

m[®]
two

NiTi system

traditional method
modern results



Endo
Easy
Efficient[®]

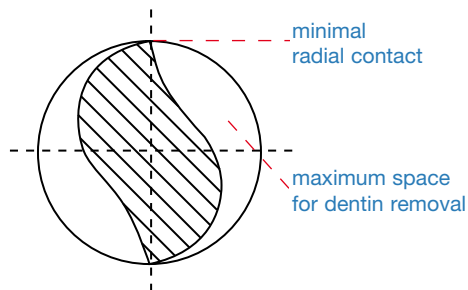


VDW[®]



Design

Mtwo® has two cutting edges which form long, almost vertical spirals, ensuring better control of instrument progression. The backs of the cutting edges are sharp to optimize cutting efficiency and facilitate advancement of the instrument in the canal.

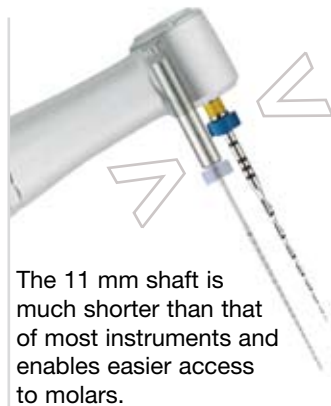
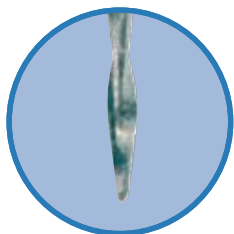


Mtwo® has maximum space for removal of dentin and minimum radial contact. The core width is designed for maximum flexibility without compromising the instrument's strength.

The distance between the blades increases from the tip of the file towards the shaft; the pitch is progressive and the space for dentin removal is deeper at the back of the blade, helping to reduce blockage and the accumulation of dentin chips. This increases safety of use. The progressive pitch allows the instrument to proceed towards the apical area safely whilst working more efficiently in the coronal third.

Mtwo® is very efficient; it advances automatically in the canal without any pressure. Unlike other instruments with active cutting edges, the natural advancement in the root canal is gentle, controlled and without an undesired screw-in effect. Efficient dentinal debris removal and minimal radial friction reduces resistance and enables good instrument control.

A non-cutting tip



The 11 mm shaft is much shorter than that of most instruments and enables easier access to molars.

Advantages of NiTi

Mtwo® is made of a highly elastic nickel-titanium alloy. The main advantages of NiTi are:

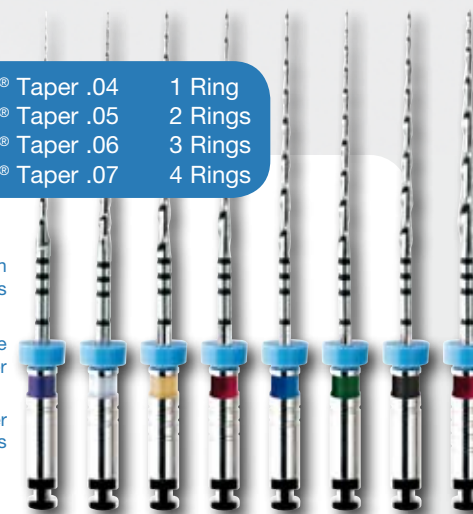
- a shape memory effect
- high flexibility
- respect of canal morphology
- high fracture resistance
- optimal resistance to corrosion

Mtwo® Taper .04	1 Ring
Mtwo® Taper .05	2 Rings
Mtwo® Taper .06	3 Rings
Mtwo® Taper .07	4 Rings

Depth markings

Silicone stopper

Taper rings



Instrument markings

Mtwo® has radiograph visible depth markings and silicone stoppers.

The different tapers are easily distinguishable by the number of rings on the shaft.

10/.04

Different tapers

Traditional instruments have an .02 or 2% taper, that is, they increase 0.02 mm in diameter every 1 mm along the length of the instrument.

The advantages of using instruments of different tapers are substantial:

- fast and early elimination of coronal interferences and direct and easy access to the apical third
- faster and more effective preparation, often possible with just a few instruments
- canal shaping also suitable for the latest obturation methods, using less instruments and without the use of Gates Glidden drills
- increased space for efficient irrigation of the root canal.

Diameter per millimetre

- 0.74mm
- 0.70mm
- 0.66mm
- 0.62mm
- 0.58mm
- 0.54mm
- 0.50mm
- 0.46mm
- 0.42mm
- 0.38mm
- 0.34mm
- 0.30mm
- 0.26mm
- 0.22mm
- 0.18mm
- 0.14mm
- 0.10mm

16mm



→ One sequence for all canals

There is one sequence for all types of root canal. It is based on the Single Length technique whereby the first and every following instrument is used to full working length.

The instrument always reaches the apex to achieve a continuous taper along the whole canal, but it can also work at different levels within the canal due to a lateral cutting ability. This allows the coronal portions of the canal to be widened, thus softening the curvature. After checking patency of the canal to the apex using an ISO 10 hand instrument (e.g. a C-PILOT file), proceed as follows using Mtwo® instruments: 10/.04, 15/.05, 20/.06, 25/.06.

The (basic) sequence enables the whole length of the root canal to be shaped conically with the use of the first instrument.

In the case of root canals where the apex is reached easily with an ISO 15 (white) or 20 (yellow) hand instrument, it is not necessary to use the 10/.04 or even the 15/.05 instrument. In such cases you can start using an instrument with a tip diameter corresponding to that of the hand instrument used to reach the apex. In this case, the 20/.06 would be the first Mtwo® instrument.



→ Further shaping

The goal is to achieve a three dimensional seal of the root canal system including filling all lateral canals.

After using the Mtwo® 25/.06, gauge the apical diameter and proceed as follows according to the desired obturation technique:

For lateral condensation of root canals with an apical diameter of 0.25 mm, preparation with the basic sequence is sufficient.

→ Vertical condensation

For vertical condensation or for an apical diameter of more than 0.25 mm, it is necessary to increase the taper of the last 5 mm of the root canal using an instrument with a tip diameter corresponding to that of the apex. For this reason Mtwo® instruments are available in the following sizes:

[30/.05]

[35/.04]

[40/.04]



If an .06 taper is insufficient, an ISO size 25 instrument with an .07 taper can be used to create a larger taper and better coronal access for vertical condensation.

- red > ISO 25
- 4 rings > taper .07





Unique features

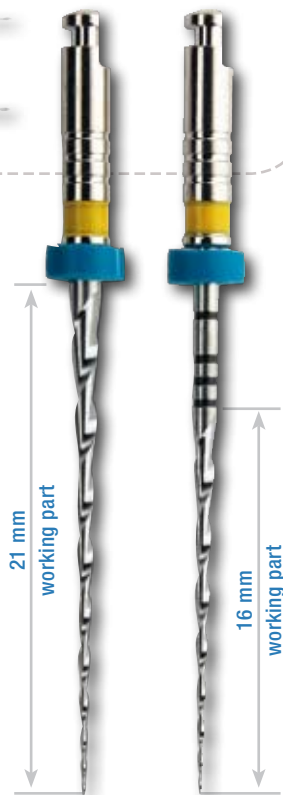
Mtwo® is the only NiTi system with 10/.04 and 15/.05 instruments. That is, an instrument with an ISO size 10 tip and an .04 taper and an instrument with an ISO size 15 tip and an .05 taper.

These two instruments, used at the beginning of the preparation, are very effective in shaping the canal and reaching the apical third.



Mtwo®'s high cutting efficiency enables the whole length of the root canal to be cleaned and shaped using a method of alternating natural progression and passive filing. Thanks to Mtwo®'s larger taper and progressive pitch, the apical third can be reached rapidly and safely whilst the coronal and middle thirds can be efficiently cleaned using circumferential filing if the diameter of the root canal is greater than that of the Mtwo® instrument.

Mtwo® instruments in working lengths 25 and 31 mm are the only Endodontic instruments available which have both a 16 mm and a 21 mm working part. If there are interferences in the pulp chamber, the 21 mm working part instruments can be used to eliminate these gradually and automatically with a passive filing motion, without weakening the tooth.



Instructions for use

Passive filing

Mtwo® cuts as it advances automatically in an apical direction. If it, however, does not advance easily and the instrument is subjected to stress by prolonged contact with the canal wall, it should be withdrawn about 1-2 mm and used in a passive filing motion. This allows space to be created so that progression towards the apex can be continued. Before doing this, the instrument should be visually checked for signs of wear and should be cleaned of debris. If necessary, this process can be repeated a second time. This is sometimes necessary for particularly difficult root canals.

This unique and very important Mtwo® feature allows the coronal third to be enlarged to a taper greater than that of the instrument used, ensuring that each root canal section is cleaned as required.

How often can I use an Mtwo® instrument?

10/.04	X	X	X	X	X	6	7
15/.05	X	X	X	X	X	7	7
20/.06	X	X	X	X	X	7	7
25/.06	X	X	X	X	X	7	7

Control Sticker

For optimum safety, it is better to use an instrument only once. In practice, it is important to track how often an instrument has been used (Control Stickers ref. 491). The number of times you can use an instrument depends on the stress exerted on it. As a guideline:

wide, almost straight canals (e.g. front teeth)	X	max. 8 canals
canals with small or medium curvatures (e.g. premolars)	X X	max. 4 canals
canals with narrow, strongly curved canals (e.g. molars)	X X X	max. 2 canals

If the Mtwo® instrument has been subjected to more stress, e.g. in strongly curved or obliterated canals, it should be used only once.

Always check Mtwo® instruments visually for signs of wear and clean them of debris (e.g. with the use of an Interim Stand).



Speed and instrument rotation

The ideal speed is 280 rpm and should not exceed 350 rpm in order to avoid subjecting the instrument to excess stress, thus weakening its structure.

Rotation of the instrument should be started once the instrument has been inserted just inside the root canal entrance. It is important that the instrument is not in contact with the root canal wall when rotation is started. Rotation should be kept at a constant speed during the treatment and no pressure should be exerted on the instrument.



Torque control

It is important to use Mtwo® instruments with a torque controlled drive system, i.e. an endomotor such as the VDW.GOLD®, VDW.SILVER® or Endo IT professional or a torque controlled contra-angle such as the Mtwo® direct.

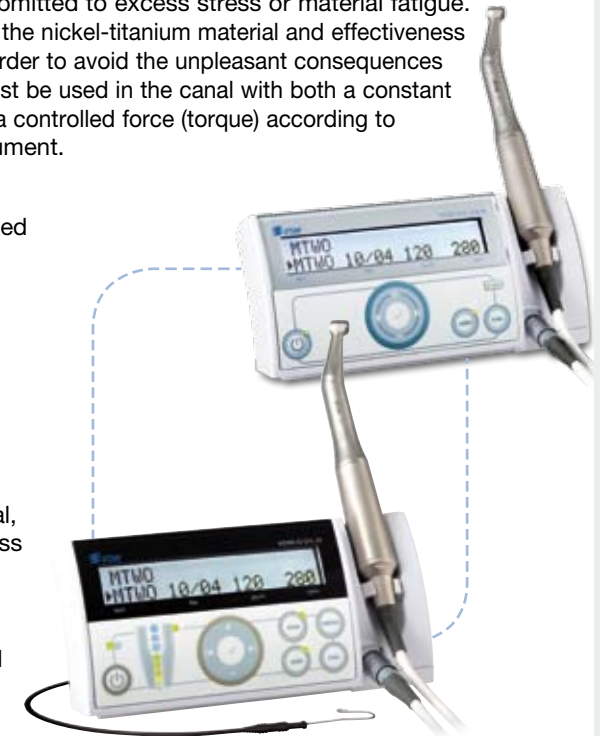
Why do I need a torque controlled drive system?

Steel instruments, when overloaded, unwind before they break. They can be checked prior to sterilization and damaged files can be discarded. Due to nickel-titanium's memory effect, NiTi instruments do not deform, they can break without warning when submitted to excess stress or material fatigue. In order to take full advantage of the nickel-titanium material and effectiveness of the instrument design and in order to avoid the unpleasant consequences of instrument fracture, the file must be used in the canal with both a constant rotation of approx. 280 rpm and a controlled force (torque) according to the size and design of the instrument.

An intelligently programmed endomotor with torque and speed control, such as the **VDW.SILVER®**, which monitors the speed and torque of each instrument precisely and safely according to its specific mechanical data.

Additional functions such as Auto Stop Reverse (ASR), which automatically frees instruments blocked in the canal, increase safety and reduce stress for the practitioner.

The **VDW.GOLD®** provides additional functions such as integrated apex localization and presettings for all important NiTi systems.



Mtwo® direct

The torque controlled contra-angle **Mtwo® direct** is an alternative solution. Attaching directly to the dental unit (ISO E connection), it enables an uncomplicated start to working with rotary NiTi systems. There is no need for an additional device or foot control.

- Torque setting for every Mtwo® instrument
- Constant speed (115:1 reduction)
- 90° reverse rotation when set torque limit is reached



A simple system

Mtwo® working part 16mm



Size/Taper	21 mm	25 mm
010/.04	234 021 010	234 025 010
015/.05	235 021 015	235 025 015
020/.06	236 021 020	236 025 020
025/.06	236 021 025	236 025 025
030/.05	235 021 030	235 025 030
035/.04	234 021 035	234 025 035
035/.06		236 025 035
040/.04	234 021 040	234 025 040
040/.06		236 025 040
025/.07	237 021 025	237 025 025
10/.04, 15/.05, 20/.06	230 021 456	230 025 456
2x 25/.06, 1x 30/.05, 35/.04, 40/.04, 25/.07	230 021 457	230 025 457
3x 35/.06, 3x 40/.06		236 025 203
set of 4:		
10/.04, 15/.05, 20/.06, 25/.06	007 021 701	
30/.05, 35/.04, 40/.04, 25/.07	007 021 702	007 025 702

Mtwo® working part 21mm



Size/Taper	25 mm	31 mm
010/.04	1234 025 010	1234 031 010
015/.05	1235 025 015	1235 031 015
020/.06	1236 025 020	1236 031 020
025/.06	1236 025 025	1236 031 025
030/.05		1235 031 030
035/.04		1234 031 035
040/.04		1234 031 040
10/.04, 15/.05, 20/.06	1230 025 456	
2x 25/.06, 16 mm WP: 1x 30/.05, 35/.04, 40/.04, 25/.07	1230 025 457	
set of 4:		
10/.04, 15/.05, 20/.06, 25/.06	007 025 701	

Mtwo® Retreatment files

- Cutting tip for removing guttapercha fillings, working part 16mm
 - Recommended speed 250 - 350 rpm.
- Blister of 6 pieces, sterile

Size/Taper	21 mm Ref.
015/.05	232 021 015
025/.05	232 021 025
3x 15/.05, 3x 25/.05	232 021 202
2 Sets of 6: 15/.05 and 25/.05	011 021 500

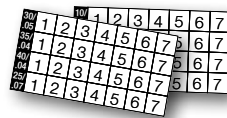


Mtwo® is packaged in blister cards containing 6 sterile instruments

Mtwo® Control Stickers

16 Control Stickers for basic sequence
12 Control Stickers for additional sizes
self adhesive, autoclavable

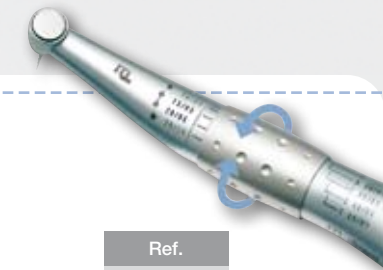
Ref. 0491



Mtwo® direct contra-angle

- Torque settings for all Mtwo® instruments
- Select instrument setting by turning the ring
- Continuous speed (115:1 reduction)
- 90° retro-rotation when set torque limit is reached
- Fits all dental units with ISO E-connection

Ref. 1035



Mtwo® SystemBox

With module for easy organization and storage of Mtwo® instruments without instruments, autoclavable

Ref. 0239



Mtwo® BasicKit

Instrument kit 25mm length with:
1 blister Mtwo® 2 x 10-20 assort., working part 21mm
1 blister Mtwo® 2 x 25/.06, 1 x 30-40 assort., 1 x 25/.07, working part 16 + 21mm
3 plastic training blocks
1 CD ROM

Ref. 0238 025 000



Mtwo® StarterKit

- with Mtwo® BasicKit
- 2 x 3ml FileCare®EDTA
- Mtwo® SystemBox
- Brochure

Ref. 1030




Mtwo® direct StarterKit

with Mtwo® StarterKit and Mtwo® direct contra-angle

Ref. 1035 000 500





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