The Tiolox® Implant System

A perfect fusion of function, reliability and user-friendliness
Modern implants

Osteophilic surface

Conical implant design

Maximum primary and secondary stability
The root-like shape of the Tiolox® implant ensures an optimally uniform distribution of stress in the alveolar bone. This prevents local stress peaks that can eventually lead to bone resorption and failure of the implant.

Passive thread

Optimum pressure distribution
TIOLOX IMPLANTS made the conscious decision to develop a passive thread design. FEM (finite element method) tests effectively prove that the Tiolox® thread design produces uniform and biomechanically optimum stresses in the bone. The thread design combined with the conical contour also ensures maximum primary stability, even in unfavourable bony sites.
Osteophilic surface

Immediate bone apposition
CBS (ceramic blasted surface) technology increases the surface area four-fold and, combined with optimum roughness, creates ideal conditions for rapid, permanent direct apposition of bony tissue to ensure osseointegration.

Integrated lengthwise groove

No pressure necrosis
The design of the lengthwise groove prevents postoperative pressure necrosis.
Comprehensive range of implants

**Optimum range of applications**

With implants available in two diameters (3.5 and 4.5 mm) and each supplied in four lengths (10, 12, 14, and 16 mm), the Tiolox® system provides a very clearly structured system with a wide range of applications. It forms the ideal basic implant system in any practice, as it can be successfully used in virtually all cases.

**Compact system**

**Cost-effective investment**

During routine work in an implantological practice a well-structured system ensures that decisions can be made quickly and that the operator is familiar with all the components. When using the Tiolox® system, the entire practice team operates effectively and safely, promoting cost-effectiveness.
Optimally coordinated individual components

**Maximum flexibility**
Apart from providing an intelligent, comprehensive range of products and accessories, it is important that components are optimally coordinated to ensure efficiency and flexibility.

Practice-orientated accessories

**Efficient, quick preparation**
As a result of close contact with users over many years, we have been able to provide a range of accessories optimally tailored to meet the practical requirements of routine work. This ensures effectiveness and efficiency. Updating the Tiolox® product range on the basis of user feedback will continue to ensure that implantologists can always rely on a state-of-the-art product range.
Easy, safe application

Four steps in preparing the implant site

Minimally invasive, quick preparation
The implant site can be prepared in just four steps. Surface cutting - depth drilling - conical forming - thread tapping. This is followed by implant placement.

Autologous bone harvesting
Optimum augmentation material
Any bone chips produced during conical forming and thread tapping are collected. These can be used as autologous augmentation material.
**Well-structured stainless steel surgical tray**

**Professional preparation**

All the surgical instruments and accessories in the Tiolox® surgical tray are coordinated. The tray has been especially designed to reflect the operating sequence and ensure a safe, systematic surgical procedure.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Surface cutter</td>
</tr>
<tr>
<td>2</td>
<td>Depth drill, yellow (L 10 mm)</td>
</tr>
<tr>
<td>3</td>
<td>Conical former, yellow (L 10 mm)</td>
</tr>
<tr>
<td>4</td>
<td>Thread tap, yellow (L 10 mm)</td>
</tr>
<tr>
<td>5</td>
<td>Depth drill, red (L 12 mm)</td>
</tr>
<tr>
<td>6</td>
<td>Conical former, red (L 12 mm)</td>
</tr>
<tr>
<td>7</td>
<td>Thread tap, red (L 12 mm)</td>
</tr>
<tr>
<td>8</td>
<td>Depth drill, blue (L 14 mm)</td>
</tr>
<tr>
<td>9</td>
<td>Conical former, blue (L 14 mm)</td>
</tr>
<tr>
<td>10</td>
<td>Thread tap, blue (L 14 mm)</td>
</tr>
<tr>
<td>11</td>
<td>Depth drill, green (L 16 mm)</td>
</tr>
<tr>
<td>12</td>
<td>Conical former, green (L 16 mm)</td>
</tr>
<tr>
<td>13</td>
<td>Thread tap, green (L 16 mm)</td>
</tr>
<tr>
<td>14</td>
<td>Healing cap, titanium, L 2.4 mm</td>
</tr>
<tr>
<td>15</td>
<td>Healing cap, plastic, L 2.1 mm</td>
</tr>
<tr>
<td>16</td>
<td>Sure-grip wheel, ø 25 mm</td>
</tr>
<tr>
<td>17</td>
<td>Sure-grip wheel, ø 10 mm</td>
</tr>
<tr>
<td>18</td>
<td>Implant insertion aid</td>
</tr>
<tr>
<td>19</td>
<td>Torque ratchet</td>
</tr>
<tr>
<td>20</td>
<td>Extension adapter</td>
</tr>
<tr>
<td>21</td>
<td>Extension, L 10 mm</td>
</tr>
<tr>
<td>22</td>
<td>Extension, L 15 mm</td>
</tr>
<tr>
<td>23</td>
<td>Hex key, L 20 mm</td>
</tr>
<tr>
<td>24</td>
<td>Hex key, L 25 mm</td>
</tr>
<tr>
<td>25</td>
<td>Hex key for ball anchor, L 22 mm</td>
</tr>
<tr>
<td>26</td>
<td>Hex key for contra-angle</td>
</tr>
</tbody>
</table>
Shorter healing period due to the CBS surface

Dr. Werner Hotz
„Dentale Implantologie“ 3/1999

„After more than 9 years’ clinical application and focused development based on the latest scientific knowledge, Tiolox® implants now have a ceramic blasted surface (CBS), which allows a prosthetic restoration to be fitted after a minimum healing period of 4 – 8 weeks, even in a spongiosal bony site."

Implant treatment of an atrophied mandible

Dr. Dr. Stephan Wolf

„The Tiolox® implant produces extremely high primary stability in virtually any bone structure or bone quality due to its conical thread design and rough thread surface."

„The prefabricated titanium abutments make it possible to fabricate an accurate, cost-effective, single-metal restoration.”
Time is money

Dr. Manfred Sontheimer, ZTM Dirk Bachmann
„ZWL Zahntechnik Wirtschaft Labor“ 1/2004
„In the mandibular a 35% saving in cost for the patient was achieved simply by using less costly raw materials and also prefabricated prosthetic components.“

Stabilisation of bone augmentation materials in oral implantology

Dr. Friedhelm Heinemann, Dr. Joachim Hoffmann
„Implantologie Journal“ 4/2003
„TIOM ESH has excellent stability that protects the augmented area against mechanical loading, ensuring optimum insulation and positional stability.“
Surgical features

Colour-coding of the implants

**Quick identification**
Tiolox® implants are colour-coded according to length to ensure quick, reliable identification at a glance.

Dual colour-coding of the instruments

**Clear classification according to the implant**
The instruments required for preparing the implant site are also colour-coded according to length. The number of coloured rings (1 or 2) clearly indicates the diameter.

Integrated depth stop

**Safe, accurate limiting of the specified depth**
Markings on instruments have the disadvantage that the specified depth of the implant site cannot be accurately maintained with a poor view of the implant site. This is only possible with an integrated depth stop, which makes preparation both safe and easy.
**Manual preparation**

**Minimally invasive preparation**

Final preparation of the implant site is completed manually. This ensures a symmetrical, atraumatic procedure. Manual preparation allows the actual bone quality to be determined. It also prevents overheating of the alveolar bone caused by the excessively high rpm during preparation with a handpiece.

**Torque ratchet**

**Tightening torque**

The torque ratchet is an important component for ensuring a safe treatment procedure. It has an adjustable torque to secure prosthetic restorations in position using a defined retentive force.
Prefabricated abutments

**Maximum flexibility**

The wide range of prefabricated abutments included in the Tiolox® implant system meets the aesthetic requirements of implantologists and dental technicians.

Premium porcelain abutments

**High-quality aesthetics**

Tiolox® porcelain abutments ensure optimum aesthetic results. The ZrO₂ material is extremely strong and guarantees a high load-bearing capacity. The anatomical shape and natural gingival emergence profile make these abutments ideal for fixed restorations.

Premium titanium abutments

**Excellent biocompatibility**

Tiolox® titanium abutments are available in straight and angled versions. Their anatomic design copies the gingival emergence profile of natural teeth and facilitates customisation. They are mainly used for fixed restorations. Special titanium abutments are available for removable restorations in casting and laser work.
HFA abutments

**Maximum customisation options**
Tiolox® HFA abutments can be used for different restorations, e.g. fixed, operator-removable or removable restorations. The cast-on gold cylinders can be used for single tooth and telescope restorations.

Plastic abutments

**For professional long-term temporary restorations**
Tiolox® plastic abutments are ideal for fabricating cast (long-term) temporary restorations. These abutments, which are used for fabricating fixed and operator-removable temporary restorations, do not restrict in any way the choice of material for the prosthetic restoration.

Premium quality (PQ)

**Reliability for the operator and patient**
All Tiolox® abutments are manufactured in a highly controlled production process. Computer-aided, state-of-the-art production equipment combined with many years of experience and the highly specialised expertise of our personnel guarantee the high quality of our Made in Germany products.
Prosthetic features

AnatomicTwist

Red aluminium handle, stainless steel instrument socket, instrument holder ø 2.35 mm, span of Allen key for locking screw 0.9 mm, maintenance-free rotary bearing

91 x ø max. 24 mm - ø min. 11 mm

For secure retention and controlled rotation of rotary instruments with a ø 2.35 mm standard shank, for Tiolox® instrument inserts (all rotationally secure): countersink (inner hexagon), countersink (screw fit), diamond-coated milling cutter D 30 (course), diamond-coated milling cutter D 25 (medium), diamond-coated milling cutter D 20 (fine), reamer (screw channel) - milling, drilling, cutting.

Awarded the iF Design Award 2005
AnatomicHold / AnatomicTwist
**AnatomicHold**

Solid stainless steel, instrument socket ø 2.35 mm, span of Allen key for locking screw 0.9 mm

**115 x ø max. 20 mm - ø min. 8,1 mm**

For secure retention of instruments with a ø 2.35 mm standard shank, for Tiolox® instrument inserts (all rotationally secure): polishing aid ø 3.5 mm, polishing aid ø 4.5 mm, holder for porcelain abutments ø 3.5 mm, holder for porcelain abutments ø 4.5 mm - **secure retention of prosthetic components during preparing and polishing.**

**AnatomicSet**

Aluminium embossed edges, aluminium laminated panels, rigid polythene foam lining

**Overall dimensions 330 x 240 x 40 mm**

Practical system organiser for safe storage and transport of instruments and components
**TIOMESH**

*Mesh system for the regeneration of oral bone defects*

*(designed by Dr. M. Sontheimer)*

TIOMESH is a mesh system for the regeneration of oral bone defects. The TIOMESH and screws are manufactured from pure medical titanium. In addition to its biocompatibility, the titanium mesh is highly stable and can be shaped as required. This stabilises and insulates the augmented area to allow bony regeneration. The titanium mesh is also designed for use in simultaneous augmentation and implant placement and for stabilising the implant. All the necessary components for shaping and securing the titanium mesh in position are contained in a high-quality plastic tray.

**TIOTOM**

*Osteotomes for optimising the implant site*

The TIOTOM is a complete osteotome set developed for use with Tiolox® implants. It has been designed for bone condensation, partial sinus floor elevation and horizontal bone expansion. The osteotome inserts are straight and angled. They are arranged in a high-quality plastic tray in systematic order in accordance with each stage of the procedure.
TIOSET®

Instrument set for dental surgery and implantology
(designed by Dr. M. Sontheimer)

The TIOSET® is a complete set of instruments for dental surgery and implantology. Instruments such as the needle holder and tissue forceps facilitate surgery without damaging the tissue. The design of the tray ensures the instruments are easily accessible and conveniently arranged for the operator. The instruments are sterile and ready to use at all times. Use of the TIOSET® facilitates the required documentation of the surgical procedure. Hygienic preparation and sterilisation of the TIOSET® has been simplified by the Wash Tray, which fits exactly into a Standard Tray and holds the instruments securely in position.

TIODRAPE

Sterile disposable drapes and surgical gowns for dental surgery

The sterile TIODRAPE set contains essential individual disposable components for covering the patient and surgery equipment. The surgical gown is available in universal size L. The set not only saves time and storage costs but individual components can also be ordered from the one supplier.
Developed by a practitioner for the practitioner

**Easy, practical, complete**

**tomas** (temporary orthodontic micro anchorage system) is a new concept which, due to its multiple treatment options, can fulfill the individual requirements of orthodontists and dentists. This concept and the scientifically proven, biomechanical construction of the **tomas**-pin make it a favorable counterpart, and in some cases even a replacement for current orthodontic treatment techniques!

This practical system avoids the disadvantages created by conventional pins such as labor intensive and unusual handling, poor hygiene and the possible consequences (eg. gingivitis). The **tomas**-concept allows for an easy introduction into innovative orthodontic treatment options with pins.
Optimal patient comfort

Comfortable, safe, economical

After the quick and easy application of the tomas®-pin, the head, with a 0.22 cross slot, works as a temporary anchor (approx. six to twelve months) enabling various orthodontic tooth movements. The easy application of the tomas®-concept often allows for less banding chairtime as well as total treatment time can be greatly reduced. These factors and the resulting comfort are often the motivating factor for adults to start treatment.

Considering the shorter treatment time and usage of less material, reduced treatment costs, making the tomas®-concept attractive for both clinician and patient.
Comprehensive, expert advice

Focused cooperation

In dentistry, implantology is the discipline in which the advice available to dentists, dental technicians and patients is particularly important. This is why TIOLOX IMPLANTS regards it as essential not only to supply excellent products but also to provide a high-quality advisory service.

This includes providing professional, expert advice in the laboratory, an easily accessible hotline for any questions relating to product application and administrative procedures or individual advice on specific problems offered to colleagues by experienced Tiolox® users.

• Expert medical product advisors
• Easily accessible hotline for expert advice (see back page)
• Experienced technical advisors

Service – a top priority
Diverse range of courses and events

Reliable product application and professional services
Apart from expert advice in the laboratory and by telephone, it is important to provide a wide range of information for those new to implantology and an interesting programme of training courses for more experienced operators. Tiolox® offers a comprehensive range of courses and events that have been presented very successfully by experienced, expert lecturers for a number of years. Meetings involving German and international users provide an important opportunity for operators to exchange information.

Attractive patient information material

Effective patient advice
For most patients implantology treatment is a considerable investment. Patients therefore require detailed, sound advice that clearly outlines not only the advantages of an implant-borne restoration but also the costs and possible risks involved so that they are able to make an informed decision. We offer effective support by providing you with materials such as patient brochures and posters for the practice.
Dental technology

Extensive range

Our family company has acquired an excellent reputation worldwide by providing an outstanding range of dental products and services. Together with our subsidiaries, Dentaurum Data Service and TIOLOX IMPLANTS, a unique range has been created from root to crown, including innovative implants, high-quality casting metals, dental porcelains and brackets made from advanced materials. Virtually no other company in the world offers such an extensive range of products.

Synergy and networking

Dental titanium technology is a particularly good example of effective networking within the Dentaurum Group. All synergetic potential is optimally exploited in terms of research, production and sales. The results are impressive: perfect casting technology, a titanium porcelain with aesthetics to equal any standard porcelain, the world’s first titanium speed investment, the first pure titanium expansion screw in the world. This is why we are the market leader in the dental technology sector.
From the root up to the crown

Core competence
Innovative products, reliable quality and comprehensive service, which are our core competences, also offer important advantages for dentists, orthodontists and dental technicians, who can use these advantages to provide a modern service for the benefit of their patients.

Tested and documented
The Dentaurum Group is one of the first companies in the dental sector to be certified according to the requirements of the Medical Products Directive (CE Mark) or the EU Environment Audit. The Center of Dental Communication is also the first certified dental training centre in Germany.

The introduction of a quality management system, which is continually updated, ensures that our products have the consistent „Dentaurum quality” that our customers have come to expect. The commitment of every single Dentaurum employee in the manufacture of products or provision of services contributes to this quality.
If you require further information about the Tiolox® implant system, contact the Dentaurum Group hotline. The Dentaurum Group also provides special courses on the Tiolox® implant system. To obtain further information, contact:

**Telephone / Fax**

Courses / events hotline  +49 72 31/803-322  
Surgery hotline  +49 72 31/803-322  
Prosthetics hotline  +49 72 31/803-410

Fax  +49 72 31/803-375

Ordering by telephone  +49 72 31/803-322

**Internet**

www.tiolox.com