# KLS Martin



Maxillomandibular Fixation MMF System

Oral and maxillo-facial surgery is our passion! Its further development, together with our customers, is our ambition. Every day we work on developing innovative products and services which meet the highest demands on quality, and which contribute to the wellbeing of the patient.

## Screws for Maxillomandibular Fixation MMF System

Maxillomandibular Fixation (MMF) is one of the most frequent procedures accompanying oral and maxillofacial surgery and it is used routinely for virtually all jaw and midface fractures. Immobilization of the fractured jaw is performed preoperatively (as an immediate measure), intraoperatively (to ensure accurate occlusion and anatomically correct reduction of fragments), or postoperatively (e.g. to introduce the healing process in complex fractures). In rare cases, Maxillomandibular Fixation is still used as a conservative (non-surgical) method of jaw fracture treatment.

Maxillomandibular Fixation of the upper and lower dental arches using special self-tapping, bone-supported screws is a rapid and safe method. Placement comfort and less patient damage are considerable benefits for the patient and surgeon, compared to conventional, tooth-supported Erich or Schuchardt resin/arch wire splinting.



## Table of Contents

	Pages
Easture function and honofit	6 7
	0-7
Surgical technique	8 - 9
Product range	
■ Implants	10 -13
■ Instruments	14
<ul> <li>Storage and set recommendation</li> </ul>	15

## Feature, Function and Benefit



A multitude of different lengths and designs of our MMF screws offers a maximum of application flexibility to the user.

All the screws are self-drilling. The risk of damaging dental roots is thus reduced as there is no need for pre-drilling.

To provide maximum stability, our MMF screws are also offered in steel – in addition to the proven titanium alloy.

Due to a rising need for sterile implants the MMF screws are also available sterile-packed, in packs of 2.

### MMF Screws

	Feature and Function	Benefit
	Proven maxDrive <sup>®</sup> head	<ul> <li>Easy screw pickup</li> </ul>
	<ul> <li>Predefined, self-centering guide</li> </ul>	<ul> <li>Easy to pick up again in situ</li> </ul>
	<ul> <li>Secure self-retaining mechanism</li> </ul>	<ul> <li>Can be inserted in angular position as well</li> </ul>
		<ul> <li>Direct force transmission from bit to screw</li> </ul>
<del>K</del> R	<ul> <li>Self-drilling screws</li> </ul>	<ul> <li>No pre-drilling</li> </ul>
2 F		<ul> <li>Reduced OR-time</li> </ul>
P		<ul> <li>Risk of damaging dental roots is reduced</li> </ul>
	<ul> <li>Groove under screwhead</li> </ul>	<ul> <li>Secures wires or elastics</li> </ul>
	<ul> <li>Hole under screwhead</li> </ul>	
	<ul> <li>Screws made from stainless steel</li> </ul>	<ul> <li>Maximum stability</li> </ul>
St		
	<ul> <li>Screws made from Titanium</li> </ul>	<ul> <li>High biocompatibility</li> </ul>
STERILE R	<ul> <li>Sterile-packed scews</li> </ul>	<ul> <li>Direct, swift and application-oriented access</li> </ul>
		<ul> <li>No costs for processing</li> </ul>
		■ 100% batch traceability



#### Screw Placement Maxilla

Based on the fracture type and location, number and position of the MMF screws is determined.

In this surgical technique three screws are placed in order to stabilize an anterior mandible fracture. The ideal position is above the teeth roots, one in the midline and one on either side of the midline, posterior to the canine roots.

Using the 2.0-mm screwdriver, the screw is directly inserted into the bone; pre-drilling is not necessary.

The screw is advanced until the concave shoulder of the screw head is 1 mm from the mucosal surface.

The screw may be readjusted for proper alignment of the wire holes contained within the screw head.

The procedure is repeated for the other maxillary MMF screws.



#### Screw Placement Mandible

Opposite to the maxillary MMF screws, the mandibular screws are inserted. After having exposed the fracture and identified the anatomical structures, teeth roots and mental nerve, the screws are implanted using the 2.0-mm screwdriver. Place screws a distance of 1 cm from either side of the fracture below the roots of the teeth.

The screw is advanced until the concave shoulder of the screw head is 1 mm from the mucosal surface.

The screw may be readjusted for proper alignment of the wire holes contained within the screw head.

The procedure is repeated for the other mandibular MMF screws.



#### Wire Application

The wires are inserted through the holes of the maxillary and opposing mandibular screws. Alternatively the wires can be wrapped around the wire groove contained within the head of the MMF screw.

The number of wires placed, their configuration, and the amount needed to stabilize the occlusion and fracture is determined by the surgeon.



#### **Tightening of Wires**

After having established the occlusion, the wires are tightened. The MMF screws may be advanced further to increase the tautness of the wires.

Finally the wires are cut and bent under to prevent soft tissue irritation.

Product Range

### **MMF Screws**

#### maxDrive® MMF Screws

C D	Ø	Thread Length	Total Length	Item Number	
10	2.0 mm	8 mm	12 mm	25-092-08-09	1 5
T	2.0 mm	8 mm	12 mm	25-092-08-72	12
- 推	2.0 mm	8 mm	12 mm	25-092-38-05	St 5
1	2.0 mm	8 mm	12 mm	25-092-38-72	St 2
	2.0 mm	12 mm	16 mm	25-092-12-09	05
	2.0 mm	12 mm	16 mm	25-092-12-72	02
	2.0 mm	12 mm	16 mm	25-092-42-05	St 5
	2.0 mm	12 mm	16 mm	25-092-42-72	St 2

with clip magazine

#### Amsterdam MMF Screws

		Ø	Thread Length	Total Length	Item Number	
		2.0 mm	8 mm	12 mm	25-099-12-09	1 2
	運	2.0 mm	8 mm	12 mm	25-099-12-72	02
	種	2.0 mm	8 mm	12 mm	25-099-42-05	St 2
	5	2.0 mm	8 mm	12 mm	25-099-42-72	St 2
		2.0 mm	10 mm	14 mm	25-099-14-09	1 2
		2.0 mm	10 mm	14 mm	25-099-14-72	1 2
	2.0 mm	10 mm	14 mm	25-099-44-05	St 2	
		2.0 mm	10 mm	14 mm	25-099-44-72	St 2

Amsterdam MMF Designed in cooperation with: Dr. Bart van den Bergh, VU Amsterdam, The Netherlands

without clip magazine



#### FAMI MMF Screws

	THE	Ø	Thread Length	Total Length	Item Number	
$\square$	Ŧ	2.0 mm	8 mm	10.4 mm	25-097-08-09	02
	H.	2.0 mm	8 mm	10.4 mm	25-097-08-75	12
	1					

FAMI MMF -

designed in cooperation with:
Lars Erikson D.D.S, Odont D. (Ph.D.), University of Lund, Sweden
Dr. Dr. Rainer Fangmann, MSC, Wilhelmshaven, Germany
PD Dr. Dr. R. Mischkowski, Städt. Klinikum Ludwigshafen, Germany

with clip magazine

#### FAMI MMF Screws

<b>**</b>	Ø	Thread Length	Total Length	Item Number	
- 镗	2.0 mm	8 mm	10.7 mm	25-099-08-09	1 2
種	2.0 mm	11 mm	13.7 mm	25-099-11-09	1 2
徒					

FAMI MMF -

designed in cooperation with:
Dr. Dr. Rainer Fangmann, MSC, Wilhelmshaven, Germany
PD Dr. Dr. R. Mischkowski, Städt. Klinikum Ludwigshafen, Germany

with clip magazine

Product Range

## Fast-Fix MMF Washer and Arch Bar



Used in connection with 2.0-mm Centre-Drive®, maxDrive® or Cross-Drive screws





Erich 38-690-00-07 Arch bar Length: 1 m



Product Range

### Instruments and Storage





### Fast-Fix MMF System

55-961-29-04		2.0-mm MMF module complete, consisting of:
55-962-48-04	0	MMF module, with red side rails
55-963-47-04	0	Lid for 2.0-mm MMF module
		Set Recommendation
25-407-04-04	St 1	Screwdriver handle, only
25-486-97-07	St 1	maxDrive <sup>®</sup> blade 2.0 / 2.3 mm
22-500-11-07	St 1	TC wire twister
11-865-12-07	St 1	Wire scissors
39-311-20-07	St 1	Gauze packer

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