



## 01 / Perfect results. A range of finely tuned components ensures highest image quality.

### → Sharp pulses for sharper images

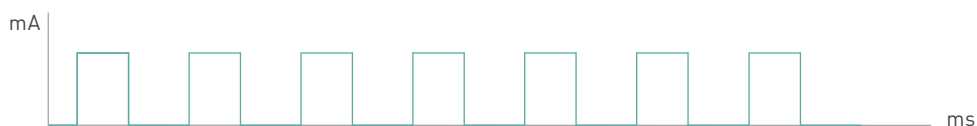
Ziehm Vision comes with a highly compact monoblock generator. It generates short, sharp pulses with up to 25 frames per second, producing crystal-clear images even if the patient is moving. This intelligent pulse technology also reduces dose (as illustrated below).

### → High-dynamic camera system

The high-dynamic CCD camera is a key component in the imaging chain. With 1k x 1k resolution and more than 4,000 shades of gray, it visualizes even the smallest anatomical structures. The optional flat-panel technology raises this to more than 16,000 shades of gray for even more detailed images.

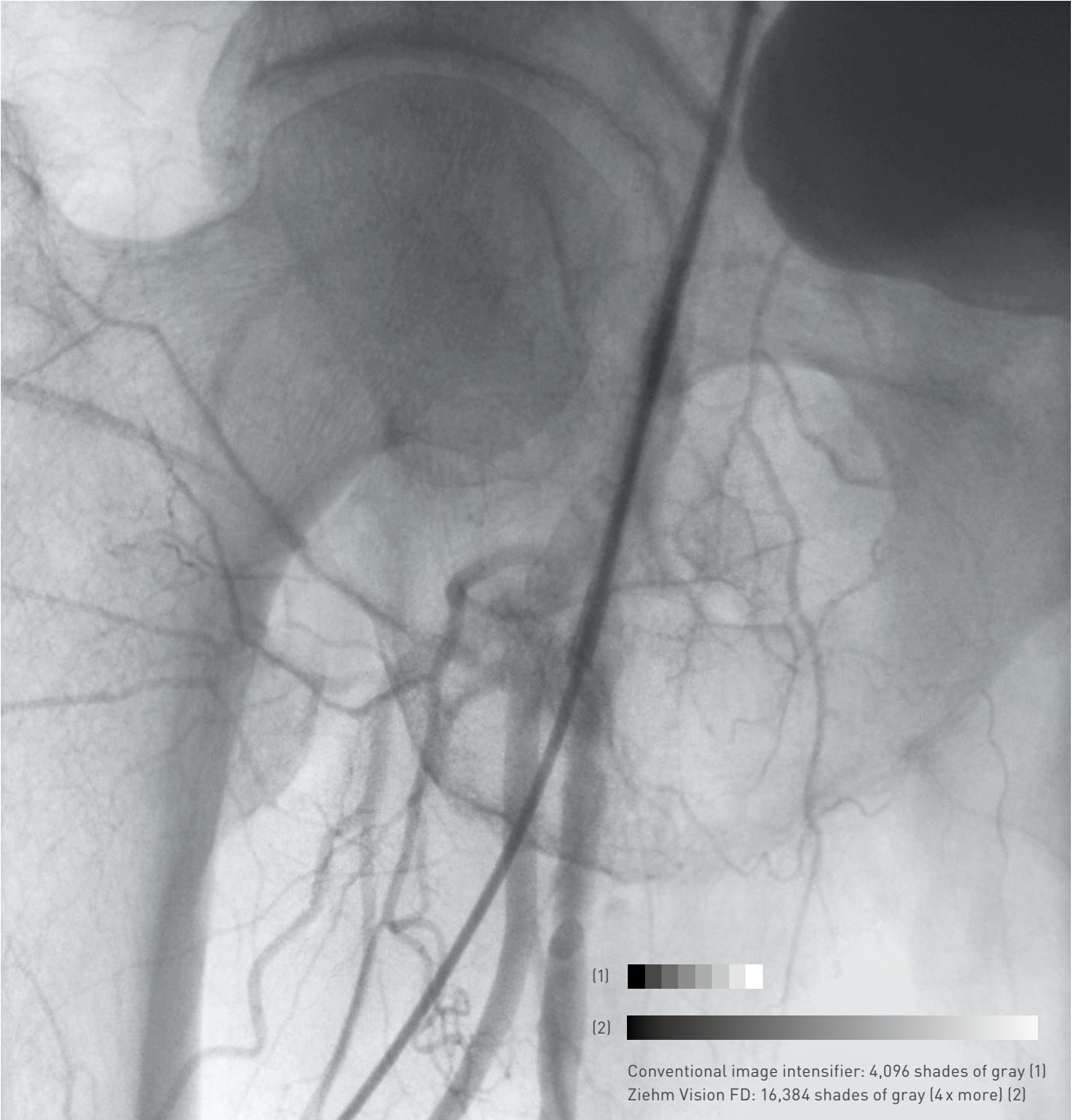
### → Contrast-rich display

Among monitors, Ziehm Imaging's dual 19" TFT color flatscreens stand out for their exceptional brightness and contrast. Even at a distance, the high-end monitors provide the physician with optimal insights by visualizing the finest details – from every angle.



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





(1) 

(2) 

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

## → Automatic adjustment of settings

Ziehm Vision 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.

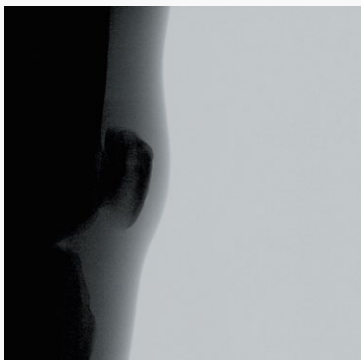
ODDC's measurement cells automatically detect motion. If the patient is not moving, the pulse frequency can be lowered significantly. If, however, motion is detected in the region of interest, the pulse frequency automatically increases to a maximum of 25 frames per second.

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



### → Prolonged use

C-arms need to be in continuous use during lengthy, demanding procedures such as vascular and cardiac interventions. Ziehm Vision's Advanced Active Cooling system (AAC) keeps the generator at an ideal operating temperature and in the event of a temperature increase, the pulse frequency is automatically reduced, until the generator's temperature has cooled down. This guarantees uninterrupted usage especially during long and difficult procedures.

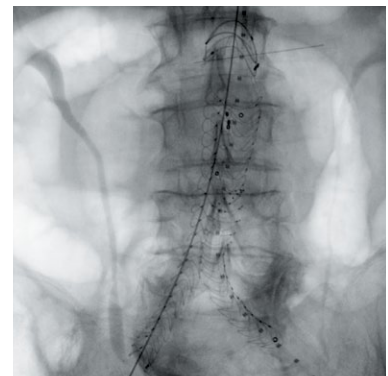
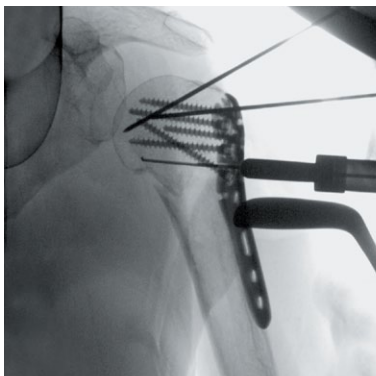
### → Seamless integration

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

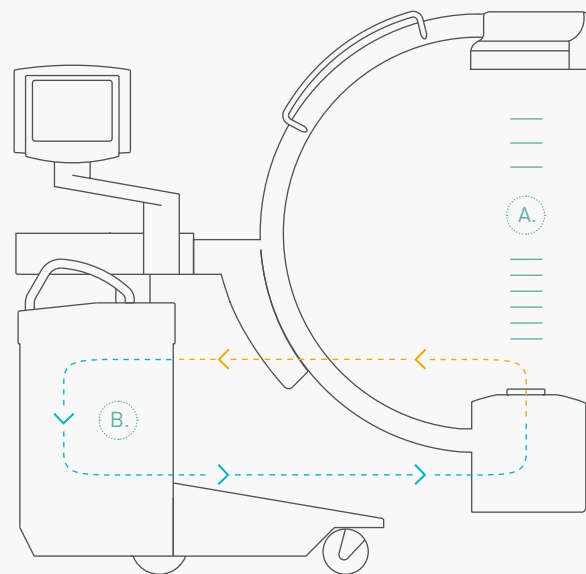
### → Compatibility with navigation systems

Ziehm Vision with a 23 cm image intensifier is compatible with 2D navigation systems to enable real-time navigation and pin-point precision during surgical procedures.

Continuous imaging even during demanding procedures



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



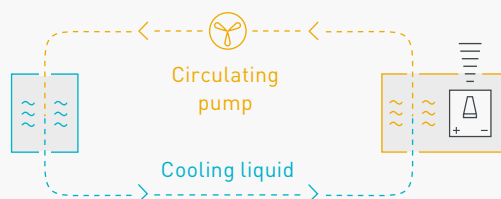
A.

Automatic pulse regulation ensures continuous imaging

B.

Cooling cycle, heat exchanger

High capacity heat radiator with cooling liquid



Pulsed monoblock generator: Heat is transferred to a built-in heat radiator

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