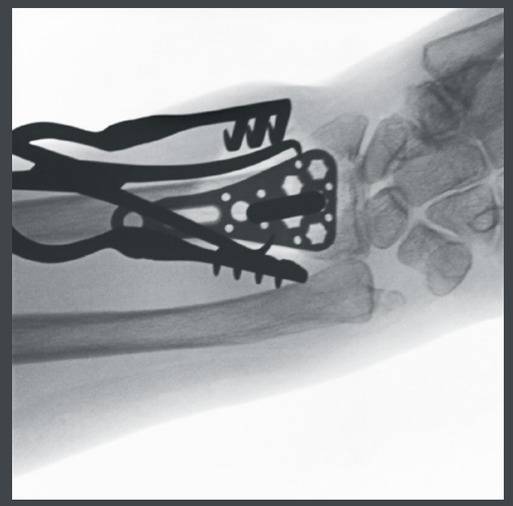


IMAGE INSIGHTS
Relevant **patient** and **C-arm information**

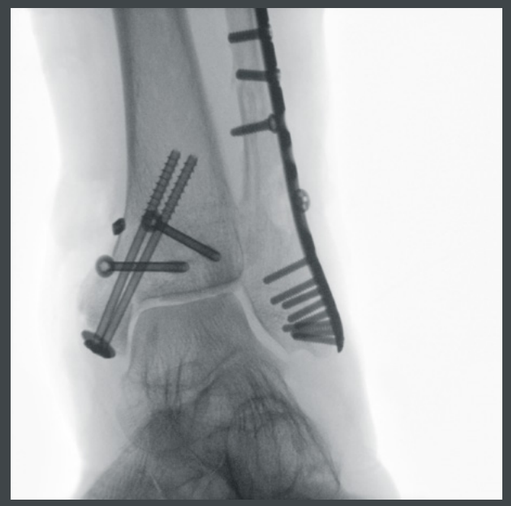
Clinicians benefit from:
- Sharper image details through higher spatial resolution
- Improved visibility of critical anatomical structures such as bone edges and joints
- Streamlined workflows with consistent image quality
- More stable imaging performance across all patients

Find out more about QuantumStream →

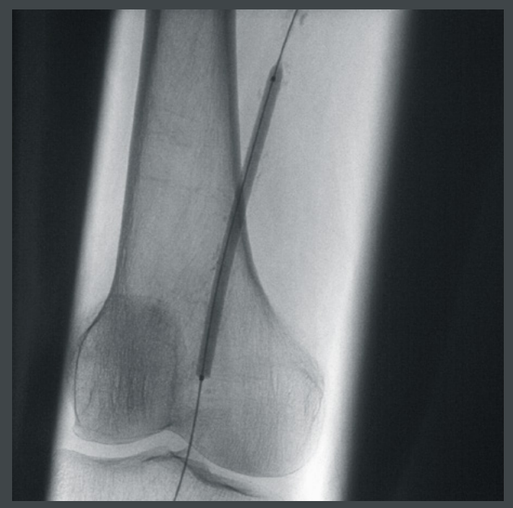
THE FIRST **TRUE 2K2K IMAGING CHAIN**



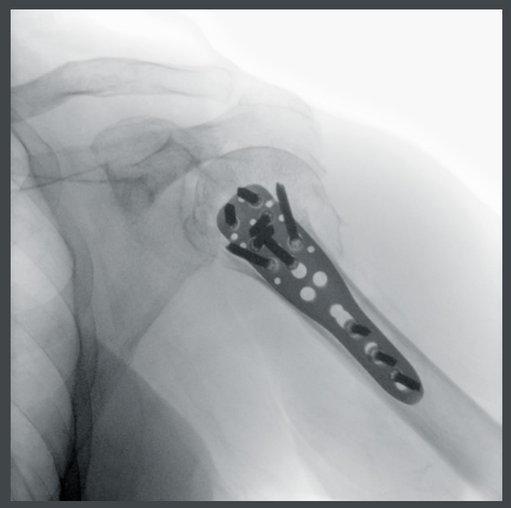
Stabilization of a radius fracture



Ankle fracture fixation



Peripheral revascularization



Proximal humerus fracture fixation

Performance within QuantumStream

High-performance imaging – sharp images, optimized dose

The Ziehm Solo 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 Solo FD features a high-resolution, high-brightness 27" 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 / Ensure maximum flexibility with a versatile design

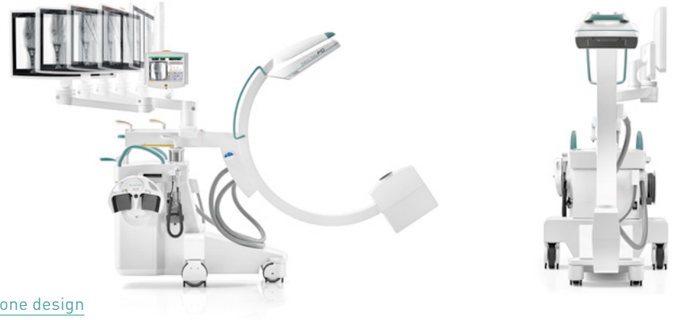
As space in the OR is limited, the demand for imaging systems with smaller footprints is growing. Thanks to the compact design and viewing options, the Ziehm Solo FD enables the hospital to fit every individual need.

→ Compact design

The Ziehm Solo FD is one of the smallest C-arms on the market. It comes with a flatscreen mounted on an articulating monitor arm, eliminating the need for a separate monitor cart. Despite the compact design, 165 degrees of orbital movement enhances easy patient coverage and ensures a maximum of flexibility in the OR – fully counter-balanced in every position.

→ Expanded product line with flexible configuration options

The Ziehm Solo FD is available in multiple configurations to address different clinical and operational needs. The premium CMOSline version features a 21 cm × 21 cm flat-panel detector, while an optional 31 cm × 31 cm IGZO flat-panel detector extends anatomical coverage – which is particularly beneficial for orthopedic and vascular procedures. In addition, the Ziehm Solo FD lite[3] offers a streamlined configuration with a 21 cm × 21 cm flat-panel detector and a reduced option package, providing a cost-efficient entry point for routine applications. Discover more about our IGZO detector options in the dedicated Ziehm Solo FD IGZO brochure.



All-in-one design

All functions required for image capturing, processing, and archiving are integrated into the C-arm, without the need for a standalone monitor cart.



Easy handling

165 degrees of orbital movement and the 87 cm C-arm opening ideally support your workflow.

→ Flexible configurations

In addition to the compact design of the system, three different viewing options enhance flexibility during interventions to allow the product range to suit individual needs.

These options allow you to conveniently operate the system from the Ziehm Viewing Station, the Remote Solo Center, and the C-arm.



Option 1: Wall- or ceiling-mounted monitors

This space-saving configuration maximizes available space in the OR and can benefit from wireless integration.

wireless



Option 2: Remote Solo Center

Create sufficient scope for sterile operation with the Remote Solo Center, flexibly mounted to the sides of the OR table or on a separate stand.

Ziehm Solo FD with integrated monitor

This versatile mobile C-arm comes as standard with an integrated monitor to ensure a compact design for small ORs. Furthermore, it can be extended with three different viewing options.

Option 3: Ziehm Viewing Station

The C-arm can be easily supplemented with an extra Viewing Station featuring a high-brightness FullHD 27" split monitor or a high-brightness and high-contrast 19" DUO monitor.



03 / Optimize process efficiency
with advanced clinical workflows

In the face of time and efficiency pressure, compatible clinical workflows help to operate the C-arm in an easy and intuitive way. Unmistakable communication increases safety in the OR and optimizes efficient patient handling.

→ Wireless Freedom wireless

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.

→ Fit for the future

The Solo Center is a touchscreen with 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.

→ 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.



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

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

The Ziehm Solo 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

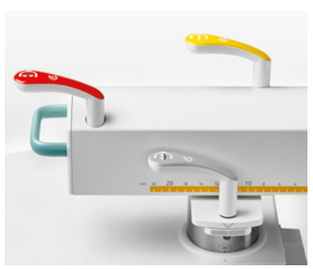






FEATURES	**Ziehm Solo FD**	Ziehm Solo FD	Ziehm Solo FD lite[5]
Flat-panel technology	CMOS, 21 cm x 21 cm	IGZO, 21 cm x 21 cm IGZO, 31 cm x 31 cm	IGZO, 21 cm x 21 cm
Detector resolution	2 k x 2 k	1.5 k x 1.5 k (21 cm x 21 cm) 2 k x 2 k (31 cm x 31 cm)	1.5 k x 1.5 k
Imaging chain	2 k x 2 k (QuantumStream)	1 k x 1 k	1 k x 1 k
Image Insights	■	–	–
Monitor	High-resolution and high-brightness 27" UHD monitor	High-brightness FullHD 27" split monitor	Standard FullHD 27" split monitor
Power generator	2.4 kW, pulsed monoblock generator	2.4 kW, pulsed monoblock generator	2.4 kW, pulsed monoblock generator
Ziehm Usability Concept	■	■	■
SmartDose	■	■	■
Remote Solo Center	■	■	–
Ziehm Viewing Station	■	■	–
Advanced Heat Management	■	■	■
Field Transport Solution	■	■/–	–
Orbital movement	165°	165°	165°

available ■ | not available –



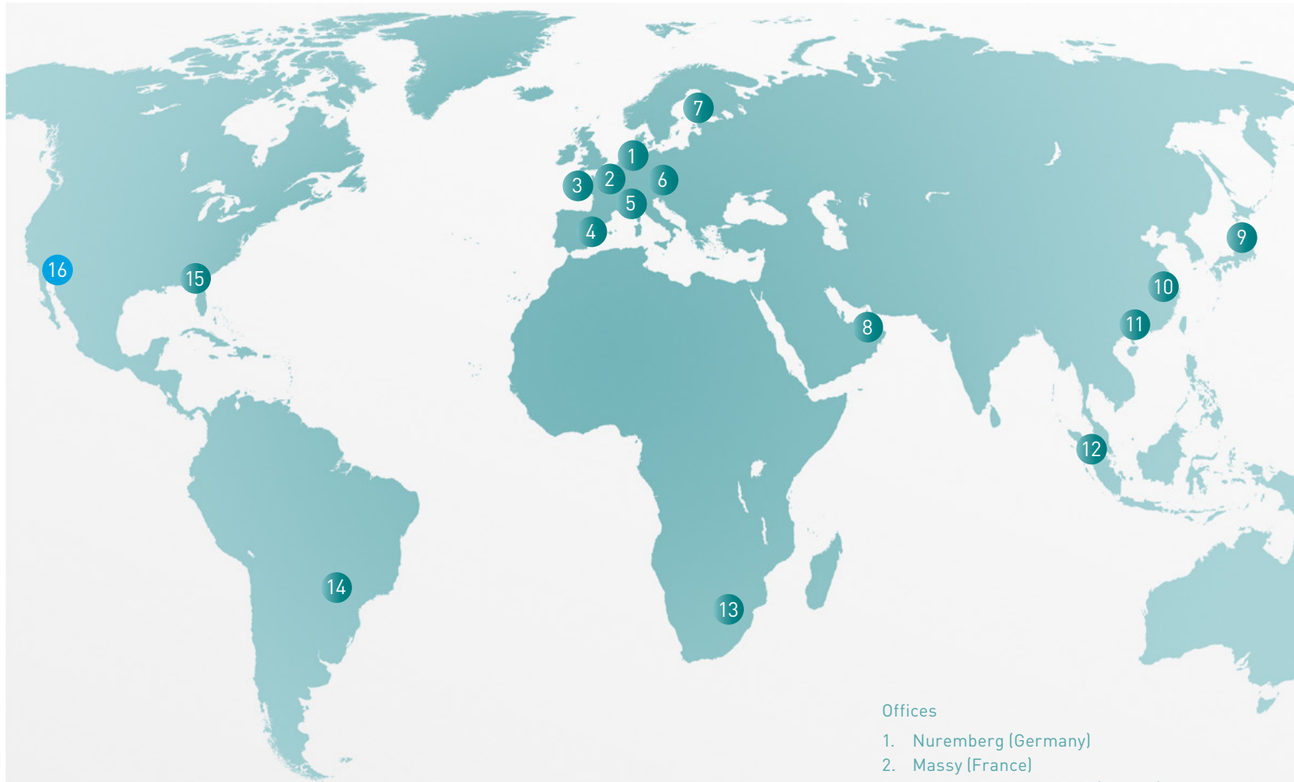
Color-coded handles



Wireless Footswitch and Remote Solo Center



Field Transport Solution, to meet the needs of disaster medical care



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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www.ziehm.com/SoloFD

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[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

[5] The Ziehm Solo FD lite represents a group of optional hardware and software that creates an option package on the device named Ziehm Solo FD.

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