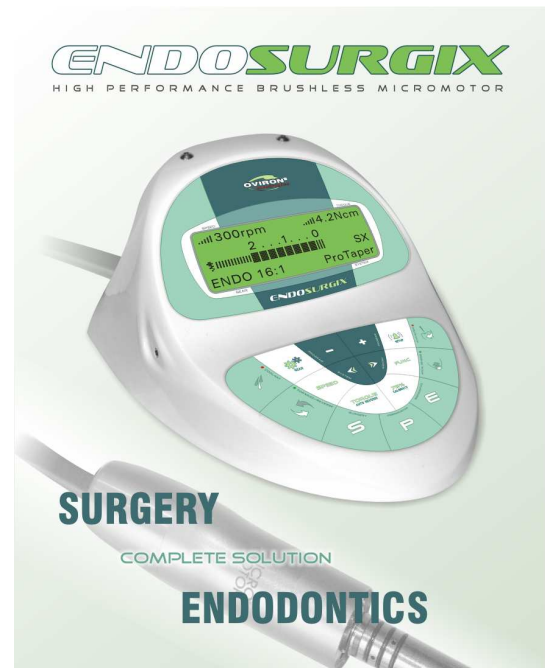


EndoSurgix - Brushless Electric Micromotor for Surgery, Implantology and Endodontics

EndoSurgix is intelligent all-in-one micromotor designed to operate in three general modes simply by attaching corresponding handpiece. This high performance portable system guarantees efficiency and excellent results in dental treatment.

Brushless electric motor with light and wide speed range navigated by microprocessor control unit is excellent for fast and accurate preparation. High power and integrated peristaltic /physiodispenser/ pump for sterile cooling make it perfect for surgery and implantology. Integrated last generation apex locator and intelligent torque control ensure precise and time saving endodontic operation as well as improved comfort and patient safety.

High capacity internal Li-ion accumulator assures long operating time after mains power cut off. User-friendly interface eliminates sophisticated menus and all functions are triggered by one button push only. Graphic visualization on backlight LCD and melodious sounds facilitate monitoring motor status.



Preparation

Using brushless electrical motor controlled by **EndoSurgix** ensures high power and quick control over speed setting for variety of handpiece gear ratios. Instrument rotation speed is set by dentist then displayed on LCD and **EndoSurgix** calculates the micromotor corresponding speed according to handpiece gear ratio (1:1, 1:5, 4:1 etc.).

Proportional to foot control pressure smooth speed regulation – from 20% to 100% of set speed on display is available.

If **EndoSurgix** is equipped with micromotor with integrated spray (option) a turbine 4-hole hose type “MIDWEST” from unit can be connected to additional pneumatic connector on rear panel to provide air and water to motor and handpiece.

Any air powered dental unit can operate the system allowing the use of the existing foot control.

Surgery / Implantology

EndoSurgix derives high output power and operates handpieces with different gear ratio (20:1, 32:1, 64:1 etc.). While driving the motor **EndoSurgix** regulates speed and torque according to the selected handpiece gear ratio. Up to 20 user programs can be stored in advance.

Integrated peristaltic pump assures sterile coolant for implantology and 5 flow control levels are available.

Endodontics

Multifunctional Endo-mode for excellent endodontic treatment results. The motor with its optimal speed range and high precision torque control system combined with the last generation apex locator are perfectly adapted for extremely accurate and time saving root canal treatment. Using endodontic handpiece with apex locator connection should be attached. Peristaltic pump derives irrigation for endodontic systems like SAF.

Apex Distance Acquisition with DSP

Integrated state-of-the-art DSP (Digital Signal Processing) apex locator ensures exact measurement results, irrespective of blood or other fluids in root canal. Graphic visualization on backlight LCD and melodious sounds facilitate monitoring motor status during measurement with handfiles or automated canal enlarging with rotary files. Apex locator scale corresponds exactly to the tactile sensation of file movement.

Time Saving Endodontic Treatment

Internal library, containing manufacturer's recommendations for speed and torque limit values for the most recent endodontic file systems (SAF, Twisted Files, ProTaper, GTX, etc.) eliminates sophisticated torque cards usage and safety compromises combining multiple files in one program. User defined programs are also available.

Precise Rotation Parameters Control

EndoSurgix offers precise torque limit setup up to 7Ncm in step of 0.2Ncm and speed up to 1000rpm in step of 50rpm so optimal performance of every single file of the latest generation endodontic systems is achieved. Taper, size and color information also appear on display.

Patient Safety and Precision

Automatic torque calibration and control system give constantly controlled and precise file rotation regardless of mechanical or environmental conditions. 5 patient safety functions are available:

- **Auto Reverse / Auto Stop**
File rotation stops or automatically reverses if set torque limit is exceeded.
- **Auto Apical Reverse**
When file reaches user specified apex distance rotation stops and reverses automatically.
- **Auto Apical Slow Down**
Rotation speed is automatically reduced when approaching the apical foramen for safer treatment.
- **Auto Rotate**
File starts rotating automatically when inserted in root canal and stops automatically upon withdrawal.
- **3 Level Torque Control**
Sound signal is played if 60% of torque limit is reached. Rotation speed is automatically reduced if 80% of torque limit is exceeded. Rotation stops or reverses direction (according to set mode) if 100% of torque limit is exceeded.

Diagnostic and Therapy Functions

Additional diagnostic and therapy functions are available simply by connecting the proper cable:

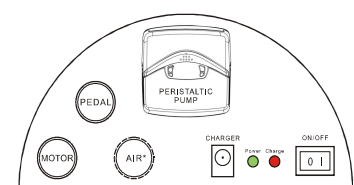
- Pulp Vitality Scanner
- Ionophoresis Physical Therapy
- Corrosion Potential Measurement

Connection

EndoSurgix is powered by external adaptor connected to the mains. Integrated high capacity Li-ion accumulator provides long backup time in case of mains power cut off.

When accumulator is fully charged time for continuous operation without mains power is about 30min in surgery or preparation mode (rated at 50% power load of motor) and up to 10 hours in endodontic mode.

Two light indicators are located on rear panel. Green one indicates that adaptor is plugged in and power source is available. While charging accumulator the red indicator lights constantly. It goes out when full capacity of accumulator is reached.



Rear panel of **EndoSurgix**