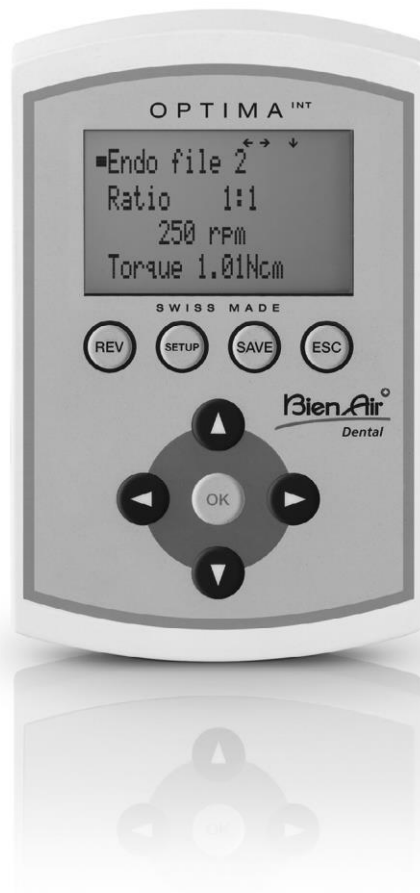Bien-Air
Dental

OPTIMA int

ENG User guide

Other languages available on www.bienair.com/ifu

CE
0123
Rx Only

Ref 2100306-0003/2024.04

Starting display

| Bien-Air Dental |
| OPTIMA Int |

| OPTIMA INT |

SETUP Display

| Language |
| Light |
| Endo |
| Beep |
| Advanced |
| |

▷

| English |
| Français |
| Deutsch |
| Italiano |
| Español |
| Russkiy |

| Language |
| Light |
| Endo |
| Beep |
| Advanced |

▷

| ON/OFF |
| Intensity |
| Delay |
| Endo light |

| Language |
| Light |
| Endo |
| Beep |
| Advanced |

▷

| Auto-forward |
| Auto-reverse |

| Language |
| Light |
| Endo |
| Beep |
| Advanced |

▷

| Operative rev |
| Endo reverse |
| Error |
| Overload |

| Language |
| Light |
| Endo |
| Beep |
| Advanced |

▷

| Contrast |
| Pedal |
| Defined speeds |
| Defined torques |
| Defined ratios |
| System infos |
| Restore |

Mode

Operative		Operative	
Operative		Operative	
Endo		**Endo**	
WaveOne		WaveOne	

Note: The WaveOne feature is optional.

Programs

Operative			Endo	
Crown Preparation ▷	Caries removal	**Endo file 1** ▷	Endo File 1
Ratio 1:5	Dentin reduction	Ratio 1.1	Endo File 2
200'000 rpm	Enamel reduction	250 rpm	Endo File 3
Torque 0.70 Ncm	Tooth sectioning	Torque 3.01	Endo File 4
	Porcelain adjust.		Endo File 5
	Amalgam removal		Endo File 6
	Crown preparation		Endo File 7
	Deep caries removal		Endo File 8
	Polishing		Endo File 9
	Cavity preparation		Endo File 10

A total of 20 programs can be recorded

A total of 20 programs can be recorded

Note: These operative procedures are given as an example only, and may be subject to change without notice

Ratio

Operative			Endo	
Crown Preparation	1:5	Endo file 1	1:5
Ratio 1:5 ▷	1:4	**Ratio 1.1** ▷	1:4
200'000 rpm	1:2	250 rpm	1:2
Torque 0.70 Ncm	1:1	Torque 3.01	1:1
	7:1		7:1
	10:1		10:1
	20:1		20:1
	22:1		22:1
	30:1		30:1
	100:1		100:1
	Other		Other

Bur speed depending on ratio

Operative			Endo	
Crown Preparation	500	Endo file 1	100
Ratio 1:5	1'500	Ratio 1.1	300
200'000 rpm ▷	30'000	**250 rpm** ▷	6'000
Torque 0.70 Ncm	50'000	Torque 3.01	10'000
	100'000		20'000
	200'000		40'000

Finely adjustable ◄► 　　　 Finely adjustable ◄►

Torque depending on ratio

Operative			Endo	
Crown Preparation	10% 0.07 Ncm	Endo file 1	10% 0.35 Ncm
Ratio 1:5	20% 0.14 Ncm	Ratio 1.1	20% 0.7 Ncm
200'000 rpm	30% 0.21 Ncm	250 rpm	30% 1.05 Ncm
Torque 0.70 Ncm ▷	40% 0.28 Ncm	**Torque 3.01** ▷	40% 1.40 Ncm
	50% 0.35 Ncm		50% 1.75 Ncm
	60% 0.42 Ncm		60% 2.10 Ncm
	70% 0.49 Ncm		70% 2.45 Ncm
	80% 0.56 Ncm		80% 2.80 Ncm
	90% 0.63 Ncm		90% 3.15 Ncm
	100% 0.70 Ncm		100% 3.50 Ncm

Finely adjustable ◄► 　　　 Finely adjustable ◄►

Contents

Description

Identification   OPTIMA INT (REF 1600715-001) is manufactured entirely in Switzerland by Bien-Air Dental.

Function   OPTIMA INT controls the Bien-Air Dental MX2 and MCX micromotor.

Note   The pre-defined torque and speed values in **Endo** and **Operative** modes are only intended as a guide. The operator must always ensure that the pre-defined parameters correspond to its planned treatment and to its instruments being used. Under no circumstances Bien-Air Dental can be held responsible for an incorrect choice of value.

Fields of use   OPTIMA 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.

**Applied part   MCX and MX2 micromotor.
(per IEC60601-1)**

Operation

Meaning of functions

REV
'Reverse rotation' of motor function

SAVE
Save settings

ESC
'Back' function

SETUP
Change configuration
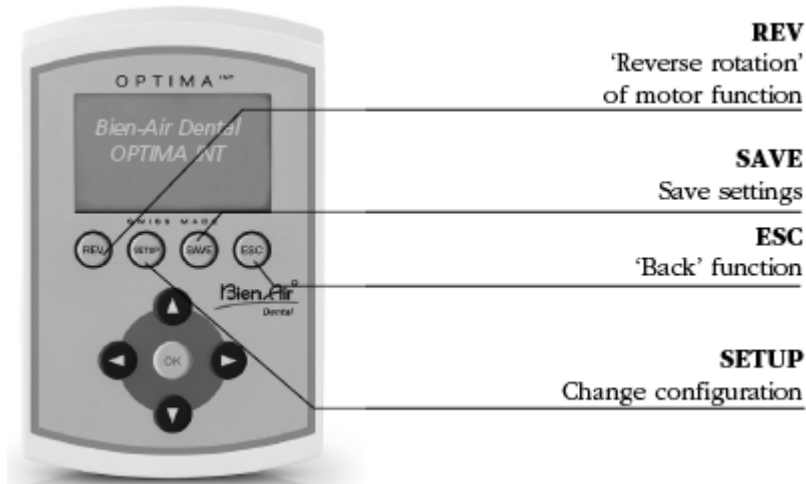
(REV) The 'reverse rotation' function can be selected directly from all programs in the mode **Operative**.
If selected, an audible signal indicates reverse rotation.
For **Endo** setting must be carried out in SETUP (Auto-forward/Auto-reverse).

(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	Select language required ▲▼ and with "SAVE".
Light	▷	Français	Return with ESC
Endo		Deutsch	
Beep		Italiano	
Advanced		Español	
		Russkiy	

Language		Light	▷ ON/OFF: with ◀ ▶ and "SAVE"
Light	▷	Intensity	Only display under Light ON:
Endo		Delay	
Beep		Endo Light	▷ Intensity (1-16): precision setting with ◀ ▶
Advanced			

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

▷ Delay (OFF and 1-30 sec.): with ◀ ▶ and "SAVE"

▷ Endo Light: AUTO/OFF with ◀ ▶ and "SAVE"

Language		Auto-forward	▷ Auto-forward:
Light		Time 1.7 s	With ◀ ▶ and "SAVE"
Endo	▷		▷ Auto-reverse:
Beep			
Advanced			Only display under Auto-forward:

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

▷ Time (0.5 – 3 sec.): with ◀ ▶ and "SAVE"

Language		Operative rev	▷ Operative rev (High/Low): with ◀ ▶ and "SAVE"
Light		Endo reverse	
Endo		Error	
Beep	▷	Overload	▷ Endo reverse (High/Low): with ◀ ▶ and "SAVE"
Advanced			

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

▷ Error (High/Low): with ◀ ▶ and « SAVE"
▷ Overload (High/Low): with ◀ ▶ and "SAVE"

Operation

Preset

Language
Light
Endo
Beep
Advanced

▷

Contrast
Pedal
Defined speeds
Defined torques
Defined ratios
System infos
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 INT

OPTIMA INT

Mode

▲▼ OK

Operative
Endo
WaveOne

Select required usage ▲▼ and confirm with "OK".

Program description Operative

Operative

Programs (example below for MX2)

▲▼ OK

Operative
Endo
WaveOne

▷

▲▼ OK

Crown preparation
Ratio 1:5
200'000 rpm
Torque 0.70 Ncm

Direct selecting of required program with ◀▶.

▷

▲▼ OK

Caries removal
Dentin reduction
Enamel reduction
Tooth sectioning
Porcelain adjust.
Amalgam removal
Crown preparation
Deep caries remov
Polishing
Cavity preparation

Select required program ▲▼ and confirm with "OK"

Return with "ESC"

A total of 20 programs can be saved and recorded (Process refer to "SAVE" button)

Note: these procedures are given as an example only, and may be subject to change without notice

Operation

Transmission ratio (example below for MX2)

▲ ▼ OK		▲ ▼ OK		▲ ▼ OK	
Operative	▷	Crown preparation		1:5	Select required transmission
Endo		Ratio 1:5	▷	1:4	ratio ▲▼ and confirm with
WaveOne		200'000 rpm		1:2	"OK"
		Torque 0.70 Ncm		1:1	
				7:1	Return with "ESC"
		Adjustable with ◀ ▶.		10:1	
				20:1	**Other:**
				22:1	For ex. 20:1
				30:1	Value: LEFT RIGHT
				100:1	Max. 128 Max. 5
				Other	Save with "SAVE"

Bur rotational speed depends on transmission ratio (example below for MX2)

▲ ▼ OK		▲ ▼ OK		▲ ▼ OK	
Operative	▷	Crown preparation		500	Select required speed range
Endo		Ratio 1:5		1'500	▲▼ and confirm with "OK"
WaveOne		200'000 rpm	▷	30'000	
		Torque 0.70 Ncm		50'000	Return with "ESC"
				100'000	
		Adjustable with ◀ ▶.		**200'000**	

Operation

Torque depends on transmission ratio (example below for MX2)

Operative
Endo
WaveOne

▷

Crown preparation
Ratio 1:5
200'000 rpm
Torque 0.70 Ncm

Direct selecting of
required torque
with ◀ ▶.

▷

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% 0.70 Ncm

Select required torque speed
▲▼ and confirm with "OK"

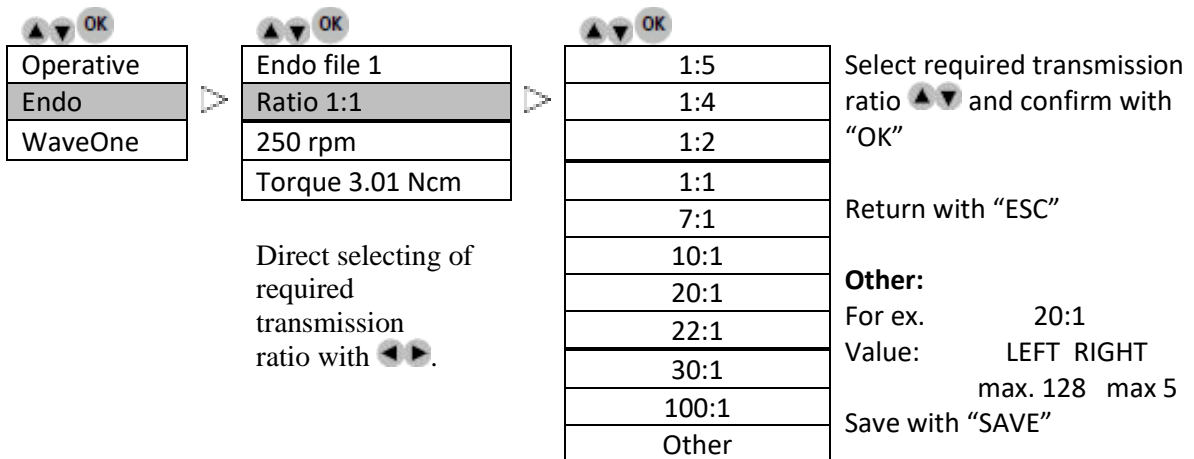Return with "ESC"

Operation

Program description Endo

Endo
Programs (example below for MX2))

▲▼ OK		▲▼ OK		▲▼ OK
Operative		Endo file 1	▷	**Endo File 1**
Endo	▷	Ratio 1:1		Endo File 2
WaveOne		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

Direct selecting of required program with ◀ ▶.

Select required program ▲▼ and confirm with "OK"

Return with "ESC"
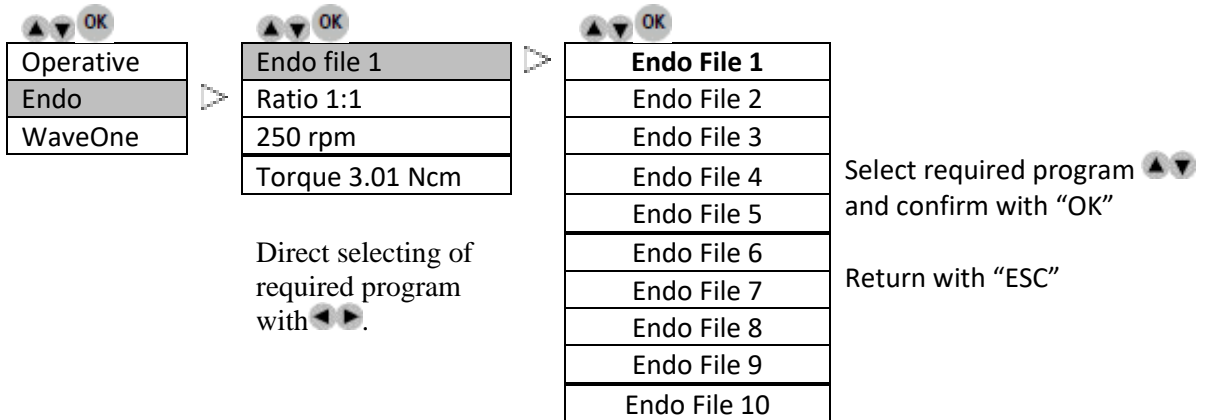
A total of 20 programs can be saved and recorded (Process refer to "SAVE" button)

Endo
Transmission ratio (example below for MX2)
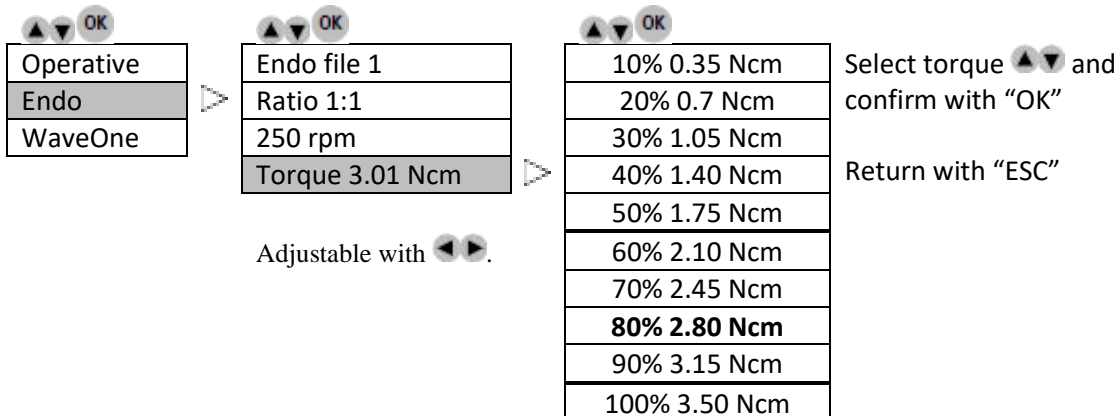
▲▼ OK		▲▼ OK		▲▼ OK
Operative		Endo file 1	▷	1:5
Endo	▷	Ratio 1:1		1:4
WaveOne		250 rpm		1:2
		Torque 3.01 Ncm		1:1
				7:1
				10:1
				20:1
				22:1
				30:1
				100:1
				Other

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
Speed

▲▼ OK		▲▼ OK		▲▼ OK
Operative		Endo file 1		100
Endo	▷	Ratio 1:1		**300**
WaveOne		250 rpm	▷	6'000
		Torque 3.01 Ncm		10'000
				20'000
	Adjustable with ◀▶.			40'000

Select required speed range ▲▼ and confirm with "OK"

Return with "ESC"

Endo
Torque (example below for MX2)

▲▼ OK		▲▼ OK		▲▼ OK
Operative		Endo file 1		10% 0.35 Ncm
Endo	▷	Ratio 1:1		20% 0.7 Ncm
WaveOne		250 rpm		30% 1.05 Ncm
		Torque 3.01 Ncm	▷	40% 1.40 Ncm
				50% 1.75 Ncm
	Adjustable with ◀▶.			60% 2.10 Ncm
				70% 2.45 Ncm
				80% 2.80 Ncm
				90% 3.15 Ncm
				100% 3.50 Ncm

Select torque ▲▼ and confirm with "OK"

Return with "ESC"

WaveOne
Only with MX2 motor and Bien Air CA ENDO Ref. 1600955-001

▲▼ OK		
Operative		WaveOne
Endo	▷	Only with
WaveOne		BIEN-AIR CA ENDO
		REF 1600955
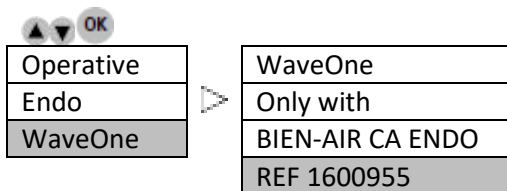
Note: WaveOne parameters are built-in
and cannot be modified.

Display icons description

←	Left scroll possible using left key	⏳	Hourglass = Wait
→	Right scroll possible using right key	💾	Floppy disk = Value memorized
↑	Up scroll possible using up key	ⓘ	Info = information or error displayed
↓	Down scroll possible using down key		

OPTIMA INT

List of errors & troubleshooting

Warnings.

File stress warning (in WaveOne mode only)

Message	FILE STRESS
Root cause	System detects that motor torque threshold limit is reached.
Action	Release file pressure. Slow down treatment.

DMCX/DMX2/DMX3 memory configured check.

Message	The DMCX/DMX2/DMX3 is not correctly configured. Press key SAVE to setup the DMCX/DMX2/DMX3.
Root cause	DMCX/DMX2/DMX3 memory data must be updated.
Action	Press the SAVE key to reload

Equipment initialisation failures.

DMCX/DMX2/DMX3 connection / type / dip switches configuration / minimum compatible version / serial number check.

Message	Motor drive error. Please contact your retailer. Key ESC -> restart
Root cause	DMCX/DMX2/DMX3 connection attempt failed. • DMCX/DMX2/DMX3 type is unexpected. • DMCX/DMX2/DMX3 dip switches configuration is wrong.
Troubleshooting	Check DMCX/DMX2/DMX3 connection (red 8-pin connector). This connector might be "reverse" plugged: it is correctly plugged when wires are oriented outside of the DMCX/DMX2/DMX3 board. • Check DMCX/DMX2/DMX3 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	DMCX/DMX2/DMX3 connection lost.
Action	Check DMCX/DMX2/DMX3 connection (red 8-pin connector). Contact retailer.

Motor cable fault.	
Message	Error(s): #1 motor cable fault
Root cause	DMCX/DMX2/DMX3 board short circuit detected on motor phases.
Action	Check DMCX/DMX2/DMX3 connection with MCX/MX2 motor. Contact retailer

Motor is not connected.	
Message	Error(s): #2 motor is not connected
Root cause	DMCX/DMX2/DMX3 board connected motor phase(s) not detected. MCX/MX2 Motor might not be connected to DMCX/DMX2/DMX3 board.
Action	Check DMCX/DMX2/DMX3 connection with MCX/MX2 motor. Contact retailer.

Communication timeout.	
Message	Error(s): #3 comm. timeout
Root cause	Communication failed with the DMCX/DMX2/DMX3 board.
Action	Check DMCX/DMX2/DMX3 connection (red 8-pin connector). Contact retailer.

DMCX/DMX3/DMX3 board over-temperature.	
Message	Error(s): #4 Temperature
Root cause	DMCX/DMX2/DMX3 board too hot (electronic device overheating).
Action	Wait until the DMCX/DMX2/DMX3 cools down. Contact retailer.

DMCX/DMX2/DMX3 board under-voltage.	
Message	Error(s): #5 under voltage
Root cause	DMCX/DMX2/DMX3 board 32V power supply detected voltage too low.
Action	Contact retailer.

DMCX/DMX3/DMX3 board over-voltage.	
Message	Error(s): #6 over voltage
Root cause	DMCX/DMX2/DMX3 board 32V power supply detected voltage too high.
Action	Contact retailer.

DMCX/DMX3/DMX3 unknown failure.	
Message	Error(s): #0 unknown
Root cause	DMCX/DMX2/DMX3 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
- DMX3, see instructions REF 2100278

Information
The disposal and/or recycling of materials must be performed in accordance with the legislation in force.
This unit and its accessories must be recycled. Electrical and electronic equipment may contain dangerous substances which constitute health and environmental hazards. The user must return the unit to its dealer or establish direct contact with an approved body for treatment and recovery of this type of equipment (European Directive 2012/19/EU).

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 optical fiber 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.

Trademarks
WaveOne® is registered trademarks of DENTSPLY SIRONA Inc.

Bien-Air Dental SA

EC | REP **Bien-Air Europe Sàrl**