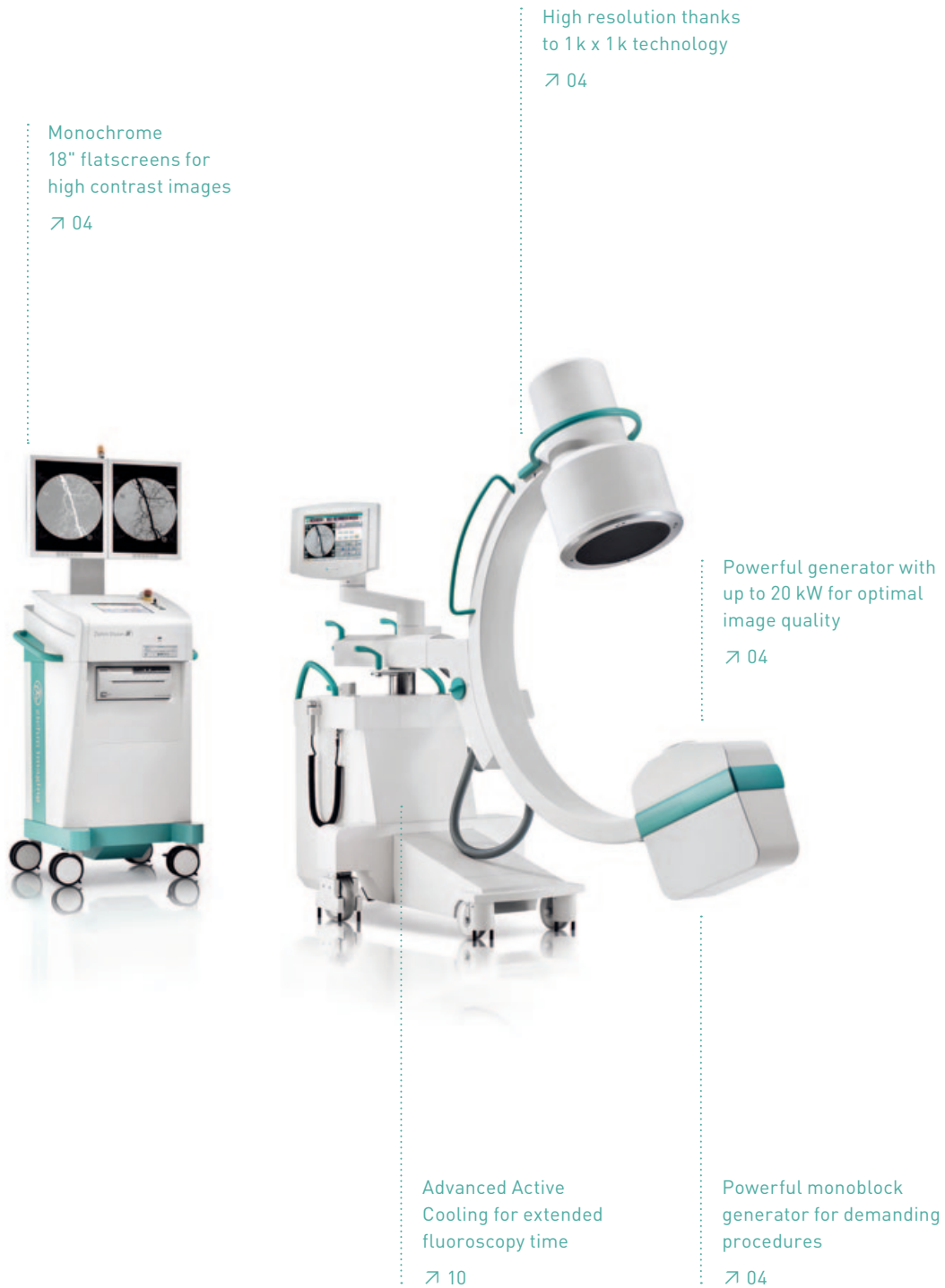




Ziehm Vision R

Powerful solution for superior  
mobile imaging.



Monochrome  
18" flatscreens for  
high contrast images  
➤ 04

High resolution thanks  
to 1 k x 1 k technology  
➤ 04

Powerful generator with  
up to 20 kW for optimal  
image quality  
➤ 04

Advanced Active  
Cooling for extended  
fluoroscopy time  
➤ 10

Powerful monoblock  
generator for demanding  
procedures  
➤ 04

Ziehm Vision R. Equipped with a rotating anode embedded into a powerful monoblock generator, this C-arm achieves highest image quality at lowest possible dose. These properties, in combination with the Advanced Active Cooling system, significantly extend operating times, while delivering superb image quality. This makes the Ziehm Vision R particularly suited for demanding procedures in cardiology and vascular surgery including PTCA, PTA and EVAR. The compact design of this mobile C-arm together with its unmatched ease of use benefit both surgeons and operating staff.

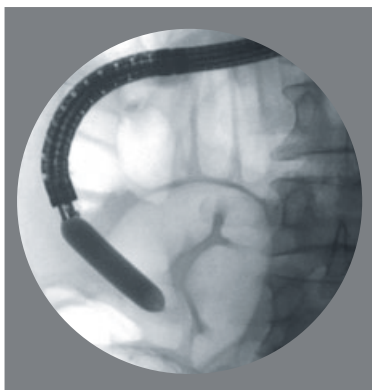
## 01 / For demanding interventions. A range of finely tuned components deliver outstanding image quality.

### → Powerful generator for highest image quality

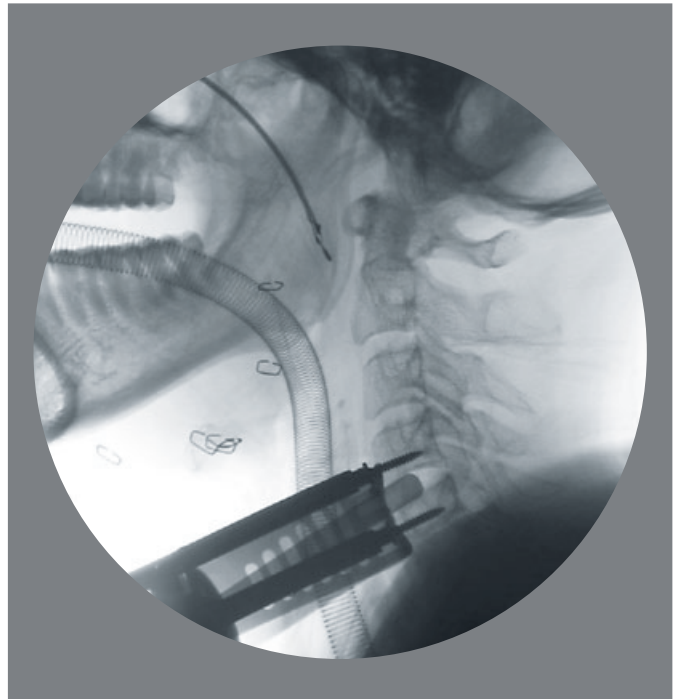
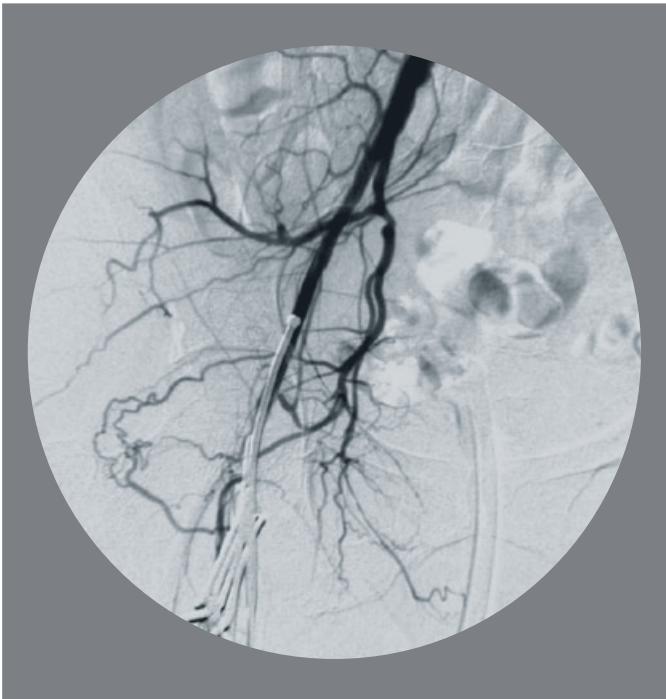
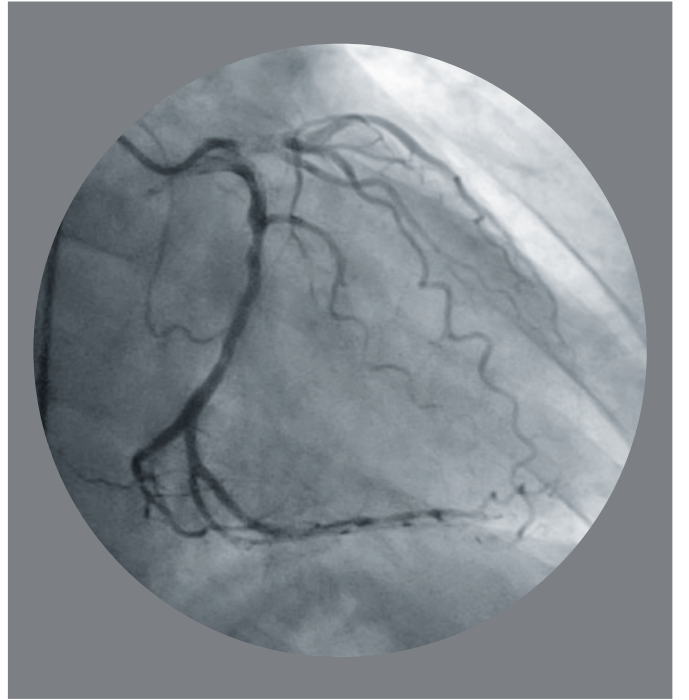
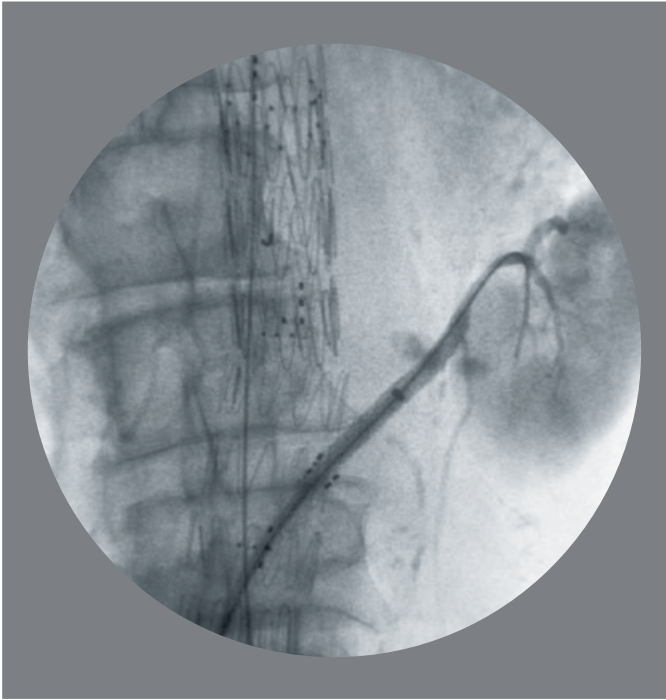
Ziehm Vision R features a highly compact and powerful monoblock generator with a rotating anode. This industry-leading high-frequency pulse generator operates with a variable pulse width between 4 ms and 30 ms. The pulse width, combined with the power reserves of up to 20 kW, make this C-arm the imaging system of choice among physicians specialized in TAVI (transcatheter aortic valve implantation) as well as in vascular procedures such as PTCA, PTA and EVAR. Short, sharp pulses at up to 25 frames per second produce crystal-clear images – even of moving objects. In addition, Ziehm Vision R delivers excellent results during exposures with steep angles and lateral projections.

### → Optimal visualization

The high-dynamic CCD camera is a key component in the imaging chain. With 1 k x 1 k resolution and more than 4,000 shades of gray, it visualizes even the smallest anatomical structures. This is extremely beneficial in demanding applications like interventional vascular or cardiac procedures. Thanks to automatic adjustment, the image is free of S-shaped and pincushion distortion.



An optional endoscopic monitor facilitates minimally invasive endoscopic procedures, conveniently displaying fluoroscopic and color endoscopy images side by side.

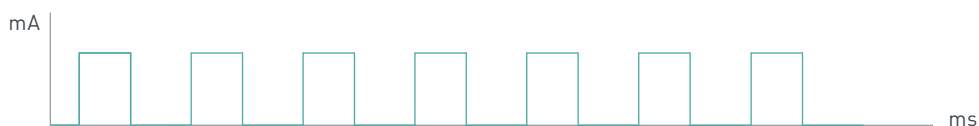


### → Contrast-rich display

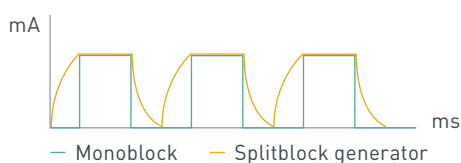
Ziehm Vision R features two 18.1" TFT monitors that stand out for their exceptional brightness and contrast. Even at a distance and from an angled view, these high-end monitors provide the physician with an optimal overview by visualizing even the finest details.

### → PreMag for ease of magnification

PreMag is a preview function that allows the operator to simulate the imaging size in fluoro-mode before taking a second scan. Based on the first scan, the operator can precisely define the scan region and preview the results of magnifier 1 or 2 without exposing the patient to further radiation. Once the magnification has been adjusted and confirmed, the system takes a normal diagnostic image – if required.



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

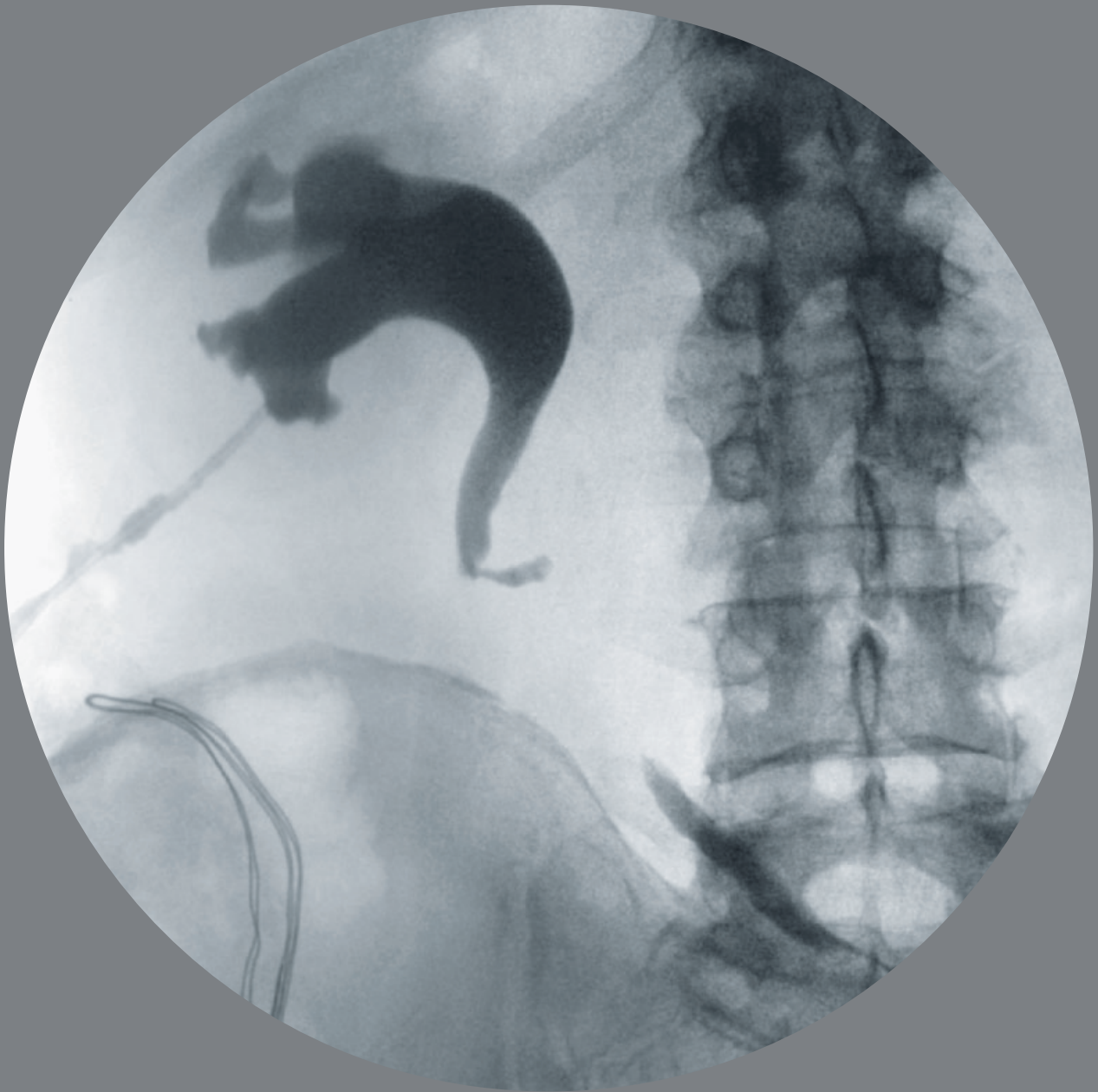


— Monoblock — Splitblock generator



— Pulsed — Continuous fluoroscopy





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

### → Easy positioning

Ziehm Vision R 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 dose 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.

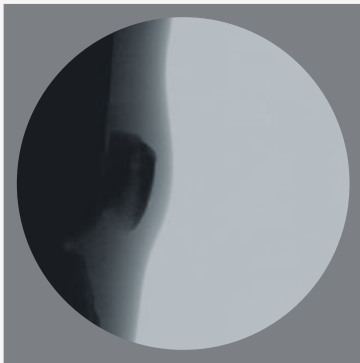
"The average dose reduction when using 25 pulses/sec resulting from object detection and automatic down-pulsing was 21 %, and the maximum dose reduction was 60%."

(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)

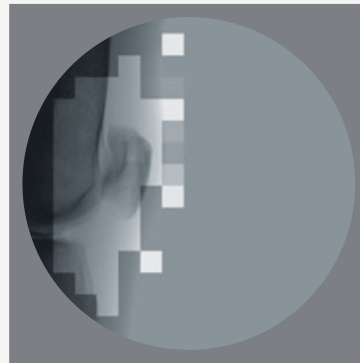




## ODDC highlights



Conventional image quality



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



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

## 03 / New dimension in user friendliness. Adapted to clinical workflows with new levels of intuitive guidance.

### → Exceptional ease of use

The compact design and easy-drive system of the Ziehm Vision R allow it to be maneuvered with minimal effort. All steer and brake functions are activated via a single lever. All C-arm movements are fully counterbalanced in every position. The compact footprint makes the C-arm extremely easy to handle and position.

### → Intuitive user interface

The Vision Center is a rotating and tilting touchscreen control panel mounted on the mobile stand as well as on 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 concise 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.

### → Ziehm SmartEye for full control at your fingertips

Ziehm SmartEye mirrors the monitor image to the touchscreen, giving the user a live replica to keep track of orientation and object positioning. Images can be switched from left to right monitor faster than ever with drag and drop. SmartControl functionality means operators only have to slide a finger to adjust brightness, contrast, image mirroring and rotation. The virtual iris and slot collimator is equally intuitive, allowing users to easily preselect collimator settings for the next image.



Ziehm SmartEye with SmartControl marks a new dimension in intuitive image processing



### → Fit for the future

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

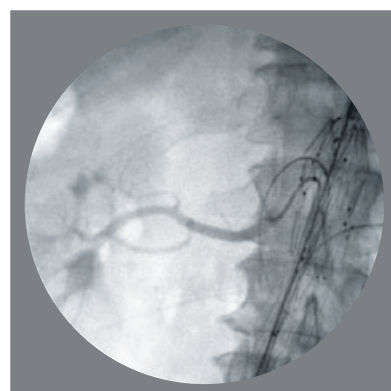
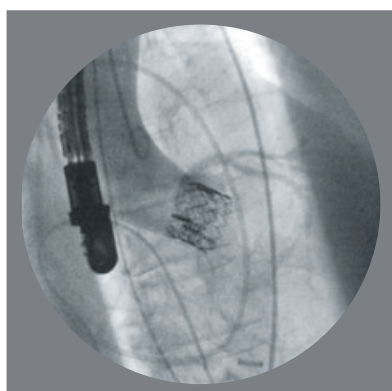
### → Unique reliability

C-arms need to be in continuous use during lengthy, demanding procedures such as vascular and cardiac interventions. The unique liquid cooling system, Advanced Active Cooling (AAC), of the Ziehm Vision R is 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.

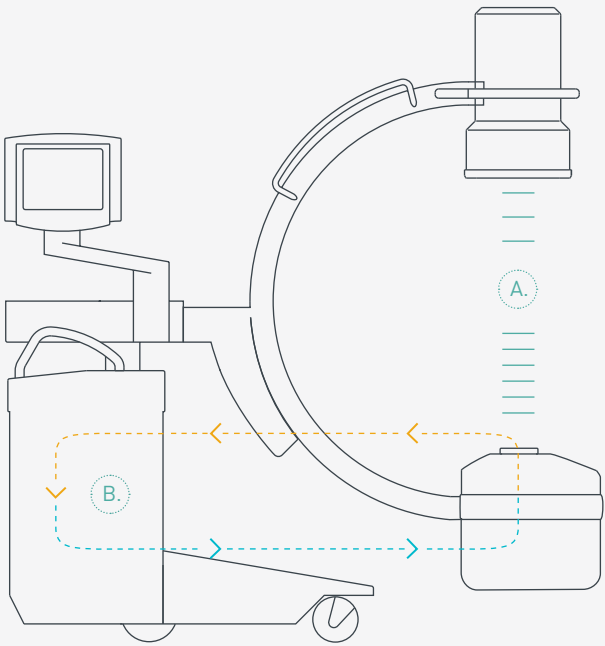
### → Seamless integration

Ziehm Vision R's open interface Ziehm NetPort enables easy integration into existing IT networks. Patient data saved in DICOM 3.0 format can be transferred – via WLAN for example – to a PACS or HIS/RIS system. Data can be retrieved from the monitor cart at any time. Data can also be backed up to DVD or USB and printed on transparencies or paper.

Advanced Active Cooling for long and difficult procedures



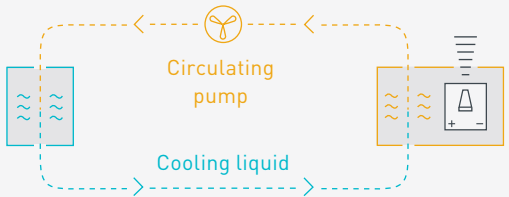
Advanced Active Cooling keeps generator temperatures down while the heat management software automatically adapts the pulse rate



**A**  
Automatic pulse regulation ensures continuous imaging

**B**  
Cooling cycle, heat radiator

Built-in heat radiator



Pulsed monoblock generator: Heat is transferred via a heat exchanger into the cooling liquid

## 04 / Precision matters. A reliable and powerful solution for the OR.

Outstanding power reserves and high image quality make Ziehm Vision R particularly suited to demanding procedures in cardiovascular interventions such as EVAR, PTCA and PTA. Furthermore, the endoscopic viewing capabilities combined with color monitors make it ideal for minimally invasive endoscopic procedures. The unique touchscreen user interface equipped with the latest Ziehm SmartEye technology and SmartControl sets new benchmarks in mobile imaging.

Feature	Ziehm Vision R
1 k x 1 k technology	•
Pulsed monoblock generator	•
Performance	7,5 kW/20 kW
ODDC	•
DICOM 3.0	optional
WLAN	optional (only CE labeling)
Advanced Active Cooling	•
C-arm opening	76 cm
Ziehm SmartEye with SmartControl	•
Endoscopic monitor	optional
PreMag	•
Field of view 9" / 23 cm	363 cm <sup>2</sup>
Field of view 12" / 31 cm	594 cm <sup>2</sup>





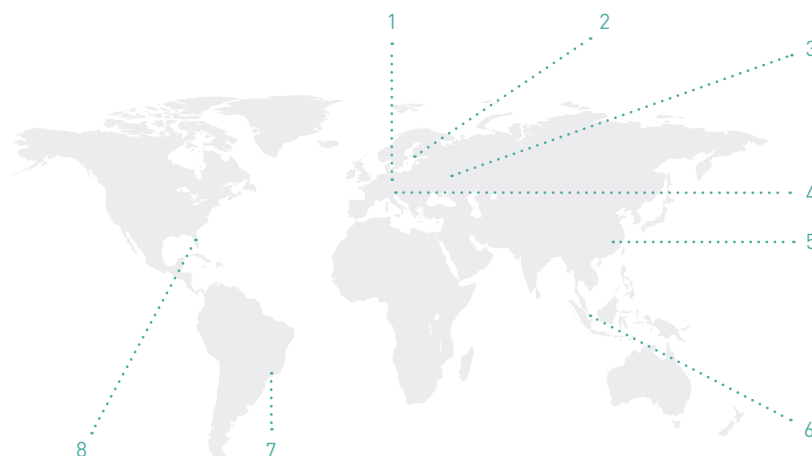
## 05/Service. We make sure you get the best results from the best products.

### → 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.



#### Offices

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



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