

Ziehm Imaging's 20 kW generator – distinctive positioning in a competitive market

The 20kW generator for Ziehm Vision RFD and Ziehm Vision R is the current flagship in Ziehm Imaging's product portfolio. This paper describes the technology milestone of the generator and compares the nominal power between main competitors. It provides you with user statements and clinical images proving the superior technology.

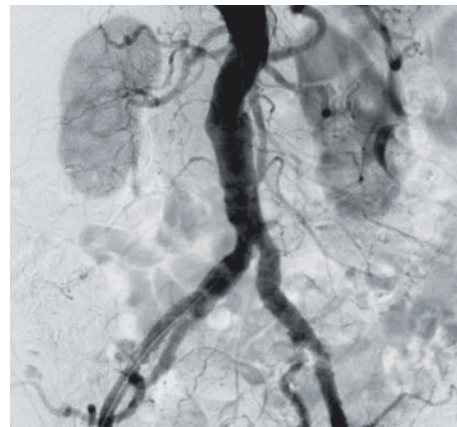
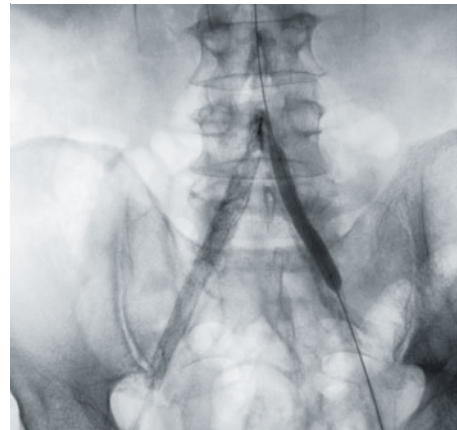


Image quality is probably the most relevant criteria when judging the quality of an imaging device, especially for a mobile C-arm in a competitive environment (i.e. when compared with fixed installed units). However image quality is a subjective criterion which each physician has an individual opinion about.



Zahi E Nassoura, MD, Providence Tarzana Medical Center, USA, stated, "Ziehm Vision RFD provides the level of detail required for successful stent or graft deployment. The visibility and details of the arteries, degree of stenosis, ballons and stents is superior to other C-arms."

Image quality can be determined by various factors. Beside the imaging chain, the flat-panel detector technology (or image intensifier) and the post processing possibilities one of the most important factors certainly is the performance of the generator itself.

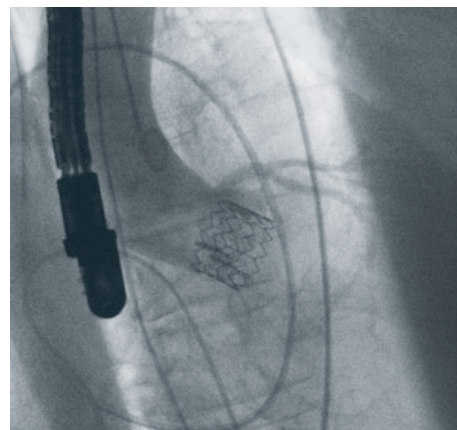


Image quality provided by the mobile C-arm Ziehm Vision RFD with flat-panel detector.

Ziehm Imaging developed a 20kW generator which sets a new benchmark in mobile imaging. This paper describes the differences between Ziehm Vision RFD, Ziehm Vision R, GE OEC 9900, Philips Pulsera, Philips Veradius and Siemens Arcadis Avantic.

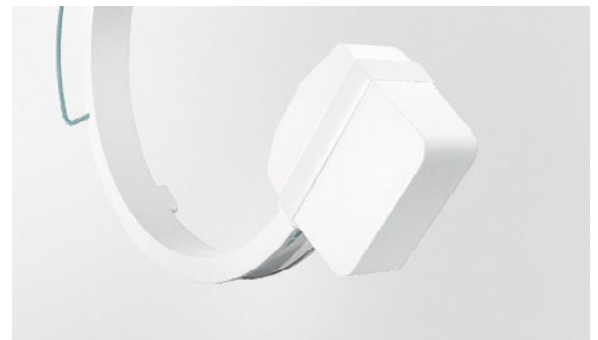
The nominal power according to the international standard IEC 60601-2-7 about particular requirements for the safety of high-voltage generators of diagnostic X-ray generators is defined by the following parameters:

Voltage	100 kV
Time	0.1 sec

By using the formula $P = U \times I$ (power = current x voltage) you can specify the performance of the generator which (according to the ICE norm) requires a duration of 0,1 sec.

Ziehm Vision RFD is the only device that offers 20 kW in High Quality Cine mode and Snapshot mode.

This technical predominance is one reason for the new benchmark set by Ziehm Vision RFD and Ziehm Vision R which is elevating the boundaries of mobile imaging. Ziehm Imaging understands that the performance of the generator is only one indicator for superior imaging solutions, however the comparison to other generator technologies and performances is worth looking at when performing demanding clinical procedures such as cardio- or endovascular interventions.



Powerful yet compact monoblock generators enable crystal-clear imaging during demanding applications.

Performance of mobile C-arms

(according to technical user manuals provided by manufacturers)

	Philips Pulsera (II) and Veradius (FD)	GE OEC 9900	Siemens Arcadis Avantic	Ziehm Imaging Ziehm Vision RFD and Ziehm Vision R
Generator power	12.5 kW (100 kV x 125 mA)	15 kW (100 kV x 150 mA)	15 kW (100 kV x 150 mA)	20 kW (100 kV x 200 mA)
Maximal mA output	125 mA	150 mA	250 mA	200 mA
Mode	Radiography	Bolus Chase mode	Digital Cine mode	HQ Cine mode, Snapshot mode
Time limitations	Requires a 30 sec break after image acquisition	6.5 sec*	no data available*	none

*Experienced data not stated in the manufacturers' user manual.

Generator technology of mobile C-arms

Generator type	Philips	GE	Siemens	Ziehm Imaging
Monoblock	•	–	•	•
Splitblock	–	•	–	–

Ziehm Vision RFD – Prolonged use with monoblock generator technology and Advanced Active Cooling

Ziehm Vision RFD comes with a compact monoblock generator. It generates short, sharp pulses with up to 25 frames per second. This automatic pulse technology minimizes dose while maximizing image quality. In combination with the liquid cooling system Advanced Active Cooling, the generator and the electric components are kept at an optimal operating temperature eliminating the risk of overheating.