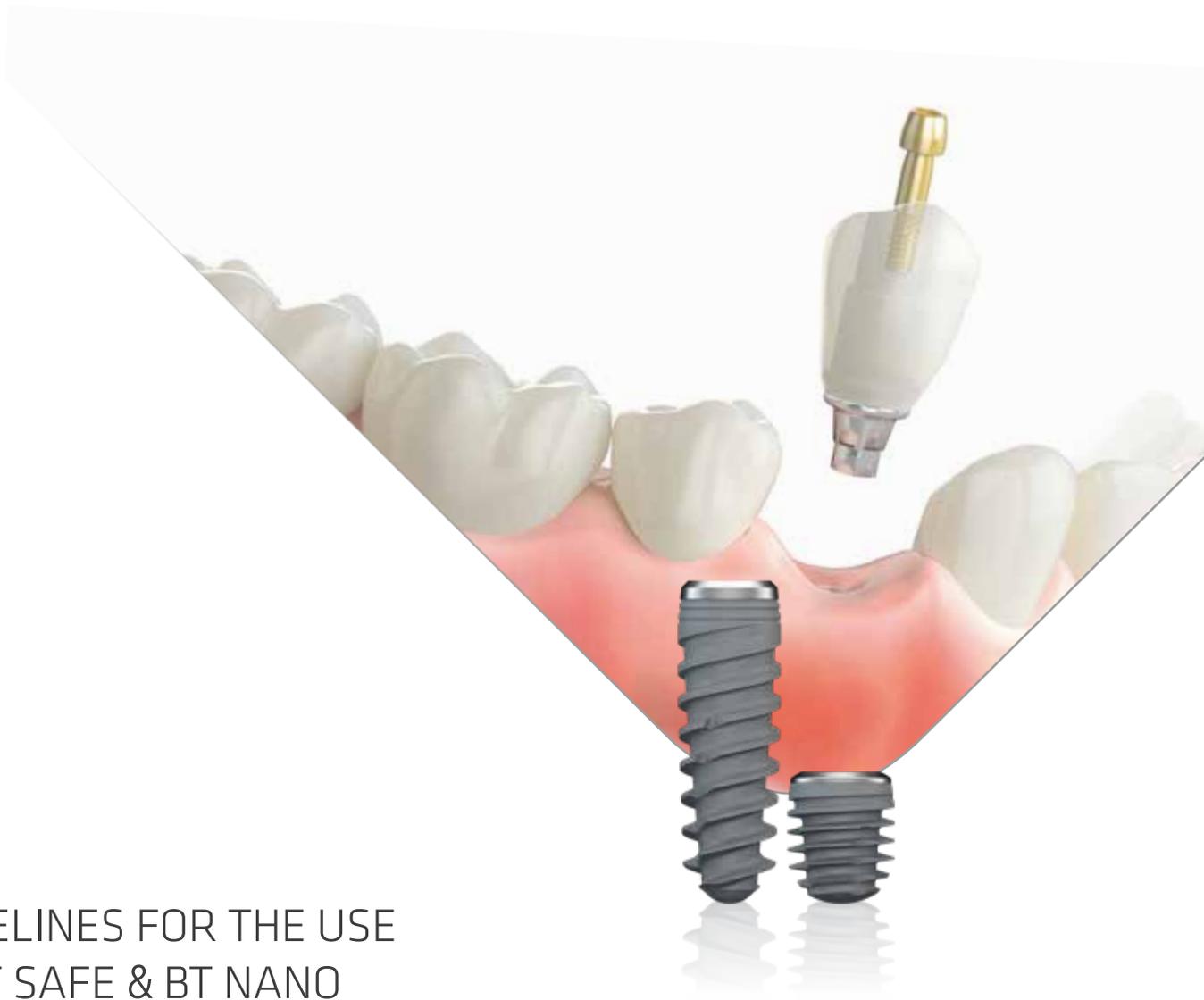


IMPLANT LINE

BT SAFE & BT NANO



GUIDELINES FOR THE USE
OF BT SAFE & BT NANO
IMPLANT SYSTEM

IMPORTANT NOTE

For latest updates and information, visit **www.btk.dental**

This manual provides dental practitioners and related specialists with general information regarding the use of BT SAFE and BT NANO dental implant systems.

For detailed information on other specific implant lines and their restorative procedures, please refer to the corresponding manuals, specific literature or refer to the BTK website.

Consider to regularly visit practical courses for updates and professional exchange with dedicated colleagues in order to ensure your long-term success with implant-borne dental restorations.

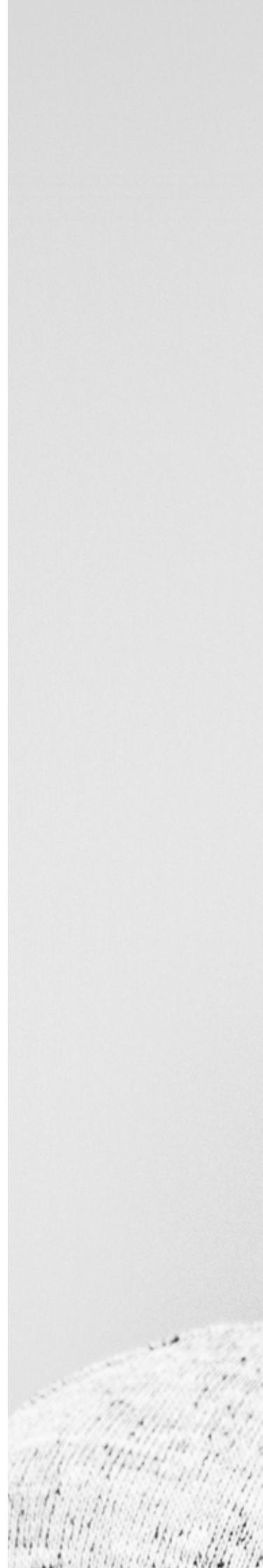
© 2019 BTK - the smile system.

BT SAFE & BT NANO

GUIDELINES FOR THE USE
OF BT SAFE AND BT NANO
IMPLANT SYSTEM

INDEX

1.	CORPORATE BACKGROUND	6
2.	IMPLANT SELECTION	8
3.	BT SAFE IMPLANT	10
4.	BT NANO IMPLANT	14
5.	IMPLANT PORTFOLIO BT SAFE AND BT NANO	16
6.	IMPLANT INSERTION PROCEDURE	18
7.	SURGICAL KIT, TORQUE WRENCH AND DRILLS	20
8.	SURGICAL PROTOCOLS	24
9.	SURGICAL INSTRUMENTS	26
10.	MORSE-TAPER (MTH) KR/KW	31
11.	OVERDENTURE	38
12.	MATERIAL SPECIFICATIONS	40
13.	LABELS SYMBOLS	42
14.	DELIVERY TERMS AND CONDITIONS	43





CORPORATE BACKGROUND

Privately held BTK BIOTEC was founded in 1998 in order to improve the quality of life of people with missing teeth.

BTK is a dedicated supporter of the genuine "100% Made in Italy" label, because with this it is guaranteed that BTK products are of unmatchable Italian craftsmanship and premium quality materials offering dedicated specialization and ample differentiation.



BTK Headquarters - NORTH ITALY

Implanting Trust, Smile again!

By combining cutting-edge technologies and biology, BTK's mission is to offer affordable and personalized implant-borne solutions thereby sustainably improving the daily life of dental patients.

Together with leading professionals, BTK strives to become a reference in replacing missing teeth with trusted implant solutions in order to improve oral health around the globe.





PREMIUM QUALITY MATERIALS

Grade 4 commercially pure titanium (ASTM F 67 / ISO 5832-2) is BTK's material of choice for dental implants. Grade 4 is slightly harder to work, but it provides the highest strength and durability characteristics among the commercially pure titanium grades, making it the natural choice for BTK dental implants.

Grade 5 titanium (ASTM F 136 / ISO 5832-3) is used for BTK's prosthetic components, as these are subject to certain levels of stress and in the MINI line implants. This high-strength version, also known as Ti-6Al-4V, is widely used in orthopedics and shows excellent long-term physical and mechanical properties.



ENDOSSEOUS SURFACE DAE

Clinical trials confirm that roughened endosseous surfaces perform better than machined surfaces concerning endosseous wound healing, "de novo" bone formation and reduced time-to-loading.

Our DAE (dual- acid-etched) process aims to obtain a moderately rough surface with a controlled micro-roughness.



IMPLANT-ABUTMENT CONNECTION

The precision of the connection between implant and abutment creating a tight seal may be beneficial in preventing inflammatory bacteria propagating in the interface between different components.

Apart from that, extremely tight tolerances as applied by BTK help to avoid micromovements.

Providing precision in every part produced is one of our key contributions ensuring longterm restorative success.



RESTORATIVE OPTIONS

The purpose of dental implant therapy, now widely used in dentistry, is to replace lost dental elements with biocompatible titanium implants, in order to obtain a new and correct occlusion, using prostheses on implants.

In order to achieve this goal, BTK offers a focused portfolio of restorative solutions backed-up by comprehensive clinical experience. BTK offers a variety of prostheses components to satisfy the clinical preferences and needs of the patients.



MADE IN ITALY, USED GLOBALLY

We constantly ensure that the quality of our products and services meet the high expectations of our customers and their patients. Specialized professionals are taking care to offer comprehensive solutions in applied research, engineering, education and related activities.

Our brand is a solid promise of quality, we are certified UNI EN ISO 9001, UNI EN ISO 13485 and MDD 93/42/EEC and subsequent amendements and additions, and is therefore authorized to apply the CE Mark on its products.

IMPLANT PORTFOLIO

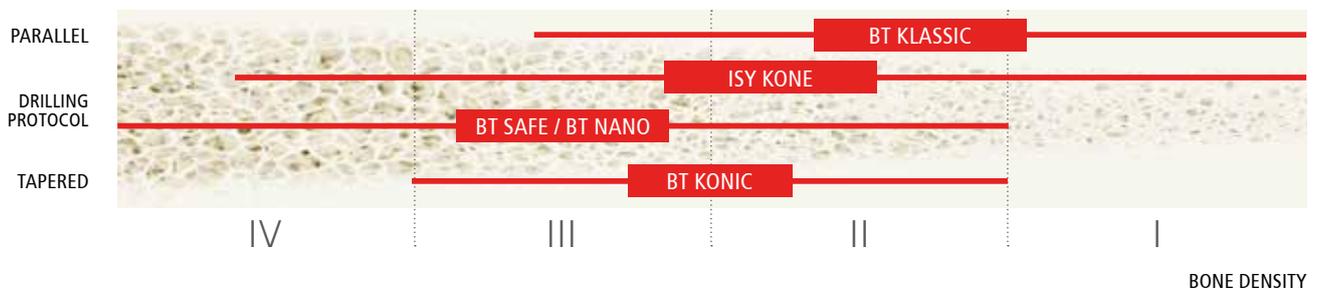
BTK is dedicated to offer comprehensive implant solutions to meet the requirements of individual clinical situations, user preferences and economic constraints.

Different designs, sizes, diameters, surfaces and abutment connections are available, while at the same time BTK strives to maintain a small number of precision-instruments thus simplifying procedures and limiting investments needed.



SELECTION OF THE IMPLANTS ON THE BASIS OF BONE DENSITY AND OF THE DRILLING PROTOCOL

IMPLANT DESIGN



CHARACTERIZATION OF BTK IMPLANT-ABUTMENT CONNECTIONS



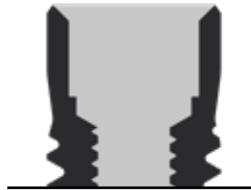
MORSE-TAPER (MTH)

BTK's morse-taper hexagon connection comprises a 2.6 mm conical portion at 11° above a hexagon configuration combined with a M1.6 (KR) or M1.8 (KW) abutment screw to deliver adequate pre-load with a minimum of tightening.

Implants with a tapered interface can resist larger axial and transversal forces than implants with a flat interface.

The design guides the abutment into a predictable location with a precise fit with the inner portion of the implant.

The precision of the conical connection with its tight seal may be beneficial in preventing inflammatory bacteria from propagating in the interface between implant and abutment and it helps to avoid micro-movements.

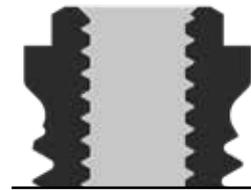


INTERNAL HEXAGON (INT)

BTK's internal hexagon connection comprises a parallel hexagon of 2 mm length opening with a small conical portion combined with a M1.8 abutment screw to deliver adequate pre-load with a minimum of tightening.

The internal hexagon has two functions: to transfer the torque momentum during implant placement and as an indexing system to transfer the precise 3D-position of the implant to the master cast.

Internal indexing systems have some advantages over external indexing systems since they allow longer engaging surfaces while reducing the platform height of the implant. This offers somewhat more flexibility in designing the emergence profile of the final restoration.



EXTERNAL HEXAGON (EXT)

BTK's external hexagon connection comprises a parallel hexagon at 0.7 mm height and a 90° shoulder to allow a flat-to-flat margin fit to the implant. Abutments are connected to the implant using a M1.8 (EN) or M2.0 (ER/EW) abutment screw.

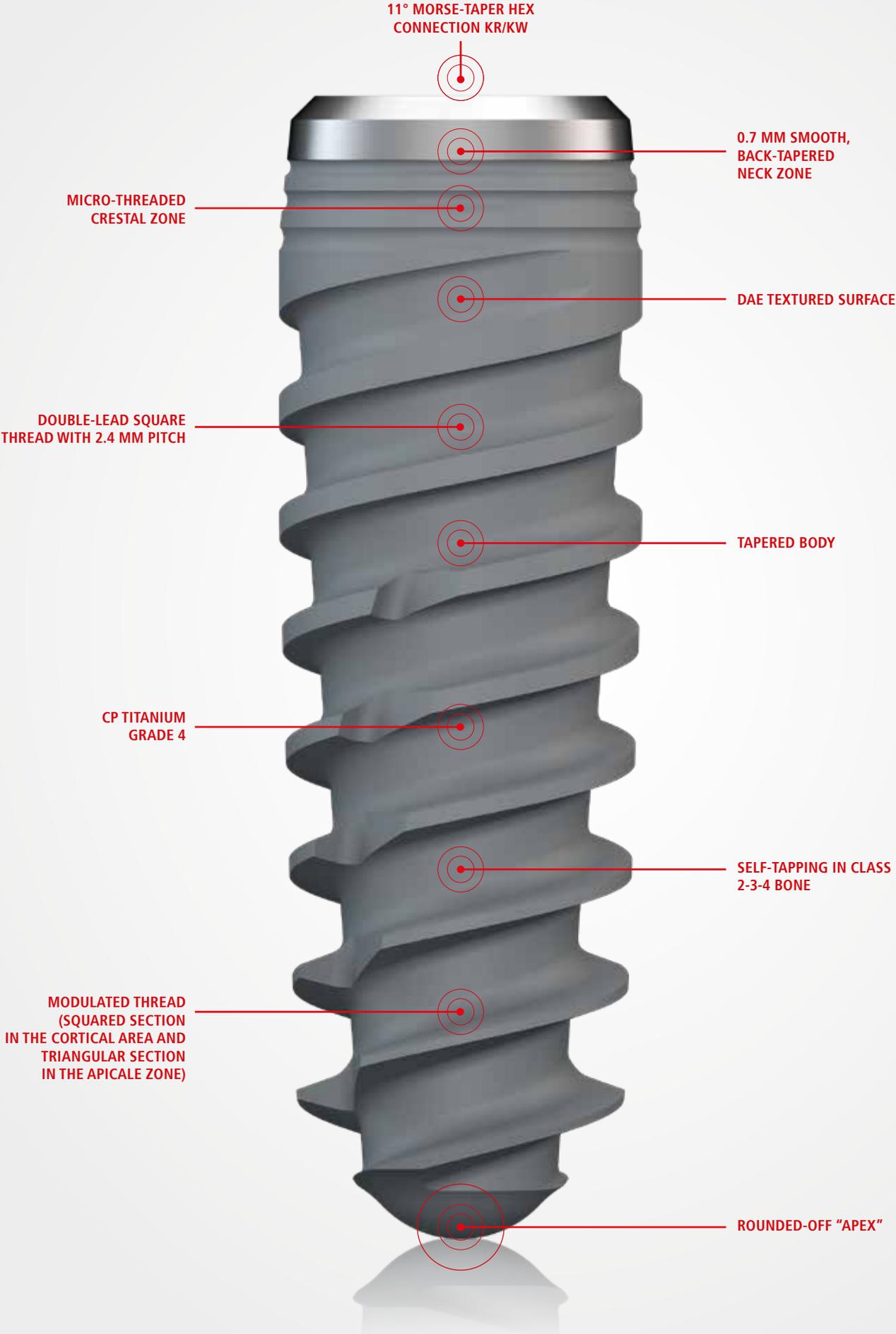
The abutment screw plays a central role for the mechanical, long-term strength and fatigue resistance of the implant abutment connection. The requirements for such a screw are many, such as no loosening, long-term fatigue resistance, overload protection and safe pick-up and handling ability.

Due to the fact that the abutment screw is exposed to heavy dynamic loads, the precise application of tightening torque force is essential.

MORSE-TAPER (MTH)	INTERNAL HEXAGON (INT)	EXTERNAL HEXAGON (EXT)
		EN = EXTERNAL NARROW
KR = KONIC REGULAR	IR = INTERNAL REGULAR	ER = EXTERNAL REGULAR
	IM = INTERNAL MEDIUM	
KW = KONIC WIDE	IW = INTERNAL WIDE	EW = EXTERNAL WIDE

NOTE that different BTK implants require different types of prosthetic platforms using corresponding abbreviations according to their sizes. For more details, refer to the corresponding BTK implant lines documentation.

3. BT SAFE IMPLANT



IMPLANT CHARACTERISTICS: BT SAFE

BT SAFE implants are suitable for the treatment of oral endosseous implantation in the maxilla or mandible and for the functional and aesthetic rehabilitation of edentulous or partially edentulous patients.

BT SAFE dental implants are made of commercially pure, cold-worked titanium Grade 4 and feature the DAE (dual acid-etched) surface. BT SAFE is a bone-level implant that replicates the root of the natural tooth and is self-tapping.

The BT SAFE implant is particularly suitable for early or immediate positioning after extraction or loss of natural teeth and / or for immediate loading applications in edentulous maxillae, as it offers excellent primary stability.

BT SAFE offers a back-tapered, micro-threaded smooth neck portion of 0.7 mm. The implant has a double-lead square thread with a pitch of 2.4 mm. Threads are characterized by a triangular shape near the apical zone while the threads take on a square shape in the cortical area.

BT SAFE implant line offers one abutment connection based on the well-proven 11° morse-taper hexagon (MTH) having regular (KR) or wide (KW) corresponding prosthetic components, respectively for diameters Ø 3.3, 3.7, 4.1, 4.8 mm and for diameters Ø 4.8, 6 mm.

The implant line is rounded off with the highly compact BT NANO implant (KW) for severely atrophic jaws. BT NANO implant is available with diameters Ø 4.2, 4.8, 6 mm and lengths 5 mm e 6 mm, and offers a MORSE-TAPER hexagon connection (KW).

BT SAFE and BT NANO lines allow both ways of healing: sub-mucosal or trans-mucosal healing approach.

BTK offers a focused portfolio of restorative solutions backed-up by comprehensive clinical experience. Biotec offers a variety of medical devices to satisfy the clinical preferences and needs of patients.

BTK has a solution for every case and can also provide customized products, designed and manufactured specifically for each patient.

BT SAFE and BT NANO lines share the surgical kit with ISY KONE implants.

For the accurate planning of the clinical case, BTK offers to the clinical a guided surgical protocol, with a complete digital workflow and the realization of the correspondent surgical guide.

CORONAL BACK TAPER & NECK DESIGN

The back-tapered profile of the coronal portion ensures excellent management of the cortical bone, thus helping to improve soft tissue support and to preserve cortical bone.

In the cortical area, where there are no threads, it is located the nominal maximum diameter of the implant. The purpose is to create a sealing effect without stress for the cortical bone.

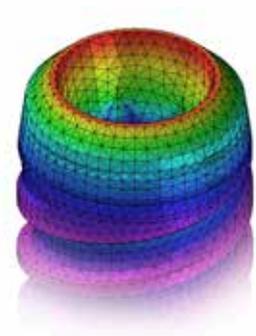
The micro-threads in the coronal portion contribute to improving BIC (Bone to Implant Contact), increasing the contact surface between implant and bone, significantly reducing bone resorption.



PLATFORM SWITCHING

Platform shifting is the concept of providing a narrower diameter prosthetic component on a wider diameter implant platform, creating an exposed ridge on the implant platform for the soft tissue.

This design, as demonstrated also in the literature, allows an excellent respect of the biological width, the preservation of the soft tissues such as the preservation of the marginal level of bone. Consequently, optimal aesthetic results are expected.



IMPLANT: ABUTMENT CONNECTION

The BT SAFE implant line has a MORSE-TAPER hexagon (MTH) connection between implant and abutment. This connection is characterized by an 11° conical portion above a hexagonal configuration. A connection with a conical interface is able to withstand greater axial and transverse loads in comparison to a flat interface design. Furthermore, the design guides the abutment into a predictable position, with a precise fit with the inner part of the implant.



The precision of the conical connection, with its sealing properties, can help to prevent the spreading of inflammatory bacteria at the implant-abutment interface. It also helps to avoid or reduce micro-movements.

The internal hexagon has a dual function:

- transfer the force torque during implant placement
- transfer the 3D position of the implant to the master model, as an indexing system

Internal indexing systems have significant advantages over external indexing systems because they offer longer engagement surfaces and reduce the height of the implant platform. This increases the flexibility during the design of the emergence profile for the final restoration.

Depending on the implant diameter of the BT SAFE line, the implant-abutment connection has two different configuration called KR (regular) and KW (wide).

- **KR** (regular) for implants with a diameter of Ø3.3 mm; Ø 3.7 mm; Ø 4.1 mm; Ø 4.8 mm
- **KW** (wide) for implants with a diameter of Ø 4.8 mm; Ø 6 mm

MECHANICAL PERFORMANCE

The development of the product design has been accompanied by FEM (Finite Element Method) analysis, in-depth mechanical tests and fatigue strength tests conducted by accredited laboratories and in compliance to ISO 14801.

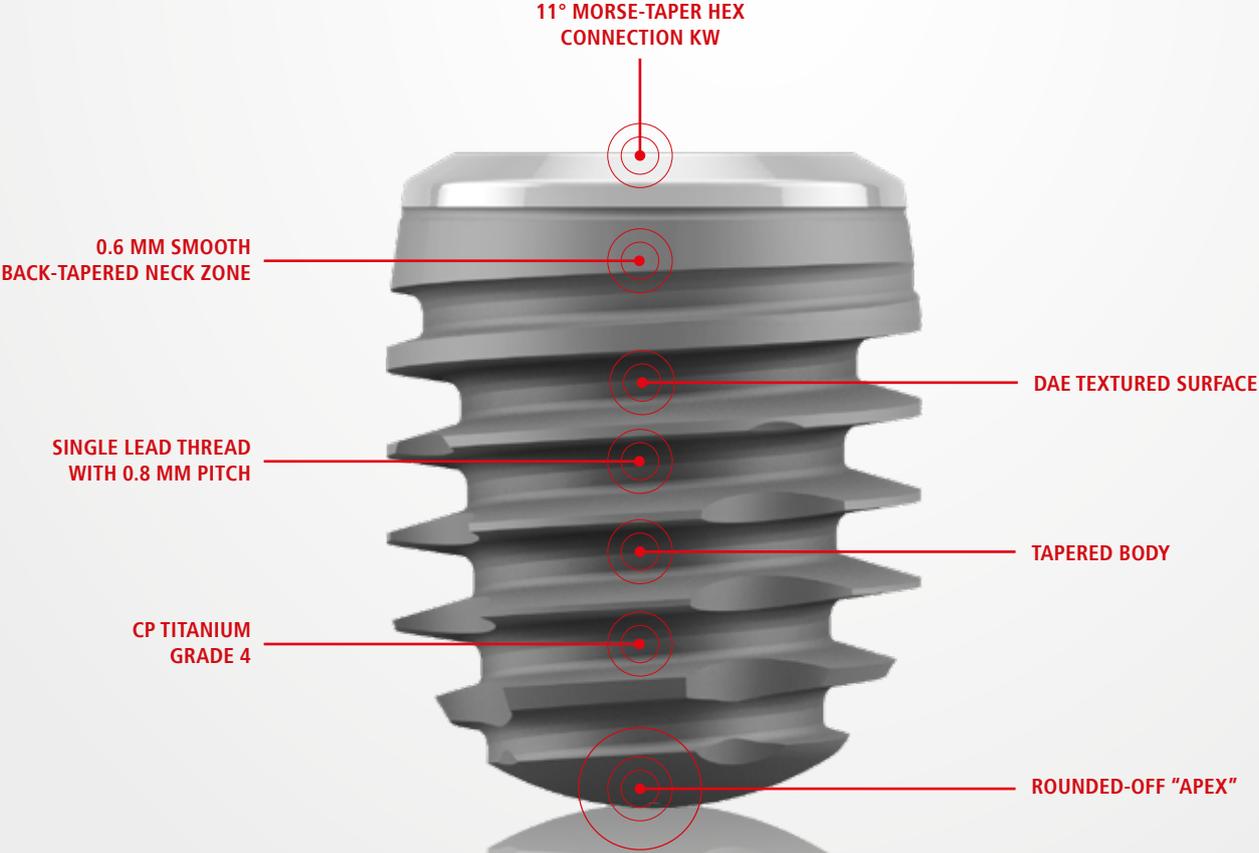
Mechanical risks play an important role in implantology, since they can increase the likelihood of cases failure, resulting in waste of time and waste of financial resources for both clinician and patient.

During the planning phase of the treatment, particular attention must be paid to avoid potential conditions of excessive load in both implants and prosthetic components, such as:

- Inadequate number of implants
- Inadequate implants length and /or implants diameter
- Excessive length of lever arms
- Incorrect positioning of the prosthesis
- Occlusal interferences with excessive lateral forces
- Parafunctions of the patient
- Inadequate procedures during the prosthesis preparation
- Inadequate adaptation of the prosthesis
- Trauma resulting from accidents or from the patient's habits

As a general rule, the implant with the largest possible diameter must be always used. Due to the reduced mechanical stability, implant with small diameter (<3.7 mm) should be used only in cases where low mechanical load is expected

4. BT NANO IMPLANT



SOLUTIONS FOR NON-STANDARD INDICATIONS: BT NANO

In order to plan the treatment and to position the implant correctly, it is necessary to be aware of the required surgical techniques and to have an adequate specialized training. Prior to any implant surgery an accurate medical history of the patient must be performed (clinical and radiographic analysis are necessary) and all possible risks must be assessed.

Patient expectations must also be well defined. Close communication between the patient, the dentist, the surgeon and the dental technician is essential to obtain the desired prosthetic result. A well-designed surgical protocol based on preoperative examinations and treatment planning is the prerequisite for a successful outcome.

In specific clinical situations, a specifically designed implant type / system is more suitable than the standard implant lines. BT SAFE implant line is extended by BT NANO, a 5 mm a./o. 6 mm short implant in 3 different diameters (4.2 mm / 4.8 mm / 6 mm) which can be inserted using the existing BT SAFE surgical kit. It helps to avoid extensive augmentation procedures and is considered as a splinted support for longer, regular BTK implants. Please note that BT NANO requires KW (konic wide = Ø 3.4 mm) prosthetic componentry.

LIMITED INDICATIONS

Short Implants (e.g. BT NANO)

Due to their reduced surface area for bone anchorage, implants with length 6 mm or less are to be used exclusively for the following indications:

- as an additional implant combined with longer than 6 mm implants to support implant-borne restorations
- as an auxiliary implant for implant-borne bar designs supporting full dentures in extremely atrophied jaws.

CHARACTERISTICS OF THE BT NANO IMPLANT

BT NANO is the ultra-short conical body implant line made of commercially pure, cold worked titanium Grade 4 and feature the DAE (dual acid-etched) surface. BT NANO is a bone-level and self-tapping implants. The special back-tapered design of the coronal portion, with a smooth portion of 0.6 mm, provides excellent management of the cortical bone. The nominal maximum diameter of the implants is positioned 1.5 mm from the platform helping to create a seal with no stress for the cortical bone. The integrated design between implant interface and abutment, narrowed that the implant platform, allows to preserve the soft tissues such as the biological width (platform switching concept).

The tapering shape of the implant body, combined with the design of the thread is planned to allow a gradual condensation of the bone in the radial direction ensuring a good primary stability in the coronal level, where there is the greatest implant seal, even in the presence of poor quality bone. BT NANO has a optimized design to resist lateral loads. The thread is designed to have a surface area 27% greater compared to a traditional screw implant of the same size and it is sharp up to 2 mm from the platform, where it becomes slightly square.

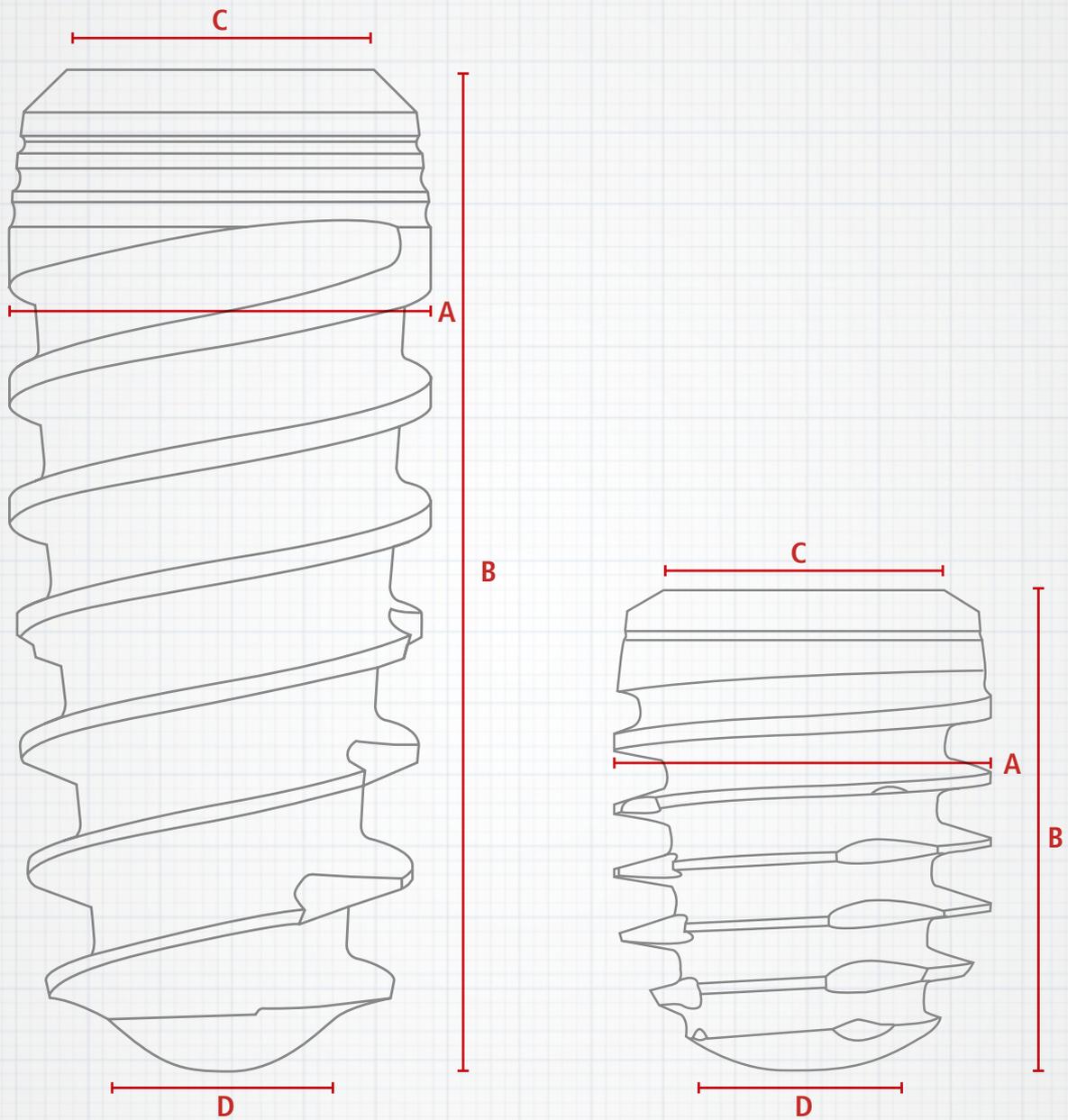
The conical connection ensures perfect seal between implant and abutment, eliminating the possibility of micro-movements and infiltrated bacteria. BT NANO implant offers on abutment connection based on the well-proven 11° morse-taper hexagon having a KW (wide)corresponding prosthetic components.

IMPLANT PORTFOLIO BT SAFE AND BT NANO

MORSE TAPER KR	implant length in mm B								APEX TIP ∅ / mm D	
	∅ mm A	5	6	8	10	12	14	16		18
	KONIC REGULAR (KR) C	BT SAFE M1.6 occlusal thread / prosthetic platform ∅ 2.8 mm / smooth neck portion 0.7 mm								
	3,3	-	-	-	120KR33L	120KR33N	120KR33Q	-	-	1.8
	3,7	-	-	120KR37J	120KR37L	120KR37N	120KR37Q	120KR37S	-	2.0
	4,1	-	120KR41G	120KR41J	120KR41L	120KR41N	120KR41Q	120KR41S	120KR41T	2.3
	4,8	-	120KR48G	120KR48J	120KR48L	120KR48N	120KR48Q	-	-	2.8

MORSE TAPER KW	implant length in mm B								APEX TIP ∅ / mm D	
	∅ mm A	5	6	8	10	12	14	16		
	KONIC WIDE (KW) C	BT SAFE M1.8 occlusal thread / prosthetic platform ∅ 3.4 mm / smooth neck portion 0.7 mm								
	4,8	-	120KW48G	120KW48J	120KW48L	120KW48N	120KW48Q	-	-	2.8
	6,0	-	120KW60G	120KW60J	120KW60L	-	-	-	-	3.5

MORSE TAPER KW	implant length in mm B								APEX TIP ∅ / mm D	
	∅ mm A	5	6	8	10	12	14	16		
	KONIC WIDE (KW) C	BT NANO M1.8 occlusal thread / prosthetic platform ∅ 3.4 mm / smooth neck portion 0.6 mm								
	4,2	123KW42E	123KW42G	-	-	-	-	-	-	2.4
	4,8	123KW48E	123KW48G	-	-	-	-	-	-	3.0
	6,0	123KW60E	123KW60G	-	-	-	-	-	-	3.8



The color codes applied for different implant diameters and prosthetic platforms (regular KR / wide KW) are indicated below:

	PURPLE	WHITE	BLUE	GREY	YELLOW	DARK YELLOW	GREEN
IMPLANT DIAMETER Ø	3,3	3,7	4,1	4,2	4,8	4,8	6,0
PROSTHETIC PLATFORM MTH	KR	KR	KR	KW	KR	KW	KW

HANDLING OF STERILE IMPLANT PACKAGING

CAUTION

The sealed package of the medical device (MD) must be opened in a surgically suitable environment.

The removal of the implant and of the cover screw, if provided, must be carried out using sterilized instruments, avoiding any contact with non-sterile surfaces.

The sterility of the medical device is only guaranteed if the following conditions are met:

the expiry date stated on the packaging is still valid; there is a red dot on the sterile vial that signals the successful operation of gamma ray irradiation; the sealed package has not been opened and does not show damage or perforations. If only one of the aforementioned conditions is not respected, the device must not be used.

The device is disposable; the reuse can compromise the safety features of the device making it inappropriate for its intended use. BIOTEC explicitly declares that the MD is for single use and assumes no responsibility for any re-use by users.



1

BTK dental implants are supplied sterile in a double-vial package. The implant diameter, length and lot are shown on the label located in the vial containing the implant and in the outer label on the back of the packaging.



2

Open the blister from the back by breaking the outer label, and take out the vial.



3

The top lid of the vial is protected by the seal label. The color of the seal label identifies the diameter of the implant. To facilitate compliance with the traceability requirement of the medical device, there are two detachable patient-labels in the vial. One must be stuck onto the patient's medical record and one onto the patient's implant passport.



4

Open the external vial and withdraw the internal vial containing the implant in a surgically suitable environment. The internal vial must be handled with sterile gloves.



5

Remove the safety cap of the sterile inner vial, which always includes the sterile closure screw. **WARNING** The internal vial consists of 3 parts. The cover screw (locking screw), if provided, is placed in the vial cap. Hold the vial upright to prevent the devices from leaking out. Unscrew the central part of the vial, to access the implant.



6

Some implant lines are supplied with mounting device connected to the implant, other lines are supplied without. Depending on the different configuration, use the appropriate instrument for the implant withdrawal from the vial and for the insertion of the same in the previously prepared implant site. The BTK dental implants can be positioned manually with the Reversible Torque Wrench or they can be inserted using the contra-angle handpiece. A range of 15 - 25 rpm is recommended for implant insertion and not to exceed the maximum torque indicated by BTK.

IMPLANT INSERTION



If a (partial / complete) tapping has been performed before implant insertion, the implant should be placed carefully on the implant site by performing a counterclockwise half rotation to engage the implant with the prepared thread.

After inserting into the thread, the implant can be guided in its final position clockwise, making sure that the implant is inserted at the desired depth and that the connection is intact.

WARNING The "implant driver" insertion drivers for the Morse-taper hexagon implant connection must be removed with delicate off-axis movements before removing them.



Insert the implant slowly in the previously prepared site.

A range of 15-25 rpm is recommended. During insertion, do not exceed the maximum torque values indicated below:

- **implant \leq Ø 3,7 mm:**
Insertion torque max. 35 - 45 Ncm
- **implant $>$ Ø 3,7 mm:**
Insertion torque max. 45 - 65 Ncm

In the cap of the internal vial there is, for each implant family, the corresponding cover screw (locking screw), sterile and ready for use.

Use sterile saline solution to carefully clean the implant connection from any organic residues. Therefore, make sure that it is clean and dry, before placing the cover screw (locking screw) or any prosthetic components that have been decided to be connect to the implant.

The cover screw is the chosen solution for the closed healing mode. To remove it more easily at the end of the healing period, a small amount of sterile vaseline or sterile chlorhexidine gel can be applied to the thread of the cover screw or healing cap before tightening it manually (5-8 Ncm) on the BTK implant, using a driver with a hex connection.

It is advisable to perform a postoperative x-ray check.



SIMPLICITY REDEFINED ONE KIT

The surgical tray is used for the secure storage and sterilization of surgical and auxiliary instruments of the BT SAFE and BT NANO system.

These implant lines shares the surgical kit with ISY KONE.

The surgical tray is made of a highly shock-proof thermoplastic, which is well established in medical applications and the material is suitable for frequent sterilization in the autoclave.

General guidelines for the cleaning and sterilization are given in the corresponding SURGICAL MANUAL. (Ref. 06200117)

SURGICAL KIT ISY KONE – BT SAFE – BT NANO CODICE 624NA001

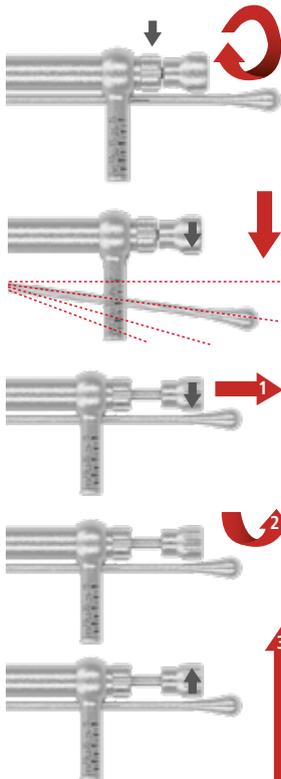


REVERSIBLE TORQUE WRENCH

The Reversible Torque Wrench is a dismantable, multiple-use instrument that provides means of tightening implants, abutments and screws. The lever arm integrated in the Reversible Torque Wrench is pushed away from the main body to the desired torque value. A torque value indicator is mounted at 90° in relation to the lever arm and indicates different value marks.

NOTE

Before the first and each following use, the Reversible Torque Wrench should be dismantled, cleaned, disinfected and sterilized in accordance with the instructions for use.



To dismantle the torque wrench for cleaning procedure, unscrew the wheel and then remove the inner bar where the spring is assembled.

APPLYING THE CORRECT TORQUE VALUE

In order to achieve the desired torque value, apply the force only to the lever-arm to the desired value mark. **The following marks are indicated: 15, 25, 35, 50, 70 and 90 Ncm.** Make sure that the arrow of the inversion device is matching to the lever-arm direction.

HOW TO CHANGE DIRECTIONS

With this type of Reversible Torque Wrench, one is able to change directions by simply pulling (1) and turning (2) the inversion device 180° in the desired direction.

This is done without removing the Reversible Torque Wrench from the attached driver in order to avoid additional manipulations and to save time.

The grey arrow on the inversion device always indicates in which direction the force is applied (3). This design was chosen to avoid additional manipulation, reduce potential sources of error while helping to save time.



DEVICE	IMPLANT CONNECTION	MATERIAL	TIGHTENING TORQUE
Cover screw	-	Titanium GR5	from 5 to 8 Ncm ("hand tight")
Healing abutment	-	Titanium GR5	from 5 to 8 Ncm ("hand tight")
Impression Post screw, tightening to implant or implant replica	-	Titanium GR5	from 5 to 8 Ncm ("hand tight")
Retentive screw, tightening Scan Abutment	-	Titanium GR5	from 5 to 8 Ncm ("hand tight")
Retentive screw, temporary tightening (abutment to implant)	BP, BT, BU	Titanium GR5	from 10 to 15 Ncm
	AB, CB, CC, EA, KR, FA, IE, IF, IG, IH, CA, IA, IB, IC, ID, KB, QA, QB	Titanium GR5	from 15 to 20 Ncm
Retentive screw, final tightening (abutment to implant)	AC, DA, DB, EC, EN, ER, EW, IR, IM, IW, KA, KC, KW, SE, SR, TN, TR, TW	Titanium GR5	from 20 to 25 Ncm
	BP, BT, BU	Titanium GR5	from 10 to 15 Ncm
	CA, IA, IB, IC, ID, KB, QA, QB	Titanium GR5	from 20 to 25 Ncm
	AB, CB, CC, EA, KR, FA, IE, IF, IG, IH	Titanium GR5	from 25 to 30 Ncm
Straight abutment M.U.A.	AC, DA, DB, EC, EN, ER, EW, IR, IM, IW, KA, KC, KW, SE, SR, TN, TR, TW	Titanium GR5	from 30 to 35 Ncm
	EN, ER, EW, IR, IM, IW, TN, TR, TW	Pd-based Alloy*	from 30 to 35 Ncm
	KR	Titanium GR5	from 25 to 30 Ncm
Abutment SOLID and OCTA	EN, ER, IR, KW	Titanium GR5	from 30 to 35 Ncm
	SR	Titanium GR5	from 30 to 35 Ncm
Retentive screw, tightening angled abutment M.U.A.	KR	Titanium GR5	from 20 to 25 Ncm
	EN, ER, IR, KW	Titanium GR5	from 25 to 30 Ncm
Retentive screw, prosthesis to abutment M.U.A. - suprastructures	BT, BU, BP	Titanium GR5	from 10 to 15 Ncm
Locator* abutment to implant	-	Titanium GR5	from 20 to 25 Ncm
Lingual screw	-	Titanium GR5	10 Ncm
Retentive screw, tightening installation device to implant	-	Titanium GR5	12 Ncm
Implant installation with installation device. Implant $\varnothing \leq \varnothing 3,7$ mm	-	-	from 35 to 45 Ncm
Implant installation with installation device. Implant $\varnothing > 3,7$ mm	-	-	from 45 to 65 Ncm

* Composition: (%wt.): Pd bal., Ga 10%, Cu 7%, Au 2%, Zn 0.5%, Ir 0.3%, Ru 0.1%

CHARACTERISTICS OF SURGICAL DRILLS

- All drills and screw taps are made of stainless steel.
- All drills and screw taps are supplied in non-sterile single packs or in kit not sterile. Please refer to the recommendations on cleansing and sterilization indicated by BTK.
- Drills and screw taps must be replaced after a maximum of 20 uses. The effectiveness decreases after 5/6 applications already.
- All drills and screw taps have depth markings made with laser technique.
- The length relative to the corresponding black strip, realized with laser technique, it is always the lower or upper end of the strip.
- The black strips correspond to the length of the selected implant. However, to increase security, the drill stops can be used during site preparation.
- All drills report their diameter and the relevant reference code on the stem.
- All final drills allow you to apply suitable drill stops.
- In case the length of the drills is insufficient, there is the possibility to connect them to the "Drill Extension" tool.

SURGICAL STANDARDS

For successful osseointegration, a precise, not traumatic surgical technique is required, which safeguards the soft tissues and accurately prepares the implant site without overheating the bone.

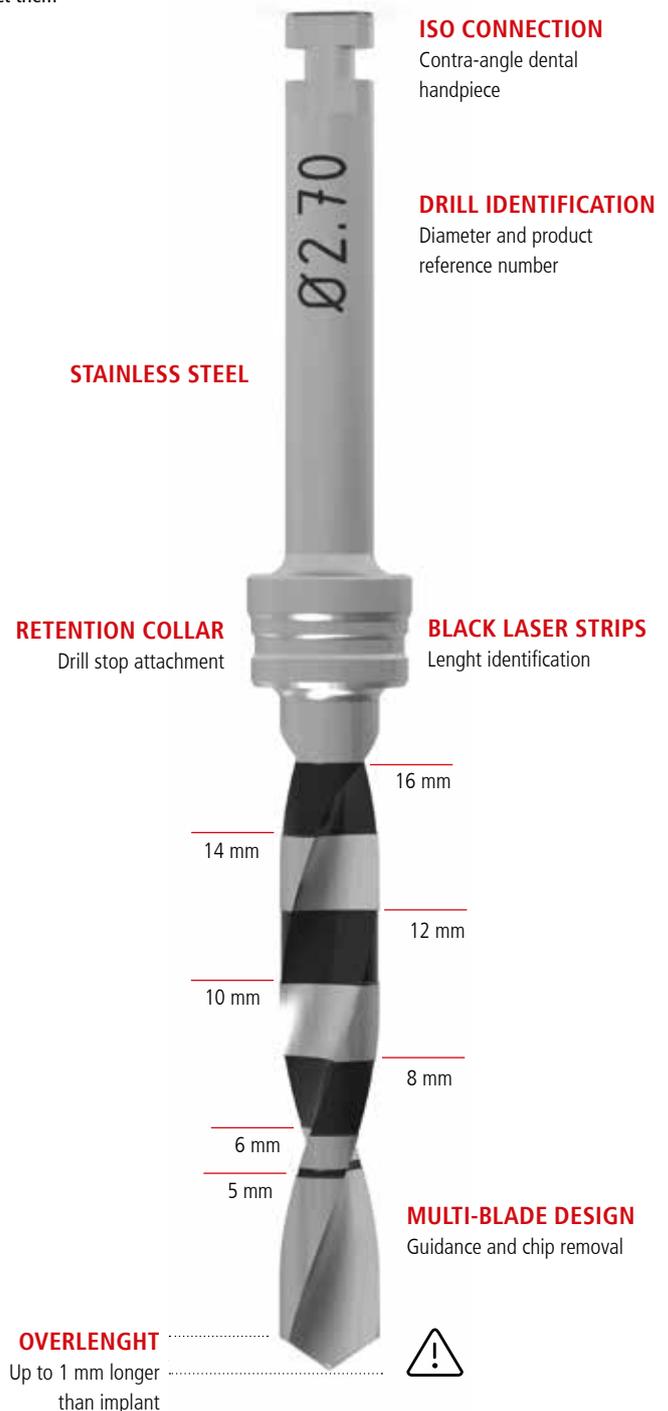
Before starting the surgical procedure and during the same procedure the following points must be taken into account:

- Check that all the necessary tools are available and fully functional. It is recommended to always keep an adequate supply of sterile implants and instruments.
- Do not use cutting tools more than 20 times. Make sure that the drills are sharp before each use. The effectiveness of a drill already decreases after 5/6 applications.
- Drilling must be carried out with sharp drills, intermittently at 500 - 600 rpm, always with abundant external irrigation with pre-cooled sterile saline solution and avoiding excessive pressures.
- Do not exceed the speeds indicated by BTK for drills.
- Use the drills with diameters in ascending order.
- The drills can be placed in distilled / deionized water but should not be placed in saline or Ringer's solution during surgery if they are used for more than one preparation.

NOTE

- For implants with a length of 18 mm, the corresponding depth markings on drills are not provided such as the suitable drill stops are not available. It is advisable to prepare the implant site taking into account that the length of the drill, from the tip and up to the retention collar, is equal to 18.8 mm. It is responsibility of the clinician to evaluate based on the clinical case, morphology and bone quality, as well as the inclination of the implant, how to prepare the implant site.
- For ISY KONE implants with a diameter of Ø 6 mm, the corresponding screw tap (ref 467HR600 Screw Tap HR Ø6.0mm L36mm Isy Kone) is not included in the surgical kit (ref. 624NA001). This tool is OPTIONAL and must be purchased separately if necessary.

TOOL	SPEED (RPM)
LANCE DRILL	800
TWIST DRILL (PILOT) Ø 2mm	800
DRILL Ø<3.5mm	600
DRILL 3.5mm≤Ø≤4.5mm	500
DRILL Ø>4.5mm	400
COUNTERSINK	300/400
TAPS	<15





SURGICAL PROTOCOLS

BT SAFE

IMPLANT		DRILLS										TAPS (D1-D2)*									
		Lance drill 401HR202	Twist drill (pilot) Ø 2 426HR200	Twist drill Ø 2,7 426HR270	Twist drill Ø 3,1 426HR310	Twist drill Ø 3,45 426HR345	Twist drill Ø 3,85 426HR385	Twist drill Ø 4,2 426HR420	Twist drill Ø 4,55 426HR455	Twist drill Ø 5,4 426HR540	Twist drill Ø 5,7 426HR570	Screw tap Ø 3,3 466HR330		Screw tap Ø 3,7 466HR370		Screw tap Ø 4,1 466HR410		Screw tap Ø 4,8 466HR480		Screw tap Ø 6 466HR600	
											D1	D2	D1	D2	D1	D2	D1	D2	D1	D2	
3,3	10mm										1°	1°									
	12mm	●	●	●	○						1°	1°									
	14mm										1°	1°									
3,7	8mm												1°	1°							
	10mm												1°	1°							
	12mm	●	●	●	●	○							1°	1°							
	14mm												1°	1°							
	16mm												1°	1°							
4,1	6mm														1°	-					
	8mm														1°	-					
	10mm														1°	1°					
	12mm	●	●	●	●	●	○								1°	1°					
	14mm														1°	1°					
	16mm														1°	1°					
	18mm														1°	1°					
4,8	6mm																1°	-			
	8mm																1°	-			
	10mm	●	●	●	●	●	●	○									1°	1°			
	12mm																1°	1°			
6,0	6mm																			1°	-
	8mm	●	●	●	●	●	●	●	○											1°	1°
	10mm																			1°	1°

- Always
- Only in presence of D1-D2-D3 bone

* No Screw taps are necessary for D3 and D4



BT NANO

		DRILLS									
IMPLANT		Lance drill 401HR202	Twist drill (pilot) Ø 2 426HR200	Twist drill Ø 2,7 426HR270	Twist drill Ø 3,1 426HR310	Twist drill Ø 3,45 426HR345	Twist drill Ø 3,85 426HR385	Twist drill Ø 4,2 426HR420	Twist drill Ø 4,55 426HR455	Twist drill Ø 5,4 426HR540	Twist drill Ø 5,7 426HR570
4,2	5mm	●	●	●	●	●	○				
	6mm	●	●	●	●	●	○				
4,8	5mm	●	●	●	●	●	●	●	○		
	6mm	●	●	●	●	●	●	●	○		
6,0	5mm	●	●	●	●	●	●	●	●	●	○
	6mm	●	●	●	●	●	●	●	●	●	○

- Always
- Only in presence of D1-D2 bone

N.B.

The above procedures should be considered indicative; it is responsibility of the clinician to evaluate potential variations of the procedure on the basis of individual case and bone density.

Due to the presence of cutting edges on drills, it is strongly recommended the use of the stop in order to avoid excessive depth of drilling that could compromise vital structures.

In case of insertion of the BT SAFE implant with a length of 18 mm (REF 120KR41T), it is recommended to monitor the insertion torques and, in case of particularly hard cortical bone, it is advisable, if necessary, to prepare the implant site using the screw tap beyond the lasered black strips, taking into account the patient's bone characteristics. This procedure is suggest to used only if there are excessive torque values compared to those indicated above (45-65 Ncm).

SURGICAL INSTRUMENTS

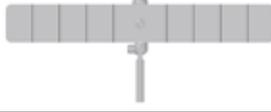
Contents of the ISY KONE, BT SAFE and BT NANO Surgical Kit (Ref 624NA001) and optional instrumentation dedicated to the correct management of the surgical procedure.

PICTURE	REF	PRODUCT NAME	SPECIFICATION	INCLUDED IN THE KIT
INITIAL PREPARATION				
	401HR200	Round Drill HR	Ø2mm L35mm	
	401HR201	Lance Drill HR	Ø2mm L35mm	
	401HR202	Sharp Lance Drill HR	Ø2mm L33mm	✓
	540MA011	Depth Gauge	Ø1.8mm L108mm 30°	✓
	540MA014	Parall. Pin/Depth Gauge	Ø2-Ø2.5mm L36mm	✓
	540MA019	Parall. Pin/Depth Gauge	Ø2-Ø2.5mm L26mm	✓
	520HS003	Drill Extension HS	L28mm	✓
DRILLS, LENGHT 32.5-32.8 mm (SHORT)				
	426HS200	Twist Drill HS	Ø2mm L32.5mm	
	426HS270	Twist Drill HS	Ø2.7mm L32.5mm	
	426HS310	Twist Step Drill HS	Ø3.1-2.75mm L32.5mm	
	426HS345	Twist Step Drill HS	Ø3.45-3.05mm L32.5mm	
	426HS385	Twist Step Drill HS	Ø3.85-3.4mm L32.8mm	
	426HS420	Twist Step Drill HS	Ø4.2-3.7mm L32.8mm	
	426HS455	Twist Step Drill HS	Ø4.55-4mm L32.8mm	
	426HS540	Twist Step Drill HS	Ø5.4-4.7mm L32.8mm	
	426HS570	Twist Step Drill HS	Ø5.7-4.95mm L32.8mm	
DRILL STOPS (SNAP-FIT) Ø5 FOR SHORT DRILLS ≤ Ø3.45 mm				
	690NA258	Stop Kit	Ø5 S5-12mm BT Safe Isy Kone BT Nano	
	521NA505	Drill Stop	H5mm Snap Fit Short	
	521NA506	Drill Stop	H6mm Snap Fit Short	
	521NA507	Drill Stop	H7mm Snap Fit Short	
	521NA508	Drill Stop	H8mm Snap Fit Short	
	521NA510	Drill Stop	H10mm Snap Fit Short	
	521NA512	Drill Stop	H12mm Snap Fit Short	

PICTURE	REF	PRODUCT NAME	SPECIFICATION	INCLUDED IN THE KIT
DRILL STOPS (SNAP-FIT) Ø7 FOR SHORT DRILLS ≥ Ø3.85 mm				
	690NA259	Stop Kit	Ø7 S5-12mm BT Safe Isy Kone BT Nano	
	521NA705	Drill Stop	H5mm Snap Fit Short	
	521NA706	Drill Stop	H6mm Snap Fit Short	
	521NA707	Drill Stop	H7mm Snap Fit Short	
	521NA708	Drill Stop	H8mm Snap Fit Short	
	521NA710	Drill Stop	H10mm Snap Fit Short	
	521NA712	Drill Stop	H12mm Snap Fit Short	
DRILLS, LENGHT 36.5-36.8 mm (REGULAR)				
	426HR200	Twist Drill HR	Ø2mm L36.5mm	✓
	426HR270	Twist Drill HR	Ø2.7mm L36.5mm	✓
	426HR310	Twist Step Drill HR	Ø3.1-2.75mm L36.5mm	✓
	426HR345	Twist Step Drill HR	Ø3.45-3.05mm L36.5mm	✓
	426HR385	Twist Step Drill HR	Ø3.85-3.4mm L36.8mm	✓
	426HR420	Twist Step Drill HR	Ø4.2-3.7mm L36.8mm	✓
	426HR455	Twist Step Drill HR	Ø4.55-4mm L36.8mm	✓
	426HR540	Twist Step Drill HR	Ø5.4-4.7mm L36.8mm	✓
	426HR570	Twist Step Drill HR	Ø5.7-4.95mm L36.8mm	✓
DRILL STOPS (SNAP-FIT) Ø5 FOR REGULAR DRILLS ≤ Ø3.45 mm				
	690NA256	Stop Kit	Ø5 R5-16mm BT Safe Isy Kone BT Nano	
	518NA505	Drill Stop	H5mm Snap Fit	✓
	518NA506	Drill Stop	H6mm Snap Fit	✓
	518NA508	Drill Stop	H8mm Snap Fit	✓
	518NA510	Drill Stop	H10mm Snap Fit	✓
	518NA512	Drill Stop	H12mm Snap Fit	✓
	518NA514	Drill Stop	H14mm Snap Fit	✓
	518NA516	Drill Stop	H16mm Snap Fit	✓

PICTURE	REF	PRODUCT NAME	SPECIFICATION	INCLUDED IN THE KIT
DRILL STOPS (SNAP-FIT) Ø7 FOR REGULAR DRILLS ≥ Ø3.85 mm				
	690NA257	Stop Kit	Ø7 R5-16mm BT Safe Isy Kone BT Nano	
	518NA705	Drill Stop	H5mm Snap Fit	✓
	518NA706	Drill Stop	H6mm Snap Fit	✓
	518NA708	Drill Stop	H8mm Snap Fit	✓
	518NA710	Drill Stop	H10mm Snap Fit	✓
	518NA712	Drill Stop	H12mm Snap Fit	✓
	518NA714	Drill Stop	H14mm Snap Fit	✓
	518NA716	Drill Stop	H16mm Snap Fit	✓
COUNTERSINK HS				
	434HS330	Countersink HS	Ø3.3mm L31mm Isy Kone Int	✓
	434HS480	Countersink HS	Ø4.8mm L31mm Isy Kone Int	✓
TAPS FOR MACHINE USE COMPATIBLE WITH CONTRA-ANGLE HANDPIECE (ISO)				
	466HR330	Screw Tap HR	Ø3.3mm L31mm BT Safe	✓
	466HR370	Screw Tap HR	Ø3.7mm L31mm BT Safe	✓
	466HR410	Screw Tap HR	Ø4.1mm L31mm BT Safe	✓
	466HR480	Screw Tap HR	Ø4.8mm L31mm BT Safe	✓
	466HR600	Screw Tap HR	Ø6mm L31mm BT Safe	✓
	467HR330	Screw Tap HR	Ø3.3mm L36mm Isy Kone	✓
	467HR370	Screw Tap HR	Ø3.7mm L36mm Isy Kone	✓
	467HR410	Screw Tap HR	Ø4.1mm L36mm Isy Kone	✓
	467HR480	Screw Tap HR	Ø4.8mm L36mm Isy Kone	✓
	467HR600	Screw Tap HR	Ø6mm L36mm Isy Kone	
TAP DRIVERS FOR MANUAL USE COMPATIBLE WITH REVERSIBLE TORQUE WRENCH (JD)				
	530JD031	Adapter Connection	ISO/HEX3.10-JD L35mm	
	530JD032	Adapter Connection	ISO/HEX3.10-JD L7.5mm	
	530JD033	Adapter Connection	ISO/HEX3.10-JD L10mm	✓
	530JD034	Adapter Connection	ISO/HEX3.10-JD L15mm	

PICTURE	REF	PRODUCT NAME	SPECIFICATION	INCLUDED IN THE KIT	
MOUNTING DEVICES					
EN		690EN001	Mounting Device EN	L8mm	
		690EN002	Mounting Device EN	L20mm	
ER		690ER001	Mounting Device ER	L8mm	
		690ER002	Mounting Device ER	L20mm	
	530HS017	Retentive Wrench	HEX3.10	✓	
IMPLANT DRIVERS, FOR MANUAL USE COMPATIBLE WITH TORQUE WRENCH (JD)					
KR		530JD023	Implant Driver JD Conn. KR	L15mm	
		530JD024	Implant Driver JD Conn. KR	L23mm	
KW		530JD027	Implant Driver JD Conn. KW	L15mm	
		530JD028	Implant Driver JD Conn. KW	L23mm	
IR-IW		530JD018	Implant Driver JD Conn. IR-IW	L19mm	
		530JD019	Implant Driver JD Conn. IR-IW	L22mm	
IMPLANT DRIVERS FOR CONTRA-ANGLE HANDPIECE (ISO)					
KR		530HL001	Implant Driver KR	L33mm	✓
		530HS013	Implant Driver KR	L23mm	✓
KW		530HL002	Implant Driver KW	L33mm	✓
		530HS014	Implant Driver KW	L23mm	✓
IR-IW		530HS008	Implant Driver IR-IW	L30mm	✓
		530HS009	Implant Driver IR-IW	L26mm	✓
AUXILIARY INSTRUMENTS					
	501JD003	Torque Wrench JD, reversible	90Ncm	✓	
	502MA002	Guide Shaft	Ø2.5mm	✓	
	502MA003	Angled Wrench 30°	HEX3.10	✓	
HEX DRIVERS FOR MACHINE USE COMPATIBLE WITH CONTRA-ANGLE HANDPIECE (ISO)					
	530HS002	Handpiece Driver	HEX0.90 L25mm		
	530HS003	Handpiece Driver	HEX0.90 L30mm		
	530HS004	Handpiece Driver	HEX1.20 L25mm		
	530HS005	Handpiece Driver	HEX1.20 L30mm		

PICTURE	REF	PRODUCT NAME	SPECIFICATION	INCLUDED IN THE KIT
HEX DRIVERS FOR MANUAL USE COMPATIBLE WITH REVERSIBLE TORQUE RATCHET (JD)				
	530JD003	Screwdriver JD	HEX1.20 L5mm	
	530JD004	Screwdriver JD	HEX1.20 L10mm	
	530JD005	Screwdriver JD	HEX1.20 L15mm	✓
	530JD006	Screwdriver JD	HEX1.20 L20mm	
	530JD007	Screwdriver JD	HEX1.20 L30mm	
	530JD011	Screwdriver JD	HEX0.90 L10mm	
	530JD012	Screwdriver JD	HEX0.90 L15mm	✓
INSTRUMENTS FOR BT4 METHOD				
	502MA006	Surgical Guide BT4	(PIN Ø2.5mm)	✓
	540MA007	Parallelism Pin	M1.4 L26mm	✓
	435EN001.02	Bone Profiler Guide EN	Kit 2pcs	✓
	435ER001.02	Bone Profiler Guide ER	Kit 2pcs	✓
	435IR001.02	Bone Profiler Guide IR	Kit 2pcs	✓
	435KR001.02	Bone Profiler Guide KR	Kit 2pcs	✓
	435KW001.02	Bone Profiler Guide KW	Kit 2pcs	✓
	435HS430	Bone Profiler HS	Ø4.3mm L25mm	✓
	530JD014	Screwdriver JD	HEX1.20 L15mm Slim Shank	✓
	530HS012	Handpiece Driver	HEX1.20 L30mm Reduced	
	530JD015	Screwdriver JD	HEX1.20 L5mm	
	530JD021	Screwdriver JD	HEX2.0 L10mm	✓
	530JD038	Screwdriver JD	HEX2.0 L20mm	

MORSE-TAPER (MTH) KR/KW

HEALING & SOFT TISSUE CONDITIONING

KR	KW	PICTURE	REF	PRODUCT NAME	SPECIFICATION		
HEALING ABUTMENTS							
○			201KR1A0	Healing Abutment KR	H1mm Ø3.5mm		
			201KR1A1	Healing Abutment KR	H1mm Ø4.5mm		
			201KR2A1	Healing Abutment KR	H2mm Ø3.5mm		
			201KR2A2	Healing Abutment KR	H2mm Ø4.5mm		
			201KR2A3	Healing Abutment KR	H2mm Ø5.5mm		
			201KR2A4	Healing Abutment KR	H2mm Ø6.5mm		
			201KR2A5	Healing Abutment KR	H2mm Ø2.5mm		
			201KR3A0	Healing Abutment KR	H3.5mm Ø3.5mm		
			201KR3A1	Healing Abutment KR	H3.5mm Ø4.5mm		
			201KR3A2	Healing Abutment KR	H3.5mm Ø5.5mm		
			201KR3A3	Healing Abutment KR	H3.5mm Ø6.5mm		
					201KR3A4	Healing Abutment KR	H3.5mm Ø2.5mm
					201KR5A1	Healing Abutment KR	H5mm Ø2.5mm
			○		201KW2A0	Healing Abutment KW	H2mm Ø4mm
201KW4A0	Healing Abutment KW				H4mm Ø4mm		
201KW6A0	Healing Abutment KW				H6mm Ø4mm		
	○		203KW2A1	Anatomical Healing Abutment KW	H2mm Ø4.5mm		
			203KW4A1	Anatomical Healing Abutment KW	H4mm Ø5.5mm		
			203KW6A1	Anatomical Healing Abutment KW	H6mm Ø5.5mm		
			203KW4A2	Anatomical Healing Abutment KW	H4mm Ø6.5mm		
			203KW6A2	Anatomical Healing Abutment KW	H6mm Ø6.5mm		

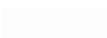
IMPRESSION TAKING

KR	KW	PICTURE	REF	PRODUCT NAME	SPECIFICATION
IMPRESSION POST					
○			325KR0A0	Impression Post Pro KR	Plastic cap
○			690NA073	Impression Post Screw	M1.6 HEX1.20 H7.9mm
	○		325KW0A0	Impression Post Pro KW	Plastic cap
	○		690NA085	Impression Post Screw	M1.8 HEX1.20 H7.3mm
○	○		690NA091.10	Caps Kit Pro	Ø5.1mm Kit 10pz
TRANSFER PICK-UP					
○			323KR0A0	Impression Post Propick-Up KR	HUseful21.5mm Long Screw
○			323KR0A2	Impression Post Propick-Up KR	HUseful16.5mm Short Screw
○			323KR0R0	Impression Post Propick-Up KR	HUseful21.5mm Rotating Long screw
○			323KR0R1	Impression Post Propick-Up KR	HUseful16.5mm Rotating Short Screw
○			690NA072	Impression Post Pick-Up Screw	M1.6 HEX1.20 H26.4mm
○			690NA071	Impression Post Pick-Up Screw	M1.6 HEX1.20 H21.4mm
	○		323KW0A2	Impression Post Propick-Up KW	HUseful21.5mm Long Screw
	○		323KW0A1	Impression Post Propick-Up KW	HUseful16.5mm Short Screw
	○		323KW0R0	Impression Post Propick-Up KW	HUseful21.5mm Rotating Long screw
	○		323KW0R1	Impression Post Propick-Up KW	HUseful16.5mm Rotating Short Screw
	○		690NA087	Impression Post Pick-Up Screw	M1.8 HEX1.20 H25.3mm
	○		690NA086	Impression Post Pick-Up Screw	M1.8 HEX1.20 H20.3mm
IMPLANT REPLICA					
○			301KR0A0	Implant Replica KR	
	○		301KW0A0	Implant Replica KW	

INTERIM RESTORATIONS

KR	KW	PICTURE	REF	PRODUCT NAME	SPECIFICATION
TEMPORARY ABUTMENTS					
○			210KR1A0	Temporary Abutment KR	
○			210KR1R0	Temporary Abutment KR	Rotating
	○		210KW1A0	Temporary Abutment KW	
○			215KR0A0	Temporary Abutment KR	Peek
	○		215KW0A0	Temporary Abutment KW	Peek
○			690NA070	Retentive Screw	M1.6 HEX1.20 H8.3mm
	○		690NA084	Retentive Screw	M1.8 HEX1.20 H7mm

CEMENT-RETAINED PROSTHESIS

KR	KW	PICTURE	REF	PRODUCT NAME	SPECIFICATION
STRAIGHT ABUTMENTS					
○			214KR4A0	Transfer Abutment KR	H4mm Ø4.5mm
	○		214KW4A0	Transfer Abutment KW	H4mm Ø4.5mm
○			690NA091.10	Caps Kit Pro	Ø5.1mm Kit 10pcs
○			219KR2A3	Esthetic Abutment KR	H2mm Ø4.5mm
			219KR2A4	Esthetic Abutment KR	H2mm Ø5.5mm
			219KR2A5	Esthetic Abutment KR	H2mm Ø6.5mm
			219KR3A3	Esthetic Abutment KR	H3.5mm Ø4.5mm
			219KR3A4	Esthetic Abutment KR	H3.5mm Ø5.5mm
			219KR3A5	Esthetic Abutment KR	H3.5mm Ø6.5mm
	○		219KW2A1	Esthetic Abutment KW	H2mm Ø5.5mm
			219KW2A2	Esthetic Abutment KW	H2mm Ø6.5mm
			219KW3A1	Esthetic Abutment KW	H3mm Ø5.5mm
			219KW3A2	Esthetic Abutment KW	H3mm Ø6.5mm
○			220KR1A2	Straight Abutment KR	H1mm Ø3.5mm
			220KR1A3	Straight Abutment KR	H1mm Ø4.5mm
			220KR2A0	Straight Abutment KR	H2mm Ø3.5mm
			220KR2A1	Straight Abutment KR	H2mm Ø4.5mm
			220KR2A2	Straight Abutment KR	H2mm Ø5.5mm
			220KR3A0	Straight Abutment KR	H3.5mm Ø3.5mm
			220KR3A1	Straight Abutment KR	H3.5mm Ø4.5mm
			220KR3A2	Straight Abutment KR	H3.5mm Ø5.5mm
○			690NA070	Retentive Screw	M1.6 HEX1.20 H8.3mm
	○		690NA084	Retentive Screw	M1.8 HEX1.20 H7mm

KR	KW	PICTURE	REF	PRODUCT NAME	SPECIFICATION
ANGLED ABUTMENTS					
○			220KR1C0	Angled Abutment KR	10° H1mm Ø3.5mm
			220KR1C1	Angled Abutment KR	10° H1mm Ø4.5mm
			220KR1E0	Angled Abutment KR	20° H1mm Ø3.5mm
			220KR1E1	Angled Abutment KR	20° H1mm Ø4.5mm
			220KR1G0	Angled Abutment KR	30° H1mm Ø3.5mm
			220KR1G1	Angled Abutment KR	30° H1mm Ø4.5mm
○			220KR2C0	Angled Abutment KR	10° H2mm Ø3.5mm
			220KR2C1	Angled Abutment KR	10° H2mm Ø4.5mm
			220KR2C2	Angled Abutment KR	10° H2mm Ø5.5mm
			220KR2E2	Angled Abutment KR	20° H2mm Ø3.5mm
			220KR2E3	Angled Abutment KR	20° H2mm Ø4.5mm
			220KR2E4	Angled Abutment KR	20° H2mm Ø5.5mm
			220KR2G0	Angled Abutment KR	30° H2mm Ø3.5mm
			220KR2G1	Angled Abutment KR	30° H2mm Ø4.5mm
			220KR2G2	Angled Abutment KR	30° H2mm Ø5.5mm
○			220KR3C0	Angled Abutment KR	10° H3.5mm Ø3.5mm
			220KR3C1	Angled Abutment KR	10° H3.5mm Ø4.5mm
			220KR3C2	Angled Abutment KR	10° H3.5mm Ø5.5mm
			220KR3E0	Angled Abutment KR	20° H3.5mm Ø3.5mm
			220KR3E1	Angled Abutment KR	20° H3.5mm Ø4.5mm
			220KR3E2	Angled Abutment KR	20° H3.5mm Ø5.5mm
			220KR3G0	Angled Abutment KR	30° H3.5mm Ø3.5mm
			220KR3G1	Angled Abutment KR	30° H3.5mm Ø4.5mm
			220KR3G2	Angled Abutment KR	30° H3.5mm Ø5.5mm
	○		220KW4E0	Angled Abutment KW	20° H4mm Ø5.5mm
220KW4E1			Angled Abutment KW	20° H4mm Ø6.5mm	
○			690NA070	Retentive Screw	M1.6 HEX1.20 H8.3mm
	○		690NA084	Retentive Screw	M1.8 HEX1.20 H7mm

SCREW-RETAINED / CEMENT-RETAINED PROSTHESIS

KR	KW	PICTURE	REF	PRODUCT NAME	SPECIFICATION
BT LINK					
○			246KR1A0	BT LINK KR	H1mm Ø4.1mm
			246KR1A1	BT LINK KR	H1mm Ø4.1mm Rotating
○			247KR1A0	Base BT LINK KR	H1mm Ø4.1mm no Cap.
			247KR1A1	Base BT LINK KR	H1mm Ø4.1mm no Cap. Rotating
○			205NA001.05	Castable Plastic Abut. BT Link	H1mm Ø4.7mm Kit 5pcs
	○		246KW1A0	BT LINK KW	H1mm Ø4.5mm
	○		247KW1A0	Base BT LINK KW	H1mm Ø4.5mm no Cap.
	○		205NA002.05	Castable Plastic Abut. BT Link	H1mm Ø5.2mm Kit 5pcs
○			690NA083	Retentive Screw	M1.6 HEX1.20 H8.3mm FH
	○		690NA118	Retentive Screw	M1.8 HEX1.20 H6.9mm FH
CAST-ON TECHNIQUE					
○			245KR0A0	Gold Abutment KR	H1mm
			240KR1A0	CoCr Abutment KR	H1.5mm
			240KR1R0	CoCr Abutment KR	H1.5mm Rotating
	○		245KW0A0	Gold Abutment KW	H1mm
			240KW1A0	CoCr Abutment KW	H1.5mm
			240KW1R0	CoCr Abutment KW	H1.5mm Rotating
○			690NA070	Retentive Screw	M1.6 HEX1.20 H8.3mm
	○		690NA084	Retentive Screw	M1.8 HEX1.20 H7mm
SCAN ABUTMENTS					
○			351KR1A0	Scan Abutment Extra-oral KR	
			352KR1A0	Scan Abutment Intra-oral KR	
	○		351KW1A0	Scan Abutment Extra-oral KW	
			352KW1A0	Scan Abutment Intra-oral KW	
○			690NA083	Retentive Screw	M1.6 HEX1.20 H8.3mm FH
	○		690NA118	Retentive Screw	M1.8 HEX1.20 H6.9mm FH

SCREW-RETAINED PROSTHESIS

KR	KW	PICTURE	REF	PRODUCT NAME	SPECIFICATION
BT4 STRAIGHT ABUTMENTS					
○			265KR1R0	BT4 Straight Abutment KR	Rotating H1mm
			265KR2R0	BT4 Straight Abutment KR	Rotating H2mm
			265KR3R0	BT4 Straight Abutment KR	Rotating H3mm
○			268KR1R0	BT4 Slim Straight Abutment KR	Rotating H1mm
			268KR2R0	BT4 Slim Straight Abutment KR	Rotating H2mm
	○		265KW1R0	BT4 Straight Abutment KW	Rotating H1mm
			265KW2R0	BT4 Straight Abutment KW	Rotating H2mm
			265KW3R0	BT4 Straight Abutment KW	Rotating H3mm
	○		268KW1R0	BT4 Slim Straight Abutment KW	Rotating H1mm
			268KW2R0	BT4 Slim Straight Abutment KW	Rotating H2mm
BT4 ANGLED ABUTMENTS					
○			266KR2L0	BT4 Angled Abutment KR	17° H2mm Ø4.8mm
			266KR3L0	BT4 Angled Abutment KR	17° H3mm Ø4.8mm
			266KR4L0	BT4 Angled Abutment KR	17° H4mm Ø4.8mm
			266KR3G0	BT4 Angled Abutment KR	30° H3mm Ø4.8mm
	○		266KW3L0	BT4 Angled Abutment KW	17° H3mm Ø4.8mm
			266KW3G0	BT4 Angled Abutment KW	30° H3mm Ø4.8mm
BT4 CAPS					
○	○		330NA0A0.04	Covering Caps BT4	H5 Kit 4pcs
○			330BU0A0.04	Covering Caps BT4 Slim	H5 Kit 4pcs
○	○		690NA024	Retentive Screw	M1.4 HEX1.20 10N
○			690NA075	Retentive Screw BT4	M1.6 Angled Abutment KR
	○		690NA093	Retentive Screw BT4	M1.8 Angled Abutment KW

KR	KW	PICTURE	REF	PRODUCT NAME	SPECIFICATION
BT4 INTERIM RESTORATION					
○	○		267NA0A0	BT4 Titanium Abutment	
○			269BU0A0	BT4 Slim Titanium Abutment	
○	○		207NA0A0	Castable Plastic Abutment BT4	
○	○		207NA0A1	Castable Plastic Abutment BT4	no screw
○	○		207BU1R0	Castable Plastic Ab. BT4 slim	
○	○		311NA0A0	Impression Post Pick-up BT4	with long Screw
○	○		311BU0A0	Impression Post Pick-up BT4 Slim	with long Screw
○	○		690NA031	Impression Post Pick-Up Screw	M1.4 HEX1.20 H17mm
○	○		303NA0A0	Abutment Replica BT4	
○	○		303BU0A0	Abutment Replica BT4 Slim	
○	○		690NA024	Retentive Screw	M1.4 HEX1.20 10N
BT4 SCAN ABUTMENT					
○	○		351BT1A1	Scan Abutment Extra-oral BT	Rotating
			352BT1A1	Scan Abutment Intra-oral BT	Rotating
○			351BU1A1	Scan Abutment Extra-oral BU	Rotating (BT4 Slim)
			352BU1A1	Scan Abutment Intra-oral BU	Rotating (BT4 Slim)
BT4 BT LINK					
○	○		246BT1A1	BT LINK BT	H1mm Ø4.8mm Rotating
○	○		247BT1A1	Base BT LINK BT	H1mm Ø4.8mm no Cap. Rot.
○	○		205NA003.05	Castable Plastic Abut. BT Link	H1mm Ø5.4mm Kit 5pcs
○			246BU1A1	BT LINK BU	H1mm Ø4.1mm Rotating
○			247BU1A1	Base BT LINK BU	H1mm Ø4.1mm no Cap. Rot
○			205NA001.05	Castable Plastic Abut. BT Link	H1mm Ø4.7mm Kit 5pcs
BT4 CAST-ON TECHNIQUE					
○	○		240BT1R0	CoCr Abutment BT	H1.5mm Rotating
○			240BU1R0	CoCr Abutment BU	H1.5mm Rotating



OVERDENTURE

SPHERO®



SPHERO® Block Normo Sphere Ø 2.5mm		SPHERO® Block Micro Sphere Ø 1.8mm		SPHERO® Flex Sphere Ø 2.5mm 0°-7.5° Divergence		
	REF	SPECIFICATION	REF	SPECIFICATION	REF	SPECIFICATION
KR	254KR1A0	H1mm	255KR1A0	H1mm	256KR1A0	H1mm
	254KR2A0	H2mm	255KR2A0	H2mm	256KR2A0	H2mm
	254KR3A0	H3mm	255KR3A0	H3mm	256KR3A0	H3mm
	254KR4A0	H4mm	255KR4A0	H4mm	256KR4A0	H4mm
	254KR5A0	H5mm	255KR5A0	H5mm	256KR5A0	H5mm
	254KR6A0	H6mm	255KR6A0	H6mm	256KR6A0	H6mm
	254KR7A0	H7mm	255KR7A0	H7mm	256KR7A0	H7mm
KW	254KW1A0	H1mm	255KW1A0	H1mm	256KW1A0	H1mm
	254KW2A0	H2mm	255KW2A0	H2mm	256KW2A0	H2mm
	254KW3A0	H3mm	255KW3A0	H3mm	256KW3A0	H3mm
	254KW4A0	H4mm	255KW4A0	H4mm	256KW4A0	H4mm
	254KW5A0	H5mm	255KW5A0	H5mm	256KW5A0	H5mm
	254KW6A0	H6mm	255KW6A0	H6mm	256KW6A0	H6mm
	254KW7A0	H7mm	255KW7A0	H7mm	256KW7A0	H7mm

Accessories Sphero®

PICTURE	REF	PRODUCT NAME	SPECIFICATION
	530JD030	Wrench Driv. Sphero Block/Flex	Rhein83®771CEF

NOTE Every SPHERO® as listed above includes the following products:

1pc. Titanium Abutment with self-aligning 2.5mm or 1.8 mm sphere, 2pcs. Soft Retention Pink Caps, 1pc. Stainless Steel Housing, 1pc. Protective Disk and 3 pcs. Directional Rings.

These Devices are produced by Rhein83.  s.r.l. Via E. Zago, 10/ABC, 40128 Bologna Italy.



Locator® Abutment			
KR		KW	
REF	SPECIFICATION	REF	SPECIFICATION
260KR1A0	H1mm	260KW1A0	H1mm
260KR2A0	H2mm	260KW2A0	H2mm
260KR3A0	H3mm	260KW3A0	H3mm
260KR4A0	H4mm	260KW4A0	H4mm
260KR5A0	H5mm	260KW5A0	H5mm
		260KW6A0	H6mm

Locator® Accessories			
PICTURE	REF	PRODUCT NAME	SPECIFICATION
	540MA015	Angle Measur. Guide Locator®	
	540MA016.04	Parallel Pin for Locator®	Kit 4pcs
	321NA0A0	Impression Post Locator®	
	301NA0A0	Implant Replica Locator® Abut.	
	690NA011	Replacement Males Locator®	
	690NA022	Kit Locator®	Metal Cap + Blockout Spacer
	690NA054.04	Replacement Males Locator®	0N Black Kit 4pcs
	690NA006.04	Replacement Males Locator®	15N Blue Kit 4pcs (700gr. 0-20°)
	690NA008.04	Replacement Males Locator®	30N Pink Kit 4pcs (1400gr. 0-20°)
	690NA010.04	Replacement Males Locator®	50N Neutral Kit 4pcs (2300gr. 0-20°)
	690NA005.04	Replacement Males Locator®	10N Red Kit 4pcs (700gr. 20-40°)
	690NA007.04	Replacement Males Locator®	20N Orange Kit 4pcs (900gr. 20-40°)
	690NA009.04	Replacement Males Locator®	40N Green Kit 4pcs (1400gr. 20-40°)
	690NA134.04	Replacement Males Locator®	0N Gray Kit 4pcs (0gr.)
	502MA004	Locator® Core Tool 3 in 1	
	502MA019	Locator® Male Removal Tip End	
	530HS015	Handpiece Driver Locator®	L 23mm
	530HS016	Handpiece Driver Locator®	L 29mm
	690NA020	Retaining Sleeve Locator®	Locator® core tool
	530JD029	Screwdriver JD Locator	L10mm (for reversible torque wrench JD)

NOTA Every "LOCATOR® Abutment" as listed above includes the following products: 1 pc. LOCATOR® Abutment; 1 pc. Denture Male Cap (Housing); 1 pc. Block-Out Spacer, 1 pc. each LOCATOR® Replacement Males (blue / pink /clear). All these codes (except 530JD029) are medical devices patented and realised by Zest Anchors Inc, 2061 Wineridge Place, Escondido CA 92029 USA. LOCATOR® is a registered trademark of Zest Anchors Inc.

MATERIAL SPECIFICATIONS

TITANIUM GRADE 4 IMPLANTS

CHEMICAL COMPOSITION:	MAXIMUM VALUES (%)	TOLERANCE
Nitrogen (N)	0.05	+/- 0.02
Carbon (C)	0.08	+/- 0.02
Hydrogen (H)	0.015	+/- 0.002
Iron (Fe)	0.50	+/- 0.10 (%<0.25) +/- 0.15 (%>0.25)
Oxygen (O)	0.40	+/- 0.02 (%<0.20) +/- 0.03 (%>0.20)
Titanium (Ti)	balance	-

MECHANICAL PROPERTIES:	MINIMUM VALUES
Tensile stress:	550 MPa
Yield strength (0.2%):	483 MPa
Elongation at yield:	15 %
Section reduction:	25 %

This technical information complies with the express specification of the regulations in force for the use of grade 4 titanium in implantology:

- ASTM F67: Standard Specification for unalloyed titanium, for surgical implant applications.
- ISO 5832-2: Implant for surgery – Metallic Materials – Part 2: Unalloyed titanium.

TITANIUM GRADE 5 PROSTHETICS AND MINI IMPLANTS

CHEMICAL COMPOSITION:	MAXIMUM VALUES (%)	TOLERANCE
Nitrogen (N)	0.05	+/- 0.02
Carbon (C)	0.08	+/- 0.02
Hydrogen (H)	0.012	+/- 0.002
Iron (Fe)	0.25	+/- 0.10
Oxygen (O)	0.13	+/- 0.02
Aluminium (Al)	5.50-6.50	+/- 0.40
Vanadium (V)	3.50-4.50	+/- 0.15
Titanium (Ti)	balance	-

MECHANICAL PROPERTIES:	MINIMUM VALUES
Tensile stress:	860 MPa
Yield strength (0.2%):	795 MPa
Elongation at yield:	10 %
Section reduction:	25 %

This technical information complies with the express specification of the regulations in force for the use of grade 5 titanium in implantology:

- ASTM F136: Standard Specification for wrought Titanium-6Aluminium-4Vanadium ELI (Extra low Interstitial) Alloy for surgical implant applications;
- ISO 5832-3: Implant for surgery – Metallic Materials – Part 3: Wrought titanium 6-aluminium 4-vanadium alloy.

COBALT CHROME COBALT CCM®

CHEMICAL COMPOSITION: (%)	
Carbon (C)	max. 0.14
Silicon (Si)	max. 1.00
Manganese (Mn)	max. 1.00
Chromium (Cr)	26.00-30.00
Molybdenum (Mo)	5.00-7.00
Nickel (Ni)	max. 1.0
Iron (Fe)	max. 0.75
Nitrogen (N)	max. 0.25
Cobalt (Co)	balance

MATERIAL NO. AND NORMS	
DIN	CoCr28Mo
ISO	5832-12
AFNOR	CoCr28Mo
ASTM	F1537 alloy 1
UNS	R31537

MECHANICAL PROPERTIES	
Coefficient of Expansion (CTE)	13.2•10 ⁻⁶ °C ⁻¹
Melting range	1340-1440°C
Yield strength (R0.2)	up to 1115 MPa
Young Modulus E	241 GPa
Hardness	up to 46 HRC

PRECIOUS ALLOY FOR ABUTMENTS

COMPOSITION:	
Gold (Au)	60.0 %
Platinum (Pt)	24.9 %
Palladium (Pd)	15.0 %
Iridium (Ir)	0.1 %
PHYSICAL AND MECHANICAL PROPERTIES:	
Density:	18.1 g/cm ³
Melting range:	1350 – 1460 °C
Coefficient of Expansion (CTE) 25-500°C – 25-600°C:	12.7•10 ⁻⁶ °C ⁻¹ – 12.9•10 ⁻⁶ °C ⁻¹
Modulus of elasticity (tensile test):	110 GPa
Elongation at yield:	18 – 12 %
Breaking load:	580 – 810 MPa
Yield strength (0.2%):	450 – 720 MPa
Vickers Hardness HV5/30:	150 – 205 – 230

PRECIOUS ALLOY FOR GOLD RETENTIVE SCREWS

COMPOSITION:	MAXIMUM VALUES (%)	TOLERANCE
Gold (Au)	0,5	+/- 0.2
Gallium (Ga)	2	+/- 0.2
Copper (Cu)	10	+/- 0.5
Iridium (Ir)	7	+/- 0.5
Ruthenium (Ru)	0.03	+/- 0.02
Rutenio (Ru)	0.1	+/- 0.09
Palladium (Pd)	balance	
MECHANICAL PROPERTIES:	MINIMUM VALUES (%)	
Tensile stress:	586 - 862 MPa	
Yield strength (0.2%):	483 - 690 MPa	
Elongation:	5 - 20 %	
Young's Modulus:	138 GPa	
PHYSICAL PROPERTIES:		
Melting Range	1450 – 1500 °C	
Coefficient of Expansion (CTE) 25-500°C – 25-600°C:	12.3•10 ⁻⁶ °C ⁻¹	

The temporary abutments in PEEK and the SCAN ABUTMENT are made of PEEK / TECAPEEK CLASSIC (chemical name Polietereeterketone). This material is suitable to stay in contact with tissue for up to 180 days.

Depending on the intended use, the Biotec instrumental is made of specific types of stainless steel.

SYMBOLS USED ON LABELS



Legal manufacturer



Use-by date: indicates the date after which this device is not to be used



Products with the CE mark in accordance with Directive 93/42/EEC and following modifications/integrations



Do not use if packaging is damaged



0426
Number of the notification body



Do not reuse



Consult instructions for use



Keep away from sunlight



ifu.btk.dental

Electronic instructions for use available online ifu.btk.dental



Sterile by gamma irradiation



Caution; see instructions for use



Catalogue number



Lot/batch number

DELIVERY TERMS & CONDITIONS

RESPONSABILITY

The use of BTK medical devices is reserved exclusively for personnel with the necessary qualifications for the exercise. An improper or incorrect use of the devices can cause the failure or worse, injury to the patient or the user. BTK implant systems should only be used with original BTK components and instruments and in accordance with the specific BTK instructions. Combining with different devices may cause a failure. Biotec must not and can not control the procedures for using the product for implant-prosthetic treatment. Therefore, Biotec assumes no responsibility for the application of the device and its processing nor for any incongruous use of the device under the surgical or prosthetic profile, nor in any case for failure, adverse reactions or damage to the patient or dentist as a result of application of the product.

STERILITY OF WARRANTY AND DISPOSABLE

Dental implants are supplied STERILE (gamma ray sterilization). The sterility of the medical implant is guaranteed only according to the following conditions: the expiry date stated on the packaging is still valid; there is a red dot on the sterile vial which demonstrates that it has undergone gamma ray irradiation; the sealed package has not been opened and does not show any signs of damage. Compliance with all these conditions must be ensured; alternatively do not use the device.

Surgical components, laboratory accessories and instruments are not supplied in sterile packs, therefore before use they must be properly CLEANED and STERILIZED, as shown in the instructions for use. Biotec dental implants, prosthetics and laboratory accessories are designed for SINGLE USE. In fact, reuse is a potential risk and could damage the construction of the device, making it inappropriate for its intended use. Biotec explicitly declares the single-use of MD and assumes no responsibility for any re-use by users.

STORAGE

Biotec products must be stored at room temperature and protected from direct heat or sunlight and dust.

INSTRUCTIONS FOR USE

The information in this manual is not intended to be exhaustive for BTK implant systems. It is recommended that new customers follow the training courses that Biotec makes available with trained personnel and clinicians who are experts in implantology and in the use of BTK devices. The complete and updated user manuals, which allow the correct use of the product, are available online (www.btk.dental) or at BTK and / or the local distributor.

AVAILABILITY

Not all products described here are available in ExtraEU countries. For more information, please contact BTK and / or your local distributor.

RETURNS

Biotec does not accept returned goods if the packaging seals are broken or not conforming to the sale specifications of the company.

GUARANTEE

We constantly guarantee that the quality of our products and services meets the high expectations of our customers and their patients. Specialized professionals are committed to offering complete solutions in applied research, engineering, training and related activities. Biotec is available to customers in the event that a defect in the product or its use is found.

VALIDITY

The contents are updated at the date of publication. This manual replaces all previous editions.

CASE DOCUMENTATION AND TRACEABILITY

BTK absolutely recommends documenting implant cases comprehensively at the clinical, radiographic, photographic and statistical levels. The clinician must guarantee the traceability of the devices used. It is advisable to use the adhesive labels included in the packaging of the BTK devices, which show the code and lot of the device used, for the purpose of documentation on the medical records and on the relative implant passport of the patient.

TRAINING

Comprehensive and regular training ensures long-term implant success.

Be advised that we strongly recommend regular education events in order to update your know-how and clinical expertise.

DELIVERY TERMS

BTK delivery terms are 1 working day for order received before 12.00 p.m. of the previous day in Italy; except for islands where delivery is evaluated to be 2 working days. For export deliveries contact Biotec offices.

QUALITY STANDARD

Owing to extensive research, development and to a strict quality standard, we guarantee premium quality materials and products. Our products meet the requirements of directive 93/42 /EEC and subsequent amendments and additions, and therefore have the CE mark, in accordance with the corresponding law. BTK has a quality system certified UNI EN ISO 9001 and UNI EN ISO 13485.

CAUTION

In addition to the instructions for use, warnings and risks reported both in this document and in the instructions for use, it must always be ensured that the devices used in the oral cavity are not aspirated or swallowed by the patient.

COPYRIGHT AND TRADEMARKS

BTK documents cannot be reprinted or published, in whole or in part, without the written permission of BTK.

BTK, BIOTEC, The Smile System® or Implanting Trust, Smile Again® are trademarks or registered trademarks of BIOTEC s.r.l. and / or its affiliates.



BTK PERSONAL TUTOR

A program for individual case planning and execution supported by experienced professionals in order to leverage know-how and maximize clinical experience with the aim to achieve sustainable high patient satisfaction rates.

BTK is always at your disposal for any request for further follow-up or information, promoting periodic and ad-hoc training course.

CERTIFIED QUALITY SYSTEM

**BIOTEC is certified UNI EN ISO 9001
and UNI EN ISO 13485.**



CE marked product, in accordance with Directive 93/42/EEC and subsequent modifications and additions.

MADE IN ITALY USED GLOBALLY



We constantly ensure that the quality of our products and services meet the high expectations of our customers and their patients.

Specialized professionals are taking care to offer comprehensive solutions in applied research, engineering, education and related activities.

