IMS
X-RAY SYSTEMS

XRG 040/200/01
XRG 075/1000
XRG 100/1000
XRG 100/1000/01
XRG 225/1000
XRG 450/2000

X-ray generators

IMS Röntgensysteme GmbH was founded in 2000 to develop and produce X-ray generators exclusively for IMS Messsysteme GmbH (the parent company). These generators meet all the requirements that are placed in the thickness measurement of rolled material. Due to the sometimes extreme conditions of use (temperature of the material to be measured up to 1200 ° C) in extremely compact installation situations, X-ray equipment has been developed, which can also be used excellently in other areas of non-destructive testing. The demand of interested parties from other areas led to the decision to suspend the exclusivity as a supplier for IMS Messsysteme GmbH.

IMS Röntgensysteme GmbH today offers X-ray generators from 5 to 450 kV, whole X-ray systems, X-ray tubes, high-voltage adapters (for connecting different connector systems), high-voltage measuring dividers (allows the high voltage to be back-measured independently by using a multimeter) and other accessories.

Components

The generators are compact but still form one modular unit. They comprise two modules, the XCM control module and the HVM high-voltage module. The XCM control module features all the peripheral connections. The power supply, network connection and the external signals are connected to the XCM. Cooling is provided by means of an integrated cooling element. The input voltage has a range of 90-250VAC. The high voltage output and the internal electronics can be powered separately. This provides added safety in that communications can still continue to function if the high voltage cuts out. The oil-insulated high-voltage module is connected to the control module via two internal connectors. A highvoltage cable can be used to connect the X-ray tube on the highvoltage connector. The ability to use a high-voltage cable to isolate the X-ray tube from the X-ray generator makes the system userfriendly and highly flexible.

Installation

The generators are designed in such a way as to permit installation in any position. The integrated cooling unit allows them to be installed nearly anywhere. They can also be installed on moving parts.

Stability

One outstanding feature of our X-ray generators is their stability. High precision is required when measuring thickness. The demands on the X-ray generator are extremely high due to the disproportionate influence of the high-voltage on the radiation stability.

Analysis facilities

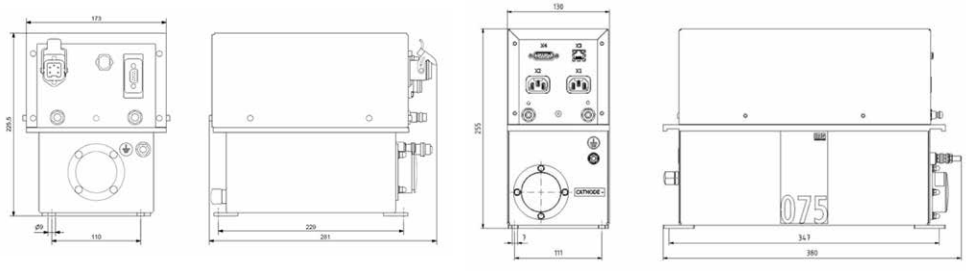
There are various options in terms of analysis via the network connection. There is the facility to output all the actual and regulator values and display them on the control computer in short cycle times. They can be documented and analysed in the long-term memory.

X-ray tubes

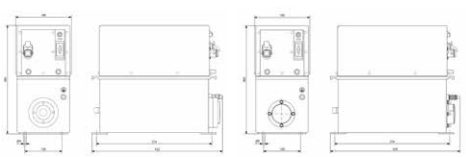
IMS only uses X-ray tubes from leading European manufacturers. A long-standing partnership has brought about the development and refinement of the X-ray tubes for thickness measuring applications. This has led to distinct improvements in stability in higher voltage ranges. Thus the whole package of cutting-edge components required for non destructive testing has been continually extended by IMS. These and other developments of the entire system lead to better results for example in the thickness gauging of rolled material and in total to higher profits, for our customers.

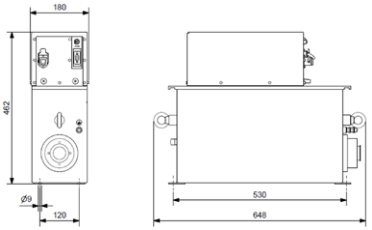
Technical data

	XRG 040/200/01	XRG 075/1000
High Voltage		
Setting range kV	5-40 kV	5-75 kV
Adjustment	0,1 kV Steps	0,1 kV Steps
Absolute accuracy	± 0,5%	± 0,5%
Reproducibility	± 0,1%	± 0,1%
High voltage stability	5 V/mA, at least 20 V	5 V/mA, at least 20 V
Temperature drift	< 50 ppm/°C	< 50 ppm/°C
High voltage receptacle	CA11	CA11, Mini 75
Emission current		
Setting range	0 mA to 10 mA	0 mA to 17,5 mA
Adjustment	0,1 mA Steps	0,1 mA Steps
Absolute accuracy	± 1%	± 1%
Reproducibility	± 0,1%	± 0,1%
Emission current stability	± 0,1%	± 0,1%
Temperature drift	< 50 ppm/°C	< 50 ppm/°C
Focus	Large	Large
Power		
Maximum power	200 W	1000 W
ON time	∞	∞
Mains connection		
High voltage generation	90-250 VAC, 4 A, einphasig, 50/60 Hz	180-250 VAC, 10 A, einphasig, 50/60 Hz
Auxiliary power	90-250 VAC, 2 A, einphasig, 50/60 Hz	90-250 VAC, 2 A, einphasig, 50/60 Hz
Cable length		
High-voltage cable	max. 20 m	max. 20 m
Interfaces		
Interface	Ethernet, M12	Ethernet, RJ45
Cooling		
Cooling	Integrated liquid cooling	Integrated liquid cooling
Cooling media	all cooling media approved by IMS, on request	all cooling media approved by IMS, on request
Cooling medium temperature	minimum +25 °C (avoid condensate – cooling medium temperature may not be too far below ambient temperature) maximum +40 °C	
Ambient conditions		
Operation	0 °C to +50 °C, max. 80 % rel. humidity, non-condensing	0 °C to +50 °C, max. 80 % rel. humidity, non-condensing
Storage	0 °C to +60 °C, max. 90 % rel. humidity, non-condensing	0 °C to +60 °C, max. 90 % rel. humidity, non-condensing
Dimensions (LxWxH) and weight		
X-ray generator XRG	281 x 173 x 225,5 mm	380 x 130 x 255 mm
Weight	10,5 kg	15 kg
Protection class		
	IP 30	IP 30
Dimensioned drawings		



	XRG 100/1000 XRG 100/1000/01	XRG 225/1000
High Voltage		
Setting range kV	XRG 100/1000 = 5-100 kV I XRG 100/1000/01 = 5-85 kV*	20-225 kV
Adjustment	0,1 kV Steps	0,1 kV Steps
Absolute accuracy	± 0,5%	± 0,5%
Reproducibility	± 0,1%	± 0,1%
High voltage stability	5 V/mA, at least 20 V	5 V/mA, at least 20 V
Temperature drift	< 50 ppm/°C	< 50 ppm/°C
High voltage receptacle	XRG 100/1000: R10 I XRG 100/1000/01: CA11	R28
Emission current		
Setting range	0 mA to 17,5 mA	0 mA to 10 mA
Adjustment	0,1 mA Steps	0,1 mA Steps
Absolute accuracy	± 1%	± 1%
Reproducibility	± 0,1%	± 0,1%
Emission current stability	± 0,1%	± 0,1%
Temperature drift	< 50 ppm/°C	< 50 ppm/°C
Focus	Large	Large
Power		
Maximum power	Supply voltage > 180 V = 1000 W I > 90 V = 500 W	Supply voltage > 180 V = 1000 W I > 90 V = 500 W
ON time	∞	∞
Mains connection		
High voltage generation	90-250 VAC, 10 A, einphasig, 50/60 Hz	90-250 VAC, 10 A, einphasig, 50/60 Hz
Auxiliary power	90-250 VAC, 3,15 A, einphasig, 50/60 Hz	90-250 VAC, 3,15 A, einphasig, 50/60 Hz
Cable length		
High-voltage cable	max. 20 m	max. 12 m
Interfaces		
Interface	Ethernet, M12	Ethernet, M12
Cooling		
Cooling	Integrated liquid cooling	Integrated liquid cooling
Cooling media	all cooling media approved by IMS, on request	all cooling media approved by IMS, on request
Cooling medium temperature	minimum 25 °C (avoid condensate – cooling medium temperature may not be too far below ambient temperature) maximum +40 °C	
Ambient conditions		
Operation	0 °C to +50 °C, max. 80 % rel. humidity, non-condensing	0 °C to +40 °C, max. 80 % rel. humidity, non-condensing
Storage	0 °C to +60 °C, max. 90 % rel. humidity, non-condensing	0 °C to +60 °C, max. 90 % rel. humidity, non-condensing
Dimensions (LxWxH) and weight		
X-ray generator XRG	422 x 180 x 350 mm	648 x 180 x 462 mm
Weight	21 kg	40 kg
Protection class		
	IP 30	IP 30
Dimensioned drawings		





*Limited by the CA11 plug connection

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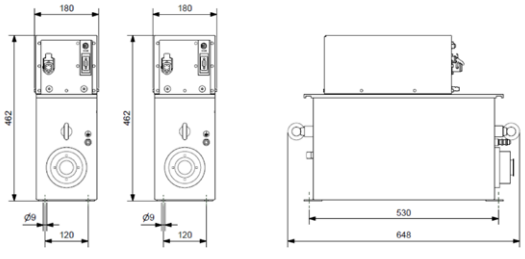
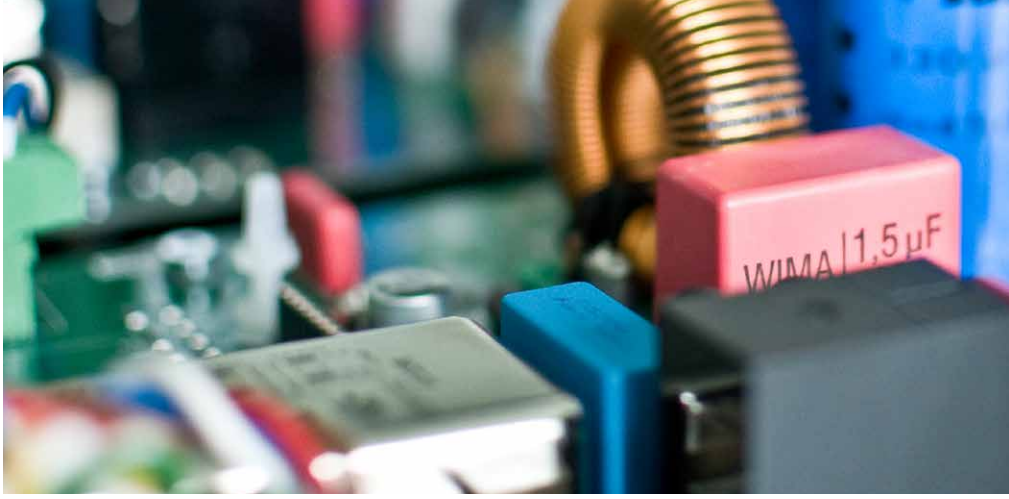
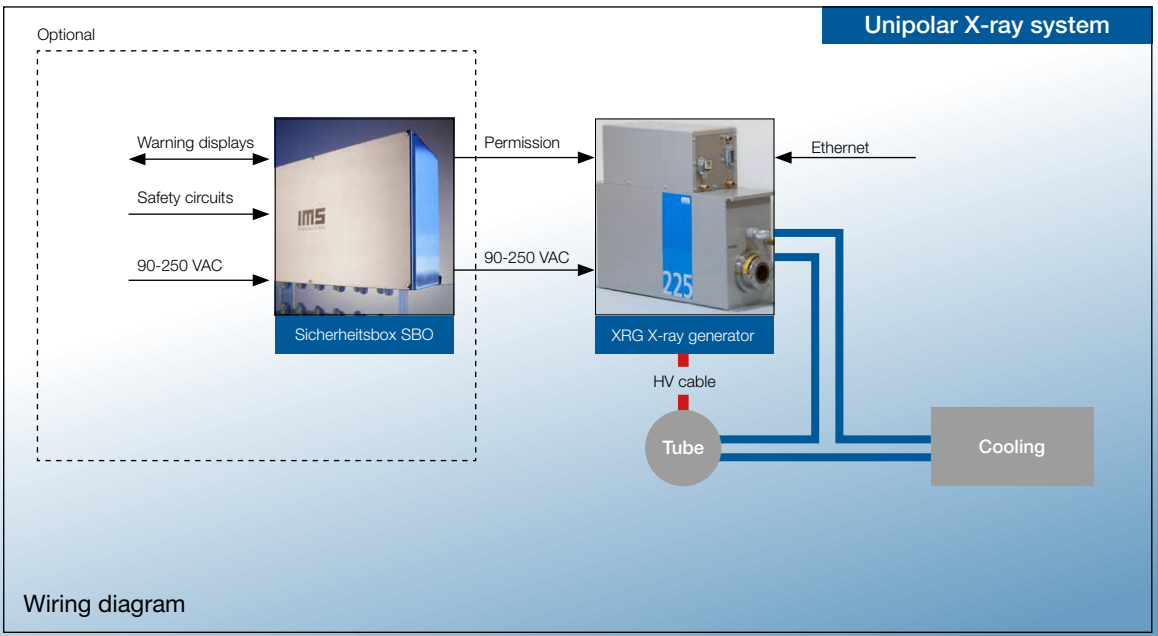
	XRG 450/2000
High Voltage	
Setting range kV	40kV bis 450 kV
Adjustment	0,1 kV Steps
Absolute accuracy	± 0,5%
Reproducibility	± 0,1%
High voltage stability	10 V/mA, at least 20 V
Temperature drift	< 50 ppm/°C
High voltage receptacle	2 x R28
Emission current	
Setting range	0 mA to 10 mA
Adjustment	0,1 mA Steps
Absolute accuracy	± 1%
Reproducibility	± 0,1%
Emission current stability	± 0,1%
Temperature drift	< 50 ppm/°C
Focus	Large
Power	
Maximum power	Supply voltage > 180 V = 1000 W I > 90 V = 500 W
ON time	∞
Mains connection	
High voltage generation	2 x 90 V AC to 250 V AC, 10 A, einphasig, 50 / 60 Hz
Auxiliary power	2 x 90 V AC to 250 V AC, 3,15 A, einphasig, 50 / 60 Hz
Cable length	
High-voltage cable	2 x max. 12 m
Interfaces	
Interface	Ethernet, M12
Cooling	
Cooling	Integrated liquid cooling
Cooling media	all cooling media approved by IMS, on request
Cooling medium temperature	minimum 25 °C (avoid condensate – cooling medium temperature may not be too far below ambient temperature) maximum +40 °C
Ambient conditions	
Operation	0 °C to +40 °C, max. 80 % rel. humidity, non-condensing
Storage	0 °C to +60 °C, max. 90 % rel. humidity, non-condensing
Dimensions (LxWxH) and weight	
X-ray generator XRG	2 x 648 x 180 x 462 mm
Weight	2 x 40 kg (80 kg)
Protection class	
	IP 30
Dimensioned drawings	





System specifications - XRG X-ray generators

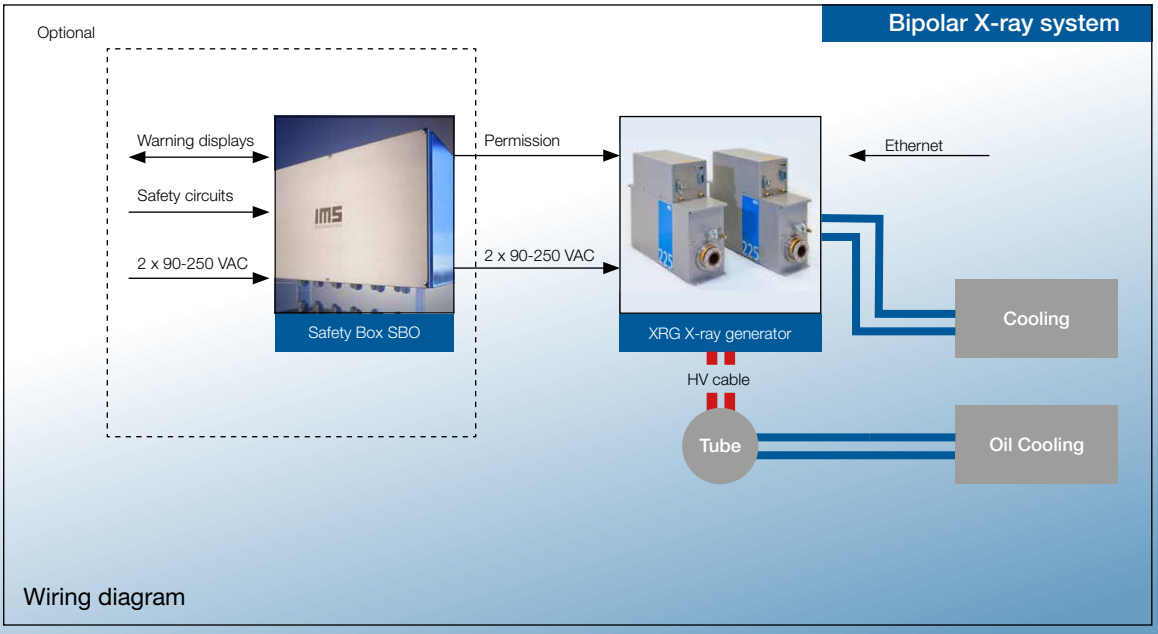
- High-voltage ranges from 5-225 kV
- Digital controls for all parameters
- Network connection
- High stability
- High precision
- Extensive analysis facilities
- Input voltage range 90-250 VAC
- Compact construction
- Modular system
- State-of-the-art high-voltage technology
- Integrated cooling system
- Robust design due to stainless steel housing
- CE conformity
- Produced in compliance with DIN EN ISO 9001: 2015



Wiring diagram

System specifications - XRG X-ray generators

- High-voltage ranges from 40-450 kV
- Digital controls for all parameters
- Network connection
- High stability
- High precision
- Extensive analysis facilities
- Input voltage range 2 x 90-250 VAC
- Compact construction
- Modular system
- State-of-the-art high-voltage technology
- Integrated cooling system
- Robust design due to stainless steel housing
- CE conformity
- Produced in compliance with DIN EN ISO 9001: 2015



Wiring diagram

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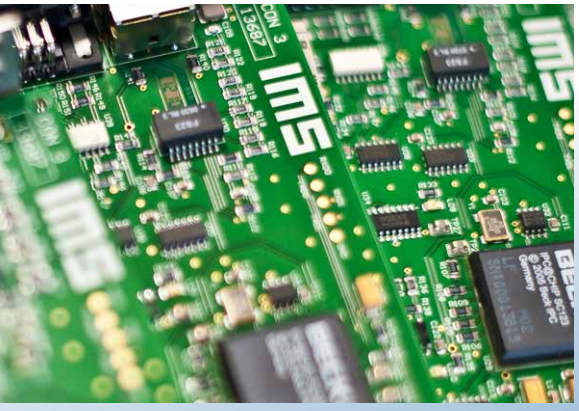

IMS Röntgensysteme GmbH offers all components required for setting up your X-ray system.

X-ray generator XRG

IMS Röntgensysteme stands for long-term proven X-ray solutions in non-destructive testing and gauging.

The maximum voltage that can be generated is specified by the high-voltage generator XRG. All IMS systems can be controlled directly via an interface.

You have not found a suitable solution yet? Talk to us, we are happy to advise you! Special solutions tailored to your needs are possible at any time due to our strong in-house development and production.

IMS Röntgensysteme GmbH
Dieselstraße 52
42579 Heiligenhaus
Deutschland
Telefon +49 2056 975 600
Telefax +49 2056 975 601
info@ims-roentgensysteme.de
www.ims-roentgensysteme.de

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