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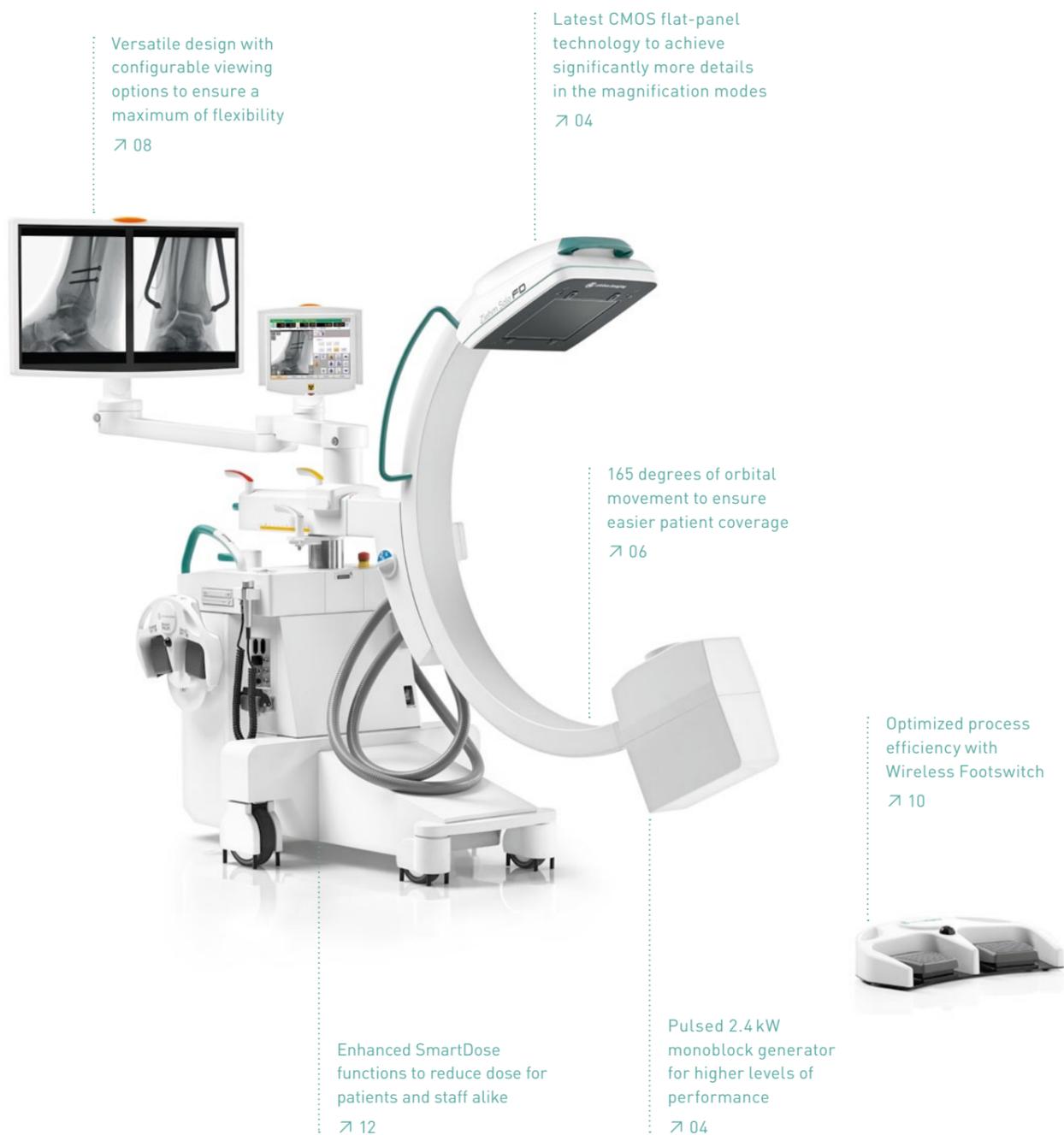
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Ziehm Solo FD  
Versatile design meets  
latest flat-panel technology



Ziehm Solo FD. As the size of hospital and surgery center ORs decreases and equipment quantity rises, the demand for imaging systems with smaller footprints is growing. With its all-in-one design, the Ziehm Solo FD is one of the most compact C-arms for even the smallest treatment scenarios on the market – now equipped with CMOS flat-panel technology to perform a broad portfolio of applications. Versatile viewing options and new dimensions in user friendliness offer maximum flexibility in the OR to support your clinical workflow. With the latest improvements in dose regulations, the Ziehm Solo FD ensures best image quality at a minimized dose.

## 01 / Achieve significantly more details with CMOS flat-panel technology

Optimal soft tissue and bone contrast as well as high spatial resolution and a wide dynamic range are key to displaying detail-rich images of even the smallest anatomical structures. CMOS detector technology delivers on all counts, helping physicians to improve image quality.

### → CMOS flat-panel technology

Image quality and efficiency are the most important but also challenging factors in daily clinical routine. In comparison with conventional C-arms, the latest flat-panel technology CMOS achieves higher spatial resolution due to smaller pixel sizes combined with lower noise levels and a higher read-out speed at full resolution. True resolution, especially in the magnification modes, makes interpolation unnecessary. CMOS technology therefore enables improved overall efficiency.

### → Higher level of performance

The compact monoblock generator provides short, sharp pulses, producing razor-sharp images even if the patient is moving. This intelligent pulse technology also improves dose management. The flat-panel technology is unaffected by magnetic fields and enables distortion-free imaging, with no loss in image quality and more than 65,000 shades of gray.

### → Contrast-rich visualization

The Ziehm Solo FD offers a contrast-rich 19" dual flatscreen monitor with high brightness. Even from a distance, the high-end monitors provide the physician with optimal insights by visualizing the finest details – from any angle.

4,096

Conventional image intensifier

65,536 shades of gray

Ziehm Solo FD with flat-panel technology



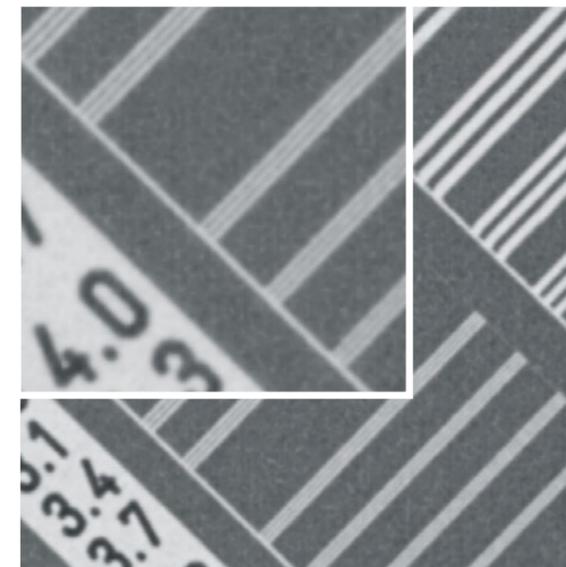
Full size (20.5 cm x 20.5 cm)



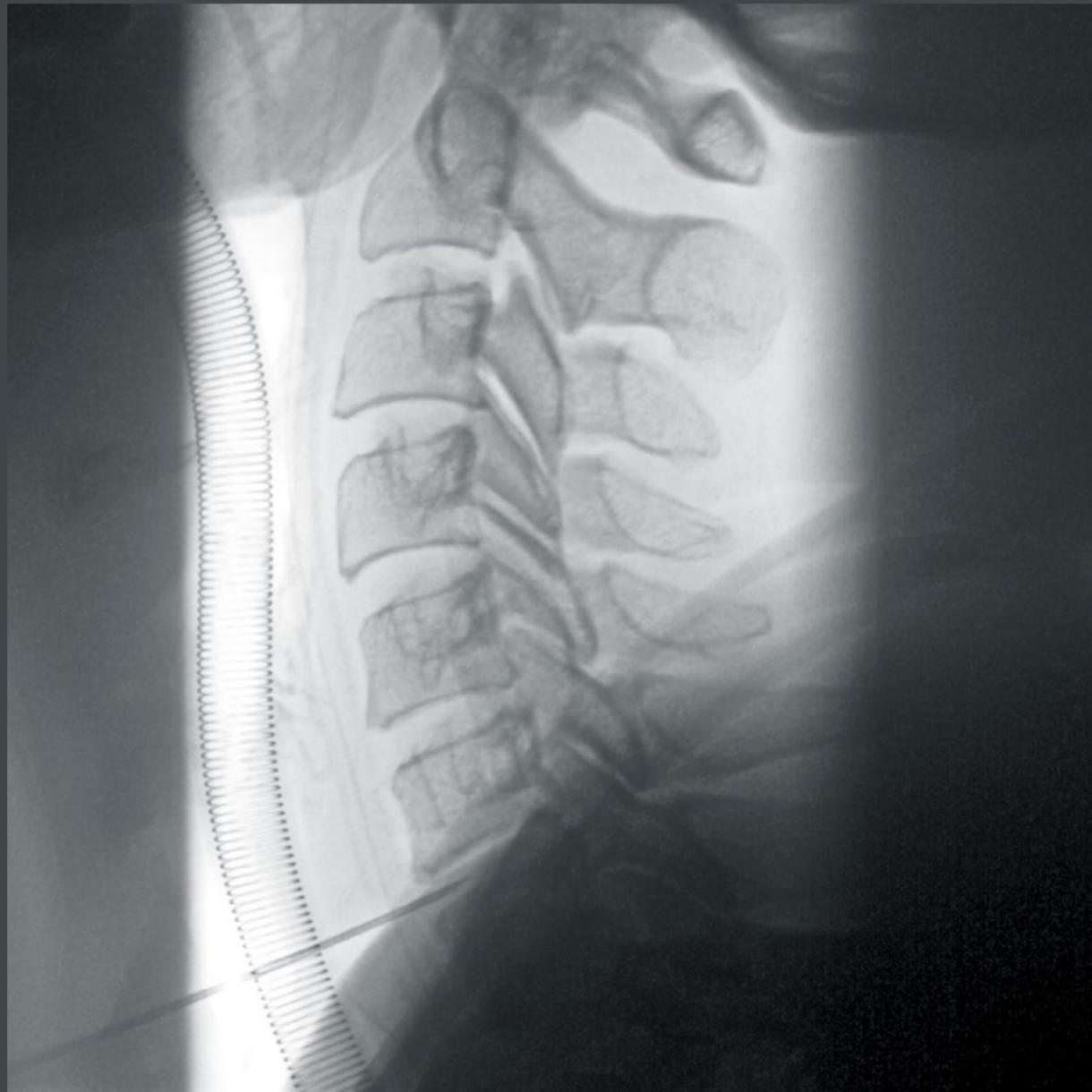
Magnification mode 1 (15 cm x 15 cm)



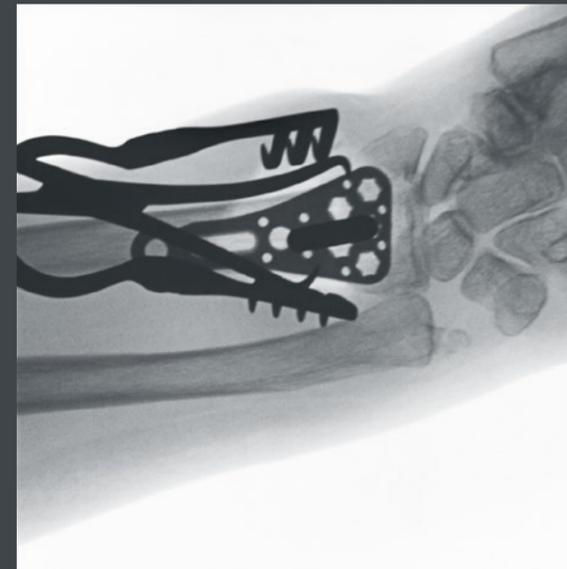
Magnification mode 2 (10 cm x 10 cm)



Spatial resolution phantom with more than 4.0 lp/mm visible



Cervical spine



Stabilization of a radius fracture



Adjusting screw for stabilization of syndesmosis



Peripheral revascularization



Osteosynthesis of the clavicular

## 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 as standard with a 19" dual 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.



### All-in-one design

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



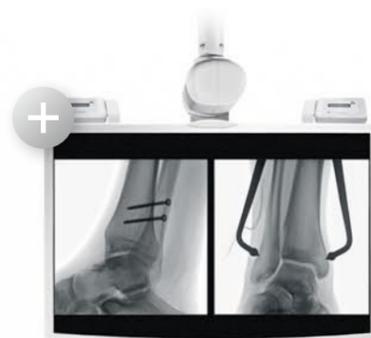
### Easy handling

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.



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 24" landscape splitscreen monitor or a 19" dual flatscreen 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

WLAN allows you to store images wirelessly to the PACS from any location. With Ziehm Wireless Video, live images can be transferred to wall-or ceiling mounted monitors in real-time. Benefit from the wireless dual-plus-footswitch to increase safety due to fewer cables on the OR floor, and increase flexibility, as relevant functions such as initiating X-ray can be controlled wirelessly. Encrypted technology is used for all mentioned features.

### → Fit for the future

The Solo Center is a touchscreen with an open, 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 open 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 / Work with a minimized dose with intelligent dose regulation – now in its next generation

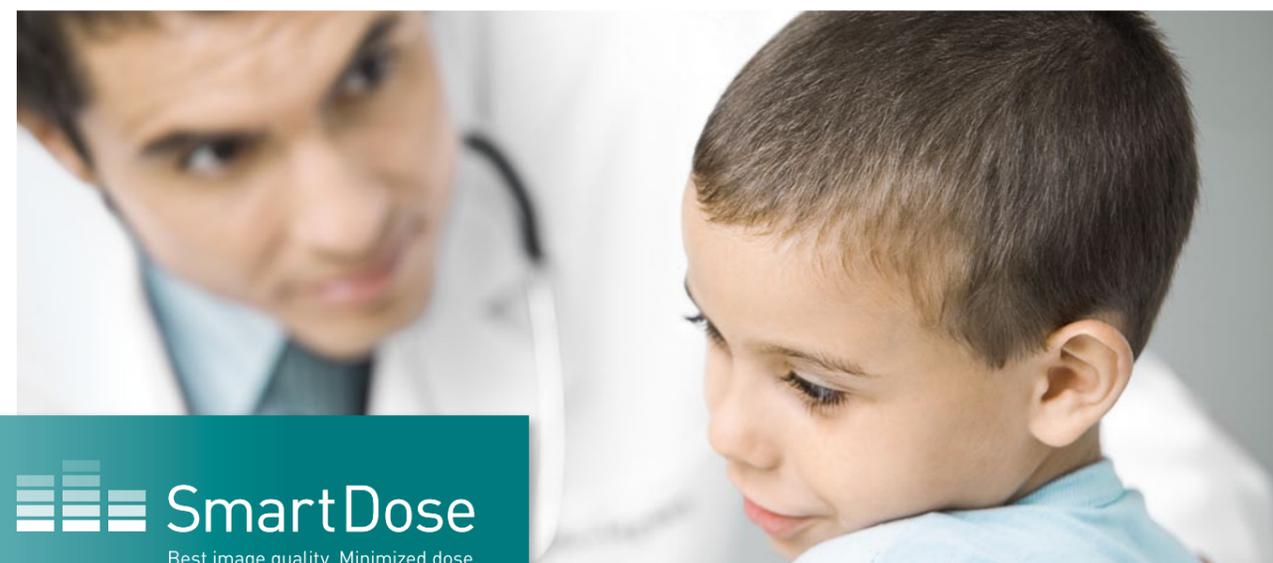
Minimizing dose while maintaining image quality is an important goal worldwide for surgeons, their staff and patients. Ziehm Imaging supports this through further improvements to SmartDose<sup>1</sup> for different applications.

→ 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 adjustment of dose exposure. Our latest improvements in SmartDose help to 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<sup>2</sup>.

<sup>1</sup> In clinical practice, the use of SmartDose may reduce patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.

<sup>2</sup> Gosch D. et al. "Influence of grid and ODDC on radiation exposure and image quality using mobile C-arms – First results", RöFo, 09/07



**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

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

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

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

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

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

 **PREMAG**  
for exposure-free magnification of X-ray images

 **VIRTUAL COLLIMATORS**  
for exposure-free positioning of collimators

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

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

 **AUTOMATIC ADJUSTMENT**  
for obese patients – with no additional increase in dose

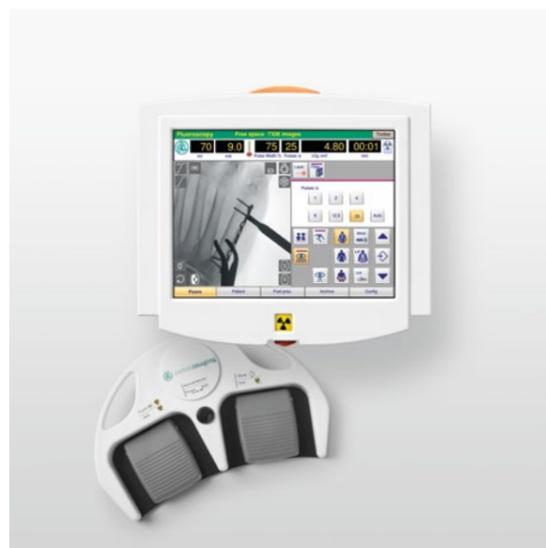
## 05/Features at a glance

In a challenging healthcare environment, where space and cost are at a premium, the Ziehm Solo FD meets evolving needs with support for a wide range of applications and a host of individualized options.

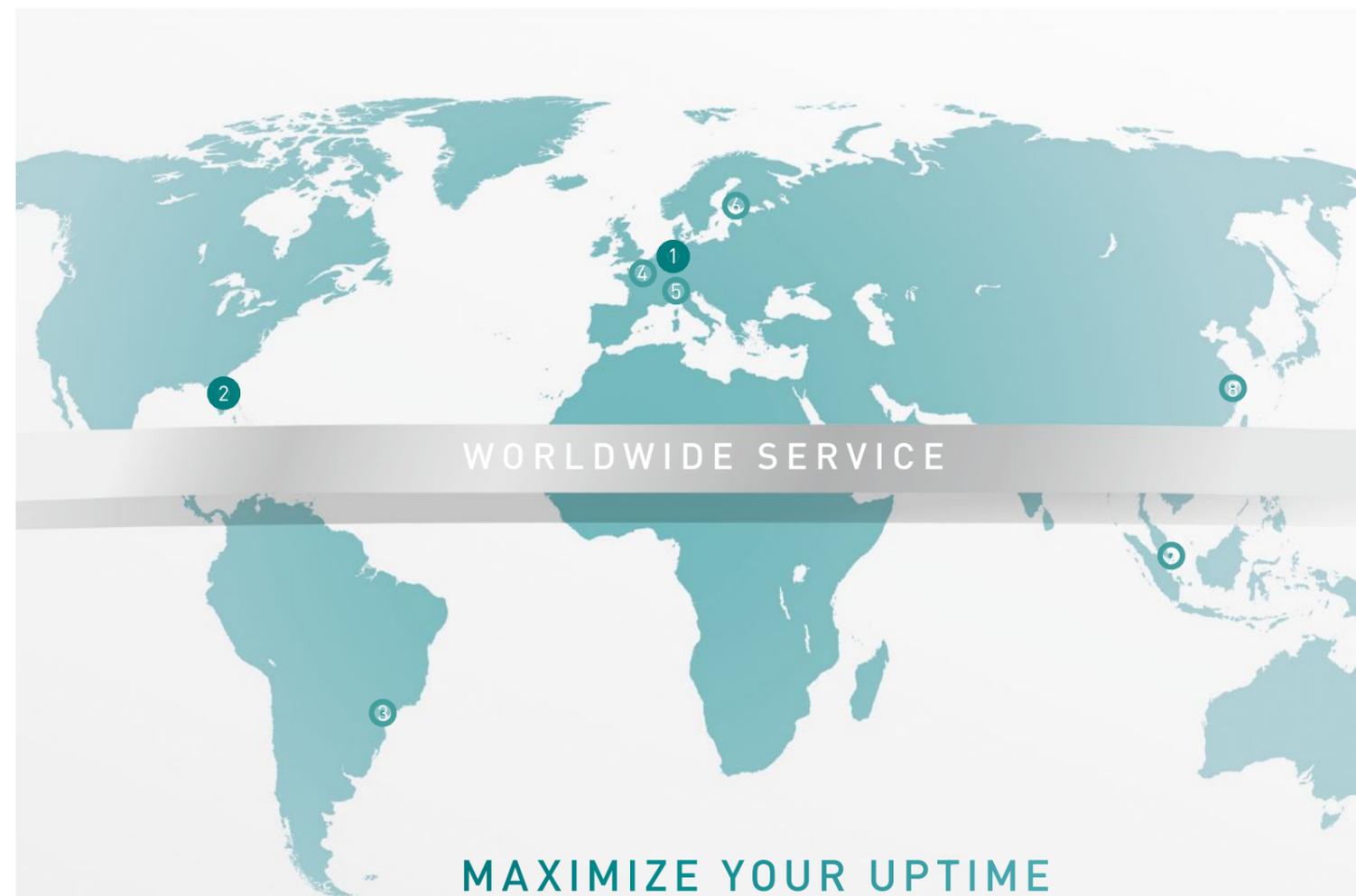
Footprint	0.8 m <sup>2</sup>	Anatomical Marking Tool (AMT)	optional
C-arm opening	87 cm	Ziehm Viewing Station	optional
2k x 2k CMOS technology		Monitors for existing ceiling support arms	optional
Touchscreen user interface		Ziehm NetPort	optional
Ziehm SmartEye with SmartControl		Interface to 2D navigation systems	optional
SmartArchive		Printer / DVD	optional
Color-coded scales and handles		Cineloop/DSA	optional
Pulsed monoblock generator		Wireless freedom integration (WLAN, Wireless Footswitch and Wireless Video)	optional



Color-coded handles



Wireless Footswitch and Remote Solo Center



WORLDWIDE SERVICE

### MAXIMIZE YOUR UPTIME



**Make sure to get the best service for your daily business.**

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

Offices

- 1 Nuremberg (Germany)
- 2 Orlando, FL (USA)
- 3 São Paulo (Brazil)
- 4 Paris (France)
- 5 Reggio Emilia (Italy)
- 6 Kerava (Finland)
- 7 Singapore (Singapore)
- 8 Shanghai (China)