ANTON HIPP
Instruments & Implants

Patient Specific Implants

PSI SOLUTIONS FOR RECONSTRUCTION AND AESTHETICS IN CMF & NEUROSURGERY

www.anton-hipp.de

High quality and precision out of passion

Foreword/Preface

Dear readers,

We are pleased to present our new catalogue for the innovative product group of patient-specific implants (PSI) from Anton Hipp GmbH. In this catalogue you will find a carefully selected range of implants that have been specially developed for trauma surgery, plastic surgery and drilling and cutting guides. These aids are used for precise positioning of the implants and enable surgical procedures to be performed with the utmost accuracy.

About Patient Specific Implants (PSI):

Patient-specific implants are unique solutions that are customized precisely to the individual anatomy of each patient. Based on CT scans and the surgeon's requirements, customized implants are created to ensure a perfect fit and therefore optimal functionality. Compared to standard implants, PSI offer the advantage of improved aesthetics, leading to more natural results.

Advantages of PSI:

- Customization: Each implant is unique, tailor-made for the individual patient
- Aesthetic improvement: More natural results thanks to perfect adaptation to the anatomy
- Efficiency in surgery: Reduced operating times as no time-consuming preparation of the implants is required
- Planable drilling and drainage holes: Possibility of integrating predefined structures during planning.

Catalogue contents:

This catalogue provides a comprehensive overview of all available implants (additively manufactured implants, or pre-bent implants made of standard titanium plates), their areas of application, the materials used and the exact process sequence. It serves as a valuable reference for surgeons to make the best decisions for their patients. We hope that this catalogue will provide you with an insight into the world of patient specific implants and help you plan and perform your surgical procedures. Please do not hesitate to contact us for further information or individual enquiries.

With kind regards,

Gerhard Hipp
CEO

Dieter Hipp
CEO

Important Note

This document is intended to give you an insight into the implants available. Please note that the responsibility for the correct selection of implants, appropriate training and the decision to insert and remove the implants lies exclusively with the treating physician.

Important note on the catalogue samples:

The samples shown in the catalogue are for illustrative purposes only and are subject to change at any time. We strive for continuous improvement and innovation to provide our customers with the latest and most effective solutions. Therefore, the actual implants delivered may differ from the samples in the catalogue.

We recommend that you consult our experienced team if you have any specific questions or uncertainties regarding the selection and application of our implants. We are at your disposal to provide you with the best possible support for your individual requirements.

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PSI CMF Trauma / Aesthetic System

Indication

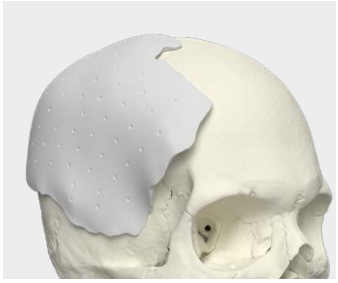
The PSI CMF Trauma System is used for injuries in the cranial, midface and mandible area. PSI CMF applications include the naso-orbital-ethmoid, the Orbita and the skull area.

Applications on the mandibular area includes Zygoma and mandible Ramus.

The PSI CMF Aesthetic System focuses on face implants specifically dedicated for augmentation surgery. This includes the midface area, with a Zygoma implant, and the mandible area with the Ramus and the Condyl respectively.

Cranial Implants

Accidents or tumor diseases can lead to considerable damage to the skull, either through the complete absence of parts or the removal of tissue. In such challenging situations, cranial implants are indispensable solutions. Our cranial implants are carefully designed solutions for neurosurgical procedures and have been developed to achieve optimal results in restoring head shape and skull structure. Each implant is customized based on the patient's CT scans and the requirements of the treating physicians.



NAME	ARTICLE-NO.	NAME	ARTICLE-NO.
Cranio bent L	**17.100.11**	Cranio bent R	**17.100.12**
Cranio printed L PEEK	**17.100.21P**	Cranio printed R PEEK	**17.100.22P**
Cranio printed L Titan	**17.100.21T**	Cranio printed R Titan	**17.100.22T**

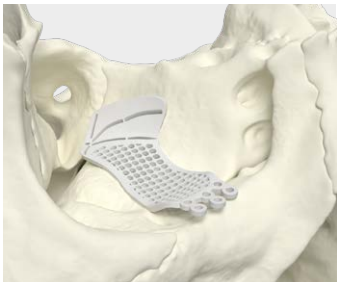
LeFort and NOE Implants

Central mid-face fractures include fractures of the LeFort and nasomaxillary complex. Our customized implants are specifically designed for reconstruction including fractures of the LeFort and nasomaxillary complex. Our LeFort fracture and nasomaxillary complex implants offer precise solutions for the reconstruction of fractures in the maxillary region and enable the effective restoration of the structures around the nose and upper jaw. Customized to the patient's CT scans and the requirements of the treating doctors, they ensure an optimal fit and functionality.

NAME	ARTICLE-NO.	NAME	ARTICLE-NO.
Midface LeFort I bent L	**17.200.11**	Midface LeFort I bent R	**17.200.12**
Midface LeFort I printed L PEEK	**17.200.21P**	Midface LeFort I printed R PEEK	**17.200.22P**
Midface LeFort I printed L TITAN	**17.200.21T**	Midface LeFort I printed R TITAN	**17.200.22T**
Midface LeFort II bent L	**17.210.11**	Midface LeFort II bent R	**17.210.12**
Midface LeFort II printed L PEEK	**17.210.21P**	Midface LeFort II printed R PEEK	**17.210.22P**
Midface LeFort II printed L TITAN	**17.210.21T**	Midface LeFort II printed R TITAN	**17.210.22T**
Midface LeFort III bent L	**17.220.11**	Midface LeFort III bent R	**17.220.12**
Midface LeFort III printed L PEEK	**17.220.21P**	Midface LeFort III printed R PEEK	**17.220.22P**
Midface LeFort III printed L TITAN	**17.220.21T**	Midface LeFort III printed R TITAN	**17.220.22T**
Midface Nasal NOE bent L	**17.230.11**	Midface Nasal NOE bent R	**17.230.12**
Midface Nasal NOE printed L PEEK	**17.230.21P**	Midface Nasal NOE printed R PEEK	**17.230.22P**
Midface Nasal NOE printed L TITAN	**17.230.21T**	Midface Nasal NOE printed R TITAN	**17.230.22T**
Midface Nasal Bone bent L	**17.240.11**	Midface Nasal Bone bent R	**17.240.12**
Midface Nasal Bone printed L PEEK	**17.250.21P**	Midface Nasal Bone printed R PEEK	**17.250.22P**
Midface Nasal Bone printed L TITAN	**17.250.21T**	Midface Nasal Bone printed R TITAN	**17.250.22T**

Orbita Implants

Orbital floor fractures are caused by a break in the floor of the eye socket (orbit), triggered by forces acting on the eye or the orbital frame. Our orbital implants are customized to the patient's anatomy. This customized solution enables precise reconstruction and minimizes potential problems such as double vision. This helps to improve patients' visual perception and quality of life.



NAME	ARTICLE-NO.	NAME	ARTICLE-NO.
MO Floor bent L	**17.250.11**	MO Floor bent R	**17.250.12**
MO Floor printed L PEEK	**17.250.21P**	MO Floor printed R PEEK	**17.250.22P**
MO Floor printed L TITAN	**17.250.21T**	MO Floor printed R TITAN	**17.250.22T**
MO Media Wall bent L	**17.260.11**	MO Media Wall bent R	**17.260.12**
MO Media Wall printed L PEEK	**17.260.21P**	MO Media Wall printed R PEEK	**17.260.22P**
MO Media Wall printed L TITAN	**17.260.21T**	MO Media Wall printed R TITAN	**17.260.22T**
MO Roof bent L	**17.270.11**	MO Roof bent R	**17.270.12**
MO Roof printed L PEEK	**17.270.21P**	MO Roof printed R PEEK	**17.270.22P**
MO Roof printed L TITAN	**17.270.21T**	MO Roof printed R TITAN	**17.270.22T**
MO Combined bent L	**17.280.11**	MO Combined bent R	**17.280.12**
MO Combined printed L PEEK	**17.280.21P**	MO Combined printed R PEEK	**17.280.22P**
MO Combined printed L TITAN	**17.280.21T**	MO Combined printed R TITAN	**17.280.22T**

Zygoma Implants

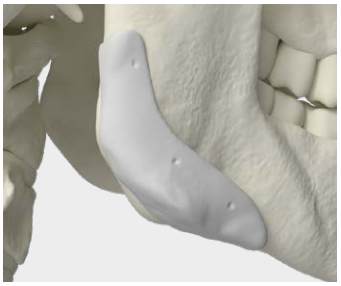
Zygoma is a bone that defines the face structure in the area of the cheeks and is located in the upper part after the maxilla. Also called zygomatic bone, can suffer from a fracture when a blunt trauma happens, such as vehicle accidents. Zygoma fractures can also be part of a bigger trauma, being grouped in a LeFort type of fracture.

Our Zygoma implants, specially developed for aesthetic surgery, are designed to provide a customized aesthetic improvement for patients. The so-called onlays offer a wide range of variations and sizes to meet the individual requirements of both patients and surgeons.

NAME	ARTICLE-NO.	NAME	ARTICLE-NO.
Midface Zygoma bent L	**17.290.11**	Midface Zygoma bent R	**17.290.12**
Midface Zygoma printed L PEEK	**17.290.21P**	Midface Zygoma printed R PEEK	**17.290.22P**
Midface Zygoma printed L TITAN	**17.290.21T**	Midface Zygoma printed R TITAN	**17.290.22T**

Mandible Implants

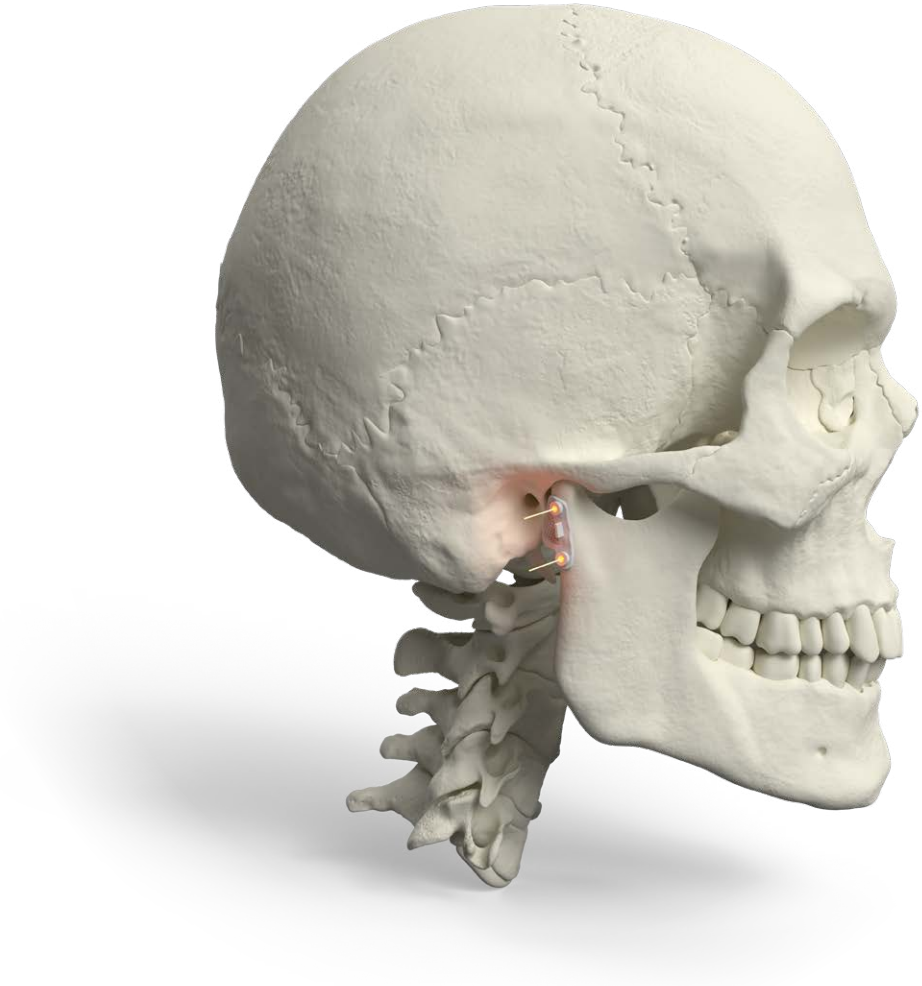
The mandible is the only bone in the skull that can move freely and is subjected to considerable chewing forces on a daily basis. As a result, it is crucial to use implants with a high resistance to ensure effective restoration and functional stability. Our PSI Mandible Implants are specifically designed to withstand the masticatory forces that affect the mandible on a daily basis. In addition to functional reconstruction, our implants can also be used for aesthetic measures. The aesthetic integration is in harmony with a complete restoration of the facial profile.



NAME	ARTICLE-NO.
Mandible Ramus bent L	**17.300.11**
Mandible Ramus printed L PEEK	**17.300.21P**
Mandible Ramus printed L TITAN	**17.300.21T**
Mandible Condyl bent L	**17.310.11**
Mandible Condyl printed PEEK	**17.310.21P**
Mandible Condyl printed TITAN	**17.310.21T**

NAME	ARTICLE-NO.
Mandible Ramus bent R	**17.300.12**
Midface Ramus printed R PEEK	**17.300.22P**
Midface Ramus printed R TITAN	**17.300.22T**
Mandible Condyl bent R	**17.310.12**
Mandible Condyl printed PEEK	**17.310.22P**
Mandible Condyl printed TITAN	**17.310.22T**

PSI Drilling and cutting guides

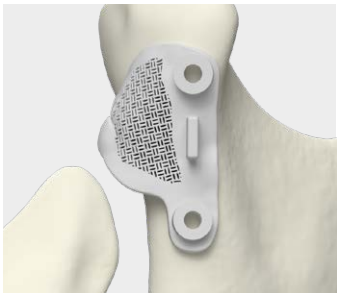


Indication

The PSI drilling and cutting guides system is used for helping with the positioning of the plates, aiding placing of the drilled holes and assisting in the cutting process during the surgery.

PSI Drilling and cutting guides

Our specially developed drilling and cutting guides have been designed to support surgeons during implant positioning operations. These guides play a crucial role in ensuring precise and safe placement of implants.



NAME	ARTICLE-NO.	NAME	ARTICLE-NO.
Drilling and cutting guide midface L	**17.700.21**	Drilling and cutting guide midface R	**17.700.22**
Drilling and cutting guide mandible L	**17.800.21**	Drilling and cutting guide mandible R	**17.800.22**

Material information

Titanium

Titanium is an element found in nature as an oxide. Titanium is widely used for different ranged of applications from aerospace industry to medical field. The material is usually modified to improve its properties introducing other metals to create “alloys”.

In the medical field titanium is used for implants such as spine cages and mandibular plates. Although the most common manufacturing technology is conventional machining, technology advances have made it possible to use the material in a powder form, making is suitable for 3D printing applications.

PEEK

Polyether ether ketone or PEEK is a polymer that has gained popularity over the recent years for its' properties. In the medical field, as PEEK displays a similar Young Modulus to the bone, making it a suitable replacement for titanium applications. The material is suitable for 3D printing as it can be obtained in a filament shape.

Bio-compatible Resin

Is a bio-compatible resin used for 3D printing. As it can handle high temperatures, it is suitable for cleaning processes used in the medical field. It also has a high resolution when printed, making it suitable for small parts. Surgical resin allows to print surgical guides that can be used for positioning of drill holes and implants.

How IPS Implants are made

We offer custom-fit implants with a short response time. The implant can be planned and printed withing 10 working days. With a 20% of surchage, the implant can be done within 5 working days. Planning, production and shipping is done in-house, assuring the best quality results and a good traceability.

Process

Fill the Case Information sheet provided by the company.

Implant will be designed using the Case Information sheet data and the DICOM files as a reference.

Final design is manufactured.

Before surgery, an implantation release document needs to be filled and signed by the customer.

Upload the DICOM data using the AH cloud. Ensure the data fulfills all the requirements.

The design will discussed. Any modification can be done. Final approval by a design approval sheet

The implant is then prepared for delivery.

Scan requirements

Data	DICOM format 3D sliced scan Scan less than 6 months old
Gantry tilt	0 -
Reconstruction algorithm	Bone or high resolution
Not supported data	JPEG encoded file Meta DICOM files 2D scan

Notes

Notes

ANTON HIPP

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50 years

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High quality and precision out of passion