Otology
5th Edition
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 Irving, Texas, provides convenient local accessibility to our products worldwide. In accordance with our customer orientation, giving prompt professional support to the end user is of primary concern to us and highly qualified staff and well-trained distributors stand ready to respond to inquiries about our products and their applications. As many delighted customers have told us, our employees are our most important asset.

Brief History

Heinz Kurz GmbH Medizintechnik has been at the forefront of medical technology and innovation from its very inception. Our first breakthrough dates to 1971, when the director of the ENT clinic at the University of Tuebingen apprised Heinz Kurz of extrusion problems prevalent with traditional myringotomy tubes. Using his profound metal-working experience and thorough knowledge of material properties, Heinz Kurz designed and built the first ventilation tubes of pure gold. After extensive testing and clinical evaluation they were introduced to the market in 1974, thereby initiating our otologic implant business.

Another key innovation occurred in 1994 when KURZ was the first manufacturer worldwide to introduce middle ear prostheses of pure titanium.

Production and Quality Control

Pure titanium micro implant designs require highly specialized manufacturing techniques. KURZ has perfected these techniques to a high standard of precision and is now the only manufacturer worldwide offering middle ear implants with micro ball joints. This is a key innovation that imitates the natural micro-movements of human ossicles. Stringent, 100% quality control is mandatory and all KURZ middle ear implants are certified and registered with and/or certified by the regulatory health and quality control authorities in the countries where they are being marketed.

All KURZ middle ear prostheses are manufactured in Germany exclusively.

Research and Development

KURZ is committed to progress. In close cooperation with ENT surgeons in Germany and abroad we seek new solutions to provide ever greater benefits to patients and surgeons. Our highly motivated and flexible team is in constant contact both with the users of our products and with academic biomechanical research institutes. Our manufacturing expertise, the level of precision attained by our products, the depth and scope of our insights into medical and surgical requirements, and the innovativeness of our approaches all combine to make KURZ products unique. The lacy design of our prosthesis head plates, the bell shape for ‘holding’ the stapes head, the CliP® stapes prostheses minimizing the risk of necrosis and avoiding strangulation of vascular supply, and our new micro ball joint devices – these are only a few examples of the prosthesis standards KURZ has set and will continue to set in middle ear surgery.
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KURZ® pure titanium middle ear prostheses are available in fixed and adjustable lengths. The adjustable prostheses allow the surgeon to customize each implant intraoperatively 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, there is also an offering of precision instruments for the neurotologists. Dedication to research and development, combined with a passion for engineering, makes KURZ® one of the most complete middle ear prostheses systems worldwide.

• Pure Grade 2 Titanium
  Provides a balance between mechanical stiffness and flexibility

• Excellent proven biocompatibility of pure titanium
  Supports stable, long-term hearing

• Unique cleaning process yields a superior clean surface
  Allows irritant-free integration into the middle ear

• Ultra light weight
  Improves acoustical signal transmission

• Shape adaption through simple bending
  For individual anatomical variations

• Careful weight balance
  Results in efficient intraoperative handling

• Delicate design and open headplate
  Permits excellent visualization for insertion and placement

MR information under www.kurzmed.com
Pure Titanium as Implant Material

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.

Further benefits exist in the field of middle ear ossiculoplasty:

- 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 special demands made upon the material and the very small implant dimensions mean that conventional production processes are excluded, and new methods must be developed and applied. For instance, the hardness of the material within an implant can vary according to need and is modified to fit the particular purpose.

The biological quality of a titanium implant is heavily dependent upon the material surface and its cleaning. All fabrication processes leave behind physical and chemical residues, which are not visible to the naked eye.

KURZ® implants are produced and cleaned with the utmost care and precision.

The right material in the right hands.

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Pure Titanium (ASTM F67): Chemical Composition

<table>
<thead>
<tr>
<th>Element</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
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</table>

Abridgement from Standard DIN ISO 5832-2
Partial prostheses assume the presence of an undamaged and mobile stapes. Total prostheses are used when only an intact and mobile stapes footplate is available. Both are inserted under slight tension between the stapes capitulum or the footplate and a thin slice of cartilage or other transplant material. The transplant covers the prosthesis headplate, protecting the tympanic membrane.

KURZ® BELL partial prostheses imitate the natural coupling of the incudo-stapdial joint. A precisely fitted, delicate shaped bell transmits the sound directly to the stapes capitulum. The slits of the conical bell are unique and first introduced by Kurz: They provide enough space for the stapedial tendon and enable modification of the bell size or even placement of the prosthesis onto the stapedial arch, in case of a missing stapes capitulum.

CliP® partial prostheses with their self-retaining clip provide for secure fixed and standardized coupling to the stapes. The new CliP Partial FlexiBAL® additionally has a micro ball joint within the headplate, which provides automatic position rebalancing.

KURZ® adjustable partial prostheses compared to prostheses with a sleeve along the shaft have one decisive advantage. Their design allow for shortest prostheses lengths which are needed in many situations. All KURZ® partial prostheses start with a Functional Length (FL) of only 0.75 mm.

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. A new option, called the Ω CONNECTOR and consisting of a base plate and a micro ball, serves the possibility in getting a flexible joint connection adjustable in all direction.

Because of the manufactured purity and shape the KURZ® pure titanium permits intraoperative adaptation of the prosthesis by simple bending, a feature that saves time, keeps things simple and serves individual anatomical situations.
Overview

Variable Length
- TTP-VARIACTM System Partial
- TTP-VARIACTM System Total
- TTP™-VARIO BELL Partial Prosthesis
- TTP™-VARIO AERIAL Total Prosthesis

Fixed Length
- TTP™-Tuebingen BELL Partial Prosthesis
- Duesseldorf BELL Partial Prosthesis
- Malleus Notch (MNP) Partial Prosthesis
- Clip® Partial Prosthesis Dresden Type
- TTP™-Tuebingen Type AERAL Total Prosthesis
- Duesseldorf Type AERAL Total Prosthesis
- Malleus Notch (MNP) Total Prosthesis
- Ω CONNECTOR
- Regensburg Type Total Prosthesis
- Angular Clip® Prosthesis
- Angular Prosthesis Piester
- IBP Prosthesis
The patented TTP-VARIAC™ System, which was developed in close conjunction with the ENT Hospital at the University of Tuebingen, consists of a length variable prosthesis made of pure titanium and a single use multifunctional ACsizer disk made of polypropylene.

Determination of prosthesis length:
Using the sizers that are attached to the central disk, 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.

Adjusting the prosthesis length:
Depth gage sockets of varying depths are arranged in a circular pattern on the sizer disk. These sockets are used to hold the prosthesis while adjusting its length. The headplate of the prosthesis is fastened to the shaft using the patented proven locking mechanism.

Benefits:
• The prostheses have no limiting sleeve along the shaft - for unequalled length variability and malleability
• The integrated sizer disk with its five functions eliminates potentially unsafe sizing with actual implant and reduces necessary instrumentation to a minimum
• Exact determination of optimal prosthesis length using integrated sizers
• Shortest partial prosthesis length 1.75 mm (Functional Length FL 0.75 mm)
• Single-use product - no costly cleaning and resterilization
• A pin on the headplate fixes the interface transplant and thus prevents dislocation of the prosthesis
• Excellent biocompatibility and biostability for irritation-free integration into the middle ear
• Low inventory - only one variable (total or partial) prosthesis is needed
• 0.25 mm increments for optimal selection of lengths and flexibility
• Low weight optimizes sound conduction
• Entire prosthesis made of one material - pure titanium
• Well documented by scientific studies

<table>
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<tr>
<th>Item</th>
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<td>Variable Length: 1.75 - 4.50 mm (in 0.25 mm increments)</td>
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<td>Variable Length 3.0 - 7.0 mm (in 0.25 mm increments)</td>
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The TTP-VARIAC™ System Total is compatible with the Ω CONNECTOR (REF 1004 930).
TTP-VARIAC™ System
Handling and Accessories

Accessories

<table>
<thead>
<tr>
<th>Accessory</th>
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<tbody>
<tr>
<td>Titanium Tweezers</td>
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<tr>
<td>Titanium Micro Closing Forceps</td>
<td>8000 137</td>
</tr>
<tr>
<td>Cutting Forceps, stainless steel</td>
<td>8000 171</td>
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<tr>
<td>Micro Scissors, stainless steel</td>
<td>8000 172</td>
</tr>
<tr>
<td>Tray TTP-VARIAC™</td>
<td>8000 173</td>
</tr>
</tbody>
</table>

Sizers, sterile packaged. Ready for use and available at any time.

Sizer Total (polypropylene) with cut-outs and length identification on the back. Stem for placement on the stapes footplate.

Cutting-off the sizer with the Micro Scissors (REF 8000 172). The delicate design of the scissors allows for detachment of the sizer directly at the shaft.

Transportation with a suction tube. The center of the headplate provides enough space for the suction tube. The sizer is lightweight and easy to use.

Sizer Total on the stapes footplate. The sizer allows intraoperative determination of the optimal placement and length. The sizer holds stable by adhesion.

According to the measured length, the cavity is chosen. The headplate is secured to the shaft with the proven integral locking mechanism using the Titanium Micro Closing Forceps (REF 8000 137).

The Cutting Forceps (REF 8000 171) has been developed to cut off the shaft. The extra shaft piece can be trimmed easily and precisely.

The pin created from the cutting process serves to fix the transplant interposition, which is placed between the prosthesis and the tympanic membrane for protection.

Templates on the back side of the Sizer Disk for determining the minimum transplant size. It also features a useful measurement scale.

Sizer Disk for Partial Prostheses

Sizer Disk for Total Prostheses

Sizer Total (polypropylene) with cut-outs and length identification on the back. Stem for placement on the stapes footplate.

According to the measured length, the cavity is chosen. The headplate is secured to the shaft with the proven integral locking mechanism using the Titanium Micro Closing Forceps (REF 8000 137).
The TTP™-VARIO titanium prostheses are length variable. They can have their length modified intraoperatively in 0.25 mm increments. This reduces inventory requirements.

Secure integration of the single components is assured by a unique clamp design in the head plate of the prosthesis; this also prevents conduction loss within the prosthesis.

The TTP™-VARIO Instrument Set (REF 8000 133) is available for secure fastening of the head plate to the shaft.

Benefits:
- Only one variable prosthesis is required as a partial or total prosthesis
- The prostheses have no limiting sleeve along the shaft - for unequalled length variability and malleability
- Spacing in 0.25 mm increments offers optimal length choices and flexibility
- Shortest partial prosthesis length 1.75 mm (Functional Length FL 0.75 mm)
- Stable conduction features optimize sound transmission
- 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
- Well documented by scientific studies

### TTP™-VARIO System

**Length Variable Titanium Prostheses**

**TTPTM-VARIO BELL Partial Prosthesis**
- Material: Pure Titanium (ASTM F67 Medical Grade)
- Shaft Diameter: 0.2 mm

**TTPTM-VARIO AERIAL Total Prosthesis**
- Material: Pure Titanium (ASTM F67 Medical Grade)
- Shaft Diameter: 0.2 mm

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<td></td>
<td>(in 0.25 mm increments)</td>
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This prosthesis is compatible with the Ω CONNECTOR (REF 1004 930). The TTP™-VARIO Instrument Set (REF 8000 133) is available on request.
The TTP™-Tuebingen Type titanium prostheses were developed in close conjunction with the University of Tuebingen ENT Hospital. 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

TTPTM-Tuebingen Type
Titanium Prostheses BELL (partial) and AERIAL (total)

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

This prosthesis is compatible with the Ω CONNECTOR (REF 1004 930).
The first KURZ® titanium prosthesis was designed in 1994 in conjunction with doctors of the Dominikus Hospital in Duesseldorf. It was based on the years of experience KURZ had in designing and producing other prostheses.

The superiority of these new implants compared to previous middle ear prostheses with respect to biocompatibility, hearing improvement and intraoperative 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:**
- Small mass for good sound transmission
- 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

### Special Lengths upon Request

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<th>Length: (L)</th>
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<td>4.50 mm</td>
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This prosthesis is compatible with the Ø CONNECTOR (REF 1004 930).
With this development, KURZ responds to surgeons’ requests for a titanium prosthesis that combines the favored open design of the headplate with a notch for placement under the malleus.

The malleus is often preserved in ears with chronic otitis media and surgeons like to have the option of placing the ossicular prosthesis under the malleus.

The Partial and Total MNP prostheses with malleus notch (Yung Design) were developed to combine the benefit of an open headplate with a notch to cradle the malleus. Comparing the user-friendliness of the MNP with conventional HA notched implants, most surgeons in a study at the Ipswich Hospital NHS Trust, UK, preferred the open design in the Titanium headplate. It provides a better view of the bottom end of the shaft and facilitates prosthesis manipulation with micro-instruments. Middle ear surgeons generally regard the user-friendliness of a prosthesis during placement as the more critical and difficult aspect of the procedure.

**Benefits:**
- Notch headplate eliminates intraoperative implant bending for malleus adjustment
- Proven prosthesis design for a secure connection to the malleus handle
- Excellent biocompatibility
- Ultra light weight
- The open headplate design facilitates implant placement and handling

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

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This prosthesis is compatible with the Ω CONNECTOR (REF 1004 930).

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

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<td>3.50 mm</td>
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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.

Benefits:
- Micro ball joint
  Flexible connection is adjustable in all directions
  Can balance spatial alignments
- Large contact area with the stapes footplate for more stability
- Optional use

The Ω CONNECTOR can be used with all KURZ® Total Prostheses whose shafts end in a circular stem with 0.8 mm diameter. The functional length of the Ω CONNECTORS is 0.5 mm. It is sterile and individually packaged.

The Ω CONNECTOR is compatible with the following KURZ® Systems and Prostheses:

<table>
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<tr>
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<td>Duesseldorf Type AERIAL Total</td>
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<td>Malleus Notch MNP Total</td>
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</table>

Spatial conditions on the stapes footplate can be evaluated with the Sizer Ω CONNECTOR. The Ω CONNECTOR is compatible with the following KURZ® Systems and Prostheses:
Regensburg Type
Titanium Total Prosthesis

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

Delicate notches at the headplate intraoperatively indicate the position of the oval stem while the large fenestration provides the surgeon with an excellent view of the surgical site. The shaft is made of Grade 2 Titanium with outstanding malleability. Tests have shown that the prosthesis stem can be bent up to 100 times before risk of fracturing. Thus, the surgeon has a high degree of flexibility to adjust the angle of the headplate in relationship to each patient’s footplate.

Benefits:
- 0.2 mm shaft of pure titanium for maximum adaptability to patient’s middle ear anatomy
- Fenestrated headplate with notches for precise positioning of the oval stem
- Excellent biocompatibility and biostability for irritation-free integration into the middle ear
- Partially roughened surface to improve implant stability on the stapes footplate

Regensburg Type
Total Prosthesis

Material:
Pure Titanium (ASTM F67 Medical Grade 2)
Shaft Diameter: 0.2 mm

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Imitating the natural micro-movements of ossicular joints to compensate movements of the tympanic membrane has been a challenge since modern tympanoplasty prostheses were first introduced. In addition, scar contractions and new tissue growth during the first months following implantation may influence the final positioning of prosthesis, tympanic membrane and affected middle ear structures. The tympanic membrane may adjust in various directions causing movements and forces that are known to pull or push the prosthesis headplate. With rigid implants this may cause dislocations, migrations or pressure points in contact areas.

Clip Partial FlexiBAL®, with a micro ball joint in the headplate, has been designed to address these problems. The mobile joint causes the headplate to move with the tympanic membrane. Tests have validated that these movements do not mitigate acoustic effectiveness as the prosthesis headplate and the Clip® remain in stable contact with the tympanic membrane and the stapes capitulum.

The prosthesis was developed in close conjunction with the university ENT clinics Cologne and Dresden, Germany.

Benefits:

• Integrated micro ball joint automatically adjusts prosthesis headplate to angle of tympanic membrane during placement
• Automatic and continual post-operative position rebalancing in response to minute changes in the tympanic angle ensures optimal prosthesis placement and effectiveness
• Standardized safe coupling on stapes capitulum with proven Clip® Design
• Pure titanium for maximum biocompatibility

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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.

The method of secure coupling of the CliP® Partial Prosthesis is revolutionary: A tensile, seven-pronged clip is simply clipped onto the stapes capitulum. Due to its built-in resilience it creates a very stable intraoperative situation for reconstructing the tympanic membrane and an excellent auditory transmission chain.

With this new ossicular coupling technique, the risk of postoperative implant dislocation with resulting hearing impairment is almost impossible.

**Benefits:**
- Small mass and therefore low self-impedance
- Excellent acoustical transmission
- Standardized simple coupling at the stapes capitulum maximizes the safety for a good post operative hearing result
- Excellent biocompatibility for irritant-free integration into the middle ear
- Partially roughened surface stabilizes prosthesis placement
- Individual shape adaption through simple bending
- Well documented by scientific studies

---

**CliP® Partial Prosthesis**

**Dresden Type Titanium**

---

**Material:**
- Pure Titanium (ASTM F67 Medical Grade)

**Shaft Diameter:** 0.2 mm

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Special sizes upon request.
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

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Secure and standardized coupling of the incudo-stapedial joint

Angular CliP® Prosthesis

Material:
Pure Titanium (ASTM F67 Medical Grade)
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 bell fits onto the stapes capitulum. 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.

- Light weight for optimal sound conduction
- Excellent acoustical transmission
- Excellent biocompatibility and biostability for irritant-free integration into the middle ear

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KURZ® IBP
Incus Bridge Prosthesis

Restoring conductive hearing loss caused by incudal defects has challenged ear surgeons for many years.

The IBP - Incus Bridge Prosthesis bridges defects of the lenticular process.

The open, streamlined design maximizes visualization of the ossicular chain and was developed by KURZ in consultation with the Clinical Otologic Research Team (CORT), USA.

The titanium clamps at either end of the prosthesis create a secure mechanical bond with the incus remnant and the stapes capitulum.

The biocompatible, pure titanium IBP is made with the same attention to detail that characterizes all KURZ products.

Benefits:
• Maximized visibility
• Low weight for optimal sound conduction
• Secure placement
• Simple coupling
• Excellent biocompatibility for irritant-free integration into the middle ear

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IBP - Incus Bridge Prosthesis
Material:
Pure Titanium (ASTM F67 Medical Grade)
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 (Malleo-vestibulopexy).

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.

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

K-Piston
Stapes Prosthesis

Soft CLI²P®
Stapes Prosthesis

CLI²P® Piston àWengen
Stapes Prosthesis

Revision Surgery

CLI²P® Piston MVP Haeusler Design
Stapes Prosthesis

Angular Piston
Stapes Prosthesis
K-Piston
Titanium Stapes Prosthesis

Titanium provides very good sound conduction even at higher frequencies because of its small mass.

The titanium K-Piston is available in two different diameters and a variety of lengths. The piston, which extends into the perilymph, can be atraumatically rounded by means of the available lengths. The piston is rounded in the transition between the piston segment and the loop area, so as not to offer an attachment surface for vibration-damping scar formation during the ingrowth of possibly extensive, laterally oriented connective tissue around the prosthesis.

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. Problems of a too loose fit are reduced.

**Benefits:**
- Low weight
- Stable fit
- 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

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Other prostheses lengths upon request
Soft CliP®
Titanium Stapes Prosthesis

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

In close conjunction with a distinguished team of middle ear surgeons and medical engineers1), KURZ has developed a new pure titanium CliP® stapedial prosthesis that will meet the anatomical requirements of most patients and further optimize sound transmission via the middle ear to the perilymphatic space.

Based on results achieved with the CliP® Piston àWengen, the new Soft CliP® was designed to further optimize the prosthesis towards anatomical variations of the incus thickness.

Benefits:

- **Self-retaining CliP® design**
  Standardized and safe coupling onto the long process of the incus without insecure crimping

- **Contact-free zones along the long process of the incus**
  Prevent mucosa strangulation: Risk reduction for incus necrosis

- **Contact zones medial and lateral**
  Optimize acoustic transmission (FSound) and therefore hearing results

- **Wide CliP® bands**
  Avoid high pressure points and related risks of mucosa damage "snowshoe effect"

- **Reduction of CliP® extension for easier fixation even in tight middle ears**

- **Well documented by scientific studies**

---

1) G. Schimanski MD (Germany), Dr. Ing. A. Eiber (Germany), D. àWengen MD (Switzerland)
**CliP® Piston àWengen**

Titanium Stapes Prosthesis

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

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.

Crimping, one of the most difficult and unpredictable steps in stapes prosthesis fixation, has been eliminated. The clip does not encircle the incus. This reduces the risk of necrosis and improves the vascular supply of incus and lenticular process. The optimal coupling of the CliP® Piston àWengen maximizes hearing results.

Titanium has a proven record of providing very good sound conduction, even at higher frequencies. There is a smooth rounded transition between piston segment and shaft, reducing the surface area for potential attachment of connective tissue.

**Benefits:**
- Self-retaining CliP® design
- Low weight
- No crimping
- Secure placement
- Reduced risk of necrosis
- Improved vascular supply of incus and lenticular process
- Excellent biocompatibility
- Well documented by scientific studies

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**CliP® Piston MVP**  
**Haeusler Design**  
**Titanium Stapes Prosthesis for Malleovestibulopexy**

Stapes prostheses are used to bridge the fixed 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. The implant material of Grade 2 Titanium provides for excellent biocompatibility and is lightweight for optimal sound conduction and handling.

**Benefits:**
- Advanced micro ball joint design  
  For optimal intraoperative adjustment  
- Proven CliP® design  
  For a secure, crimp-free connection to the malleus handle  
- Pure Titanium implant material  
  For excellent biocompatibility  
- Lightweight  
  For optimal sound conduction

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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:
- Makes attachment to the manubrium of malleus unnecessary (Mallevestibulopexy)
- Can also be used when the long process of the incus is shortened

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Angular Piston
Material:
Pure Titanium (ASTM F67 Medical Grade)
Diameter:
0.4 / 0.6 mm
Ventilation tubes drain fluid out of the tympanic cavity and ventilate the area in secretory otitis media.

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 economical 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) are unique on the market: they allow for a perfect fit without prior paracentesis.
Overview

Tuebingen Type Ventilation Tubes
Material:
Gold-Platinum
Gilded Silver
Titanium coated
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)
Material:
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.

**Benefits:**
- Antibacterial effect in gold tubes
- Excellent biocompatibility
- Smooth surfaces facilitate secretion drainage

The Tuebingen Type tubes are available in the materials: Gold-Platinum, gilded Silver, Titanium coated and Titanium. With or without rear support wire.

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<tbody>
<tr>
<td>Size 0</td>
<td>1.00</td>
<td>2.00</td>
<td>1.60</td>
<td>1015 036</td>
</tr>
<tr>
<td>Size 1</td>
<td>1.25</td>
<td>2.55</td>
<td>1.60</td>
<td>1015 030</td>
</tr>
<tr>
<td>Size 1 with wire</td>
<td>1.25</td>
<td>2.55</td>
<td>1.60</td>
<td>1015 031</td>
</tr>
<tr>
<td>Size 2</td>
<td>1.50</td>
<td>2.80</td>
<td>1.60</td>
<td>1015 032</td>
</tr>
<tr>
<td>Size 2 with wire</td>
<td>1.50</td>
<td>2.80</td>
<td>1.60</td>
<td>1015 033</td>
</tr>
</tbody>
</table>

Packing unit 10 pieces/box
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

**Material:** Gold-Platinum

<table>
<thead>
<tr>
<th>Material:</th>
<th>ID (mm)</th>
<th>OD1 (mm)</th>
<th>Length (mm)</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventilation Tube (1 Eyelet)</td>
<td>1.50</td>
<td>2.80</td>
<td>1.60</td>
<td>1015 064</td>
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<td>Ventilation Tube (2 Eyelets)</td>
<td>1.50</td>
<td>2.80</td>
<td>1.60</td>
<td>1015 065</td>
</tr>
</tbody>
</table>

Packing unit 10 pieces/box

Diameter with Eyelets
1 Eyelet (OD2): 3.80 mm
2 Eyelets (OD3): 4.80 mm
Beveled Type Ventilation Tubes

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

<table>
<thead>
<tr>
<th>Material: Gold-Platinum</th>
<th>ID mm</th>
<th>OD mm</th>
<th>Length mm</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size 0</td>
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<tr>
<td>Size 2</td>
<td>1.50</td>
<td>2.80</td>
<td>1.50</td>
<td>1015 055</td>
</tr>
</tbody>
</table>

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
• Effective secretion drainage due to smooth tube surface
• Highly suitable for longer-term aeration and drainage
• Antibacterial effect in gold tubes

Trocar Handle

Material:
Gilded Silver

<table>
<thead>
<tr>
<th>Material: Gilded Silver</th>
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<th>OD mm</th>
<th>Length mm</th>
<th>REF</th>
</tr>
</thead>
<tbody>
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<td>2.80</td>
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<td>1015 074</td>
</tr>
</tbody>
</table>

Trocar Ventilation Tube (TVT)

Material:
Pure Titanium (ASTM F67)

<table>
<thead>
<tr>
<th>Material: Pure Titanium (ASTM F67)</th>
<th>ID mm</th>
<th>OD mm</th>
<th>Length mm</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trocar Ventilation Tube (TVT)</td>
<td>1.25</td>
<td>2.80</td>
<td>2.50</td>
<td>1015 075</td>
</tr>
</tbody>
</table>

Packing unit 10 pieces/box

Required Accessory Instrument

<table>
<thead>
<tr>
<th>Required Accessory Instrument</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trocar Handle</td>
<td>8000 143</td>
</tr>
<tr>
<td>Stainless Steel, resterilizable</td>
<td></td>
</tr>
</tbody>
</table>

Trocar Ventilation Tube

Trocar Handle
Minimal Type Ventilation Tube

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
- For pressure equalization problems related to hyperbaric oxygen therapy
- Painless, smooth removal at a defined time
- Antibacterial effect

<table>
<thead>
<tr>
<th>Material: Gold coated Stainless Steel (not MR safe)</th>
<th>ID (mm)</th>
<th>OD (mm)</th>
<th>Length (mm)</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal Type Ventilation Tube</td>
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<td>0.90</td>
<td>6.00</td>
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</table>

Packing unit 10 pieces/box
KURZ® instruments enhance the use of KURZ® Middle Ear Prostheses 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.
Overview

AC™ System
Sterile Single-use Sizers

TTP-VARIAC™ System
Accessories

Sizer Ω CONNECTOR

KURZ® Precise
Cartilage Knife

Cartilage Forceps
Schimanski Design

Cartilage Punch

KURZ® Meter

BELL Expander

Malleus Handle
Cavity Bending Pliers

Ventilation Tube
Insertion Forceps

Alligator Forceps
AC\textsuperscript{sizer} System
Sterile Single-Use Sizers for KURZ\textsuperscript{®} Tympanoplasty Prostheses

The unique AC\textsuperscript{sizer} System significantly simplifies the all-important intra-operative determination of the length of a KURZ\textsuperscript{®} 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.

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 prevent postoperative complications such as dislocation and/or protrusion, and optimizes tension and sound conduction
- Lightweight and delicate design leads to easy handling and a perfect view
- 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>
<thead>
<tr>
<th>Item</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC\textsuperscript{sizer} System Partial sterile, unit 10 pieces/box</td>
<td>8000 340</td>
</tr>
<tr>
<td>AC\textsuperscript{sizer} System Total sterile, unit 10 pieces/box</td>
<td>8000 550</td>
</tr>
<tr>
<td>Optional Accessories</td>
<td></td>
</tr>
<tr>
<td>Titanium Tweezers</td>
<td>8000 136</td>
</tr>
<tr>
<td>Micro Scissors, stainless steel</td>
<td>8000 172</td>
</tr>
</tbody>
</table>

Important note: The AC\textsuperscript{sizer} System is made of polypropylene and is only for temporary use during middle ear surgery. It is a single-use product!
TTP-VARIAC™ System
Accessories

The TTP-VARIAC™ accessory instruments enhance handling and prosthesis length determination/adjustment for secure fastening of the headplate to the shaft.

Titanium Tweezers
For removal and gentle handling of the prosthesis.

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

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

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.

Material:
- Titanium, resterilizable
- Sterilizable instrument quality stainless steel

<table>
<thead>
<tr>
<th>Item</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Tweezers</td>
<td>8000 136</td>
</tr>
<tr>
<td>Titanium Micro Closing Forceps</td>
<td>8000 137</td>
</tr>
<tr>
<td>Cutting Forceps, stainless steel</td>
<td>8000 171</td>
</tr>
<tr>
<td>Micro Scissors, stainless steel</td>
<td>8000 172</td>
</tr>
<tr>
<td>Tray TTP-VARIAC™</td>
<td>8000 173</td>
</tr>
</tbody>
</table>
Sizer Ω CONNECTOR

To evaluate the spatial conditions on the stapes footplate, a comparative measurement is helpful. Therefore KURZ has developed the Sizer Ω CONNECTOR made of stainless steel. The measuring head exactly corresponds to the base of the Ω CONNECTOR. The measurement allows for intra-operative fast and easy evaluation of the spatial conditions on the stapes footplate and shows whether the Ω CONNECTOR will fit between the stapes crura.

Appropriate spatial conditions on the stapes footplate are a precondition for the use of the Ω Connector.

Material:
- Sterilizable instrument quality stainless steel

<table>
<thead>
<tr>
<th>Item</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sizer Ω CONNECTOR</td>
<td>8000 555</td>
</tr>
</tbody>
</table>
KURZ® Precise Cartilage Knife

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 prosthesis, or reconstruction of the posterior canal wall.

The user friendly device slices Tragus or Concha cartilage with minimum waste. The main advantage of the KURZ® Precise Cartilage Knife compared to other available knives is its ability to produce a specific thickness of cartilage with one smooth cut. Using accessory distance plates the thickness can be varied from 0.1 mm up to 0.7 mm.

Benefits:

- Cuts Tragus and Concha cartilage
- Defined cartilage thickness with one cut (0.1 mm up to 0.7 mm)
- Easy and precise handling shortens surgical time
- Holds cartilage stable for equal thickness
- Blade includes imprints of minimum transplant size
- Minimal waste of the limited cartilage supply
- Stable, single-use sterile blades

Material:

- Sterilizable instrument quality stainless steel

<table>
<thead>
<tr>
<th>Item</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>KURZ® Precise Cartilage Knife Set (blade holder, cutting block, distance plates, blades) incl. Instrument Tray</td>
<td>8000 155</td>
</tr>
<tr>
<td>Distance Plate, 1 mm (for compression of fascia)</td>
<td>8000 105</td>
</tr>
<tr>
<td>Blades sterile single packed, 10 pieces</td>
<td>8000 140</td>
</tr>
</tbody>
</table>
Thin slices of cartilage are used in the plastic reconstruction of tympanic membrane (Myringoplasty), auditory canal and for covering middle ear prostheses 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
- Robust design for frequent use

Material:
- Sterilizable instrument quality stainless steel

<table>
<thead>
<tr>
<th>Item</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartilage Forceps</td>
<td>8000 193</td>
</tr>
<tr>
<td>Schimanski Design</td>
<td></td>
</tr>
</tbody>
</table>
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 with mm-scale
- Robust design for frequent use

**Material:**
- Sterilizable instrument quality stainless steel

<table>
<thead>
<tr>
<th>Item</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
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<table>
<thead>
<tr>
<th>Replacement Parts</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument Tray incl. Inlay and Plastic Base</td>
<td>8000 176</td>
</tr>
<tr>
<td>Spring</td>
<td>8000 198</td>
</tr>
<tr>
<td>Plastic Base POM (black)</td>
<td>8000 207</td>
</tr>
</tbody>
</table>

Further replacement parts upon request
KURZ® Meter
Measuring Device for Stapedial 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 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

Material:
- Sterilizable instrument quality stainless steel

<table>
<thead>
<tr>
<th>Item</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>KURZ® Meter incl. Instrument Tray</td>
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</table>

<table>
<thead>
<tr>
<th>Replacement Parts</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument Tray</td>
<td>8000 174</td>
</tr>
</tbody>
</table>

\[
\text{L Prosthesis} = \text{L1} + \text{L2}
\]

\[
\text{L1} = \text{Measured distance}
\]

\[
\text{L2} = \text{Immersion depth}^* (\text{Piston})
\]

* The determination of the immersion depth L2 of the prosthesis is subject to the decision of the surgeon.
BELL Expander

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.

Material:
• Sterilizable instrument quality stainless steel

<table>
<thead>
<tr>
<th>Item</th>
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</tr>
</thead>
<tbody>
<tr>
<td>BELL Expander</td>
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</tr>
</tbody>
</table>
To establish better contact and 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 head-plate 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 prosthesis length required with the inclusion of the malleus handle cavity must be about 0.75 mm greater than it would be with an unchanged head-plate.

**Material:**
- Sterilizable instrument quality stainless steel

<table>
<thead>
<tr>
<th>Item</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malleus Handle Cavity Bending Pliers</td>
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</tbody>
</table>
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 head-plate 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 prosthesis length required with the inclusion of the malleus handle cavity must be about 0.75 mm greater than it would be with an unchanged head-plate.

**Material:**
- Sterilizable instrument quality stainless steel

---

**Ventilation Tube Insertion Forceps**

This instrument facilitates the insertion of collar stud shaped tubes (e.g. Tuebingen Type tubes) after paracentesis. It secures the tube until its final release from the shaft into the Tympanic Membrane.

**Material:**
- Sterilizable instrument quality stainless steel

<table>
<thead>
<tr>
<th>Item</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventilation Tube Insertion Forceps</td>
<td>8000 108</td>
</tr>
</tbody>
</table>
Alligator Forceps

The Alligator Forceps is a universal instrument for otological microsurgery. Amongst the range of use it facilitates the insertion of Ventilation Tubes and Middle Ear Prostheses.

Material:

- Sterilizable instrument quality stainless steel

<table>
<thead>
<tr>
<th>Item</th>
<th>REF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alligator Forceps</td>
<td>8000 126</td>
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<tr>
<td>(Jaw length 5 mm)</td>
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</table>
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 Irving, Texas, provides convenient local accessibility to our products worldwide. In accordance with our customer orientation, giving prompt professional support to the end user is of primary concern to us and highly qualified staff and well-trained distributors stand ready to respond to inquiries about our products and their applications.

As many delighted customers have told us, our employees are our most important asset.

Brief History
Heinz Kurz GmbH Medizintechnik has been at the forefront of medical technology and innovation from its very inception. Our first breakthrough dates to 1971, when the director of the ENT clinic at the University of Tuebingen apprised Heinz Kurz of extrusion problems prevalent with traditional myringotomy tubes. Using his profound metal-working experience and thorough knowledge of material properties, Heinz Kurz designed and built the first ventilation tubes of pure gold. After extensive testing and clinical evaluation they were introduced to the market in 1974, thereby initiating our otologic implant business.

Another key innovation occurred in 1994 when KURZ was the first manufacturer worldwide to introduce middle ear prostheses of pure titanium.

Production and Quality Control
Pure titanium micro implant designs require highly specialized manufacturing techniques. KURZ has perfected these techniques to a high standard of precision and is now the only manufacturer worldwide offering middle ear implants with micro ball joints. This is a key innovation that imitates the natural micro-movements of human ossicles. Stringent, 100% quality control is mandatory and all KURZ middle ear implants are certified and registered with and/or certified by the regulatory health and quality control authorities in the countries where they are being marketed.

About us…
All KURZ middle ear prostheses are manufactured in Germany exclusively.

Research and Development
KURZ is committed to progress. In close cooperation with ENT surgeons in Germany and abroad we seek new solutions to provide ever greater benefits to patients and surgeons. Our highly motivated and flexible team is in constant contact both with the users of our products and with academic biomechanical research institutes. Our manufacturing expertise, the level of precision attained by our products, the depth and scope of our insights into medical and surgical requirements, and the innovativeness of our approaches all combine to make KURZ products unique. The lacy design of our prosthesis head plates, the bell shape for ‘holding’ the stapes head, the CliP® stapes prostheses minimizing the risk of necrosis and avoiding strangulation of vascular supply, and our new micro ball joint devices – these are only a few examples of the prosthesis standards KURZ has set and will continue to set in middle ear surgery.

Traute Kurz-Butzki
Managing Director
Heinz Kurz
Founder of the Company
Prescription Devices

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MR information under www.kurzmed.com

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