Symbios® – Recreating nature

Product catalog

Bone graft materials, membranes and instruments

Dentsply Sirona Implants

Symbios®
It is all in the name.

From our long-standing experience, we master science and technology to recreate what nature once created for itself, continuously striving to re-invent regeneration. Always ensuring predictable success. In doing so we make the difference and improve the lives of your patients.

Symbios offers the regenerative solutions needed to create a solid base for hard and soft tissue growth – the perfect synergy between natural looking esthetics and long term function.

Recreating nature.

Contents

Symbios® Bone Graft Materials

Harmony in bone grafting

Introducing Symbios® Bone Graft Materials

The Symbios bone graft materials promote bone formation, create volume, and provide stability for long-term outcomes that you and your patients rely on. Recreating nature starts with a solid foundation – the right micro-structures that mimic or help rebuild what once existed.

Symbios Xenograft is derived from porcine bone. Through carefully designed and proprietary science, the bone tissue is processed to preserve its natural porous structure and carbonate apatite crystal structure. This means it is highly porous for new vascularization and new bone and more closely resembles natural bone. Symbios Xenograft also offers handling advantages as the granules have a tendency to stick together after hydration for easier placement into defects.

The Symbios phycograft products, Algipore and Biphasic BGM are derived from aquatic plants, red marine algae. These products together have more than 30 years of proven, predictable bone regeneration. Symbios Algipore and Biphasic are especially suited for patients preferring non-animal and non-human derived bone graft materials.

When is bone graft material used?

Symbios bone graft material is used for reconstruction of bone defects in maxillofacial surgery as well as for augmentation of insufficient bone for implant retention, apicoectomy, cystectomy and other multi-sided bone defects in the alveolar process. Bone graft material may also be used in socket preservation to preserve ridge width and height after tooth extraction.

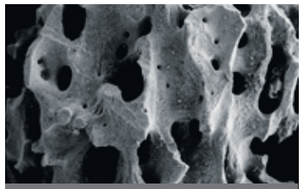
Compare the products

	Phycograft		Xenograft
	Symbios Algipore	**Symbios Biphasic BGM**	**Symbios Xenograft Granules**
Origin	Red algae (HA)	Red algae (HA/β-TCP)	Porcine (carbonate apatite)
Handling	Rapid and complete hydration of particles.	Rapid and complete hydration of particles.	Granules hold together upon hydration. Handy dappen dish or pre-filled Syringe for ease of use.
Characteristics	• 30 years of clinical use with extensive documentation. • Gradually replaced by new natural bone. • Demonstrated rates of long term implant success, equivalent to placing implants in natural bone.	• A natural evolution, a close equivalent to Symbios Algipore. • High β-TCP content blended with the natural HA structure providing a faster resorption while offering volume stability of the augmented area. • Gradually replaced by new natural bone.	• Highly porous and increased surface roughness. • More space for new bone and blood vessels, 88–95% void space for new bone growth.
Resorption	<50% after 12 months (2–5 years).	For more rapid turn-over.	Slight resorption over years.

"The packaging is superior, I loved the dappen dish."
Dr. Neiva, US

Symbios® Xenograft Granules – more space for new bone deposition

Symbios® Xenograft Granules[54] is a porcine bone mineral indicated for periodontal, oral and maxillofacial surgery. The use of Symbios Xenograft Granules may be considered when autogenous bone is not indicated or is insufficient in quantity to fulfill the needs of the proposed surgical procedure. The anorganic bone matrix of Symbios Xenograft Granules has an interconnecting macro- and microscopic pore structure that supports the formation and ingrowth of new bone.

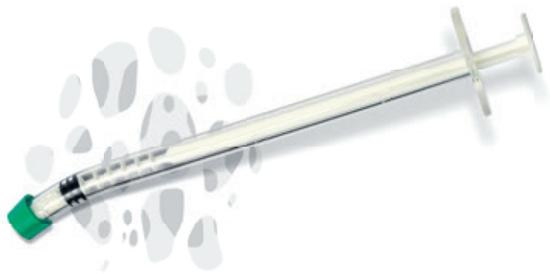


SEM picture showing the interconnecting pores and the rough surface which favors the cell adhesion. Magnification x50.

- **Interconnecting macro- and microscopic pore structure** – supports vascularization, bone ingrowth and nutrition. Macropores range in size between 0.1 mm –1.0 mm.
- **High porosity** – enhances bone ingrowth.
- **Empty space for new bone deposition** – 88% void space (small grain size); 95% void space (large grain size).
- **Rough surface texture** – facilitates cell adhesion and bone ingrowth.
- **Carbonate apatite** – aids remodeling of the healing bone.

Jar

Order no.	Volume	Grain size
3231 0000	0.5 ml	0.25 –1.0 mm
3231 0001	1.0 ml	0.25 – 1.0 mm
3231 0002	2.0 ml	0.25 – 1.0 mm
3231 0003	4.0 ml	0.25 –1.0 mm
3231 0004	1.0 ml	1.0 –2.0 mm
3231 0005	2.0 ml	1.0 –2.0 mm



Syringe

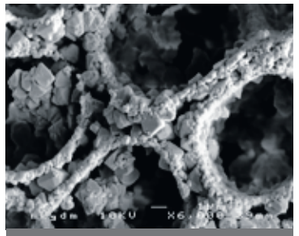
Order no.	Volume	Grain size
3231 0006	0.25 ml	0.25 –1.0 mm
3231 0007	0.5 ml	0.25 – 1.0 mm

"In times of well-informed and critical patients, it is important to offer our patients a material of non-animal origin. Above all, the increasing number of vegans, but also religious reasons make it necessary to react and to offer alternative materials."

Dr. Hanser, Germany

Symbios® Biphasic BGM
– for more rapid turn-over

Symbios® Biphasic Bone Graft Material[52, 31] is a bone graft material sourced from nature. This granule based bone graft material is derived from red marine algae. The composition has been specially formulated to turn-over rapidly as new bone forms within the graft site. Symbios Biphasic BGM is a composition of 20% hydroxyapatite (HA) – for space maintenance and slow resorption and 80% Beta-tricalcium phosphate (β-TCP) for faster resorption.



A cross section of Symbios Biphasic 20% HA/80% β-TCP. The biphasic structure shows the β-TCP and the HA in close connection, but still distinguished in two different phases. Magnification x6000.

- **Phycografts (plant-based) – derived from red algae** – can be used for all patients, especially those preferring non animal or non-human products.
- **The honeycomb-like tubular pore structure** with interconnecting pores encourages tissue ingrowth and deposition of new bone.
- Contains **β-TCP** in high concentration to speed up resorption rate.
- The material's composition provides **moderate resorption** kinetics. This creates a **strong scaffold** during the bone formation phase, and is gradually **replaced by new natural bone.**
- Symbios Biphasic BGM is considered a close equivalent to Symbios Algipore, **a natural evolution** of the brand.

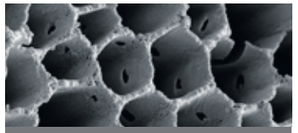
Order no.	Article no.	Volume	Grain size
3231 0110	31 – 0110	0.5 ml	0.2 – 1.0 mm
3231 0111	31 – 0111	1.0 ml	0.2 – 1.0 mm
3231 0112	31 – 0112	1.0 ml	1.0 – 2.0 mm
3231 0113	31 – 0113	2.0 ml	1.0 – 2.0 mm

"Many patients question the origin of different bone graft materials and are wary of animal-based products. With Algipore® we are able to treat all patients with excellent results, and doing so with a purely phycogenic biomaterial that is both highly biocompatible and very stable."

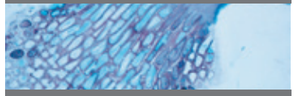
Dr. Keller, France

Symbios® Algipore
– restoring lost bone, naturally

Symbios® Algipore[31] is the original bone graft material sourced from nature. It has been reliably forming new bone in implant dentistry for over 30 years. Harnessing the pure properties of red algae, it is clinically proven as a stable platform that leads to high implant survival rates. It also represents increased choice for patients seeking a solution that reflects more sensitive or individual ethical demands.



A cross section of Symbios Algipore shows the tubular pore structure with interconnecting pores. Magnification x2000.



Detailed view of the mineralization zone with newly formed bone within the pore structure of Algipore. Prof. Rolf Ewers, Austria.

- **Phycografts (plant-based) – derived from red algae** – can be used for all patients, especially those preferring non animal or non-human products.
- **The honeycomb structure** encourages tissue ingrowth and deposition of new bone, offering proven predictable and effective outcomes.
- The material's composition – **hydroxyapatite** – creates a strong scaffold during the bone formation phase.
- Algipore has **gradual resorption** kinetics and is replaced by new natural bone over a longer period of time.

Order no.	Article no.	Volume	Grain size
3231 1400	31 – 1400	0.5 ml	0.3 – 0.5 mm
3231 1401	31 – 1401	1.0 ml	0.5 – 1.0 mm
3231 1402	31 – 1402	2.0 ml	0.5 – 1.0 mm
3231 1403	31 – 1403	1.0 ml	1.0 – 2.0 mm
3231 1404	31 – 1404	2.0 ml	1.0 – 2.0 mm

The grain size selection is dependent on the defect size.
Recommended grain size:
0.3 – 0.5 mm e.g. filling in defects up to 0.5 cm^3
0.5 – 1.0 mm e.g. augmentation of lateral defects up to 1.0 cm^3
1.0 – 2.0 mm e.g. augmentation following sinus graft from 1.0 cm^3

Better handling by design, barriers you rely on

Introducing Symbios® Membranes

Our Symbios membranes are designed to meet your clinical needs while also accommodating handling preferences.

The Symbios Collagen SR membrane provides a firmer feel and can be placed either wet or dry depending on the contours and anatomy of the defect.

Meanwhile, the Symbios Collagen Membrane pre-hydrated adapts readily to any contour without sticking or tearing allowing for easy repositioning.

When are membranes used?

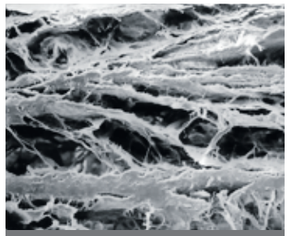
Symbios Collagen membranes are intended for use in guided bone regeneration (GBR) and guided tissue regeneration (GTR) procedures. The structure and composition of the membranes create a barrier against rapidly dividing and migrating epithelial cells while also helping to maintain the surgical space while slower bone forming cells restore the natural hard tissue. The membranes can be used in dental implant surgeries, ridge reconstructions, or other dental surgeries where cell-occlusive barriers are desired for wound healing and differential tissue growth.

Compare the products

	Symbios Collagen Membrane SR	Symbios Collagen Membrane pre-hydrated
Origin	Bovine achilles tendon	Bovine pericardium
Handling	Firm	Flexible
Characteristics	• High tensile strength, for space maintenance	• Pre-hydrated, no need for hydration • Highly drapable and conformable
Resorption	26–38 weeks (~6.5–9.5 months)	~16 weeks (~4 months)

Symbios® Collagen Membrane SR

Symbios® Collagen Membrane SR[53] (slow resorbable) is manufactured from a highly purified type 1 collagen derived from bovine achilles tendon. It is intended for use in oral surgery as a material for placement in the area of dental implants, bone defect or ridge reconstruction to aid in wound healing post dental surgery.



Cross-section of Symbios Collagen Membrane SR consisting of a collagen fiber matrix. Magnification x5000.

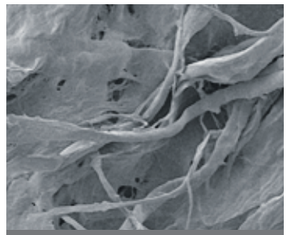
- **High tensile strength** due to unique fiber orientation – can be tacked or sutured without risk of tearing the membrane.
- **Cell-occlusive barrier promotes healing and bone formation** – cross-linked structure prevents epithelial cell downgrowth.
- **Stiff enough for easy placement, yet easily drapes over ridge** – optimized flexibility. Placed either dry or hydrated depending on the situation or preference.

Order no.	Size
3290 5270	15 mm x 20 mm
3290 5271	20 mm x 30 mm
3290 5272	30 mm x 40 mm

"The pre-hydrated membrane adapted nicely when applied to the defect. It seems very durable and comes in a unique package."
Dr. Fuqua, USA

Symbios® Collagen Membrane pre-hydrated

Symbios® Collagen Membrane pre-hydrated[55] consists of purified intact collagen tissue derived from bovine pericardium.



SEM picture showing the surface of Symbios Collagen Membrane pre-hydrated consisting of intact pericardium. Magnification x100.

- **Pre-hydrated** – convenient and ready for immediate use.
- **Highly drapable and conformable** – soft handling for easier placement and readjustment.
- **Intact pericardium tissue membrane** – can be sutured or tacked for stable fixation.
- **No side orientation** – can be placed on either side.
- **Resorption time approx. 16 weeks** – provides adequate barrier function for GBR and GTR procedures.

Order no.	Size
3290 5274	15 mm x 20 mm
3290 5275	20 mm x 30 mm
3290 5276	30 mm x 40 mm

Instruments/Accessories

Symbios offers a selection of instruments and accessories to support your bone regeneration procedures. Included are solutions for harvesting your patients' own bone and preparing bone blocks as well as instruments for preparation of the lateral bone window and fixation of membranes tacks.

Symbios® Membrane Tacks

Symbios® Membrane Tacks[4] serve all kinds of membranes. A seating instrument is used to insert and fix the membrane tacks. For cortical bone substance, the position of the membrane tack can be predrilled.

- Perfect hold – well attached membranes prevent the dislocation of the material and promote the formation of new bone.
- Biocompatible – fabricated from a titanium alloy.
- Universal – Symbios Membrane Tacks can be used with all resorbable and non-resorbable membranes.
- Fixation components – for fast and precise positioning of the membrane tacks.
- 4 tacks, sterile.

Order no.	Article no.
3290 5283	90 – 5283

Fixation Components

The fixation components together with the Symbios Membrane tacks are used for simple, reliable fixing of membranes to the surrounding bones. For cortical bone substance, the position of the Membrane Tack can be predrilled with the Disposable Drill for Membrane Tacks.

- For precise positioning of Symbios Membrane Tacks.
- Set of seating instruments straight and angled designed for the membrane tacks.
- Drilling and positioning tool for utmost precision.
- Disposable micro drills for pre-drilling in very dense bone.

Frios® Seating Instrument[6]

- Straight

Order no.	Article no.
3259 9034	59 – 9034

- Angled

Order no.	Article no.
3259 9040	59 – 9040

Frios® Seating Instrument[6] – Working Part

- Working Part for Seating Instrument.
- Straight.

Order no.	Article no.
3259 9039	59 – 9039

- Working Part for Seating Instrument.
- Angled.

Order no.	Article no.
3259 9041	59 – 9041

Frios® Disposable Drill[6]

- Pilot drill, sterile.

Order no.	Article no.
3259 8060	59 – 9035

Frios® Drilling and Positioning Tool[6] – Working Part

- Drilling and Positioning Tool for Frios Disposable Drill and Symbios Membrane Tacks.

Order no.	Article no.
3259 9036	59 – 9036

- Working Part for Drilling and Positioning Tool.

Order no.	Article no.
3259 9037	59 – 9037

Frios® Universal Handle[6]

- For Seating Instrument and Drilling and Positioning Tool.

Order no.	Article no.
3259 9042	59 – 9042

Frios® Implant Mallet
Frios® Holder for Membrane Tacks

Order no.
3291 4510

Order no.
3259 9033

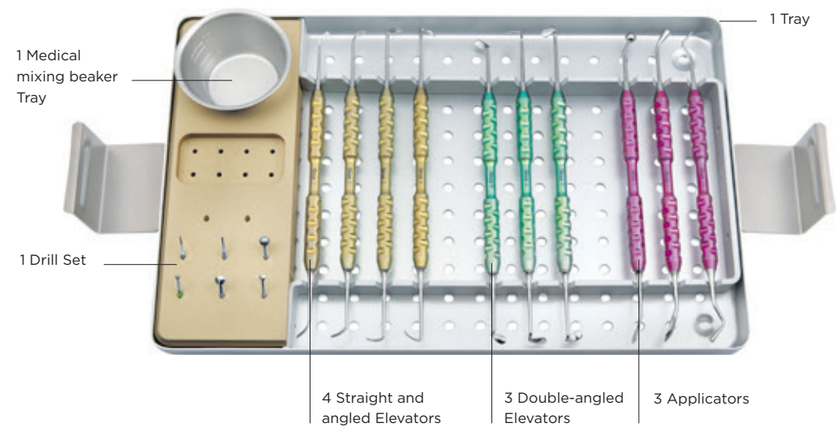
Frios® SinusSet

Frios® SinusSet for all preparation steps to perform an open sinus lift.

- Drill Set for lateral preparation of access window.
- Mobilization of the sinus mucous membrane with a range of angled elevators.
- Blending the augmentation material in the stable surgical-blending beaker.
- Filling the maxillary sinus using various surgical applicators.

Order no.	Article no.
3259 8000	59 – 8000

Content:



Frios® SinusSet – Single articles

Drill Set for Frios® SinusSet[6]

Preparation of the lateral bone window. From large, diamond coated round drills to fine fissure drills.

- Fissure drill.
- Diamond drill.
- Hard metal drills.

Order no.	Article no.
3259 8003	59 – 8003

Frios® Elevator[4,6]

Mobilization of the sinus mucous membrane with a range of angled elevators.

No. 1
• Straight

Order no.	Article no.
3259 7951	59 – 7951

No. 2
• Angled, 120°

Order no.	Article no.
3259 7952	59 – 7952

No. 3
• Angled, 90°

Order no.	Article no.
3259 7953	59 – 7953

No. 4
• Angled, 60°

Order no.	Article no.
3259 7954	59 – 7954

No. 5
• Double-angled, 90°/120°

Order no.	Article no.
3259 7955	59 – 7955

No. 6
• Double-angled, 90°/90°

Order no.	Article no.
3259 7956	59 – 7956

No. 7
• Double-angled, 90°/60°

Order no.	Article no.
3259 7957	59 – 7957

Frios® Applicator[4,6]

Filling the maxillary sinus using various surgical applicators.

No. 8
• Ball/spoon

Order no.	Article no.
3259 7958	59 – 7958

No. 9
• Spoon/tip

Order no.	Article no.
3259 7959	59 – 7959

No. 10
• Cone/cylinder

Order no.	Article no.
3259 7960	59 – 7960

"Due to its high precision and safety, harvesting bone following the Microsaw protocol offers clinicians a rapid and secure technique even in challenging situations. They are able to offer their patients excellence with the gold standard of autogenous grafting for a long term successful outcome."

Prof. Khoury, Germany

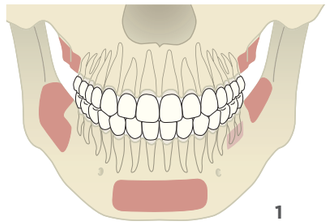
Frios® MicroSaw – for autogenous bone harvesting

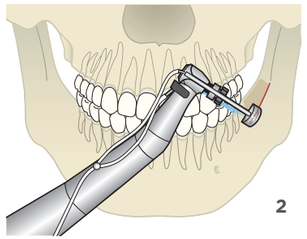
Highest precision – the 0.29 mm MicroSaw disc is constructed to produce an extremely accurate osteotomy line.

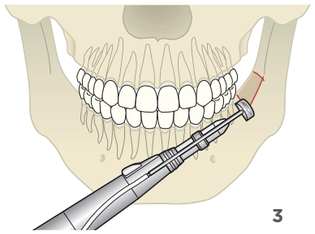
- **Fast** – rapid work with the Frios straight and contra-angle handpieces, even in the most difficult anatomical situations.
- **Easy** – with the Frios angled handpiece the exact preparation can be made in the retromolar region, even with restricted mouth opening.
- **Atraumatic** – the hinged soft tissue protector is easy to attach and to remove again. Direct blade cooling prevents overheating during the procedure.
- **Proven** – in clinical use since 1986.

Harvesting autogenous bone blocks requires experience and sets a high standard for the treatment outcome. The flexibility of the Frios MicroSaw simplifies vertical and horizontal cuts, resulting in precise osteotomies, even in challenging anatomical situations.

1–4 | Harvesting of autogenous bone – precisely and safely.







Prof. Fouad Khoury, Germany

Frios® MicroSaw ExpertSet

WI-75 ☆

Order no.	Article no.
3290 6741	90 – 6741

WS-75 ☆

Order no.	Article no.
3290 6742	90 – 6742

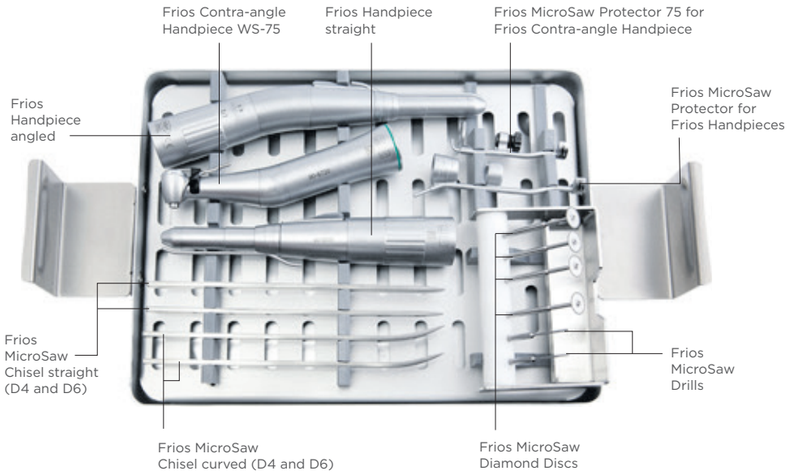
Frios® MicroSaw StarterSet

WI-75 ☆

Order no.	Article no.
3290 6751	90 – 6751

WS-75 ☆

Order no.	Article no.
3290 6752	90 – 6752



Contents	Frios MicroSaw ExpertSet WI-75	Frios MicroSaw ExpertSet WS-75	Frios MicroSaw StarterSet WI-75	Frios MicroSaw StarterSet WS-75
Frios Contra-angle Handpiece WI-75	•		•	
Frios Contra-angle Handpiece WS-75, demountable		•		•
Frios Handpiece, straight	•	•		
Frios Handpiece, angled	•	•		
Frios MicroSaw Protector 75	•	•	•	•
Frios MicroSaw Protector for Handpiece	•	•	•	•
Frios MicroSaw Diamond Discs (4 pieces)	•	•	•	•
Frios MicroSaw Drills (2 pieces)	•	•	•	•
Frios Chisel straight (D4 and D6)	•	•	•	•
Frios Chisel curved (D4 and D6)	•	•	•	•

Frios® MicroSaw – Single articles

Frios® MicroSaw Protector[6]

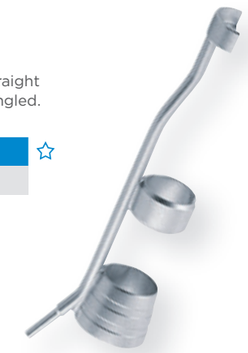
Protection of the soft tissue during the division and cutting of hard tissue structures.

- For Frios Contra-angle Handpiece WI-75.
- For Frios Contra-angle Handpiece WS-75 (demountable).
- Frios Contra-angle Handpiece WI-75 LED G.

Order no.	Article no.
3290 6731	90 – 6730

- For Frios Handpiece straight and Frios Handpiece angled.

Order no.	Article no.	
3290 5055	90 – 5031	☆



- For Frios Handpiece SI-11 LED G[6].

Order no.	Article no.	
3290 6860	90 – 6860	☆

- For Contra-angle Handpiece 9756.
- Suitable only for Frios Contra-angle Handpiece 975.

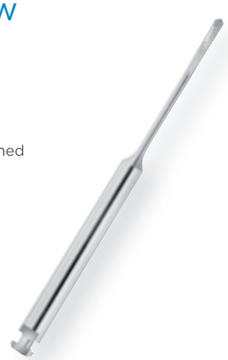
Order no.	Article no.	
3290 5056	90 – 5041	☆

☆ Updated version coming soon.

Frios® MicroSaw Drills[6]

- Predrilling of access windows.
- Postpreparation of non-sectioned bone blocks.
- 2 pieces, for single use.

Order no.	Article no.
3290 5046	90 – 5046



Frios® MicroSaw Diamond Discs[6]

- Preparation of bone blocks and access windows.
- 4 pieces, for single use.

Order no.	Article no.
3290 5045	90 – 5045

Frios® MicroSaw Drills and Diamond Discs

- 6 pieces – 4 discs, 2 drills.
- Each unit for single use.

Order no.	Article no.
3290 5086	90 – 5086

Frios® MicroSaw Chisel[6]

- Straight (D4 and D6).

Order no.	Article no.
3290 5037	90 – 5037

- Curved (D4 and D6).

Order no.	Article no.
3290 5038	90 – 5038

Frios® Trephines

Trephines[6] for preparation of autogenous bone cones and Bone Removal.

- D3.1.
- Diameter: inner 2.0 mm, outer 3.1 mm.

Order no.	Article no.
3251 4091	51 – 4091

- D 3.5.
- Diameter: inner 2.4 mm, outer 3.5 mm.

Order no.	Article no.
3251 4092	51 – 4092

- Frios Bone Stud Remover[6] for easy removal of the bone pieces.

Order no.	Article no.
3251 4093	51 – 4093

BoneTrap™

BoneTrap[21] is used for harvesting autologous bone particles during implant surgery that would otherwise be discarded. The instrument is easy to handle, requires no preparation or additional equipment.

- Simplified procedure – Instrument allows for convenient collection and use of autologous bone.
- Time saving – delivered sterile and is disposable.
- Ease of use – connect to the sterile suction tube.

Order no.
22179

Key references

Bone Graft Material

Symbios® Xenograft Granules

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Membranes

Symbios® Collagen Membrane SR

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Symbios® Collagen Membrane pre-hydrated

Data on file, Collagen Matrix, Inc.

Instruments

Frios® MicroSaw

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Symbios® Membrane Tacks

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Materials

Metals

Type	Index	Composition
Titanium	4	Ti6Al4V grade 5
Stainless steel	6	Surgical Steel

Bone Graft Material

Type	Index	Composition
Hydroxylapatite	31	$Ca_5(PO_4)_3OH$
Tricalciumphosphat	52	$Ca_3(PO_4)_2$
Carbonate apatite	54	Porcine cancellous bone

BoneTrap

Type	Index	Composition
Plastics	21	

Collagen Membrane

Type	Index	Composition
Collagen	53	Highly-purified type I bovine Achilles tendon
Collagen	55	Purified intact bovine pericardium

Labelling of materials
Information regarding the materials involved in implants, system components and instruments is given in the form of a reference number after every article. The pictures in this catalog are for illustration. The size of the illustrated products may deviate from the original product.
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