WIELAND

Digital Denture

The innovative workflow

Cutting-edge system:
precise and functional
All along the digital process chain, unparalleled solutions are offered, which comprise products and services for the CAD/CAM production of fixed and removable prosthetics.

**1.** Initial impression, preliminary record of the patient’s maxillomandibular relation and vertical dimension of occlusion

**2.** Scanning, data transfer and customized tray design with integrated bite registration

**3.**...
Digital Denture provides a fully integrated workflow for the fabrication of removable dentures using CAD/CAM technology. Innovative systems, software programs and materials are tailored to the needs of both dentists and dental technicians.

The workflow begins with impression-taking and the registration of the patient’s oral situation. Special support tools are available to ensure optimized collection of patient data. The information obtained is transferred to the design software via an add-on software module and will be incorporated into the denture design. Once the design is complete, the denture base is milled from coordinated high-quality materials in an indication-optimized CAM unit.

Making the leap from average value articulation to custom-built digitally fabricated dentures is easy to achieve with this innovative method.
Products for dentists

Centric Tray*

The Centric Tray provides a simple yet effective solution for taking preliminary bite records.

- Straightforward preliminary bite registration
- Compatible with UTS CAD
- Universal shape

UTS CAD

The UTS CAD assists dentists in measuring the angle of the occlusal plane in relation to Camper’s plane (CP) and the bipupillary line (BP).

- Fast and easy measurement and transfer of CP and BP angles to the design software
- Optimized dentures to provide enhanced esthetics, occlusal plane design and functionality
- Easy to handle: helps save time

Register the bipupillary line in relation to the patient’s occlusal plane.

The angle of the occlusal plane to the bipupillary line is shown on the BP-scale.

Record Camper’s plane in relation to the occlusal plane on the patient.

The angle of the occlusal plane in relation to Camper’s plane is shown on the CP-scale.

* Manufacturer: Ivoclar Vivadent AG, Liechtenstein

Both angular measurements are transferred to the virtual model using the Digital Denture Professional add-on software module to specify the virtual occlusal plane more precisely. The dentures are designed specifically for the individual patient.
Checking the functional impression using bite rim supports

In most cases, the provisional bite taken with the Centric Tray already fits well. The parallel alignment of the white acrylic supports confirms that this is the case.

Determine the vertical dimension and centric relation (CR) using the registration devices.

Set the final vertical dimension using the adjustable support pin.

Centric relation recording is achieved with Gothic arch tracing. Record the CR point at the apex of the arrow using a fixation blank. Create a three-dimensional key of the record using bite registration silicone and mark the esthetic lines.

Prepare the bite registration for the scanning procedure and transfer the information to the design software.

Gnathometer CAD

Gnathometer CAD uses needle point tracing to determine the individual maxillomandibular position in edentulous patients quickly and reliably.

• Fast and easy bite registration
• Easy and tension-free mounting on CAD/CAM fabricated custom trays
• Multiple use: can be autoclaved
## Scanner and software

### Scanner

3Shape scanners as of version D7xx are particularly suitable for digitizing the initial situation as they offer maximized interior space, high scan accuracy and rapid scan speeds.

### Digital Denture Professional (DDP) add-on software module

**Overview of advantages - giving you more professionalism**

**Easy transfer of the correct occlusal plane position**

The relation between the occlusal plane, Camper’s plane and the bipupillary line, as established with the UTS CAD, is transferred to the design software using this software module.

It only takes two clicks to convert prosthetic appliances based on average values into individualised dentures.

- Easy adjustment of Camper’s plane
- Easy adjustment of the bipupillary line
- Patient-specific positioning of the occlusal plane

**Individual transfer of the correct maxillomandibular relation and centric position**

The Digital Denture Professional add-on module accurately transfers the immobilized functional impressions captured with the Gnathometer CAD to the design software. This results in a denture design that takes the patient’s specific vertical dimension and centric relation into account.

- Includes habitual centric relation
- Includes patient-specific vertical dimension of occlusion
- Increases denture functionality
Software

The Full Denture add-on module from 3Shape features all the essential functions required for the design of removable dentures.

The ScanIt Impression add-on module from 3Shape enables the production of digital models directly from alginate or silicone impressions and immobilized functional impressions. The need for a stone cast is eliminated.

The Digital Denture Professional add-on software module from Wieland Dental builds on the 3Shape modules. Additionally, it offers enhanced user convenience and heightened denture quality and functionality.

Time-saving customized tray design and bite registration

The digital production process now already starts with the fabrication of custom trays for functional impression-taking. The software automatically and accurately includes the click connections for the Gnathometer CAD.

- Enhanced impression quality due to a well-defined, uniform thickness of space for the impression material
- Time-saving production of customized tray with bite registration
- Straightforward click connection to ensure a tension-free fit of the Gnathometer CAD

Well-thought-out denture design, from start to finish

The Digital Denture Professional add-on module increases the functionality and comfort in the design of dentures.

- Time-saving functional pattern creation using Ivoclar Vivadent and Candulor teeth
- Automatic manufacture of a positioning template to allow the reliable transfer of denture teeth to the denture base
Zenotec® select ion is a member of the Zenotec select family and features the following characteristics:

- Innovative ionization system
- High productivity due to 8-disc material changer
- Outstanding restoration quality

PROCESS RELIABILITY
Zenotec select ion has been developed with a view to optimizing the milling tools, systems, software programs, materials and machinery to allow for easy processing of acrylic materials - and achieve a coordinated digital manufacturing process.

For the digital production of:
- Complete dentures
- Bite templates
- Try-in mock-ups
- Positioning templates
- Bite splints
- PMMA restorations

EFFICIENT AUTOMATION
The 8-disc material changer enables users to incorporate fully automated material management into the unit. The correct material is selected and automatically inserted for each restoration.

- Orders are automatically processed in sequence
- Optimum time management
- Processed discs can be removed without interrupting the milling operation

IONIZER
When acrylic materials are processed, electrostatically charged particles are released. Ionized compressed air is directed onto the tools and materials via targeted nozzles during the processing operation to neutralize the electrostatic charge. The acrylic particles can be conveniently evacuated.

- Enhanced process reliability when processing acrylic materials
- Minimal cleaning effort
TOOLS
These grinding and milling tools are purpose-built for the Zenotec select milling units and offer high stability and versatility. In addition to an array of standard wax processing tools, single-cutting tools specifically developed for the processing of acrylic materials are available.

- Fast processing due to long cutting surfaces
- Double the durability with optimum restoration quality

ZENOTEC® CYCLON
This powerful extraction unit can be easily integrated into existing lab environments. It is a low maintenance and low noise system. The cyclone technology protects the filters and makes it easy to dispose of removed material - particularly the particles generated during the processing of acrylic materials.

- Enhanced process reliability due to clean milling chamber
- Up to 95% of the acrylic particles are preseparated
- Large dust drawer (14 l)

**Technical data**

- Dimensions (W x H x D): 69.2 x 54 x 44.5 cm (with changer)
- Weight: 95 kg (with changer)
- Spindle: Synchronous spindle with 4 hybrid ball bearings and integrated inner taper shank cleaning, max. output: 600 W, max. speed: 60,000 rpm
- Tool holder: Pneumatic chuck for tools with 3 mm shank
- Tool positions: 16; incl. replacement tool management system
- Automatic tool measurement with breakage detection: ✔
- Inclination angle of the rotation axis: ± 180° (A-axis) and ± 30° (B-axis)
- Repeatability value: ± 0.003 mm
- Material changer: for 8 discs
- Remote maintenance: ✔
- Compressed air connection: min. 7 bar
- Voltage / Frequency: 230V / 50Hz
Products for dental technicians

IvoBase® CAD for Zenotec

These high-impact PMMA discs are designed for the fabrication of denture bases. Their geometric outline corresponds to that of commonly used CAM holders. Automated manufacturing methods give these discs a homogeneous quality.

- For denture bases
- Impact-resistant denture base material, conforms with the requirements of ISO 20795-1:2013
- Available in the popular shades Pink, Pink-V, Preference and 34-V

Tray Disc for Zenotec

These stable PMMA discs are suitable for creating bite templates, functional try-in monoblocks and positioning templates to facilitate the setup of denture teeth on milled denture bases.

- Suitable for creating various auxiliaries
- Homogeneous quality
- White basic shade

ProArt Wax Disc for Zenotec Pink

These machinable boil-out wax discs are suitable for CAD/CAM fabricated bite registrations and wax try-ins.

- Suitable for milling and boil-out needs
- Light peppermint flavour
- Shade: Pink
IvoBase® CAD Bond

This self-curing two-component bonding system results in a reliable bond between the denture teeth and CAM-fabricated denture base.

- For luting denture teeth to denture bases
- Clean application due to predosed delivery form
- Sound bond between tooth and milled denture base
- Universal pink shade, matched to the denture base

Denture teeth

Ivoclar Vivadent and Candulor offer a wide selection of premium denture teeth in a variety of shades, shapes and materials. Selected tooth lines of both manufacturers are stored as sample setups in the Digital Denture Professional add-on software module. These artificial teeth bring an individual touch to CAD/CAM-fabricated dental prostheses.

Tooth lines from Ivoclar Vivadent:
SR Phonares II, SR Phonares II Typ, SR Phonares II Lingual
SR Vivodent DCL, SR Orthotyp DCL, SR Ortholingual DCL

Tooth lines from Candulor:
PhysioStar NFC+, Bonartic II NFC+, Condyloform II NFC+

The cutting-edge process for the manufacture of accurately fitting dentures
all digital – all options

Customized digital solutions for every laboratory

All along the digital process chain, unparalleled solutions are offered, which comprise products and services for the CAD/CAM production of fixed and removable prosthetics. Dental laboratories have a wide choice of fully coordinated products including scanners, materials and equipment. The system is complemented by a comprehensive range of services. As a result dental laboratories benefit from optimized workflows and maximum productivity and flexibility.

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