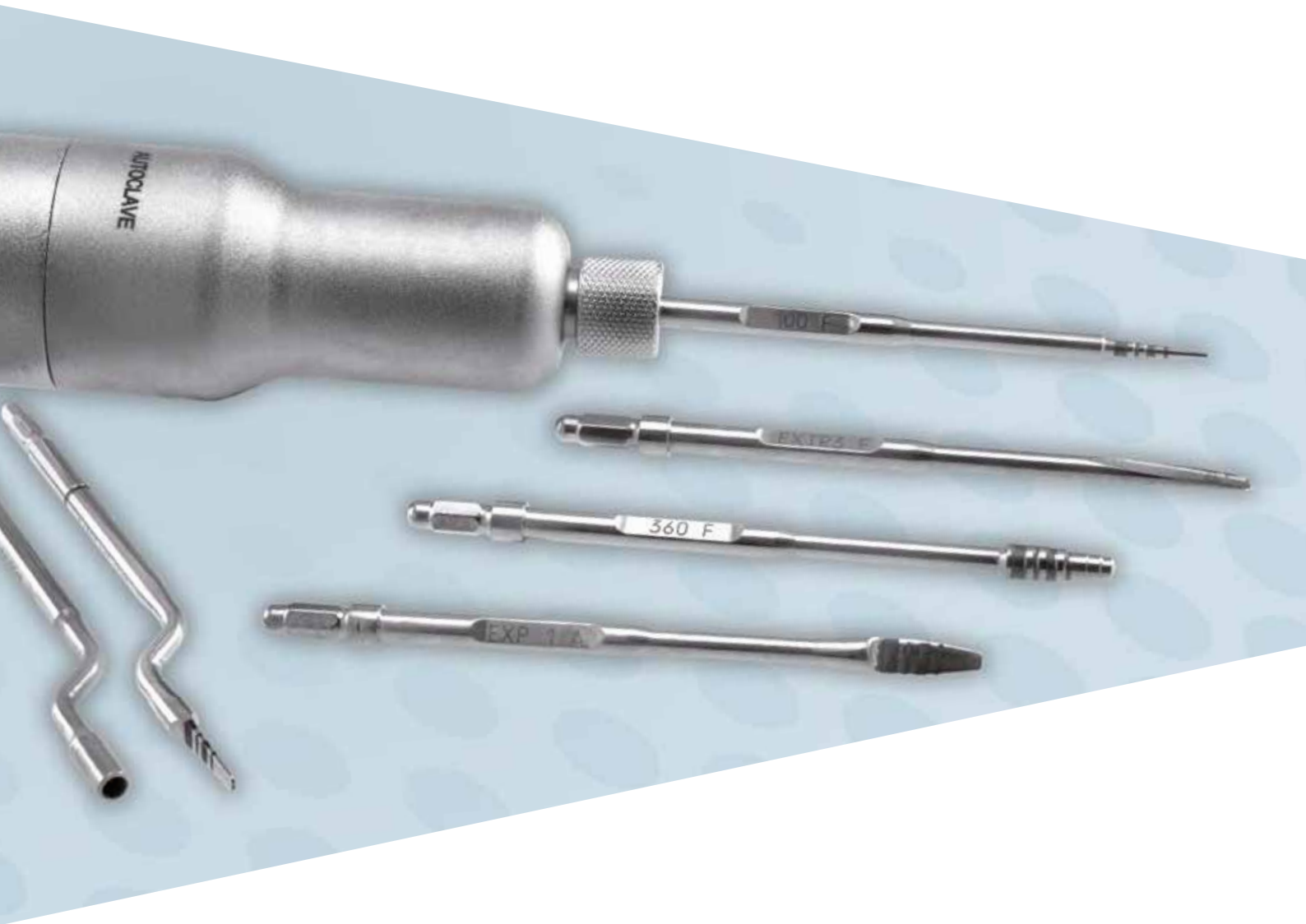


# MAGNETIC MALLETS





# Magnetic Mallet

Magnetic-dynamic device



Magnetic Mallet is an innovative, unique and patented surgical device able to improve working standards in sinus lift and split crest practice. Thanks to Magnetic Mallet these treatments are now more defined and less invasive for the patient, and the surgeon can operate in an easier and faster way. Plastic deformation is a structural phenomenon peculiar to the great majority of materials which is due to specific forces applied in fixed times. According to the applied force and to its application time, molecular flowing can be improved or not.

Magnetic Mallet is a device governed by preconceived forces implemented in optimal time. These forces are transmitted to the head of the instruments (bone expanders, extractors and more).

The instrument is firmly hooked up to the handpiece and the application time of the force is the best one to achieve the desired plastic deformation.

The device is designed to apply 4 forces of different strength, from the lighter one (force number 1) to the stronger one (force number 4).

From the test we carried out, the most used forces are force nr. 2 and nr. 3; nevertheless it is important to note that the whole spectrum of the forces has a very close progressive range, and for this reason all of them can be considered suitable for surgery practice.

However it is entirely up to the surgeon to determine the more suitable force to be applied according to the treatment he wishes to carry out.

## Innovative features and advantages of Magnetic Mallet

- **It prevents the applied forces from influencing the whole maxilla-cranial mass.** No more problems of disease for the patient (Vertigo) caused by the displacement of the otoliths.
- **It provides more defined positioning and alignment of the bone expander.** Thanks to Magnetic Mallet the surgeon can avoid all deviations caused by the difference of bone density.
- **It allows better visibility** during the surgical treatment since the surgeon uses just one hand.
- **It limits the bone milling.** You will be able to create a site for the implant just using bone expanders in the diameters sequence.
- **It allows better access to the inner part of maxilla (molars' area) and to the lower jaw.** In this way lower jaw ridge expansion is now possible.
- **It allows easy insertion of the implant thanks to the specific instrument for implant insertion** (supplied with the Magnetic Mallet). The inserter, designed for the screw housing, allows the implant insertion by keeping the alignment; the subsequent screwing on will be easier.
- **The sinus lift and ridge expansion procedures with Magnetic Mallet are considerably less invasive and much less traumatic for the patient,** and allows the patient to start immediate his normal daily life immediately with no discomfort or complications.

**Application fields**

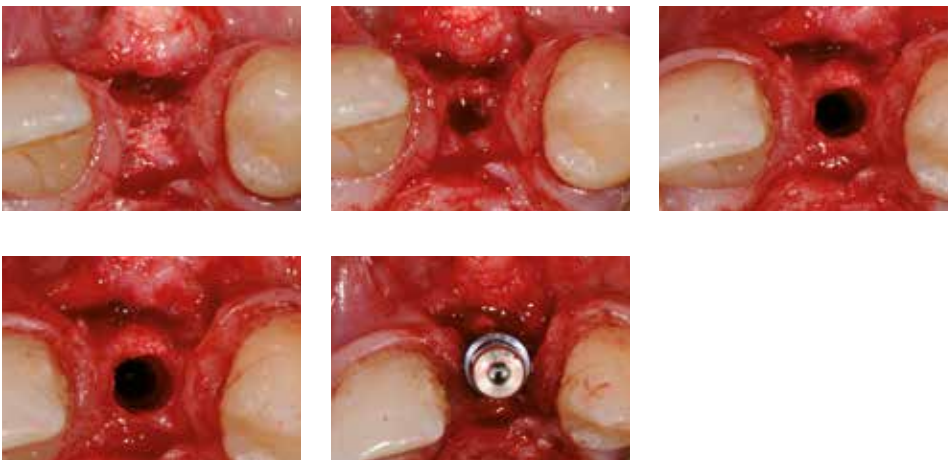
- bone remodelling (horizontal and vertical ridge expansion/slip crest, bone compaction);
- sinus lift;
- root extraction;
- insertion of post-extractive implants.

**Standard Configuration**

Control unit, handpiece, cable, power supply unit, footswitch, set of 10 instruments, 2 Swann-Morton SM64 blades, autoclavable tray for instruments, case.

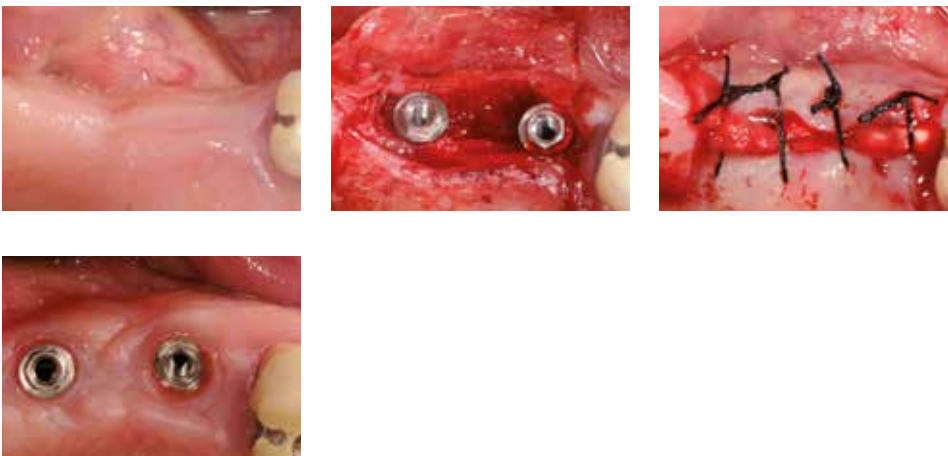
**Horizontal bone compaction and expansion sequence carried out with the Magnetic Mallet**

*Courtesy of dr. Roberto Crespi, Milan, Italy*



**Split crest and horizontal bone expansion**

*Courtesy of dr. Roberto Crespi, Milan, Italy*



### Thin crest splitting

Courtesy of dr. Marco Csonka, Catania



After cutting the crest with the beaver blade, we start the split with the chisel expander at low power (1).



After placing two titanium wedges, the implant sites are prepared with the specific instruments.



After keeping the instruments inside the bone for a suitable time, necessary in order to accustom the crest to its new location, the implants are inserted.

### Bone expansion

Courtesy of dr. Marco Csonka, Catania



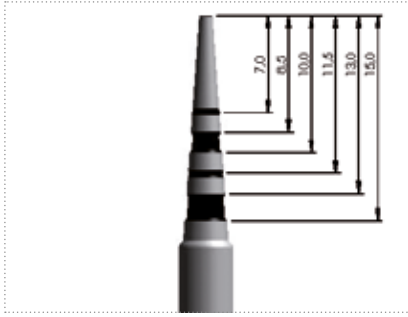
Starting expansion with 1.0 mm bone expander. The progression should be slow and gradual, the more mineralized the bone the longer the breaks/pauses (during such breaks/pauses the tip should not be extracted from the bone).



Final expansion with 3.0 mm bone expander. The size of the instruments must be chosen according to the type and diameter of the implant.



# Instruments



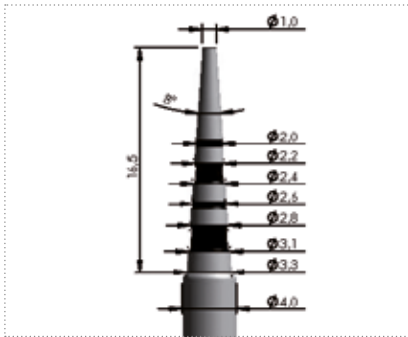
The majority of the instruments are laser-marked with the same height, in accordance with the height of main Sweden & Martina's implants.

Valid for all instruments with exception of MM-F-EXTR1D, MM-F-EXTR1C, MM-F-INSD, MM-F-INSC, MM-F-PBD, MM-F-INSEXD, MM-F-INSEXC, MM-F-EXTR2D, MM-F-EXTR2C, MM-F-EXTR3D, MM-F-EXTR3C, MM-F-EXTR5D, MM-F-EXTR5C.

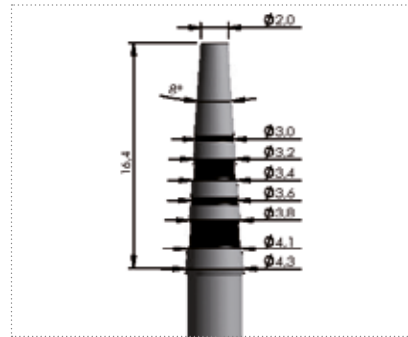
**Basic kit** (included in the standard configuration)

## Bone Expanders

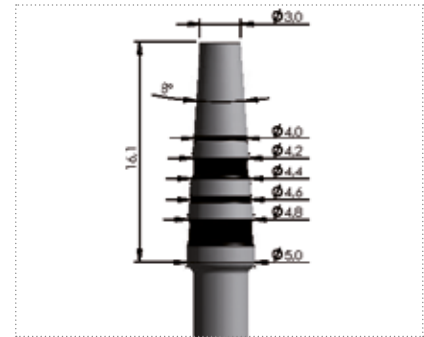
For bone expansion and compaction. Available with diameters (at tip) 1.00, 2.00 and 3.00 mm



MM-F-100D

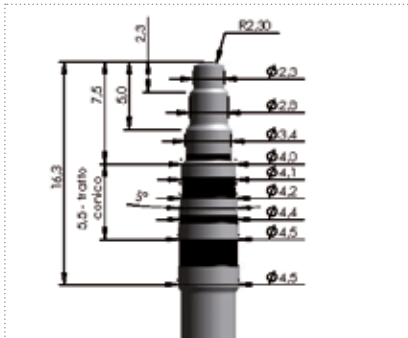


MM-F-200D

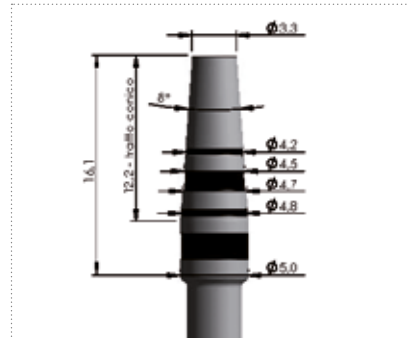


MM-F-300D

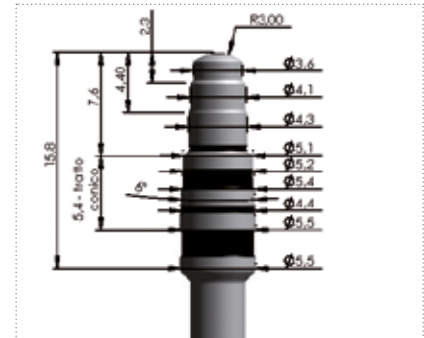
For expanding the diameter of the implant site, diameters (at tip) 2.30, 3.30, 3.60 mm



MM-F-230D



MM-F-330D



MM-F-360D

## Beaver holder

For the initial incision of the bone crest. Length 735 mm\*



MM-F-PBD

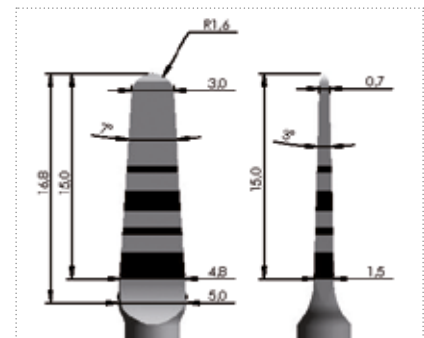


BLADE

\* It is recommended to use Swann-Morton blades mod. SM64, but the Beaver holder fits with other disposable blades. Sweden & Martina does not supply disposable blades.

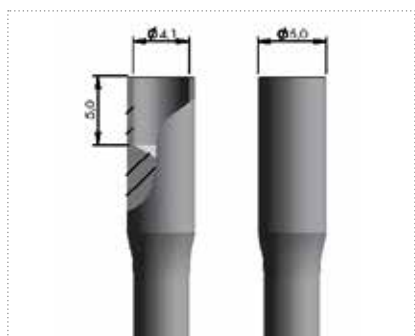
## Blade instrument

For crest splitting preparation in the maxilla



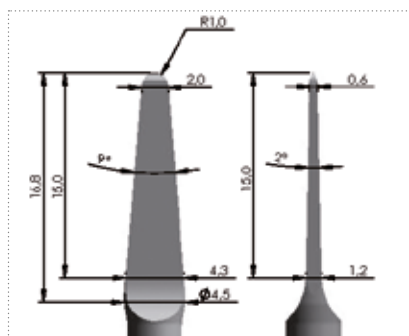
MM-F-CUTD

**Instrument for inserting the implant**



MM-F-INSD

**Chisel extractor**  
For root extraction



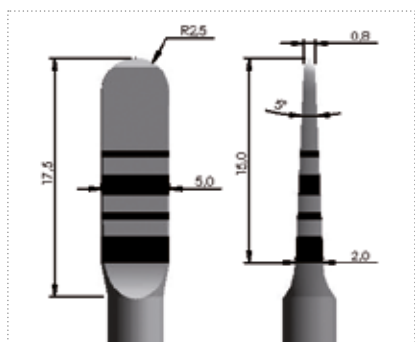
MM-F-EXTR1D

**Optional instruments** (to be ordered separately)

**Chisel bone expanders**

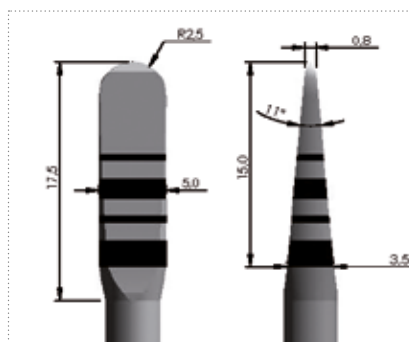
For bone crest splitting

2.0 mm thick chisel, rounded tip



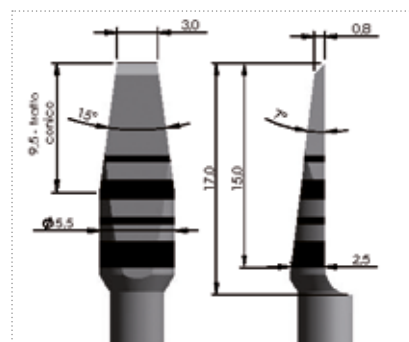
MM-F-EXP1D

3.50 mm thick chisel, rounded tip



MM-F-EXP2D

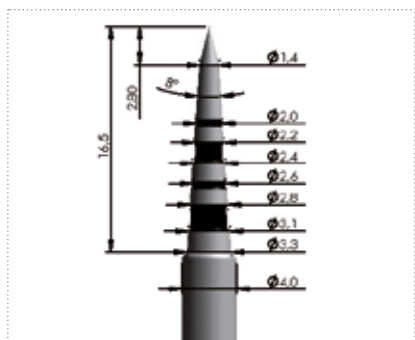
Flat tip chisel, for one direction splitting



MM-F-EXP3AD

**Tapered bone expander**

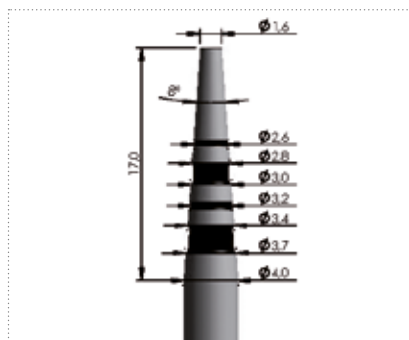
Perfect as first instrument to be used, instead of drills



MM-F-100PD

**1.60 bone expander**

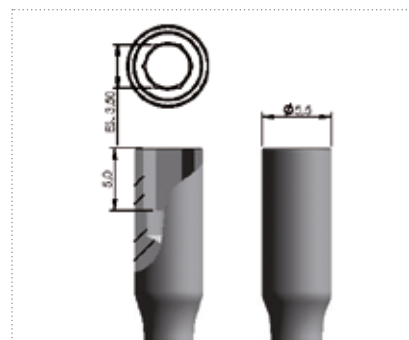
For bone expansion and compaction, Ø 1.60 mm



MM-F-160D

**Instrument for implant insertion**

Hexagonal inner surface, it fits with Premium Kohno, Outlink<sup>2</sup> and Shelta implants (inner hexagon 3.50 mm)

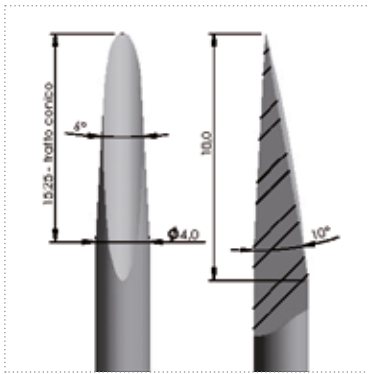


MM-F-INSEXD

### Extractors

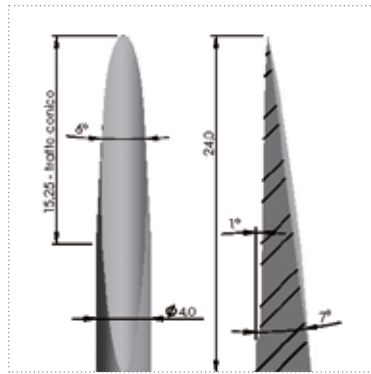
For tooth and root extraction

Spoon shape, short. Its curved shape fits well to the anatomy of the dental roots



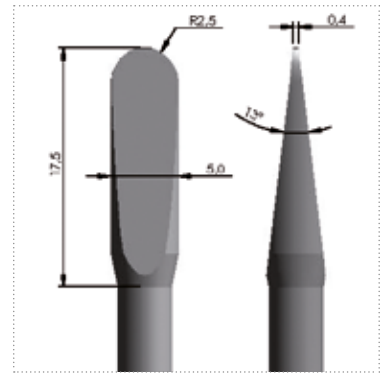
MM-F-EXTR2D

Spoon shape, long. Its curved shape fits well to the anatomy of the dental roots



MM-F-EXTR3D

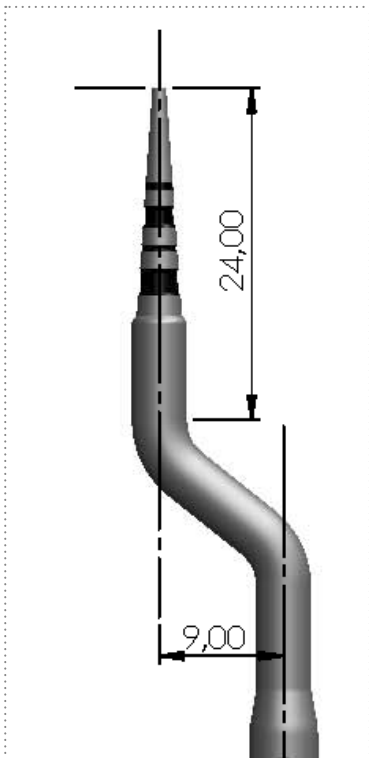
Rounded tip, flat surface on both sides, specifically designed for eights extractions



MM-F-EXTR5D

### Curved instruments

All instruments, with the exception of the beaver holder, are available in the curved shape too





# Crown remover handpiece



The crown remover handpiece is an optional accessory which represents the most recent evolution of Magnetic Mallet. It is an optional handpiece complete with cable (both autoclavable) for connection to the control unit.

The operation of the crown remover handpiece is based on the same principle: it generates calibrated impulses, adjustable from force 1 to force 4, which act in the opposite direction to the traditional surgical handpiece. In this way the crown remover is able to deform the fixing cement with the consequent loss of stability of the prosthesis, which can then be removed.

The handpiece in fact generates a mechanical impulse with a level that can be adjusted, but with predetermined times and force. The force generated is three times the force applied by hand in a lower time.

In addition, the use of manual mallets, irrespective of the ability of the surgeon, is much more traumatic because the force application times are reckoned in thousandths of a second, while the Magnetic Mallet are in millionths of a second.

The Magnetic Mallet crown remover can be used for removing both bridges and crowns and it is particularly efficient in removing crowns on implants.

As with all automatic extraction systems, it is important for the surgeon to determine the feasibility and convenience of the operation case by case, considering the possible fragility of the post under the prosthesis.

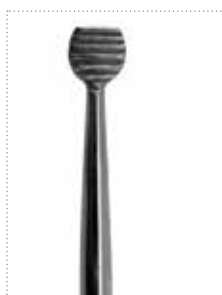
The crown remover handpiece is fully autoclavable and marked "CROWN REMOVER - Autoclave" on the handle.

It is supplied with its own cable in a special case, with a series of 3 tips for screwing onto the handpiece, contained in an autoclavable tray.

Should spare parts be necessary, the tips are standard accessories easily found on the market\*.



**2306\*** Crown remover tip



**2307\*** Crown remover tip



**2308\*** Bridge remover tip



## Standard Configuration

Autoclavable CROWN REMOVER handpiece, cable, 3 threaded tips, autoclavable tray.

\* ASA dental codes.

## Clinical pictures

Courtesy of dr. Giovanni Battista Bruschi, Rome, Italy



code	description
MMUK	Magnetic Mallet, complete with basic kit of 10 instruments
MM-F-100D	Bone expander, Ø 1.00 mm, straight
MM-F-200D	Bone expander, Ø 2.00 mm, straight
MM-F-230D	Stepped bone expander Ø 2.30 mm, straight
MM-F-300D	Bone expander, Ø 3.00 mm, straight
MM-F-330D	Bone expander, Ø 3.30 mm, straight
MM-F-360D	Stepped bone expander Ø 3.60 mm, straight
MM-F-CUTD	Blade instrument, straight
MM-F-EXTR1D	Extraction instrument, straight
MM-F-INSD	Implant insertion instrument, straight
MM-F-PBD	Beaver holder + 1 SM64 blade
MM-F-EXP1D	Chisel bone expander, 2.00 mm, straight
MM-F-EXP2D	Chisel bone expander, 3.50 mm, straight
MM-F-EXP3AD	One direction split bone expander, straight
MM-F-100PD	Tapered bone expander, straight
MM-F-160D	Tapered bone expander Ø 1.60 mm, straight
MM-F-INSEXD	Implant insertion instrument (hexagonal mounter), straight
MM-F-EXTR2D	Spoon shape extractor, short, straight
MM-F-EXTR3D	Spoon shape extractor, long, straight
MM-F-EXTR5D	Rounded shape tip extractor, for eights, straight
MM-F-100C	Bone expander, Ø 1.00 mm, curved
MM-F-200C	Bone expander, Ø 2.00 mm, curved
MM-F-230C	Stepped bone expander Ø 2.30 mm, curved
MM-F-300C	Bone expander Ø 3.00 mm, curved
MM-F-330C	Bone expander Ø 3.30 mm, curved
MM-F-360C	Stepped bone expander Ø 3.60 mm, curved
MM-F-CUTC	Blade instrument, curved
MM-F-EXTR1C	Extraction instrument, curved
MM-F-INSC	Implant insertion instrument, curved
MM-F-EXP1C	Chisel bone expander, 2.00 mm, curved
MM-F-EXP2C	Chisel bone expander, 3.50 mm, curved
MM-F-EXP3AC	One direction split bone expander, curved
MM-F-100PC	Tapered bone expander, curved
MM-F-160C	Bone expander, Ø 1.60 mm, curved
MM-F-INSEXC	Implant insertion instrument (hexagonal mounter), curved
MM-F-EXTR2C	Spoon shape extractor, short, curved
MM-F-EXTR3C	Spoon shape extractor, long, curved
MM-F-EXTR5C	Rounded shape tip extractor, for eights, curved
MM-F-KIT	Basic 10 straight instruments kit
MM-F-KITC	9 curved instruments kit
MM-F-MAN	Magnetic Mallet handpiece (flanged connection)
MAGNETICMALLET-LC	Crown remover handpiece for magnetic mallet, including 3 tips in an autoclavable tray

**Warning:** for Magnetic Mallet purchased up to April 2015 (SN. 001-877) that have the handpiece with **not flanged connection** (hexagonal instrument connection), please contact Sweden & Martina since the above listed codes are not the right ones.





rev. 02-17  
v.02



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The product Magnetic Mallet is a medical device of class IIa and is manufactured by Metaergonomica. It conforms to the UNI ISO 9001/UNI EN 13485 and is certified with the CE 01936 in compliance with the European Medical Device Directive No. 93/42EEC and European Directive 2007/47EEC.



All contents are updated at the time of printing. Please check in the headquarters whether any updates are available.