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About us

The world meets in Dusslingen

Heinz Kurz GmbH Medizintechnik is a second-generation family-owned manufacturing company in southwest Germany. An international network of distributors, including KURZ Medical, Inc., our US subsidiary in Atlanta, Georgia, provides convenient local accessibility to our products worldwide. Being in close proximity to our customers is important to us. Our products are supported by highly trained distributors, an important asset.

Brief Company History

The medical foundation of the family business was started by Heinz Kurz with a basis in Dental Technology. He worked in close personal collaboration with the University of Tuebingen, ENT clinic to develop the first gold vent tube, using his experience as a dental technician in metal processing to develop this new design. This first project led to the successful establishment of the middle ear implant business in the 1980’s.

Another industry first, was the company’s introduction of titanium middle ear implants in 1994. The world’s first passive middle ear implants made of pure high grade titanium.

During 2011 we launched our first prosthesis partly made of Nitinol. This stapes prosthesis has a special design that is rooted in middle ear anatomy, biomechanical insights and the special attributes of the material Nitinol. This is a good example of our history of continual innovation based on clinical evidence and commitment to good science.

Production and Quality Control

KURZ Middle Ear Implants are manufactured exclusively in Germany where we have improved product design and special manufacturing processes. Our manufacturing processes allow for complex, yet user friendly implant designs such as the innovative Ball Joint Prostheses.

KURZ maintains the highest quality standards and has strict quality controls to ensure our standards are met. Our quality standards meet or exceed international requirements.

Research and Development

KURZ is committed to progress. In close cooperation with ENT surgeons in Germany and abroad we seek new solutions to provide even greater benefits to patients and surgeons. Our highly motivated and flexible team is in constant contact with the users of our products and with academic biomechanical research institutes. Only in this way quality products are created for the benefit of patients. Products like the CliP ® Prostheses and the Ball Joint Prostheses set standards in today’s middle ear surgery.
We understand our success is dependent on our employee's expertise and continuous development and training.

Regular international distributor training ensures high-quality sales and service. Hands-On workshops immerse our distributors in the use and handling of our products so they are prepared to offer the best possible support to our customers.

Each product undergoes a 100% quality control.

Christine Writer, President of KURZ Medical Inc., USA
KURZ® Passive Middle Ear Implants are available in fixed and variable lengths. The adjustable length and malleable tympanoplasty prostheses allow the surgeon to intraoperatively customize each implant in 0.25 mm increments.

In addition, there are varieties of unique models, including prostheses for stapedioplasty and malleovestibulopexy. Unique features like the CliP® and Micro Ball Joint designs set a new standard in Middle Ear Reconstruction.

To complement this line of prostheses, we also offer a wide variety of precision instruments. Dedication to research and development, combined with a passion for engineering, makes KURZ® one of the most complete middle ear prostheses systems worldwide.

A novelty to our stapes prostheses assortment is a prosthesis with a Nitinol loop. Nitinol, with its special attributes, provides new synergies within the field of otology.

Heinz Kurz GmbH received the Dr.-Rudolf-Eberle-Prize 2009 for the TTP VARIAC® System.

The Innovation Award was given to small-and medium-sized enterprises in Baden-Württemberg as an award for innovative products, processes and technological services.
Pure Titanium (Grade 1-4)

No other implant material has seen greater use in past years. Titanium, which is available in different grades of purity and hardness, has proven to have excellent biocompatibility.

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Nitinol – a new KURZ® material

Nitinol is a Nickel-Titanium-Alloy and was first described in 1958 by the Naval Ordnance Laboratory (USA). The name Nitinol is an acronym for “Nickel Titanium Naval Ordnance Laboratory”.

Nitinol consists of roughly equal percentages of Nickel and Titanium. It is available in two properties: Shape Memory and Super-Elastic.

Significant for Shape Memory is the capacity to deform and recover a pre-decided shape with heat. Super-Elastic Nitinol does not need heating for the shape-recovery but it rather demonstrates huge elasticity.

Further benefits exist in the field of middle ear ossiculoplasty:

- Pure Titanium has excellent and proven biocompatibility that supports long-term results
- State-of-the-art cleaning process provides clean implant surfaces and enables an irritant-free integration in the middle ear.
- Biostability: No material degradation occurs even in chronic inflammation
- Small mass: This reduces sound energy conduction loss compared to other materials
- Direct cell ingrowth (of the middle ear mucosa, for example) depends on the surface structure of the titanium and may be influenced by it
- High stability: This contributes to reverberative conduction (even for tiny vibrations) and compensates for small implant size
- Individual shape adaptation through simple bending

KURZ® utilizes only high-quality pure titanium with the most advanced mechanical properties, such as elasticity, stability and hardness.

The right material in the right hands.

Literature:


unregistered copy
KURZ® partial prostheses imitate the natural coupling of the incudo-stapodial joint. The precisely fitted, delicate shaped BELL transmits the sound directly to the stapes capitulum instead of the crura.

The shape of the BELL enables a safe coupling to the stapes capitulum. The slits in the BELL have benefits: They provide enough space for the stapedial tendon and enable modification of the bell size.

The CliP® partial prostheses with their self-retaining clip mechanism provide a secure fixed and standardized coupling to the stapes. Additionally, the CliP Partial FlexiBAL® has a Micro Ball Joint within the headplate, which provides automatic position rebalancing towards the tympanic membrane level.

All KURZ® tympanoplasty prostheses are provided in a total overall length (L).

The functional length (FL) is measured from the transplant (e.g. cartilage) placed underneath the tympanic membrane to the stapes capitulum in partial reconstruction or to the stapes footplate in total reconstruction. The functional length (FL) is significantly important in partial reconstructions where very short prostheses are often demanded. Consequently, all KURZ® Partial Prostheses start with a functional length (FL) of 0.75 mm.

Risk management: A too long prosthesis may stress the ligaments of the stapes footplate and thereby influence the sound transmission negatively.

The adjustable length system from KURZ offers all necessary lengths. KURZ® Total Prostheses are very delicate in design and allow the surgeon to perform the implantation under very confined anatomical conditions, such as those often encountered in the recess of the oval window. The Ω CONNECTOR is an option for all KURZ Total Prostheses with a hollow stem. The Ball Joint that is created facilitates a flexible joint connection adjustable in all directions.

Because of the manufactured purity and shape the KURZ® implants permit intra-operative adaptation by simple bending.
Overview

Adjustable Lengths

- TTP-VARIAC System Partial
- TTP-VARIAC System Total
- TTP-VARIO BELL Partial Prosthesis
- TTP-VARIO AERIAL Total Prosthesis

Fixed Lengths

- TTP-Tuebingen AERIAL Total Prosthesis and BELL Partial Prosthesis
- Duesseldorf AERIAL Total Prosthesis and BELL Partial Prosthesis
- MNP Malleus Notch Total and Partial Prosthesis
- Regensburg Type Total Titanium Prosthesis
- CIIP Partial FlexiBAL
- CIIP Partial Prosthesis Dresden
- Angular CIIP Prosthesis
- Angular Prosthesis Plester

Options

- Ø CONNECTOR
- MRP Malleus Replacement Prosthesis
TTP-VARIAC® System
Adjustable Length
Titanium Prostheses with multifunctional Sizer Disk

The patented TTP-VARIAC® System, which was developed in close conjunction with the ENT Hospital at the University of Tuebingen, consists of a adjustable length prosthesis made of pure titanium and a single use multifunctional Sizer-Disk disk made of polypropylene.

In addition to the benefits of an adjustable length prosthesis the TTP-VARIAC® System also offers a variety of opportunities which are valuable to middle ear surgery. The five-multifunctional Sizer-Disk provides all preconditions for a successful implantation of the TTP-VARIAC® Prosthesis.

Using the sizers that are attached to the central disk and the optimal prosthesis length can be determined quickly, precisely and reliably. The sizer's lightweight and delicate design allows for easy handling, even balance and an unobstructed view of the middle ear.

Benefits:
• Partial Prosthesis 0.75 – 3.5 mm FL and Total Prosthesis 3.0 – 7.0 mm FL and malleable
• Exact determination of optimal prosthesis length using integrated sizers
• Low inventory - only one variable (total or partial) prosthesis is needed
• 0.25 mm increments for optimal selection of lengths and flexibility
• Partially roughened surface stabilizes prosthesis placement
• Weight 4 – 5 mg
• Well documented by scientific studies
• MRI information: visit www.kurzmed.com

Video with additional information

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<th>Item</th>
<th>REF</th>
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<td>TTP-VARIAC® System Total (Prosthesis and Sizer-Disk) Adjustable Length 3.0 - 7.0 mm (in 0.25 mm increments)</td>
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</tr>
</tbody>
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The TTP-VARIAC® System Total Prosthesis is compatible with the Ω CONNECTOR (REF 1004 930).
Important!
For full information the Instruction For Use must be read.
The TTP®-VARIO titanium prostheses are length adjustable. They can have their length modified intraoperatively in 0.25 mm increments. The main benefits of the TTP-VARIO System lay in the unlimited length availability and the reduced inventory requirements.

Secure integration of the single components is assured by a unique clamp design in the head plate of the prosthesis.

For secure fixation of the headplate to the shaft the TTP®-VARIO Instrument set is needed.

Benefits:

• Partial 0.75 – 3.5 mm FL and Total 3.0 – 7.0 mm FL and still malleable
• Precise length definition
• Low inventory - only one variable (total or partial) prosthesis is needed
• Spacing in 0.25 mm increments offers optimal length choices and flexibility
• Partially roughened surface stabilizes prosthesis placement
• Weight 4 – 5 mg
• Well documented by scientific studies
• MRI information: visit www.kurzmed.com

Item | REF
--- | ---
TTP®-VARIO BELL Partial Prosthesis
Adjustable Length 1.75 - 4.50 mm
(in 0.25 mm increments)
Functional Length (FL): 0.75 - 3.50 mm | 1002 010

Item | REF
--- | ---
TTP®-VARIO AERIAL Total Prosthesis
Adjustable Length 3.0 - 7.0 mm
(in 0.25 mm increments) | 1004 010

The TTP®-VARIO Total Prosthesis is compatible with the \( \Omega \) CONNECTOR (REF 1004 930).
TTP®-Tuebingen Type
Titanium Prostheses
BELL (partial) and AERIAL (total)

The TTP™-Tuebingen Type titanium prostheses have been developed in close conjunction with the University of Tuebingen ENT Clinic. Important criteria for an audiologically superior titanium implant were established and evaluated in test models as well as in experimental studies. User-friendliness was always high among the development standards in every theoretical framework.

Benefits:

• Low input impedance and stable conduction features improve sound transmission
• Excellent visualization for insertion and placement because of the open headplate and delicate design
• Individual shape adaptation through simple bending
• Partially roughened surface stabilizes prosthesis placement
• Rounded profile minimizes risk of tympanic membrane injury
• Excellent biocompatibility for irritant-free integration into the middle ear
• MRI information: visit www.kurzmed.com

TTP®-Tübingen Type
BELL Partial Prosthesis

Material: Pure Titanium (ASTM F67 Medical Grade)
Shaft Diameter: 0.2 mm

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TTP®-Tübingen Type
AERIAL Total Prosthesis

Material: Pure Titanium (ASTM F67 Medical Grade)
Shaft Diameter: 0.2 mm

The TTP™-Tübingen Type Total Prosthesis is compatible with the Ω CONNECTOR (REF 1004 930).

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Duesseldorf Type
Titanium Prostheses
BELL (partial) and AERIAL (total)

The first KURZ® Titanium Prosthesis was designed in 1994 in conjunction with doctors of the Dominikus Hospital in Duesseldorf.

The superiority of these new implants compared to previous middle ear prostheses with respect to biocompatibility, hearing improvement and intra-operative manipulation became evident even in the testing phase.

From a long-term perspective, the prostheses have proven themselves, especially in regard to its reliability and safety.

Benefits:
• Careful weight balance results in efficient intraoperative handling
• Large surface contact with the tympanic membrane or transplant prevents tilting
• Partially roughened surface stabilizes prosthesis placement
• Excellent biocompatibility for irritant-free integration into the middle ear
• Individual shape adaptation through simple bending
• Well documented by scientific studies
• MRI information: visit www.kurzmed.com

Duesseldorf Type
BELL Partial Prosthesis
Material: Pure Titanium (ASTM F67 Medical Grade)
Shaft Diameter: 0.2 mm

Duesseldorf Type
AERIAL Total Prosthesis
Material: Pure Titanium (ASTM F67 Medical Grade)
Shaft Diameter: 0.2 mm

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Special sizes upon request.

The Duesseldorf AERIAL Total Prosthesis is compatible with the Ø CONNECTOR (REF 1004 930).
MNP Malleus Notch Prostheses

In this prosthesis KURZ combines the anatomical requirements and the technical perfection to a unique synthesis. The headplate ensures even greater variability in the adaptation of the prosthesis.

The malleus is often preserved in tympanoplasty and surgeons like to have the option of placing the ossicular prosthesis under the malleus.

This prosthesis was developed together with Prof. Dr. Yung (UK) with a focus to improve prosthetic position and stability. This was obtained by the new headplate geometry.

Counter balance is gained by means of the notch that is placed underneath the malleus handle. This may reduce the risk of dislocation and in addition protect the tympanic membrane.

Benefits:
- Notch ensures greater variability during the operation
- Less risk of dislocation
- Excellent biocompatibility
- Light weight
- MRI information: visit www.kurzmed.com

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MNP Total Prosthesis
Material: Pure Titanium (ASTM F67 Medical Grade)
Shaft Diameter: 0.2 mm

The MNP Total Prosthesis is compatible with the CON-NECTOR (REF 1004 930).

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</table>
Prosthesis instability or dislocation are inherent risks associated with total middle ear ossiculoplasty. During surgery, additional complications may arise due to each patient’s unique anatomical features, which often make it difficult and cumbersome to achieve an optimal connection with the stapes footplate.

In close conjunction with G. Schmid, MD, Reutlingen, Germany, KURZ has developed the Ω CONNECTOR. Given the appropriate spatial conditions in the oval niche, this optional base provides maximum contact with the stapes footplate. It is connected to the prosthesis shaft with a micro ball joint. The resulting flexible joint connection is adjustable in all directions and may overcome varying spatial alignments of footplate and tympanic membrane or malleus.

Spatial conditions on the stapes footplate can be evaluated with the Sizer Ω CONNECTOR (REF 8000 555). For more information see page 44.

**Benefits:**

- **Micro Ball Joint**
  Flexible connection is adjustable in all directions
- **Large contact area with the stapes footplate for more stability**
- **Optional use for all KURZ® Total Prostheses with a hollow stem**
- **MRI information: visit www.kurzmed.com**

The functional length of the Ω CONNECTOR is 0.5 mm. It is sterile and individually packaged. The Ω CONNECTOR can be used with all KURZ® Total Prostheses whose shafts end in a circular stem with 0.8 mm diameter. (TTP-VARIAC® System Total, TTP®-VARIO AERIAL, TTP®-Tuebingen AERIAL, Duesseldorf AERIAL, MNP Total Prosthesis).

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**Material:**

Pure Titanium (ASTM F67 Medical Grade)
Regensburg Type
Total Titanium Prosthesis

In close conjunction with the University ENT Hospital at Regensburg, Germany, KURZ has developed a total prosthesis made of pure titanium. Given the appropriate spatial conditions on the stapes footplate, the Regensburg Type Prosthesis provides optimized stability.

Defined indentations at the headplate intra-operatively indicate the position of the oval stem. The shaft is made of Grade 2 Titanium with outstanding malleability. Thus, the surgeon has a high degree of flexibility to adjust to the anatomical variations of the middle ear.

The headplate with the fenestrations provides the surgeon with an excellent view of the surgical site.

Benefits:

- 0.2 mm shaft of pure titanium for maximum adaptability to patient’s middle ear anatomy
- Headplate with indentations for precise positioning of the oval stem
- Fenestrated headplate for optimal view
- Excellent biocompatibility and biostability for irritation-free integration into the middle ear
- Partially roughened surface to improve implant-stability on the stapes footplate
- MRI information: visit www.kurzmed.com

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The absence of the malleus handle can affect hearing results after ossiculoplasty.

To enhance middle ear prosthesis stability, recreation of an absent malleus can be important.

In close conjunction with Robert Vincent MD from Beziers, France (Causse Ear Clinic), KURZ has developed a new concept of Tympanoplasty.

The MRP Malleus Replacement Prosthesis is a pure titanium neo-malleus which is implanted underneath the tympanic membrane at any position in the external ear canal. It is attached via a Y-shaped titanium wire with two hooks. The surgeon inserts the MRP and connects almost any Partial- or Total-Replacement Prosthesis due to the malleable MRP.

The primary advantage of this new concept is to keep the neo-malleus in proper position during the initial healing period, reducing the risk of tilting.

Benefits:
- Improved stability in ossiculoplasty
- Pure titanium for highest biocompatibility
- Easy and safe procedure
- MRI information: visit www.kurzmed.com

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In the human middle ear the tympanic membrane is connected to the stapes footplate via the ossicles (Malleus, Incus and Stapes). Since the beginning of modern tympanoplasty there has been a desire for prostheses that imitates the ossicular joints to compensate for the movements of the tympanic membrane.

KURZ developed in close conjunction with the University ENT Clinic Cologne and Dresden, Germany a CliP® Partial Prosthesis with an integrated micro ball joint within the headplate on the one hand and the standardized clip for attachment to the stapes on the other. The prosthesis made of pure titanium is intra-operatively stable with its movable headplate. Postoperatively, it adjusts automatically to the macro movements and position of the tympanic membrane. Dislocation is consequently minimized. With this design KURZ has taken a step towards physiological reconstruction of the human ossicular chain.

Benefits:

- The integrated Micro Ball Joint in the prosthesis’ headplate facilitates adjustments during positioning
- Automatic and continual post-operative position rebalancing up to the final position
- Self-retaining on stapes capitulum with proven CliP Design
- Standardized safe coupling on stapes capitulum with proven CliP Design
- MRI information: visit www.kurzmed.com

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Standardized, secure coupling to the stapes capitulum was the design objective for this innovative light weight and self-retaining CliP® Partial Prosthesis.

In close conjunction with ENT experts of the Technical University of Dresden, Germany and on the basis of laservibrometric measurements, a uniquely shaped prosthesis has been realized.

A tensile CliP is simply clipped onto the stapes capitulum. Due to its built-in resilience it creates a very stable intraoperative situation.

With this new ossicular coupling technique, the risk of postoperative implant dislocation with resulting hearing impairment is almost impossible. The indicator within the headplate point out the position of the CliPs.

Benefits:

- Small mass and therefore low self-impedance
- Excellent acoustical transmission
- Standardized simple coupling at the stapes capitulum maximizes the safety for a good postoperative hearing result
- Excellent biocompatibility for irritant-free integration into the middle ear
- Partially roughened surface stabilizes prosthesis placement
- MRI information: visit www.kurzmed.com

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Angular CliP® Prosthesis

The innovative Angular CliP® Prosthesis standardizes the connection to the stapes capitulum. The built-in resilience of its eight prongs assures a secure fit even in cases of less than ideal positioning.

Developed in close conjunction with K. B. Huettenbrink MD, University of Cologne, Germany, this prosthesis was designed to:

• Simplify the surgical procedure when bridging defects of the lenticular process
• Reduce the risk of implant dislocation

The CliP® is simply clipped onto the stapes capitulum while the two staggered pure titanium bands are crimped lightly to the incus remnant.

Benefits:

• Self-retaining on the stapes capitulum
• Low weight for optimal sound conduction
• Proven CliP® Design
• Standardized and simple coupling on the stapes capitulum
• Excellent biocompatibility for irritant-free integration into the middle ear
• MRI information: visit www.kurzmed.com

Angular CliP® Prosthesis

Material:
Pure Titanium (ASTM F67 Medical Grade)
Shaft Diameter: 0.2 mm

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Video with additional information
Angular Prosthesis
Plester Titanium

The Angular Prosthesis Plester enables the integrity of the auditory ossicular chain to be restored in the event of destruction of the distal end of the long process of the incus. The two titanium bands play the role of a clamp and are attached to the incus.

The long-term tolerability of Titanium in the middle ear is shown by this Angular Prosthesis. The pure mechanical connection of the titanium bands with the incus is very stable.

The prosthesis is available in two lengths to reconstruct the ossicular chain even with an extremely shortened incus process.

Benefits:
• Light weight for optimal sound conduction
• Excellent acoustical transmission
• Excellent biocompatibility and biostability for irritant-free integration into the middle ear
• MRI information: visit www.kurzmed.com

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Angular Prosthesis Plester
Material: Pure Titanium (ASTM F67 Medical Grade)
Shaft Diameter: 0.2 mm
Prostheses for Stapedioplasty

Stapes prostheses are used to bridge an immobile stapes secondary to otosclerosis. This is usually initiated from the long process of the incus, but if necessary it can be done also from the manubrium of malleus (Malleovestibulopexy).

In contrast to tympanoplasty prostheses, the stapes prostheses are used in a non-inflamed middle ear. Opening of the perilymphatic space, however, is required for its use. This of course entails risks for inner ear functioning.

The CliP® Design stapes prostheses are self-retaining on the long process of incus. Crimping one of the most difficult and unpredictable steps in stapes surgery has been eliminated with this design. The CliP® Piston MVP with its Micro Ball Joint allows for an easy positioning shaft in Malleovestibulopexy.

The NiTiBOND Stapes Prosthesis was designed to combine the benefits of the KURZ CliP Prostheses with the shape memory effect of Nitinol.

High standards of purity, sterility and processing are required of these prostheses. Likewise, their concept and design must enable rapid, gentle implantation.

KURZ® Stapes Prostheses therefore are manufactured with extreme care and the tightest controls.
Overview

Nitinol-Titanium
- NiTiBOND® Stapes Prosthesis

Titanium
- K-Piston Stapes Prosthesis
- Soft Clip® Stapes Prosthesis

- Clip® Piston à Wengen Stapes Prosthesis
- Lenticle Cup Prosthesis Stapes Prosthesis

Revision Stapes Surgery
- Clip® Piston MVP Haesusler Design Stapes Prosthesis
- Angular Piston Stapes Prosthesis
The new NiTiBOND® Stapes Prosthesis is created by combining the features of KURZ CliP® Stapes Protheses with the shape memory effect of Nitinol.

Surgical experience with a wide range of stapes prostheses and thorough understanding of middle ear mechanics provided the key input for the design of the unique new loop. It not only facilitates the surgical coupling to the incus but also further enhances the safety and effectiveness of implant ossicle attachment for the patient. The NiTiBOND® Stapes Prosthesis is the result of a multi-stage development project in close conjunction with the ORL-Clinic of the University Hospital of Zurich, Switzerland, and the Institute of Engineering and Computational Mechanics, University of Stuttgart, Germany.

Safe Coupling to the Incus Process

The flat band diffuses the impact of pressure on the incus. When applying heat to the ContactFree Zones, the shape memory properties of Nitinol cause the loop to close. The ContactFree Zones function as thermal blockers, limit heat dispersion on the mucosa and minimize the risk of incus and mucosa strangulation.

Pure Titanium Shaft and Stem

Except for the Nitinol loop, the entire prosthesis is made of pure titanium (ASTM F67 Standard). As with other KURZ Stapes Prostheses, the surface is smooth and all edges have been rounded to minimize the risk of injury within the perilymphatic space.

The Thermo-Dummy®

The Thermo-Dummy® provided in the plastic container together with the NiTiBOND® Stapes Prosthesis gives the user the opportunity to determine the optimal laser setting outside the patient’s middle ear and thereby increasing the potential for surgery success.

- MRI information: visit www.kurzmed.com

Video with additional information
NiTiBOND® Stapes Prosthesis and Thermo-Dummy® in the plastic container.

Raise the Thermo-Dummy® with a fine instrument (Hook).

The laser can be evaluated by using the Thermo-Dummy®.

When the optimal laser setting has been established the NiTiBOND® Stapes Prosthesis is ready to use.

Using the laser setting determined with the Thermo-Dummy®, apply the first laser shot to the first ThermoActive Zone on top of the loop.

Apply the second shot to the ThermoActive Zone in center position.

Finally the third zone located closest to the prosthesis shaft is closed.

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Caution!
For full information the Instructions for Use must be read.
K-Piston
Titanium Stapes Prosthesis

The Titanium K-Piston was designed in close conjunction with the ENT-University Clinic Essen, Germany.

In order to have a sterile, rounded atraumatic design in the inner ear we have an extensive length availability.

The rounded area between the shaft and the stem minimizes the risk of connective tissue on-growth that could have a damping effect and affect the sound transmission negatively.

The K-Piston is made substantially softer and more adaptable in the area of the loop through a number of sophisticated production procedures. In case of a narrow incus the off-centered loop is easy to close and allows for a perfect fit around the incus.

Benefits:
• Low weight
• Reduced necrosis risk due to extra wide loop band
• Atraumatic design
• In case of a narrow incus the off-centered loop is easy to close and allows for a perfect fit around the incus
• Well documented by scientific studies
• MRI information: visit www.kurzmed.com

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Soft CliP®
Titanium Stapes Prosthesis

A standardized application at the incus without "unsafe crimping" makes the CliP® principle the optimized solution in middle ear surgery.

Based on results achieved with the CliP® Piston àWengen in close cooperation with G. Schimanski, MD and Dr. Ing. Eiber/ITM Stuttgart, the new Soft CliP® was designed to further optimize the prosthesis towards anatomical variations of the incus dimensions.

Benefits:
• Self-retaining CliP® Design
  Standardized and safe coupling onto the long process of the incus without insecure crimping
• 100% sound transmission
• Contact-free zones along the long process of the incus to prevent mucosa strangulation
• Contact zones medial and lateral optimize acoustic transmission ($F_{\text{Sound}}$) and therefore hearing results
• Wide CliP® bands to avoid high pressure points and related risks of mucosa damage
• MRI information: visit www.kurzmed.com

The prosthesis is pushed on the incus with one movement

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Video with additional Information

Material:
Pure Titanium (ASTM F67 Medical Grade)
Diameter:
0.4 / 0.6 mm
 CliP® Piston àWengen
Titanium Stapes Prosthesis

A standardized application at the incus without "unsafe crimping" makes the CliP® principle the optimized solution in middle ear surgery.

The Piston body is positioned in the usual manner. Then, in contrast to conventional prostheses, the CliP® Piston àWengen is simply clipped onto the process for a secure coupling. Since crimping is no longer necessary the risk of causing a medial movement towards the inner ear and thereby potential trauma has been minimized.

Further advantages of the CliP® Piston àWengen lies in the material and design: Titanium has a proven record of providing very good sound conduction, even at higher frequencies, due to its low mass. There is a smooth rounded transition between piston segment and shaft, reducing the surface area for potential attachment of connective tissue.

Benefits:
• Self-retaining
• No crimping
• Low weight and secure placement
• Standardized easy coupling
• Reduced risk of necrosis
• Excellent biocompatibility
• MRI information: visit www.kurzmed.com

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Lenticle Cup Prosthesis  
( Teixido Design )  
Pure Titanium Stapes Prosthesis

This prosthesis was designed in close conjunction with Michael Teixido, M.D. (Delaware, USA) specifically for the US market.

Benefits:

• A half-shell to articulate the incus at the surface of the lenticular process
• A perpendicular grip to facilitate handling during the procedure and to minimize the risk of luxation
• Rounded and extremely smooth surface finishing
• A 0.5 mm depth marker to indicate the depth of the prosthesis into the vestibule
• MRI information: visit www.kurzmed.com

By limiting incus contact to one point, the prosthesis should conform to the patient’s middle ear anatomy.

The round-ended shaft easily centers on the perforated stapes footplate when covered with a vein or fascia graft.

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Only for sale in the USA.
Stapes prostheses are used to bridge the fixated stapes. Normally, this is achieved from the long process of the incus but can also be facilitated from the malleus handle (Malleovestibulopexy). In that case, an extended length prosthesis creates a direct connection between the malleus and the inner ear.

In close conjunction with the Cantonal University Hospital of Berne, Switzerland and on the basis of the CliP® Piston àWengen, a groundbreaking prosthesis was developed. Its greatest benefit is its intraoperative handling.

In the past, common loop pistons were used for this indication, which, due to the anatomical situation, had to be bent at a significant, difficult angle, and be fixed to the malleus handle by crimping.

The Haeusler Design Prosthesis is the solution for these two main problems in malleovestibulopexy. The advanced ball joint design allows for optimal intraoperative adjustment and the CliP® mechanism creates a secure crimp-free connection to the malleus handle.

**Benefits:**

- Advanced Micro Ball Joint Design
- For optimal intraoperative adjustment
- Proven CliP® Design
- For a secure, crimp-free connection to the malleus handle
- Lightweight
- For optimal sound conduction
- MRI information: visit www.kurzmed.com

**Material:**

- Pure Titanium (ASTM F67 Medical Grade)
- Diameter: 0.4 / 0.6 mm
Angular Piston
Titanium Stapes Prosthesis

The indication for the Angular Piston is erosion of the long process of the incus and the impossibility of attaching a conventional piston to it.

This occurs mostly during revision surgery after stapedioplasty, when bone necrosis of the process of the incus is present in the area of the piston loop.

The two titanium bands play the role of a clamp and are attached to the shortened long process of the incus. The long wire end corresponds to the piston of a standard stapes prosthesis.

Benefits:

- Can also be used when the long process of the incus is shortened
- MRI information: visit www.kurzmed.com

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Ventilation Tubes
Implants for Drainage and Aeration of the Tympanic Cavity

Ventilation tubes drain fluid out of the tympanic cavity and ventilate the area in Secretory Otitis Media (SOM) / Otitis Media with Effusion (OME).

Depending on their material and quality, ventilation tubes are designed for different ventilation duration. They stay in the tympanic membrane from several weeks to months.

This is not the only criterion for tube quality: a very long duration of ventilation is not always necessary or desirable.

Important is their biocompatibility and the size of their inner flanges. If a tube occludes just days after implantation a longer duration time in the tympanic membrane does not matter. If a tube induces or promotes recurrent otorrhea, the therapeutic effect is questionable.

The KURZ® ventilation tubes manufactured since 1974 are designed for high therapeutic demands and economic considerations. Long duration of ventilation, low occlusion rates, good tolerability, high infection resistance and low costs are combined in one product.

KURZ has systematically increased their ventilation tubes offering to meet special requirements with special solutions.

The Trocar Ventilation Tubes (TVT) stand out on the market: They allow for a perfect fit without prior paracentesis.
Overview

Tuebingen Type Ventilation Tubes
Materials choice:
• Gold-Platinum
• Gilded Silver
• Pure Titanium (ASTM F67 Medical Grade)

Ventilation Tubes with Eyelets/Long-Term
Material:
Gold-Platinum

Beveled Type Ventilation Tubes
Material:
Gold-Platinum

Trocar Ventilation Tubes (TVT)
Materials choice:
• Gilded Silver
• Pure Titanium (ASTM F67 Medical Grade)

Minimal Type Ventilation Tube
Material:
Gold coated Stainless Steel
Tuebingen Type Ventilation Tubes
The well proven standard

These tubes are often used for medium/long-term ventilation. The large inner diameter and smooth surface makes them an excellent performer when there is a high risk of occlusion. KURZ® Tuebingen ventilation tubes have an outstanding performance record of more than 30 years due to their excellent biocompatibility and patient tolerance.

- Excellent biocompatibility
- Smooth surfaces facilitate secretion drainage
- Anti-bacterial effect on gold tube
- Particularly economical

The vent tubes are available in materials gold, platinum, silver, gold plated, titanium-coated and titanium, with or without wire.

MRI information: visit www.kurzmed.com

<table>
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<tr>
<th>Material: Gold-Platinum</th>
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<th>OD  mm</th>
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Packing unit 10 pieces/box

Comparison of Inner Diameter (ID) on a scale of 5:1

Tuebingen Type Ventilation Tubes
Material:
Gold-Platinum
Gilded Silver
Pure Titanium (ASTM F67 Medical Grade)
Ventilation Tubes
With Eyelets / Long-Term

For Long-Term ventilation the Tuebingen Type Ventilation Tubes are offered with one or two eyelets.

The indentations indicate the location of the eyelets in inserted tubes. The use of these tubes in aeration disruption secondary to lip or jaw anomalies or cleft palate is especially appropriate.

Their decisive advantage compared to plastic long-term tubes is their reduced occlusion susceptibility due to a very wide lumen and smooth inner surfaces.

Benefits:
• Long-term stay
• Smooth surfaces facilitate secretion drainage
• Antibacterial effect
• Exceptional biocompatibility
• MRI information: visit www.kurzmed.com

Material:
Gold-Platinum

<table>
<thead>
<tr>
<th>Material: Gold-Platinum</th>
<th>ID mm</th>
<th>OD1 mm</th>
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</table>

Packing unit 10 pieces/box

Diameter with Eyelets
1 Eyelet (OD2): 3.80 mm
2 Eyelets (OD3): 4.80 mm
The Beveled Type Ventilation Tube facilitates gripping with small microsurgical alligator forceps by means of its funnel-shaped external flange. The short drainage channel is very effective in draining off secretions.

The tube is available in very small sizes, often needed in treating young children or patients with a very narrow auditory canal. Successful ventilation is still obtained because of its large inner lumen.

**Benefits:**
- Excellent secretion drainage
- Antibacterial effect
- Exceptional biocompatibility
- MRI information: visit www.kurzmed.com

<table>
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<tr>
<th>Size</th>
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Packing unit 10 pieces/box
Trocar Ventilation Tubes (TVT)
Perfect fit without prior Paracentesis

The self-cutting TVT is inserted without prior paracentesis by piercing the tympanic membrane with the trocar tip on which the tube is mounted. When withdrawing the trocar, the tube is properly positioned.

This surgical technique assures for a perfect fit. The incision precisely fits the tube circumference: a too large or small incision which leads to unsatisfactory results is reliably prevented.

The TVT is well-suited for longer-term aeration and effective secretion drainage. To aid in the handling and insertion a drop of ionized water should be placed on the tube.

Benefits:
- Secure placement due to precise fit
- Self-cutting without prior paracentesis
- Cost saving - no need for a myringotomy knife and forceps
- Highly atraumatic
- Highly suitable for longer-term aeration
- Easy and fast handling due possible insertion under local anesthesia
- Good tissue compatibility
- Antibacterial effect in gold tubes
- MRI information: visit www.kurzmed.com

Material: Gilded Silver
Trocar Ventilation Tube
ID mm 1.25
OD mm 2.80
Length mm 2.50
REF 1015 074

Material: Pure Titanium (ASTM F67)
Trocar Ventilation Tube
ID mm 1.25
OD mm 2.80
Length mm 2.50
REF 1015 075

Required Accessory Instrument
Trocar Handle
Stainless Steel, resterilizable
REF 8000 143
Minimal Type Ventilation Tube
Benz

For insertion without prior paracentesis.

The Minimal Type Tube provides for temporary aeration in adults with acute tubal occlusion when the insertion can be performed under local anesthesia. It is often used for pressure equalization problems related to hyperbaric oxygen therapy.

The tube can be placed directly into the tympanic membrane because of its sharply ground edges. It can stay there for some days or weeks. It should be removed surgically to avoid possible trauma of the auditory canal skin.

Benefits:
• Fast, uncomplicated insertion
• Insertion without prior paracentesis
• Insertion under local anesthesia possible
• For pressure equalization problems related to hyperbaric oxygen therapy
• Antibacterial effect

Material:
Gold coated Stainless Steel (not MR safe)

<table>
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Packing unit 10 pieces/box
Precision Instruments and Accessories

KURZ® Instruments enhance the use of KURZ® Passive Middle Ear Implants and Ventilation Tubes. They facilitate surgery, making the introduction and implantation procedure easier and faster. They are also valuable additions to standard ENT instrumentation.

Their handling is easy, they often reduce surgery time and they contribute to an optimized surgical outcome.

KURZ® Instruments are manufactured to the highest degree of precision from superior materials, such as instrument-quality stainless steel and titanium.
KURZ Middle Ear Intelligence

Overview

AC™ System
Sterile Single-use Sizers for Tympanoplasty

Soft Clip Hook

TTP-VARIAC System
Accessories

KURZ Precise
Cartilage Knife

Cartilage Forceps
Schimanski Design

Cartilage Punch incl.
Instrument Tray

KURZ Meter incl.
Instrument Tray

BELL Expander

Malleus Handle Cavity
Bending Pliers

unregistered copy
ACsizer System
Sterile Single-Use Sizers for KURZ® Tympanoplasty Prostheses

The unique ACsizer System significantly simplifies the all-important intra-operative determination of the length of a KURZ® Tympanoplasty prosthesis. The sizers, which are attached to the perimeter of a central disk, are used to quickly, exactly and reliably determine the required prosthesis length. This is crucial since a too long prosthesis projects tension at the stapes ligaments. The selected sizer is simply cut off using micro scissors, transported into the middle ear and positioned between the tympanic membrane and the head of the stapes (Partial) or the stapes footplate (Total). The lightweight plastic and the delicate design of the sizer offers easy, evenly balanced handling and ideal visibility in the middle ear. The corresponding prosthesis length is shown on the head of the sizer.

Individually packaged sizers are available for total prostheses (8 sizers in 0.5 mm increments) and partial prostheses (6 sizers in 0.5 mm increments) and are supplied in a practical dispenser box.

Benefits:
- Exact determination of the ideal prosthesis length helps to prevent postoperative complications such as dislocation and/or protrusion, and optimizes tension and sound conduction
- Simple and standardized application provides reliable and clear measurements
- Cost saving single-use product eliminates cleaning and sterilization expenses
- Practical work surface with measurement scale and templates for determining the smallest transplant size used to cover the prosthesis headplate and protect the tympanic membrane
- Integrated BELL Expander to expand the bell of a BELL Partial Prosthesis

<table>
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<tr>
<th>Item</th>
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<tr>
<td>ACsizer System Partial sterile, unit 10 pieces/box</td>
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<tr>
<td>ACsizer System Total sterile, unit 10 pieces/box</td>
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Optionales Accessories         REF
Titanium Tweezers         8000 136
Micro Scissors, stainless steel  8000 172

Important note: The ACsizer System is made of polypropylene and is only for temporary use during middle ear surgery.
The TTP-VARIAC® accessory instruments enhance handling and prosthesis length determination/adjustment for secure fastening of the headplate to the shaft.

**Cutting Forceps**
For cutting the extra shaft piece. The remaining pin on the headplate serves to fix the transplant interposition, which is placed between the prosthesis headplate and the tympanic membrane for protection.

**Titanium Micro Closing Forceps**
For securing the headplate to the shaft with the proven integral locking mechanism.

**Titanium Tweezers**
For removal and gentle handling of the prosthesis.

**Micro Scissors**
To detach the selected sizer from the Sizer Disk.

---

**Item** | **REF**
---|---
Titanium Tweezers | 8000 136
Titanium Micro Closing Forceps | 8000 137
Cutting Forceps, stainless steel | 8000 171
Micro Scissors, stainless steel | 8000 172
Tray TTP-VARIAC® (without instruments) | 8000 173

---

Material:
Titanium, resterilizable
Sterilizable instrument quality
stainless steel
To evaluate the spatial conditions on the stapes footplate, a comparative measurement is helpful. Therefore KURZ has developed the Sizer $\Omega$ CONNECTOR made of stainless steel. The measuring head exactly corresponds to the base of the $\Omega$ CONNECTOR. The measurement allows for intraoperative fast and easy evaluation of the spatial conditions on the stapes footplate and shows whether the $\Omega$ CONNECTOR will fit between the stapes crura.

Appropriate spatial conditions on the stapes footplate are a precondition for the use of the $\Omega$ CONNECTOR.

<table>
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<td>Sizer $\Omega$ CONNECTOR</td>
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$\Omega$ CONNECTOR see page 14

Material:
Sterilizable instrument quality
stainless steel
Soft CliP® Hook
For Applying the Soft CliP® Stapes Prosthesis

Safe and secure fixation of the Soft CliP® onto the long process of incus is accomplished without crimping, making it one of the most efficient and effective solutions for Stapedioplasty.

In close conjunction with John W. House M.D., House Ear Institute, Los Angeles USA, KURZ designed the Soft CliP® Hook, an instrument which is used to push the Soft CliP® into place onto the long process of the incus. The Piston body is positioned in the usual manner. Then, in contrast to conventional prostheses, the Soft CliP® is simply “clicked” onto the process for a secure coupling. Crimping, one of the most difficult and unpredictable steps in stapes prosthesis fixation, has been eliminated.

The special hook end perfectly fits in the convenient cavity for placement. The force which is needed to push the prosthesis into place is transmitted in the axis of the long process of incus.

Material:
Sterilizable instrument quality stainless steel

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Soft CliP® Hook</td>
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</table>

Soft CliP® Stapes Prosthesis see page 27
The KURZ® Precise Cartilage Knife is designed to simplify cutting of cartilage grafts of all equal thickness, needed for myringoplasty, tympanoplasty, covering of middle ear prostheses, or reconstruction of the posterior canal wall.

The patient’s cartilage (Tragus or Concha) is placed in the two-part cutting block. It is closed and locked and the cartilage is sliced by using a blade inserted in the blade holder. The result is a 0.7 mm thin cartilage slice. Additional distance plates (0.1; 0.2; 0.3 mm) can be used to reduce the cartilage thickness down to 0.1 mm.

The Single Use Blades are particular stable. Additional imprints indicate the minimum size of your transplant needed to cover the headplate of the KURZ Partial and Total prostheses.

Benefits:

- Cuts Tragus and Concha cartilage
- Easy and precise handling
- Defined cartilage thickness with one cut (0.1 mm up to 0.7 mm)
- Minimal waste of the limited cartilage supply

<table>
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<tr>
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<td>KURZ® Precise Cartilage Knife Set (blade holder, cutting block, distance plates, blades incl. Instrument Tray)</td>
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<tr>
<td>Distance Plate 1mm (for compression of fascia)</td>
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<td>Blades sterile singles packed, 10 pieces</td>
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<td>1Set Distance Plates (0.1/0.2/0.3 mm)</td>
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<td>Blade Holder</td>
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<td>Tray Precise Cartilage Knife</td>
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<td>Screw</td>
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<td>Nut Precise Cutting Block M6</td>
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Material: Sterilizable instrument quality stainless steel
Cartilage Forceps
Schimanski Design

Thin slices of cartilage are used in the plastic reconstruction of tympanic membrane (Myringoplasty), auditory canal and for covering middle ear protheses in tympanoplasty.

In contrast to the KURZ® Precise Cartilage Knife (REF 8000 155), which produces cartilage slices of a defined thickness (0.1 - 0.7 mm), the cartilage forceps is used for the plastic reconstruction of small tympanic membrane defects.

The cartilage forceps allows work to proceed efficiently by enabling fast, precise and simple intraoperative production of small cartilage slices.

A piece of cartilage is held between the enlarged, rectangular jaws of the forceps while using a scalpel to divide it. The result is two thin slices of cartilage, which can be further divided if required.

Benefits:
- Simple and fast production of thin cartilage slices for small tympanic membrane defects
- Economic use of a limited supply of cartilage
- Rapid availability as a component of the standard instrument set

Rectangular “jaws” for holding cartilage

Cutting of cartilage with a scalpel

Material:
Sterilizable instrument quality stainless steel

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<tr>
<td>Cartilage Forceps Schimanski Design</td>
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Cartilage Punch
For Stabilization of KURZ® AERIAL Total Prostheses

When incus and stapes superstructure are missing and the footplate is intact and mobile, the ossicular chain is normally reconstructed using a total prosthesis.

With the Cartilage Punch, application safety can be further increased. A cartilage mounting can be easily and quickly produced for optimized stabilization of a KURZ® AERIAL total Prosthesis.

A central perforation in the cartilage slice stabilizes the prosthesis on the stapes footplate. Possible postoperative migration on the footplate, which is one of the causes for unsatisfactory hearing results, could thus be prevented. In addition, the prosthesis is automatically centered in the middle of the footplate which is an ideal precondition for improved hearing results.

Benefits:
- Easy, fast production of an oval cartilage slice for optimal stabilization of KURZ® AERIAL Total Prostheses on the stapes footplate
- Central guide perforation that fits the stem of a KURZ® Total Prosthesis in centered position on the footplate
- Plastic base POM

<table>
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Material:
Sterilizable instrument quality stainless steel
**KURZ® Meter**

**Measuring Device for Stapes Prostheses**

The KURZ® Meter is a device for determining the length of a stapedial prosthesis during stapes surgery. The KURZ® Meter simplifies the important measurement during surgery and makes it safer. By using the slide, which is operated with the index finger, the measuring tip can be positioned on the footplate precisely and without risk. During this process, the stop hook is placed against the medial side of the long process of the incus. The measured distance is read on the measuring scale. The scale is marked on both sides, enabling both right- and left-handed persons to read the measurements easily. The required prosthesis length is determined by the distance between the long process of the incus (medial side) to the footplate plus the depth into the inner ear fluid.

The slide mechanism enables an exact and safe approach to the stapes footplate.

The KURZ® Meter can be disassembled into its individual components. This greatly simplifies cleaning and renders sterilization safer.

**Benefits:**

- Even simpler handling with the easy to use slide mechanism
- Distance can be read precisely and clearly
- High degree of measurement accuracy
- Safe cleaning and sterilization process, instrument can be disassembled into individual components

**Measuring of Prosthesis Length**

\[ L \text{ Prosthesis} = L_1 + L_2 \]

- \( L_1 \) = Measured distance
- \( L_2 \) = Immersion depth* (Piston)

*The determination of the immersion depth \( L_2 \) of the prosthesis is subject to the decision of the surgeon.

**Material:**
Sterilizable instrument quality stainless steel

**Item** | **REF**
---|---
KURZ® Meter incl. Instrument Tray | 8000 106
Instrument Tray | 8000 174
The capability to individually adapt a prosthesis to existing anatomy simply by bending the shape is one of the primary advantages of KURZ® Middle Ear Prostheses.

This accessory instrument facilitates, when necessary, smooth gentle expansion of the bell during use of all BELL Partial Prostheses.

The degree of expansion can be limited with use of an adjustable thumbscrew.

<table>
<thead>
<tr>
<th>Item</th>
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<tbody>
<tr>
<td>BELL Expander</td>
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Material:
Sterilizable instrument quality
stainless steel
Malleus Handle Cavity Bending Pliers

To establish better contact and improved resistance to slippage or tilting of the prosthesis, the KURZ® AERIAL Total and BELL Partial Prostheses can be wedged under the malleus handle. A groove can be bent into the headplate of the KURZ® Middle Ear Prostheses (except for the TTP-VARIAC® and TTP®-VARIO System), in which the manubrium will lie.

The procedure is significantly facilitated by using this instrument, while at the same time the other parts of the prosthesis are protected from accidental bending.

It should be noted that the required prosthesis length should be 0.75 mm longer when making a Malleus Handle Cavity in comparison with an unchanged headplate.

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<tr>
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Prescription Devices
Caution: United States Federal Law restricts devices identified herein to sale by or on the order of a physician. This brochure does not replace nor does it set forth the complete contents of the "Instructions for Use" for the products in this brochure, and is not a substitute for reviewing and understanding that important information. Therefore, before using any products included in this brochure, please review the entire contents of the respective "Instructions for Use" information.

Because of registration the products are currently not available in all countries.