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OPTIMA MX2^{INT}

ENG User guide



Summary

Starting display

Bien-Air Dental OPTIMA MX2 Int

OPTIMA MX2 Int

SETUP Display

Language	English
Light	Français
Endo	Deutsch
Beep	Italiano
Advanced	Español
	Russkiy

Language	ON / OFF
Light	Intensity
Endo	Delay
Beep	Endo light
Advanced	

Language	
Light	
Endo	Auto-forward
Beep	Auto-reverse
Advanced	

Language	Operative rev
Light	Endo reverse
Endo	Error
Beep	Overload
Advanced	

Language	Contrast
Light	Pedal
Endo	Defined Speeds
Beep	Defined Torques
Advanced	Defined ratios
	System infos
	Restore

Mode	Operative
	Endo

Programs	Highspeed	Highspeed
	Ratio 1:5	Slowspeed
	200'000 rpm	Straight
	Torque 0.70 Ncm	1:5 Slowspeed
		Polishing Straight

Plus 15 other programs

Ratio	Highspeed	1 : 5
	Ratio 1:5	1 : 4
	200'000 rpm	1 : 2
	Torque 0.70 Ncm	1 : 1
		7 : 1
		10 : 1
		20 : 1
		22 : 1
		30 : 1
		100 : 1
		Other

Bur speed depending on ratio	Highspeed	500
	Ratio 1:5	1'500
	200'000 rpm	30'000
	Torque 0.70 Ncm	50'000
		100'000
		200'000

Finely adjustable ◀ ▶ .

Torque depending on ratio	Highspeed	10% 0.07 Ncm
	Ratio 1:5	20% 0.14 Ncm
	200'000 rpm	30% 0.21 Ncm
	Torque 0.70 Ncm	40% 0.28 Ncm
		50% 0.35 Ncm
		60% 0.42 Ncm
		70% 0.49 Ncm
		80% 0.56 Ncm
		90% 0.63 Ncm
		100% 0.70Ncm

Finely adjustable ◀ ▶ .

Operative
Endo

Endo file 1	Endo File 1
Ratio 1:1	Endo File 2
250 rpm	Endo File 3
Torque 3.01 Ncm	Endo File 4
	Endo File 5
	Endo File 6
	Endo File 7
	Endo File 8
	Endo File 9
	Endo File 10

Plus 10 other programs

Endo file 1	1 : 5
Ratio 1:1	1 : 4
250 rpm	1 : 2
Torque 3.01 Ncm	1 : 1
	7 : 1
	10 : 1
	20 : 1
	22 : 1
	30 : 1
	100 : 1
	Other

Endo file 1	100
Ratio 1:1	300
250 rpm	6'000
Torque 3.01 Ncm	10'000
	20'000
	40'000

Finely adjustable ◀ ▶ .

Endo file 1	10% 0.35 Ncm
Ratio 1:1	20% 0.7 Ncm
250 rpm	30% 1.05 Ncm
Torque 3.01 Ncm	40% 1.40 Ncm
	50% 1.75 Ncm
	60% 2.10 Ncm
	70% 2.45 Ncm
	80% 2.80 Ncm
	90% 3.15 Ncm
	100% 3.50 Ncm

Finely adjustable ◀ ▶ .

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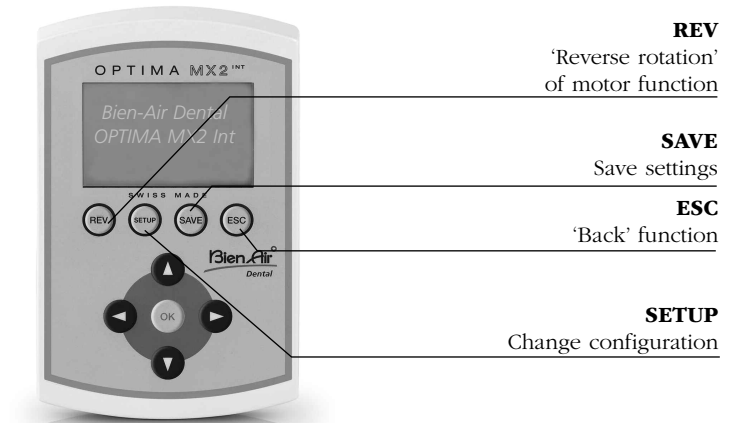
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Description

- Identification** OPTIMA MX2 Int (REF 1600715-001) is manufactured entirely in Switzerland by Bien-Air Dental.
- Function** OPTIMA MX2 Int controls the Bien-Air Dental MX2 micromotor.
- Note** The pre-defined torque and speed values in the 10 **Endo** programs and the 5 **Operational** programs are only intended as a guide. Under no circumstances can Bien-Air Dental be held responsible for an incorrect choice of value.
- Fields of use** OPTIMA MX2 Int is designed for work in general and restorative dentistry and endodontics.
- Assembly** see installation instructions 2100307.
- USA Caution** Federal law restricts this device to sale by or on order of a dentist.

Operation

Meaning of functions



REV

The 'reverse rotation' function can be selected directly from all programs in the mode **Operative**.

If selected, an audible signal indicates reverse rotation.

For **Endo** setting must be carried out in **SETUP** (Auto-forward/Auto-reverse).

SAVE

There are two ways of saving program settings:

- **Hold down button,**
values are memorised directly
- **Short press on the button** and the following screen appears:

Save -> values are memorised directly

Save as (10 left) -> save values under a new name

(up to 10 programs)

Enter a new name:

with ▲▼ the alphabet appears

with ◀▶ move cursor left or right

with «REV» delete letters

with «SETUP» insert letters

Rename -> change the name of a program (as above)

Delete -> delete a program

Progr. listing -> Change the order of programs

with ▲▼ select a program

with «OK» confirm (the selection flashes)

with ▲▼ move the program to desired position

ESC

BACK function. «ESC» makes you leave current screen.

If the display flashes when leaving, changes will NOT be recorded.

The changes must always be confirmed using «SAVE», otherwise they will be lost.

Operation

Preset

SETUP

Language	English
Light	Français
Endo	Deutsch
Beep	Italiano
Advanced	Español
	Russkiy

Select language required
▲▼ and save with «SAVE».
Return with «ESC»

Language	Light
Light	Intensity
Endo	Delay
Beep	Endo Light
Advanced	

Select value required
▲▼ and confirm with «OK».
Return with «ESC»

- ▷ ON/OFF: with ◀▶ and «SAVE»
- Only display under Light ON:
- ▷ Intensity (1-16): precision setting with ◀▶
- ▷ Delay (OFF and 1-30 sec.): with ◀▶ and «SAVE»
- ▷ Endo Light: AUTO/OFF with ◀▶ and «SAVE»

Language	Auto-forward
Light	Time 1.7 s
Endo	
Beep	
Advanced	

Select value required
▲▼ and confirm with «OK».
Return with «ESC»

- ▷ Auto-forward: with ◀▶ and «SAVE»
- ▷ Auto-reverse:

Only display under Auto-forward:

- ▷ Time (0.5 - 3 sec.): with ◀▶ and «SAVE»

Language	Operative rev
Light	Endo reverse
Endo	Error
Beep	Overload
Advanced	

Select value required
▲▼ and confirm with «OK».
Return with «ESC»

- ▷ Operative rev (High/Low): with ◀▶ and «SAVE»
- ▷ Endo reverse (High/Low): with ◀▶ and «SAVE»
- ▷ Error (High/Low): with ◀▶ and «SAVE»
- ▷ Overload (High/Low): with ◀▶ and «SAVE»

Operation

Preset

Language	Contrast
Light	Pedal
Endo	Defined Speed
Beep	Defined Torque
Advanced	Defined ratio
	Info system
	Restore

Select value required
▲▼ and confirm with «OK».
Return with «ESC»

- ▷ Contrast (-5/clearly to 5/dark): with ◀▶ and «SAVE»
- ▷ Pedal (Operative/Endo): ON/OFF or Progressive with ◀▶ and «SAVE»
- ▷ Defined Speed (100 - 40'000 rpm): with ▲▼ and «SAVE»
-> 4 more positions (EMPTY), for saving additional values:
with ◀▶ and «SAVE»
- ▷ Defined Torque / Unit: Percent - mNm - Ncm (10 - 100% / 0.35 - 3.5 Ncm)
Select with ▲▼ and «SAVE».
Adjustable with ◀▶ and «SAVE»
- ▷ Defined ratio: Select with ▲▼ and «OK»
-> Value settings (for ex.) 20 : 1
| |
LEFT RIGHT
Confirm with «SAVE»
- ▷ Info system: series number, electronic
- ▷ Restore:
The device's original parameters will be restored.
⚠ All your settings will be lost!
Continue: with «OK»
Cancel: with «ESC»

Operation

Starting Display

Bien-Air Dental
OPTIMA MX2 Int

OPTIMA MX2 Int

Mode

▼ ▲ OK
Operative
Endo

Select required usage
▲ ▼ and confirm with «OK».

Programm description Operative

Operative
Programms

▼ ▲ OK
Operative
Endo

▼ ▲ OK
Highspeed
Ratio 1:5
200'000 rpm
Torque 0.70 Ncm

▼ ▲ OK
Highspeed
Slowspeed
Straight
1:5 Slowspeed
Polishing Straight

Select required program
▲ ▼ and confirm with «OK».

Return with «ESC»

Direct selecting of required program with ◀ ▶.

can save up to 15 additional programs

(Process refer to «SAVE» button)

Operation

Operative

Transmission ratio

▼ ▲ OK
Operative
Endo

▼ ▲ OK
Highspeed
Ratio 1:5
200'000 rpm
Torque 0.70 Ncm

Ajustable with ◀ ▶.

▼ ▲ OK
1 : 5
1 : 4
1 : 2
1 : 1
7 : 1
10 : 1
20 : 1
22 : 1
30 : 1
100 : 1
Other

Select required transmission ratio
▲ ▼ and confirm with «OK».

Return with «ESC»

Other:

for ex. 20 : 1

Value: LEFT RIGHT
max. 128 max. 5

Save with «SAVE»

Operative

Bur rotational speed depends on transmission ratio

▼ ▲ OK
Operative
Endo

▼ ▲ OK
Highspeed
Ratio 1:5
200'000 rpm
Torque 0.70 Ncm

Ajustable with ◀ ▶.

▼ ▲ OK
500
1'500
30'000
50'000
100'000
200'000

Select required speed range
▲ ▼ and confirm with «OK».

Return with «ESC»

Operative

Torque depends on transmission ratio

▼ ▲ OK
Operative
Endo

▼ ▲ OK
Highspeed
Ratio 1:5
200'000 rpm
Torque 0.70 Ncm

Direct selecting of required torque with ◀ ▶.

▼ ▲ OK
10% 0.07 Ncm
20% 0.14 Ncm
30% 0.21 Ncm
40% 0.28 Ncm
50% 0.35 Ncm
60% 0.42 Ncm
70% 0.49 Ncm
80% 0.56 Ncm
90% 0.63 Ncm
100% 0.70Ncm

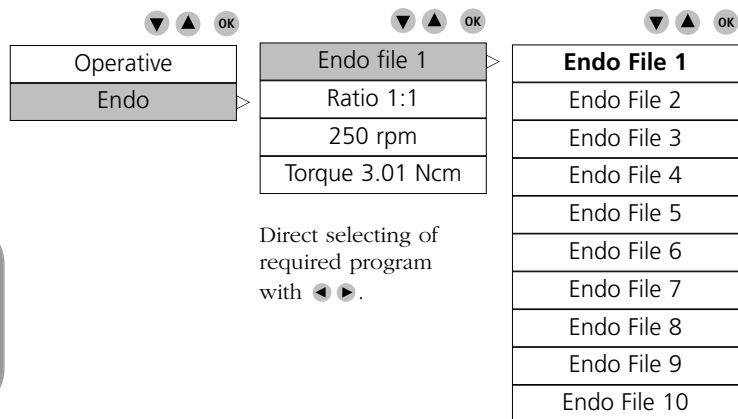
Select required torque speed ▲ ▼ and confirm with «OK».

Return with «ESC»

Operation

Programm description Endo

Endo Programms



Direct selecting of required program with ◀ ▶.

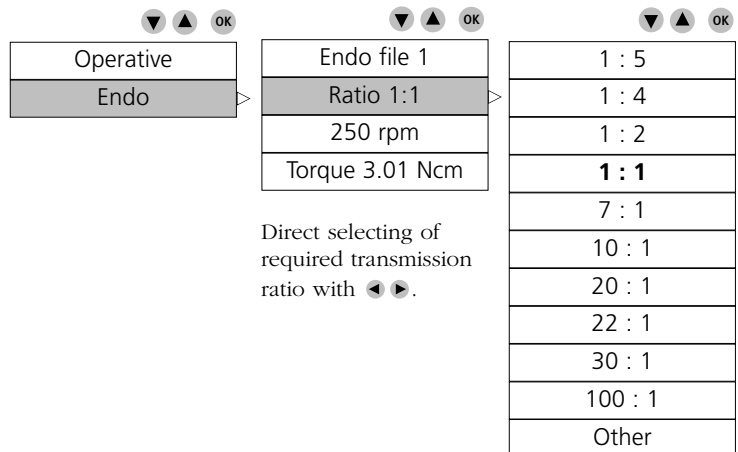
Select required program ▲ ▼ and confirm with «OK».

Return with «ESC»

can save up to 10 additional programs

(Process refer to «SAVE» button)

Endo Transmission ratio



Direct selecting of required transmission ratio with ◀ ▶.

Select required transmission ratio ▲ ▼ and confirm with «OK».

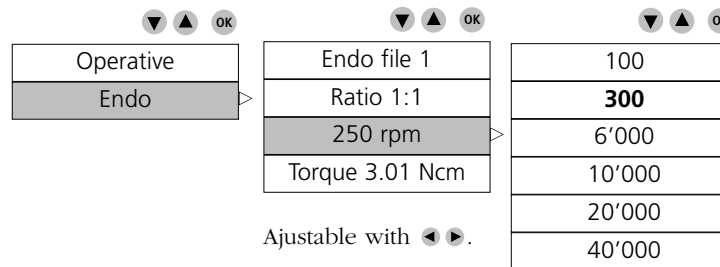
Return with «ESC»

Other:
for ex. 20 : 1
Value: LEFT RIGHT
max. 128 max. 5

Save with «SAVE»

Operation

Endo Bur rotational speed depends on transmission ratio

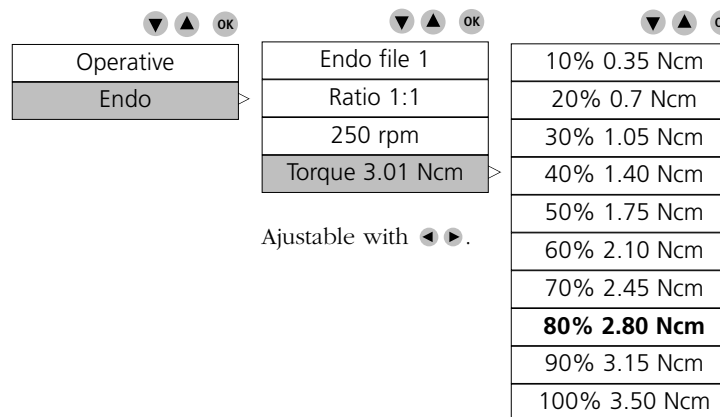


Ajustable with ◀ ▶.

Select required speed range ▲ ▼ and confirm with «OK».

Return with «ESC»

Endo Torque depends on transmission ratio



Ajustable with ◀ ▶.

Select torque ▲ ▼ and confirm with «OK».

Return with «ESC»

List of errors & troubleshooting

Warning.

DMX2 memory configured check.

Message	The DMX2 is not correctly configured. Press key SAVE to setup the DMX2.
Root cause	DMX2 memory data must be updated.
Action	Press the SAVE key to reload.

Equipment initialisation failures.

DMX2 connection / type / dip switches configuration / minimum compatible version / serial number check.

Message	Motor drive error. Please contact your retailer. Key ESC -> restart
Root causes	DMX2 connection attempt failed. <ul style="list-style-type: none"> • DMX2 type is unexpected. • DMX2 dip switches configuration is wrong.
Troubleshooting	Check DMX2 connection (red 8-pin connector). This connector might be "reverse" plugged: it is correctly plugged when wires are oriented outside of the DMX2 board. <ul style="list-style-type: none"> • Check DMX2 type (DMX2 Plus, DMX2 Pro, ...). • Check dip switches configuration for requested serial communication type.
Action	Press ESC to try to restart. Contact retailer.

Equipment operation failures.

Following errors may occur at any time during equipment operation.

Communication timeout.

Message	Communication timeout
Root cause	DMX2 connection lost.
Action	Check DMX2 connection (red 8-pin connector). Contact retailer.

Motor cable fault.

Message	Error(s): #1 motor cable fault
Root cause	DMX2 board short circuit detected on motor phases.
Action	Check DMX2 connection with MX2 motor. Contact retailer.

Motors is not connected.

Message	Error(s): #2 motor is not connected
Root cause	DMX2 board connected motor phase(s) not detected. MX2 Motor might not be connected to DMX2 board.
Action	Check DMX2 connection with MX2 motor. Contact retailer.

List of errors & troubleshooting

Communication timeout.

Message	Error(s): #3 comm. timeout
Root cause	Communication failed with the DMX2 board.
Action	Check DMX2 connection (red 8-pin connector). Contact retailer.

DMX2 board over-temperature.

Message	Error(s): #4 temperature
Root cause	DMX2 board too hot (electronic device overheating).
Action	Wait until the DMX2 cools. Contact retailer.

DMX2 board under-voltage.

Message	Error(s): #5 under voltage
Root cause	DMX2 board 32V power supply detected voltage too low.
Action	Contact retailer.

DMX2 board over-voltage.

Message	Error(s): #6 over voltage
Root cause	DMX2 board 32V power supply detected voltage too high.
Action	Contact retailer.

DMX2 unknown failure.

Message	Error(s): #0 unknown
Root cause	DMX2 unknown failure (unidentified cause).
Action	Contact Bien-Air Dental SA.

Maintenance

Only use maintenance products and components from Bien-Air Dental. The use of other products and components can void the guarantee.

Overhaul

Never disassemble the device. For any modification and repair, we recommend that you contact your regular supplier or Bien-Air Dental directly. Bien-Air Dental asks the user to have its dynamic instruments checked or inspected at least once a year.

Application

Product intended for professional use only.

Information

The technical specifications, illustrations and dimensions contained in these instructions are given only as a guide. They may not be the subject of any claim. The manufacturer reserves the right to make technical improvements to its equipment, without amending these instructions.

For all additional information, please contact Bien-Air Dental SA at the address indicated on the back cover.

Cleaning

- Use cleaner Spraynet, Bien-Air Dental. Disinfect with a clean damp cloth.
- Do not exert pressure on the screen.
- Products containing acetone, chlorine and bleach are not recommended as disinfectants.
- Never immerse in solutions.
- Not suitable for ultrasonic bath.

Important

to maintain the

- MX2 Micromotor, see instructions REF 2100199
- MX2-400 hose, see instructions REF 2100223
- DMX2 Plus/DMX2 Pro, see instructions REF 2100202

Other precautions for use and guarantee

Other precautions for use

The device must be used by a qualified person in accordance with the current legal provisions concerning industrial safety, health and accident prevention measures, and these working instructions. In accordance with these requirements, the operators:

- must only use operating devices that are in perfect working order; in the event of irregular functioning, excessive vibration, abnormal heating or other signs indicating malfunction of the device, the work must be stopped immediately; in this case, contact a repair centre that is approved by Bien-Air Dental;
- must ensure that the device is used only for the purpose for which it is intended, must protect themselves, their patients and third parties from any danger, and must avoid contamination through the use of the product.

The device is intended for medical treatment only; any use other than that for which this product is intended is unauthorised and may be dangerous. The medical device meets all the current legal requirements.

The device is not authorised for use in an explosive atmosphere (anaesthetic gas).

Never immerse in disinfectant solutions.

Guarantee

Terms of guarantee

Bien-Air Dental grants the user a guarantee covering all functional defects, material or production faults. The device is covered by this guarantee for 12 months from the date of invoicing.

In the event of justified claim, Bien-Air Dental or its authorised representative will fulfil the company's obligations under this guarantee by repairing or replacing the product free of charge. Any other claims, of whatever nature, in particular in the form of a claim for damages and interest, are excluded.

Bien-Air Dental shall not be held responsible for damage or injury and the consequences thereof, resulting from:

- excessive wear and tear
- improper use
- non-observance of the instructions for installation, operation and maintenance
- unusual chemical, electrical or electrolytic influences
- poor connections, whether of the air, water or electricity supply.

The guarantee does not cover flexible "fibre optic" type conductors, or any parts made of synthetic materials.

The guarantee shall become null and void if the damage and its consequences are due to improper manipulation of the product, or modifications to the product carried out by persons not authorised by Bien-Air Dental.

Claims under the terms of the guarantee will be considered only on presentation, together with the product, of the invoice or the consignment note, on which the date of purchase, the product reference and the Serial No. should be clearly indicated.