QuattroFix treatment concept
by MEDENTiKA®

30° 30°

IPS
Implant Systems

MEDENTiKA®
QUATTROFIX

A Straumann Group Brand
The QuattroFix treatment concept

QuattroFix - fixed restoration for atrophic ridges allows for a comprehensive treatment plan for edentulous patients, of full-arch immediate restoration, using just two straight and two 30° angulated Quattrocone Implants restored with Multi-unit Abutments.

Multi-unit Abutments and final fixed screwretained restoration is immediately placed over the implants. The straight and 30° angulated Multi-unit Abutments allow for optimal distribution of force thanks to the unique insertion tool of the angulated units.

Advantages of the QuattroFix treatment concept

- **IMMEDIATE**: Immediate esthetic functional solution
- **PERMANENT**: Permanent fixed full-arch restoration
- **HIGH PRIMARY STABILITY**: High stability achieved by ideally designed implants for a 30° angled placement
- **CHAIR TIME**: Less chair time and more affordable treatment compared to full-arch alternatives
- **VERSATILITY**: Reduced need for bone augmentation, even in low bone volume cases
The Quattrocone implants

<table>
<thead>
<tr>
<th>Quattrocone implant</th>
<th>D 3,5 mm</th>
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<tbody>
<tr>
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How to measure the Implant length

QUATTROCON30

Quattrocone implants

D 3,5 mm
- D 3,5
- Titanium Grade 4
- Sterile packaged
- Incl. closure screw

D 3,8 mm
- D 3,8
- Titanium Grade 4
- Sterile packaged
- Incl. closure screw

D 4,3 mm
- D 4,3
- Titanium Grade 4
- Sterile packaged
- Incl. closure screw

D 4,3 mm
- angled
- D 4,3
- Titanium Grade 4
- Sterile packaged

D 5,0 mm
- D 5,0
- Titanium Grade 4
- Sterile packaged
- Incl. closure screw

D 5,0 mm
- angled
- D 5,0
- Titanium Grade 4
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QUATTROCONETM
SPECIALY DEVELOPED AND PATENTED FOR THE QUATTROFIX TREATMENT CONCEPT AND ALL INDICATIONS WITH ANGULATED IMPLANT PLACEMENT. UNIQUE.

The uniquely shaped and patented design of Quattrocone30 implants was specially developed to coordinate with inclined implant placement and thus fully preserve the bone. The QuattroFix indication stands out in particular with special requirements, which have now been competently addressed both scientifically and technically for the first time.

SURFACE
The highly pure, sandblasted and acid-etched surface extends over the entire length of the implant to the implant shoulder. It has ideally dimensioned micro-macro roughness to allow the apposition of bone-forming cells, thus promoting optimum and particularly reliable long-term osteointegration of the implant. In combination with the coronal micro-thread and conical interface it ensures exceptional crestal bone formation, over the implant shoulder to the interface.

SHAPE
The implant body of the Quattrocone implant extends root shaped and, in combination with a high-profile thread and 3 cutting edges, ensures high primary stability, even in challenging situations. Perfect for immediate implant placement and immediate loading.

MACRO THREAD
Macro-thread geometry developed for a 30° inclined position. 30° thread flanks ideally transfer the forces in the bone. No tipping of the implant. Reduced thread pitch to 0.60 mm (revolution) enables precise vertical positioning of the implant body in the bone and guarantees very high primary stability.

IMPLANT CONNECTION
The deep conical connection has been designed to distribute the forces applied at a 30° angle deep into the implant and ensures high mechanical stability reserves. Only one possible rotational position excludes incorrect positioning of the abutment.

IMPLANT SHOULDER 30°
Shoulder inclined by 30°. For final positioning flush with the bone when positioning at a 30° incline in QuattroFix use.

MICRO-STRUCTURE
Crestal micro-groove structure. Ensures perfect bone retention with QuattroFix use.
**Comparison of workload on the implant shoulder**

The implant connection with a very deep primary force and friction locking conical connection, specially developed to match inclined placement of the implant, distributes the initial forces in the implant via extensive surfaces. The finite element analyses performed with the Quattrocone30 show a very uniform and completely uncritical distribution of the von Mises stresses in the implant shoulder region with a loading of 250 N. The stress peaks otherwise usually experienced with this loading can be effectively prevented by the special Quattrocone30 implant connection. This in turn protects the surrounding bone in this particularly sensitive area.

Conventional implant interface connections show partial, high stress peaks in the region of the implant shoulder with placement of the implant at an angle of 30°. These can negatively influence the surrounding bone.

**Quattrocone drills D 3.5 mm**

The 3-blade stepped drills are coordinated with the outer shape of the implant. Quattrocone is placed using generally 2 drilling stages:

1. Pilot drill 2 mm
2. Final stepped drill

Different stepped drills for D1/D2 bone and D3/D4 bone. Bright depth markings ensure optimum visibility. Long service lives due to black surface coating. Clear colour coding and a total of 4 drills greatly simplify the protocol.

**There are three drill bit lengths:**

- **Extra-short drill**
  - 0-13-96
  - No slim silver ring

- **Short drill**
  - 0-13-89
  - 1 slim silver ring

- **Long drill**
  - 0-13-90
  - 2 slim silver rings
For use, a hole for a straight implant must be drilled in the lower or upper jaw with a pilot drill. Once the pin of the gauge is in place within this hole, it may be aligned to the needs of the clinical situation. When fixed it is showing guide-lines for the drilling angle. This is in order to prevent drilling at an angle different than 30°.

QuattroFix DRILL GAUGE 30°

Used to assist in evaluating the drilling angle, while preparing the insertion site of the tilted implants during the QuattroFix procedure. This gauge is flexible in length and is rotatable in two axes.

4-13-07
Multi-unit Abutment

The Multi-unit Abutment supports a variety of prosthetic restorations. Thus it is ideal for creating patient oriented individual hybrid restorations or being the base for an individualized QuattroFix restoration.

- in straight and angled configurations
- in various gingiva heights
- great variety of prosthetic components

How to use

After the implant placement, the 30° angulated Multi-unit Abutment is connected to the Quattrocone30 implant with its special insertion tool and tightened with the screw up to 25 Ncm.
Notes on the prosthesis workflow

MASTER CAST MODEL
After impression taking the transmitted clinical situation in the master cast model in the Lab.

PREPERATION OF THE CAPS
In the case of the titanium cap/base, which is to be worked in, the screw channel is covered with e.g. a closing pin, for protection against incoming plastic during the incorporation. For laboratory work, the use of an additional set of screws is recommended. The screws included in the delivery of the prosthetic caps are only intended for use in the mouth. Scrape and clean the scaffold at the gluing sites with 2 bar with aluminum oxide 110 μm. Regions which are not to be conditioned can be protected by wax or silicone. Clean the titanium caps/bases after blasting at 3-4 bar in the oil-free air jet. Apply primer on the titanium caps/bases using a disposable brush and allow them to dry for approx. 30 sec.

CHOICE AND ADAPTATION OF THE CAPS
In the articulator, the height of the titanium caps is checked and, if necessary, shortened with a cutting disc. Alternatively, the short titanium bases can also be used.

FIXING OF THE PROSTHETIC CAPS
The protection caps are exchanged against the titanium caps/bases. The position of the titanium cap/base already fixed in the supply on the master cast model in the Lab remains free. The denture is positioned and screwed in with the already integrated titanium cap/base. For a stress-free seat there must not be a contact from the overdenture to the titanium caps/bases which have not yet been fixed. The gum may not be squeezed.

BONDING
The oral bonding compensates for inaccuracies and avoids stress.

Important:
• Avoid fractures by ensuring sufficient stability of the temporary restoration
• Bond without tension
• Ensure hygiene requirements
Clinical QuattroFix case

- Initial situation
- 3D planning
- Checking the implant beds
- Implant placement
- Radiograph
- Abutment placement
- Situation after suturing
- Provisioning
- Situation after healing time
- Zirconia bridge after milling
- Final restauration
- Final situation

Clinical Case:
Dr. med. dent. Martin Müllauer
We are certified:

DIN EN ISO 13485
Medical Device Directive 93/42/EEC
Annex II

Technical changes and errors reserved.

You can find the Instructions for use and warranty conditions on the website www.medentika.com
More information on the warranty can also be requested directly from the manufacturer.

Date: February 2020

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