Medartis AG | Hochbergerstrasse 60E | CH-4057 Basel

This document provides detailed information on how to perform scans for ordering a CMX MODUS 2 Mandible CUSTOM-MADE DEVICE manufactured by Medartis.
For further information on this document, please contact us by e-mail at:
CMX.SUPPORT@MEDARTIS.COM

General Information
- Custom-made devices are modeled based on the patient's anatomy at the time the scan is taken. The patient's scan should therefore have been taken within the last 4 months.
- Any changes to the anatomy between the time the CT scan was taken and the use of the custom-made device may result in an inadequate fit. If there are significant changes, the products may not be used. Before surgery this fact should be once again checked by the clinic providing the treatment.
- The quality of the custom-made devices depends directly on the quality of the scan images. Therefore use the parameters defined in this document to ensure an optimum outcome. Any deviation from these specifications is the responsibility of the clinic providing the treatment and may lead to a rejection of the request.

Scan Guidelines
In order to guarantee optimal images for the design of your solution, the following points must be observed:
- Prevent artifacts by correctly aligning the patient and removing metal objects (removable prostheses, jewelry, etc.).
- Avoid patient movement during the scan. Repeat the scan if there is patient movement.
- Scan all images in the same axial direction.
- Do not use gantry tilt, as this may result in poor image quality. If images are acquired with tilt, the tilt must be noted in the scan metadata.
- Select the field of view as small as possible but large enough to obtain all the information necessary for surgical planning. In certain cases images of the soft tissue may also be required.
- The spatial resolution of the scan should not be greater than 1mm. Use this resolution for the donor region too.
- All axial sections must have the same field of view, the same reconstruction center and the same table height.
- Please provide the scan data in DICOM format and upload to the «CMX Portal».

Scan Parameter CT «Skull»
Use the following scan parameters or the options closest to them:

Parameter	Recommended Setting
Slice Thickness:	1.0 mm
Slice Increment Reconstructed:	1.0 mm
Matrix:	512 x 512
Gantry Tilt:	0°
Reconstruction Algorithm:	"Bone" or "High Resolution"
Accepted Data Format:	Uncompressed DICOM
Accepted Media Formats:	Uploaded as a **.zip**-file on the «CMX Portal», CD*, DVD* or USB memory stick*

*Please take into account the additional time required when selecting these media formats. Depending on the shipping option and reliability, a delay of up to 4 days compared to the upload can be expected.
Postal delivery is made to the address listed below with the reference «zHv CMX».

Scan Parameter CT «Donor region»
Where possible, use the same scanner as for «skull». In the donor region «fibula», it is advisable to scan part of the foot too to ensure better spatial orientation.
Use the following scan parameters or the closest possible settings:

Parameter	Recommended Setting
Slice Thickness:	1.25 mm
Matrix:	At least 512 x 512
Gantry Tilt:	0°
Reconstruction Algorithm:	"Bone" or "High Resolution"
Accepted Data Format:	Uncompressed DICOM
Accepted Media Formats:	Uploaded as a **.zip**-file on the «CMX Portal», CD*, DVD* or USB memory stick*

*Please take into account the additional time required when selecting these media formats. Depending on the shipping option and reliability, a delay of up to 4 days compared to the upload can be expected.
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Special parameters for cone beam computed tomography (CBCT)
The use of Cone beam computed tomography (CBCT) is not the ideal choice for patient-specific solutions. If low contrast CBCT images are sent, a request may be rejected.

Ensure that any CBCT images show an upright and natural position of the patient and do not deform any soft tissue. The images should include all information required for surgical planning, with sufficient distance between the examination field and the edge of the image (10 – 20 mm). In certain cases images of the soft tissue may also be required.

Use the following scan parameters or the options closest to them:

Parameter	Recommended Setting
Field of View:	As large as possible
Scan Time:	As long as possible
Voxel Size:	0.2 – 0.4 mm
Accepted Data Format:	Uncompressed DICOM, one file per slice
Reconstruction:	Axial
Accepted Media Formats:	Uploaded as a **.zip**-file on the «CMX Portal», CD*, DVD* or USB memory stick*

*Please take into account the additional time required when selecting these media formats. Depending on the shipping option and reliability, a delay of up to 4 days compared to the upload can be expected.
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