



Small Fragment System

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Note:

The surgery instructions outlined below reflect the surgical procedure usually chosen by the clinical consultant. However, each surgeon must decide individually which course of action offers the best chance of success in the individual case.

► Introduction

Indication

(Locking) Compression Plate 3.5:	As neutralization, compression or buttress plate for fractures of: <ul style="list-style-type: none">* forearm* distal humerus* clavicle* pelvis
(Locking) One-third Tubular Plate 3.5:	Fractures of: <ul style="list-style-type: none">* lateral malleolus* distal ulna* olecranon* metatarsus
Quarter Tubular Plate 2.7:	As tension bend plate for: <ul style="list-style-type: none">* metacarpal fractures* metatarsal fractures
T-Plate 3.5, right-angled:	Fractures of the: <ul style="list-style-type: none">* distal radius* olecranon* ankle* metatarsus
T-Plate 3.5, oblique-angled:	Fractures of the distal radius
Locking adaption plate:	For stabilization and fixation of osteotomies and fractures of: <ul style="list-style-type: none">* rear- and midfoot* forearm
(Locking) Reconstruction plate 3.5:	As a neutralization plate or tension band plate for fractures of the: <ul style="list-style-type: none">* pelvis* acetabulum* distal humerus* clavicle* calcaneus
Washer:	Prevent the head of a screw splitting the cortex and sinking into the bone

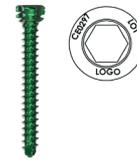
2.7 mm Cortical



2.7 mm Cortical, locking



2.7 mm Cortical, ML



Screw diameter	2.7 mm	2.7 mm	2.7 mm
Head diameter	5.0 mm	4.75 mm	4.75 mm
Core diameter	1.9 mm	1.9 mm	1.9 mm
Pitch	1.0 mm	1.0 mm	1.0 mm
Tap	self-tapping	self-tapping	self-tapping
Drive	Hex 2.5 mm	Hex 2.5 mm	Hex 2.5 mm
Material	Stainless Steel / Titanium	Titanium	Titanium

3.5 mm Cortical



3.5 mm Cortical, locking



3.5 mm Cancellous, fully threaded



Screw diameter	3.5 mm	3.5 mm	3.5 mm
Head diameter	6.0 mm	4.75 mm	6.0 mm
Core diameter	2.4 mm	2.4 mm	2.0 mm
Pitch	1.25 mm	1.25 mm	1.75 mm
Tap	self-tapping	self-tapping	
Drive	Hex 2.5 mm	Hex 2.5 mm	Hex 2.5 mm
Material	Stainless steel / Titanium	Titanium	Stainless steel / Titanium

4.0 mm Cancellous fully threaded



4.0 mm Cancellous short threaded



4.0 mm Cancellous, locking



Screw diameter	4.0 mm	4.0 mm	4.0 mm
Head diameter	6.0 mm	6.0 mm	4.75 mm
Core diameter	2.4 mm	2.4 mm	2.35 mm
Pitch	1.75 mm	1.75 mm	1.25 mm
Tap			self-tapping
Drive	Hex 2.5 mm	Hex 2.5 mm	Hex 2.5 mm
Material	Stainless steel / Titanium	Stainless steel / Titanium	Titanium

**2.7
Quater Tubular
Plate**



**3.5
Compression
Plate**



**3.5
Compression
Plate
undercut**



**3.5
One-third Tubular
Plate**



Plate thickness	1.0 mm	3.0 mm	3.5 mm	1.0 mm
Plate width	7 mm	10 mm	11 mm	9 mm
Hole distance	8 mm	12 mm	13 mm	12 mm
Material	Stainless steel / Titanium	Stainless steel	Titanium	Stainless steel / Titanium

**3.5
Reconstruction
Plate**



**3.5
T-Plate
right-angled**



**3.5
T-Plate
oblique-angled**



Plate thickness	3.1 mm	1.2 mm	1.5 mm
Plate width	10 mm	10 mm	10 mm
Hole distance	12 mm		
Material	Stainless steel / Titanium	Stainless steel / Titanium	Stainless steel / Titanium

**3.5
locking
Compression
Plate
undercut**



**3.5
locking
One-third Tubular
Plate**



**3.5
locking
T-Plate
righth-angled**



**3.5
locking
T-Plate
oblique-angled**



Plate thickness	3.9 mm	1.2 mm	1.5 mm	1.5 mm
Plate width	11 mm	9 mm	10 mm	10 mm
Hole distance	13 mm	8 mm		
Material	Titanium	Titanium	Titanium	Titanium

**3.5
locking
Adaption
Plate**



**3.5
locking
Reconstruction
Plate**



Plate thickness	1.8 mm	3.9 mm
Plate width	9.5 mm	11 mm
Hole distance	8 mm	13 mm
Material	Titanium	Titanium

► Surgical Technique

Plate Fixation

Preparation

The techniques described below are applicable to the Marquardt Medizintechnik Small Fragment Plate System. A locking 3.5 compression plate was selected as an example, because it can support cortical and locking cortical screws.

1. Plate selection

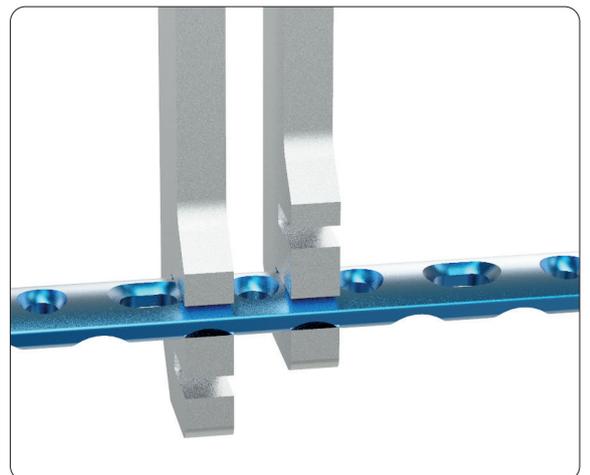
- The plates are available in various lengths and numbers of holes.
- After performing the preoperative radiographic assessment, determine the appropriate plate length.

2. Specify the plate contour

Instruments

REF 03.20110.007	<i>Bending Template for Compression Plate 3.5, 7 holes</i>
REF 03.20110.009	<i>Bending Template for Compression Plate 3.5, 9 holes</i>
REF 03.20110.035	<i>Bending Iron for Plates 2.7 to 3.5, right</i>
REF 03.20110.135	<i>Bending Iron for Plates 2.7 to 3.5, left</i>

- Use the bending templates to define the desired plate contours.
- Use the bending irons to adapt the LC plates to the anatomy of the bone.



Note:

- The plate holes are designed to withstand a certain degree of deformity.
- To bend the plate, apply the bending irons to two nearby plate holes to eliminate the deformation of the holes.
- Significant deformation of the locking plate holes affects the stability of the locking plate system.
- Multiple bending of the plates reduces the stability of the implant and should be avoided.

3. Reposition and plate fixation

Instruments

REF 03.20010.125

Drill Bit Ø 2.5 mm

REF 03.20060.025

Double Drill Guide 3.5/2.5

- The bone is repositioned closed or open.
- During repositioning, care must be taken to reconstruct the correct anatomical position in terms of length and axes.
- The surgeon decides whether to use cortical screws, cancellous bone screws, locking cortical screws, or a combination of the above screws.
- In a combination, the plate is first fixed to the bone with a cortical screw.
- The screw hole is predrilled with the drill bit and the double drill guide.



Instruments

REF 03.20010.125

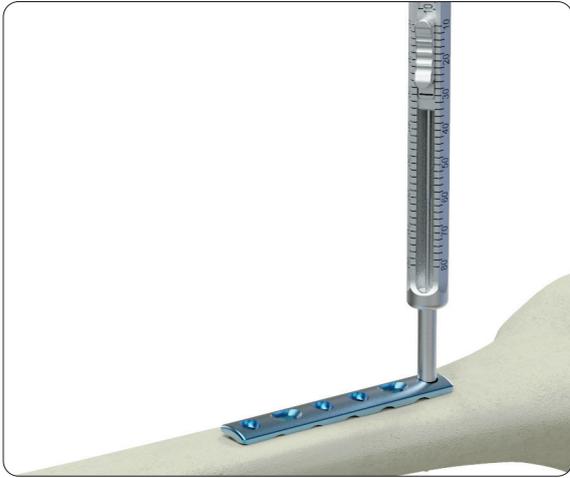
Drill Bit Ø 2.5 mm

REF 03.20060.020

Drill Guide 2.5

- Alternatively, the drill guide 2.5 can be used when using locking plates.
- The drill guide 2.5 is screwed into the locking plate hole.
- The screw hole is then predrilled with the drill bit.





Instruments

REF 03.20100.080 *Length Determination Instrument,
for Screws up to 80 mm*

- The length is measured with the aid of the length determination instrument.
- The hook is hooked into the opposite cortex and the required screw length is read from the scale.
- Care should be taken to ensure that the screws extend through both cortical layers to achieve bicortical fixation.



Instruments

REF 03.20040.025 *Screwdriver, hex 2.5 mm*

- A screw of measured length is inserted with the screwdriver.
- The length and position of the screw is checked under radiological control and corrections are made if necessary.



Instruments

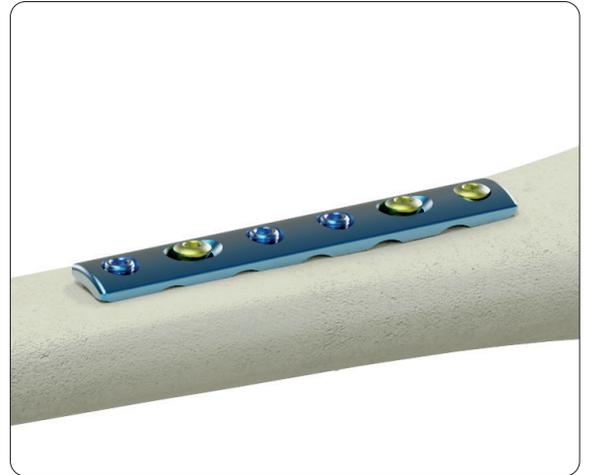
REF 03.20020.040 *Tap for Cancellous Bone Screws*

REF 03.20040.025 *Screwdriver, hex 2.5 mm*

REF 03.20050.035 *T-Handle with AO Coupling*

- If a cancellous bone screw is used, the screw hole must first be predrilled as described above.
- Then, depending on the bone density, the thread can be pre-cut with a tap.
- The selected screw is screwed in with the screwdriver.

- After all plate holes to be filled have been fixed with screws, a final radiological check is performed to verify the plate position, the anatomical reposition of the fracture and the lengths of the screws.



Small Fragment System

► Product Information

Implants (for Ø 2.7 mm Screws)

Quarter Tubular Plate 2.7



Article Number Stainless Steel	Article Number* Titanium	Length	Holes
03.10140.003	03.11140.003	23 mm	3
03.10140.004	03.11140.004	31 mm	4
03.10140.005	03.11140.005	39 mm	5
03.10140.006	03.11140.006	47 mm	6
03.10140.007	03.11140.007	55 mm	7
03.10140.008	03.11140.008	63 mm	8

Implants (for Ø 3.5 mm Screws)

One-third Tubular Plate 3.5



Article Number Stainless Steel	Length	Holes	Article Number Stainless Steel	Length	Holes
03.10130.002	25 mm	2	03.10130.010	121 mm	10
03.10130.003	37 mm	3	03.10130.011	133 mm	11
03.10130.004	49 mm	4	03.10130.012	145 mm	12
03.10130.005	61 mm	5	03.10130.013	157 mm	13
03.10130.006	73 mm	6	03.10130.014	169 mm	14
03.10130.007	85 mm	7	03.10130.015	181 mm	15
03.10130.008	97 mm	8	03.10130.016	193 mm	16
03.10130.009	109 mm	9	03.10130.018	217 mm	18

One-third Tubular Plate 3.5 with Collar



Article Number* Titanium	Length	Holes
03.11130.002	28 mm	2
03.11130.003	40 mm	3
03.11130.004	52 mm	4
03.11130.005	64 mm	5
03.11130.006	76 mm	6
03.11130.007	88 mm	7
03.11130.008	100 mm	8
03.11130.009	112 mm	9
03.11130.010	124 mm	10
03.11130.011	136 mm	11
03.11130.012	148 mm	12

* All implants are also available in sterile. Therefore, add suffix "S" to article number.

Implants (for Ø 3.5 mm Screws)

Article Number Stainless Steel	Length	Holes	Article Number Stainless Steel	Length	Holes
03.10103.002	26 mm	2	03.10103.010	122 mm	10
03.10103.003	38 mm	3	03.10103.011	134 mm	11
03.10103.004	50 mm	4	03.10103.012	146 mm	12
03.10103.005	62 mm	5	03.10103.013	158 mm	13
03.10103.006	74 mm	6	03.10103.014	170 mm	14
03.10103.007	86 mm	7	03.10103.015	182 mm	15
03.10103.008	98 mm	8	03.10103.016	194 mm	16
03.10103.009	110 mm	9	03.10103.018	218 mm	18

Article Number* Titanium	Length	Holes
03.11114.002	25 mm	2
03.11114.003	38 mm	3
03.11114.004	51 mm	4
03.11114.005	64 mm	5
03.11114.006	77 mm	6
03.11114.007	90 mm	7
03.11114.008	103 mm	8
03.11114.009	116 mm	9
03.11114.010	129 mm	10
03.11114.011	142 mm	11
03.11114.012	155 mm	12

Article Number Stainless Steel	Article Number* Titanium	Length	Holes
03.10101.003	03.11101.003	50 mm	3/3
03.10101.005	03.11101.005	72 mm	3/5
03.10101.104	03.11101.104	56 mm	4/4
03.10101.106	03.11101.106	78 mm	4/6

Article Number Stainless Steel	Article Number* Titanium	Length	Holes
03.10102.003	03.11102.003	54 mm	3/3
03.10102.004	03.11102.004	65 mm	3/4
03.10102.005	03.11102.005	76 mm	3/5

Compression Plate 3.5



Compression Plate 3.5, undercut



T-Plate 3.5, right-angled



T-Plate 3.5, oblique-angled



* All implants are also available in sterile. Therefore, add suffix "S" to article number.

Implants (for Ø 3.5 mm Screw)

Reconstruction Plate 3.5



Article Number Stainless Steel	Article Number* Titanium	Length	Holes
06.10103.003	06.11103.003	34 mm	3
06.10103.004	06.11103.004	46 mm	4
06.10103.005	06.11103.005	58 mm	5
06.10103.006	06.11103.006	70 mm	6
06.10103.007	06.11103.007	82 mm	7
06.10103.008	06.11103.008	94 mm	8
06.10103.009	06.11103.009	106 mm	9
06.10103.010	06.11103.010	118 mm	10
06.10103.011	06.11103.011	130 mm	11
06.10103.012	06.11103.012	142 mm	12
06.10103.013	06.11103.013	154 mm	13
06.10103.014	06.11103.014	166 mm	14
06.10103.015	06.11103.015	178 mm	15
06.10103.016	06.11103.016	190 mm	16
06.10103.018	06.11103.018	214 mm	18

* All implants are also available in sterile. Therefore, add suffix "S" to article number.

Implants (Locking Plate System for Ø 3.5 mm Screws)

Article Number* Titanium	Length	Holes
03.15130.002	28 mm	2
03.15130.003	40 mm	3
03.15130.004	52 mm	4
03.15130.005	64 mm	5
03.15130.006	76 mm	6
03.15130.007	88 mm	7
03.15130.008	100 mm	8
03.15130.009	112 mm	9
03.15130.010	124 mm	10
03.15130.011	136 mm	11
03.15130.012	148 mm	12

Locking One-third Tubular Plate 3.5



Article Number* Titanium	Length	Holes
03.15114.002	25 mm	2
03.15114.003	38 mm	3
03.15114.004	51 mm	4
03.15114.005	64 mm	5
03.15114.006	77 mm	6
03.15114.007	90 mm	7
03.15114.008	103 mm	8
03.15114.009	116 mm	9
03.15114.010	129 mm	10
03.15114.011	142 mm	11
03.15114.012	155 mm	12

Locking Compression Plate 3.5, undercut



Article Number* Titanium	Length	Holes
03.15101.003	50 mm	3/3
03.15101.005	72 mm	3/5
03.15101.104	56 mm	4/4
03.15101.106	78 mm	4/5

Locking T-Plate 3.5, right-angled



Article Number* Titanium	Length	Holes
03.15102.003	54 mm	3/3
03.15102.004	65 mm	3/4
03.15102.005	76 mm	3/5

Locking T-Plate 3.5, oblique-angled



* All implants are also available in sterile. Therefore, add suffix "S" to article number.

Implants (Locking Plate System for Ø 3.5 mm Screws)

Locking Adaption Plate



Article Number* Titanium	Length	Holes
03.15092.003	27 mm	3
03.15092.004	35 mm	4
03.15092.005	43 mm	5
03.15092.006	51 mm	6
03.15092.007	59 mm	7
03.15092.008	67 mm	8
03.15092.009	75 mm	9
03.15092.010	83 mm	10
03.15092.011	91 mm	11
03.15092.012	99 mm	12

Locking Reconstruction Plate 3.5



Article Number* Titanium	Length	Holes
06.15103.003	34 mm	3
06.15103.004	46 mm	4
06.15103.005	58 mm	5
06.15103.006	70 mm	6
06.15103.007	82 mm	7
06.15103.008	94 mm	8
06.15103.009	106 mm	9
06.15103.010	118 mm	10
06.15103.011	130 mm	11
06.15103.012	142 mm	12
06.15103.013	154 mm	13
06.15103.014	166 mm	14
06.15103.015	178 mm	15
06.15103.016	190 mm	16
06.15103.018	214 mm	18

* All implants are also available in sterile. Therefor, add suffix "S" to article number.

Article Number Stainless Steel self-tapping	Article Number* Titanium self-tapping	Length
03.02527.006	03.03527.006	6 mm
03.02527.008	03.03527.008	8 mm
03.02527.010	03.03527.010	10 mm
03.02527.012	03.03527.012	12 mm
03.02527.014	03.03527.014	14 mm
03.02527.016	03.03527.016	16 mm
03.02527.018	03.03527.018	18 mm
03.02527.020	03.03527.020	20 mm
03.02527.022	03.03527.022	22 mm
03.02527.024	03.03527.024	24 mm
03.02527.026	03.03527.026	26 mm
03.02527.028	03.03527.028	28 mm
03.02527.030	03.03527.030	30 mm
03.02527.032	03.03527.032	32 mm
03.02527.034	03.03527.034	34 mm
03.02527.036	03.03527.036	36 mm
03.02527.038	03.03527.038	38 mm
03.02527.040	03.03527.040	40 mm
03.02527.042	03.03527.042	42 mm
03.02527.044	03.03527.044	44 mm
03.02527.046	03.03527.046	46 mm
03.02527.048	03.03527.048	48 mm
03.02527.050	03.03527.050	50 mm

Cortical Screw Ø 2.7 mm



Article Number Stainless Steel	Article Number* Titanium
03.90000.070	03.91000.070

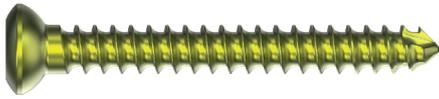
Washer Ø 7.0 mm, for Screws Ø 2.7 bis 4.0 mm

- Outer diameter: 7.0 mm



* All implants are also available in sterile. Therefore, add suffix "S" to article number.

Cortical Screw Ø 3.5 mm



Article Number Stainless Steel self-tapping	Article Number* Titanium self-tapping	Length
03.02612.010	03.03612.010	10 mm
03.02612.012	03.03612.012	12 mm
03.02612.014	03.03612.014	14 mm
03.02612.016	03.03612.016	16 mm
03.02612.018	03.03612.018	18 mm
03.02612.020	03.03612.020	20 mm
03.02612.022	03.03612.022	22 mm
03.02612.024	03.03612.024	24 mm
03.02612.026	03.03612.026	26 mm
03.02612.028	03.03612.028	28 mm
03.02612.030	03.03612.030	30 mm
03.02612.032	03.03612.032	32 mm
03.02612.034	03.03612.034	34 mm
03.02612.036	03.03612.036	36 mm
03.02612.038	03.03612.038	38 mm
03.02612.040	03.03612.040	40 mm
03.02612.042	03.03612.042	42 mm
03.02612.044	03.03612.044	44 mm
03.02612.046	03.03612.046	46 mm
03.02612.048	03.03612.048	48 mm
03.02612.050	03.03612.050	50 mm
03.02612.055	03.03612.055	55 mm
03.02612.060	03.03612.060	60 mm
03.02612.065	03.03612.065	65 mm
03.02612.070	03.03612.070	70 mm
03.02612.075	03.03612.075	75 mm
03.02612.080	03.03612.080	80 mm
03.02612.085	03.03612.085	85 mm
03.02612.090	03.03612.090	90 mm
03.02612.095	03.03612.095	95 mm
03.02612.100	03.03612.100	100 mm
03.02612.105	03.03612.105	105 mm
03.02612.110	03.03612.110	110 mm

* All implants are also available in sterile. Therefore, add suffix "S" to article number.

Article Number Stainless Steel	Article Number* Titanium	Length
03.00635.010	03.01635.010	10 mm
03.00635.012	03.01635.012	12 mm
03.00635.014	03.01635.014	14 mm
03.00635.016	03.01635.016	16 mm
03.00635.018	03.01635.018	18 mm
03.00635.020	03.01635.020	20 mm
03.00635.022	03.01635.022	22 mm
03.00635.024	03.01635.024	24 mm
03.00635.026	03.01635.026	26 mm
03.00635.028	03.01635.028	28 mm
03.00635.030	03.01635.030	30 mm
03.00635.032	03.01635.032	32 mm
03.00635.034	03.01635.034	34 mm
03.00635.036	03.01635.036	36 mm
03.00635.038	03.01635.038	38 mm
03.00635.040	03.01635.040	40 mm
03.00635.042	03.01635.042	42 mm
03.00635.044	03.01635.044	44 mm
03.00635.046	03.01635.046	46 mm
03.00635.048	03.01635.048	48 mm
03.00635.050	03.01635.050	50 mm
03.00635.055	03.01635.055	55 mm
03.00635.060	03.01635.060	60 mm

Cancellous Bone Screw 3.5 mm, fully threaded



* All implants are also available in sterile. Therefore, add suffix "S" to article number.

Small Fragment System

Cancellous Bone Screw 4.0 mm, short threaded



Article Number Stainless Steel	Article Number* Titanium	Length
03.00624.010	03.01624.010	10 mm
03.00624.012	03.01624.012	12 mm
03.00624.014	03.01624.014	14 mm
03.00624.016	03.01624.016	16 mm
03.00624.018	03.01624.018	18 mm
03.00624.020	03.01624.020	20 mm
03.00624.022	03.01624.022	22 mm
03.00624.024	03.01624.024	24 mm
03.00624.026	03.01624.026	26 mm
03.00624.028	03.01624.028	28 mm
03.00624.030	03.01624.030	30 mm
03.00624.032	03.01624.032	32 mm
03.00624.034	03.01624.034	34 mm
03.00624.035	03.01624.035	35 mm
03.00624.036	03.01624.036	36 mm
03.00624.038	03.01624.038	38 mm
03.00624.040	03.01624.040	40 mm
03.00624.042	03.01624.042	42 mm
03.00624.044	03.01624.044	44 mm
03.00624.045	03.01624.045	45 mm
03.00624.046	03.01624.046	46 mm
03.00624.048	03.01624.048	48 mm
03.00624.050	03.01624.050	50 mm
03.00624.055	03.01624.055	55 mm
03.00624.060	03.01624.060	60 mm

* All implants are also available in sterile. Therefore, add suffix "S" to article number.

Article Number Stainless Steel	Article Number* Titanium	Length
03.00640.010	03.01640.010	10 mm
03.00640.012	03.01640.012	12 mm
03.00640.014	03.01640.014	14 mm
03.00640.016	03.01640.016	16 mm
03.00640.018	03.01640.018	18 mm
03.00640.020	03.01640.020	20 mm
03.00640.022	03.01640.022	22 mm
03.00640.024	03.01640.024	24 mm
03.00640.026	03.01640.026	26 mm
03.00640.028	03.01640.028	28 mm
03.00640.030	03.01640.030	30 mm
03.00640.032	03.01640.032	32 mm
03.00640.034	03.01640.034	34 mm
03.00640.035	03.01640.035	35 mm
03.00640.036	03.01640.036	36 mm
03.00640.038	03.01640.038	38 mm
03.00640.040	03.01640.040	40 mm
03.00640.042	03.01640.042	42 mm
03.00640.044	03.01640.044	44 mm
03.00640.046	03.01640.046	46 mm
03.00640.048	03.01640.048	48 mm
03.00640.050	03.01640.050	50 mm
03.00640.055	03.01640.055	55 mm
03.00640.060	03.01640.060	60 mm

Cancellous Bone Screw 4.0 mm, fully threaded



* All implants are also available in sterile. Therefore, add suffix "S" to article number.

Small Fragment System

Locking Cortical Screw Ø 2.7 mm, self-tapping



Article Number* Titanium	Length
03.05527.010	10 mm
03.05527.012	12 mm
03.05527.014	14 mm
03.05527.016	16 mm
03.05527.018	18 mm
03.05527.020	20 mm
03.05527.022	22 mm
03.05527.024	24 mm
03.05527.026	26 mm
03.05527.028	28 mm
03.05527.030	30 mm
03.05527.032	32 mm
03.05527.034	34 mm
03.05527.036	36 mm
03.05527.038	38 mm
03.05527.040	40 mm
03.05527.042	42 mm
03.05527.044	44 mm
03.05527.045	45 mm
03.05527.046	46 mm
03.05527.048	48 mm
03.05527.050	50 mm
03.05527.052	52 mm
03.05527.054	54 mm
03.05527.055	55 mm
03.05527.056	56 mm
03.05527.058	58 mm
03.05527.060	60 mm

* All implants are also available in sterile. Therefor, add suffix "S" to article number.

Locking Cortical Screw Ø 3.5 mm, self-tapping



Article Number* Titanium	Length
03.05612.010	10 mm
03.05612.012	12 mm
03.05612.014	14 mm
03.05612.016	16 mm
03.05612.018	18 mm
03.05612.020	20 mm
03.05612.022	22 mm
03.05612.024	24 mm
03.05612.026	26 mm
03.05612.028	28 mm
03.05612.030	30 mm
03.05612.032	32 mm
03.05612.034	34 mm
03.05612.036	36 mm
03.05612.038	38 mm
03.05612.040	40 mm
03.05612.042	42 mm
03.05612.044	44 mm
03.05612.046	46 mm
03.05612.048	48 mm
03.05612.050	50 mm
03.05612.052	52 mm
03.05612.054	54 mm
03.05612.055	55 mm
03.05612.056	56 mm
03.05612.058	58 mm
03.05612.060	60 mm
03.05612.065	65 mm
03.05612.070	70 mm
03.05612.075	75 mm
03.05612.080	80 mm

* All implants are also available in sterile. Therefore, add suffix "S" to article number.

Locking Cancellous Bone Screw 4.0 mm



Article Number* Titanium	Length
03.05640.012	12 mm
03.05640.014	14 mm
03.05640.016	16 mm
03.05640.018	18 mm
03.05640.020	20 mm
03.05640.022	22 mm
03.05640.024	24 mm
03.05640.026	26 mm
03.05640.028	28 mm
03.05640.030	30 mm
03.05640.032	32 mm
03.05640.034	34 mm
03.05640.036	36 mm
03.05640.038	38 mm
03.05640.040	40 mm
03.05640.042	42 mm
03.05640.044	44 mm
03.05640.046	46 mm
03.05640.048	48 mm
03.05640.050	50 mm
03.05640.052	52 mm
03.05640.054	54 mm
03.05640.056	56 mm
03.05640.058	58 mm
03.05640.060	60 mm
03.05640.065	65 mm
03.05640.070	70 mm
03.05640.075	75 mm
03.05640.080	80 mm

* All implants are also available in sterile. Therefore, add suffix "S" to article number.

Article Number* Titanium	Length
03.03540.008	8 mm
03.03540.010	10 mm
03.03540.012	12 mm
03.03540.014	14 mm
03.03540.016	16 mm
03.03540.018	18 mm
03.03540.020	20 mm
03.03540.022	22mm
03.03540.024	24 mm
03.03540.026	26 mm
03.03540.028	28 mm
03.03540.030	30 mm
03.03540.032	32 mm
03.03540.034	34 mm
03.03540.036	36 mm
03.03540.038	38 mm
03.03540.040	40 mm
03.03540.042	42 mm
03.03540.044	44 mm
03.03540.046	46 mm
03.03540.048	48 mm
03.03540.050	50 mm
03.03540.052	52 mm
03.03540.054	54 mm
03.03540.056	56 mm
03.03540.058	58 mm
03.03540.060	60 mm
03.03540.065	65 mm

ML Cortical Screw Ø 2.7 mm, self-tapping



* All implants are also available in sterile. Therefore, add suffix "S" to article number.

Instruments

11.90012.150 Kirschner Wire Ø 1.2mm, trocar tip, L 150mm



11.90016.150 Kirschner Wire Ø 1.6mm, trocar tip, L 150mm



11.90020.150 Kirschner Wire Ø 2.0mm, trocar tip, L 150mm



03.20010.120 Drill Bit Ø 2.0mm, AO Coupling, L 165/135 mm



03.20010.125 Drill Bit Ø 2.5mm, AO Coupling, L 165/135 mm



03.20010.135 Drill Bit Ø 3.5mm, AO Coupling, L 195/165 mm



02.20030.027 Countersink 2.7/3.5/4.0, AO Coupling



03.20020.040 Tap for Cancellous Bone Screws Ø 4.0mm, AO Coupling, L 110/80 mm



03.20060.015 Drill Guide 2.0 for Locking Plates



03.20060.020 Drill Guide 2.5 for Locking Plates



03.20100.080 Length Determination Instrument, for Screws up to 80mm



03.20040.026 Holding Sleeve for Screws ø 2.7 - 4.0mm



02.20120.015 Screw Forceps, self-holding



02.20060.027 Double Drill Guide 2.7/2.0



03.20060.435 Drill Guide 2.5, neutral and load position, for Low Contact Plates



03.20060.025 Double Drill Guide 3.5/2.5



03.20110.007 Bending Template for Compression Plate 3.5, 7 holes



03.20110.009 Bending Template for Compression Plate 3.5, 9 holes



14.40060.010 Clavicle Retractor



02.20090.008 Bone Lever, narrow tip, width 8mm, L 160mm



02.20120.005 Sharp Hook, L 150mm



03.20070.132 Reduction Forceps with Points, ratchet lock, L 130mm



03.20070.190 Bone Holding Forceps, self-centering, speed lock, L 190mm



03.20050.035 T-Handle with AO Coupling



03.20040.225 Torque Screwdriver, hex 2.5mm, L 270/128 mm or

03.20040.325 Torque Screwdriver, hex 2.5mm, L 220/85 mm



03.20040.025 Screwdriver, hex 2.5, L 200/85 mm



03.20040.125 Screwdriver Shaft, hex 2.5mm, AO Coupling, L 100/70 mm



03.20110.035 Bending Iron for Plates 2.7 to 3.5, right



03.20110.135 Bending Iron for Plates 2.7 to 3.5, left





MRI Safety Information

Non-clinical testing has demonstrated that the plates range from Marquardt Medizintechnik is MR Conditional in accordance with the ASTM F2503 standard definitions. A patient with this device can be safely scanned in an MR system meeting the following conditions:

- Cylindrical-bore
- Horizontal magnetic field (B_0)
- Spatial field gradient lower than or equal to
 - **1.5 T:** 23.45 T/m (2345 G/cm)
 - **3.0 T:** 11.75 T/m (1175 G/cm)
- Radiofrequency (RF) field exposure:
 - RF excitation: Circularly Polarized (CP)
 - RF transmit coil: whole-body transmit coil
 - RF receive coil type: whole-body receive coil
 - Maximum permitted whole-body averaged specific absorption rate (SAR): Normal Operating Mode, 2 W/kg.
 - Scan duration and wait time:
 - 1.5 T:** 2 W/kg whole-body average SAR for **8min and 15s** of continuous RF (a sequence or back-to-back series/scan without breaks) followed by a wait time of **8min and 15s** if this limit is reached.
 - 3.0 T:** 2 W/kg whole-body average SAR for **6min and 19s** of continuous RF (a sequence or back-to-back series/scan without breaks) followed by a wait time of **6min and 19s** if this limit is reached.
- The plates are expected to produce a maximum temperature rise of 8.5 °C at 1.5 T and 6.9 °C at 3 T both after the scanning periods presented above.
- The presence of this implant may produce an image artifact. Some manipulation of scan parameters may be needed to compensate for the artifact. In non-clinical testing, the image artifact caused by the device extends approximately 83 mm from the device edge when imaged with a spin echo pulse sequence and 65 mm with a gradient echo, both at 1.5 T.
- Patients with uncompromised thermoregulation and under uncontrolled conditions or patients with compromised thermoregulation (all persons with impaired systemic or reduced local thermoregulation) and under controlled conditions (a medical doctor or a dedicated trained person can respond instantly to heat induced physiological stress).

Note:

Undergoing an MRI scan, there is a potential risk for patients with a metallic implant. The electromagnetic field created by an MRI scanner can interact with the metallic implant, resulting in displacement of the implant, heating of the tissue near the implant, or other undesirable effects.



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