Dentsply Sirona CAD/CAM: the complete digital workflow for modern dental technology

Digitization is creating new challenges for the dental laboratory. New production processes, the ever closer collaboration with dentists and increasing demands on quality, cost effectiveness and speed require modern and versatile CAD/CAM equipment. With the open components of its inLab system, Dentsply Sirona CAD/CAM offers a comprehensive solution. From the laboratory scanner to CAD and CAM software, from milling machines, sintering furnaces to materials for computer-supported production, all aspects of the digital workflow relevant to the dental technician are covered by Dentsply Sirona CAD/CAM.

Bensheim/Salzburg, March 22, 2017. Almost all dental lab work begins with the impression, either produced conventionally with a casting compound or digitally by an intraoral scanner. The inLab System is equally well equipped for both of these scenarios. The inEos X5 open extraoral scanner digitizes the conventional impression or the model regardless of the indication with an extremely high level of precision, a major advantage for implant-based prosthetics, for example. The accuracy of the results of the inEos X5 was checked with inLab SW 16.0 according to DIN EN ISO 12836:2015. The precision was determined to be 2.1 µm ± 2.8 µm on a standard "bridge" test piece.

If the practitioner works with an intraoral scanner from Dentsply Sirona, then the digital impression and order data can be easily transmitted online directly to the dental laboratory inLab CAD software via Sirona Connect. With the optional STL interface, the laboratory also has the option of performing the virtual design work with inLab or another CAD software program. Furthermore, digital impression data from intraoral scanners from other manufacturers can also be imported into the inLab CAD software.

Versatile software for outstanding design

The second design method with the inLab CAD software opens up a large range of new indications to the dental technician with carefully conceived workflows, user-friendly controls and an affordable price concept. The current inLab CAD SW 16.0 also includes new features across all CAD modules. Directly screwed bridges and connecting bars on the implant as well as dental splints and impression trays extend the software's range of application. As the only laboratory software on the market with JOBS (Jaw Oriented Biogeneric Setting), inLab supports rapid patient-specific positioning of teeth with the minimum number of corrections, even over long spans. The inLab CAD SW 16.0 enhances this level of convenience even further with the new inLab Check function, an FEM analysis of restorations in the critical, stress-sensitive areas - practical support in the design of prostheses for large and complex cases or in cramped spatial conditions.

ABOUT DENTSPLY SIRONA:
Dentsply Sirona is the world’s largest manufacturer of professional dental products and technologies, with a 130-year history of innovation and service to the dental industry and patients worldwide. Dentsply Sirona develops, manufactures, and markets a comprehensive solutions offering including dental and oral health products as well as other consumable medical devices under a strong portfolio of world class brands. As The Dental Solutions Company, Dentsply Sirona’s products provide innovative, high-quality and effective solutions to advance patient care and deliver better, safer and faster dentistry. Dentsply Sirona’s global headquarters is located in York, Pennsylvania, and the international headquarters is based in Salzburg, Austria. The company’s shares are listed in the United States on NASDAQ under the symbol XRAY. Visit www.dentsplysirona.com for more information about Dentsply Sirona and its products.

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Greater freedom with modern hardware

From design to production, the laboratory can work from start to finish in the inLab system or individual inLab components can be integrated into existing CAD/CAM equipment via the open interface so that the inLab restoration data can be processed by milling machines from other manufacturers. And in the other direction too, the inLab manufacturing units inLab MC X5 and inLab MC XL can import restoration data from third party systems. The inLab MC X5 5-axis milling machine impresses the user with its versatility and productivity. It mills and grinds discs and blocks in dry and wet states, depending on the material. As a universal machining center, it is designed to handle a wide range of materials, from zirconia to plastic, composites and wax to sintered metals, and glass to hybrid ceramics. Single section individual titanium abutments can also be produced from pre-fabricated titanium blanks with inLab MC X5 in your own laboratory. The milling machine also supports the free selection of materials and provides the user with the advantage of coordinated machining processes for the milling and grinding materials from Dentsply Sirona and selected material partners.

A variety of materials of the highest quality

Dentsply Sirona CAD/CAM’s range of inCoris discs contains classic and pre-colored zirconia, PMMA Guide for drilling templates and the inCoris CCB sintered metal. Each inCoris CCB discs from Dentsply Sirona has a QR code that can be conveniently scanned into the CAM software by webcam. All material information, such as blank name, color, height, lot, sintering shrinkage and other information, is thus automatically entered into the workpiece overview. Users save valuable time otherwise spent inputting data and always have an optimum overview of the available inCoris blank inventory.

Dentsply Sirona CAD/CAM’s product range is rounded off by the inFire HTC speed sintering furnace. It is suitable for all sintered materials validated for processing with the inLab production centers and creates time savings with its special Speed and Superspeed programs. Furthermore, inFire HTC speed with NEM also allows sintering of non-precious metals in just one furnace chamber.

With the inLab system, the dental laboratory has two great advantages: The digital production process can be implemented both end-to-end and in a coordinated manner with the high-performance inLab components. Alternatively, individual hardware, software and material components can be integrated into other CAD/CAM solutions via inLab’s open interfaces - because dental technicians need the freedom to choose.

Due to various certification and registration periods, not all products are immediately available in all countries.
IMAGES
are available for > Download on the website.

Fig. 1: The complete digital workflow from a single source: The inLab system can provide everything from the scanner to the sintering furnace and is compatible with other systems.

Fig. 2: Users are impressed by the sheer versatility of the inLab MC X5 5-axis milling unit. It offers the greatest choice of materials on the market and also supports the production of restorations from third party CAD software.

Fig. 3: High precision and easy to operate - the inEos X5 laboratory scanner.

Fig. 4: Multi-functional, modular and particularly user-friendly - The inLab CAD software is perfectly geared towards the dental technician’s requirements.

Fig. 5: New in the range of materials from Dentsply Sirona CAD/CAM: the inCoris CCB sintered metal circular blanks.