

Attachments and Pre-fabricated Castable Components

CATALOG / TECHNICAL MANUAL for Dentists and Dental Technicians



2013

World Leader in Spherical Attachments



WHITE background

CATALOGUE OF PRODUCTS

BLUE background INSTRUCTION FOR THE CLINIC

GREEN background

TECHNICAL INSTRUCTION FOR THE LABORATORY

HOW TO GET TO OUR OFFICE



WELCOME TO RHEIN'83

Metalic spherical attachments have been in existence for many years. But these attachments were not widely accepted, by the dental professionists. Then came the idea to render these mechanisms elastic!

Smooth the head of the sphere and construct an elastic cap as a result of these innovative changes this technique to day is amongst the most widely used.

Rhein'83 has been in business since 1983 and today these products have been copied throughout the entire world, copies that in many cases reflect the forms of the objects but not the materials they are made from, and therefore it significantly changes the functional result.

Research is not only oriented towards the study of new products, but also continually trying to perfect those that have been used for many years.

Dental attachments are small mechanisms subjected to continuous movement, stresses and oral changing, requiring periodic maintenance and revisions. Some products in this have been made for maintaining and restoring the functionality, to all the prostheses, directly while they are in the mouth of the patients.

The commitment of Rhein'83 with its knowledge and skills continually being enriched by the contributions of dentists and laboratory technicians, is to be able to improve the actual standards and develop new products by means of original projects.

Ezio Nardi

















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Comparison of RIGID CAPS vs. ELASTIC CAPS

Characteristics and retentive functionality

FRICTION

OUTWARD FLEX OF THE WALL

RIGID

CONTACT ZONE

FRICTION FIT CAPS: RIGID MATERIALS

- ACETALIC PLASTICS
- METALS (thin layer)

Friction fit contact zone is very thin because of non-elastic material

FRICTION CONTACT ZONE

With rigid materials, only minimal friction retention is achieved due to the smaller friction contact zone

FLEXION OF THE WALL

With rigid materials, there is an "outward flex" of the wall of the cap

RIGID RESILIENCE

In spite of the flat surface of the sphere, rigid materials do not allow vertical resiliency

RETENTIVE FIT CAPS: ELASTIC MATERIALS

- NYLON
- TEFLON (thick layer)

The elastic materials permit a wide contact zone of retention at the equator and lower radius of the sphere

RETENTIVE CONTACT ZONE

With elastic materials, greater friction and mechanical retention is achieved with a higher degree of functionality

COMPRESS AND RETURN

With elastic materials, the wall of the cap is compressed and then returns to it's original shape

VERTICAL RESILIENCE

The space between the flat surface of the sphere and elastic cap allows for vertical resiliency and reduces stress



Rhein83 continues to manufacture female caps with elastic retention with the intention of eliminating as much vertical stress and trauma to the restoration as possible. For Rhein83 the important thing is to make a system of components available to the dental technician and dentist that will allow for the fabrication of a rigid, shock absorbing or resilient prosthesis. With the use of elastic retention, the function of Rhein83 attachments are extended.

RETENTIVE

CONTACT ZONE

VERTICAL RESILIENCE

COMPRESS AND RETURN

With overdenture prosthetic devices or cases involving edentulous saddles, resiliency can be controlled with a wide range of retentive caps that have various levels of elasticity and retention.







Rigid retention

Movement in all directions

CLASSIC CAPS SIZES AVAILABLE: NORMAL AND MICRO Retentive cap colors and retention

CLEAR CAPS STANDARD RETENTION





Slightly Elastic

Maximum suggested time of duration in mouth: 12 months Retention in grams: Normal from 1200 to 1300 gr. / Micro from 1000 to 1100 gr.

PINK CAPS SOFT RETENTION



Maximum suggested time of duration in mouth: 12 months Retention in grams: Normal from 800 to 950 gr. / Micro from 750 to 850 gr.

YELLOW CAPS EXTRA SOFT RETENTION



Very elastic

Maximum suggested time of duration in mouth: 12 months Retention in grams: Normal from 500 to 550 gr. / Micro from 450 to 500 gr.

GREEN CAPS





Characteristics:

Extremely elastic retention, "GUMMY" type. Minimally hydroscopic, with a good adhesion on the sphere.

EXTRA RESILIENT GOLD CAPS SLIGHTLY ELASTIC





Characteristics:

To be used in overdenture prostheses, where resilience and vertical movements are

Retention in grams: Normal from 450 to 500 gr. / Micro from 250 to 300 gr.

EXTRA RESILIENT SILVER CAPS ELASTIC AND GUMMY





Characteristics:

To be used in overdenture prostheses, where a vertical movement is necessary and a light initial retention is requested.

PROCESSING CAPS

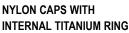




Characteristics:

Caps to be used only for laboratory processing.

TITAN CAPS







Characteristics:

Extremely durable. To be used especially in combination with pre-fabricated spheres such as titanium spheres, concave spheres, etc.

UNDERSIZED INTERNAL DIAMETER CAPS STANDARD RETENTION





Characteristics:

Internal diameter reduced (Normal 2.2mm | Micro 1.6mm), for worn out sphere or 2.2mm - 1.6 sphere

UNDERSIZED INTERNAL DIAMETER CAPS SOFT RETENTION





Characteristics:

Internal diameter reduced (Normal 2.2mm | Micro 1.6mm), for worn out sphere or 2.2mm - 1.6 sphere

STAINLESS STEEL AND TITANIUM HOUSING FOR CAPS, PRE-FABRICATED, NORMAL AND MICRO SIZES

THE NEW STAINLESS STEEL HOUSING DESIGN OFFER REDUCE SIZE AND ADDITIONAL STABILITY, IT CAN BE ENBODY DIRECTLY IN THE RESIN, WELDED OR BONDED TO THE FRAME.

THE NEW DESIGN IS ALSO AVAILABLE IN TITANIUM.

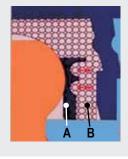






TITAN CAP

The TITAN cap is a nylon cap with an internal titanium ring that has an oblique cut around the circumference, that makes it elastic. It is able to pass, without any friction on the sphere, leaving the perimeter smooth for a long time. The lifetime of these caps is very long and they can be used with different prostheses, even in cases where there is an imbalanced prosthesis where the cap, made entirely from nylon produces unsatisfactory results.



FUNCTIONAL CONCEPTS

- A. After a brief period of adjustment, the titanium ring maintains a steady retention.
- **B.** Over time, even with the wearing of the nylon, the titanium ring maintains constant compression and retention because it is enclosed between the titanium and the housing.



OT EQUATOR CASTABLE

Single Attachment for Overdentures









STAINLESS STEEL HOUSING



VIOLET CAP RIGID RETENTION (2.7Kg)



CLEAR CAP STANDARD RETENTION (1.8Kg)



PINK CAP SOFT RETENTION (1.2Kg)



YELLOW CAP EXTRA-SOFT RETENTION (0.6Kg)



BLACK CAP PROCESSING



IMPRESSION TRANSFER pick-up impression



IMPRESSION TRANSFER individual tray





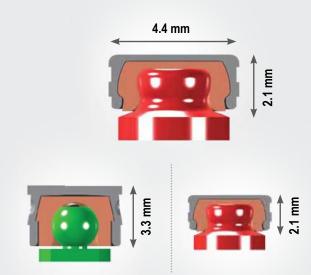


PARALLELOMETER MANDREL

CLINIC -







If additional retention is needed to secure the prosthesis, OT Cap Normal retentive caps and metal housings can be placed over any OT Equator Profile spheres. The prosthesis will be retained in the same way and the connection will be more rigid. Only the dimension of the attachment will be changed.



SEVERE DIVERGENCY MAY REQUIRE THE OT EQUATOR IN COMBINATION WITH A CASTABLE UCLA

LABORATORY

OT EQUATOR CASTABLE = SINGLE CASTING



Use separating material on the stone model in the prepared areas to receive the castable posts.



Use longer castable posts in the root channels for easy removal. Reline with castable resin, for higher accuracy.



Place posts and finish margins with composite material. Once resin is cured, cut posts to the required length at root level.



Position OT Equator on the occlusal surface with the paralleling key and continue waxing technique.



OT Equator in the final position. The wax-up has been completed.



For the best results, create the casting with an alloy that has a vickers hardness of 220 or greater.

BUILD UP THE FRAME DIRECTLY ON MASTER MODEL



The plaster model with the OT Equator analog in position. The stainless steel housing and black processing cap are also visible.



Apply a thin layer (.5mm) of wax to the model. Fill the undercuts on the stainless steel housing and attach the connectors.



Connect the parts using a castable resin. Be sure to cover the stainless steel housing.



Add sprues to the framework and remove it from the model. Be sure that the stainless steel housing does not remain inside. The framework is now ready to be invested.



Cast the metal frame and verify the position on the model.



Use composite to bond the stainless steel housing to the frame.



The metal frame with the stainless steel housing in place.



The finished prosthesis on metal frame. After processing, the black caps are replaced with pink caps.



OT EQUATOR FOR IMPLANTS

Low Profile Titanium Abutment



RETENTIVE CAPS OT EQUATOR



STAINLESS STEEL HOUSING



VIOLET CAP RIGID RETENTION (2.7Kg)



WHITE CAP STANDARD RETENTION (1.8Kg)



PINK CAP SOFT RETENTION (1.2Kg)



YELLOW CAP EXTRA-SOFT RETENTION (0.6Kg)



BLACK CAP PROCESSING







OT EQUATOR PROFILE TITANIUM + TIN ATTACHMENT



IMPRESSION TRANSFER (pick-up impression)



IMPRESSION TRANSFER (individual tray)



STAINLESS STEEL ANALOG FOR PLASTER MODEL





The unique design and exceptionally low 2.1mm profile of the OT Equator 4 in 1 System provides exceptional stability and superior retention when compared with other attachment systems.

Due to its lower radius, OT Equator is indicated to correct divergence up to 28 degrees between implants without affecting the functionally of the elastic nylon cap.

Caps are available in a wide variety of retention levels.

ATTENTION; Where implant divergence exceed the maximum 28 degrees, Sphero Block and Sphero Flex are recommended case plan options.

See Sphero Block and Sphero Flex page 40-41















ATTACHING THE CAPS IN CLINIC



Select the OT Equator with the appropriate cuff height. Screw the OT Equator into the implant.



Place the protective disk over the OT Equator. Then, place the stainless steel housing with cap on the attachment.



Verify the positioning of the prosthesis before bonding the stainless steel housing.



On the prosthesis, fill the implant sites with a self curing resin and insert into the patient's mouth.



Remove the prosthesis and verify that the positions of the attachments are correct.



Remove the protective disks.



Carefully trim away the excess resin.



The completed prosthesis.

IMPRESSION TRANSFER



Place the implression coping on the OT Equator.



The impression coping picked up in the impression.



Insert the analog into the impression coping and pour the master model.



Master model with analog in position.

BUILD UP THE FRAME DIRECTLY ON MASTER MODEL



Master model with OT Equator analog in position. Also pictured is the stainless steel housing with black processing cap.



Apply a thin layer (.5mm) of wax on the model. Fill the undercuts on the stainless steel housing with wax and attach the connectors.



Attach the parts using a castable resin. Be sure to cover the stainless steel



Add sprues to the framework and remove it from the model. Be sure that the stainless steel housing does not remain inside.



Finish the metal frame and verify the position on the model.



Use composite to bond the stainless steel housing to the frame.



The metal frame with stainless steel housings bonded in place.



The finished prosthesis on metal frame. After processing, the black caps are replaced with pink caps.



ELASTIC SEEGER

Passive bar connection







The purpose of the OT Equator "seeger" system is to create a passive connection for implant supported bars. The elastic seeger will correct small imperfections created by the chairside impression technique or laboratory casting process. This reduces the risk of the implant bar not seating passively.

CLINIC

SECTION OF SEEGER INSERTION



THE ELASTIC SEEGER IS MANUFACTURED FROM A SPECIAL HARD PLASTIC WITH A CONICAL DESIGN. THE LOWER PART OF THE RING IS THINNER ADAPTING TO THE DESIGN OF THE ATTACHMENT.

LABORATORY



OT EQUATOR castable attachments for direct overdentures on endodontically treated roots



OT EQUATOR castable attachments are placed on the connecting bar creating a "balance" with the removable prosthesis. Alloys with a Vickers Hardness of 240 or greater are recommended for casting.

POSITIONING SYSTEM WITH BAR "ELASTIC SEEGER"



OT Equator titanium attachments screwed into the implants. The elastic seeger system will be used to position the bar.



The cast bar in position. Insert the white elastic seeger ring into the cylindrical space.



Using the insertion tool, push down on the white elastic seeger ring until it is fully seated.



A "click" will be heard once the seeger ring is seated over the OT Equator attachment. Remove any excess material to avoid creating a gap during the casting procedure.



After the elastic seeger ring has been inserted, lock the bar into place using the titanium screw cap and the appropriate



When the screw cap is tightened, the elastic ring is compressed which prevents unscrewing.



The finished bar secured in the mouth. A passive connection has been achieved due to the elastic seeger rings.



The completed prosthesis. For best results a reinforced superstructure is always recommended.

WAX-UP OF THE BAR DIRECTLY ON MODEL MASTER



Screw the OT Equator attachments into the implant analogs.



Position the seeger castable cylinders, followed by the red plastic seeger for laboratory use on the attachments. Screw the titanium sealing lid into position. Do not overtighten.



Connect the castable abutments with wax



Before casting, remove the red plastic seeger ring.



The cast bar in position on the model.



The cast framework in position. Undercuts on the stainless steel housing can be blocked out using composite material to maintain a passive connection.



Fit and stability of the prosthesis can be regulated using nylon caps. Various levels of retention are available.

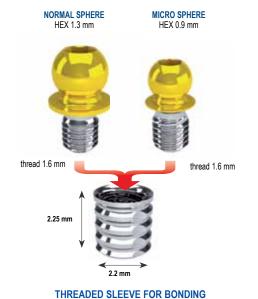


The final prosthesis.

Interchangeable threaded Attachments

with threaded sleeve system

















THREADED SLEEVE FOR BONDING

2.2 mm



Yellow

Extra Soft







Elastic

METAL HOUSING OT CAP NORMAL / MICRO

Rlack

Processing





Clear

Standard

STEP BY STEP THREADED SLEEVE BONDING PROCEDURE



Once the bar has been connected with wax, create an area where the attachment spacer will be placed.



Apply separator to the base of the attachment spacer and postion using the parallelometer key.



With the attachment spacer in position, complete the wax-up design.



Carefully remove the attachment spacers and proceed with the normal casting procedure.



Screw the threaded attachment of choice (Micro Ball shown) into the threaded sleeve.



Place the assembled attachment into the parallelometer key. Use a self curing metal to metal bonding composife on the sleeve and in the cylinder.



After the composite is cured, remove any excess material.

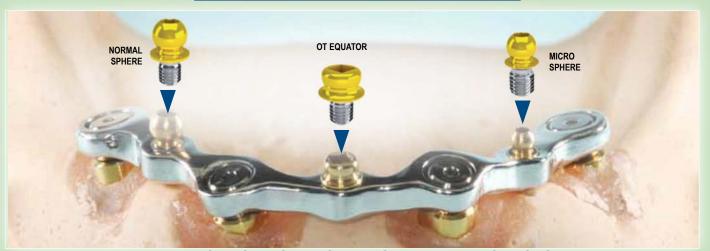


Unscrew the attachment to verify the threaded sleeve is securely bonded in place.



The finished bar complete with attachments.

3 ATTACHMENT OPTIONS



THE TECHNIQUE IS THE SAME FOR ALL THREE OPTIONS

EXTRACORONAL CASTABLE ATTACHMENTSOT CAP - OT CAP TECNO



OT Cap is a resilient distal extension attachment. It is indicated to be used with combined prostheses and removable partial dentures.

For treatment plans that require a rigid substructure with milling and adequate counter attachments, OT Cap functions as a stabilizing retentive connector. In addition, for treatment plans which require resiliency, OT Cap provides a "Cushion Effect" similar to a shock absorber. This is achieved by the design of the sphere in conjunction with the elastic retentive caps.

The OT Cap Tecno consists of a titanium sphere and ring that is incorporated into the nylon cap which has been machined with a tolerance that assures high precision. While fabricating the prosthesis, the Tecno titanium sphere is not exposed to any of the risks associated with the laboratory fabrication procedures and ceramic firing cycles.





OT BOX MONO: The positioning ring to be inserted on the sphere before model duplication.

COMBINED PROSTHESES

with extracoronal castable attachments



















OT CAP CASTABLE



Cut the plastic bar and use only the section that you need.



Using the mandrel, position the spheres in parallel. Complete the wax-up with a "ledge" along the crown. The "ledge" must not be lower than the sphere.



The cast crowns. It is suggested to use a retentive cap to protect the sphere from excessive wear.



The cast attachment. The "ledge" along the crown helps select and redirect the vertical loads.

OT CAP TECNO



Separate the plastic bar.



Position the attachment in parallel using the OT Tecno mandrel.



Cast the attachment and polish. Do not polish the post or the sphere to allow for more retention.



Using anaerobic cement, attach the titanium sphere in parallel using the OT Cap mandrel.

OT MONO BOX - CAST HOUSING WITH DUPLICATED MODELS



The OT Cap positioning ring on the sphere.



The duplicated model in investment.



The OT Mono Box castable housing in position and incorporated into the final wax design.



The final OT Mono Box casting with retentive caps inserted into the housing.

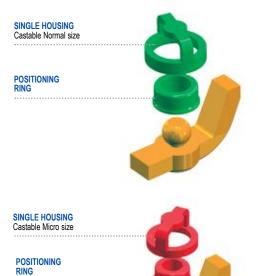
The castable OT MONO BOX reproduces the shape of the housing which incorporates the retentive cap into the framework. Use the OT CAP insertion tool to place the retentive cap into the housing.



Customized solution for frames with single castable sphere housing for caps



CASTABLE HOUSING



HOUSINGS:

STAINLESS STEEL - TITANIUM

The new stainless steel housing design offer reduce size and additional stability, it can be enbody directly in the resin, welded or bonded to the frame.

The new design is also available in titanium.

SIZE FOR RESIN OR SOLDERING





LABORATORY

When vertical space is limited, use reinforced pins to reduce the risk of breakage of the denture teeth.

SOLUTION A



Place a piece of .5mm calibrated wax over the wax-up design for additional protection.



The finished casting with retentive cap in place.

SOLUTION B



Small wax pins are added for reinforcement of the denture acrylic as well as additional retention for the denture teeth.



The final cast housing with reinforced metal pins.

STAINLESS STEEL PRE-FABRICATED HOUSINGS

For bonding or soldering to the frame

To obtain the right position use the **POSITIONING RINGS. NORMAL** and **MICRO** sizes are available.











CERTIFICATIONS

Rhein83 continues to be the world leader in spherical attachments and implant components. Largely due to continuous research and development, active participation in exhibitions as well as providing practical hands-on technical training for dentists and dental laboratory technicians. In addition, the company utilizes state of the art technology to constantly develop new products and improve existing product design as well as promote product awareness.

Rhein83 attachment systems are technically supported in over 75 countries worldwide.













CERTIFICATIONS:

Since 1996 Rhein83 has been operating with a quality control system that conforms to:

UNI EN ISO 9001:2008 Standards

UNI EN ISO 13485:2004 Standards

Directive 93/42/EEC

Rhein83 received this certification from Clementi, Italy, which is the certifying body for all activities associated with C € certification.

That same year, the company passed the rigorous requirements for the United States Food and Drug Administration, permitting it to sell attachments and implant components in the United States market.

All of the components are designed, manufactured and sold with respect to the D.Lg 93/42.



Ezio Nardi Founder

Claudia Nardi President

Gianni Storni **VP Technology**

CASTABLE VERTICAL ATTACHMENT MICRO



FOR DUPLICATION TECHNIQUE





FOR INSERTION INTO THE PRE-FABRICATED HOUSING





CAPS



Clear • Standard





Pink • Soft



Yellow • Extra Soft



Black • Processing

INSERTION TOOL

PARALLELOMETER

FOR CAPS

KFY







ANALOG POST













Clear • Standard

Pink • Soft



STAINLESS STEEL





STRATEGY POSITIONER

for correct positioning of the cap housing on the frame

PARALLELOMETER KEY PROFILE





SIDE A: For SPHERE positioning SIDE B: For STEADY positioning

REINFORCEMENT FOR THE SPHERE







- Increased shear force strength
- Prevents rotation of female cap
- Increased lateral stability

OT Strategy from Rhein83 is a vertical micro-sized 1.8 mm castable sphere that is placed distally on abutments for removable partials or utilized in implant bar combination case design. The male component is designed with an additional support strut located under the sphere, increasing strength and preventing rotation of the female cap during paralleling. The optional Steady, when connected to OT Strategy, provides lateral stability without any additional milling.

OT Strategy caps are available for both duplication and fabrication using a stainless-steel housing technique. Rhein83 caps are manufactured from an elastic material that increases the contact zone with the sphere, giving mechanical and friction retention. Caps are color-coded indicating five levels of retention. Tools for paralleling, inserting, and removing caps are available.



Insert the OT Strategy male into the mandrel and place in position with base of attachment in contact with the stone.



Using the insertion tool, insert the cap



The entire cap must be covered with a thin layer of wax during the frame wax-up procedure.



Once the casting is complete, proceed to use the cap and the prefabricated STAINLESS STEEL HOUSING. The housing can bonded or laser welded to the frame. In addition, it can also be used for direct chairside procedures.



For best results during the **DUPLICATION** TECHNIQUE, it is suggested to use the YELLOW retentive cap.















DUPLICATION TECHNIQUE: USING CASTABLE HOUSING



OT Strategy casting is complete with mandatory lingual milling to accept partial bracing arm.



Yellow retentive cap is placed on the sphere and the model is ready for dluplication. Use wax to remove any



Model is duplicated and the shape of the cap is reproduced.





Insert the cap into the finished cast partial with the OT Strategy Insertion Tool.



Frame is complete and placed on the model.



The finished prosthesis.

WELDING TECHNIQUE: USING PRE-FABRICATED STAINLESS STEEL HOUSING



Crown and OT Strategy attachment cast. Positioning ring and housing.



Wax-up on the duplicated model.



Positioning ring on the sphere.



First Option: Stainless Steel Housing welded to the frame.



Stainless Steel Housing in position on the attachment.

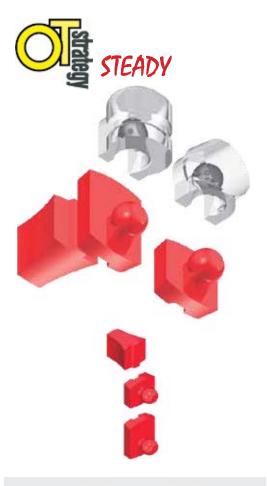


Second Option: Stainless Steel Housing bonded to frame with anaerobic self-curing resin.

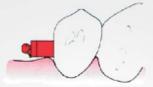


ATTENTION: Insertion of the cap from the mesial.

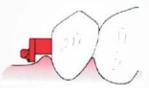
STRATEGY + OPTIONAL STEADY



Optional = STEADY



Steady + standard base



Steady + long base

The castable Steady is an optional conical shaped support intended for use in cases where milling is not performed. Steady can be used with the OT Strategy Standard or Long base.

It is an object in line with the philosophy of the personalization of each single prosthesis and is used with both the OT Strategy bases; Standard or Long and offer various technical solutions.

CLINIC





LABORATORY

TECHNIQUE WITH STANDARD BASE



Lute the two parts together using an adhesive and insert the sphere into the mandrel of the parallelometer.



The Steady can be used with it's original height or it can be shortened and modified to accommodate the adjacent tooth and ridge.



Finish the wax-up and give the Steady the necessary shape for duplication in the sphere.



The duplicated model.



The frame wax-up.



The finished casting

TECHNIQUE WITH LONG BASE



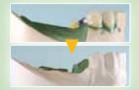
Lute the Steady to the Long base. Be sure to position the two parts according to the resorption of the ridge.



Position the attachment as close to the ridge as possible. Fill the space between the Steady and the ridge with way



The finished attachment design. The Steady has been adapted to the contour of the ridge



Crown and Steady for duplication and retentive cap on the sphere.



Cast framework seated on the model.



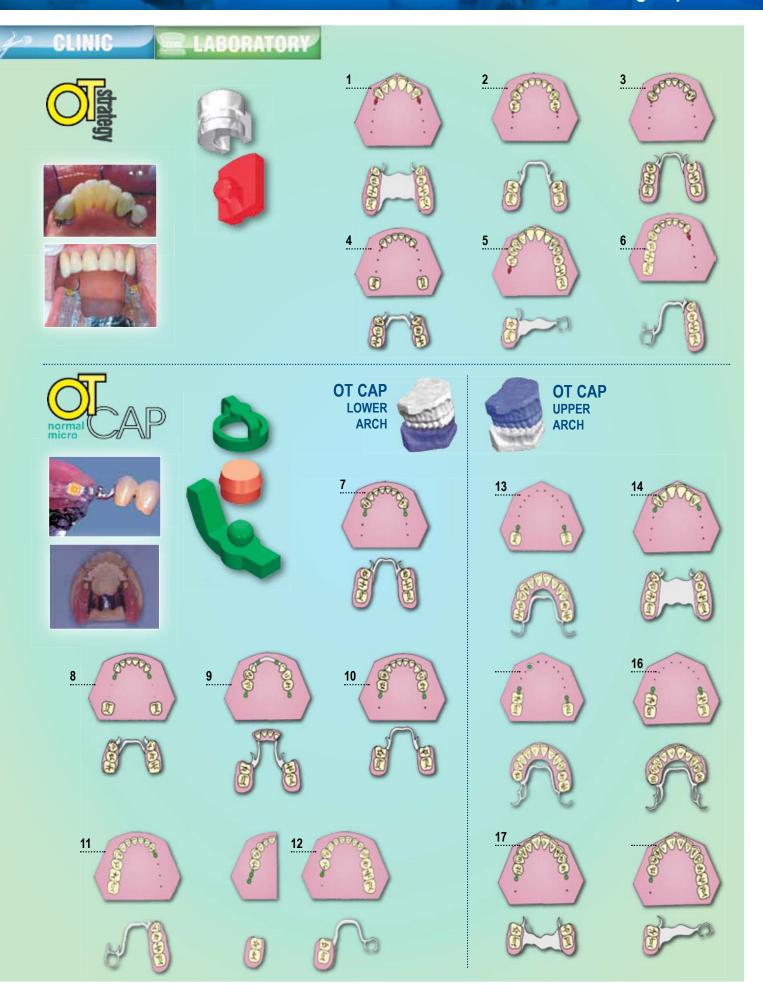
Finished prosthesis.

When the STEADY base is utilized it provides superior lateral support when milling is not indicated. In the case of free saddles, the STEADY base avoids movement in all directions during mastication.



OT STRATEGY & OT CAP

Case design options



Single Spheres OT CAP



CASTABLE SINGLE SPHERES



NORMAL Green Ø 2.5 mm



Normal / Micro

MOOSER BURS

MICRO Red Ø 1.8 mm

STAINLESS STEEL AND TITANIUM HOUSINGS Normal / Micro size for welding

to embody in resin







Undersized caps for worn or damaged spheres are also available. They are also compatible with 1.7mm and 2.2mm spheres

See parts list for item codes and descriptions.





The design of the sphere with a FLAT head in addition to the spherical inner surface of the elastic cap, permits vertical movement during mastication. Rhein83 female caps are manufactured out of a special nylon material that remains stable and continues to function in the oral cavity over long periods of time.

Clinical data is available showing that stability is obtained with a minimal amount of trauma.

SPHERICAL

PIVOT

SINGLE SPHERES

TITANIUM + TIN

1600 Vickers Hard

FLEX SPHERE Ø 2.5 mm

FIXED SPHERE

NORMAL SIZE

Ø 2.5 mm

FOR WELDING OR BONDING

LINE



TRANSFER IMPRESSION TECHNIQUE



Put the impression coping on the sphere in the patient's mouth. Different levels of retention are available depending on the color of the cap used



Impression coping in position, the external profile ensures a stable position in the impression.



Insert analogs into the impression copings and pour the model.



Stone model with analogs in place.





ATTENTION:

These attachments can be cast with all types of alloys, but it is important to use a metal with a high Vikers rating in order to avoid the risk of wearing the spheres.





INSERTION TOOL

for retentive caps

OVERDENTURE PROSTHESIS

Indirect System

IMPRESSION OF ROOT CANALS



Prepare the roots.

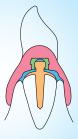


Apply adhesive to the post.



Impression with elastomer.

ATTENTION: To obtain proper function, it is important to mill the resin with a bur to create a space (highlighted in blue) between the root and the prosthesis.



OT CAP - ATTACHING CAPS TO DENTURE



Protective discs on the cast metal spheres.



Fill the space corresponding to the caps with self curing resin. Insert the prosthesis into the final position.



Once the resin has cured, remove the disc and trim the excess material around the cap.



Finished prosthesis.

OT CAP - CASTABLE SINGLE SPHERE TECHNIQUE



Insert the castable plastic post into the prepared root cavity.



Cut the post to the level of the root and remove sphere.



Position the single spheres in parallel with each other.



Cast post and sphere. It is also possible to place the sphere off center in respect to the long axis of the post.

OT CAP - TITANIUM SINGLE SPHERES + TIN TO BE BONDED OR LASER WELDED



Wax-up the root cap. Insert the titanium sphere into sliding base and position on the root cap.



Wax-up with titanium sphere in position. Do not cover the "open" side of the base with wax



Remove the titanium sphere from the base before attaching sprue.



The finished wax-up with sprue. The root cap and post is ready to be invested.



Using the tool, check the fit of the cast cap by inserting the sphere into the base.



Titanium sphere inserted in the cast root cap base.



Bond the titanium sphere to the base using anaerobic or self curing composite



Finished root cap. The sphere is bonded and locked in position.



PIVOTS FOR DIRECT OVERDENTURE



PIVOT FLEX TITANIUM +TIN 1600 Vickers Hard "self-paralleling" sphere

STAINLESS STEEL AND **TITANIUM HOUSINGS** Normal / Micro size for welding to embody in resin





SPHERICAL

PIVOT BLOCK TITANIUM

ELASTIC RETENTIVE CAPS Normal / Micro





























Silver • Elastic and Gummy



PIVOT FLEX TITANIUM + TIN Ø 2.5 mm 3 lengths



MOOSER BURS

PIVOT BLOCK TITANIUM WITH STATIONARY SPHERE NORMAL Sphere



PIVOT BLOCK TITANIUM WITH STATIONARY SPHERE MICRO Sphere 3 lengths



COPING COVER RING FOR OVERCASTING Steel Alloy



SPRING



PROTECTIVE DISKS

The Pivot Flex line of titanium posts was developed as an economical solution for direct "in root" supported overdentures. The self-aligning Pivot Flex post features a rotating ball with a 2.5 mm diameter and is indicated for divergent roots. When the posts are used with directional rings to align retentive caps before the resin curing stage, the insertion of the denture is easy and trauma-free.

The Pivot Block line of milled titanium posts has a stationary ball and can be used for a temporary or as a permanent solution. The Pivot Block titanium posts are available in $2.5\ \text{mm}$ and $1.8\ \text{mm}$ sphere diameters. The Rhein83 elastic caps ensure optimal retention and function while minimizing wear.

There are five levels of retentive caps, including extra resilient caps for precarious root situations. The levels of retention are identified by different colored caps.

DIRECTIONAL RINGS





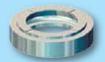


The WHITE directional ring is used for parallel roots. GREEN and RED directional rings are used when angle correction is indicated. Directional rings must be used to position the retentive caps in parallel and in the same horizontal plane to correct divergence.

PIVOT FLEX AND PIVOT BLOCK

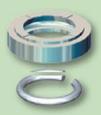


COPING COVER



The Coping Cover is used to construct a cast metal cap preventing additional exposure to the remaining root which has been subject to decay, by creating a seal over the remaining exposed dentition.

LABORATOR





DIRECTIONAL RINGS - FOR FIXED AND ROTATING SPHERES



Pivot Flex posts in divergent roots.



Nylon caps **without** directional rings. Caps are not supported in the same horizontal plane



Nylon caps with directional rings. Caps are now supported in the same horizontal plane.

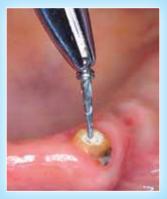
PIVOT BLOCK - FOR TEMPORARY OR PERMANENT ECONOMICAL SOLUTIONS



Pivot Block cemented with oxyphosphate cement for a temporary solution.



To remove the post from the root, grasp the sphere with the pliers and rotate carefully in both directions.



Due to the conical shape and smooth surface, the post is removed easily



For permanent solutions, create notches in the post and roughen the surface before cementation.

PIVOT FLEX AND PIVOT BLOCK SYSTEM - COPING COVER FOR OVERCASTING

CLINICAL PHASE 1: Impression



Clinical Phase 1: Preparation

Prepare the occlusal portion of the root until the collar of the post is fully exposed and carefully clean around it.



Clinical Phase 1: Impression

When taking the impression, include the post and the entire occlusal surface of the root which is necessary to reproduce the cast coping cover.

CLINICAL PHASE 2: Fixing



Clinical Phase 2: Try-In

Place cast coping cover on the root assuring acceptable fit anb proceed with final cementation.



Clinical Phase 2: Cementation

Bond the coping cover with cement. Once the cement is cured, the locking spring becomes a unique body with the post.

WAX-UP AND CAST



For best results, use a synthetic or "non-chipping" die stone. It is important that the circular part of the post be reproduced accurately.



Position the coping cover on the model without the locking spring.



Complete wax-up and cast.



Polish the coping cover and insert the locking spring.



Castable Bar Cap Housings



CLASSIC + CONNECTOR



CLASSIC BARS NORMAL- Green + Yellow MICRO - Red + Yellow



CONNECTORUniversal castable bar for joining the **OT BOX** housings



SPECIAL + CONNECTOR



SPECIAL BARS NORMAL - Green MICRO - Red



CLINIC



Cast reinforcement wax-up on the master model without duplication.

LABORATORY

OVERSIZED CASTABLE HOUSING for repositioning the caps directly in the patient's mouth

ELASTIC RETENTIVE CAPS
Normal / Micro size

Clear • Standard

Pink • Soft

Yellow • Extra Soft

Green • Elastic

Black • Processing

EXTRA-RESILIENT CAPS

Gold • Slightly Elastic
Silver • Elastic and Gummy



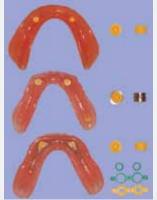






The OT Box Large casting compensates for the distance between the cap and the housing. It is manufactured to reposition the cap charside into the frame.





A fracture is likely at the point where the overdenture attachments are inserted in a prosthesis fabricated entirely of resin. With a cast superstructure reinforcement, the denture will be less likely to fracture. Fast and simple, the OT Box bar components are used to fabricate the superstructure directly on the master model, eliminating duplication and saving time. A non-precious or chrome cobalt alloy is recommended for best results.

It is recommended that all nylon caps are inserted into a stainless steel housing or cast reinforced frame. The stainless steel housing offers a considerable advantage when the cap has to be removed and replaced for routine maintenance or repositioned. Adjustments or repairs can be performed chairside quickly and easily.

Option 1: OT CAP

OT Cap cured directly into the prosthesis.

Option 2: OT Cap + Stainless Steel Housing

OT Cap with housing cured directly into the prosthesis or bonded into frame.

Option 3: OT Cap + OT Box

OT Cap inserted into OT Box cast reinforced frame.

LABORATORY REQUIREMENTS FOR THE MASTER MODEL

When a new denture is being fabricated utilizing existing spheres, the dentist must provide the laboratory with an impression using the **YELLOW CAP**. The laboratory will place the analog into the cap and pour the stone model.





CAST REINFORCEMENT IN ACRYLIC DENTURES

without duplication of the model

IMPRESSION WITH POSTS FIXED IN THE MOUTH



Titanium posts cemented into the root.



YELLOW CAPS in position. The impression is ready to be taken.



For best results, use a "stiff" bodied impresson material to ensure accurate positioning of the cap. The laboratory will insert the analog for the sphere.



The stone model with the analog of the sphere.



Another Example: The stone model with cast root cap coping and retentive caps in position.



DIRECT WAX-UP ON THE MASTER MODEL



OT Box Classic. Glue the two OT Box bars together.



Separate the housing from the OT Box bar



"ONE-PIECE" MONO BAR

OT BOX SPECIAL is a "onepiece" mono bar. Separate the bar and use only the section needed





Apply a layer of wax on the ridge. Create three holes in contact with the stone model. Place the positioning rings over the spheres. Be sure to place the ring with the "flared" end towards the coping.



Finished casting with black retentive caps



Position the OT Box Classic or Special housings over the rings. Complete the reinforcement using the connectors and join the pieces together with self-polymerising resin.



Complete prosthesis with cast reinforcement.



Finished wax-up with sprue; ready to be invested.



For additional reinforcement...with the silicon mask in position, insert a wax pin to support each tooth before casting.

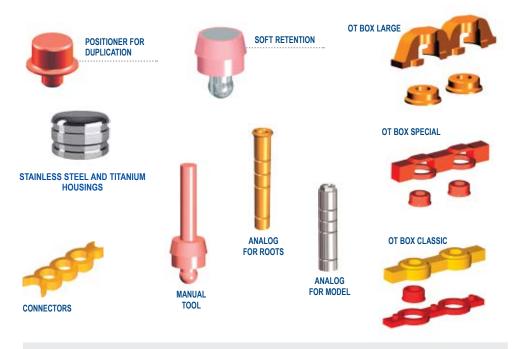




ROOT ATTACHMENT TITANIUM + TIN



PROSTHESIS WITH REINFORCEMENT IN CAST METAL

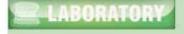


OT REVERSE 3 is a root supported direct pivot attachment system which provides retention and stabillity for full dentures. The "split" male portion of the attachment is manufactured from titanium that is embedded into a soft nylon material. The female pivots have a unique shape that is designed to fit most remaining root structures. **OT REVERSE 3** is successful even with minimal bone support of the remaining dentition. The system is cost effective with simple laboratory and chairside procedures.

CLINIC CLINIC









ROOT PREPARATION AND IMPRESSION





Use the diamond sizing bur to prepare the root for the attachment. Using the hand tool, insert the plastic pivot and apply cement.



Pivots cemented into the roots. Insert the male transfer coping into the pivot and take the impression. For best results, use a stiff bodied impression material.



The laboratory will place the analog and pour the stone model.



The stone model with the OT REVERSE 3 analog in position.

CHAIRSIDE PROCEDURES



If you are using the plastic retentive male, remove the stem. Caution: If the prosthesis is inserted incorrectly, it could bend and it will not fit into the female housing.



Place the attachment with selfcuring resin. It is important to always use the protective disk around the perimeter of the attachment.



When OT Box Large is used, enlarge the space using a carbide bur to reduce interference with the male.



Fill the spaces with self-curing resin. Insert the prosthesis into the patient's mouth and have them bite down until the resin has cured.



Remove the prostheses and trim the excess resin.

FABRICATION OF FRAME FOR DIRECT ROOTS OR IMPLANTS



OT BOX CLASSIC Glue the two OT Box sections together.



OT BOX CLASSIC Separate the two housings and trim any excess material. Use only use only the part that is needed.



OT BOX SPECIAL Separate the two housings and



OT BOX LARGE Separate the two housings and use only the part that is needed.



OT REVERSE 3 Stone model with analogs, denture setup and silicon guide.



Insert positioners in the analogs. Apply wax on the gingival crest. Make holes in the wax in contact with the stone. Be sure to use stone separator.



Position the sectioned OT Box housing of choice. Complete the reinforcement by using the castable connectors.



Join all of the components with self-curing resin. With the silicon mask in place, insert a wax pin for each tooth for additional support.



Remove the OT Box frame from model. Fill in any voids with wax.



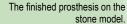
White or pink opaque can be used to block out the metal frame.



Sandblasted Cast Reinforcement



The finished prosthesis. Attachments are inserted into the cast housings.







RECONSTRUCTIVE SPHERES

Titanium + TiN coating

Concave Reconstructive Sphere

MULTIUSE TITANIUM + TIN COATING

more than 1600 Vickers

Available for any implant system on the market!



CONCAVE SPHERE Sizes:







Ø 1.8

Ø 2.2

Ø 2.5



CONCAVE SPHERE

Ø A Ø B 2,5 mm 1,9 mm 2,2 mm 1,55 mm 1,8 mm 1,4 mm

- A Sphere support
- B Sphere holder
- C Strip holder
- **D** Spatula for applying cement to the inside of the sphere.

•••••



For existing cases with worn spherical attachments which no longer provide adequate retention, the DR8 UNDERSIZED CAP can be used in the early stages of wear of the male component. This elastic cap offers an inner dimension of 1.7 mm and 2.2 mm which is smaller than Rhein83 normal and micro size caps and can be used with standard Rhein83 stainless steel housings.

When ball attachments show excessive wear, the CONCAVE RECONSTRUCTIVE SPHERES are recommended as the best long term restorative option. The CONCAVE RECONSTRUCTIVE SPHERES restore the worn male to it's original size of 1.8 mm, 2.2 mm or 2.5 mm diameter. CONCAVE RECONSTRUCTIVE SPHERES are manufactured with a Titanium Nitrite coating and are rated over 1600 Vickers hard.

The chairside procedure for using the reconstructive spheres is fast, easy and provides an economical alternative to replacing the old restoration.





Aqua caps are shown

DR8 Undersized Caps are available in 3 levels of retention for normal and 2 levels of retention for the micro size.

CLINIC

Dental attachments, like most other mechanisms, are subject to wear and tear. Rhein83 produces spheres for restoring worn ball attachments which restore and stabalize the prosthesis in a single appointment. Reconstructive spheres are bonded over the worn ball restoring the attachment to it's original size.

CONCAVE RECONSTRUCTIVE SPHERE RESTORING A WORN SPHERE



Insert the concave sphere into side A of the plastic tool. Fit over the worn out sphere in the mouth.



If the concave sphere does not fit passively, use a cylindrical bur (diamond or carbide) to slightly reduce the diameter. Check the fit again and repeat as needed.



Check the position of the concave sphere on the worn sphere and finish by cleaning the two parts



Additional surface can be removed by using side C of the tool. Insert a diamond strip into the notches, place the tool over the sphere and turn the manually.



Place a small amount of two-part self curing "metal to metal" resin inside the sphere.



Place the concave sphere over the worn sphere and wait for the resin to cure.



Once the resin has cured, remove any excess material.



The completed repair. The cap can be repositioned if necessary.



RECONSTRUCTIVE SPHERES

Titanium + TiN coating

Rhein83 offers two types of reconstructive spheres; A solid sphere and a concave sphere. Both types are titanium nitrate coated with a Vickers hardness rated over 1600. The Concave Reconstructive Spheres are available in 1.8 mm, 2.2 mm and 2.5 mm ball diameter. The Solid Reconstructive Spheres are only available with a 1.8 mm ball diameter. The Concave Sphere is used for restoring worn ball attachments and the Solid Sphere is used for restoring ERA® and CEKA ® type attachments.

SOLID RECONSTRUCTIVE SPHERE RESTORING A WORN RING ATTACHMENT



The worn-out female ring attachment



Apply a small amount of twopart self curing "metal to metal" resin on the bottom of the sphere. Insert the sphere into the attachment using the tool. Wait for the resin to cure.



The female attachment was converted into a male OT Cap Micro directly in the patient's

onstructive

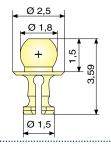
MULTIUSE

"RECONSTRUCTIVE" TITANIUM + **TIN COATING** rated over 1600 Vickers

TO REBUILD ANY "RING" TYPE ATTACHMENT SUCH AS: ERA ® AND CEKA ®



TOOL to hold the sphere









Dual Cure "Metal to Metal" Resin material recommended for the following products:

- OT CAP TECNO
- CONCAVE SPHERE - SOLID SPHERE
- COPING COVER

SOLID RECONSTRUCTIVE SPHERE RESTORING A WORN OVERDENTURE BAR



Create a hole in the wall of the bar using a 1.6 mm ball drill.



Apply a two part composite to the shank of the sphere. Using the tool, insert the sphere into the hole. Wait for the composite to cure.



The sphere firmly cemented in place. The OT Strategy Cap can now be used in the prosthesis resulting in stability and retention.

SOLID RECONSTRUCTIVE SPHERE **RECOVERY OF TITANIUM ABUTMENTS**



A case with unknown titanium abutments. Worn openings are present on top of the fixtures.



Solid Reconstructive Spheres are placed into the openings. A two-part self curing "metal to metal" resin is applied.



Retentive caps are positioned into the existing denture. The denture is now stable and secure

The SOLID RECONSTRUCTIVE SPHERES can be bonded to the inside of hollow attachments or those with a female ring such as ERA® and CEKA®

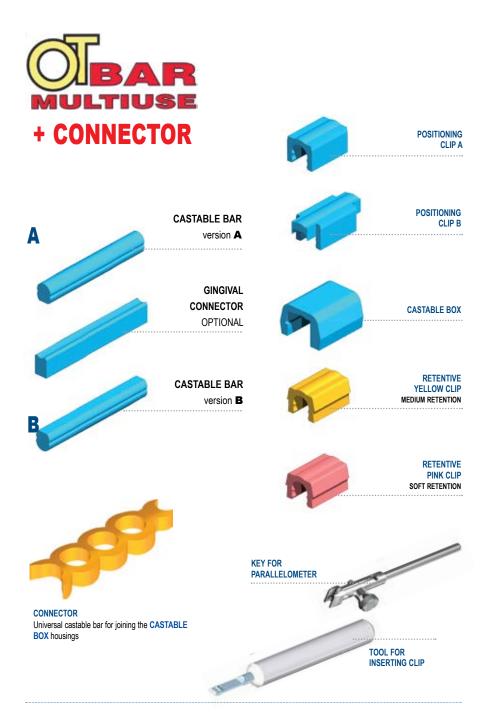
Reconstructive Spheres can be used to repair various attachments available on the market. These attachments can be found in many types of prosthesis including overdentures, implants, roots and frameworks. If worn or broken, they cannot be repaired easily.

The SOLID RECONSTRUCTIVE SPHERES offer a fast and easy cost effective alternative, transforming a female ring attachment into a male Micro OT CAP attachment. This repair can be completed chairside in a single appointment.



BAR AND CAST OVERSTRUCTURE

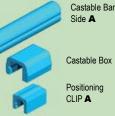
on the master model without duplication



The OT BAR MULTIUSE is designed with a 4 point retentive system. This unique system provides superior retention and can be utilized for both rigid and resilient functionality. With it's innovative two-sided design (Side A is rounded and Side B side is flat), depending on the indication, either side can be used. If a resilient solution is required the bar is positioned with the flat side facing up or if a rigid solution is required then the bar is positioned with the round side facing up. OT BAR MULTIUSE can also be used as a connecting bar between canines in the anterior region.

OT BAR MULTIUSE and the cast housing are fabricated directly on the master model saving time by eliminating the need for duplication.



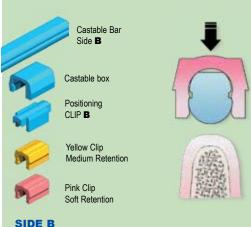








The rigid bar is used as a "connection" between two stable teeth where a "back and forth" motion is required. The bar can also be used in scenarios involving multiple abutments where the prosthesis is supported by a thin layer of soft



SIDE B

The resilient bar is most often used in scenarios involving multuple abutments where the prosthesis is supported by a "normal" layer of soft tissue.

CASTABLE BAR IN TWO VERSIONS RESILIENT - RIGID















FABRICATION OF THE SUPERSTRUCTURE ON THE MASTER MODEL WITHOUT DUPLICATION SIDE A - RIGID



Mount the bar using Side A of the mandrel. Using resin or wax, complete the model.



The finished casting. Be careful not to wear out the retentive surfaces when polishing.



Block out any undercuts using wax and place Positioning Clips A on the bar.



To isolate, apply a small piece of tape (ex: teflon, Scotch) on the Positioning Clips A and on the cast bar. Insert the castable box



To prevent resin from adhering to the bar, place a small piece of adhesive tape (ex: teflon, Scotch tape) over the bar. Use self-curing resin to connect the castable boxes.



Complete the model using wax and add castable connectors for extra reinforcement of acrylic. Sprue the model and cast.



The completed casting with retentive clips snapped in place.



The finished denture with cast reinforcment and retentive clips in place.

SIDE B - RESILIENT



Mount the bar using Side B of the mandrel. Using resin or wax, complete the model.



The completed casting. Use caution when polishing the surface. Be sure not to wear out the retentive undercuts.



Use wax to remove all undercuts. Apply a thin layer of wax on the top of the bar to create a cushion. Insert Positioning Clips **B**.



To isolate, apply a small piece of tape (ex: teflon, Scotch) on the Positioning Clips B and on the cast bar. Insert the castable box housings.



To prevent resin from adhering to the bar, place a small piece of adhesive tape (ex: teflon, Scotch tape) over the bar. Use self-curing resin to connect the castable boxes.



Complete the model using wax and add castable connectors for extra reinforcement of acrylic. Sprue the model and cast.



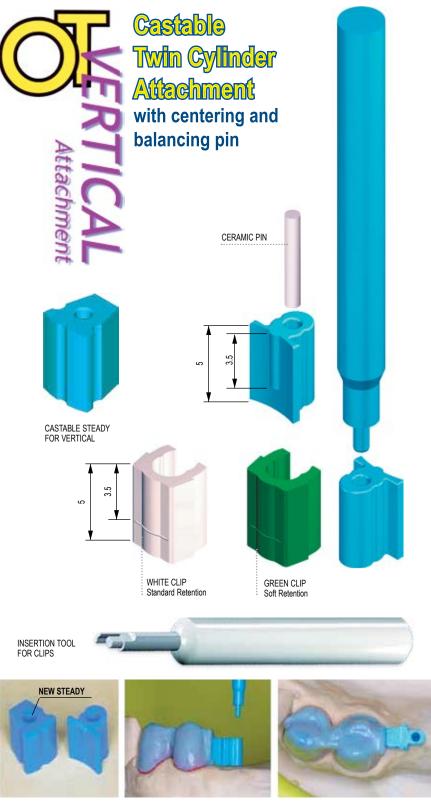
The completed casting with retentive clips snapped in place.



The finished denture with cast reinforcment and retentive clips in place.



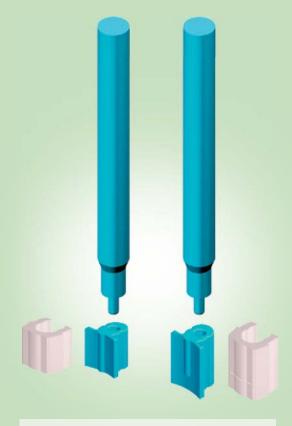
EXTRACORONAL CASTABLE ATTACHMENTS



The cast metal guide pin is necessary to center, connect and balance the prosthesis during the final insertion. When milling or "cross arch" stabilization are not possible, the guide pin along with the **NEW STEADY** will provide lateral stability to the prosthesis. This ensures a longer life for the retentive clips. The vertical height of the attachment can be adjusted by reducing both male and female parts from the original length of 5 mm down to 3.5 mm according to the premarked notches. Reducing the vertical height creates no difference in functionality. Removal and replacement of clips can be easily performed by the Dentist chairside.

LABORATORY





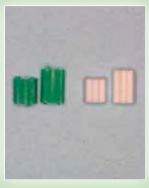
ATTENTION

When shortening the **OT VERTICAL** attachment, it is suggested that the clips not be reduced more than 3.5 mm to prevent excessive wear or failure. The limit is indicated by a notch on both male attachments and clips.

REPLACEMENT OF RETENTIVE CAPS



Remove the clip using a flat round



Once it has been removed, compare the height of the old clip to the height of the new clip.



If the clip needs to be reduced, use a rotary instrument to shorten according to the notch on the back.



Insert the new clip using the **OT VERTICAL** insertion tool.



The attachment and the clip can be mounted with it's original height (5 mm) or shortened (3.5 mm) by filing the side opposite the hole.



Once the assembly and the wax model have been completed, insert the ceramic cylinder into the hole of the attachment and cast.



After the attachment has been connected with wax, insert the pin into the hole on the top of the attachment. Rotate the pin until a proper fit is obtained and it is easily removed.



Sandblast the casting. Use a round bur or apprpriate acid to remove any ceramic materal that may be present in the hole.



Before duplicating the model, remove the tip of the plastic pin that is located on the end of the parallelometer key mandrel from the rest of the shank



Insert the pin into the hole of the attachment and pour the duplicating material (silicone or gelatin).



The castable plastic pin in the duplicated model. The pin can either be removed or remain in the model.



Complete the wax-up of the frame and proceed with casting.



The cast framework



The finished framework. Insert the retention clips using the **OT VERTICAL** insertion tool



The finished framework on the model. Even without milling, the cast pin provides stability to the prosthesis.



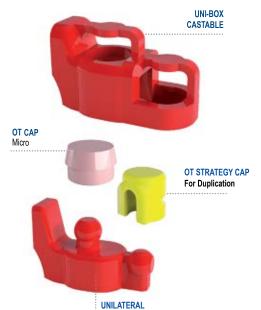
Lowering the male portion of the attachment increases the gingival load and reduces the vertical stress on the supporting teeth.



COMBINED RETENTION ATTACHMENT

For Multi-Functional Prosthetics





SPHERICAL CASTABLE

ATTACHMENT

RETENTIVE CAPS OT CAP Micro



Clear • Standard



Pink • Sof



Yellow • Extra Soft



Green • Elastic



Black • Processing

RETENTIVE CAPS OT Strategy for duplication



Clear • Standard





Pink • Soft



Yellow • Extra Soft



Black • Processing

TOOLS



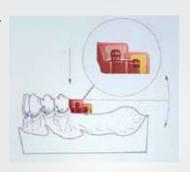






The **OT UNILATERAL** castable attachment from **Rhein83** is specifically intended for unilateral, bilateral or implant bar applications without additional support from milled bracing arms.

OT UNILATERAL's exclusive design features a two-inone combination of 1.8 mm horizontal and vertical spheres utilizing OT CAP and OT STRATEGY micro size female caps. The male section of the attachment is engineered with a vertical strut which extends through the base of the attachment providing exceptional lateral stability and distal support to the prosthesis.



The Uni-Box female component is a one piece castable housing that covers the entire male section, adding superior strength to the acrylic.

LABORATORY



EXCLUSIVE FEATURE

2-IN-1 DESIGN - A COMBINATION OF HORIZONTAL AND VERTICAL MICRO SPHERES ARE USED WITH THE OT CAP AND OT STRATEGY ATTACHMENT SYSTEMS





MULTIPLE BENEFITS

BECAUSE OF IT'S UNIQUE DESIGN, **OT UNILATERAL** PROVIDES:

- * LATERAL STABILITY
- * NO MILLING REQUIRED
- * SUPERIOR RETENTION
- * CONTROLLED RESILIENCY
- * OVERALL FUNCTIONALITY
- * ECONOMICAL SOLUTIONS

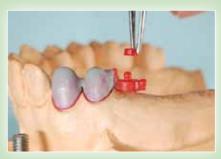


Superstructure Set Up Technique

LABORATORY PROCEDURE - SUPERSTRUCTURE SETUP TECHNIQUE



Position the OT UNILATERAL using the OT CAP paralleling mandrel.



Place the positioning ring over the OT CAP Micro



With the positioning ring on the sphere, place the Uni-Box castable housing over the OT UNILATERAL attachment. The positioning ring assures stability for the female cap.



To reinforce the structure, use a pattern resin to join the Uni-Box to the connector.



Before spruing and investing, be sure to remove the positioning ring from the OT CAP sphere.



Invest OT UNILATERAL and Uni-Box in one step into casting ring. For best results, use an alloy with 240 Vickers.



Cast crowns and super-structure. Sandblast the casting, be careful not to "over sandblast" the spheres. Insert black processing caps and proceed.



In order to provide good stability, wax-up the "saddle plate" so that it adapts to the ridge as much as possible.

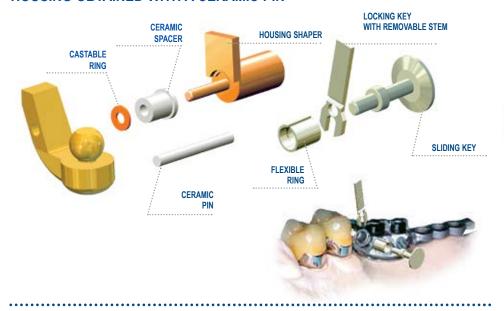


The completed prostheses with final retentive caps in place.



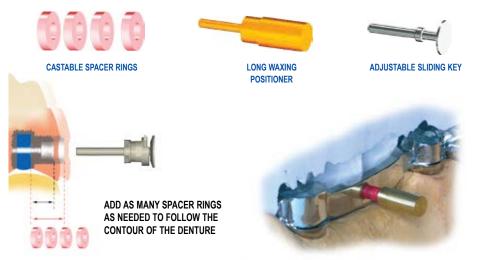
CASTABLE LOCKING PIN

HOUSING OBTAINED WITH A CERAMIC PIN



ADJUSTABLE TITANIUM LOCKING PIN

SPACER RING SYSTEM TO POSITION THE KEY TO THE DESIRED SHAPE





OPTIONAL

for the patient

CONICAL GUIDE AND UNLOCKING TOOL

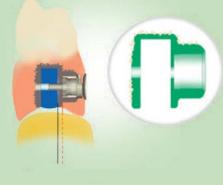


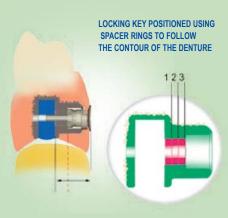


UNLOCK THE PROSTHESIS BY INSERTING THE UNLOCKING TOOL INTO THE CONICAL GUIDE.

LABORATORY

LOCKING KEY IN POSITION WITHOUT SPACER RINGS







LOCKING PIN - TITANIUM AND CASTABLE

OLock TITANIUM



Model the bar in resin and drill a 0.8 mm hole in the most ideal position.



Insert the ceramic pin through the hole.



The finished and polished bar.



Insert the housing shaper into the hole and lock it in place using resin. Be sure not go past the "STOP" when appling



Using resin, complete the model of the superstructure up to the "STOP". Remove the housing shaper and cast.



Insert the pre-fabricated housing and bond



Place the titanium housing into the denture. Insert the LOCKING PIN body and then lock it in place with the LOCKING KEY. Secure it in place with resin and break off the extension of the key.



Finished prosthesis. Determine whether or not to use the EXTRACTOR KEY

CLock CASTABLE



Place the ceramic spacer and the castable ring onto the housing shaper.



Insert the housing into the hole in the bar and secure with resin.



Model the structure with resin. Cover the ceramic shaper and the underlying part of the housing shaper.





IMPORTANT: Do not cover the square upper portion of the housing shaper with resin.



Remove the housing shaper from the resin structure.



Insert the ceramic pin into the hole and cast.



Remove the ceramic pin and sandblast the casting.



Clean the internal chamber. Insert the sliding key into the flexible ring.



Insert the OT Lock assembly into the housing.



Insert the locking key into the retention guide and secure it with composite



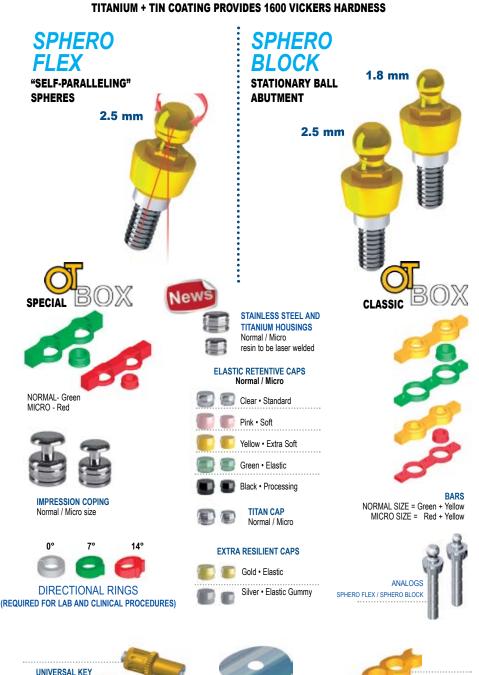
Break off the exposed portion of the locking

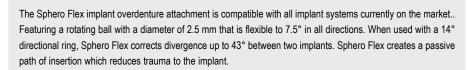


The completed prosthesis with integrated OT Lock.



IMPLANT OVERDENTURE ATTACHMENTS - SPHERO FLEX - SPHERO BLOCK Rotating & Stationary Ball Abutments For Divergence Correction





PROTECTIVE

Sphero Block is a "one-piece" milled stationary ball implant attachment. It is available in 2.5 mm and 1.8 mm diameters. Sphero Block provides exceptional stability and corrects divergence up to 28° between 2 implants Sphero Block implant attachments are compatible with all implant systems currently on the market.

Sphero Flex and Sphero Block are manufactured with cuff heights ranging from 1 mm to 7 mm.

NOTE: The Sphero Flex and Sphero Block attachments are available for all platform diameters.

CLINIC CLINIC





Cross-Section of Sphero Flex

WITHOUT DIRECTIONAL RING



Caps are "over-rotated" and not in the same horizontal plane

Directional Rings eliminate "over-rotation." Caps are aligned in the same horizontal plane.

CONNECTOR

For OT Box



WITH DIRECTIONAL RING

LABORATORY





3 EASY STEPS

- Place directional rings (green and red are shown here) over the spheres establishing a level plane.
- 2. OT BOX positioners are placed over spheres to support box housing during framework fabrication.
- 3. After gluing the 2 OT BOX parts, cut and use the necessary pieces for the housing.

+ HANDPIECE

CONNECTOR

OVERDENTURE ATTACHMENTS SPHERO FLEX - SPHERO BLOCK

Rotating & Stationary Ball Abutments For Divergence Correction

CHAIRSIDE PROCEDURE FOR POSITIONING THE CAPS



Screw the attachment into the implant. For best results, unscrew and tighten attachment. Perform this operation 3-4 times.



Select the appropriate directional rings and place them over the spheres. Be sure that the ring is aligned with the hex and seated properly on the platform.



Once the directional rings have been positioned, it is advisable to remove the rententive caps and place a protective disk over the spheres. Replace the retentive caps in original position when finished.



Try the prosthesis in the mouth. Check to see if there is enough space for the retentive caps. Fill the holes with self-curing resin and position the prosthesis over the caps and spheres in the patient's mouth.



Once the resin has hardened, remove the prosthesis. Remove the protective disk along with any excess



Finished prosthesis

TAKING IMPRESSION TRANSFER



Place the directional ring over the sphere with the flat side facing down. Place the impression coping over the



Rotate the directional rings to achieve a common axis parallel to the occlusal plane and take the impression.



Remove impression. Directional rings must be removed from the impression and spheres.



Place the analogs into the impression copings and send to the laboratory for model fabrication.

OT BOX CLASSIC NORMAL - CAST REINFORCED ACRYLIC PROSTHESIS USING DIRECTIONAL RINGS



Place directional rings over the spheres. OT BOX is placed over the directional rings, ensuring that the horizontal plane is level. Connect with resin.



The constructed OT BOX substructure with reinforced wax pins. Sprued and ready for casting



The cast substructure on the model. The metal reinforcment pins for each tooth are positioned according to the silicone mask.



Finished prosthesis with caps inserted in the cast OT BOX housings.



Screw the abutment into the analog. Be sure to use the abutment with the proper cuff height.



Directional rings are placed over the abutments and must be fully seated on the platform. Rotate rings until they are parallel in the same horizontal



The nylon caps are inserted into the stainless steel housings and placed on top of the directional rings. Verify that the caps are still in the same horizontal plane.



The finished prosthesis with stainless steel housings and retentive caps in final position.

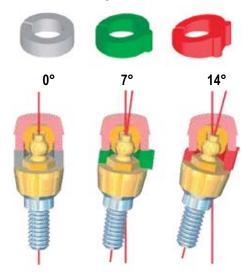


IMPLANT OVERDENTURE ATTACHMENTS

Components and Accessories

DIRECTIONAL RINGS

for angle correction

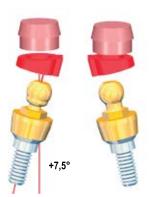


To establish a passive path of insertion, directional rings must be used to position the retentive caps in parallel and in the same horizontal plane to correct divergence.

The WHITE directional ring is used for parallel abutments. GREEN and RED directional rings are used when angle correction is indicated.



SPHERO SPHERO **FLEX**



UNIVERSAL "ANTI-UNSCREWING" SYSTEM WITH ELASTIC INSERT Recommended for Sphero Flex, Sphero Block and OT Equator attachments with a cuff height over 5 mm. This system can also be used for single screws. (Core Vent, Branemark, Pitt Easy, Bona Fit) **ELASTIC INSERT** This component is manufacutred from bio-compatible materials with an "elastic" memory. While screwing in the attachment, the insert is compressed. When the threaded attachment is fully seated, the elastic insert will expand

and return to it's original form, which prevents rotation and unscrewing of the

The insert is applied at the manufacturing facility UPON REQUEST. It can be applied to any screw with a diameter greater than 1.8 mm.

SPHERO FLEX - SPHERO BLOCK

In order to achieve a passive fit for the final prosthesis using the SPHERO FLEX and SPHERO BLOCK attachment systems, it is necessary to use DIRECTIONAL RINGS. When not used, there is a high possibility that the attachments will not seat properly into the prosthesis due to incorrect positioning of the caps. This mis-alignment will result in premature wear of the caps causing additional trauma to the implant.

SELECTION OF DIRECTIONAL RINGS: The position and angulation of the implant will determine which directional ring will be used. For parallel implants, a 0° DIRECTIONAL RING can be used. For implants that have greater divergence, a 7° or 14° ring can be used.

Place the DIRECTIONAL RING onto the hex of the attachment with the flat side down. Be sure that the ring is fully seated. Next, place the retentive cap onto the sphere and rotate the DIRECTIONAL RING until the cap is parallel with the other caps and are in the same horizontal plane. Doing this ensures that the retentive caps are correctly alligned inside of the final prosthesis.

NOTE: For additional information regarding cap selection, please see the CLASSIC CAPS section of this catalog.



The MINI-PARALLELOMETER allows accurate positioning of attachments without the need for an expensive milling machine. The MINI-PARALLELOMETER is a useful and economical device for the laboratory technician that can be used in day-to-day operations or in a training environment.

INSTRUCTIONS FOR USE

Place the stone model on the swivel base. Rotate the base until the ideal model position is found. Insert the mandrel into the notch on the parallelometer extension arm and lock it into place by tightening the screw. Adjust the height by moving the extension arm up and down. Once the correct height has been found, lock the arm into position by tightening the rear locking screw.

CUFF HEIGHT MEASURING TOOL FOR IMPLANTS

INSTRUCTIONS FOR USE

- 1. Rotate the gold colored plate until the tool is completely open.
- 2. Insert the tool into the implant. Be sure that it is fully seated on the top of the implant.
- 3. Firmly hold the tool and rotate the gold plate clockwise until it contacts the ridge.
- 4. Remove the tool and read the color coded rings indicated on the pin to determine the cuff height.

NOTE:

When a colored ring is completely covered, and only the silver band between colors is visible, it is recommended to utilize the next (higher) color.

IMPORTANT:

Before ordering an attachment, it is necessary to specify: Implant manufacturer, implant brand, diameter, internal or external hex connection and cuff height. The cuff height is determined by taking the corresponding color from the cuff height measuring tool. For implants with an internal hex connection the cuff height will range from .5 mm to 7 mm and for implants with an external hex connection, the cuff height will range from 1 mm to 7 mm.

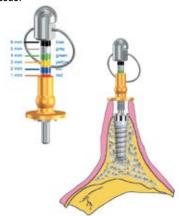


To determine the tissue height above the implant and eliminate mistakes when choosing the correct attachment, the Cuff Height Measuring tool is used.

The Cuff Height Tool is compatible with all implants that have an internal or external hex connection.

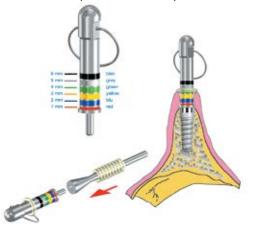
> **Cuff Height Measuring Tool** With Threaded Pin And Ball Indicator

With easy to read color-coded millimeter measurements, Dentists and dental laboratories can accurately measure tissue height between .5 mm and 7 mm. The ball indicator outlines where the male component of the attachment will seat above the tissue.



Cuff Height Measuring Tool With Stationary Pin

The cuff height measuring tool with stationary pin provides the same functionality as the tool with a threaded pin, however it is used in cases where there is limited space between two implants.



BROKEN SCREW EXTRACTOR KIT FOR IMPLANTS

FOR REMOVAL OF BROKEN IMPLANT SCREWS



READILY AVAILABLE FOR CORE VENT AND BRANEMARK COMPATIBLE IMPLANTS

EXTRACTOR KITS CAN BE MADE TO ORDER FOR MOST COMMON IMPLANT BRANDS WITH AN INTERNAL OR EXTERNAL HEX CONNECTION





PARTS AND ACCESSORIES:

- **A** MANUAL CENTERING DEVICE
- **B** DEEP CENTERING DEVICE
- **C** BUR EXTENSION
- **D** CLAW REAMER BUR
- **E** REVERSE CUTTING BUR





BROKEN SCREW VISIBLE IN X-RAY OF IMPLANT



BROKEN SCREW REMOVED

REMOVING THE BROKEN SCEW WITH THE CLAW REAMER BUR



With the Rhein83 Broken Screw Extractor Kit, it is possible to remove a broken screw from an implant if it has not been bonded or damaged during previous attempts to remove it.

The extractor kit includes two types of burs; a claw reamer bur and reverse cutting bur. In addition, the kit includes manual and deep centering devices to hold the burs in place during the procedure. In 90% of cases, the broken screw can be removed easily with the claw reamer bur. However if the broken screw is frozen in place, the reverse cutting bur must be used.

Broken Screw Extractor Kits are readily available for **Core Vent** and **Branemark** compatible implant systems. Kits can be made to order for most common implant brands with an internal or external hex connection.

To order a custom kit or for technical support, please contact your local Rhein83 distributor.

BROKEN SCREW EXTRACTOR KIT FOR IMPLANTS

FOR REMOVAL OF BROKEN IMPLANT SCREWS

USING THE REVERSE CUTTING BUR TO EXTRACT A BROKEN SCREW

Place the reverse cutting bur into the angled handpiece and then insert it into the respective extractor. Before activating the handpiece it is essential that the bur be in contact with the broken screw. Activate the handpiece in a counter clockwise direction and be sure that firm downward pressure is maintained throughout the procedure. It is mandatory that the handpiece motor be operated between 2000 rpm and 6000 rpm. To prevent the implant fixture from overheating, it is necessary to move the reverse cutting bur in an up and down motion intermittently. Upon removing the broken screw, be sure to clean the implant fixture thoroughly to remove any residual metal shavings that remain from the extraction procedure.



Operate at speeds not lower than 2000 rpm

NOTE: Before using, fill the bottom hole (side with the hex) of the centering device with petroleum jelly. In addition to lubricating the device, in some cases, it will hold the broken screw in the extractor upon removal.

USING THE CLAW REAMER BUR WITH THE MANUAL CENTERING DEVICE



Fig.1

While holding the manual centering device firmly, insert the device (A) into the fixture and make sure that the hexagon is fully engaged into the implant fixture.



Fig.3

In certain cases, it may be easier to use the claw reamer bur (D) with a right angle handpiece. With the motor **stopped**, insert the claw reamer bur into the centering device (A) until the tip touches the broken screw.



Insert the claw reamer bur (\mathbf{D}) into extension (\mathbf{C}) . Insert the bur into the centering device until it comes into contact with the broken screw. Rotate in a counter clockwise direction while maintaining constant downward pressure. After a few turns the notch in the bur should reappear. Manually remove the centering device which will contain the screw, if not it will remain inside the implant and can easily be removed with tweezers.



While applying pressure to the broken screw, start the motor in a **COUNTER CLOCKWISE** direction at a low RPM. After a few turns the notch in the bur should reappear. Manually remove the centering device which will contain the screw, if not it will remain inside the implant and can easily be removed with tweezers.

STABILIZING THE EXTRACTOR WITH ADJACENT TEETH OR FIXTURES



In cases where the implant fixture is buried deep (7 - 10 mm) in the tissue, and it is difficult to hold the deep centering device (B) steady with your fingers; Insert the extractor into the deep centering device and use the bur extension (C) to push the extractor into the fixture. Be sure that the hex is fully engaged into the implant. In order to hold this position, use a self curing resin to attach the device to the adjacent teeth.



Fig.6

In cases where teeth are missing, mount the analogues onto the abutment or mount using simple screws. Fix the entire structure with resin. Remove the extension and proceed with the long bur, as described for the preceeding system.

IMPORTANT: Please follow the instructions closely when using the Broken Screw Extractor Kit. Although the Reverse Cutting Bur has been hardened by a tempering process, it should always remain vertical (parallel with the screw hole) during the procedure to prevent breakage. The Reverse Cutting Bur and Claw Reamer Bur are subject to wear. These burs should be inspected for wear prior to each procedure and replaced if necessary. Finally, it is very important that the motor direction is set to COUNTER CLOCKWISE when using this kit.



INSTRUCTIONS AND TECHNICAL ADVICE



REPLACEMENT OF CAPS

Rhein83 recommends that caps be replaced every 12 months. The longevity of the caps is affected by many variables including: original case design, patient hygiene and general maintenance of the prosthesis.



HOW TO REPLACE THE CAPS

In a prosthesis with metal housings, the cap can be removed by using a rotory instrument operated at a low RPM. Be careful not to damage the metal housing during this procedure. The **cap extractor tool** available from Rhein83 can also be used.



In a prosthesis where the cap is incorporated directly into the resin, it can be removed by hand with a pointed instrument (such as a spatula) or the Rhein83 **cap extractor tool**. If a bur is used, be careful to remove only the retentive cap and to not modify the form that remains in the resin. If the resin site is damaged during the removal of the cap, repair the area with self curing resin before inserting the new cap. The **cap insertion tool** is used for this procedure.



GREEN ELASTIC CAPS

These caps are highly elastic and have a medium level of retention. In cases where metal housings are used, it is recommended to apply a drop of adhesive (cyanoacrylic) on the inside of the housing before inserting the cap.



TITAN CAPS

These caps were designed to be used on the **OT CAP TECNO** as well as the Normal and Micro attachments with machined titanium spheres.



CAP INSERTION TOOL

When using high retention caps, it is recommended to insert them directly chairside onto the attachment using the cap insertion tool.

OT CAP Normal / Micro OT Reverse.



PROSTHESES WITH MULTIPLE ATTACHMENTS

In order to balance the retentive levels of a prosthesis with multiple attachments, it is possible to use caps with different levels of retention in the final case design.

REAMERS AND CAP TESTERS: in a case where only caps with too high of a retention strength are available, insert the reamer into the caps and rotate it in a clockwise direction, after only a few rotations it will wear down the perimeter which will reduce the retention. Try the prosthesis in the mouth, if it is still too retentive, repeat the operation with the reamer, In order to avoid trying the prosthesis in the mouth too many times, one can use the spherical tester, in order to evaluate the holding strength.



HOW THE RETENTIVE CAP FUNCTIONS

The **Rhein83** caps are manufactured with a high elasticity which creates both mechanical and frictional retention resulting in a larger contact zone between the cap and the lower portion of the sphere. A small space between the metal housing and the cap allows the cap to expand as it passes over the equator of the sphere. Once completely engaged, the cap returns to its original form.



POLISHING OF THE "CAST" ATTACHMENTS:

It is recommended that only glass beads or a soft cloth wheel are used to polish attachments. In order to avoid damage to the sphere duing these procedures, it is a good practice to cover the spheres with a retentive cap. The retentive caps can be reused again for this procedure.



DEMONSTRATION MODELS

TRADITIONAL PROSTHESES



REF. **DESCRIPTION**

06P Model with upper prosthesis with OT Cap Normal / Micro size attachments:

> 1 OT CAP NORMAL 1 OT CAP MICRO

1 Frame with OT BOX mono housings

5 Acrylic teeth



07P Model with lower prosthesis with OT Strategy

1 OT STRATEGY

1 OT STRATEGY + STEADY

1 Frame with caps and duplicated housings

5 Acrylic teeth

04P

031



PROSTHESIS ON NATURAL TEETH

Model with lower "Overdenture" prosthesis:

1 PIVOT FLEX titanium post 1 Cast post with OT CAP sphere

1 Complete denture with 14 teeth

1 Cast OT BOX reinforcement incorporated in the denture



04P/A Same model as 04P. Denture with pre-fabricated STAINLESS STEEL HOUSINGS for retentive caps

09P MODEL WITH LOWER PROSTHESIS WITH OT VERTICAL

1 OT VERTICAL

1 OT VERTICAL + STEADY

1 Frame with clips and duplicated housing

6 Acrylic teeth



IMPLANT MODELS

Model with lower prosthesis with SPHERO FLEX abutments:

2 Implant analogs 1 SPHERO FLEX

1 SPHERO BLOCK

1 Complete denture with 14 teeth

1 Cast OT BOX reinforcement incorporated in the denture

031/A Same model as 031. Denture with pre-fabricated

STAINLESS STEEL HOUSINGS



PROSTHESIS ON FIXTURES 08B

Model with lower prosthesis with OT Bar Multiuse:

2 Implant analogs

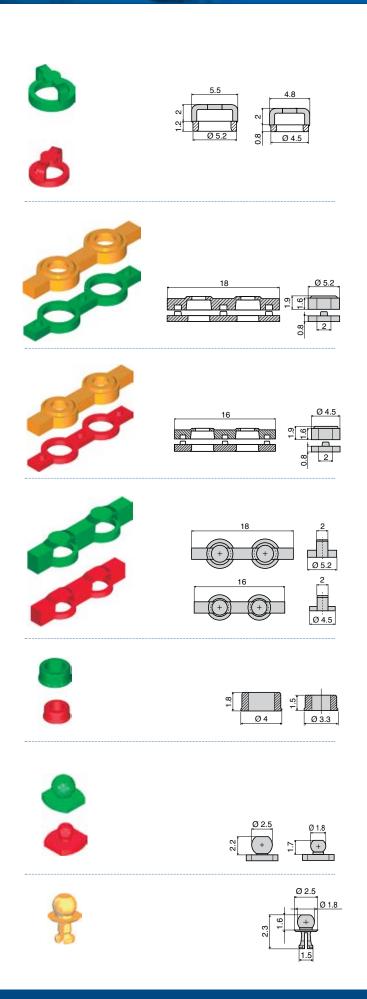
1 Cast bar with copings

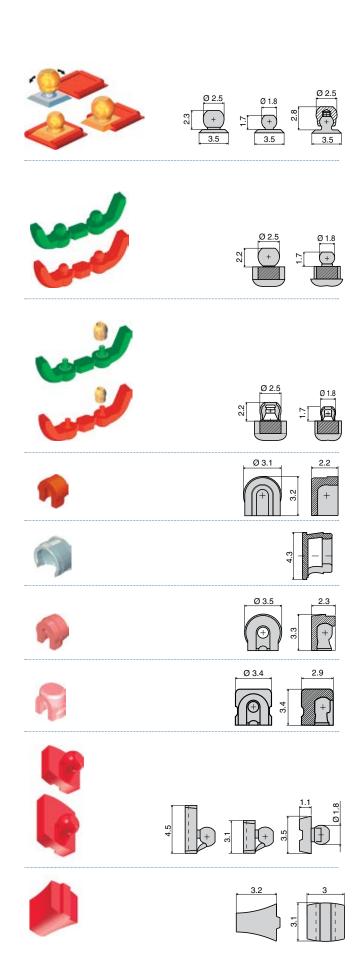
1 OT BAR MULTIUSE

1 Cast superstructure with two retentive clips

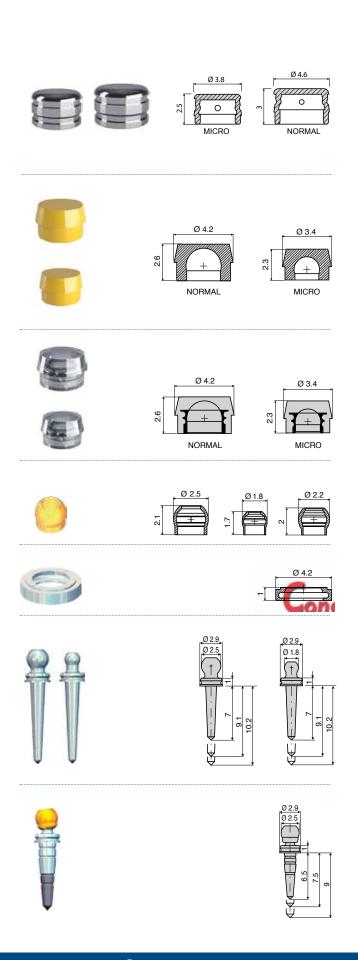
1 Complete denture with 14 teeth

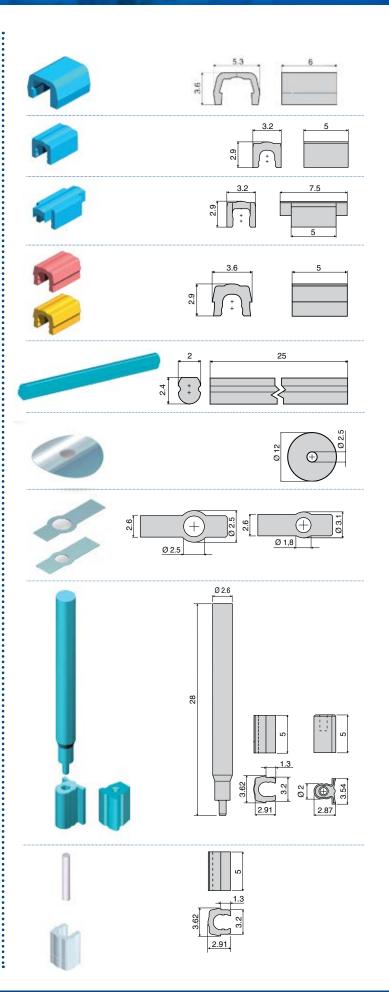
PRODUCT SPECIFICATIONS





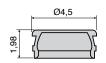
PRODUCT RANGE - SIZES AND DIMENSIONS





PRODUCT SPECIFICATIONS























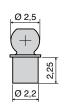




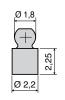




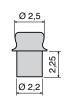












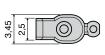








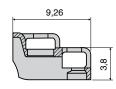














Ref.: 005SKLUS

INTRODUCTORY KIT FOR **LABORATORY**

contains assorted attachments and tools



700

200

PHETES!

CE.

Ref.: 011SPL

Kit contains

TITAN CAPS

INSERTION TOOL

S.P.L. INTRODUCTORY KIT

contains assorted titanium BLOCK pivots, castable pivots, retentive caps and two regulating tools

OT CAP TECNO - TITAN CAP NORMAL SIZE

CONCAVE TITANIUM SPHERES - TIN COATED

OT CAP TECNO - TITAN CAP MICRO SIZE

ATTACHMENTS OT CAP SYSTEM



Ref.: 038STF

TITANIUM FLEX SINGLE SPHERE

NORMAL SIZE + TIN

- Kit contains
- SINGLE TITANIUM SPHERES PINK CAPS - SOFT RETENTION
- SPHERE HOLDER
- CASTABLE SLIDING BASES





TITANIUM SINGLE SPHERE NORMAL SIZE + TIN

Kit contains

- SINGLE TITANIUM SPHERES
- 2 PINK CAPS - SOFT RETENTION SPHERE HOLDER
- CASTABLE SLIDING BASES





TITANIUM SINGLE SPHERE MICRO SIZE + TIN

Kit contains

- SINGLE TITANIUM SPHERES
- PINK CAPS SOFT RETENTION SPHERE HOLDER
- CASTABLE SLIDING BASES



PH

BH



Ref.:

058BSN

Ref.:

090TCN

Kit contains Ref.: 090TCM

OT CAP TECNO BAR

OT CAP TECNO BAR

- CONCAVE TITANIUM SPHERES TIN COATED
- TITAN CAPS
- INSERTION TOOL



Ref.:

OT CAP NORMAL SIZE

- Kit contains SINGLE SPHERES
- STAINLESS STEEL HOUSINGS (2 for resin - 2 for soldering)



Ref.:

OT BOX SPECIAL NORMAL SIZE + CONNECTORS Kit contains

- OT BOX SPECIAL BARS
- PLASTIC POSITIONERS
- CONNECTORS



092CAN

PINK RETENTIVE CAPS

PLASTIC POSITIONING RINGS



058BSM

OT BOX SPECIAL MICRO SIZE + CONNECTORS

Kit contains

- OT BOX SPECIAL BARS
- PLASTIC POSITIONERS
- CONNECTORS



Ref.: 092CAM

OT CAP MICRO SIZE

Kit contains

- SINGLE SPHERES
- PINK RETENTIVE CAPS
- STAINLESS STEEL HOUSINGS (2 for resin - 2 for soldering)
- PLASTIC POSITIONING RINGS



Ref.: **153BCN**

OT BOX CLASSIC NORMAL SIZE + CONNECTORS Kit contains UPPER BARS

- LOWER BARS
- PLASTIC POSITIONERS
- CONNECTORS





"ECONOMIC" OT CAP NORMAL SIZE

Kit contains

- CASTABLE BAR
- CASTABLE BEVELLED BAR
- CLEAR RETENTIVE CAPS

(Standard retention)



Ref.: 153BCM

OT BOX CLASSIC MICRO SIZE + CONNECTORS Kit contains

- UPPER BARS
- LOWER BARS
- PLASTIC POSITIONERS
- CONNECTORS



Ref.: 197BCM

"ECONOMIC" OT CAP MICRO SIZE

- Kit contains
- CASTABLE BAR
- CASTABLE BEVELLED BAR CLEAR RETENTIVE CAPS

(Standard retention)



Ref.: 087CRS

Ref.:

089SRS

CONCAVE RECONSTRUCTIVE SPHERE

- CONCAVE SPHERES IN TITANIUM TIN COATED
- PINK CAPS SOFT RETENTION INSERTION TOOL

Kit contains

GAUGE AND STRIP HOLDER

Available in 1.8 mm, 2.2 mm, 2.5 mm diameters

Ref.: 099BSN

OT CAP & MONO OT BOX FOR FRAME **NORMAL SIZE**

Kit contains

- CASTABLE BARS (1 straight 1 bevelled)
- 4 CLEAR RETENTIVE CAPS
- CASTABLE MONO OT BOX
- PLASTIC POSITIONING RINGS

Ref.: 064ACN **NORMAL**

Ref.: 064ACM **MICRO**

SOLID RECONSTRUCTIVE SPHERE Kit contains

- SOLID SPHERES IN TITANIUM TIN COATED
- PINK CAPS SOFT RETENTION
- PROTECTIVE DISKS 2
- 1 KFY Available in 1.8 mm diameter



Ref · 099BSM

OT CAP & MONO OT BOX FOR FRAME MICRO SIZE

Kit contains

- CASTABLE BARS (1 straight 1 bevelled) CLEAR RETENTIVE CAPS
- CASTABLE MONO OT BOX PLASTIC POSITIONING RINGS

CE НН THE

ASSORTED RETENTIVE CAPS Kit NORMAL - Kit MICRO

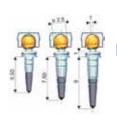
- 6 CLEAR CAPS STANDARD RETENTION
- PINK CAPS SOFT RETENTION YELLOW CAPS - EXTRA SOFT RETENTION
- **GREEN CAPS VERY ELASTIC RETENTION**

KITS AND CODES

S.P.L. PIVOTS - COPING COVER

Ref.:

033PSF



PIVOT FLEX - TITANIUM PIVOT WITH SWIVEL SPHERE NORMAL SIZE (Ø 2.5 mm)

FOR DIRECT OVERDENTURE

(3 Sizes available)

Kit contains

- TITANIUM PIVOT WITH SWIVEL SPHERE (adapted for COPING COVER)
- STAINLESS STEEL HOUSING FOR RESIN
- PINK CAPS Normal Size Soft retention
- ALUMINIUM DISK
- DIRECTIONAL RINGS



Ref.: 036PTN

Ref.:

036PTM

TITANIUM PIVOTS Normal Size Adapted for COPING COVER

5 TITANIUM PIVOTS Sphere 2.5 mm

TITANIUM PIVOTS Micro Size Adapted for COPING COVER Kit contains

TITANIUM PIVOTS Sphere 1.8 mm



Ref.: 037CCL **COPING COVER - FOR OVER CASTING**

Kit contains

- 1 ASSEMBLING RING FOR PIVOTS
- 2 SPRINGS



Ref.: 010PSP

CASTABLE PIVOTS NORMAL SIZE



Ref.: 012PSM

CASTABLE PIVOTS MICRO SIZE



Ref.: A01MOG **MOOSER BUR**

Reamer for post 7 mm, 9 mm, 10 mm



A03MOB

MOOSER BUR Reamer for post 12 mm, 14 mm

(GOLD COLOR)

INSERTION TOOL FOR CAPS OT CAP NORMAL AND MICRO SIZE



Ref.: 74AC01

PARALLELOMETER KEY FOR OT CAP NORMAL SIZE



Ref.: 74AC02 PARALLELOMETER KEY FOR OT **CAP MICRO SIZE**



Ref.: 74GTN PARALLELOMETER KEY FOR OT CAP TECNO NORMAL SIZE



Ref.: **74GTM** PARALLELOMETER KEY FOR OT CAP TECNO MICRO SIZE (GOLD COLOR)



Ref.: 080RCN

REAMER TOOL FOR CAPS OT CAP NORMAL SIZE **REAMER TOOL FOR CAPS**



Ref.: 082ATN

TOOL FOR TESTING CAP RETENTION OT CAP NORMAL SIZE

OT CAP MICRO SIZE



Ref.: 083ATM TOOL FOR TESTING CAP RETENTION OT CAP MICRO SIZE



TOOL FOR TESTING CAPS IN THE MOUTH OF THE PATIENT OT CAP NORMAL - MICRO - OT REVERSE

Ref.: 078AUR

KIT WITH TOOLS FOR DENTIST, **CONTAINS:** CODES: 080RCN - 080RCM - 085IAC -086ICS - 084ICP

OT STRATEGY ATTACHMENTS



098SSSUS

OT STRATEGY

CAPS FOR DUPLICATION TECHNIQUE

- CASTABLE MALES 2 Standard + 2 High CASTAB:LE STEADY
- RETENTIVE CAPS



Ref.: 098CALUS **OT STRATEGY** CAPS FOR DUPLICATION TECHNIQUE

- 4 CASTABLE MALES (2 Standard + 2 High) 2 CASTABLE STEADY CASTABLE STEADY
- STAINLESS STEEL HOUSINGS POSITIONING RINGS
- RETENTIVE CAPS



Ref.: **047ACS** OT STRATEGY ASSORTMENT CAP KIT

FOR DUPLICATION TECNIQUE Kit contains

- YELLOW CAPS EXTRA SOFT RETENTION
- PINK CAPS SOFT RETENTION
- CLEAR CAPS STANDARD RETENTION



Ref.: 045ACS OT STRATEGY ASSORTMENT CAP KIT FOR STAINLESS STEEL HOUSINGS

Kit contains

- YELLOW CAPS EXTRA SOFT RETENTION
- PINK CAPS SOFT RETENTION
- CLEAR CAPS STANDARD RETENTION



Ref.: 086ICS

INSERTION TOOL FOR CAPS OT STRATEGY



Ref.: 75AC04 **OT STRATEGY**

PARALLELOMETER KEY FOR



Ref.:

REAMER TOOL FOR CAPS

081RCS OT STRATEGY

OT BAR MULTIUSE ATTACHMENTS



Ref.: 0210RM OT BAR MULTIUSE Kit contains

POSITIONING CLIPS A POSITIONING CLIPS B

BOXES RETENTIVE PINK CLIPS

RETENTIVE YELLOW CLIPS CONNECTORS GINGIVAL CONNECTOR

INSERTION TOOL FOR OT BAR CLIPS



029OIC Ref.: 028OCP

Ref.:

PARALLELOMETER KEY FOR OT BAR MULTIUSE

OT VERTICAL ATTACHMENTS



Ref.: 0710BV **OT VERTICAL** Kit contains

4 CASTABLE MALES

CASTABLE STEADY

RETENTIVE WHITE CLIPS

RETENTIVE GREEN CLIPS

CERAMIC PINS CASTABLE PARALLELOMETER KEYS + PIN



INSERTION TOOL FOR 072ICV OT VERTICAL CLIPS









OT EQUATOR CASTABLE



Ref.: 092ECQ

OT EQUATOR CASTABLE

Kit Contains:

- 2 CASTABLE MALES 2 STAINLESS STEEL HOUSINGS
- **4 RETENTIVE CAPS** 2 PINK - SOFT 2 CLEAR - STANDARD

OT EQUATOR FOR IMPLANTS

OT EQUATOR FOR IMPLANTS



Ref.: 130 Kit Contains:

- 1 OT EQUATOR 1 STAINLESS STEEL HOUSING
- 1 PROTECTIVE DISK
- **4 RETENTIVE CAPS**

1 YELLOW - EXTRA SOFT 1 CLEAR - STANDARD 1 PINK - SOFT 1 VIOLET - RIGID



Ref.: 030

Ref.:

160EQB

• 1 OT EQUATOR ABUTMENT *Compatible with ALL implant systems

OT EQUATOR BAR

OT EQUATOR WITH THREADED SLEEVE For Bonding

Kit Contains:

- 2 THREADED OT EQUATOR 1.6 mm thread 2 THREADED SLEEVES 1.6 mm thread 2 STAINLESS STEEL HOUSINGS
- 2 WAXING SPACERS
- 8 RETENTIVE CAPS
- 2 YELLOW EXTRA SOFT
- 2 PINK SOFT
- 2 CLEAR STANDARD 2 BLACK PROCESSING



Ref.: 039SFE2

· 1 THREADED OT EQUATOR 2 mm universal thread

OT EQUATOR ELASTIC SEEGER

Passive Bar Connection



158EQS

ELASTIC SEEGER

Kit Contains:

- 2 CASTABLE CYLINDER HOUSINGS For Seeger
- 3 RED PLASTIC SEEGERS
- For Laboratory 3 RETENTIVE ELASTIC SEEGERS
- To Lock The Bar 2 THREADED LOCKING SCREWS For OT Equator

TOOLS



Ref.: 74AC01 PARALLELOMETER KEY NORMAL



774CQ

OT EQUATOR SQUARE DRIVER 1.25 mm



Ref.: ▶ 760CE OT EQUATOR TORQUE CONNECTOR 1.25 mm



Ref.: **124ICP** • BLU PLASTIC "MULTIUSE" INSERTION TOOL

(use together with metal insertors)



Ref · 085SIS STEEL INSERTION TOOL FOR SEEGER For use with Universal Handle 124ICP



Ref.: **191ECS** STEEL EXTRACTOR TOOL FOR CAPS For use with Universal Handle 124ICP

ACCESSORIES:



044CAIN

2 IMPRESSION TRANSFER (pick up impression)



Ref.: **144MTE**

• 2 IMPRESSION TRANSFER



Ref.: 144AE 2 STAINLESS STEEL ANALOGS For OT Equator



185IAC

METAL INSERTION TOOL FOR CAPS (use together with 124ICP BLU HANDLE)

SPARE PARTS:

OT EQUATOR CAP ASSORTMENT KIT



Ref.: **192ECE**

Kit Contains:

- 1 STAINLESS STEEL HOUSING
- 1 BLACK CAP PROCESSING
- 4 RETENTIVE CAPS:
 1 YELLOW EXTRA SOFT 1 PINK SOFT
 1 CLEAR STANDARD 1 VIOLET RIGID
 1 BLACK PROCESSING 1 PROTECTIVE DISK



OT CAP / OT EQUATOR IMPRESSION COPINGS



Ref.: 044CAIN • 2 STAINLESS STEEL IMPRESSION COPINGS For OT CAP Normal and OT EQUATOR



Ref.: 044CAIM

• 2 STAINLESS STEEL IMPRESSION COPINGS

TOOLS



772CSF

HEX DRIVER - 0.9 mm For Threaded Micro Sphere

SINGLE THREADED SPHERES

WITH THREADED BONDING SLEEVE

Titanium + TiN Threaded Sphere With Sleeve For Bonding Kit - NORMAL SIZE



Ref.: 139KSFN Kit contains:

- · 2 TITANIUM SINGLE THREADED SPHERES
 - 1.3 mm Hex, 1.6 mm Thread
- 2 TITANIUM THREADED SLEEVES
 For Bonding
- 2 WAXING SPACERS
 For Threaded Sphere Normal Size



Titanium + TiN Threaded Sphere With Sleeve For Bonding Kit - MICRO SIZE

Kit contains:

- 2 TITANIUM SINGLE THREADED SPHERES
- 0.9 mm Hex, 1.6 mm Thread
- 2 TITANIUM THREADED SLEEVES
 For Bonding
- 2 WAXING SPACERS
 For Threaded Sphere Micro Size

SINGLE THREADED SPHERES

NORMAL - MICRO



Ref.: 039SFN2

• 1 TITANIUM + TIN THREADED SPHERE - NORMAL 1.3 mm Hex, 2.0 mm Thread



Ref.: 039SFM2

 1 TITANIUM + TIN THREADED SPHERE - NORMAL 0.9 mm Hex, 2.0 mm Thread

OT LOCK



Ref.: 880CLT

OT LOCK KIT

- Kit contains:1 COMPLETE OT LOCK
- 1 BRASS POSITIONER
- 1 CERAMIC PIN

FINETY CONTROL OF THE PROPERTY OF THE PROPERTY

Ref.: 880CLR

Kit contains:

ADJUSTABLE OT LOCK KIT

- 1 COMPLETE ADJUSTABLE OT LOCK
- 1 EXTENDED BRASS POSITIONER
- 1 CERAMIC PIN
- 9 CASTABLE SPACER RINGS

OT LOCK SPARE PARTS



Ref.: 882CG

CONICAL GUIDE



Ref.: 882CAS

UNLOCKING TOOL

INCLUDES OT CAP & OT BOX - OT STRATEGY - OT BAR - OT VERTICAL - OT UNILATERAL - OT EQUATOR

"BASIC" PROMOTIONAL KIT FOR LABORATORY



Ref.:
005SKLBUS

TOOLS:

- 1 TWEEZER
- 1 PARALLELOMETER KEY OT CAP NORMO
- 1 PARALLELOMETER KEY OT CAP MICRO
- 1 PARALLELOMETER KEY OT STRATEGY
- 1 PARALLELOMETER KEY OT BAR MULTIUSE
- 1 BLUE PLASTIC UNIVERSAL INSERTION HANDLE
- 1 INSERTION TOOL OT CAP NORMAL / MICRO
- •1 INSERTION TOOL OT STRATEGY
- 1 INSERTION TOOL OT BAR MULTIUSE
- 1 INSERTION TOOL OT VERTICAL

Kit contains:

OT CAP - OT BOX:

- 16 ASSORTED CASTABLE PIVOTS NORMAL / MICRO
- 4 CASTABLE SPHERES NORMAL / MICRO
- 2 CASTABLE OT CAP BARS NORMAL / MICRO
- 2 CASTABLE OT BOX BARS CLASSIC (top + bottom) NORMAL / MICRO
- 1 CASTABLE OT BOX SPECIAL BARS NORMAL / MICRO
- 6 CASTABLE OT BOX CONNECTORS
- 4 CASTABLE OT BOX MONO HOUSING NORMAL / MICRO
- 8 POSITIONER RINGS NORMAL / MICRO
- 28 OT CAP RETENTIVE CAPS NORMAL / MICRO YELLOW, PINK, CLEAR, GREEN
- BLACK CAPS FOR PROCESSING NORMAL / MICRO
- 4 STAINLESS STEEL HOUSINGS NORMAL / MICRO FOR RESIN

OT STRATEGY:

- 4 OT STRATEGY MALES 2 STANDARD BASE 2 LONG BASE
- 2 CASTABLE STEADY
- 6 OT STRATEGY CAPS FOR STAINLESS STEEL HOUSING YELLOW, PINK, CLEAR

OT STRATEGY CONTINUED:

- 2 OT STRATEGY STAINLESS STEEL HOUSINGS
- 2 OT STRATEGY PLASTIC POSITIONING RINGS
- 6 OT STRATEGY CAPS FOR DUPLICATION TECHNIQUE YELLOW, PINK, CLEAR
- 4 BLACK CAPS PROCESSING (for wax and for duplication technique)

OT EQUATOR:

- 2 CASTABLE MALES
- 2 STAINLESS STEEL HOUSINGS
- 4 RETENTIVE CAPS 2 PINK, 2 CLEAR
- 2 BLACK CAPS FOR LABORATORY USE

OT UNILATERAL:

- 1 CASTABLE ATTACHMENT WITH COMBINED SPHERES
- 1 CASTABLE UNI-BOX
- 1 MICRO POSITIONING RING
- 2 OT CAP MICRO CAPS 1 PINK, 1 BLACK
- 2 OT STRATEGY CAPS 1 PINK, 1 BLACK For Duplication Technique
- 1 CONNECTOR

OT BAR MULTIUSE:

- 1 CASTABLE BARS
- 1 BAR EXTENSION
- 4 POSITIONING CLIPS (Type A Type B)
- 2 CASTABLE BOXES
- 4 CLIPS 2 PINK, 2 YELLOW

OT VERTICAL:

- 2 CASTABLE MALES
- 2 CASTABLE STEADY
- 4 CLIPS 2 WHITE, 2 GREEN
- 2 PARALLELOMETER KEYS + PIN 2 CERAMIC PINS



IMPLANTOLOGY

SPHERO FLEX - BLOCK SYSTEM TITANIUM ATTACHMENTS FOR OVERDENTURES



SPHERO FLEX

- 1 Titanium Abutment with self-aligning
- 2.5 mm sphere
- 2 Pink Caps Soft Retention
- 1 Stainless Steel Housing
- 1 Protecitve Disk
- 3 Directional Rings



SPHERO BLOCK NORMAL

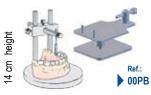
- 1 Titanium Abutment with stationary 2.5 mm sphere
- 2 Pink Caps Soft Retention
- 1 Stainless Steel Housing
- 1 Protective Disk
- 3 Directional Rings



SPHERO BLOCK MICRO

- 1 Titanium Abutment with stationary
 1.8 mm sphere
- · 2 Pink Caps Soft Retention
- · 1 Stainless Steel Housing
- 1 Protective Disk
- · 3 Directional Rings

ANCILLARY ITEMS



MINI PARALLELOMETER WITH UNIVERSAL TILTING MODEL TABLE

(FOR LABORATORY USE, COURSES, ETC.)



Rhein83 Composite Material

2-Part anaerobic composite cement for metal to metal bonding

SPHERO FLEX / SPHERO BLOCK TOOLS



Ref.: **771CEF**

UNIVERSAL KEY FOR SPHERO FLEX AND SPHERO BLOCK - NORMAL / MICRO

Hex 23 mm



Ref.: 760CBM

HEX DRIVER

FOR CONTRA-ANGLE TORQUE CONTROLLER

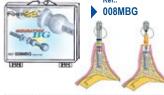


760CBR

SCREW DRIVER FOR OT REVERSE THREADED SPHERE NORMAL

Hex 1.3 mm

SPECIALTY ITEMS FOR IMPLANTS



CUFF HEIGHT MEASURING TOOL Kit contains:

- 1 CUFF HEIGHT SLIDER GAGUE
- 1 CUFF HEIGHT FIXED ROD GAGUE
- 1 SILICON RINGS DISPENSER
- 20 SILICON RINGS



Ref.: 780E for CORE VENT COMPATIBLE Ref.: 781E for BRANEMARK COMPATIBLE

Ref.: 780 Ref.: 780FL

BROKEN SCREW EXTRACTOR KIT For removing broken screws from implants

Kit contains:

- 1 MANUAL CENTERING DEVICE
- 1 DEEP CENTERING DEVICE
- 1 EXTENSION HOLDER
- 1 CLAW REAMER BUR

1 REVERSE CUTTING BUR Kit contains:

- 1 CLAW REAMER BUR
- · 1 REVERSE CUTTING BUR

IMPLANTOLOGY

ACCESSORIES FOR IMPLANTS

For information on abutments for other implant systems please contact Rhein83



Ref.: 108CV Screw Vent Castable Abutment - Non-Rotating with titanium screw

White - Precision Hex 3.5 mm diameter



Ref.: 108AVB Screw Vent Castable Abutment - Non-Rotating with titanium screw

Red - Conical Hex For Bar Connections 3.5 mm diameter



Ref.: 108BRK Branemark Castable Abutment - Rotating

with titanium screw

3.75 mm - 4.0 mm diameter



Ref.: 108BRK-NR **Branemark Castable Abutment - Non-Rotating** with titanium screw

3.75 mm - 4.0 mm diameter



Ref.: 108PE Pitt Easy Castable Abutment - Non-Rotating with titanium screw

3.25 mm - 3.75 mm - 4.0 mm diameter



Ref.: 108BFT Straumann ITI Castable Abutment - Rotating with titanium screw for bar connections



Ref.: 113BFT

Steel Transfer Abutment For Straumann ITI Implant with titanium screw



Ref.: FA004

Steel Analog For Straumann ITI Implant

Rhein83 manufacutres castable abutments and titanium screws for most implant systems. For implant systems that are not listed in this catalog, please contact Rhein83 for additional information.



Rhein83 USA



Rhein83 Attachment Systems are exclusively imported and distributed throughout North America by American Recovery Inc. located just 30 minuets from Mid-Town Manhattan in New Rochelle, New York.

Since 1992, Joe Tambasco President of American Recovery has closely collaborated with Claudia Nardi, President and Gianni Storni MDT, VP Technology of Rhein83 srl. promoting, conducting NBC Approved Continuing Education programs and technically supports Rhein83 products and services for dentists, dental technicians, and its dealer network.

The new office will take the theoretical and practical courses that entitle to 6 credit hours (CDT's), being the presenters, registered with "National Board for Certification in Dental Laboratory Technology, Inc.".

The office is structured with a courses laboratory that can accommodate up to 12 dental technicians at a time and usually take place on Saturday.









HANDS ON COURSES ON RHEIN'83 PRODUCTS AND DIRECT SERVICES



Rhein'83 Instructors



materials utilized during the courses

For more than 15 years Rhein'83 has been offering courses to teach how to use its products. One of the reasons why these courses have attracted so much attention, is the idea of being able to construct parts of a prosthesis by assembling prefabricated castable components. This is an important innovation in the field of dentistry.

In addition, with only a small investment, the laboratory technician is able to have a large enough assortment of components, that enables him to construct every type of traditional prosthesis.

Considering, the number of the dental technicians that attend these courses,

the series of new products that were just recently introduced to the market and those currently under development, it is for all these reasons that Rhein'83 intends to promote and intensify all the courses. It will offer future courses both in and outside of Italy.

Continuing Education For Dentists and Dental Technicians

Educational Seminars Case Planning Service Interactive Website Hands-On Courses **Technical Manual** Technical DVD

Company Directory

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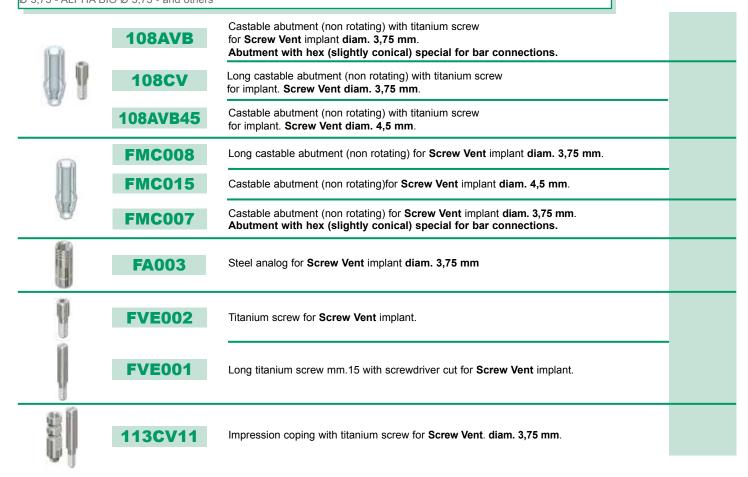


Code list

Compatible components for **Screw Vent** implants

ex: LEADER Ø 3,75 - BIO HORIZON Ø 3,75 int hex - EASY GRIP Ø 3,75 - DENTAL TECH Ø 3,75 -ESTHETIC IMPLANT Ø 3,75 - ALPHA BIO Ø 3,75 - and others





Compatible components for FRIALIT 2 implants





Castable abutment (non rotating) with titanium screw 108FRI34 for FRIALIT 2 implant diam. 3,4 mm

Castable abutment (non rotating) with titanium screw

for FRIALIT 2 implant diam. 3,8 mm

Castable abutment (non rotating) with titanium screw 108FRI45 for FRIALIT 2 implant diam. 4,5 mm.

Castable abutment (non rotating) with titanium screw

108FRI55 for FRIALIT 2 implant diam. 5,5 mm.

FMC025 Long castable abutment (non rotating) for FRIALIT 2 implant diam. 3,4 mm.

FMC026 Long castable abutment (non rotating) for FRIALIT 2 implant diam. 3,8 mm.

FMC027 Long castable abutment (non rotating) for FRIALIT 2 implant diam. 4,5 mm.

FMC028 Long castable abutment (non rotating) for FRIALIT 2 implant diam. 5,5 mm.

FVE023 Titanium screw for FRIALIT 2 implant.

Compatible components for ASTRA implants





108A0A

108FRI38

Castable abutment (non rotating) with titanium screw for Astra diam. 3,5 - 4 mm (light blue)

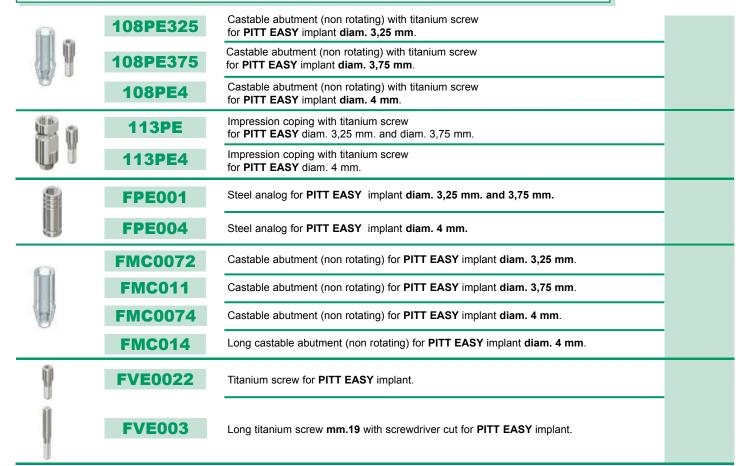
Castable abutment (non rotating) with titanium screw **108AOL**

for Astra diam. 4,5 - 5 mm (Lilla)

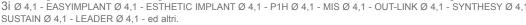


Compatible components for PITT EASY implants





Compatible components for BRANEMARK implants 3i Ø 4,1 - EASYIMPLANT Ø 4,1 - ESTHETIC IMPLANT Ø 4,1 - P1H Ø 4,1 - MIS Ø 4,1 - OUT-LINK Ø 4,1 - SYNTHESY Ø 4,1





| | 108BRKNR33 | Castable abutment (non rotating) with titanium screw for BRANEMARK narrow platform implant diam. 3,3 mm. | |
|------------|------------|---|--|
| | 108BRK | Castable abutment (rotating) with titanium screw for BRANEMARK regular platform implant diam. 3,75 - 4 mm. | |
| | 108BRKNR | Castable abutment (non rotating) with titanium screw for BRANEMARK regular platform implant diam. 3,75 - 4 mm . | |
| | 108BWP | Castable abutment (non rotating) with titanium screw for BRANEMARK wide platform implant diam. 5 - 5,5 mm . | |
| | FMC032 | Castable abutment (non rotating) for BRANEMARK narrow platform diam.3,3mm . | |
| | FMC020 | Castable abutment (non rotating) for BRANEMARK regular platform diam. 3,75 - 4 mm . | |
| | FMC005 | Castable abutment (rotating) for BRANEMARK regular platform diam. 3,75 - 4 mm . | |
| | FMC021 | Castable abutment (non rotating) for BRANEMARK wide platform diam. 5 - 5,5 mm . | |
| Ŷ | FVE026 | Titanium screw for BRANEMARK narrow platform diam. 3,3 mm. | |
| | FVE005 | Titanium screw for Branemark regular platform diam. 3,75 - 4 mm | |
| | FVE021 | Titanium screw for BRANEMARK wide platform diam. 5 - 5,5 mm . | |
| Î | FA005 | Steel analog for BRANEMARK regular platform diam. 3,75 - 4 mm. | |
| (3) | | | |



Compatible components for REPLACE SELECT implants NOBEL-BIOCARE NP Ø 3,5 - RP Ø 4,3



108RPS35

Castable abutment (non rotating) with titanium screw for Nobel Replace Select narrow platform diam. 3,5 mm.

108RPS43

Castable abutment (non rotating) with titanium screw for Nobel Replace Select regolar platform diam. 4,3 mm.

FMC037

Castable abutment (non rotating) for

Nobel Replace Select narrow platform diam. 3,5 mm.

FMC038

Castable abutment (non rotating) for Nobel Replace Select regolar platform diam. 4,3 mm.

Ŷ

FVE032

Titanium screw for

Nobel Replace Select platform diam. 3,5 mm - 4,3mm

Accessori compatibili per impianti ITI Straumann





108BFT

Castable abutment (rotating) without octa with titanium screw for ITI Straumann regolar platform

108BFTNR

Castable abutment (non rotating) with titanium screw for

ITI Straumann regolar platform



113BFT

Impression coping with titanium screw without octa for ITI Straumann implant.



FA006

Steel analog for ITI Straumann (non rotating) with octa.

FA004

Steel analog for ITI Straumann (rotating) without octa.



FMC006

Castable abutment (rotating) without octa for ITI Straumann.



FVE004

Titanium screw for ITI Straumann.

Compatible components for **THOMMEN SPI line** implants





108SPI4

Castable abutment (non rotating) with titanium screw for SPI platform diam. 4 mm.

108SPI45

Castable abutment (non rotating) with titanium screw for SPI platform diam. 4,5 mm

Tapered hex tool





760CBR

HEX TOOL FOR PROSTHETIC SCREWS (HEX MM 1,3)

Universal "anti-Unscrewing" systems



MOD. D094 REV.05 del 01/01/2012

Applicable to differents screw, with a size not lower than \emptyset 1,8 mm.



Elastic Dowel



TE



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