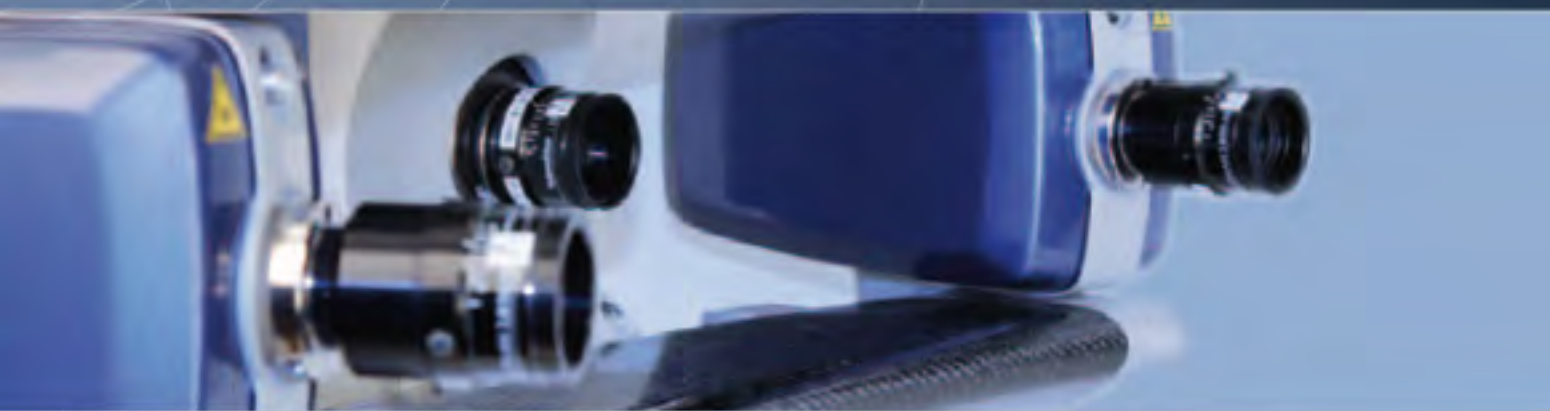


stereoSCAN^{3D}

The preeminent system series for highest precision in 3D metrology





stereoSCAN^{3D} series

Three-dimensional metrology at highest level using our patented miniaturised projection technique in a two-camera-system and, thanks to its outstanding mechanical and thermal stability, being universally employable – this is Breuckmann's stereoSCAN^{3D} series.



Variable scanning positions for each digitisation project.

stereoSCAN^{3D} series

Whenever the scanning of most delicate structures or smallest deviations at maximum level of accuracy is required, the stereoSCAN^{3D} is called into action. Especially in the application of very demanding metrological tasks, the asymmetrical positioning of the cameras ensures optimum flexibility and reliability. Thanks to the implementation of three different triangulation angles, even the data of object areas which are very difficult to access are captured at high accuracy and true-to-detail.

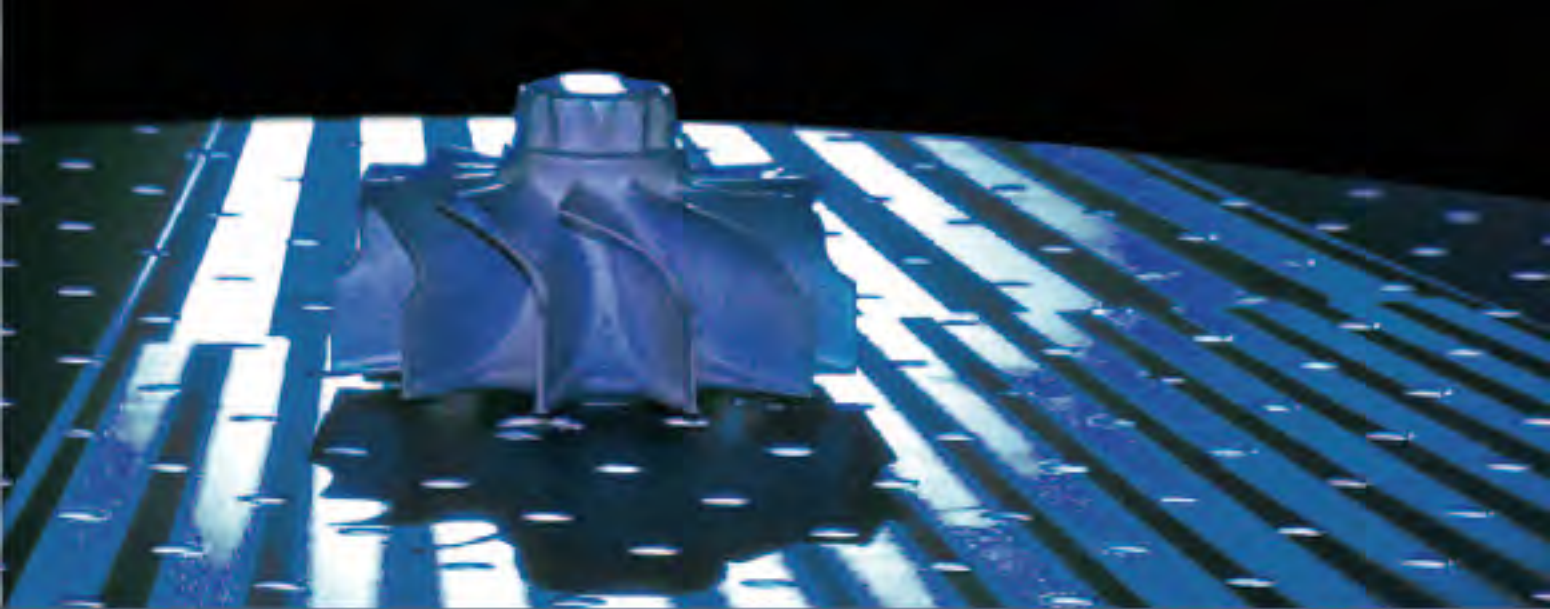
Thanks to the completely contact-free scanning process even hot surfaces as well as fragile or deformable objects are digitised immediately and without problems. With regard to the colour of the projection light, Breuckmann's superior scanning technology stands out from the conventional choice of white and blue: As a result of variCOLOUR Projection Technology, a broad colour spectrum of durable LED illumination is available. This allows the 3D acquisition of complex technical surfaces to be customised even more precisely and at even sharper contrast for your individual project requirements. For the most demanding measuring objects or ambient scanning conditions, our high luminosity High Power Projector can additionally be called into action.

stereoSCAN^{3D} series

The sturdy carbon fibre double structure of the sensor basis allows for variable scanning positions – depending on your digitisation project, the stereoSCAN^{3D} will even work standing on its head for you!

Thanks to this extraordinary stability, the system delivers highly true-to-detail and precise 3D data not only in a protected laboratory environment, but also in real life, under rough and demanding industrial production conditions. The scan results are available for further processing in standard formats, such as STL, PLY, and VRML.

Would you like to learn more about the fringe projection technique used by Breuckmann systems? Our website (www.breuckmann.com) gives a detailed description of the scanning process, together with demonstrative and interesting application videos.



stereoSCAN^{3D}

A broad spectrum of measuring tasks and digitisation projects with a common goal: High resolution three-dimensional 3D data acquisition of object surfaces, together with efficient data evaluation for further processing.

stereoSCAN^{3D}

To this effect, the stereoSCAN^{3D} is predominantly used by innovative industrial enterprises, such as:

- automotive industry and suppliers,
- aviation and aerospace industry,
- electronics industry,
- casting industry
- tool and mould making industry,
- plastics industry.

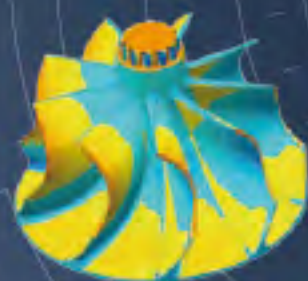
Typical applications besides quality control and first sample inspection is the digitisation of design models, tools and moulds.

Also in the contexts of inspection and measuring of free-form areas, comparison with CAD data or reference objects, rapid prototyping and reverse engineering, Breuckmann stereoSCAN^{3D} systems are regularly called into action.

Last but not least, also for purposes of digital archiving, e.g. of prototype reference models, the stereoSCAN^{3D} provides the ideal solution to generate precise data for the optimisation and production phase.

The achievable time saving for your measuring or digitisation project by using a system of the stereoSCAN^{3D} series will not only contribute towards the optimisation of your quality assurance, but will also facilitate to accelerate the production of your prototypes as well as to reduce the overall lead times.

Your customers – and your competitors – will be impressed!



*Inspection of a turbine wheel,
deviations to CAD data
(false colour map)*



stereo



Individual measuring projects with stereoSCAN^{3D}

Highest Level of Precision and Versatility



Flexible Scanning: The stereoSCAN^{3D}...

stereoSCAN^{3D}

Depending on the specific individual requirements of your measuring or digitisation project, the stereoSCAN^{3D} can be used in various configurations (camera resolution up to 16 megapixel).

The alignment of the individual images is carried out on the basis of the object contour itself or with the aid of reference markers or reference spheres. Thanks to these different alignment options, the stereoSCAN^{3D} can be swiftly and conveniently adjusted to any individual measuring situation. In combination with photogrammetry even large-size measuring objects can be captured without problem.

stereoSCAN^{3D}

Flexible scanning is the signature feature of the stereoSCAN^{3D}:

A quick change of the lenses or the repositioning of the camera modules, and the system is adjusted to perfectly suit your individual scanning task. The configuration for measuring fields ranging from a few millimetres up to one metre is also quickly and easily accomplished.

In situations involving larger components, the combination of the stereoSCAN^{3D} with the AICON DPA optical coordinate measurement machine offers a very special advantage: This portable CMM can be used in conjunction with all commonly available surface measurement systems and measuring software packages, providing you with an all-in-one, high precision scanning solution for any given object size.

Finally, combining the system with a robot and a turntable allows for fully automated and highly precise digitisation and inspection even of very large-scale measuring parts, enabling the data to be promptly evaluated and ready for further processing.



... together with the AICON DPA becomes the perfect all-in-one solution for all your measuring projects.

stereoSCAN^{3D}

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TECHNICAL SPECIFICATIONS

stereoSCAN^{3D}

Image Processing

Host computer	Workstation Professional
Computer interface	IEEE 1394B (FireWire®) or GigE (Ethernet)
Operating system	Microsoft Windows 7 (64 Bit Edition)
System software	OPTOCAT for Windows 64 Bit From precision calibration to data acquisition all the way up to a complete 3D model (with or without index markers)
Software module "Edge detection"	Included
Data interface	BRE, STL, PLY, VRML

Sensor

Principle of operation	Miniaturised Projection Technique (MPT)
Field of View (FOV)	From 60 mm to 1100 mm *
Light source	LED white, green, blue, red / 120 W discharge light (HPP)
Sensor weight	6.5 kg
Imaging	2 professional, high-resolution digital CCD cameras, black-white or colour
Camera resolution	Up to 16 Megapixel
Acquisition time	< 1 sec.

Accessories

Turntable	Manual turntable (included) Automated turntable
Tripod	Measuring tripod for industrial application
Calibration	Carbon fibre calibration tools

* Customised FOVs on request

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Technical data subject to change without notice