

# Turning inspection into productivity.



**ZEISS BOSELLO** OMNIA



# ZEISS BOSELLO OMNIA

Made for production! The robust 2D X-ray system ZEISS BOSELLO OMNIA reliably and quickly inspects different castings with various sizes – for high throughput in your production line around the clock.



## CUSTOMIZABLE SET-UP

The system can be integrated into your robotic working cell. Marking and identification features as well as remote operator unit and special interfaces are available on request to offer a totally customized and flexible solution for your needs.



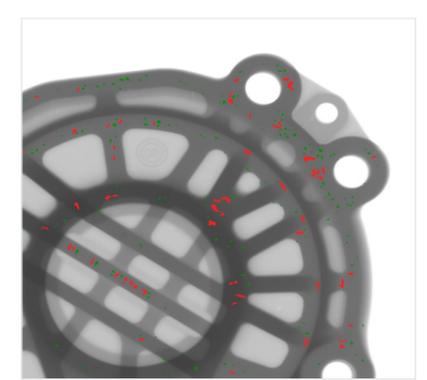
## AUTOMATED DEFECT RECOGNITION

The self-designed and developed ADR software FARIS enables fully automatic X-ray inspection of different kinds of castings independent of the operator. It can be customized to comply with specific user acceptability or various ASTM standards.

### 2D X-RAY IMAGE



### EVALUATION WITH ADR



## ROBUST AND RELIABLE SYSTEM

With its robust design, ZEISS BOSELLO OMNIA is made for the harsh production environment. The reliable system ensures an automated 100% inline inspection for multi-shift operation in your production. With our global ZEISS service we guarantee fast and reliable support to meet your up-time requirements.



## FULL FLEXIBILITY

Due to the clever pallet concept, various types of castings can be inspected. Hereby, the pallets can be removed and changed quickly without using any tools. If required, we design and supply the optimum fixture for the inspection of your parts.



## HIGH THROUGHPUT

Achieve highest throughput in your production! The rotating loading table enables parallel scanning and loading, whereby idle time is reduced to a minimum.



## System description

Detector size	8 or 16 inch flat panel detector
Software	Operating software: BHT IP Plus with HDI Evaluation: Visual Faris (Fully Automated Radioscopic Inspection System)
Applications	2D X-ray inspection

## Radiation generation and sensor technology

ZEISS BOSELLO OMNIA			<b>120.70</b>		<b>160.100</b>	
X-ray equipment	Max. tube voltage	in kV	160	225	160	225
	Max. target performance	in W	800/1800 640/640	800/1800	800/1800 640/640	800/1800
	Focal spot size acc. EN125431)	in mm	0.4/1.0 1.0/1.0	0.4/1.0	0.4/1.0 1.0/1.0	0.4/1.0
Flat panel detector 8 inch	Number of pixels		1024 x 1024		1024 x 1024	
	Pixel size	in µm	200/400 (1 x 1/2 x 2 binning mode)		200/400 (1 x 1/2 x 2 binning mode)	
	Active area	in mm	200 x 200		200 x 200	
	Frame rate (14 bit ADC)	in fps	15/30 (1 x 1/2 x 2 binning mode)		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)		25/50 (1 x 1/2 x 2 binning mode)	
Flat panel detector 16 inch Option 1	Number of pixels		2048 x 2048		2048 x 2048	
	Pixel size	in µm	200/400 (1 x 1/2 x 2 binning mode)		20 /400 (1 x 1/2 x 2 binning mode)	
	Active area	in mm	400 x 400		400 x 400	
	Frame rate (16 bit ADC)	in fps	15/30 (1 x 1/2 x 2 binning mode)		15/30 (1 x 1/2 x 2 binning mode)	
Flat panel detector 16 inch Option 2	Number of pixels		4096 x 4096		4096 x 4096	
	Pixel size	in µm	100		100	
	Active area	in mm	400 x 400		400 x 400	
	Frame rate (16 bit ADC)	in fps	3.75/7.5 (1 x 1/2 x 2 binning mode)		3.75/7.5 (1 x 1/2 x 2 binning mode)	

## Inspection range

ZEISS BOSELLO OMNIA			<b>120.70</b>		<b>160.100</b>
Inspection range 2D	Max. Length	in mm	1170		1570
	Max. Width	in mm	670		970
	Max. Height	in mm	380		480

## Workpiece

ZEISS BOSELLO OMNIA			<b>120.70</b>		<b>160.100</b>
Max. workpiece weight		in kg	25		25

## Axes

ZEISS BOSELLO OMNIA			<b>120.70</b>		<b>160.100</b>
Tilt angle beam			± 30°		± 30°
Total number of axes			9 CNC control; driven by brushless motors		9 CNC control; driven by brushless motors
Axes speed		in m/min	up to 15		up to 15

## Technical features

ZEISS BOSELLO OMNIA			<b>120.70</b>		<b>160.100</b>
Radiation shielded cabinet			Self contained lead+steel, movable by crane		Self contained lead+steel, movable by crane
Protective enclosure			In compliance with the strictest international regulations for fully shielded radiation devices.		In compliance with the strictest international regulations for fully shielded radiation devices.
Pallet size	in mm		1200 x 700		1600 x 1000
Loading door type			Pneumatic single-leaf horizontal sliding door		Pneumatic single-leaf horizontal sliding door
Loading door dimensions	in mm		2350 x 510		3100 x 610
Loading time (image to image)	in s		≤ 6		≤ 6
Loading area			Manual with safety fences and controlled area by laser scanner or by robot.		Manual with safety fences and controlled area by laser scanner or by robot.

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

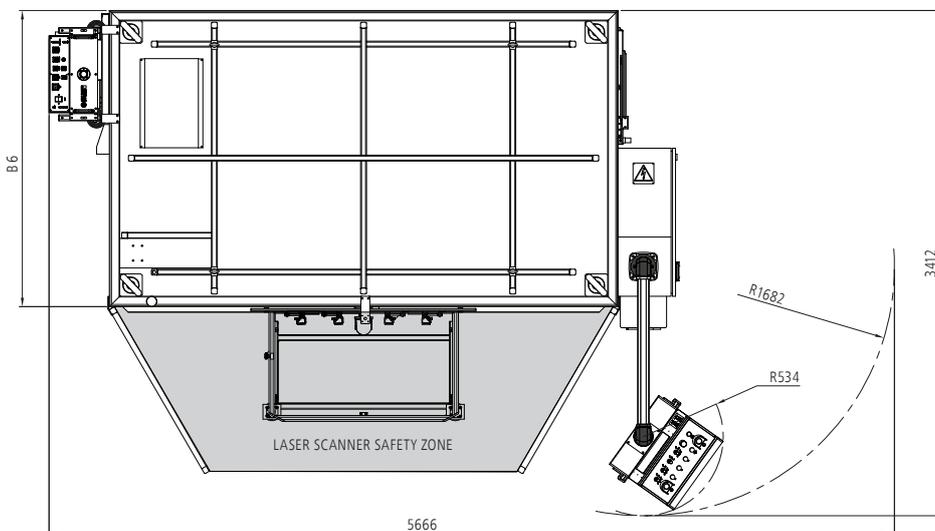
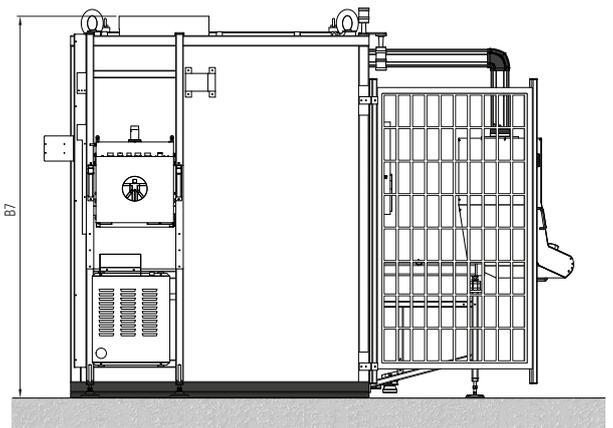
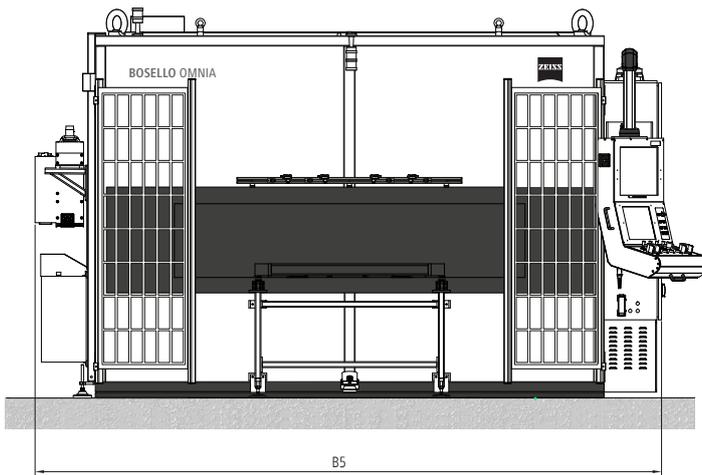
## Requirements for operational readiness

ZEISS BOSELLO OMNIA	120.70		160.100	
	160 kV	225 kV	160 kV	225 kV
Power rating	Power supply: 2 x 230 V AC (+/- 10%) 50 Hz single phase Max. power consumption: 2 x 4 kVA	Power supply: 2 x 230 V AC (+/- 10%) 50 Hz single phase Max. power consumption: 2 x 4 kVA	Power supply: 2 x 230 V AC (+/- 10%) 50 Hz single phase Max. power consumption: 2 x 4 kVA	Power supply: 2 x 230 V AC (+/- 10%) 50 Hz single phase Max. power consumption: 2 x 4 kVA

## Approvals

Disposal ZEISS products and packaging returned to us are disposed of in accordance with applicable legal provisions.

ZEISS BOSELLO OMNIA sizes	Dimensions in mm			Weight in kg
	Overall machine dimensions			
	Width	Length	Height	
	B6	B5	B7	
120.70 160 kV	4200	2100 + 750 <sup>1)</sup>	2600	8000
120.70 225 kV	4200	2100 + 750 <sup>1)</sup>	2600	9500
160.100 160 kV	4800	2300 + 1100 <sup>1)</sup>	2800	9500
160.100 225 kV	4800	2300 + 1100 <sup>1)</sup>	2800	11000



1) Pallet loading area

**Carl Zeiss**

**Industrielle Messtechnik GmbH**

73446 Oberkochen / Germany

Sales: +49 7364 20-6336

Service: +49 7364 20-6337

Fax: +49 7364 20-3870

Email: [info.metrology.de@zeiss.com](mailto:info.metrology.de@zeiss.com)

Internet: [www.zeiss.de/bosello](http://www.zeiss.de/bosello)

**Carl Zeiss**

**Industrial Metrology, LLC**

6250 Sycamore Lane North

Maple Grove, MN 55369/USA

Phone: +1 763 744-2400

Fax: +1 763 533-0219

Email: [info.metrology.us@zeiss.com](mailto:info.metrology.us@zeiss.com)

Internet: [www.zeiss.com/bosello](http://www.zeiss.com/bosello)