



#Precisely



Ditron Dental is a biomedical company devoted to the research, development and production of high end components for implant-based dental restorations.

Ditron Dental was founded on the basis of over 50 years of experience in the design, production and JIT (Just-in-Time) delivery of ultra precise mission critical parts for some of the most demanding applications. Outstanding precision and exceptional quality are an essential part of our corporate D.N.A.

We focus on providing you with high end implantology solutions which are intuitively simple, safe and reliable, combined with around the clock service and support.

Our in-house team of leading clinicians, micromachining experts and quality process engineers enables us to provide you with a state-of-theart, reliable and dependable implant system.

All our products are predesigned to surpass the most stringent quality requirements. The Ditron Dental components are manufactured in our state of the art production facility where each and every step is controlled to ensure product safety and reliability.

We hope you find this catalog informative and useful.









### **Product Guarantee**

Ditron Dental guarantees all its products for a period of 15 years when used in accordance with the supplied Instructions for Use (IFU) and the company's protocols.



All Ditron Dental implants feature a blasted and thermally acid-etched endosseous surface. The micro and macro structure achieved by this process facilitates an accelerated osseointegration of all Ditron Dental implant lines.

To ensure repeatability, each and every implant is individually blasted with abrasive particles in an automated system which controls the speed. direction, pressure and size of the particles that collide with the implant. This ensures that each and every implant will undergo the same process and demonstrate the same excellent surface characteristics.

The excellent implant surface morphology is then created by a controlled thermal-acid-etching process. Finally, a high purity cleaning procedure is introduced to ensure that no foreign particles remain on the implant's surface. The cleanliness level and purity of our implants are routinely checked by XPS measurements (see tables 1-2).



Atomic force microscopy (AFM) surface topography clearly demonstrate the improved Bone to Implant Contact (BIC) and the improved mechanical anchorage.

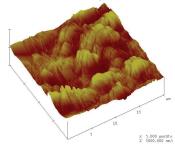


Table 1 XPS element composition, Atomic %

Methodology	Lot	Point	N	С	0	٧	Ti	Αl
The elemental composition and atomic concentrations of the surface treatment were calculated using elemental sensitivity factors	MPI lot	1 down	1.4	26.7	51.33	0.4	16.8	2.4
without applying any standardization procedure.	ot 531	2 up	0	28.3	51.6	1.1	16.2	2.9

Table 2 Ti Oxide thickness (nm) - lot 531

Methodology	Point	1 down 500µm PE150eV	3 down 500µm PE150eV
The thickness of the Titanium Oxide layer was calculated from the high resolution energy spectra of Ti2p electrons.	D, nm	6.7	6.8

# ULT™ ultimate precision implant





### **Bone Platform Switching**

- Reverse Conical Neck (RCN) increases the implant contact surface area with the bone and preserves a greater proportion of bone and periosteum.
- The taper and concavity of the collar guarantees a gentle contact and reduced stress on the crestal cortical bone preventing undesired vascular compression.
- The Reverse Conical Neck provides greater implant stability and better distribution of the stress to bone implant interface.

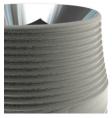
# **Helical Apico-coronal Slots**

- Makes the implant self tapping and reduces resistance to bone insertion.
- Allows the recovery of medullary bone fragments mixed with growth factors' enriched blood.



### Micro Thread

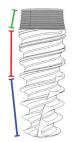
Placing micro-threads on the implant neck greatly increases the ability of an implant to resist axial loads, and the mechanical stimulus provided by the micro-threads helps to preserve the peri-implant marginal bone.



The Ultimate™ micro-threads exercise appropriate biomechanical stimulation of cortical bone, stimulate the tropism and enhance the speed and quality of osseointegration.

### **Implant Profile**

- The truncated-cone profile reproduces root-form morphology of the tooth root and offers significant advantages in many critical situations.
- Platform Switching The prosthetic connection leaves constant horizontal progressive space for the biological width, limits bone resorption, stabilizes the soft tissue and ensures excellent papillary aesthetics.



 Al203 surface blasting and high purity double acid etching cleaning procedures attain superior SEM and XPS results.

# **Progressive Thread**

■ The thread with the concave profile has an apicalcoronal incremental thickness DSST (Double Stressless Sharp Thread) which together with a descending concave profile between the threads. generates a gentle and progressive vertical and horizontal bone compaction.



# **Cutting Apex Edge**

 Provides self drilling and self tapping capacity to the implant allowing optimizing implant insertion angle.

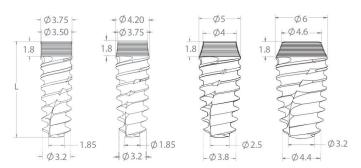


# ULT<sup>™</sup> matrix



# **Catalog numbers**

Length	7mm	8mm	10mm	11.5mm	13mm	16mm
● Ø 3.75 mm	ult07375	ult08375	ult10375	ult11375	ult13375	ult16375
<b>Ø</b> 4.2 mm	ult07420	ult08420	ult10420	ult11420	ult13420	ult16420
● Ø 5.0 mm	ult07500	ult08500	ult10500	ult11500	ult13500	ult16500
○ Ø 6.0 mm	ult07600	ult08600	ult10600	ult11600	ult13600	



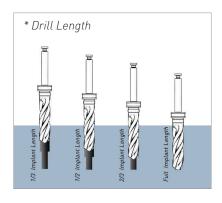


For the Ditron MPI™ Implant please use SmartPeg type 49 – calibrated for Osstell IDx and Osstell ISQ measurement instruments.

# **Drill sequence**

Di itt sequeil	Bone type	drill length*		Bone type	drill length*	
	1,11	J	RPM	III,IV	3	RPM
<b>Ø</b> 3.75 mm	Ø1.9 mm Ø2.0 mm Ø2.8 mm Ø3.2 mm	Full Full 2/3 1/3	1200-1500 900-1200 500- 700 200- 400	Ø1.9 mm Ø2.0 mm Ø2.8 mm	Full Full 1/2	1200-1500 900-1200 500- 700
<b>Ø</b> 4.2 mm	Ø1.9 mm Ø2.0 mm Ø2.8 mm Ø3.2 mm Ø3.8 mm	Full Full Full 2/3 1/3	1200-1500 900-1200 500- 700 400- 700 200- 400	Ø1.9 mm Ø2.0 mm Ø2.8 mm Ø3.2 mm	Full Full 1/2 1/3	1200-1500 900-1200 500- 700 400- 700
● Ø 5.0 mm	Ø1.9 mm Ø2.0 mm Ø2.8 mm Ø3.2 mm Ø3.8 mm Ø4.5 mm	Full Full Full Full 2/3 1/3	1200-1500 900-1200 500- 700 400- 700 400- 600 200- 400	Ø1.9 mm Ø2.0 mm Ø2.8 mm Ø3.2 mm Ø3.8 mm	Full Full 1/2 1/3	1200-1500 900-1200 500- 700 400- 700 400- 600
○ Ø 6.0 mm	Ø1.9 mm Ø2.0 mm Ø2.8 mm Ø3.2 mm Ø3.8 mm Ø4.5 mm Ø5.0 mm	Full Full Full Full Full 1/2 1/3	1200-1500 900-1200 500- 700 400- 700 400- 600 400- 600 300- 500 200- 400	Ø1.9 mm Ø2.0 mm Ø2.8 mm Ø3.2 mm Ø3.8 mm Ø4.5 mm Ø5.0 mm	Full Full Full Full 1/2 1/3	1200-1500 900-1200 500- 700 400- 700 400- 600 400- 600 300- 500

Do not exceed 60Ncm during implant insertion.



# MPI<sup>™</sup> molecular precision implant



# **MolecuLock**<sup>TM</sup>

- Seal between implant and abutment.
- Biomechanical design and 1 micron level production to reduce micro gaps and micro movement risks.



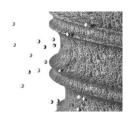
# Restorative platform

- Subcrestal placement including a beveled collar shifting the implant-abutment junction inward, in order to achieve platform-switching configuration.
- Platform switching generates a perfect environment for the soft-tissue growth and helps prevent bone resorption.



### Surface treatment

- Surface blasting and double acid etching.
- High purity cleaning procedures.
- Superior EDS and XPS results.



### **Assisted osseointegration**

■ Our unique Spherical Helix Chamber forms a localized infrastructure that serves as a scaffold for promoting wound healing and bone formation from existing osteoblasts.



### Apex design

- Apex with self-tapping drilling blades enables smaller osteotomy.
- The self-tapping function also supports a precise adaptation of the implant thread to the bone, thus providing optimal primary stability.



# Wide rounded apex

■ Improved ease of insertion and allowing mild direction refinement during the initial stages of insertion.

# **Implant body**

- High initial stability even in compromised bone situations.
- Expanding tapered implant body with double-thread self-tapping design condenses bone gradually to enhance primary stability.
- The insertion rate of the Molecular Precision™ implants are 2.2mm per revolution.



# $\mathsf{MPI}^{^{\mathsf{TM}}}$ matrix

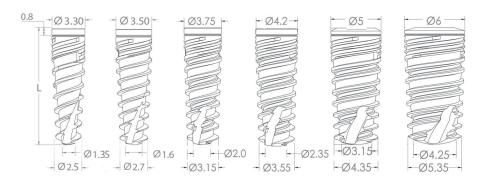


# **Catalog numbers**

Length	6mm	8mm	10mm	11.5mm	13mm	16mm
<b>Ø</b> 3.30 mm		mpi08330	mpi10330	mpi11330	mpi13330	mpi16330
<b>Ø</b> 3.50 mm		mpi08350	mpi10350	mpi11350	mpi13350	mpi16350
● Ø 3.75 mm		mpi08375	mpi10375	mpi11375	mpi13375	mpi16375
<b>Ø</b> 4.20 mm	mpi06420	mpi08420	mpi10420	mpi11420	mpi13420	mpi16420
<b>Ø</b> 5.00 mm	mpi06500	mpi08500	mpi10500	mpi11500	mpi13500	mpi16500
Ø 6.00 mm	mpi06600	mpi08600	mpi10600	mpi11600	mpi13600	



For the Ditron MPI™ Implant please use SmartPeg type 49 – calibrated for Osstell IDx and Osstell ISQ measurement instruments.



Drill sequence	Bone type		Bone type			
	I,II	RPM	III,IV	RPM		
● mpi Ø 3.30 mm	Ø 1.9 mm Ø 2.0 mm Ø 2.8 mm	1200-1500 500- 700 200- 400	Ø 1.9 mm Ø 2.0 mm	1200-1500 500- 700		
mpi Ø 3.50 mm	Ø 1.9 mm Ø 2.0 mm Ø 2.8 mm Ø 3.2 mm	1200-1500 900-1200 500- 700 200- 400	Ø 1.9 mm Ø 2.0 mm Ø 2.8 mm	1200-1500 900-1200 500- 700		
mpi Ø 3.75 mm	Ø 1.9 mm Ø 2.0 mm Ø 2.8 mm Ø 3.2 mm	1200-1500 900-1200 500- 700 200- 400	Ø 1.9 mm Ø 2.0 mm Ø 2.8 mm	1200-1500 900-1200 500- 700		
mpi Ø 4.2 mm	Ø 1.9 mm Ø 2.0 mm Ø 2.8 mm Ø 3.2 mm Ø 3.8 mm	1200-1500 900-1200 500- 700 400- 700 200- 400	Ø 1.9 mm Ø 2.0 mm Ø 2.8 mm Ø 3.2 mm	1200-1500 900-1200 500- 700 400- 700		
● mpi Ø 5.0 mm	Ø 1.9 mm Ø 2.0 mm Ø 2.8 mm Ø 3.2 mm Ø 3.8 mm Ø 4.5 mm	1200-1500 900-1200 500- 700 400- 700 400- 600 200- 400	Ø 1.9 mm Ø 2.0 mm Ø 2.8 mm Ø 3.2 mm Ø 3.8 mm	1200-1500 900-1200 500- 700 400- 700 400- 600		
○ mpi Ø 6.0 mm	Ø 1.9 mm Ø 2.0 mm Ø 2.8 mm Ø 3.2 mm Ø 3.8 mm Ø 4.5 mm Ø 5.0 mm Ø 5.5 mm	1200-1500 900-1200 500- 700 400- 700 400- 600 400- 600 300- 500 200- 400	Ø 1.9 mm Ø 2.0 mm Ø 2.8 mm Ø 3.2 mm Ø 3.8 mm Ø 4.5 mm Ø 5.0 mm	1200-1500 900-1200 500- 700 400- 700 400- 600 400- 600 300- 500		

Do not exceed 60Ncm during implant insertion.



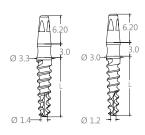


# **Catalog numbers**

Length	10mm	11.5mm	13mm	16mm
● Ø 3.0 mm	opi1030	opi1130	opi1330	opi1630
● Ø 3.3 mm	opi1033	opi1133	opi1333	opi1633



TSQK-200340 opi short hand & ratchet key external square connection length: 21mm



# **Drill sequence**

	Bone type		Bone type	
	I,II	RPM	III,IV	RPM
Ø 3.0 mm	Ø 1.9 mm Ø 2.0 mm Ø 2.5 mm	1200-1500 900-1200 700- 900	Ø 1.9 mm Ø 2.0 mm	1200-1500 900-1200
● Ø 3.3 mm	Ø 1.9 mm Ø 2.0 mm Ø 2.5 mm Ø 2.8 mm	1200-1500 900-1200 700- 900 400- 700	Ø 1.9 mm Ø 2.0 mm Ø 2.5 mm	1200-1500 900-1200 700- 900

Do not exceed 60Ncm during implant insertion.

# PROSTHETICS



# **Comprehensive restorative solutions**

Ditron Dental's internal hex prosthetics portfolio provides solutions for all indications. From single unit restoration to full arch restoration, one or two stage, immediate or delayed loading procedures you will find an implant/prosthetic combination that addresses the clinical situation and meets the best needs of the patient.

# Compatibility

Abutments and components fit all standard hexagonal locking systems. Nevertheless, we highly recommend using Ditron Dental's prosthetic parts to ensure the perfect connection between implant & abutment (Molecul ock™)

# Quality

Precision turning and milling ensures that all abutments are delivered with the highest quality and precision.

All abutments are delivered with an abutment screw.

# Strength

All Ditron's abutments are manufactured from biocompatible medical Grade 23 Titanium alloy that has been tested for strength and durability.

# Standard healing cap



# Anatomic healing cap



# Impression coping



Transfer TR-3030 includes a 16mm screw (TRS-3050). Long Screw 24mm (TRS-3040) for open tray is sold separately.

# Temporary abutments



# Straight abutments





All abutments include a short abutment screw (ABTS-2000). Abutment screw should be tightened to 30 Ncm.

# Angulated abutments 15°& 25°

### all shoulder diameters = Ø4.8mm





# Anatomic angulated abutments 15°& 25°

### all shoulder diameters = Ø4.7mm



All abutments include a short abutment screw (ABTS-2000). Abutment screw should be tightened to 30 Ncm.

# Casting abutments

### Casting abutments - Metal base



CAT-H10ST Titanium Base Casting CAC-H10ST CoCr Base Casting

Hexagon Length 11mm Height 1.0mm



CAT-C10ST Titanium Base Casting CAC-C10ST CoCr Base Casting

Cylinder Length 11mm Height 1.0mm

### Casting abutments - Plastic - Hexagon



CAS-H10ST Hexagon Length 11mm Height 1.0mm



CAS-C10ST Cylinder Length 11mm Height 1.0mm

### Straight abutments - Casting Esthetic - Plastic - Hexagon



CAP-H10ST Length 10.5mm Height 1.0mm



CAP-H20ST Length 11.5mm Height 2.0mm



CAP-H30ST Length 12.5mm Height 3.0mm

### Angulated abutments 15° - Casting Esthetic - Plastic - Hexagon



CAP-H1015 Length 9.9mm Height 1.0mm



CAP-H2015 Length 10.9mm Height 2.0mm



CAP-H3015 Length 11.9mm Height 3.0mm

### Angulated abutments 25° - Casting Esthetic - Plastic - Hexagon



CAP-H1025 Length 8.5mm Height 1.0mm



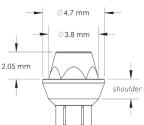
CAP-H2025 Length 9.5mm Height 2.0mm



CAP-H3025 Length 10.5mm Height 3.0mm

# Screw retained abutments





# **Screws**



SRAS-8005-1 0.5mm SRAS-8015-1 1.5mm

SRAS-8025-1 2.5mm



### Sleeve - Burnout plastic



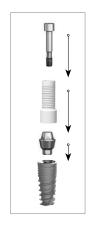


SRA-8030 hexagonal hex



hex

SRA-8032 conical round hex



# Ball attachment

# **Attachments**









BAL-10040

BAL-10050









BAL-SCH Silicon Cap Hard



**BAL-SCN** Silicon Cap Normal



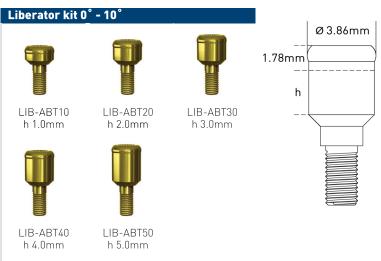
**BAL-SCS** Silicon Cap Soft



Ø2.50

BAL-DSK Plastic Disk

# LIBERATOR® Overdenture restoration attachment retained







# Multi-unit abutments















MUA-30ST 3.0mm shoulder



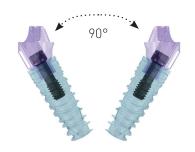
MUA-50ST 5.0mm shoulder

MUA-40ST

4.0mm shoulder



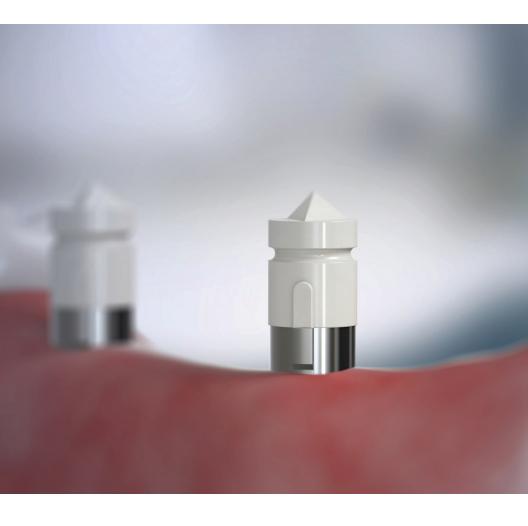
The 17° Multi-unit abutment allows an insertion path of up to 64° divergence.



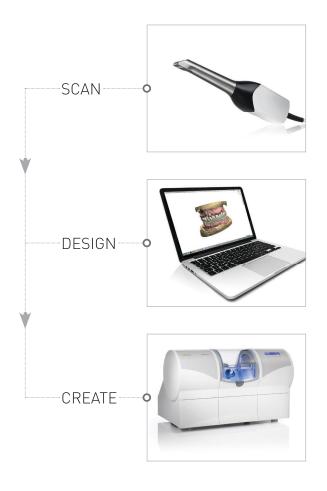
The 30° Multi-unit abutment allows an insertion path of up to 90° divergence.



# CAD/CAM SOLUTIONS



Simplify and streamline the complex process of fabricating restorations.









# Scan Abutments



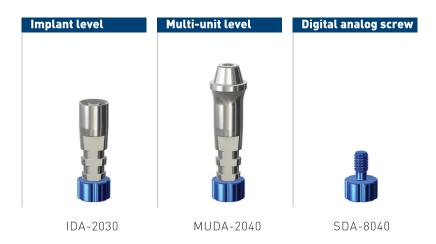
# Ti-Base



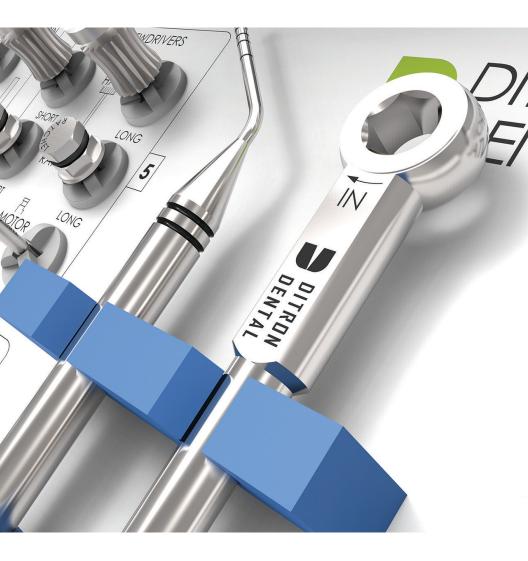
# Pre-Milled Blanks



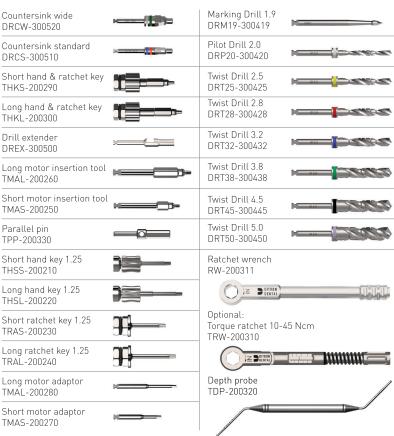
# Digital Analogs for Printed Models



# SURGICAL KITS







# Mini surgical kit





# D-tube

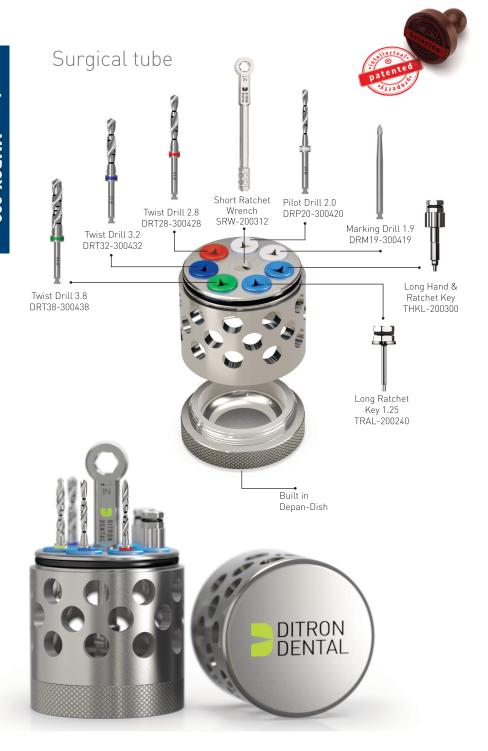
The D-tube – a revolutionary Drill Stopper Kit!

This exceptional device allows you, the dentist, to experience both precision and safety through a unique and patented design.

Every segment contains only one single length of integral stopper drills (8mm, 10mm, 11.5mm and 13mm) eliminating the risk of mistake.

Simply open the length size segment you need and follow the drill protocol by diameter. Furthermore, in every segment you will find an integral measurement gage to ensure the correct drill length - adding an additional safety feature. The D-tube base is designed to serve as a holder for drills and other needed surgical tools while the top cover can be used to hold used drills during the surgery.





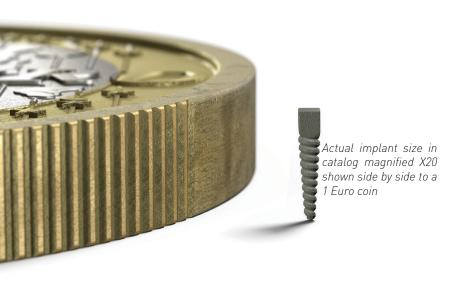
# RESEARCH AND DEVELOPMENT

We aim to provide the best dental implant solutions, and are continuously involved in science based research and development. We work with leading universities both in Israel and overseas. One leading example is our involvement in a novel gene based Periimplantitis research:

# "Genes Associated with Alveolar Bone Loss Around Implants and Teeth as a Result of Bacteria Induced Inflammation"

For this research, Ditron Dental was challenged to create the smallest fully functional dental implant in the world.

This 50 micron diameter implant has allowed researchers to develop, for the first time, an innovative murine model for bacteria-induced alveolar-bone-loss around Titanium implants. Such a model can challenge the hypothesis that peri-implantitis and periodontitis are diverse phenotype and genotype conditions that share a common genetic background.







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Ditron Precision's quality system complies with international quality control standards: ISO 13485:2003/2012 – Quality Management System for Medical Devices, ISO 9001:2000 – Quality Management System and CE Directive for Medical Devices 93/42/EEC.

All products are 510 (k) cleared by the FDA.

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Warning: only a licensed dentist should use these products.







