EN – Instruction for Use for CAD/CAM titanium blanks

Note

As a rule, CAD/CAM blanks should be processed only by persons who have completed the appropriate dental technology training (e.g. trained dental technicians).

1. Product description

CAD/CAM blanks are prefabricated components for the machining manufacture of customised, one-piece abutments via CAD/CAM technology. CAD/CAM titanium blanks are available in various platforms for implants of the Classic, Avantgarde and ConeCept implant system.

As the implant abutment connection of the Classic and Avantgarde implant system is identical, the same type of CAD/CAM titanium blank can be used for both systems.

A separate CAD/CAM titanium blank is available for the ConeCept implant system, which is compatible with all ConeCept implant diameters.

The blanks have a prefabricated implant connection (implant abutment connection) and screw channel, matching the relevant implant system. The cylinder located above the implant connection is reworked to the customised abutment via computer-assisted machining production technologies (CAM). An associated prosthetic screw is provided for each CD/CAM blank. The laboratory screw (lab screw) for use on the work model is available separately.

The blanks are intended for single use.

Material

Titanium alloy (Ti6Al4V)

Form of the blanks

In the case of CAD/CAM titanium blanks from HumanTech, the customisation involves clamping on a cylindrical section opposite the implant abutment connection. The Preface® abutment holder made by Medentika® can be used as a machine-specific clamping device.

Platform Avantgarde/ Classic M: The implant diameters 3.2 and 3.3 are supplied with the same blank for the Classic M and Avantgarde implant system.

Platform Avantgarde / Classic S: The implant diameters 3.8 and 4.2 are supplied with the same blank for the Classic S and Avantgarde implant system.

Platform Avantgarde/ Classic L: The implant diameters 5.0 and 6.0 are supplied with the same blank for the Classic L and Avantgarde implant system.

Platform ConeCept:

The CAD/CAM titanium blank for the ConeCept implant system is to be used for all implant sizes.

One platform for implant diameters 3.2/ 3.3/ 3.8/ 4.2/ 5.0:

2. Indications

Semi-finished part for the manufacture of one-piece abutments on Classic, Avantgarde and ConCept implants in the upper and lower jaw. They serve for the production of individual abutments, telescopic crowns and crowns.

3. Contraindications

Clinical situations that do not allow compliance with the specifications below or if the stability of the individual abutment cannot be ensured.

4. General safety and warning notes

- An improper approach with regard to surgery and prosthetics can lead to damage to the implant or to bone loss. A close collaboration between the surgeon, prosthodontist and dental technician is essential for success.
- Not all parts are available in all countries.
- The use of components and instruments that are not part of the system can impair the function and safety of the RatioPlant® implant system. HumanTech assumes no guarantee or compensation for the use of components that are not part of the system. You should therefore only use components and instruments from RatioPlant®. All components of the RatioPlant® implant system are optimally coordinated with each other and form part of the overall system.

5. Accessories

- Prosthetic screw for CAD/CAM blanks

The tightening torque of the individual abutments on the implants via the prosthetic screw is 25 Ncm. A screwdriver hex ratchet and ratchet torque are used for the fixing.

- Laboratory screws

Laboratory screws (lab screws) help the dental technician to fix the customised abutments on the laboratory implants (Lab Analog) in the work model. To avoid confusing them with prosthetic screws, the laboratory screws are colour-anodised.

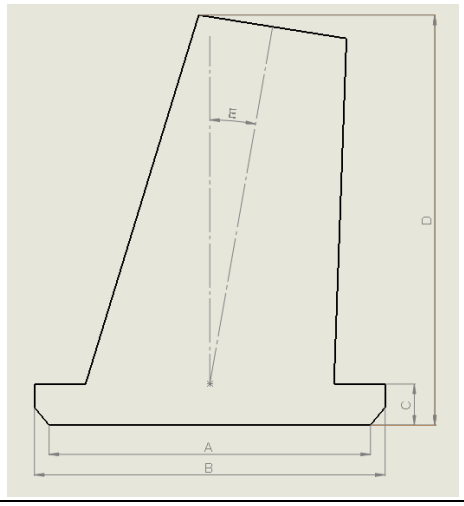
6. Design of the individual abutments

When processing abutments, it should be ensured that the connection geometry to the implant and the fitting of the prosthetic screw are not changed, as otherwise a secure fitting cannot be guaranteed. The limit specifications of the relevant processing software as well as the specifications cited below must be complied with in the design of the individual abutment.

6.1 Limit specifications

(See Diagram 1)

Diagram 1



Platform Avantgarde/ Classic M (implant diameter 3.2/ 3.3)

Parameter	Reference (Diagram 1)	Minimum specification [mm]	Maximum specification [mm]
Gingiva Ø:	B	3,25	11
Gingiva length:	C	2,8	12,5
Total length:	D	2,8	12,5
Max. angulation:	E	-	25°

Platform Avantgarde/ Classic S (implant diameter 3.8/ 4.2)

Parameter	Reference (Diagram 1)	Minimum specification [mm]	Maximum specification [mm]
Gingiva Ø:	B	3,75	11
Gingiva length:	C	2,6	12,5
Total length:	D	2,6	12,5
Max. angulation:	E	-	25°

Platform Avantgarde/ Classic L (implant diameter 5.0/ 6.0)

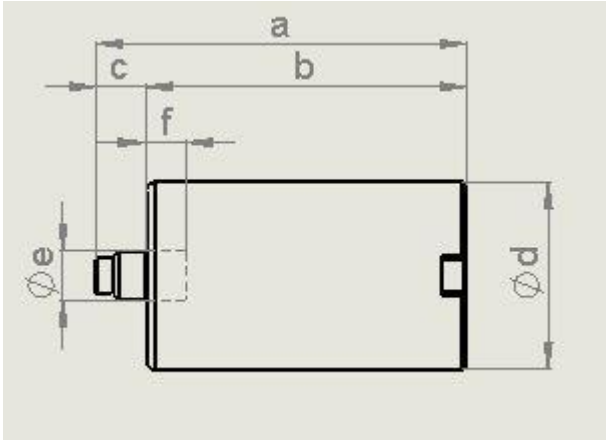
Parameter	Reference (Diagram 1)	Minimum specification [mm]	Maximum specification [mm]
Gingiva Ø:	B	4,35	11
Gingiva length:	C	2,7	12,5
Total length:	D	2,7	12,5
Max. angulation:	E	-	25°

Platform ConeCept (implant diameter 3.2/ 3.3/ 3.8/ 4.2/ 5.0)

Parameter	Reference (Diagram 1)	Minimum specification [mm]	Maximum specification [mm]
Gingiva Ø:	B	3,01	11
Gingiva length:	C	1,2	7,0
Total length:	D	1,2	13,2
Max. angulation:	E	-	25°

6.2 Dimensions of CAD/CAM blank with protective area
(See Diagram 2)

Diagram 2



Platform	Reference Diagram 2	Avantgarde/ Classic M	Avantgarde/ Classic S	Avantgarde/ Classic L	ConeCept
Total length of abutment	a	21,78 mm	22,03 mm	21,94 mm	22,80 mm
Length of cylindrical blank	b	19,3 mm	19,3 mm	19,3 mm	19,7 mm
Length of implant holder	c	2,48 mm	2,73 mm	2,64 mm	3,10 mm
Diameter of blank	d	11,5 mm	11,5 mm	11,5 mm	11,5 mm
Diameter of protective area	e	3,25 mm	3,75 mm	4,45 mm	2,96 mm
Length of protective area	f	2,8 mm	2,6 mm	2,7 mm	2,48 mm

– The cylindrical protective area (length f, diameter e) must not be processed, to ensure the biomechanical stability in the area of the screw head and the load-bearing holder geometry.
– To ensure the dental laboratory / technician the necessary freedom to devise an effective solution, the imposition of excessively strict restrictions by the limits was forgone. The dental technician / dental laboratory must always take the stability and favourable load distribution into consideration when creating the individual abutment.

6.3 Checking the dataset

Before customising the blank, the dataset from the computer-assisted design of the abutment (CAD file) must be checked for compliance with the prerequisites according to the limit specifications. Failure to comply with the prerequisites means that the geometry of the abutment must be adapted correspondingly.

7. Production of the individual abutments

7.1 Manufacturing the individual abutments

The individual abutments are manufactured by dental laboratories or CAD/CAM milling centres on the milling machines designed for this. HumanTech supplies the blanks only, and **not** a finished product of the individual abutment.

7.2 Machining

After setting the correct axial alignment, including the correct positioning of the anti-rotation protection of the blank in the machine, the blank is customised according to the specified dataset using machining production technologies. The correct position of the zero point as well as the correct rotation alignment of the connection geometry must be ensured before machining the blank. The connection geometry must not be machined.

7.3 Finishing and cleaning

The machining can result in sharp edges and protruding elevations on the individual abutment. These must then be removed manually. When manually finishing the individual abutments, it must be ensured that the connection geometry of the abutment is neither blasted off nor machined. The finishing must not adversely affect the stability above all in the load-bearing areas (e.g. too narrow wall thicknesses).
It must also be ensured that the hole in the abutment remains free after machining and that the prosthetic screw can be introduced easily into the abutment.
Production residues and processing media used must be cleaned from the individual abutment after completing the machining.

8. Zeichenerklärung; Explanation of Symbols; Explicación de símbolos; Explication des symboles; Spiegazione dei simboli; Explicação dos símbolos; Çerçevesinde Simgelerin Anlamları; Расшифровка символов в соответствии со стандартом; 符号说明; - DIN EN 980:2008-08

	Herstellerinformation; Manufacturer; Fabricante; Fabricant; Produttore; Fabricante; Üretici; Производитель; 生产厂家;
	Herstellungsdatum; Manufacturing date; Fecha de fabricación; Date de fabrication; Data di produzione; Data de fabricação; Üretim tarihi; Дата изготовления;
	Bestellnummer; Reference number; Numero de referencia; Code de commande; Numero di codice; Número de referência; Referans numarası; Номер по каталогу; 参考号码;
	Chargennummer; Lot number; Numero de lote; Désignation du lot; Numero di lotto; Número de lote; Parti numarası; Номер партии; 批号;
	Nicht Steril; Non steril; Sin esterilizar; Non stérile; Non sterile; Não estéril; Steril değil; Нестерильно; 非灭菌;
	Einmalige Verwendung; Do not reuse; No reusar; Ne pas réutiliser; Non riutilizzare; Não reutilizar; Tekrar kullanılmaz; Повторное использование запрещено; 不要重复使用;
	Bei beschädigter Verpackung nicht verwenden; Do not use with damaged packaging; No usarse en caso de que el empaque este dañado; Ne pas utiliser si l'emballage est endommagé; Non utilizzare se la confezione è danneggiata; Não utilizar se a embalagem estiver danificada; Hasarlı paketlerden çıkan ürünleri kullanmayınız; Не использовать, если упаковка повреждена; 不要使用包装破损;
	Trocken aufbewahren; Store in a dry place; Almacenar en un lugar seco; Conserver au sec; Conservare in luogo asciutto; Armazenar em lugar seco; Kuru ortamda muhafaza ediniz; Хранить в сухом месте; 储存在干燥的地方;
	Gebrauchsanweisung beachten; Attention, see instruction for use; Atención, ver instrucciones de uso; Attention, lire le mode d'emploi; Attenzione, leggere le istruzioni per l'uso; Atenção, 0bservar as instruções de utilização; Dikkat! Kullanmadan önce kılavuzu okuyunuz; Внимание! См. инструкцию по использованию; 注意，请参阅使用说明书;
	Achtung; Attention; Atención; Attention; Attenzione; Atenção; Dikkat; Внимание; 注意;

Stand der Gebrauchsanweisung; State of the instruction for use; Estado de las instrucciones de uso; L'état de l'instruction pour l'utilisation; Stato delle istruzioni per l'uso; Estado da instrução para uso; Kullanmak için talimat devlet; Состояние инструкцией по применению; 国的使用的指令
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