

7/15/22

Biotech Dental, SAS % Chris Brown Manager Aclivi, LLC 3250 Brackley Drive Ann Arbor, Michigan 48105

Re: K213997

Trade/Device Name: Kontact Dental Implant System

Regulation Number: 21 CFR 872.3640

Regulation Name: Endosseous Dental Implant

Regulatory Class: Class II Product Code: DZE, NHA

Dated: June 9, 2022 Received: June 13, 2022

#### Dear Chris Brown:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. Although this letter refers to your product as a device, please be aware that some cleared products may instead be combination products. The 510(k) Premarket Notification Database located at <a href="https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm">https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm</a> identifies combination product submissions. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the <u>Federal Register</u>.

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Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803) for devices or postmarketing safety reporting (21 CFR 4, Subpart B) for combination products (see <a href="https://www.fda.gov/combination-products/guidance-regulatory-information/postmarketing-safety-reporting-combination-products">https://www.fda.gov/combination-products/guidance-regulatory-information/postmarketing-safety-reporting-combination-products</a>); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820) for devices or current good manufacturing practices (21 CFR 4, Subpart A) for combination products; and, if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <a href="https://www.fda.gov/medical-devices/medical-device-safety/medical-device-reporting-mdr-how-report-medical-device-problems">https://www.fda.gov/medical-device-problems</a>.

For comprehensive regulatory information about medical devices and radiation-emitting products, including information about labeling regulations, please see Device Advice (<a href="https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance">https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance</a>) and CDRH Learn (<a href="https://www.fda.gov/training-and-continuing-education/cdrh-learn">https://www.fda.gov/training-and-continuing-education/cdrh-learn</a>). Additionally, you may contact the Division of Industry and Consumer Education (DICE) to ask a question about a specific regulatory topic. See the DICE website (<a href="https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/contact-us-division-industry-and-consumer-education-dice">https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/contact-us-division-industry-and-consumer-education-dice">https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/contact-us-division-industry-and-consumer-education-dice</a>) for more information or contact DICE by email (<a href="DICE@fda.hhs.gov">DICE@fda.hhs.gov</a>) or phone (1-800-638-2041 or 301-796-7100).

Sincerely,

for Andrew Steen
Assistant Director
DHT1B: Division of Dental and
ENT Devices
OHT1: Office of Ophthalmic, Anesthesia,
Respiratory, ENT and Dental Devices
Office of Product Evaluation and Quality
Center for Devices and Radiological Health

Enclosure

# DEPARTMENT OF HEALTH AND HUMAN SERVICES Food and Drug Administration

# **Indications for Use**

Form Approved: OMB No. 0910-0120 Expiration Date: 06/30/2023

Expiration Date: 06/30/2023 See PRA Statement below.

510(k) Number (if known)
K213997
Device Name
Kontact <sup>TM</sup> Dental Implant System
Indications for Use (Describe)
Kontact <sup>TM</sup> Dental Implant System is indicated for use in partially or fully edentulous patients to support maxillary or mandibular single unit, multiple-unit, or overdenture dental restorations. Kontact <sup>TM</sup> Dental Implant System is indicated for immediate loading when good primary stability is achieved and the occlusal loading is appropriate. Kontact <sup>TM</sup> Dental Implant System 3 mm diameter implants and prosthetics components are indicated for use in surgical and restorative applications in the maxillary lateral incisor or mandibular incisor regions.
All digitally designed Kontact <sup>™</sup> Dental Implant System CAD/CAM abutments are intended to be sent to a Biotech Dental validated milling center for manufacture.
Type of Use (Select one or both, as applicable)
Prescription Use (Part 21 CFR 801 Subpart D)  Over-The-Counter Use (21 CFR 801 Subpart C)
CONTINUE ON A SEPARATE PAGE IF NEEDED.

# 510(k) Summary K213997 Biotech Dental Kontact<sup>™</sup> Dental Implant System 7/15/2022

#### **ADMINISTRATIVE INFORMATION**

Manufacturer Name Biotech Dental, SAS

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Official Contact: Delphine Mercier, VP Compliance Email: d.mercier@biotech-dental.com

#### **DEVICE NAME AND CLASSIFICATION**

Trade/Proprietary Name: Kontact<sup>™</sup> Dental Implant System

Common Name: Implant, Dental, Endosseous, Root-Form

Classification Name: Endosseous dental implant

Classification Regulation: 21 CFR 872.3640

Device Class: Class II
Product Code: DZE, NHA

Review Panel: Dental Products Panel

Reviewing Branch: Ophthalmic, Anesthesia, Respiratory, ENT and Dental Devices (OHT1)

Dental Devices (DHT1B)

#### PREDICATE DEVICE INFORMATION

The devices within this submission are the same or highly similar in indications, intended use and design principles to the following Primary Predicate device:

510(k)	Primary Predicate Device Name	Company Name
K210220	Kontact™ Dental Implant System	Biotech Dental, SAS

510(k) Reference Device Name		Company Name
K122300	3i T3 Dental Implant	BIOMET 3i
K121787	Tapered Internal Plus Implants	BioHorizons Implant Systems, Inc.
K150203	Medentika CAD/CAM Abutments	Medentika GmbH
K200817	URIS OMNI Narrow System & Prosthetic	TruAbutment Inc.

#### **INDICATIONS FOR USE**

Kontact<sup>™</sup> Dental Implant System is indicated for use in partially or fully edentulous patients to support maxillary or mandibular single unit, multiple-unit, or overdenture dental restorations. Kontact<sup>™</sup> Dental Implant System is indicated for immediate loading when good primary stability is achieved and the occlusal loading is appropriate. Kontact<sup>™</sup> Dental Implant System 3 mm diameter implants and prosthetics components are indicated for use in surgical and restorative applications in the maxillary lateral incisor or mandibular incisor regions.

All digitally designed Kontact<sup>TM</sup> Dental Implant System CAD/CAM abutments are intended to be sent to a Biotech Dental validated milling center for manufacture.

#### **DEVICE DESCRIPTION**

The purpose of this submission is to expand the marketing clearance for Kontact™ Dental Implant System which comprises endosseous root-form dental implants and prosthetic components for single-unit, multi-unit, and overdenture restorations to include two additional implant body designs, new Narrow Conical and Conical abutments, hand-milled FitPost abutments, inserts for the previously cleared UniPost abutments and CAD/CAM Titanium base and Titanium Blank, dental implant abutments.

The Kontact<sup>™</sup> Dental Implant System Subject device include two implant designs: Kontact S, and Kontact S+. The Kontact S and compatible Kontact implants are provided in five body diameters: 3.0 mm, 3.6 mm, 4.2 mm, 4.8 mm, and 5.4 mm. The body diameter for each implant is equal to the implant platform diameter. The 3.0 mm body implants have a smaller diameter and unique restorative interface. The 3.6 mm, 4.2 mm, 4.8 mm, and 5.4 mm implants share the same restorative interface. The Kontact and Kontact S implants are provided in lengths ranging from 8 mm to 16 mm.

The Kontact S+ implants are provided in four body diameters: 4.0 mm, 4.5 mm, 5.0 mm, and 5.5 mm. The 4.0 mm body diameter implants have an implant platform diameter of 3.6 mm. The 5.0 mm and 5.5 mm body diameter implants have an implant platform diameter of 4.2 mm. The 4.5 mm diameter implants are available in both 3.6 mm and 4.2 mm implant platform diameters. All Kontact S+ implants share the same restorative interface as the 3.6 mm and larger diameter Kontact and Kontact S implants. The Kontact S+ implants are provided in lengths ranging from 8 mm to 12 mm.

The implants have a recessed internal section for abutment indexing, and an internal threaded section for mating to the corresponding subject device cover screw, healing screw, or abutment screw. Kontact S and Kontact S+ implants are manufactured from Commercially Pure (CP) – Grade 4 titanium conforming to ASTM F67 and ISO 5832-2. The endosseous threaded surface of the Kontact S and Kontact S+ implants are gritblasted with resorbable beta-tricalcium phosphate ( $\beta$ -TCP) particles.

Grit-blasting of the Kontact S and Kontact S+ implants create a roughened surface which provides an increase in total contact area of the implant surface to facilitate osseointegration.

Kontact<sup>™</sup> Dental Implant System – Kontact S and Kontact S+ Implant Sizes

Implant Type	Implant Body Diameter (mm)	Implant Platform Diameter (mm)	Lengths (mm)
	Ø 3.0	Ø 3.0	10, 12, 14
	Ø 3.6	Ø 3.6	8, 10, 12, 14, 16
Kontact S	Ø 4.2	Ø 4.2	8, 10, 12, 14, 16
	Ø 4.8	Ø 4.8	8, 10, 12, 14
	Ø 5.4	Ø 5.4	8, 10, 12, 14
	Ø 4.0	Ø 3.6	8, 10, 12
	Ø 4.5	Ø 3.6	8, 10, 12
Kontact S+	Ø 4.5	Ø 4.2	8, 10, 12
	Ø 5.0	Ø 4.2	8, 10, 12
	Ø 5.5	Ø 4.2	8, 10, 12

The Subject device prosthetic components include seven implant abutment designs: Straight Conical, 30° Angulated Conical (indexed and non-indexed), Titanium Base, Titanium Blank and FitPost. The abutments designs are compatible with the Kontact, Kontact S and Kontact S+ implants. All Subject device abutments are manufactured titanium alloy conforming to ASTM F136 and ISO 5832-3. The Subject device prosthetic components are summarized in the following tables.

# Kontact<sup>™</sup> Dental Implant System – Prosthetic Components

						•			
				Subject De	vice Abutment Des	igns for Kontact S	6 Implants		
			Straight	30° Angulated Narrow	30° Angulated	Titanium Base	Titanium	FitPost	Screws*
	Implant	Prosthetic	Narrow	Conical and Conical	Conical	(CAD/CAM)	Blank	(Hand Milled)	
Implant	Platform	Interface	Conical	Multi-Unit	Multi-Unit		(CAD/CAM)	677	
Diameter Kontact S (mm)	Diameter Kontact S (mm)	(implant/ abutment) Diameter (mm)	Multi-Unit		30				
			(non-indexed)	(indexed)	(non-indexed)		17		
3.0	3.0	2.49	n/a	n/a	n/a	Х	Х	n/a	Х
3.6	3.6	2.89	Х	Х	Х	Х	Х	Х	Х
4.2	4.2	2.89	Х	Х	Х	Х	Х	Х	Х
4.8	4.8	2.89	Х	Х	Х	Х	Х	Х	Х
5.4	5.4	2.89	Х	Х	Х	Х	Х	Х	Х
	Material				Grade 5 – 1	<b>Fitanium</b>			
Finish			None	Blue Anodize	None	Yellow Anodize	None	None	None

			Subject Device Abutment Designs for Kontact S+ Implants							
Implant Diameter Kontact S+ (mm)	Implant Platform Diameter Kontact S+ (mm)	Prosthetic Interface (implant/ abutment) Diameter (mm)	Straight Narrow Conical Multi-Unit	30° Angulated Narrow Conical and Conical Multi-Unit	30° Angulated Conical Multi-Unit	Titanium Base (CAD/CAM)	Titanium Blank (CAD/CAM)	FitPost (Hand Milled)	Screws*	
4.0, 4.5	3.6	2.89	Х	Х	X	Х	Х	Х	Х	
4.5, 5.0, 5.5	4.2	2.89	Х	Х	Х	Х	Х	Х	X	
	Material		Grade 5 – Titanium							
Finish			None	Blue Anodize	None	Yellow Anodize	None	None	None	

<sup>\*3.0</sup> mm Abutment screw – TiN-coated Phynox, not titanium

				ontact Implan	nts				
Implant Diameter Kontact (mm)	Implant Platform Diameter Kontact (mm)	Prosthetic Interface (implant/ abutment) Diameter (mm)	Straight Narrow Conical Multi-Unit	30° Angulated Narrow Conical and Conical Multi-Unit	30° Angulated Conical Multi-Unit	Titanium Base (CAD/CAM)	Titanium Blank (CAD/CAM)	FitPost (Hand Milled)	Screws*
			(non-indexed)	(indexed)	(non-indexed)		11		
3.0	3.0	2.49	n/a	n/a	n/a	Х	Х	n/a	Х
3.6	3.6	2.89	Х	Х	Х	Х	Х	Х	Х
4.2	4.2	2.89	Х	Х	Х	Х	Х	Х	Х
4.8	4.8	2.89	Х	Х	Х	Х	Х	Х	Х
5.4	5.4	2.89	Х	Х	Х	Х	Х	Х	Х
	Material		Grade 5 – Titanium						
Finish			None	Blue Anodize	None	Yellow Anodize	None	None	None

#### **EQUIVALENCE TO MARKETED DEVICE**

The Subject device is the same or highly similar in indications and design principles to the Primary Predicate device listed above. Provided at the end of this summary is a table comparing the Indications for Use Statements and tables comparing the technological characteristics of the Subject device, the Primary Predicate device and Reference devices.

The wording of the Indications for Use Statement (IFUS) of the Subject device is highly similar to the to that of the K210220 Primary Predicate device, differing only in the inclusion of the full device name, in reference to the 3 mm implants and the final paragraph which has been added to the IFUS to support fabrication of customized endosseous dental implant abutments by means of CAD/CAM technology. Similarly, the differences between the Subject device IFUS and that of each of the Reference devices are related to the specific device names and design features, validated milling centers, and the compatible implant lines. None of these minor differences impact substantial equivalence because all IFUS express equivalent intended use to facilitate dental prosthetic restorations, and the indications are expressed equivalently using different specific wording.

#### **TECHNOLOGICAL CHARACTERISTICS**

Subject device implants and abutments are the same or highly similar in intended use and designs to the sponsor's K210220 Primary Predicate device. The Subject device is to be sterilized by the end-user, using the same methods as previously validated for the sponsor's K210220 Primary Predicate device. All are intended for use with endosseous dental implants in the maxilla and mandible to provide functional and esthetic rehabilitation of the edentulous maxilla and mandible. Reference devices introduce additional abutment designs with the same or highly similar intended uses.

#### **Implants**

The Subject device Kontact S implants have the same implant diameter, platform diameter and lengths as the sponsor's Kontact K210220 Kontact implants but differ in material and modified surface treatment. The K122300 Reference device has similar implant and prosthetic diameters and similar implant lengths and is made from the same raw material as the Subject device Kontact S and Kontact S+ implants. Reference device K121787 is grit-blasted with the manufacturer's Resorbable Blast Texture (RBT) media (tricalcium phosphate) in a similar manner to the Subject device Kontact S implants supporting this technology in the Subject device. Additionally, the K121787 Reference device has similar encompasses similar implant dimensions. Slight differences between Subject device implants and Primary Predicate and Reference device implant dimensions and modified surfaces do not change the intended use of the devices and have been mitigated through non-clinical performance testing to demonstrate the Subject device is sufficient for intended use.

#### **Abutments**

The Subject and Primary Predicate device abutments are for single-unit or multi-unit restorations, have internal implant interface connections, and are made of Ti-6Al-4V ELI alloy (abutments and abutment screws). The Subject device abutment designs are highly similar to that of the K210220 Primary Predicate device designs: Straight Conical, Conical, Angulated Narrow Conical, Angulated Conical abutments. Titanium base, Titanium Blank and FitPost abutments are added by Reference devices.

#### **Straight Narrow Conical Abutments**

The K200817 Reference device is included for support of dental implant abutments which include a larger prosthetic diameter and the same and larger gingival height of the previously cleared Straight Narrow Conical abutments.

#### **Angulated Narrow Conical and Angulated Conical Abutments**

The Primary Predicate devices were limited to 17° angle correction. The K200817 Reference device in included in this submission to support the use of dental implant abutments which include a larger post correction angle and

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similar prosthetic diameter and gingival height. Angulated Narrow Conical and Angulated Conical Abutments and intended for multi-unit restorations.

#### **Titanium Base Abutments**

The Subject device Titanium base abutments are similar in design, materials, fabrication process and use as the K150203 Reference device. The Subject and K150203 Reference devices encompass a similar range of implant platforms. The Titanium Base Abutments consists of a two-piece abutment, where the titanium base is a pre-manufactured abutment that will be used to support a CAD/CAM designed superstructure (the second part of the two-piece abutment made of Zirconia conforming to ISO 13356) that composes the final abutment.

#### **Titanium Blank Abutments**

The Subject device Titanium base abutments are similar in design, materials, fabrication process and use as the K150203 Reference device. The Subject and K150203 Reference devices encompass a similar range of implant platform diameters, and both have a maximum post correction angle of 30 degrees (15 degrees for 3 mm implants).

#### **FitPost Abutments**

The Subject device FitPost abutments are similar in design, fabrication process and K210220 Primary Predicate device. They differ only in that they are provided with a pre-manufactured 30° post which can be customized for individual patient requirements. The K150203 Reference device is included to support the use of a modified abutment with a 30° post correction angle with similar implant platform diameters. While the methods of modification are different, both the Subject and Reference device are limited to 30° angulation. The compatible Kontact implant system is limited to 22° based on performance testing. The hand milling method of modification of an abutment is supported by the sponsor's K210220 Primary Predicate device.

#### **Uni-Post Copings**

Uni-Post Abutments were cleared as part of the K210220 Primary Predicate device and are cleared for use with Titanium sleeves which complete the two-part abutment upon the final prosthesis is cemented to. The Uni-Post copings in this submission perform the same function as the titanium sleeve but do so without the need to be hand modified for patient occlusion. The Uni-Post copings are similar to and supported by both the Uni-Post titanium sleeve and the titanium coping of the straight Conical Abutments of the K210220 Primary Predicate device. The Uni-Post copings share the same prosthetic diameters 4 mm, 5mm and 6.5 prosthetic diameters of the Primary Predicate device titanium sleeves and are similar to the 4.9 mm prosthetic diameter of the Conical Abutment copings.

Slight differences in dimensions between the Subject device copings and Primary Predicate device sleeves and copings are supported by the ISO 14801 performance testing of performed on worst-case constructs of the Subject device.

Minor differences in the designs, dimensions, or sizes between the Subject device, the Primary Predicate device, and the Reference devices do not affect substantial equivalence. Additional implant designs are supported by Reference devices. Overall, the Subject, Primary Predicate and Reference devices encompass a similar range of physical dimensions. Minor differences related to implant or abutment designs are mitigated by mechanical performance testing. ISO 14801 mechanical performance testing was performed on worst-case constructs of the Subject device to demonstrate suitability for intended use of the Subject device implant platform, gingival height, and post correction angles combinations.

#### **PERFORMANCE DATA**

Non-clinical data submitted to demonstrate substantial equivalence included: Biocompatibility evaluation and testing in accordance with International Standard ISO 10993-1, "Biological evaluation of medical devices – Part 1: Evaluation and testing within a risk management process"; static compression and compression fatigue testing according to ISO 14801, Steam Sterilization Validation according to ISO 17665-1 and ISO TS 17665-2, and an MRI Safety assessment.

The following confirmatory biological tests were performed:

Biological Endpoint	Relevant Standard
Cytotoxicity	ISO 10993-5:2009
Endotoxins	ANSI/AAMI ST72:2019

The biological evaluation included review of published literature, internal routine monitoring data related to implant modified surface treatment and post-market surveillance data on implants subject to the same modified surface treatment and cleaning process and made from the same material as the Subject device according to the following FDA guidance documents, *Acceptance of Clinical Data to Support Medical Device Applications and Submissions* and *Use of Real-World Evidence to Support Regulatory Decision-Making for Medical Devices*.

A published multi-center retrospective study evaluated implant failures and bone-level changes on male and female patients aged 19-90 years old implanted with the Subject device implants of varying diameters and lengths. Placement locations varied and included placement in extraction sockets, healed bone, and grafted bone locations. Bone levels of 326 were evaluated at time of abutment placement through a period of 50 months post implantation. Bone level decreases identified were less than 1 mm, well within accepted levels, with an overall implant survival rate of 98% at 1 year.

Review of historical SEM/EDS data was performed on implants made from the same material and surface treatment process as those covered in the published literature. Review of post market surveillance data and was performed to identify any significant trends in osseointegration failures. The results indicated failure rates below industry levels.

The endotoxin batch protocol and gamma sterilization validations were leveraged from the prior K210220 Primary Predicate device clearance.

Non-clinical worst-case MRI review was performed to evaluate the Subject device components in the MRI environment using scientific rationale and published literature (e.g., Woods, Terry O., Jana G. Delfino, and Sunder Rajan, "Assessment of Magnetically Induced Displacement Force and Torque on Metal Alloys Used in Medical Devices." Journal of Testing and Evaluation 49.2 (2019): 783-795), based on the entire system including all variations (all compatible implant bodies, abutments, and fixation screws) and material composition. Rationale addressed parameters per the FDA guidance "Testing and Labeling Medical Devices for Safety in the Magnetic Resonance (MR) Environment," including magnetically induced displacement force and torque.

Any differences in implant or implant abutment designs or dimensions have been mitigated and demonstrated to be suitable for intended use through non-clinical bench performance testing.

The results of non-clinical performance testing demonstrate that the Subject device is suitable for intended use and is the same or highly similar to the Primary Predicate device.

#### **CLINICAL TESTING**

No animal or clinical testing was performed for this Premarket Notification.

#### **CONCLUSION**

Overall, the Indications for Use statement for the Subject and Primary Predicate devices are the highly similar, differing slightly, only in device name. Overall, the Technological Characteristics of the Subject device are the same or highly similar to the Primary Predicate and Reference devices with any differences mitigated through non-clinical performance testing.

Overall, the data included in this premarket notification demonstrates substantial equivalence to the Primary Predicate device listed above.

# **Indications for Use Comparison Table**

Subject Device	Primary Predicate Device	Reference Device	Reference Device	Reference Device	•			Reference Device	•			Reference Device
Kontact™ Dental Implant	•	3i T3 Dental Implant	Tapered Internal Plus	Medentika CAD/		outments Meder	tika GmbH	Medentika CAD/CAM Abutments Medentika GmbH				URIS OMNI Narrow System &
	System Biotech Dental, SAS	· ·	Implants BioHorizons				K150203			Prosthetic		
SAS	K210220	K122300	Implant Systems, Inc.							TruAbutment Inc.		
			K121787								K200817	
Kontact™ Dental Implant	Kontact™ Dental Implant	BIOMET dental implants	BioHorizons Tapered	Medentika TiBas	,							URIS OMNI Narrow System is
,	System is indicated for use	are intended for surgical	Internal Plus	for use with dent								indicated for use in the
in partially or fully	in partially or fully	placement in the upper or	Implants are	multiple tooth pr			or mandible of	multiple tooth pr			or mandible of	treatment of missing maxillary
edentulous patients to	edentulous patients to	lower jaw to provide a	intended for use in	a partially or full	v edent	ulous patient.		a partially or fully	edent /	ulous patient.		lateral incisors or the
support maxillary or	support maxillary or	means for prosthetic	the mandible or			1						mandibular central and lateral
mandibular single unit,	mandibular single unit,	attachment in single tooth	maxilla as an artificial	Implant System	Series	Implant	Platform	Implant System	Series	Implant	Platform	incisors, in support of single or
multiple-unit, or	multiple-unit, or	restorations and in	root structure for	Compatibility Nobel Biocare		` '	3.5, 4.3, 5.0,	Compatibility Nobel Biocare		, ,	3.5, 4.3, 5.0,	multiple-unit restorations
overdenture dental	overdenture dental	partially or fully	single tooth	Replace™ Select	Ε	3.5, 4.3, 5.0, 6.0	6.0	Replace™ Select	Ε	3.5, 4.3, 5.0, 6.0	6.0	including: cemented retained,
restorations. Kontact™	restorations. Kontact	edentulous spans with	replacement or for	Nobel Biocare	_	25.42.50	3.5, 3.9 (4.3),	Nobel Biocare	F	20254250	3.0, 3.5, 3.9	screw retained, or overdenture
Dental Implant System is	Dental Implant System is	multiple single teeth	fixed bridgework and	NobelActive™	F	3.5, 4.3, 5.0	3.9 (5.0)	NobelActive™	F	3.0, 3.5, 4.3, 5.0	(4.3), 3.9 (5.0)	restorations, and final or
indicated for immediate	indicated for immediate	utilizing delayed or	dental retention. The	Biomet 3i				Biomet 3i				temporary abutment support
loading when good	loading when good	immediate loading, or	implants may be	Osseotite®	Н	3.25, 4.0, 5.0	3.4, 4.1, 5.0	Osseotite®	Н	3.25, 4.0, 5.0	3.4, 4.1, 5.0	for fixed bridgework. It is
primary stability is achieved and the occlusal	primary stability is achieved and the occlusal	with a terminal or intermediary abutment for	restored immediately (1) with a temporary	Certain® Biomet 3i		3.25, 3.75, 4.0,		Certain® Biomet 3i		3.25, 3.75, 4.0,		intended for delayed loading.
loading is appropriate.	loading is appropriate.	, ,	' ' '	Osseotite®	1	5.0	3.4, 4.1, 5.0	Osseotite®	I	5.0	3.4, 4.1, 5.0	The URIS OMNI Prosthetic
Kontact™ Dental Implant	3 ,, ,	flxed or removable bridgework, and to retain	prosthesis that is not in functional	Nobel Biocare		3.3, 3.75, 4.0,	3.5, 4.1, 4.1,	Nobel Biocare		3.3, 3.75, 4.0,	3.5, 4.1, 4.1,	abutments are intended for
System 3 mm diameter	Kontact 3 mm diameter implants and prosthetics	overdlentures.	occlusion or (2) when	Brånemark	K	5.0	5.1	Brånemark	K	5.0	5.1	use with URIS OMNI dental
implants and prosthetics	components are indicated	overtilentures.	splinted together for	Straumann Bone	1	3.3, 4.1, 4.8	3.3, 4.1, 4.8	Straumann Bone	1	3.3, 4.1, 4.8	3.3, 4.1, 4.8	implants to provide support for
components are indicated	for use in surgical and		multiple tooth	Level		3.3, 1.2, 1.0		Level		3.3, 1.1, 1.0		prosthetic restorations such as
for use in surgical and	restorative applications in		replacement or when	Straumann Standard	N	3.3, 4.1, 4.8	3.5( NNC), 4.8, 6.5	Straumann Standard	N	3.3, 4.1, 4.8	3.5( NNC), 4.8,	crowns, bridges, or over-
restorative applications in	the maxillary lateral incisor		stabilized with an	Zimmer Tapered		3.3, 3.7, 4.1,		Zimmer Tapered		3.3, 3.7, 4.1,	6.5	dentures.
	or mandibular		overdenture	Screw-vent®	R	4.7, 6.0	3.5, 4.5, 5.7	Screw-vent®	R	4.7, 6.0	3.5, 4.5, 5.7	acritares.
or mandibular incisor	incisor regions.		supported by	Astra Tech	S	3.5, 4.0, 4.5, 5.0	3.5, 4.0, 4.5,	Astra Tech	S	3.0, 3.5, 4.0,	3.0, 3.5, 4.0,	All digitally designed
regions.			multiple implants.	OsseoSpeed™	-	,,,	5.0	OsseoSpeed™		4.5, 5.0	4.5, 5.0	abutments and/or coping for
				Dentsply Friadent®	Т	3.4, 3.8, 4.5, 5.5	3.4, 3.8, 4.5,	Dentsply Friadent®	Т	3.4, 3.8, 4.5, 5.5	3.4, 3.8, 4.5,	use with URIS OMNI Prosthetic
All digitally designed				Frialit/XiVE®	,	3.4, 3.0, 4.3, 3.3	5.5	Frialit/XiVE®	•	3.4, 3.0, 4.3, 3.3	5.5	abutments are intended to be
Kontact™ Dental Implant				Dentsply			25 45 55	,				sent to a TruAbutment-
System CAD/CAM				Friadent®	Y	3.5, 4.5, 5.5, 7.0	3.5, 4.5, 5.5, 7.0	Medentika PreFa	ce is in	tended for use w	ith the	validated milling center for
abutments are intended to				Ankylos®			7.0	Straumann® CAR	ES® Sys	tem. All digitally	designed	manufacture.
be sent to a Biotech Dental								abutments for us				
validated milling center for				Medentika TiBas		,		Abutments are in	tended	to be manufacti	ured at a	
manufacture.				Straumann® CAR	,	,	5	Straumann® CAR	ES® val	idated milling ce	nter.	
				abutments for us		,						
				Abutments are intended to be manufactured at a Straumann® CARES® validated milling center.								
				Straumann® CAR	ES® val	idated milling ce	nter.					
			1									

# **Technological Characteristics Comparison Table – Implants**

Comparison	Subject Device Kontact™ Dental Implant System Biotech Dental, SAS	Kontact™ Dental Implant System Biotech Dental, SAS (K210220)	BIOMET 3i (K122300)	Reference Device Tapered Internal Plus Implants BioHorizons Implant Systems, Inc. (K121787)	
Product Code	DZE, NHA	DZE, NHA	DZE	DZE	
Regulation	872.3640, 872.3630	872.3640, 872.3630	872.3640	872.3640	
Intended Use	Functional and esthetic rehabilitation of the edentulous maxilla and mandible	Functional and esthetic rehabilitation of the edentulous maxilla and mandible	Functional and esthetic rehabilitation of the edentulous maxilla and mandible	Functional and esthetic rehabilitation of the edentulous maxilla and mandible	
Reason for	Not Applicable	Implant diameter/length, prosthetic connection,	Implant diameter/length, Implant material	β-TCP grit blast surface	
Predicate/Reference		sterilization, biocompatibility and how provided			
		Implant Designs			
Prosthetic Interface	Internal	Internal	Internal	Internal	
Connection					
D = Implant Body Diameter IP = Implant Platform Diameter	D IP Lengths 3.0 3.0 10,12,14 3.6 3.6 8,10,12,14,16 4.2 4.2 8,10,12,14,16 4.8 4.8 8,10,12,14 5.4 5.4 8,10,12,14 Tapered Implant body, spherical apex CP Grade 4 Titanium β-TCP grit blast surface  Kontact S+  D IP Lengths 4.0 3.6 8,10,12 4.5 3.6 8,10,12 4.5 4.2 8,10,12 5.0 4.2 8,10,12 5.5 4.2 8,10,12 Tapered Implant body, spherical apex CP Grade 4 Titanium β-TCP grit blast surface	No.   No.	T3 Tapered Implants    D   IP   Lengths	D IP Lengths 3.8 3.0 9,10.5,12,15 4.6 3.5 7.5,9,10.5,12,15 5.8 4.5 7.5,9,10.5,12,15 Tapered Implant body, spherical apex Grade 5 Titanium Alloy β-TCP grit blast surface	
Sterility	Gamma Sterilization	Sterile	Sterile	Sterile	
Sterilization Method	Single patient, single use	Gamma Sterilization	Gamma Sterilization	Gamma Sterilization	
Usage	5 - p	Single patient, single use	Single patient, single use	Single patient, single use	

**Technological Characteristics Comparison Table - Abutments** 

Comparison	Subject Device	Primary Predicate Device	Reference Device	Reference Device
	Kontact™ Dental Implant System	Kontact™ Dental Implant System	Medentika CAD/CAM Abutments	URIS OMNI Narrow System & Prosthetic
	Biotech Dental, SAS	Biotech Dental, SAS K210220	Medentika GmbH K150203	TruAbutment Inc. K200817
Product Code	DZE, NHA	DZE, NHA	NHA	NHA
	,	,	872.3630	872.3630
Regulation	872.3640, 872.3630	872.3640, 872.3630		
Intended Use	Functional and esthetic rehabilitation of the edentulous maxilla and mandible	edentulous maxilla and mandible	Functional and esthetic rehabilitation of the edentulous maxilla and mandible	Functional and esthetic rehabilitation of the edentulous maxilla and mandible
Reason for	Not Applicable	Abutment designs listed, material, sterilization,	CAD/CAM Ti-Base and Ti-Blank Abutment Design,	Straight MUA PD/GH, Angled Abutment
Predicate/Reference		biocompatibility, how provided	Modified abutment maximum post correction angle	
		Abutment Design		
	Straight Narrow Conical (non-indexed)			
	D IP GH PD Max PH Min APH			
	3.6 3.6 5 4 0 1.2 3.2			
	4.2 4.2 5 4 0 1.2 3.2			
	4.8 4.8 5 4 0 1.2 3.2			
	5.4 5.4 5 4 0 1.2 3.2			Multi-Unit Straight Abutments
	4.0 3.6 5 4 0 1.2 3.2		n/a	PD: 5.0mm
	4.5 3.6 5 4 0 1.2 3.2		·	GH: 1.0/2.0/3.0/4.0/5.0/6.0 mm PH: not defined
	4.5     4.2     5     4     0     1.2     3.2       5.0     4.2     5     4     0     1.2     3.2			i i i i i i i i i i i i i i i i i i i
	5.5 4.2 5 4 0 1.2 3.2	Narrow Conical Abutments		
	Min PH with Conical coping 3.2 mm	Implant Platform Diameter:		
	Min PH with Titanium Sleeve 4 mm	3.6, 4.2, 4.8, 5.4 mm		
1	Titanium Alloy (ASTM F136), no modified surface	Prosthetic Platform Ø: 4.0 mm		
	Copings - anodized yellow	Angle: 0°, Gingival Height: 1-4 mm Angle: 17°, Gingival Height: 4 mm Indexed, non-indexed Titanium Alloy (ASTM F136)		
	30° Angulated Narrow Conical (indexed)  Max Min		n/a	Multi-Unit Angled Abutments PD: 5.0mm GH: 4.0/5.0/6.0mm
	D IP GH PD MAX PH APH			
	3.6 3.6 4 4 30 2.1 3.2			
	4.2 4.2 4 4 30 2.1 3.2			
D = Implant Body Diameter	4.8 4.8 4 4 30 2.1 3.2			
IP = Implant Platform Diameter	5.4 5.4 4 4 30 2.1 3.2 4.0 3.6 4 4 30 2.1 3.2			
GH = Gingival Height PD = Prosthetic Diameter	4.0     3.6     4     4     30     2.1     3.2       4.5     3.6     4     4     30     2.1     3.2			
(Gingival Diameter)	4.5 4.2 4 4 30 2.1 3.2			CA: 29.5 PH: not defined
CA = Post Correction Angle	5.0 4.2 4 4 30 2.1 3.2			Ph. not defined
PH = Post Height APH = Accessory Post Height	5.5 4.2 4 4 30 2.1 3.2			
(Multi-Unit Abutments)	Min PH with Conical coping 3.2 mm			
(main omerabaments)	Min PH with Titanium Sleeve 4 mm Titanium Alloy (ASTM F136), post insert - Anodized Blue			
	Copings - anodized yellow			
	30° Angulated Conical (indexed, non-indexed)			
	D IP GH PD Max PH Min			
	3.6 3.6 2,3,4,5 4.9 30 2.3 4.0			
	4.2 4.2 2,3,4,5 4.9 30 2.3 4.0			
	4.8 4.8 2,3,4,5 4.9 30 2.3 4.0			
	5.4 5.4 2,3,4,5 4.9 30 2.3 4.0	Angulated Conical Abutments		
	4.0 3.6 2,3,4,5 4.9 30 2.3 4.0	Implant Platform Diameter:		Multi-Unit Straight Abutments
	4.5 3.6 2,3,4,5 4.9 30 2.3 4.0 4.5 4.2 2,3,4,5 4.9 30 2.3 4.0	3.6, 4.2, 4.8, 5.4 mm Prosthetic Platform Ø: 4.9 mm	n/a	PD: 5.0mm GH: 4.0/5.0/6.0mm
	4.5     4.2     2,3,4,5     4.9     30     2.3     4.0       5.0     4.2     2,3,4,5     4.9     30     2.3     4.0	Angle: 17°, Gingival Height: 2-5 mm	11/4	CA: 29.5
	5.5 4.2 2,3,4,5 4.9 30 2.3 4.0	Indexed, non-indexed		PH: not defined
	Min PH with Conical coping 4.7 mm	Titanium Alloy (ASTM F136)		
	Min PH with Titanium Sleeve 4 mm			
	Titanium Alloy (ASTM F136), no modified surface			
	Copings - anodized yellow			
İ				

Comparison	Subject Device Kontact™ Dental Implant System Biotech Dental, SAS	Primary Predicate Device Kontact™ Dental Implant System Biotech Dental, SAS K210220	Reference Device Medentika CAD/CAM Abutments Medentika GmbH K150203	Reference Device URIS OMNI Narrow System & Prosthetic TruAbutment Inc. K200817
	P   GH   Max   PD   Max   PH	n/a	Titanium Base: Implant Platform Ø: 3.0-7.0 mm Gingival Height: not specified Angle: 0 - 30° Min PH: not specified Indexed, Non-indexed Titanium Alloy	n/a
	Titanium Blank  IP Max GH Max CA Min PH  3.0 5 15 4  3.6 5 30* 4  4.2 5 30* 4  4.8 5 30* 4  Indexed  Titanium Alloy (ASTM F136), no modified surface  *Max 22* with Kontact Implants	n/a	Titanium Blanks: Implant Platform Ø: 3.0-7.0 mm Gingival Height: not specified Angle: 0 - 30° Min PH: not specified Indexed Titanium Alloy	n/a
	FitPost (Hand Milled)   IP	FitPost Implant Platform Ø: 3.6, 4.2, 4.8, 5.4 mm Prosthetic Diameter: 5.1, 6.6 mm Gingival Height: 1-5 mm Angle: 0* Min PH: 4 mm Indexed Titanium Alloy (ASTM F136), no modified surface	Titanium Blanks: Implant Platform Ø: 3.0-7.0 mm Gingival Height: not specified Angle: 0 - 30° Min PH: not specified Indexed Titanium Alloy	n/a
	Uni-Post Copings (for use with Uni-Post abutments) (table reflects Uni-Post abutment with Insert)    P	Uni-Post Abutments w/Sleeves Implant Platform Ø: 3.6, 4.2, 4.8, 5.4 mm Prosthetic Diameter: 4, 5, 6.5 mm Gingival Height: 1 mm – 5 mm  Straight Conical Abutment w/coping Prosthetic Platform Ø: 4.0 mm, 4.9 mm Gingival Height: 1-5 mm Angle: 0° Indexed, Non-Indexed Grade 5 Titanium Alloy	n/a	n/a
Material (Abutment and Screw)	Ti-6AL-4V Alloy 3.0 mm Abutment screw - Phynox	Ti-6AL-4V Alloy 3.0 mm Abutment screw - Phynox	Ti-6AL-4V Alloy	Ti-6AL-4V Alloy
Abutment/Implant Interface	Internal Connection	Internal Connection	Internal Connection	Internal Connection
Prosthesis Attachment	Cement-retained Screw-retained	Cement-retained Screw-retained	Cement-retained	Multi-unit
Restoration	Single-unit Multi-unit	Single-unit Multi-unit	Single-unit Multi-unit	Multi-unit
	1	How Provided		1
Sterility	Non-Sterile	Non-Sterile	Non-Sterile	Non-Sterile
Sterilization Method	Moist Heat	Moist Heat	Moist Heat	Moist Heat
Usage	Single patient, single use	Single patient, single use	Single patient, single use	Single patient, single use