Ideas become reality!

Baltic Denture System

Digital solution for dentures

MADE IN GERMANY

MERZ DENTAL

In the beginning was the idea!

Nothing is possible without dreams and motivation.
We know this at Merz Dental.

That is why we live our dreams and are tenacious in pursuing our ideas – or the „Holstein Bite“ as we like to call it – until they finally become reality!

Baltic Denture System

We are simply not like the rest – we are different because we live what we do.

Projects begin with questions – and we ask our customers, the dental technician and dentist.
Only then can we begin to put our dreams and ideas in motion.

That is who we are – our guarantee for exclusive products.
Our reward is satisfied and delighted customers.

That is especially important to us and our greatest achievement to this day.

Experience our world premiere!

Yours, Friedhelm Klingenburg
(CEO Merz Dental)

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Ideas become reality – a world novelty conquers the market!

The first impression often determines how we are perceive by others. Beautiful teeth play an important role in this respect, regardless of age. They give us **quality of life** and **self-assurance**. The desire for aesthetic, functional, high-quality and affordable dentures is therefore all too understandable.

In order for patients to fulfil this wish, we have revolutionised the conventional methods of fabricating full dentures with competence, specialised expertise and creativity.

We are proud to be able to present to you the **Baltic Denture System** for the manufacturing of full dentures.

The Baltic Denture System process opens up a new way of manufacturing full dentures in a digital workflow.

Combining the work steps in the dental practice and processes in the lab into a single workflow stands for **quality** and **economy**.

That is the **Baltic Denture System**.

- **less manual work**
- **predictable results**
- **high-quality materials and reproducibility**
- **reduced allergenic potentiall**

are the quintessence of this innovative concept

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Baltic Denture System

Digital solution for dentures

The conventional production process for a full denture is highly complex and time-consuming

PRACTICE

DENTAL LAB

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STEP 2 Model casting
Production of the individual impression tray

STEP 3 Functional impression-taking

STEP 4 Producing the bite rim

STEP 5 Occlusal registration

STEP 6 Model analysis and model casting

STEP 7 Try-in

STEP 8 Correction and finalisation

STEP 9 Incorporation

5 APPOINTMENTS

Baltic Denture System

Digital solution for dentures

Shortened process due to optimised workflow

PRACTICE

DENTAL LAB

STEP 1 Functional impression-taking
and bite registration

STEP 2 Scanning the data
Computerised design
Milling
Finishing

STEP 3 Incorporation

2 APPOINTMENTS

“The BDS convinced me for several reasons: Considerably fewer patient appointments were required which, of course, saved a lot of time – not just for my team but also for the patient.
In the first visit, it was already possible to determine the horizontal, vertical and aesthetic positions. I have not been able to manage this as successfully and accurately with any other system.”

Anke Staffeldt, Dentist, Eutin, Germany

Baltic Denture System

Digital solution for dentures

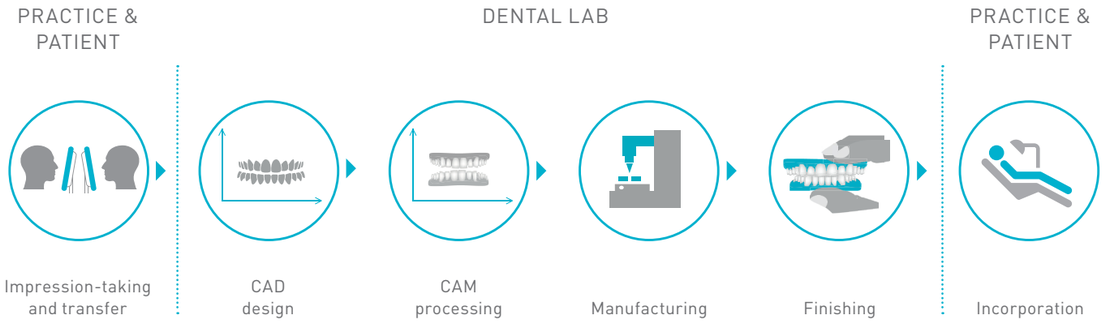
Analogue meets digital

Providing patients with full dentures with the Baltic Denture System is made possible for the practice as well as the lab through an innovative mix of proven analogue and the latest digital technologies.

On the following pages, we invite you to immerse yourself in the **Baltic Denture System**. The pictographs indicating the respective sections provide easy orientation.

With the **Baltic Denture System**, the objectives are clearly defined. The way is clearly shown – from the impression to the final result. However, the familiar processes leading up to the result have now been considerably simplified.

Less manual work, predictable results, high-quality materials and reproducibility are the quintessence of this innovative concept.

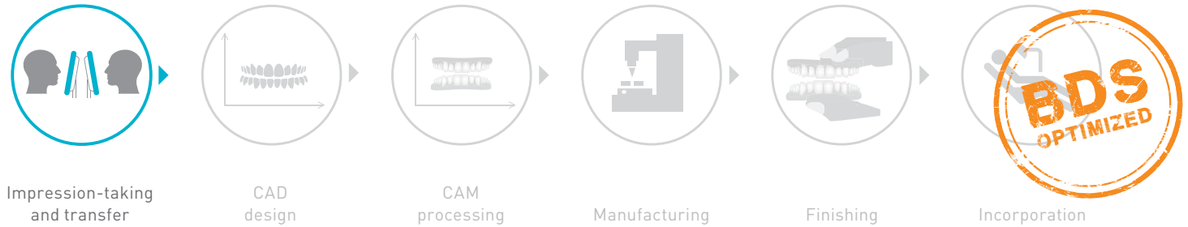


Baltic Denture System

Digital solution for dentures

Efficiency for the dental practice

The dental procedure in the Baltic Denture System provides for impression-taking, bite registration and transfer. The **[BD]KEY® Set**, which was developed for this purpose, creates the process steps in the dental practice safely and quickly and transmits the key data to the lab.



In the first step, the patient-specific size of the **PMMA [BD]KEY®** is determined by using the **PEEK Upper-** and **LowerKEY**. The **Upper-** and **LowerKEY** made of **PMMA** as well as the **[BD]KEYLock** are subsequently used for the functional impression by applying **[BD]Impress**, in order to check the aesthetics of the row of teeth (try-in) and to determine the correct position of the occlusal plane. The vertical and horizontal lock of the **Upper- / LowerKEY** to determine the jaw relation is carried out by using the **[BD]KEY Lock**. The **PMMA [BD]KEYs** stand out through their good and easy workability with rotating instruments and can be adapted to the individual patient situation by grinding.

Upper- and **LowerKEY** in S, M and L sizes with a reduced base portion for adding the impression material show dental arches that are congruent to the corresponding **[BD]Load®**. This allows an aesthetic check of the dental arches as well as their correct alignment position in the interalveolar space.

Visualisation of the occlusal plane and centre of face is done with **[BD]KEY® Plane** and **[BD]KEY® Fin**, which are affixed to the **UpperKEY**.

The **UpperKEY** is correctly positioned relative to the occlusal plane and centre of face by filling the entire surface with impression material. A suction action is necessary for the following workflow. The subsequent encoding of both **[BD]KEY®** makes it much easier to define the patient-specific jaw relationship, which is then fixed in the basal area of the **LowerKEY** with the impression material.

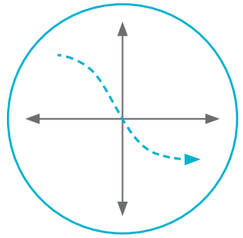
The wax try-in no longer required is now replaced by a check of the centring, of the functional movements and aesthetics, e.g. smile and lip closure line. The patient can see his/her future „smile".

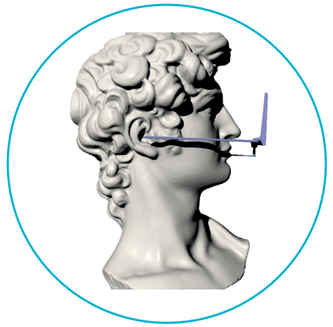
The **Upper-** and **LowerKEY** thus serve as an aid in **gathering** and **transferring** important aesthetic and functional information, which can be applied in the digital design process in the dental lab at a later date.

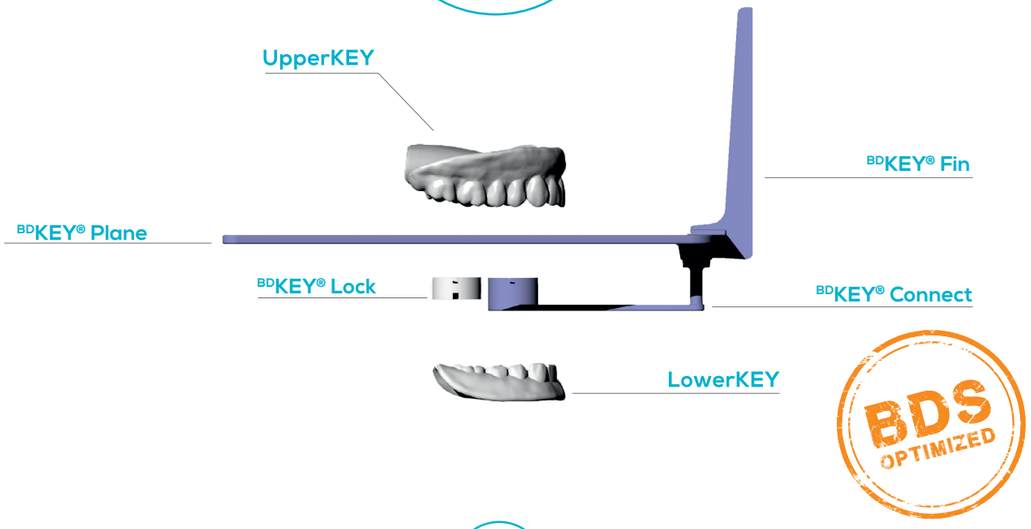
BDKEY® Set

Function and aesthetics in the first appointment

With the help of the **BDKEY® Set**
the optimal alignment position is determined
according to functional and aesthetic perspectives
in the interalveolar space





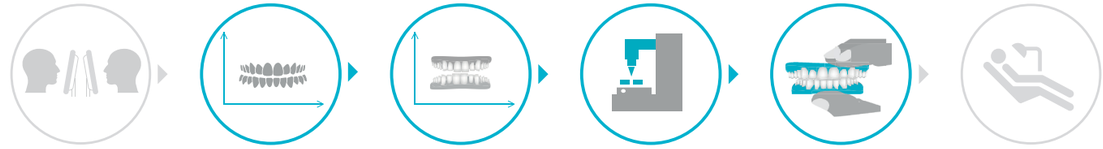


BDS OPTIMIZED

Baltic Denture System

Digital solution for dentures

Paradigm shift in dental technology
The Baltic Denture System procedure in the dental laboratory
provides for data acquisition, design, CNC processing, as well as finishing



Impression-taking and transfer | CAD design | CAM processing | Manufacturing | Finishing | Incorporation

The **data acquisition** of the jaw is done with a 3D scan, by which the documentation of the dentist is digitalised.

This data is used for the **CAD design** of the dentures with the **BDCreator®***PLUS* software. By means of the **BDKEY® Set** used by the dentist, the position of the dental arches can be brought to coincide exactly with the patient-specific alignment from the practice in the software.

The denture base for the aligned dental arches is generated in the software in just a few steps.

After transferring the data to the CAM software to calculate the milling paths, the **CNC milling process** can start.

Finishing of the dentures is carried out in significantly fewer steps compared to conventional dental procedures using milling and polishing.

BDCreator®

The process-integrated CAD software

The user generates the patient-specific denture on the basis of the digital data

Virtual articulator

Individual gum characterisation

Direct connection to all common scanning systems

Undercut control

Intelligent selection of the dental arches

Model analysis acc. to TiF or Gerber

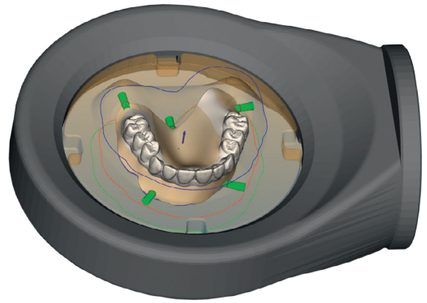
On the basis of the information determined by the dentist, a patient-individual digital full denture is created in several working steps using the **BDCreator®***PLUS* (full version for the production of complete dentures with virtual articulator and undercut control) or the **BDCreator®** (basic version with reduced functional range).
The handling of the **BDCreator®***PLUS* is easy to learn due to the logical and clear user interface. Since the software works with the standard .stl file format, it is easy to integrate into the existing dental laboratory workflow. The selection and automatic alignment of the row of teeth is based on the information of the position of the occlusal plane and the center of the face obtained with the aid of the **BDKEY®Set** on the patient.

Individual adaptation of these parameters is possible at any time during construction. After completion of the basic generation, an undercut control of the design and a software-supported recommendation for the alignment of the tooth rows take place.
The model analysis according to Gerber helps the user in the selection of the appropriate tooth arch width. The visualisation of the facial plane and the virtual articulator support the user in the control of the design regarding the statics and position of the tooth rows in the interalveolar space. Individual gum characterisation is also possible in this working section. Now the digitally constructed full denture is ready for transfer to a suitable CAM module.

Baltic Denture System

Digital solution for dentures

CAM processing



After CAD creation of the full dentures in **BDCreator®***PLUS*, the data is transferred to an appropriate CAM module in an .stl file format for a partly automated calculation of the milling paths.

An interface has been defined by Merz Dental for this purpose, which different milling machine manufacturers have on hand.

The imaging geometry as well as the versions of **BDLoad®** are stored in the CAM software library.

To define the milling strategy for processing the **BDLoad®** in a 3+2-axis milling procedure or 5-axis simultaneous milling procedure, it is advisable to contact the machine manufacturer.

BDLoad®

The milling blank with occlusive dental arches

BDLoad® is a milling blank in which the dental arches are integrated in a functional, aesthetic set-up

The current **integrated set-up concept** of the dental arches follows that of lingualised occlusion. BDLoad® is characterised by harmonious positioning of the anterior and posterior teeth in eugnathic occlusion and optimal contact relationships. The **polymerised dental arches** are made of the prefabricated Polystar® Selection EDITION anterior teeth and DeltaForm® posterior teeth by Merz Dental. These synthetic teeth have an impressive aesthetic effect as well as high abrasion resistance and can be furnished in different shades.

BDLoad® arches come in **S, M and L** sizes as well as in the jaw widths **narrow, medium and wide** with a set-up either to the 1st or 2nd molar for alignment according to the patient-specific alveolar ridge situation.

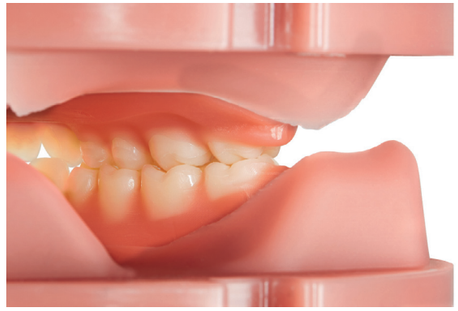
The BDLoad® as well as teeth are made of highly cross-linked PMMA. Compared to conventionally manufactured dentures, the material properties in terms of volume stability, tensile strength and a reduced monomer content of less than 1% are significantly improved as a result of the controlled polymerisation during industrial production of the BDLoad® and the additional tempering process. The BDLoad® has less allergenic potential compared to conventionally manufactured dentures.

The milling blank is furnished with an integrated **zero point clamping system** for positioning in the milling machine, which allows for clear, positionally accurate placement in different milling systems. In order to also restore large jaws as far as possible, the diameter of the BDLoad® was set to 113 mm.

Baltic Denture System

Digital solution for dentures

Tooth setup with prefabricated teeth



The occlusion concept based on a positioning system according to Prof. Gerber entails lingualised occlusion of the dental arches with unilateral support. In addition, the contact relationships ensure the independent masticatory stability of the dentures.

The four-layer Polystar® Selection EDITION anterior teeth meet the high individuality requirements for high-quality dental prosthetics. The universal anterior tooth together with the semi-anatomical DeltaForm® posterior tooth offers a high aesthetic level along with a modern functional surface design.

The DeltaForm® posterior tooth with its specially designed lingualised chewing surfaces, characteristic abrasion facets and low cusp angle encompasses all the requirements of this full denture manufacturing concept.

The semi-anatomical chewing surfaces of the posterior teeth centre the line of force on the alveolar ridge, this avoiding horizontal force. In order to ensure unilateral support during dynamic chewing movements, they feature additional bilateral balance and result in „more gentle" centring through the mortar-pestle principle.

Baltic Denture System

Digital solution for dentures

Interactive experience and design of dentures

Patients are often apprehensive about having new, removable dentures made because the procedure is very time-consuming due to the many appointments and is not always pleasant. Frequently, additional follow-up treatments are required due to subsequent material and system-related bruising.

For this reason, **BDS** and its system is also convenient for the sometimes age-related limited mobility of many patients due to the fewer number of appointments. Dentures manufactured from a milling blank feature high material safety and very good accuracy of fit.

These are only a few reasons to decide in favour of full dentures manufactured with the Baltic Denture System.

Using the **BDKEY® Set** allows the patient to experience the aesthetics and function of their future dentures in the first appointments and actively take part in their creation.

In addition, travel or replacement dentures can be created from the existing data.

ADVANTAGES FOR THE **PATIENT**

- Predictable masticatory function
- High fitting accuracy
- Reduced allergenic potential
- Fewer dental appointments
- High stability
- Plaque resistance

Baltic Denture System

Digital solution for dentures

Baltic Denture System is a dynamically growing system, which still offers many future possibilities due to its complexity.

Be a part of this trendsetting technology!

Go to our home page for the latest information on our ongoing progress and developments

www.baltic-denture-system.com

Check out our BDS film, which illustrates this innovative process, and let yourself be convinced

www.youtube.com/user/MerzDental1

State-of-the-art technology for dental labs and dental practices

DENTAL LAB:

- Timesaving
- High accuracy of fit
- Neither use of denture base powder nor liquid
- No polymerization shrinkage
- Efficiency / Profitability
- Reproducible result

DENTAL PRACTICE:

- Only 2 appointmens required
- Predictable results
- Future-orientated technology
- More time for patients
- High patient satisfaction
- Efficiency / Profitability

BALLANTYNE CENTER FOR DENTISTRY

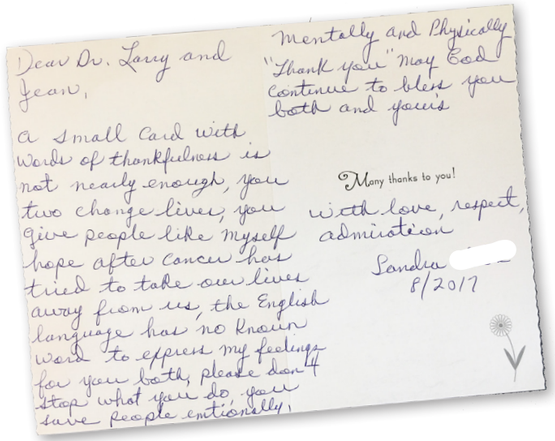
We are constantly evaluating new technologies that enter into the dental space. What is important to us is that the product or technology makes us more efficient at delivering dentistry, is cost effective, and provides superior results and value to our patients. In addition to all of these, the Baltic Denture System also is very easy to use and implement into a dental practice.
Dentists who have struggled with denture procedures will find BDS a breath of fresh air. BDS also allows the dentist to delegate the majority of the process to auxiliaries.
I was impressed with how positively patients have responded to the procedure and the product.

Christian Yaste, DDS
Ballantyne Center for Dentistry, Charlotte, NC

Satisfied customers speak for themselves

I became aware of the Baltic Denture Digital Denture by Merz Dental late last year. I have had opportunity to be involved with several cases through observation, video presentation and ultimately with direct care with my own patients. The BDS provides a simplified, streamlined approach to complete denture fabrication. The clinical technique is easily learned and implemented.
The two appointment denture has been made reality by Merz Dental. This novel denture fabrication technique provides busy practices with an extremely efficient workflow.
My own clinical experience has been very positive. There is a brief learning curve that is easily mastered. My patients have been enthusiastic with the results. There has been minimal adjustment, excellent stability and ridge adaptation (read excellent suction on both arches). I highly recommend this system if your practice is looking for an efficient workflow with predictable results for complete denture fabrication.

Larry R. Holt, DDS, FICD
Director of Clinical Research, Drake Precision Dental Laboratories, Charlotte, NC



I have the opportunity to work with the BDS protocol in the Prosthodontics Department in LSU School of Dentistry.
With its reasonable limitations the system is one of the smartest, simplified, precise digital denture protocol we have worked with. The practicality to collect the records is outstanding. I was very impressed with the professionalism and honesty of the Merz Dental team. The protocol is a reality and the potential for growth and expansion of the indications is palpable.

Marco Brindis, DDS Assistant Professor of Clinical Prosthodontics
Interim Chair, Department of Prosthodontics, LSU School of Dentistry

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Merz Dental is certified in accordance with EN ISO 13485
and this offers the security and the advantages of a future-oriented quality management system.

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