MICROCONE®

IPS
Implant Systems

SURGERY
MANUAL

MEDENTIKA®

Our Microcone implant system provides you with a solution which uncompromisingly meets current findings in oral implantology.

With correct use and application the system will deliver reliable, excellent surgical results, which form the basis for what patients ultimately expect:

An aesthetic and functionally perfect dental restoration.
And this in the long-term. We are always there for you, providing every requirement.

We always appreciate all your encouragement and suggestions about the current system and we listen very carefully to the people who are most important for us: our customers.

Always with a single purpose.
Always in accordance with our basic philosophy.

MEDENTIKA®

THIS SURGERY MANUAL DESCRIBES THE CONVENTIONAL APPROACH FOR THE IMPLANT BED PREPARATION.

The general applicable guidelines of the German Society of Dental, Oral and Craniomandibular Sciences (Deutsche Gesellschaft für Zahn-, Mund- und Kieferheilkunde) shall apply for the implantation indication. We recommend that a taking period (osseointegration phase) of three to six months is observed. The taking phase can also be shortened or extended in a particular case.

Please read this manual very carefully prior to the first application of the system and follow the instructions and notices in the instructions for use of the system components and instruments in each case.

In addition we recommend that all users participate in system-specific training prior to the first use of a new implant system.

INDICATIONS

- Tooth restricted gaps
- Free-end gaps
- Edentulous jaw

PROSTHETIC CONCEPT

- Replacement of an individual tooth
- Fixing of bridges and dentures

WAY OF HEALING

- Covered following installation of the screw plug
- Transgingival with gingiva forming parts
- Immediate restoration/immediate loading with prosthetic modular components

TIME OF IMPLANTATION

- Immediate implantation
- Delayed immediate implantation
- Late implantation

MICROCONE®

HIGH PRECISION CONICAL IMPLANT ABUTMENT CONNECTION

The high precision friction-locked and keyed interface achieves the best possible levels of stability between the abutment and the implant.

1. Only one conical connection between the implant and the abutment in the case of implants with a diameter of 3.5 to 5.0 mm.

2. Conical connection between the implant and the abutment that is completely free of micromovements. As a result of this no mechanical irritations arise and the retention of the peri-implant bone is positively influenced.

3. The connection that is bacteria and liquid proof considerably reduces the risk of infection, ensures healthy tissue that is not irritable and prevents bone depletion.

4. Integrated system-linked platform switching shifts the transition between the implant and the abutment from the implant shoulder to a central position. This keeps bacterial stimuli away from the peri-implant tissue in conjunction with the tight conical connection and creates a broad horizontal basis for the stable apposition of hard and soft tissue.

5. The implant abutment connection meets all the system requirements for permanent red-white aesthetics in conjunction with a subcrestal implant position and the coronal microthread section.

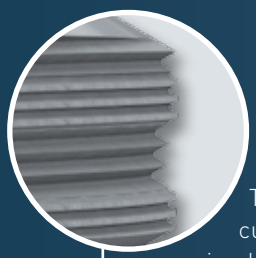
EMERGENCE PROFILE

The natural forming of the prosthetic emergence profile is an additional building block to ensure aesthetically predictable results and achieves ideal long-term treatment successes in conjunction with all the other outstanding properties of the implant.

It preserves the mucous membranes and takes account of the biological principles in the case of all indications. And not least it ensures ideal prosthetic handing.

Mechanically tested according to ISO 14801 by the Fraunhofer IWM in Freiburg.

Fraunhofer Institut Werkstoffmechanik

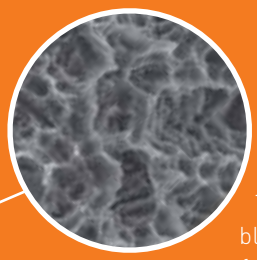


MICRO-MACRO THREAD

The unique, highly complex, self-cutting micro-macro thread of the implant promotes the permanent apposition of bone cells and their retention in a really ideal manner not just in the crestal area, but across the entire implant surface. The continuous presence of the microthread on the macrothread sides and in the root of the thread generates the requirements for the largest possible contact surface with the bone.

In the case of subcrestal insertion this results in an accumulation of the bone over the shoulder to the interface in conjunction with the conical tight joint. Together with the biologically ideally dimensioned microthread the conical joint ensures that it also permanently stays put there. This for its part results in the supporting of the soft tissue above it and thus permanent red and white aesthetics.

The thread design that is to be inserted atraumatically reduces the possibility of medium to long-term decubital necrosis to a minimum.



SURFACE

The ultra-pure, corundum blasted and acid-etched surface extends over the entire length of the implant to the implant shoulder (the implant shoulder is now machined). It possesses macro-micro roughness that is ideally dimensioned for the deposition of bone-forming cells and thus enhances the ideal and above all reliable long-term osseointegration of the Microcone. It ensures well above average crestal bone formation in conjunction with the coronal microthread and the conical interface, throughout the implant shoulder to the interface.

- Implant diameter from 3 mm to 5 mm
- Implant lengths from 6.5 mm to 15 mm

5 implant diameters and 6 implant lengths facilitate ideal dimensioning of the implants for each indication. The implant diameter 3 mm (two part) enables insertion in narrow tooth gaps of the upper side and lower side and middle incisors.

IMPLANT DIAMETERS AND LENGTHS

Our implants are available in five diameters and different lengths. Due to the needs-based size graduation they are suitable for all dental implantology indications for a minimised number of single implants.

NI
D 3.0 MM

Microcone Implant NI D 3.0 mm

Please always note that the implant connection of the implant that has a diameter of 3.00 mm is dimensionally reduced and you can use it only to treat parts which are marked with the implant connection NI (Narrow Interface).

Indications: Narrow gaps – only the upper jaw, lateral incisors and lower jaw lateral and central incisors area: 12, 22, 31, 32, 41, 42

RI
D 3.5 MM - 5.0 MM

Microcone Implant RI D 3.5–5.0 mm

There is only one conical connection size between the implant and the abutment in the case of implants with a diameter of 3.5 to 5.0 mm, which is marked with RI (Regular Interface).

This means that all the impression posts, gingival formers and abutments fit into each of these implants. This markedly reduces the number of components required and thus achieves maximum transparency and efficiency.

	LENGTH / DIAMETER	6.5 mm	8 mm	9 mm	11 mm	13 mm	15 mm
NI*	D 3.0 mm				1-01-06	1-01-07	1-01-08
RI*	D 3.5 mm		2-01-30	2-01-31	2-01-32	2-01-33	2-01-34
	D 4.0 mm	2-01-35	2-01-36	2-01-37	2-01-38	2-01-39	2-01-40
	D 4.5 mm	2-01-41	2-01-42	2-01-43	2-01-44	2-01-45	2-01-46
	D 4.5 / 3.5 mm	2-01-53		2-01-54	2-01-55	2-01-56	
	D 5.0 mm	2-01-47	2-01-48	2-01-49	2-01-50	2-01-51	2-01-52

* **Implant connection NI** (Narrow Interface)

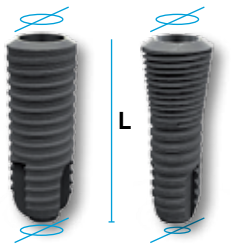
Implant connection RI (Regular Interface)

The visible indication of the implant diameter, framed by the colour coding, makes it easier to visually differentiate the respective implant diameters.

The drill bits for the implant bed preparation are also highlighted with these colours.

D 3.0 mm | D 3.5 mm | D 4.0 mm | D 4.5 mm | D 4.5 / 3.5 mm | D 5.0 mm

Clear colour coding of the implant diameters



D 4.5 mm | D 4.5 / 3.5 mm

The 4.5 mm implants are available in straight and conical form.

In the colour coding field on the implant packaging the diameter of the implant is labelled in millimetres with "D" , the length in millimetres with „L" and the article number „REF".

GINGIVA FORMER

The following overview should make it easier for you to select the right gingiva former. The definitive selection of the gingival former must be performed in line with the patient's specific needs.
The correct diameter of the emergence profile of the gingival former is based on the desired healing space and the implant position and thus decisively influences the correct ability to shape and the functionality of the prosthetics. You can use the gingival height gauge to determine the gingiva heights.

PLEASE NOTE:

RECOMMENDED TORQUE TO SCREW IN THE GINGIVA FORMER 5-10 NCM (FINGER-TIGHT)

GINGIVA FORMER	Ø 6.5	Ø 6.5	Ø 4.5	Ø 4.5	Ø 5.5	Ø 3.5	Ø 5.5
							
IMPLANT POSITION	17 47	16 46	15 45	14 44	13 43	12 42	11 41
							
GINGIVA FORMER	Ø 6.5	Ø 6.5	Ø 4.5	Ø 4.5	Ø 5.5	Ø 3.5	Ø 3.5

CONTINUITY OF EMERGENCE PROFILE

IMPLANTS	NI D 3.0	RI D 3.5 – 5.0		
GINGIVA FORMER				
	Ø 3.5 GH 2–6	Ø 4.5 GH 1–6	Ø 5.5 GH 1–6	Ø 6.5 GH 1–6
IMPRESSION POST				
				
		Ø 4.5 GH 1–2	Ø 5.5 GH 1–2	Ø 6.5 GH 1–2
				
		Ø 4.5 GH 3–6	Ø 5.5 GH 3–6	Ø 6.5 GH 3–6
ABUTMENT				
	Ø 3.5 GH 1.5–5	Ø 4.5 GH 1.5–5	Ø 5.5 GH 1.5–5	Ø 6.5 GH 1.5–5

The form (emergence profile) of the gingiva former is exactly based on the form of the prosthetic abutments. You have the additional option of using the individual impression posts to ensure the better transfer of the selected emergence profile onto the model, these are also exactly based on the emergence profile of the gingival formers and abutments.

PROSTHETIC DENTISTRY

All prosthetic indications can be achieved with our highly innovative prosthetic dentistry range. The high precision conical implant abutment coupling can be securely fixed in place and prevent micromovements between the implant and the abutment. A large number of abutments within our prosthetic range are available even for the most demanding cases. Whether it is a crown, bridge or a removable denture - the most diverse fittings provide you with the room for manoeuvre to securely realise all prosthetic indications.

01 CUSTOMISED IMPRESSION POSTS

Our system provides you with the option for the first time of transferring the emergence profile that has been ideally moulded by the gingiva former onto the model with the aid of the impression in a consistent manner for the final prosthetics.

The impression posts that can be customized with one simple movement now make it possible for the person administering the treatment to precisely transfer the emergence according to the gingiva former into the laboratory. Abutments that are perfectly customised for this are available there.

02 TITANIUM ABUTMENT

- For single crowns and bridges
- Available in a straight or angled form
- In different gingiva heights and abutment diameters
- Can be customised through grinding

03 PROVISIONAL ABUTMENT

- For the manufacture of provisional restorations
- Available in a straight or angled form
- Made from tooth-coloured acrylic sprayed onto a titanium core, it is therefore light and can be rapidly customised

04 PROVISIONAL ABUTMENT ADDITIVE

- Ideal for easy, quick fabrication of multi-unit temporary restorations
- Their extremely reasonable purchase price makes these abutments even more attractive

05 HSL-ABUTMENT

- For difficult prosthetic situations which require customised solutions for crowns, bridges and dentures
- For the equalisation of axial divergences
- For free contouring in the event of a difficult implant position

06 SOLID ABUTMENT

- For the simple and optimised manufacture of double crowns
- For the fixing of dentures and removable bridges
- Equalisation of marked axial divergences through customised milling technology
- Available in a straight or angled form

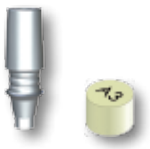
07 TITANIUM BASE FOR ZIRCONIUM 2ND GENERATION ABUTMENT

- Two different stack heights for the ideal static support of the zircon design
- Two gingiva heights, for the ideal design of the ceramic emergence profile
- Platform with reduced diameter with much more creative freedom for the zircon design
- Scan bodies manufactured from stainless steel with much higher levels of precision and durability
- The surface of the scan bodies is coated with a special coating to ensure ideal recording in the scanner

08 LABORATORY IMPLANT CADCAM

- Highly precise, repositionable, radially and axially absolutely stable laboratory implants specially developed for printed models and intraoral scanners.
- The final position can be reliably checked and clearly defined by a highly perceptible >>CLICK<< which prevents the position being changed unintentionally due to vibration or contamination etc.
- This considerably increases the process reliability and avoids often very costly errors.
- The product range is supplemented by the appropriate placement tools for the respective laboratory implants.

09 POC-ABUTMENT



- The POC-abutment enables the simple, customised design of the emergence profile through the moulding of ceramics onto this
- Emergence can be produced in tooth colour

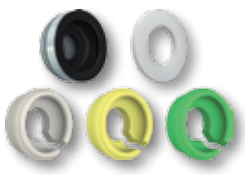
10 MEDENTIBASE®-ABUTMENT

- MedentiBASE bridges the difference between the implant shoulder and the upper edge of the mucous membrane
- A multi-indicative platform for the manufacture of primary-splinted bridges and bars
- Special adhesive bases enable the realization of stressfree patterns ⟶ PASSIVE-FIT
- Can be manufactured simply and precisely using cast-on and castable crown bases
- For the fixing of overdentures by means of a customized or ready-assembled bar construction
- Superstructures that have been set once remain in the mouth, the laboratory works on analogous models
- Simplified supragingival impression and trial fitting

11 MEDENTILOC®-ABUTMENT

- Further development of the locator abutment by Medentika
- Two-piece with separate screw for an ideal fit in the implant
- Excellent value for money

12 NOVALOC MATRIX SYSTEM



NOVALOC MATRIX SYSTEM FOR MEDENTILOC® AND LOCATOR™ ABUTMENTS

- Denture caps made of titanium or peek
- Stress-free insertion and removal of the replacement males in a matter of seconds
- Long service life
- Clicks into place when it reaches the final position
- No deformation of the males in the event of divergences
- Swiss made highly precise replacement males machined from peek

13 NOVALOC ABUTMENT

- The Novaloc® abutment is a further development of our Medenti-Loc abutments and provides a completely wear-free, mirror-smooth surface, which is almost as hard as diamond. The smallest possible opening on the head prevents the accumulation of food residue. The angled Novaloc Abutments provide the possibility for the first time of effectively compensating for the divergences between implants.
- Novaloc® abutments are available in 5 different gingival heights

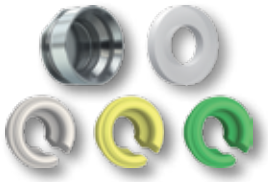
14 NOVALOC MATRIX SYSTEM

- Denture caps made of titanium or peek
- Stress-free insertion and removal of the replacement males in a matter of seconds
- Long service life
- Clicks into place when it reaches the final position
- No deformation of the males in the event of divergences
- Swiss made highly precise replacement males machined from peek

15 OPTILOC ABUTMENTS

- The Optiloc® abutment combines the advantages of the Novaloc® abutment with the minimal space requirements of the ball attachment. It provides a completely wear-free, mirror-smooth surface, which is almost as hard as diamond.
  Optiloc® abutments are available in 5 different gingival heights.

16 OPTILOC MATRIX SYSTEM



- The Optiloc® matrix system is based on the proven Novaloc® technology and guarantees optimum retention, even in the case of restorations on only 2 implants. The Optiloc® matrix permits slight movements of the denture without decoupling it.
- Slimmer than the Locator®, deeper than the ball attachment systems. Optimum dimensions now also enable placement of the matrix where only minimal space is available. Familiar problems of chairside matrix retention now belong to the past with Optiloc®. The matrix cannot disengage from the base position due to the secure seating and there is no risk of acrylic integration into the matrix housing during polymerisation.

17 MEDENTICAD ABUTMENT

CUSTOMISED SINGLE-PIECE ABUTMENTS: TITANIUM AND CoCr

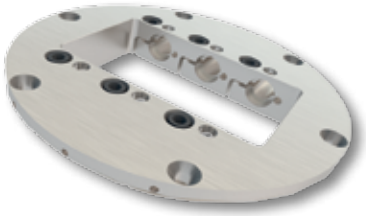
- Custom-made in 48 hours
- You design it digitally or manually – we mill it for you
- Manufactured in a highly precise manner
- Less expensive than pre-fabricated abutments

18 PREFACE-ABUTMENTS

TITANIUM AND CoCr

Highly precise PreFace® abutments as milling blanks. You are on the safe side with PreFace® abutments. While the diameters 11.5 and 16 millimetres provide the necessary variability, a uniform length guarantees the exact zero point definition. We always supply PreFace® abutments with the abutment screw included. To ensure the greatest possible material variability, the PreFace® abutments are also available in titanium Grade 5 CF and CrCo.

19 PREFACE-ABUTMENT HOLDERS



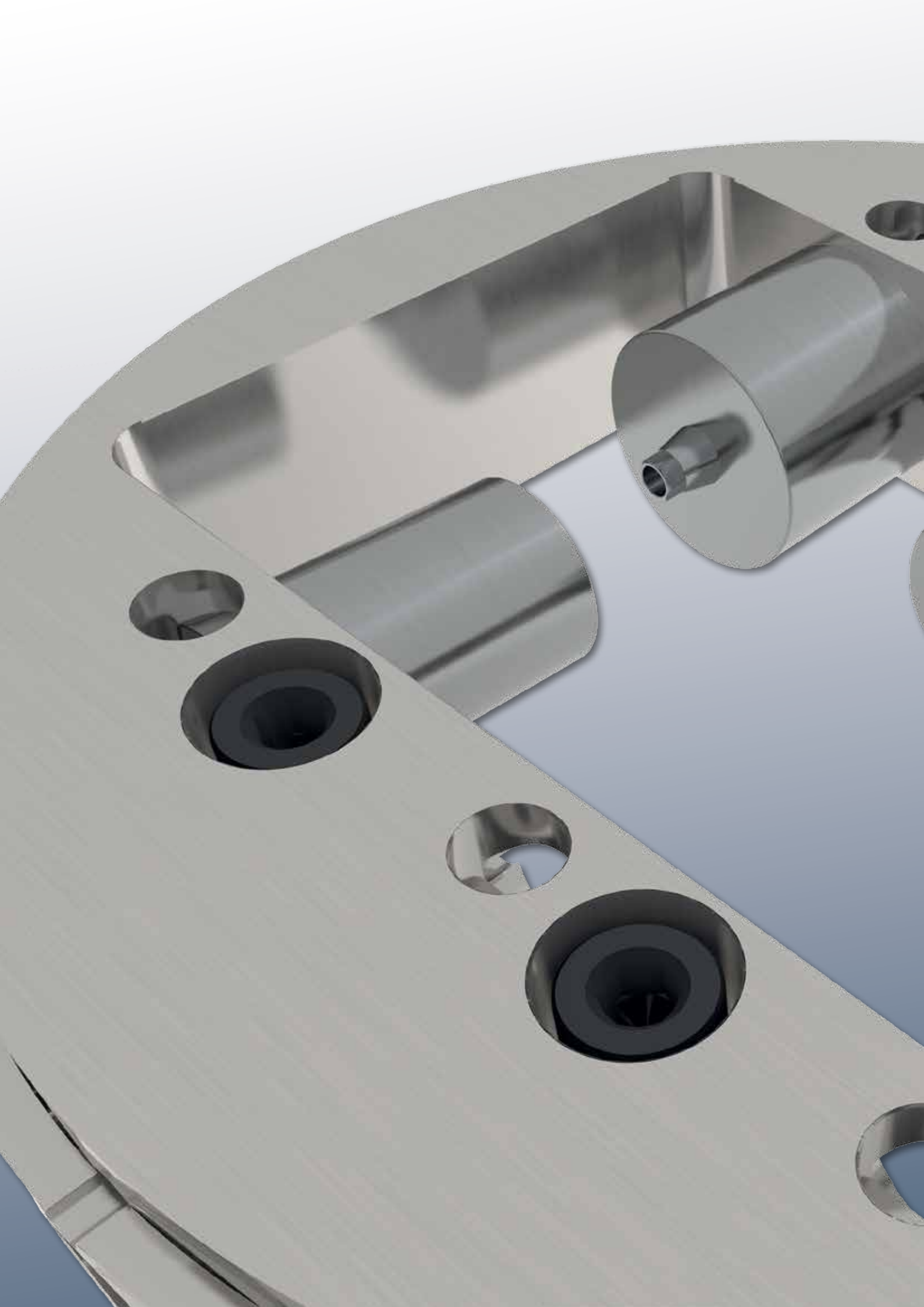
Significantly more precise fabrication than when using conventional holders – due to the innovative, one-piece design. Short production times – thanks to simultaneous processing of six blanks in one working cycle. Particularly time-saving procedure – by clamping the abutment using only one screw in the holder. Maximum protection for the precisely designed implant interface – by clamping the abutment only on the face side.
Very clear, non-error-prone production – due to a minimum number of components. Extremely favourable investment – because of the simple design of the PreFace® abutment holder and the avoidance of expensive expendable parts.

PreFace-Abutment holders are available for:

VHF®
imes-icore®
Datron D5®
Wissner Gamma 202®
Röders RXD®
Dental Concept DC1/DC5®
MB Maschinen Cobra Mill®
Primacon PFM 24 mediMill®

international patent pending

PreFace-Abutment holders must be ordered directly from the machine manufacturer.



CONVENTIONAL TREATMENT PLANNING

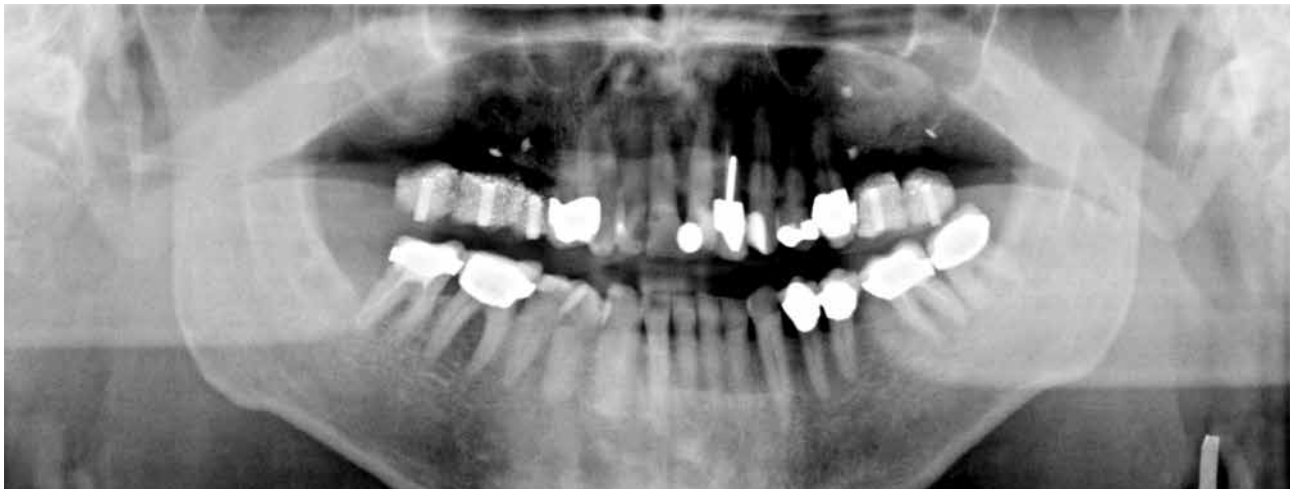
The general applicable guidelines of implant prosthodontics as well as surgical aspects such as the patient's general case history, contraindications, intraoral findings, risk factors must be taken into account during the treatment planning.

Treatment planning can be carried out in accordance with the following considerations after the evaluation of the findings:

- Preprosthetic planning
- Surgical planning

The indications and contraindications for dental surgery and implantological operations must be observed.
During the preprosthetic planning the best possible insertion of the implants should be planned in accordance with aesthetic functional considerations in cooperation with the prosthodontist.

During the surgical planning a careful inspection must be carried out as to whether the existing bone quality is sufficient to primarily insert the implants in a stable manner.

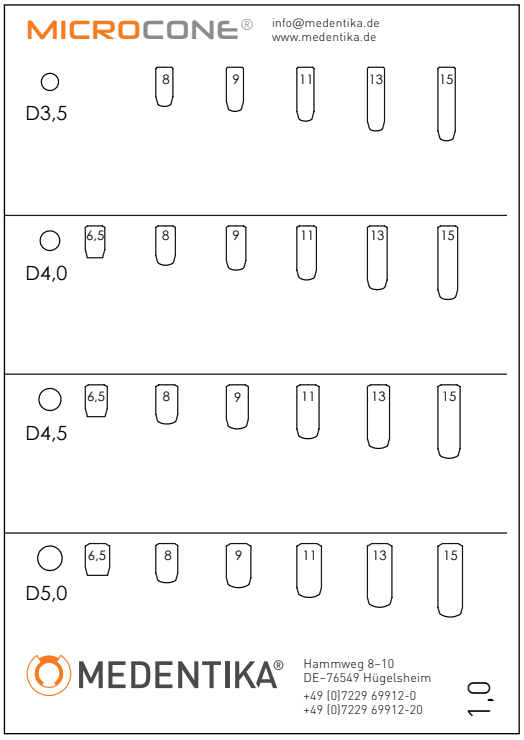


PREPROSTHETIC PLANNING

Preprosthetic planning and thus the best possible, tooth analogue positioning of the implants is the most important precondition to create the basis for aesthetic and functional prosthetics.

SURGICAL PLANNING

The sufficient height and width of the jaw bone for the insertion of implants must be inspected in the pre-operative planning phase. Vestibular and oral lamella should have a width of at least 1.5 mm following the insertion of the implant. The location and the course of important anatomic structures such as the mental foramen or the maxillary sinus must be determined by x-ray. If it should be augmented, these areas must demonstrate complete and mechanically stable regeneration before the treatment. The implant lengths and diameters are selected by placing the x-ray template upon the OPG (pay attention to the enlargement scale). The subcrestal placement of the implant must be taken into account during the x-ray analysis.



COMPUTER-AIDED TREATMENT PLANNING

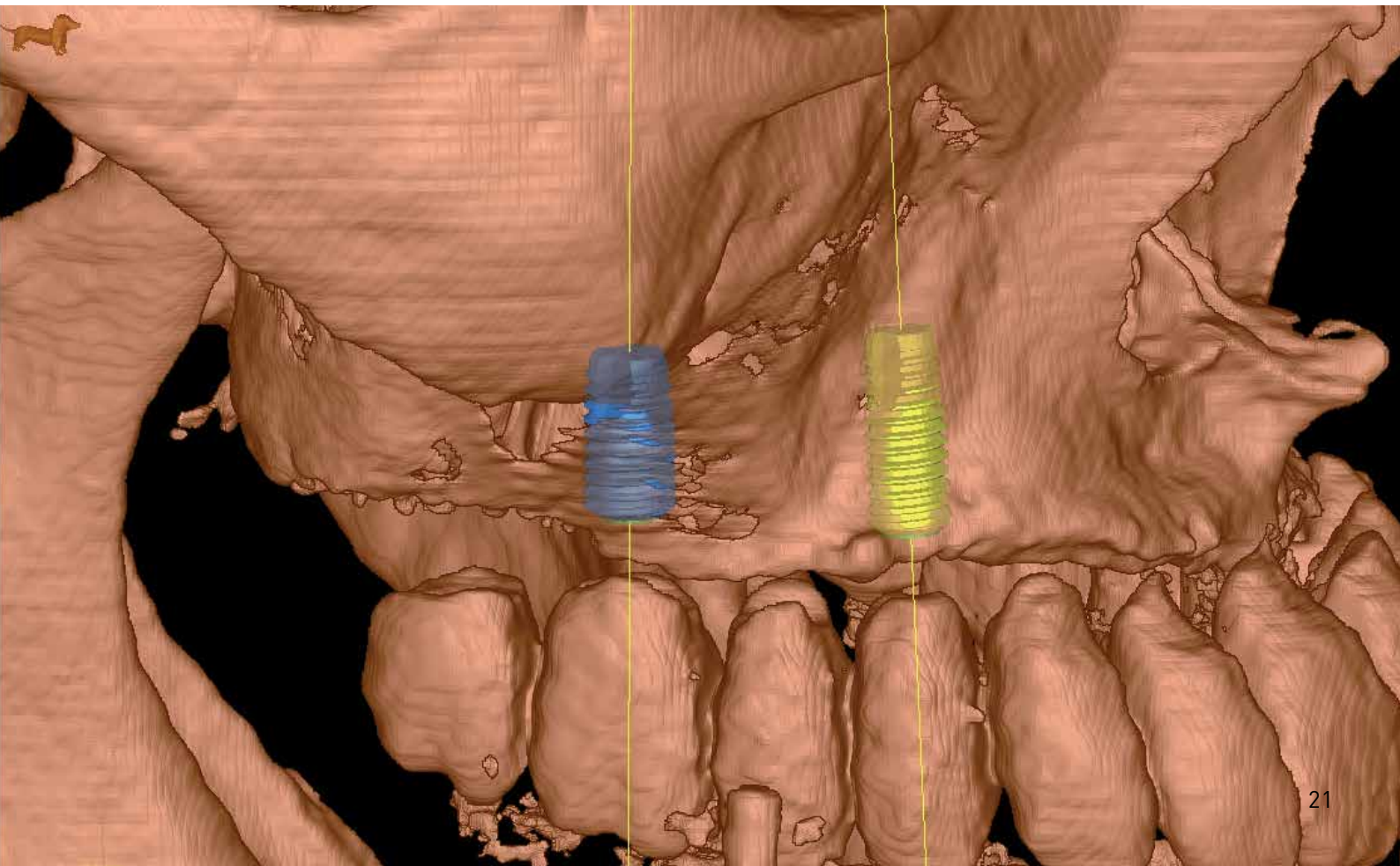
The treatment planning based on three dimensional imaging techniques (CT, DVT) permits treatment planning with the highest levels of precision and ensures that the results of the treatment can be precisely predicted.

The advantages compared to conventional planning include:

- Precise three-dimensional planning and implanting in the sub-millimetre range and with the inclusion of the desired restoration
- Automatic collision control which reveals gaps between the implants or to the nerve which are too slight
- Information on the peri-implant bone quality so conclusions can be drawn concerning the predicted primary stability

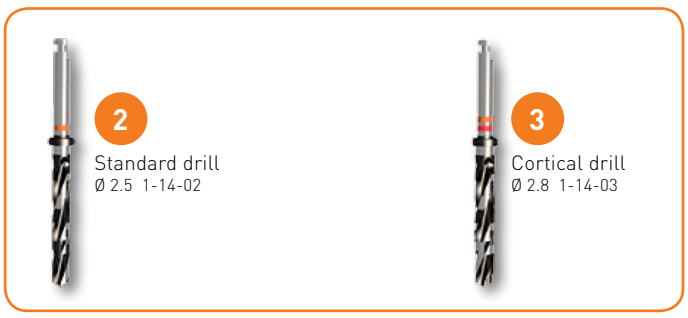
A custom-made drilling template is manufactured based on the digital planning data. This guarantees the exact and precise transfer of the planning into the patient's mouth.

The Microcone can also be inserted by means of computer-aided treatment planning. Our implant data is also deposited by the majority of suppliers of computer-aided treatments.



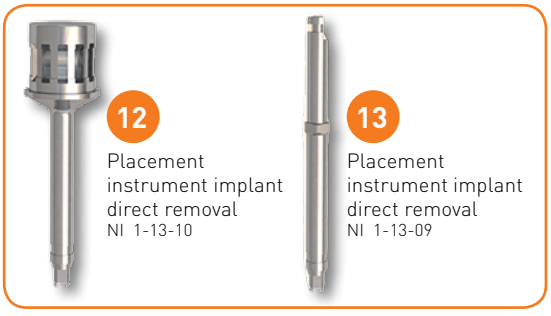
SURGERY TRAY

The surgery tray has a clearly structured range of bone drills for the preparation of the implant activities. The drill bits are cooled externally and should not be applied at a rotational speed of more than 800 rpm. The maximum torque should not exceed 35 Ncm.



2 Standard drill
Ø 2.5 1-14-02

3 Cortical drill
Ø 2.8 1-14-03



12 Placement instrument implant direct removal
NI 1-13-10

13 Placement instrument implant direct removal
NI 1-13-09

6 Standard drill
Ø 4.5 2-14-07

10 Standard drillt
Ø 4.0 2-14-05

18 Standard drill
Ø 3.5 2-14-03

28 Standard drill
Ø 3.0 2-14-01

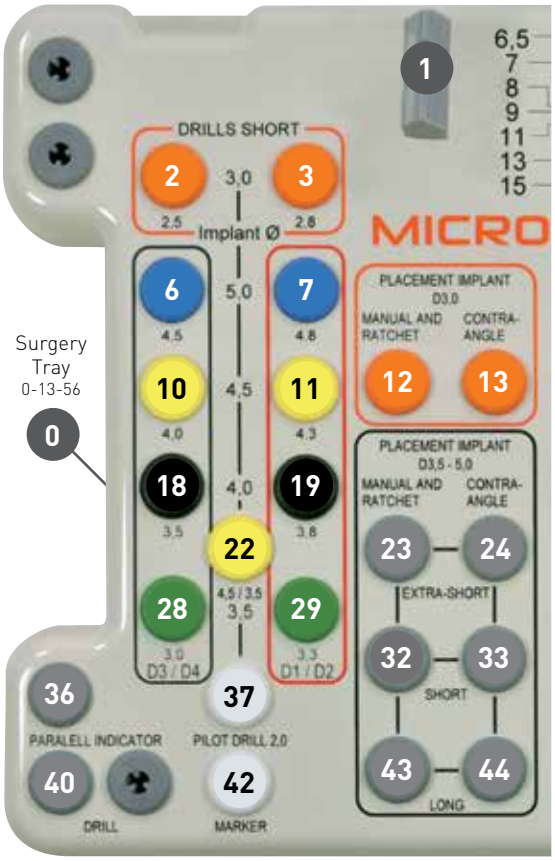
22 Reamer, conical
Ø 3.0/4.5
2-14-61

7 Cortical drill
Ø 4.5/4.8 2-14-08

11 Cortical drill
Ø 4.0/4.3 2-14-06

19 Cortical drill
Ø 3.5/3.8 2-14-04

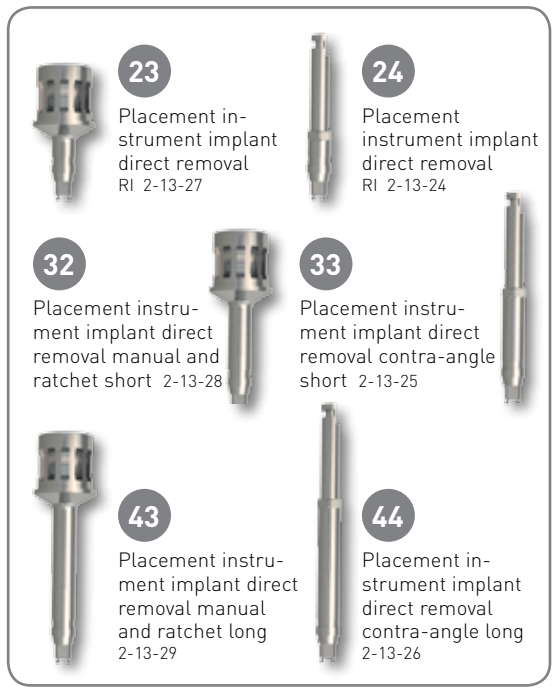
29 Cortical drill
Ø 3.0/3.3 2-14-02



36 **40** Paralleling aid
Ø 2.0/3.0 0-13-01

37 Pilot drill
Ø 2.0 1-14-01

42 Round drill
Ø 1.8 0-14-01



23 Placement instrument implant direct removal
RI 2-13-27

24 Placement instrument implant direct removal
RI 2-13-24

32 Placement instrument implant direct removal manual and ratchet short 2-13-28

33 Placement instrument implant direct removal contra-angle short 2-13-25

43 Placement instrument implant direct removal manual and ratchet long
2-13-29

44 Placement instrument implant direct removal contra-angle long
2-13-26

1 Torque ratchet
0-13-28

Depth gauge gingival height
0-13-17
(located in the tray floor)

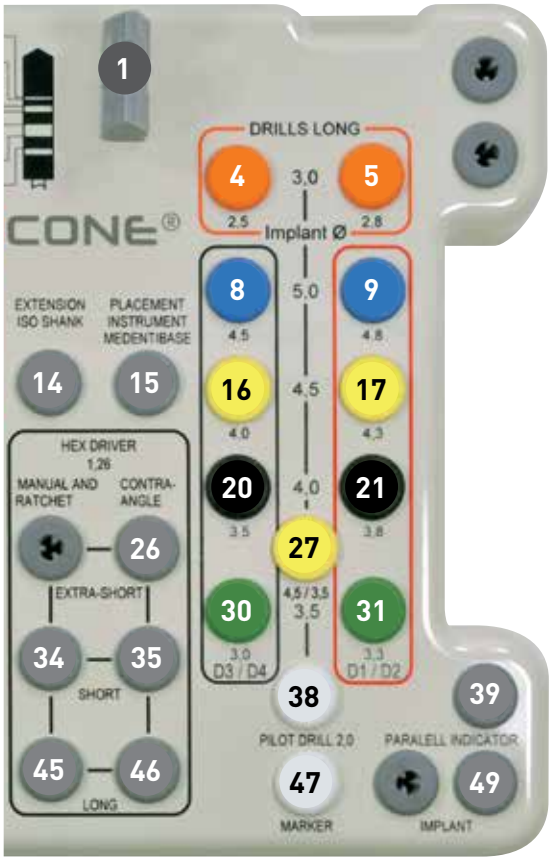
Depth gauge drill hole
0-13-10
(located in the tray floor)

14 Extension ISO shank
NI 0-13-55

15 Placement instrument MedentiBASE
0-13-37

4 Standard drill
Ø 2.5 1-14-05

5 Cortical drill
Ø 2.8 1-14-06



8 Standard drill
Ø 4.5 2-14-15

9 Cortical drill
Ø 4.5/4.8 2-14-16

16 Standard drill
Ø 4.0 2-14-13

17 Cortical drill
Ø 4.0/4.3 2-14-14

20 Standard drill
Ø 3.5 2-14-11

21 Cortical drill
Ø 3.5/3.8 2-14-12

27 Reamer, conical
Ø 3,0/4,5
2-14-62

30 Standard drill
Ø 3.0 2-14-09

31 Cortical drill
Ø 3.0/3.3 2-14-10

26 Placement instrument Hex 1.26 contra-angle extra-short
0-13-18

34 Placement instrument Hex 1.26 manual and ratchet short
0-13-22

35 Placement instrument Hex 1.26 contra-angle short
0-13-04

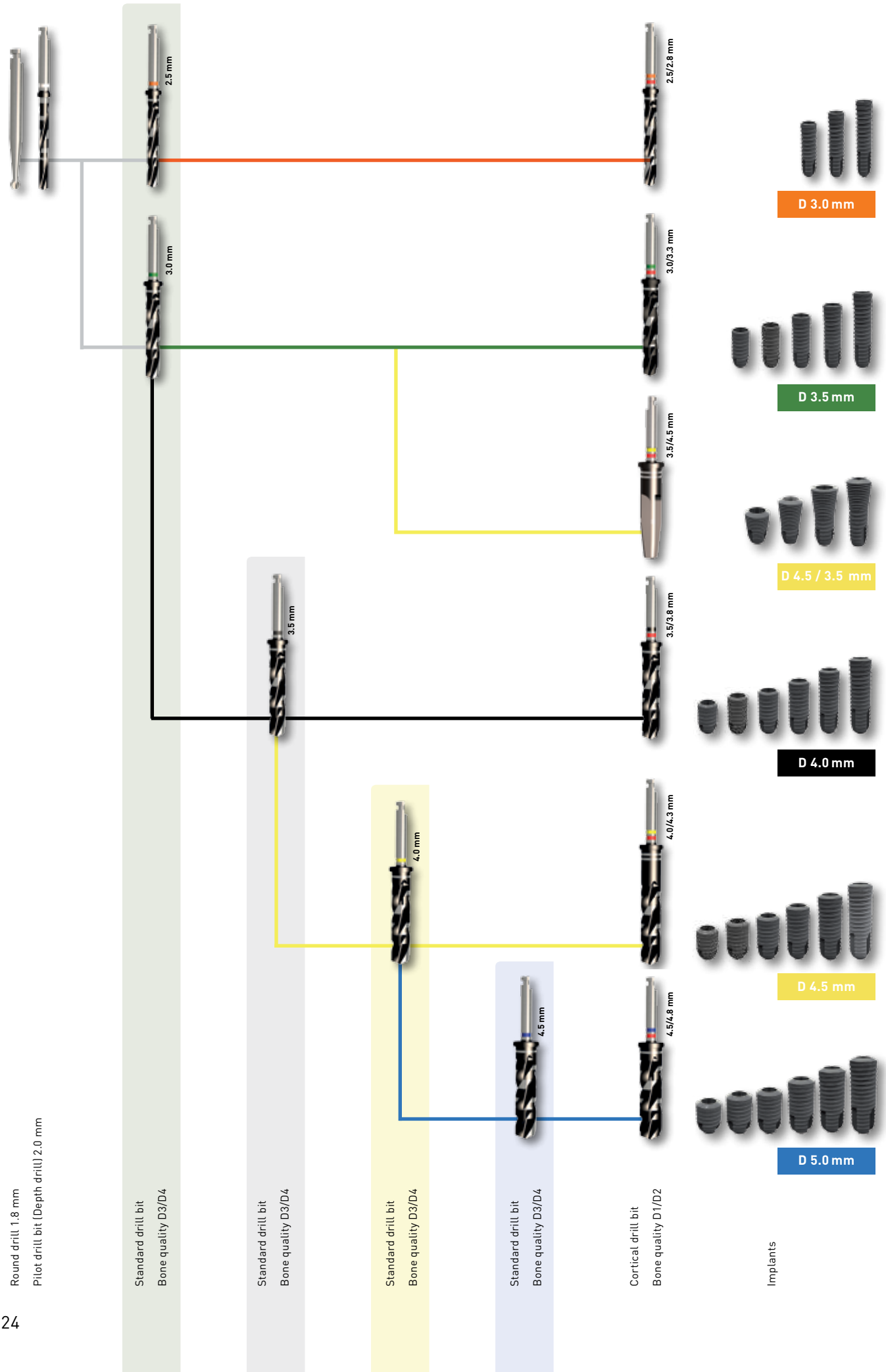
45 Placement instrument Hex 1.26 manual and ratchet long
0-13-23

46 Placement instrument Hex 1.26 contra-angle long
0-13-05

38 Pilot drill
Ø 2.0 1-14-04

39 49 Paralleling aid implant
2-13-31

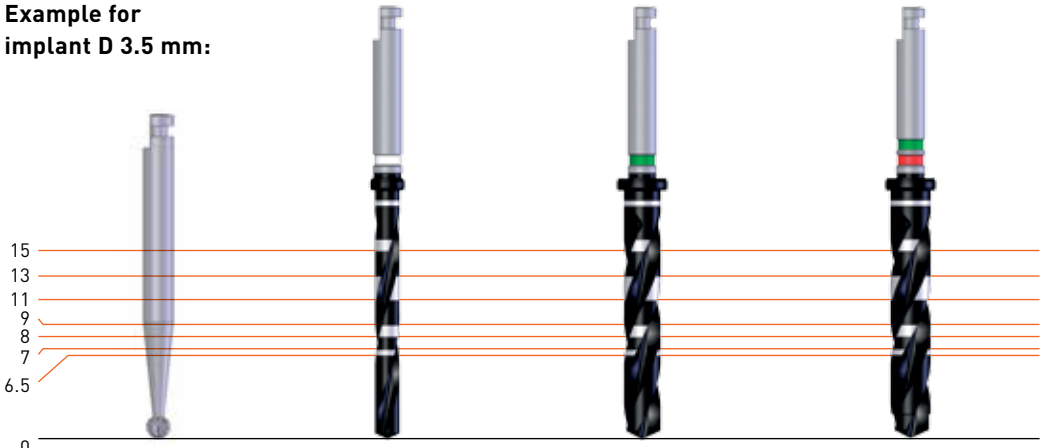
47 Round drill
Ø 1.8 0-14-01


Round drill 1.8 mm
Pilot drill bit (Depth drill) 2.0 mm
Standard drill bit
Bone quality D3/D4
2.5 mm
3.0 mm
Standard drill bit
Bone quality D3/D4
3.5 mm
Standard drill bit
Bone quality D3/D4
4.0 mm
Standard drill bit
Bone quality D3/D4
4.5 mm
Cortical drill bit
Bone quality D1/D2
2.5/2.8 mm
3.0/3.3 mm
3.5/4.5 mm
3.5/3.8 mm
4.0/4.3 mm
4.5/4.8 mm
Implants
D 3.0 mm
D 3.5 mm
D 4.5 / 3.5 mm
D 4.0 mm
D 4.5 mm
D 5.0 mm

The Microcone drills that are precisely matched with one another in terms of their geometry make it possible to tailor the diameter of the implant bearing to the bone quality.

The bone preparation should be optionally adapted in line with the individual bone qualities by means of optimal drill sequences. The exact and atraumic preparation of the bony implant site should form a part of a successful implantation.

Example for implant D 3.5 mm:



Round drill

Pilot drill bit
Ø 2.0 mm

Standard drill bit
Ø 3.0 mm
Bone quality D3 / D4

Cortical drill bit
Ø 3.0/3.3 mm
Bone quality D1 / D2

PLEASE NOTE:

The stated drill depths do not include the 0,3 mm tip of the drill bit.

Please observe their length if there is not much space available for anatomic structures. Please consult the table for the drill tip lengths.

THERE ARE TWO DRILL BIT LENGTHS:

Short drill bit
1 marking ring

Long drill bit
2 marking rings

PREPARATION UNTIL THE IMPLANT-SPECIFIC DIAMETER TO REACH IT

The direction and depth of the implantation is determined with externally-cooled machine-driven instruments. The drill bits are depth marked to this end through ground-in laser markings. The maximum torque of 800 rpm may not be exceeded during this preparation cut as there is otherwise the risk of the local overheating of the bone. The necrosis of the bone that is possible as a result endangers the healing of the implant. The drilling should not be performed in a one-off operation, but intermittently at moderate pressure.

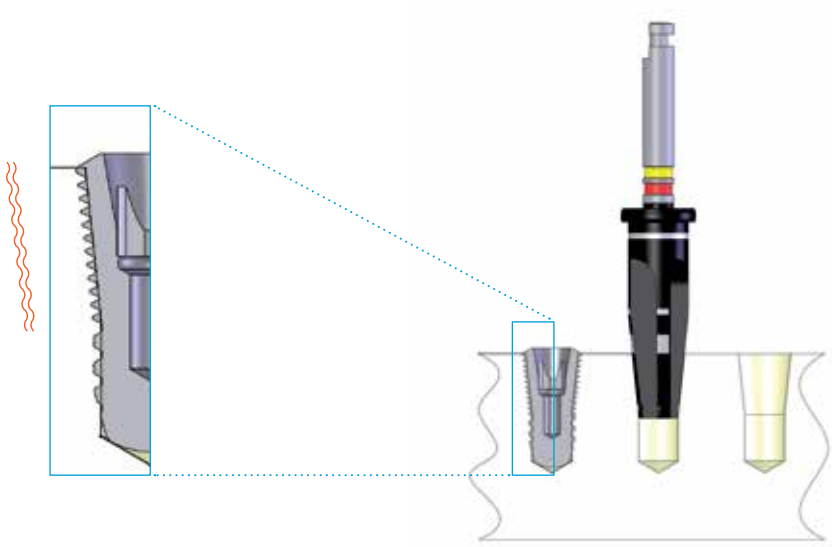
FUNDAMENTALLY THE FOLLOWING APPLIES:

- Standard drill: When using the standard drill as a final depth drill always: Implant diameter minus 0.5 mm (e.g. in the case of a implant with a diameter of 3.5 mm = 3.00 final drill hole).
  e.g. in the upper jaw in the case of average bone quality D3 / D4
- Cortical drill: When using the cortical drill as a final depth drill always:
  Implant diameter minus 0.2 mm (e.g. in the case of an implant with a diameter of 3.5 mm = 3.3 mm final drillhole). To be inserted in the case of D1 / D2 bone quality in the lower jaw in particular. Here, if necessary, at fulldepth.

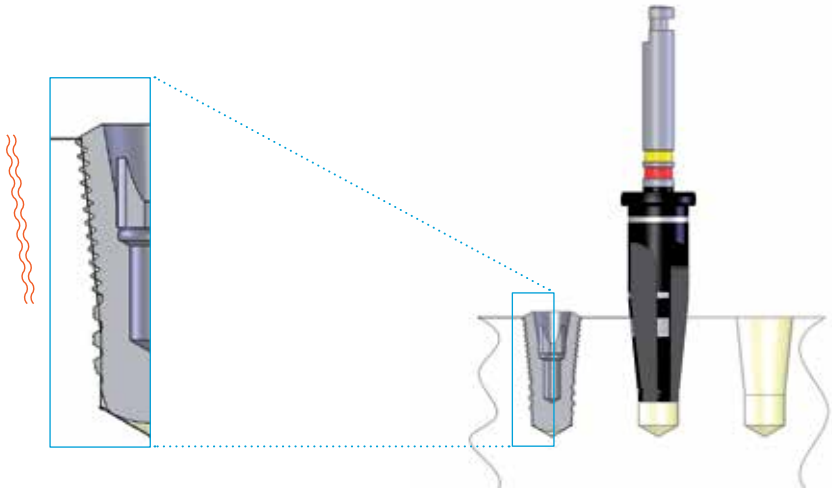
CONICAL ENLARGING BIT: TO BE OPTIONALLY INSERTED FOR A CONICAL IMPLANT WITH A DIAMETER OF 4,5 / 3,5 MM

The penetration depth of the thread flanks of the conical implant section can be individually controlled using the optional conical enlarging bit, as in the following illustration. This can influence the primary stability of the implant depending on the quality of the bone.

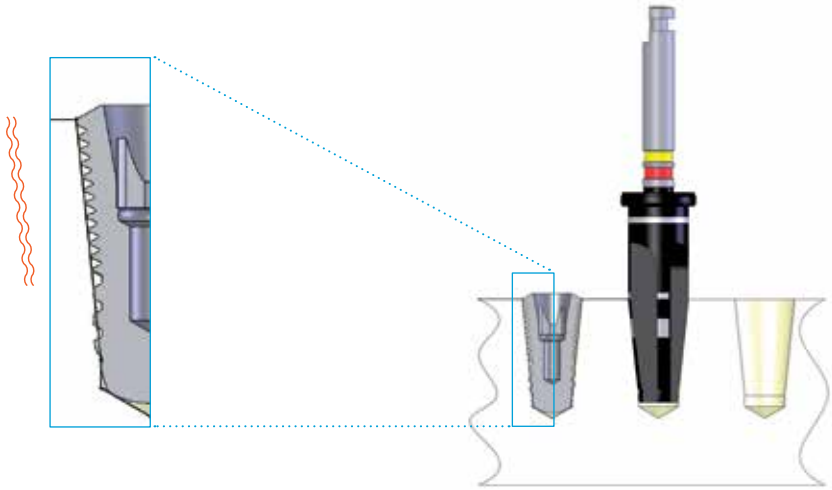
1. The thread flanks of the conical implant section have the full penetration depth in the bone.



2. The thread flanks of the conical implant section have half the penetration depth in the bone.



3. The thread flanks of the conical implant section are disengaged.



DEPTH STOPS

Microcone depth stop
The Microcone depth stop ensures precise control of the drilling depth during implant site preparation for placing Microcone implants. The advantage of the depth stop is its applicability both with simple and also more demanding cases in which the location of the mandibular nerve or sinus floor plays a role. The depth stops are supplied nonsterile and should be sterilised prior to use.
The Microcone depth stops can only be used with the new, black-coated Microcone drills.

Important
Microcone depth stops are not indicated for:
Extraction alveoli, in which the bone cavity is much wider than the required support diameter for the depth stop.
Use with a drilling template, because of the obstruction due to or with the template.

DRILLS AND DEPTH STOPS COMBINATION CHART

Implant length		Depth stop No.	SHORT DRILL BITS						
			Pilot	Standard/ Cortical	Standard/ Cortical	Standard/ Cortical	Standard/ Cortical	Standard/ Cortical	Standard/ Cortical
			2.0	2.5/2.8	3.0/3.3	3.5/3.8	4.0/4.3	3.0/3.3	4.5/4.8
				Implant 3.0	**Implant 3.5**	**Implant 4.0**	**Implant 4.5**	**Implant 4.5/3.5***	**Implant 5.0**
	6.5		7	x	x	40	51	29	62
	8.0		6	x	28	39	50	x	61
	9.0		5	x	27	38	49	27	60
	11.0		3	14	25	36	47	25	58
	13.0		2	13	24	35	46	24	57
	15.0		1	12	23	34	45	x	56

* Use of the depth stop with the conical enlarging bit (Art. No. 2-14-61/2-14-62) is not possible due to application-related reasons

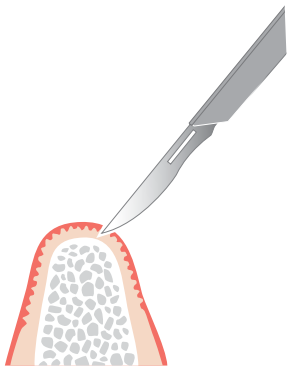
Implant length		Depth stop No.	LONG DRILL BITS						
			Pilot	Standard/ Cortical	Standard/ Cortical	Standard/ Cortical	Standard/ Cortical	Standard/ Cortical	Standard/ Cortical
			2.0	2.5/2.8	3.0/3.3	3.5/3.8	4.0/4.3	3.0/3.3	4.5/4.8
				Implant 3.0	**Implant 3.5**	**Implant 4.0**	**Implant 4.5**	**Implant 4.5/3.5***	**Implant 5.0**
	6.5		11	x	x	44	55	33	66
	8.0		10	x	32	43	54	x	65
	9.0		9	x	31	42	53	31	64
	11.0		8	19	30	41	52	30	63
	13.0		6	17	28	39	50	28	61
	15.0		4	15	26	37	48	x	59

* Use of the depth stop with the conical enlarging bit (Art. No. 2-14-61/2-14-62) is not possible due to application-related reasons

PREPARATION OF THE IMPLANT BEARING (EXAMPLE FOR IMPLANT DIAMETER 3.5 MM X 11 MM)

01 INCISION PHASE

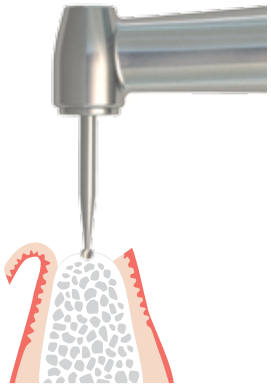
The incision phase serves to form a mucosa flap to reveal the implantation point as bone. In this process a mucoperiosteal flap is formed, the incision phase is case-dependent and must be considered based on the patient's individual requirements depending on the healing mode (submerged or open healing).



02 MARKING BORE HOLE

The marking bore hole is inserted following the mobilization of the mucoperiosteal flap with the round drill and can also alternatively be performed with the aid of a drilling template.

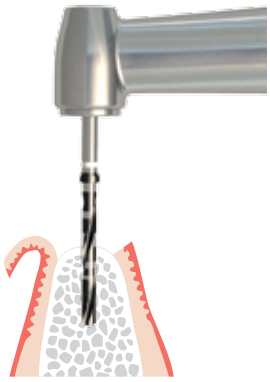
Round drills with diameters of 2.3 mm and 2.7 mm to smooth the jaw ridge can be obtained from Medentika.



03 PILOT DRILL HOLE WITH THE PILOT DRILL BIT Ø 2.0 MM

The pilot drill hole is made with the pilot drill bit 2 mm diameter. In this process the saggital direction of the implant axis as well as the drilling depth is determined (please observe the depth markings).

A template-based implantation is recommended for the definitive alignment and to prevent deviations from the implant planning.

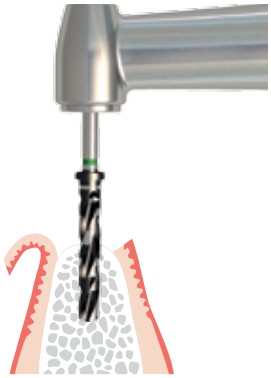


04 DEPTH DRILLING WITH THE STANDARD DRILL BIT Ø 3,0 MM

The final depth drilling in bone quality D1/D2 is always completed directly using the final drill. In this case with the standard drill bit D 3,0 mm.

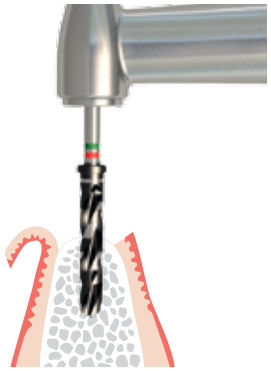
The laser markings that correspond to the respective implant length serve to inspect the depths for their part.

The max. speed of revolution is 800 rpm.



05 DEPTH DRILLING WITH THE CORTICAL DRILL Ø 3,3 MM

It is recommended in the event of an extremely compact cortex and an average spongiosa or D1/D2 bone quality in the lower jaw, that the cortical drill is employed immediately after the 2 mm depth drill using the standard drill with a 3.0 mm diameter.



06 IMPLANT BED PREPARATION FOR CONICAL IMPLANTS

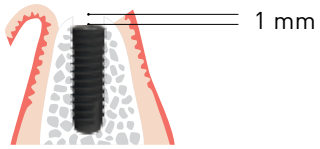
It is recommended in the event of a bone quality of D1/D2 that you use the conical reamer 2-14-61/ 2-14-62 following the use of the 3.0 mm standard drill to conically prepare the implant bed.

In the event of D4 bone quality you can consider whether you should screw in the conical implant without using the conical reamer in order to achieve the condensation and compression of the bone bearing and thus achieve optimised primary stability.

07 SUBCRESTAL IMPLANT POSITION

Due to the internal tapered connection the implant can be inserted approx. 1 mm subcrestally if there is a sufficient amount of bone in a vertical direction, in order to stabilise the periimplant bone better. Such a procedure ensures unencumbered healing even under the mucosa supported dentures and can improve the prosthetic results in aesthetically relevant area if there is not enough soft tissue available.

In the case of the pre-surgical planning and the observation of the ground-in laser marking of the bit you must ensure the subcrestal implant position has been planned in advance.




MICROCONE
MEDENTIKA

IMPLANT PACKAGING

The Microcone implant is supplied in a sterile blister with surrounding packaging. The packaging guarantees clear and simple storage.

- High levels of product recognition due to the clear and brand-specific design of the packaging
- Detailed label and clear external information label that is reduced to the key essentials
- It can be simply stacked as a result, important product information remains visible at a glance
- Large seal label that can be pealed off twice on the blister packaging

PACKAGING SYMBOLS

REF	Order number		Read operating instructions
LOT	Batch Number		Not for reuse
	Manufacturer	CE	Class 1 medical products in accordance with directive 93/42/EEC
	Expiry date	STERILE R	Sterilised by irradiation

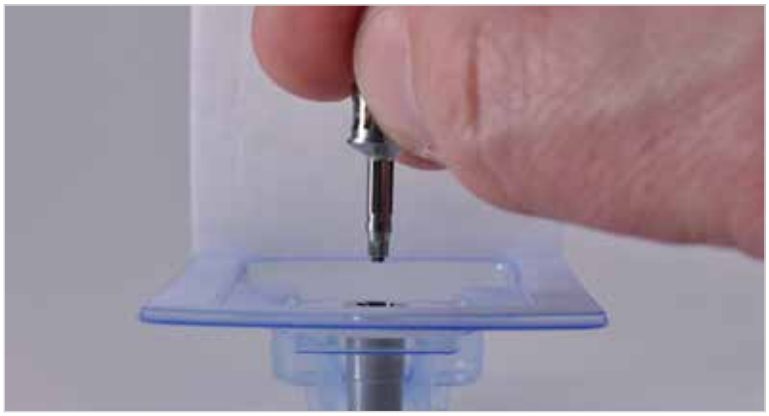
DENTAL IMPLANT PASS

TATTYP . TYPE OF IMPLANT	REGIO . REGION	INDIKATION . INDICATION	OP-DATUM . OPERATION DATE	ZAHNARZT . DENTIST

IMPLANT DIRECT REMOVAL

01 INSERTING THE PLACEMENT INSTRUMENT

To remove the implant from the blister pack/titanium tube first insert the placement instrument down to the stop in the implant connector.



02 FIXING THE PLACEMENT INSTRUMENT IN THE FINAL POSITION

Then turn the placement instrument clockwise until the square of the placement instrument slides into the corresponding square of the implant.

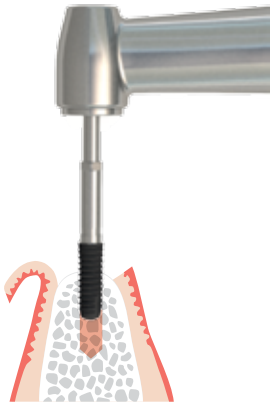
Exerting light pressure then place the placement instrument in the final position, a slight >> CLICK << can be heard when it engages.

03 REMOVING THE IMPLANT FROM THE TITANIUM TUBE

The implant secured on the placement instrument can now be removed from the titanium tube.

IMPLANT INSERTION

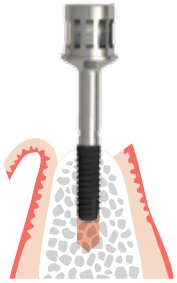
01 MECHANICALLY SCREW IN THE IMPLANT



If the implant was removed from the implant packaging with the placement instrument implant direct removal that is fixed to the angle-piece, it is now screwed into the prepared implant bed. A max. speed of revolution of 50 rpm and torque of 35 Ncm should not be exceeded in this case. It is unavoidable in this case that fibrous and epithelial tissue is introduced into the implant bed.

If the torque of 35 Ncm should be markedly exceeded before the implant final position is reached then we recommend that you carefully unscrew the implant and enlarge the implant bed with the available cortical drill.

02 MANUALLY SCREW IN THE IMPLANT

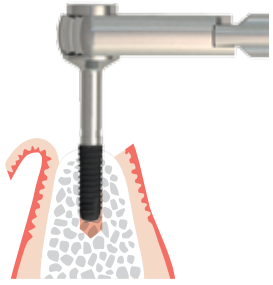


Mechanical manual insertion is also possible as an alternative to the mechanized insertion of the implant.

The implant system has a placement instrument implant direct removal/ratchet drill to this end, which can be used manually or inserted into the ratchet drill.

The torque should also not exceed 35 Ncm in this case too.

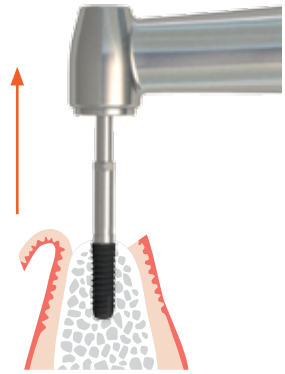
03 FINAL POSITIONING WITH THE RATCHET DRILL



The torque ratchet drill should be used for the final positioning of the implant to ensure that torque levels of 35 Ncm are not exceeded.

04 REMOVE PLACEMENT INSTRUMENT IMPLANT DIRECT REMOVAL

Once the implant has reached its final position, the placement instrument direct removal should be carefully withdrawn from the implant.



05 PARALLELING AID

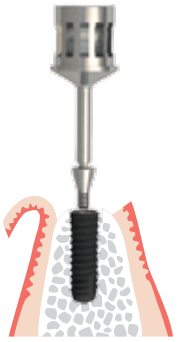
The paralleling aid can be used for orienting to the selected implant axis when inserting several implants.

This can be performed either by placing the paralleling aid in the implant bed or by placing the paralleling aid directly in the implant.

SUBMERGED HEALING

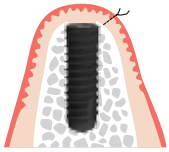
01 SCREWING IN THE LOCKING SCREW

If the implant is intended for submerged healing, the locking screw must be inserted following the removal of the placement instrument implant direct removal.



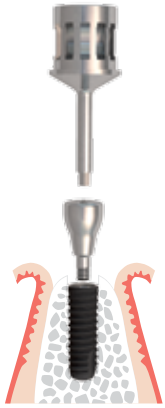
02 SUTURE CLOSURE

The jaw ridge is sealed so it is saliva-proof by means of suturing. The suture should be closed without any tension if at all possible. The implant fit is documented by means of a post-operative x-ray. A stress-free healing phase must be ensured.



TRANSGINGIVAL HEALING

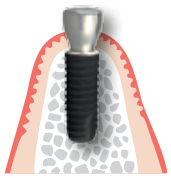
03 SCREWING IN THE GINGIVA FORMER



If the implant is intended for transgingival healing, the locking screw must be inserted in accordance with the thickness of the soft tissue following the removal of the placement instrument implant direct removal. The diameter of the gingiva former must be selected in accordance with the prosthetic requirements.

PLEASE NOTE:
In the event of temporary restoration with full or partial dentures you must ensure that there is no contact between the gingiva former and the temporary restoration.

04 SUTURE CLOSURE

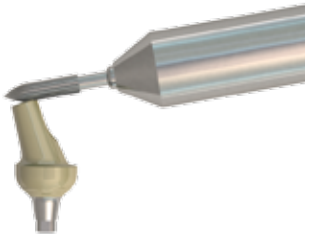


The wound edges are than adapted to the gingival formers and immobilised by sutures.

IMMEDIATE RESTORATION WITH A TEMPORARY RESTORATION

If the clinical requirements are met for an immediate restoration with a temporary restoration this represents an option to provisionally care for the patients with an implant-borne denture directly following the insertion of the implants. In this case it must be ensured that the temporary restoration can heal in a stress-free manner and is not in occlusion. Furthermore it is the surgeon's responsibility to instruct the patient accordingly to be able to guarantee the post-operative process of stress-free healing of the implant.

01 MANUFACTURE OF THE TEMPORARY RESTORATION

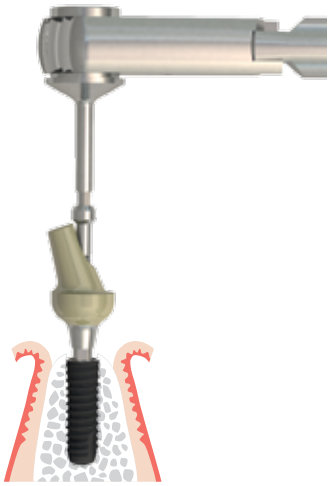


The temporary restoration is manufactured on the provisional alignment. Cross-cut carbide burs or raising rollers are used for the grinding process at up to 25000 rpm. The grinding operation should be performed outside of the mouth.

Provisional abutments with an emergence diameter of 5.5 mm, straight and angled, are available to ensure easier fitting.

Provisional abutments are also available, which are used as a metal basis for additive procedures.

02 INTEGRATION OF THE TEMPORARY RESTORATION



Clean and dry the interior of the implant with air/water spray to integrate it. The abutment is screwed into place with the aid of the prosthetics ratchet drill or a torque-controlled angle-piece at 15 Ncm. Cement the suprastructure with provisional cement. Completely remove excess cement on the edge of the crown. You must ensure saliva-proof wound closure.

PLEASE NOTE:
Temporary restorations must be replaced after six months at the latest.

03 LOADS

The precondition for immediate stressing is primary stability that is greater than or equal to 35 Ncm. The possibility of excess stress through the temporary restoration should be ruled out. No occlusion or articulation contacts may be present. An insertion torque of at least 35 Ncm during the initial healing phase reduces the risk of macro-movements at the implant bone boundary, for instance through tongue or cheek pressure. Studies[1,2] demonstrate that micromovements up to a threshold value of approx. 150 µm are tolerated during the osseointegration of dental implants.

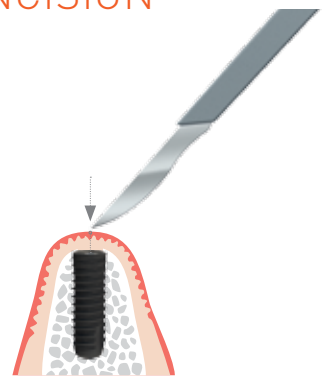
Successful osseointegration can also take place in the event of "non-functional immediate stress" subject to the precondition that this value is not exceeded and all the other requirements are fulfilled.

1 Brunski JB: Biomechanical factors affecting the bone-dental implant interface. Clin Mater 1992; 10 (3): 153–201

2 Brunski JB: Avoid pitfalls overloading and micromotions of intraosseous implants. Dent Implantol Update 1993;4 (10): 77–81

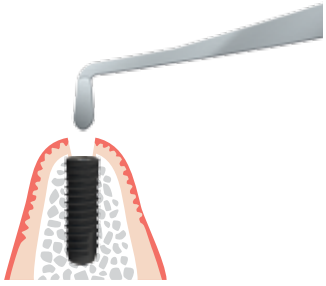
MINIMALLY INVASIVE UNCOVERING

01 INCISION



Following the localisation of the implant and the point-based anaesthetic directly above the implant a limited crestal cut is performed to the implant surface.

02 UNCOVERING

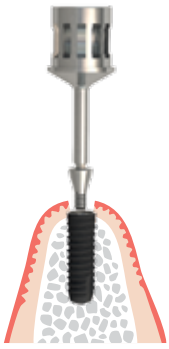


The central interior hex of the locking screw is found with the probe. Connective tissue or bone must be removed with the sharp curette above the locking screw.

The locking screw must be subsequently removed with the hand screwdriver. Bones which disrupt the emergence profile must be removed.

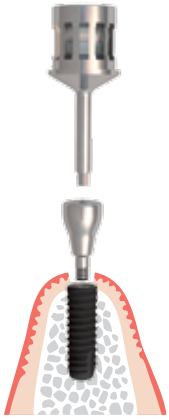
03 REMOVAL OF THE LOCKING SCREW

The locking screw must be removed with the hand screwdriver.



04 INSERTING THE GINGIVA FORMER

In accordance with the prosthetic requirements the gingiva former that fits must be screwed in with the manual screwdriver.



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