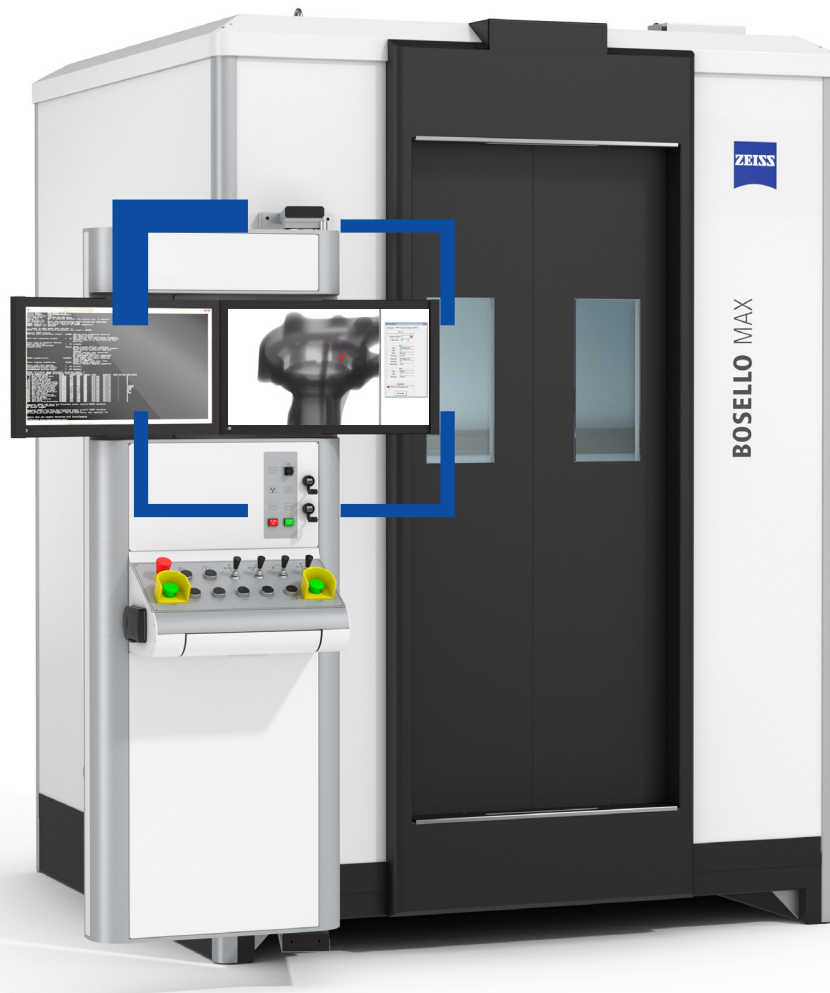


# The one for many applications.



**ZEISS BOSELLO MAX**



# ZEISS BOSELLO MAX

A system that really fits your needs! High flexibility and many configuration options make ZEISS BOSELLO MAX the perfect match for 2D and optionally 3D X-ray inspections of different types and sizes of castings.



## SAVE TIME

The software-controlled coordination and alignment between source and detector allows fast inspection times. Additionally, this unique set-up of a virtual C-arm is more robust and mechanically sound.



## HIGH FLEXIBILITY

Get the system you need! ZEISS BOSELLO MAX comes with many hardware and software options. We help you configure the optimum system for your applications – be it scanning small light metal parts or inspecting large steel parts weighing up to 200 kg with 450 kV!



## EASY LOADING

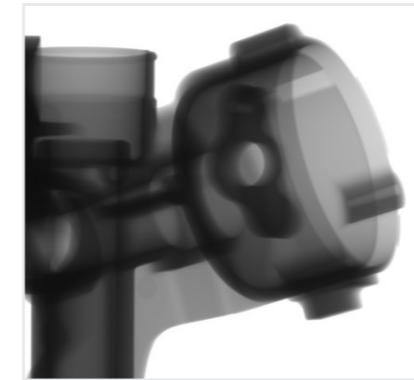
The large double sliding doors and the possibility to shift the table to an external position allow a very convenient and easy loading of the system.



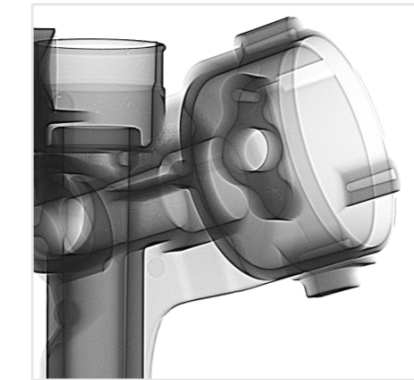
## GET SHARP RESULTS

The unique image processing algorithms of our software guarantee best 2D image quality. Using additional filters and image corrections, the software can visualize even small defects more reliably.

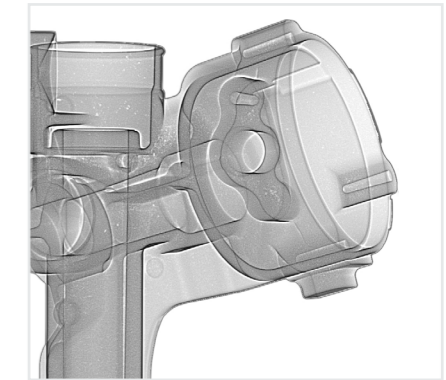
Unprocessed image



Intermediate processed image



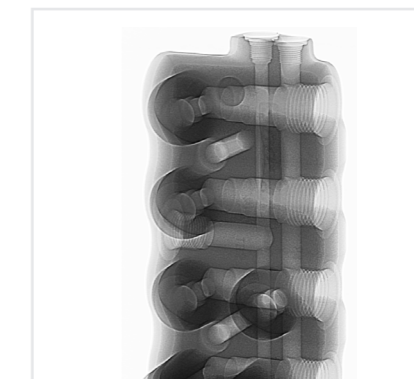
Final processed image



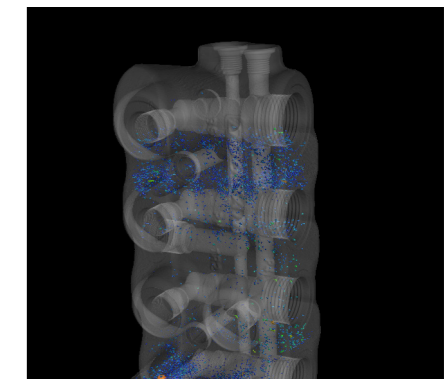
## SEE IT IN 3D

All ZEISS BOSELLO MAX systems are CT ready, which means you can easily capture a set of images to generate 3D models of your castings. This option allows you to get more information about the defects, including its three-dimensional volume and location in a third-party software.

2D



3D



## CLEVER AND ROBUST DESIGN

With its robust design ZEISS BOSELLO MAX is perfectly built for the production environment. The light-weight construction is completely self-contained and allows easy transportation and installation. With the controller panel being directly attached to the system, it saves you valuable space, resulting in a lower cost of ownership.

## System description

<b>Sensor technology</b>	8/10/16 inches Flat panel detector
<b>Software</b>	BHT IP Plus
<b>Applications</b>	2D X-ray inspection

## Radiation generation and sensor technology

<b>ZEISS BOSELLO MAX</b>			<b>70.120 CNC</b>			
X-ray equipment	Max. tube voltage	in kV	160	225	320	450
	Max. target performance	in W	800/1800 640/640	800/1800	800/1800	700/1200
	Focal spot size acc. EN12543 <sup>1)</sup>	in mm	0.4/1.0 1.0/1.0 <sup>2)</sup>	0.4/1.0	0.4/1.0	0.4/1.0
Flat panel detector 8 inch	Number of pixels		1024 x 1024			
	Pixel size	in µm	200			
	Active area	in mm	200 x 200			
	Frame rate (14 bit ADC)	in fps	15/30 (1 x 1/2 x 2 binning mode)			
	Frame rate (16 bit ADC)	in fps	25/50 (1 x 1/2 x 2 binning mode)			
Flat panel detector 10 inch	Number of pixels		1792 x 2176			
	Pixel size	in µm	139			
	Active area	in mm	250 x 300			
	Frame rate (16 bit ADC)	fps	9/30 (1 x 1/2 x 2 binning mode)			
Flat panel detector 16 inch <sup>3)</sup> Option 1	Number of pixels		2048 x 2048			
	Pixel size	in µm	200			
	Active area	in mm	400 x 400			
	Frame rate (16 bit ADC)	in fps	15/30 (1 x 1/2 x 2 binning mode)			
Flat panel detector 16 inch <sup>3)</sup> Option 2	Number of pixels		4096 x 4096			
	Pixel size	in µm	100			
	Active area	in mm	400 x 400			
	Frame rate (16 bit ADC)	in fps	3.75/7.5 (1 x 1/2 x 2 binning mode)			
<b>ZEISS BOSELLO MAX</b>			<b>80.150 CNC</b>			
X-ray equipment	Max. tube voltage	in kV	160		225	
	Max. target performance	in W	800/1800 640/640		800/1800	
	Focal spot size acc. EN12543 <sup>1)</sup>	in mm	0.4/1.0 1.0/1.0 <sup>2)</sup>		0.4/1.0	
Flat panel detector 8 inch	Number of pixels		1024 x 1024			
	Pixel size	in µm	200			
	Active area	in mm	200 x 200			
	Frame rate (14 bit ADC)	in fps	15/30 (1 x 1/2 x 2 binning mode)			
	Frame rate (16 bit ADC)	in fps	25/50 (1 x 1/2 x 2 binning mode)			
Flat panel detector 10 inch	Number of pixels		1792 x 2176			
	Pixel size	in µm	139			
	Active area	in mm	250 x 300			
	Frame rate (16 bit ADC)	fps	9/30 (1 x 1/2 x 2 binning mode)			
Flat panel detector 16 inch <sup>3)</sup> Option 1	Number of pixels		2048 x 2048			
	Pixel size	in µm	200			
	Active area	in mm	400 x 400			
	Frame rate (16 bit ADC)	in fps	15/30 (1 x 1/2 x 2 binning mode)			
Flat panel detector 16 inch <sup>3)</sup> Option 2	Number of pixels		4096 x 4096			
	Pixel size	in µm	100			
	Active area	in mm	400 x 400			
	Frame rate (16 bit ADC)	in fps	3.75/7.5 (1 x 1/2 x 2 binning mode)			

1) Deviation from EN 12543-2: evaluation of the focal spot based on 25% threshold.

2) Focal spot size 1.0/1.0 mm does not apply to ZEISS BOSELLO MAX 100.150 (200 CNC). Extra stroke on request.

3) 320 mm option not available for ZEISS BOSELLO MAX 70.120 CNC 160 kV and 225 kV versions.

<b>ZEISS BOSELLO MAX</b>		<b>100.150 (200) CNC</b>		
X-ray equipment	Max. tube voltage	in kV	160	225
	Max. target performance	in W	800/1800	800/1800
	Focal spot size acc. EN12543 <sup>1)</sup>	in mm	0.4/1.0	0.4/1.0
Flat panel detector 8 inch	Number of pixels		1024 x 1024	
	Pixel size	in µm	200	
	Active area	in mm	200 x 200	
	Frame rate (14 bit ADC)	in fps	15/30 (1 x 1/2 x 2 binning mode)	
	Frame rate (16 bit ADC)	in fps	25/50 (1 x 1/2 x 2 binning mode)	
Flat panel detector 10 inch	Number of pixels		1792 x 2176	
	Pixel size	in µm	139	
	Active area	in mm	250 x 300	
	Frame rate (16 bit ADC)	fps	9/30 (1 x 1/2 x 2 binning mode)	
Flat panel detector 16 inch <sup>3)</sup> Option 1	Number of pixels		2048 x 2048	
	Pixel size	in µm	200	
	Active area	in mm	400 x 400	
	Frame rate (16 bit ADC)	in fps	15/30 (1 x 1/2 x 2 binning mode)	
Flat panel detector 16 inch <sup>3)</sup> Option 2	Number of pixels		4096 x 4096	
	Pixel size	in µm	100	
	Active area	in mm	400 x 400	
	Frame rate (16 bit ADC)	in fps	3.75/7.5 (1 x 1/2 x 2 binning mode)	

#### Inspection range

<b>ZEISS BOSELLO MAX</b>		<b>70.120 CNC</b>	<b>80.150 CNC</b>	<b>100.150 (200) CNC</b>	
Inspection range 2D	Max. Diameter	in mm	700	800	1000
	Max. Height	in mm	1200	1500	1500 (2000)
Inspection range 3D <sup>5)</sup>	Max. Diameter	in mm	160/320 <sup>3)</sup>	160/320	160/320
	Max. Height	in mm	160/320 <sup>3)</sup>	160/320	160/320

#### Workpiece

<b>ZEISS BOSELLO MAX</b>		<b>70.120 CNC</b>		<b>80.150 CNC</b>	<b>100.150 (200) CNC</b>
	in kV	160/225	320 /450	160/225	160/225
Max. workpiece weight	in kg	80	120 Opt. up to 250	80	80

#### Axes

<b>ZEISS BOSELLO MAX</b>		<b>70.120 CNC</b>	<b>80.150 CNC</b>	<b>100.150 (200) CNC</b>
Tilt angle beam		± 30°	± 30°	± 30°
Total number of axes		5 + 2 (shutter) CNC control driven by brushless motors	5 + 2 (shutter) CNC control driven by brushless motors	5 + 2 (shutter) CNC control driven by brushless motors
Axes speed	in m/min	up to 15	up to 15	up to 15

- 1) Deviation from EN 12543-2: evaluation of the focal spot based on 25% threshold.  
2) 320 mm option not available for ZEISS BOSELLO MAX 70.120 CNC 160 kV and 225 kV versions.  
3) CT measuring cylinder with 16 inch detector 320 x 320 mm.

<b>Technical features</b>				
<b>ZEISS BOSELLO MAX</b>	<b>70.120 CNC</b>		<b>80.150 CNC</b>	<b>100.150 (200) CNC</b>
	160 kV/225 kV	320 kV/450 kV	160 kV/225 kV	160 kV/225 kV
Radiation shielded cabinet	Self contained lead and steel, movable by fork-lift	Self contained lead and steel, movable by crane	Self contained lead and steel, movable by fork-lift	Self contained lead and steel, movable by fork-lift
Protective enclosure	In compliance with the strictest international regulations for fully shielded radiation devices.			

<b>Requirements for operational readiness</b>				
<b>ZEISS BOSELLO MAX</b>	<b>70.120 CNC/80.150 CNC/100.150 (200) CNC</b>			
	160 kV	250 kV	320 kV	450 kV
Power rating	Power supply: 2 x 230 V AC ( $\pm 10\%$ ) 50 Hz single phase Max. power consumption: 2 x 4 kVA	Power supply: 2 x 230 V AC ( $\pm 10\%$ ) 50 Hz single phase Max. power consumption: 2 x 4 kVA	Power supply: 2 x 230 V AC ( $\pm 10\%$ ) 50 Hz single phase Max. power consumption: 2 x 4 kVA	Power supply: 2 x 230 V AC ( $\pm 10\%$ ) 50 Hz single phase Max. power consumption: 2 x 4 kVA

<b>Approvals</b>	
Disposal	ZEISS products and packaging returned to us are disposed of in accordance with applicable legal provisions.

**ZEISS BOSELLO MAX**  
sizes

**Dimensions in mm**

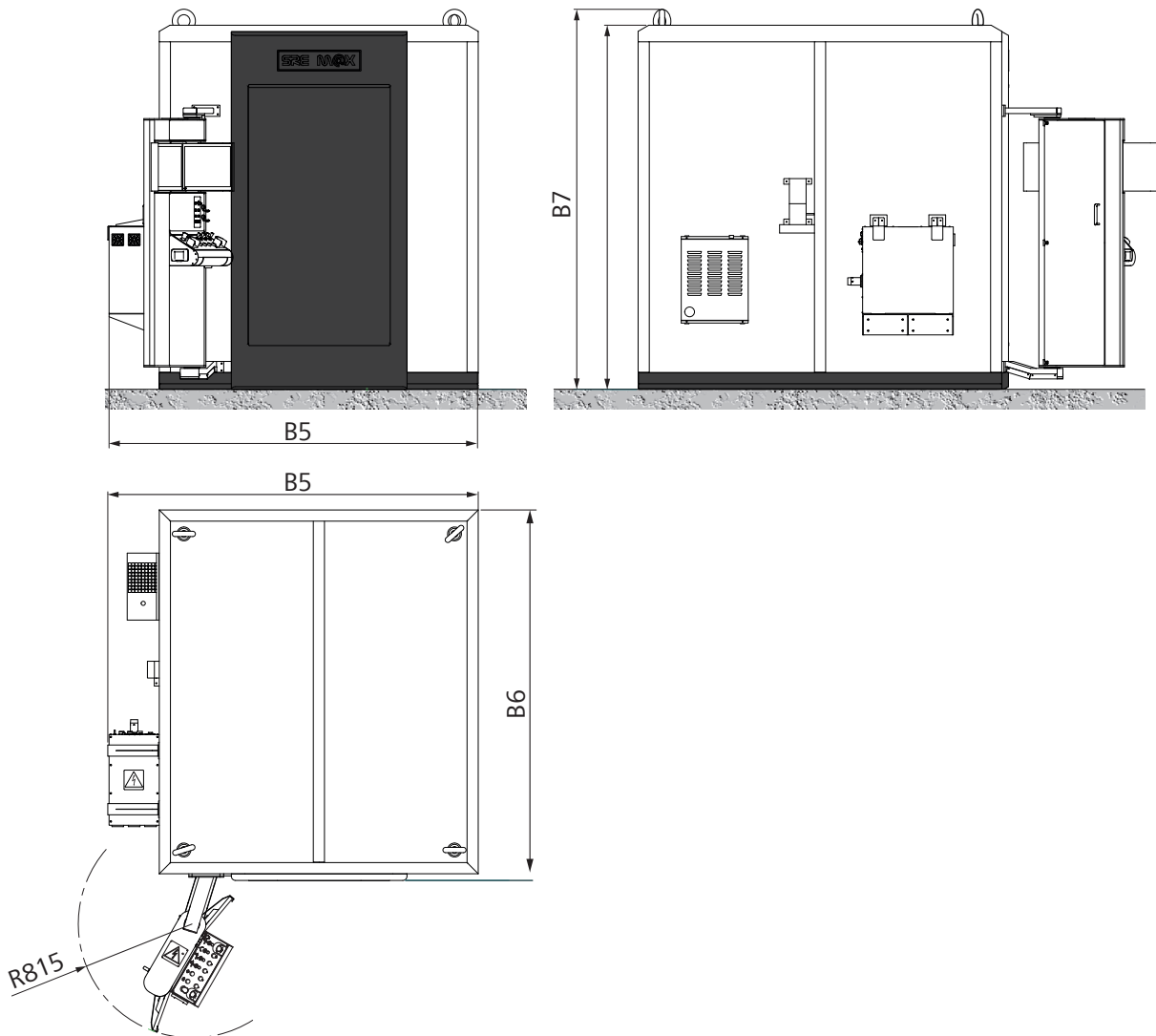
**Weight in kg**

Overall machine dimensions

Width Length Height

B6 B5 B7

70.120 CNC 160 kV/225 kV	1700	1700	2200	2400/2900
70.120 CNC 320kV/450 kV	2200	2200	2450	11000/16000
80.150 CNC 160 kV/225kV	2000	2000	2600	3300/3800
100.150 (200) CNC 160 kV/225kV	2600	2600	2600	3800/4500



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