

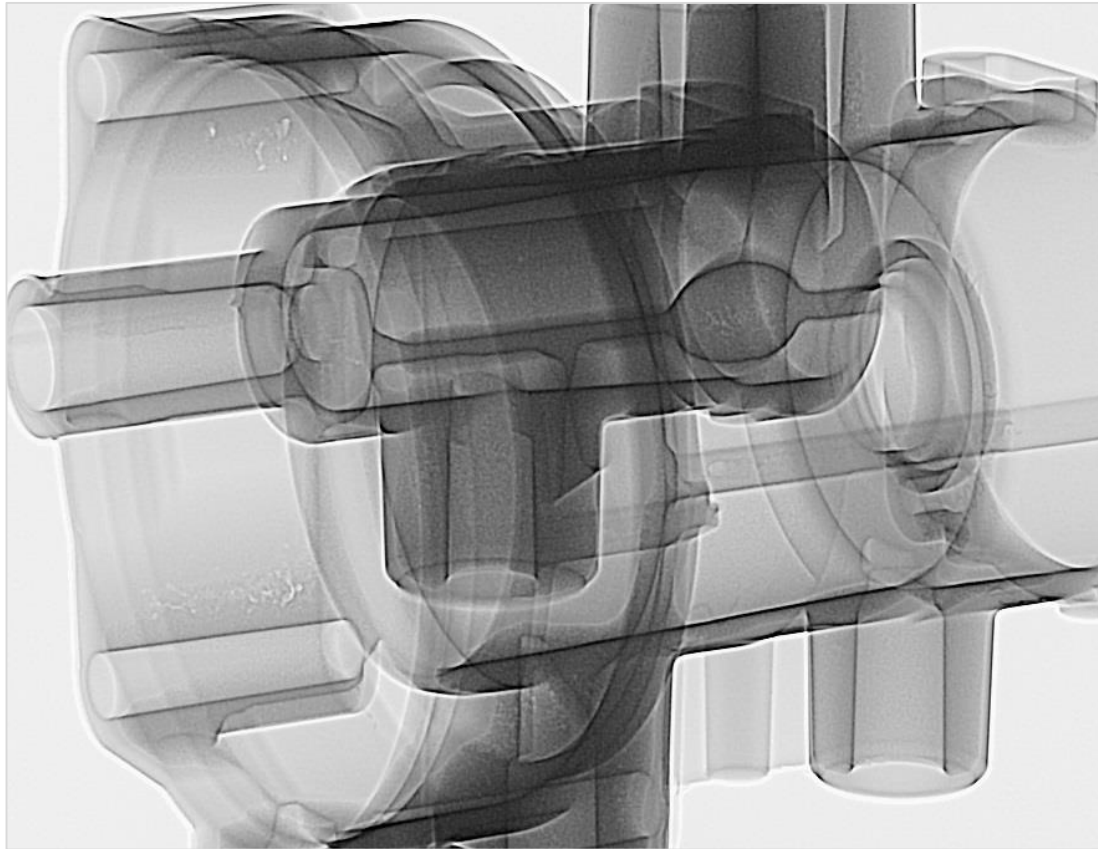
The one for many applications.

ZEISS BOSELLO MAX



ZEISS BOSELLO MAX

2D X-ray technology



WHY

With 2D X-ray technology you get **insights** about the quality of your parts.

HOW

By capturing your part, you can inspect defects beneath the surface. This reliable quality assurance can reduce costs by **detecting flaws**.

WHAT

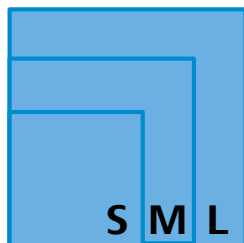
With ZEISS BOSELLO MAX you get **advanced 2D X-ray technology** for your **inspection processes** with the option to take a detailed look at your parts also in 3D.

Fields of applications

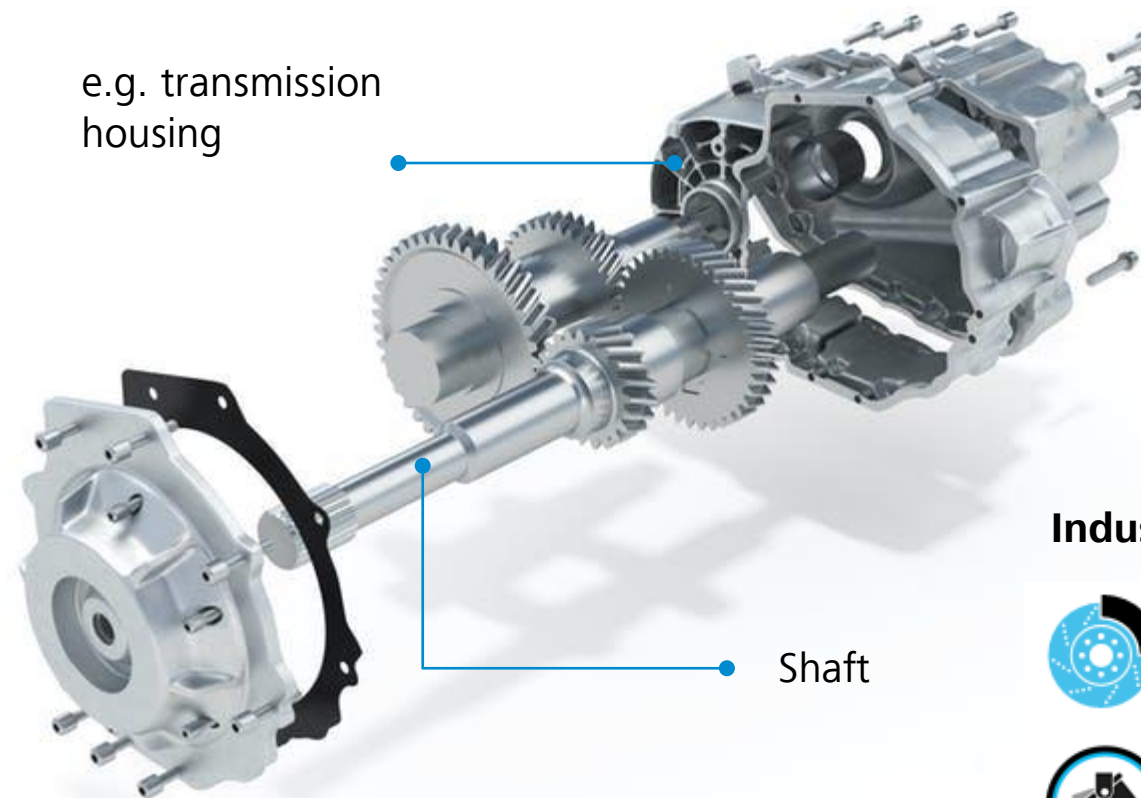
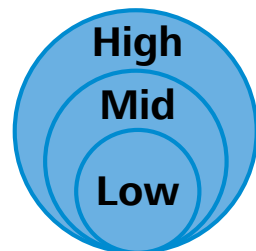
ZEISS BOSELLO MAX



Part size



Part density



Industries



Automotive



Aerospace



Foundry



Oil & Gas

ZEISS BOSELLO MAX

Key characteristics



SAVE TIME

Fast alignment of source and detector

The software-controlled coordination and alignment between source and detector allow fast positioning and handling.



HIGH FLEXIBILITY

Perfect fit for many applications

ZEISS BOSELLO MAX is highly configurable. Different sizes, X-ray sources and detectors are available to choose from. In this way, you get the solution you need for your application.



CLEVER AND ROBUST DESIGN

Made for the production environment

With its robust design, ZEISS BOSELLO MAX is perfectly built for the production environment. The cabinet is completely self-contained and allows easy transportation and installation.



EASY LOADING

For convenient handling of heavy parts

Even heavy parts can be fixed on the turntable very easily. The possibility to move the turntable to an external position makes loading very convenient.



See it in 3D

For a detailed inspection

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 in a third-party software. The option allows you to get more information about the defects.



BEST SERVICE

Thanks to worldwide service and 24/7 support

Native speaking service technicians and trainers are available close to you – 24/7 to keep downtime at a minimum level.

#1

Save time

#1 Save time

Software-controlled coordination of source and detector



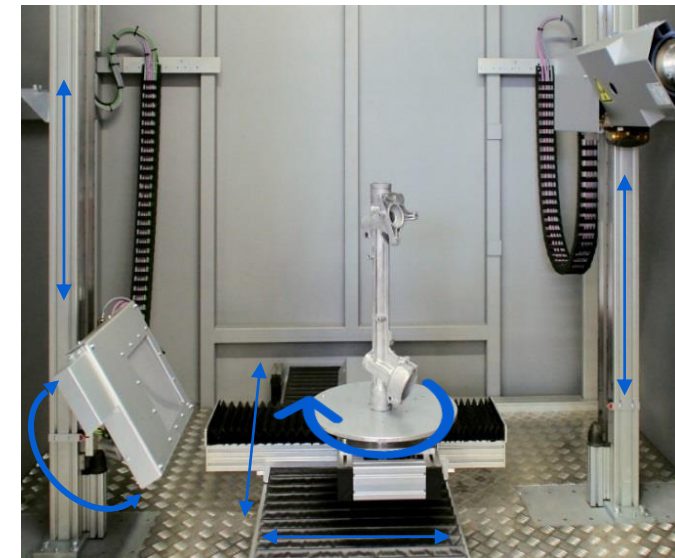
Technical explanation and example

- No mechanical connection between source and detector (C-arm).
- Software-controlled coordination and alignment between source and detector for increased positioning and handling speed.
- Additionally, this unique set-up of a virtual C-arm is more robust and mechanically sound.



How you benefit

- Save time and money.
- High durability of the machine.
- Downtime is kept on a minimum.



#2

High flexibility

#2 High flexibility

Customizable solution for your needs



Technical explanation and example

- Allows automated X-ray inspection of different types and sizes of castings.
- Available in three different standard sizes
- Custom sizes available on request.
- Equipped with X-ray sources from 160 kV up to 450 kV, micro-focus sources from 130 kV up to 300 kV also available.
- Different sizes and resolution of digital flat panel detectors available.



How you benefit

- Flexible use.
- Can be adapted to your specific needs.



#3

Clever and
robust design

#3 Clever and robust design

Made for the production environment



Technical explanation and example

- With its robust design ZEISS BOSELLO MAX is perfectly built for the production environment.
- The light-weight construction is completely self-contained and manufactured in steel with a complete lead shielding.
- Controller panel is directly attached to the system to save valuable space.
- Mechanical magnification axis.



How you benefit

- Can be located safely in any workplace area.
- Perfectly designed for the production environment.
- Allows easy transportation and installation.
- Requires little space to keep cost-of-ownership at a minimum.



#4

Easy loading

#4 Easy loading

For convenient handling of heavy parts



Technical explanation and example

- Turntable can be moved to an external position through the large double sliding doors.
- Turntable can be moved on three axes with continuous rotation on 360 degrees.
- High speed door movement.



How you benefit

- Very convenient and easy loading of heavy parts.
- Easy observation of part during scanning.
- Easier fixturing of part.

#5

Get sharp results

#5 Get sharp results

For a reliable quality control



Technical explanation and example

- The unique image processing algorithms of our software guarantee best radioscopic image quality.
- Using additional filters and image processing functions, the software allows to visualize even small defects more reliably.

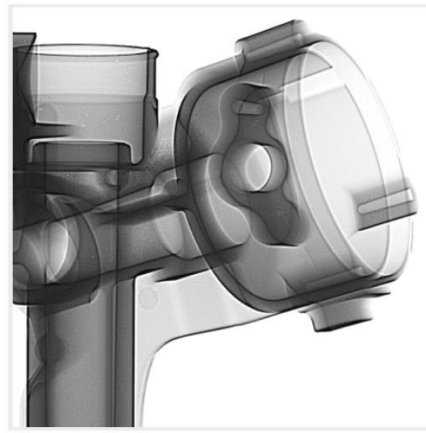


How you benefit

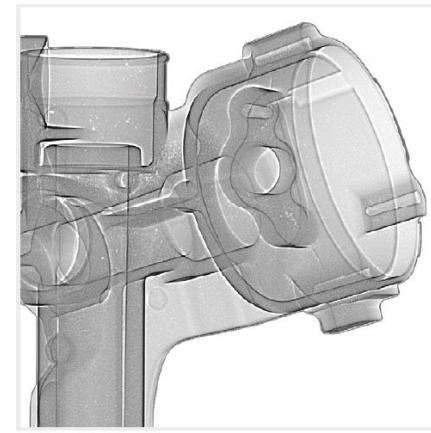
- Sharp image quality allows reliable quality control.



Unprocessed image



Intermediate processed image



Final processed image

#6

**Reference for
high quality**

#6 Reference for high quality

For a reliable inspection



Technical explanation and example

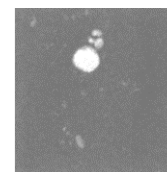
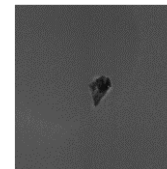
- BHT IP Extreme software offers an add-on improvement with the ASTM standards applied by the main automotive manufacturers.
- Allows comparisons between captured 2D images and sample patterns containing defect references.

Reference defects [E2422]

Material	Thickness
Aluminium	1/4 inches
Type	Level
Gas holes	Level 1
Gas holes	
Round gas porosity	
Shrinkage cavity	
Elongated gas porosity	
Sponge shrinkage	
Less dense foreign material	
More dense foreign material	

How you benefit

- This option allows you to comply specific quality standards.
- Enhanced inspection quality with reference points for comparison.



#7

See it in 3D

#7 See it in 3D

For a detailed inspection



Technical explanation and example

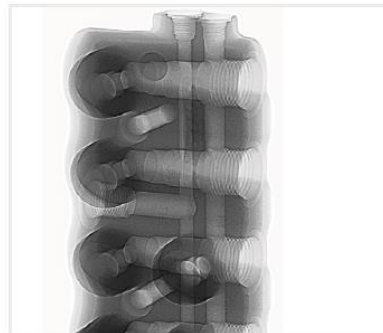
- All ZEISS BOSELLO MAX systems are CT ready, which means you can easily capture a set of images to generate 3D models of your castings in a third-party software.



How you benefit

- This option allows you to get more information about the defects, including its three-dimensional volume and location.
- Increased part quality.

2D



3D



#8

**Automated
evaluation**

#8 Automated evaluation

With the ADR software



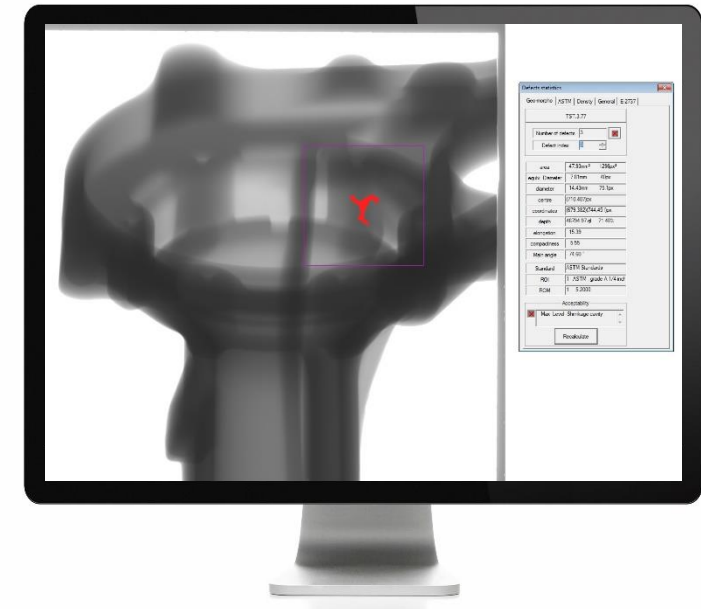
Technical explanation and example

- Automatic Defects Recognition offers features for imaging technology on automated defect recognition for industrial X-ray applications.
- The self-designed and developed software enables fully automatic X-ray inspection with the ADR software for different kinds of castings.



How you benefit

- Can be customized to comply with specific user acceptability standards.
- Allows real-time production monitoring and management.



#9 Track the quality

#9 Track the quality

With the DDA Evaluator software



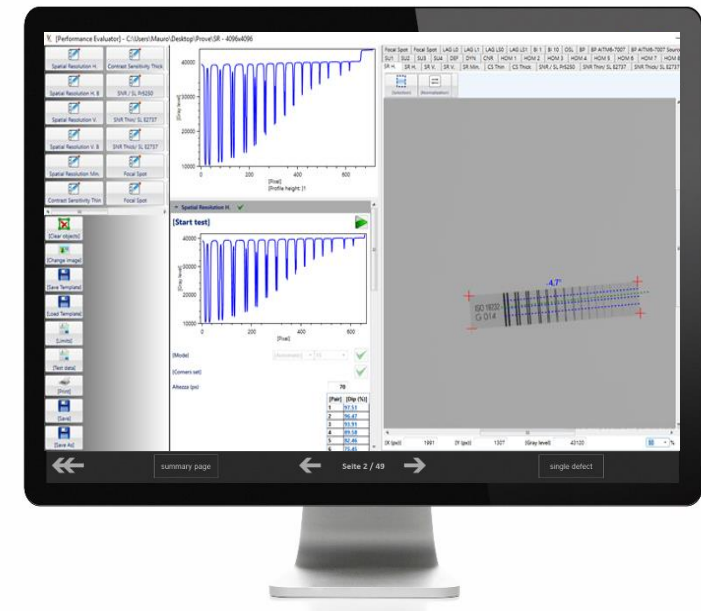
Technical explanation and example

- Digital Detector Evaluator software is enhanced with tools for specific tests to measure the image quality, complying main regulations, such as ASTM E2737, PR5250 and ITM6-7007.
- The tool allows to measure and determinate baseline performance and to track the long-term stability of the system.



How you benefit

- Can be implemented in the quality process to comply with specific acceptability standards.
- Allows you to monitor the detector performance status.



#10 **Guaranteed
stability**

#10 **Guaranteed stability**

State-of-the-art generators developed in-house



Technical explanation and example

- Our proprietary high-voltage generators up to 450 kV are advanced products for different applications.
- High kV stability is guaranteed through an electronic control system that compensates possible fluctuations and micro-interruptions on the main supply line in real time.
- Two built-in automatic X-ray tubes warm-up programs are available: management and protection functions implemented in our generators' control electronics ensure proper X-ray tube operation, as well as an extended operation life.



How you benefit

- Solution out of one hand guarantees a stable operation of the system.
- Long operating life of the generator keep costs low.
- Know-how inhouse for fast support in case of breakdown.



#1 1 Best service

#11 Best service

Thanks to worldwide service and 24/7 support



100 business partners

Over 100 X-ray application engineers
world-wide

32 sales & service
organizations

61 ZEISS Quality Excellence Centers

10 production sites

47 CT and X-ray microscope systems in
metrology and customer centers

3 production sites for X-ray systems



How you benefit

- ZEISS know-how & application technicians available globally.
- Service & support very close to the customer means fast reaction times.
- Less downtime and more security.
- All spare parts on stock for fast support

#12 One-stop
solutions provider

#12 One-stop solutions provider

We provide you the optimum solution for your needs



Technical explanation and example

- Not only a system but a solution will be provided, including software, accessories, and services.
- ZEISS offers a full package of software for image acquisition, reconstruction, visualization / evaluation and data management out of one hand - for a smooth workflow.



How you benefit

- One contact can help in case of problems
- All tools are aligned with each other
- Customer gets customized solution based on their requirements and application
- With the full software package, the customer gets full control over the entire production and quality assurance process

#12 One-stop solutions provider

ZEISS X-Ray Series



SYSTEMS



2D radiography
Computed tomography
X-ray microscopy

SOFTWARE



Image Acquisition
Image Evaluation
Data Management & Industry 4.0

ZEISS X-Ray Series
Make the Invisible Visible

APPLICATIONS



Additive manufacturing
Alu casting
Battery
Blade
Electronics
Oil & Gas

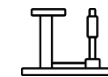
Plastic parts
Composites
Multi-material parts
Assemblies
Material research
Life sciences

SERVICES



On-site trainings
Classroom seminars
eLearning

ACCESSORIES



Sample holders
Set-up table

Retrofit solutions
Automization solutions

#13 Configuration standards

#13 Configuration standards

ZEISS BOSELLO MAX



Compatible Software

- BHT IP PLUS
- Visual Faris
- DDA evaluator software available for aerospace applications

The one for many applications.

ZEISS BOSELLO MAX

