

# Root ZX3



EO Endo.  
Optimized.

Thinking ahead. Focused on life.

# From Root to Results:

## Endodontic Evolution in Advanced Canal Treatment

### New Approach to Canal Treatment

A new treatment approach has emerged in addition to conventional root canal shaping and cleaning methods.

By introducing high-frequency conduction (HFC) therapy, the following benefits are anticipated:

- Cauterization of pulp in initial treatment
- Cauterization of pulp in retreatment of challenging cases that could not be addressed solely by conventional methods
- Superior hemostatic effect contributes to enhanced apex location precision

Discover a new world of root canal treatment.

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### Apex Locator

- Utilizes Morita's industry-leading, reliable apex location technology, which has been independently evaluated at a 97.5% accuracy rate\*
- Full functionality in dry or wet canals
- Automatic calibration to compensate for changes in environment (temperature, humidity, etc.) and aging
- High accuracy that lasts decades

### Intuitive Design

- Large and easy-to-read LCD display
- Real-time readings smoothly displayed by 40 indicator bars
- Clearly audible sound

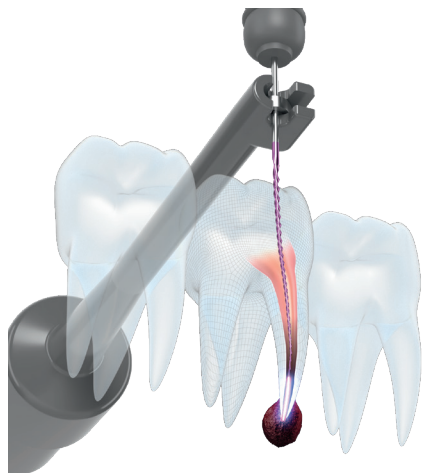


\* Tested with Root ZX II.

Guise, G. M., Goodell, G. G., & Imamura, G. M. (2010). In Vitro Comparison of Three Electronic Apex Locators. Journal of Endodontics, 36(2), 279-281.

### Expand Your Treatment Range

- Utilize high-frequency conduction by connecting an additional module to apex locator
- In conjunction with the apex locator, HFC energizes the exact target location
- Current output is limited depending on the position of the file/tip electrode via apex location to prevent current overflow
- Easily incorporated into your existing treatment style



### High-Frequency Conduction (HFC)

For endodontic treatment

- HFC can cauterize and coagulate tissue and residual substances by heating the area near and in contact with the tip of the electrode
- After determining the tip position of the electrode through the apex location function, HFC can be performed for 1 second by stepping on the footswitch
- 3 modes with different output levels are available
- 2 types of file/tip electrodes are included. The HF files and HF endo tips can be used for both HFC and apex location

For gingival treatment

- Can be used as an electric scalpel for gingival incisions and excisions
- HF cutting tip is included



HF Endo File Electrode



HF Endo Tip Electrode  
Effective for securing the surgical field  
when using a microscope



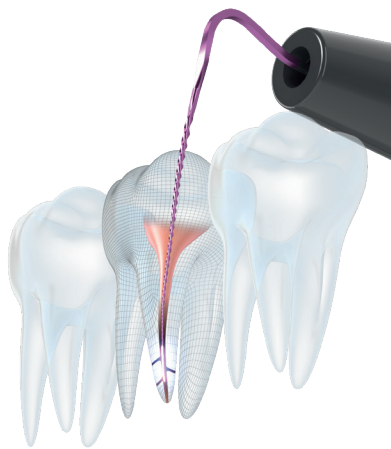
HF Cutting Tip Electrode

# Cases

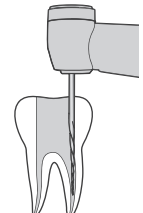
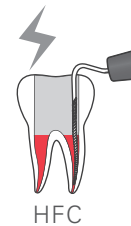
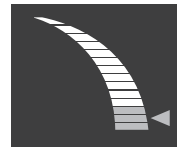
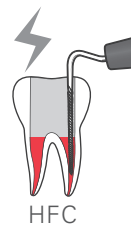
## Applications of High-Frequency Conduction (HFC)

### Application in Initial Treatment

HFC can be used to cauterize the pulp in a pulpectomy procedure. Cauterization results in hemostasis and coagulation of the pulp.

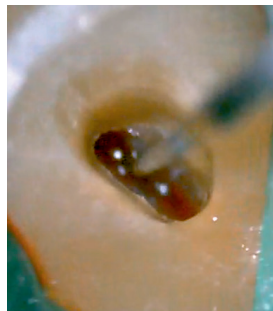


### Procedure

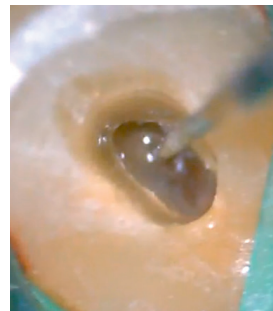


Determine the working length by apex location

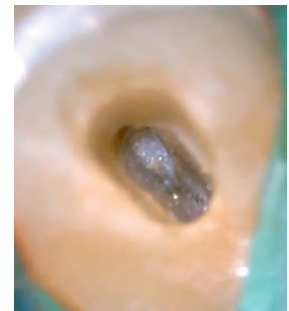
Perform root canal preparation and irrigation



Pre-operative



Intra-operative

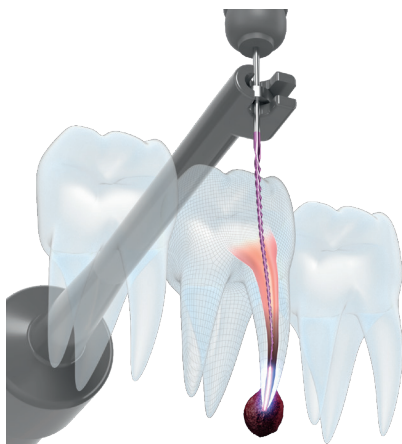


Post-operative

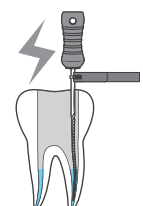
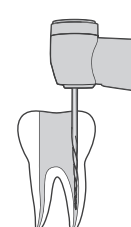
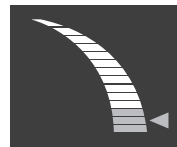
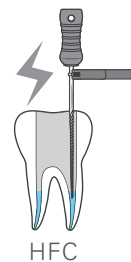
### Application in Retreatment

HFC can be used to cauterize infected tissue and contaminants inside and around the root canal.

After cauterization, symptoms are expected to improve due to the natural healing process of the human body.



### Procedure

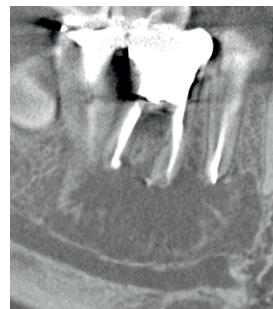


Determine the working length by apex location

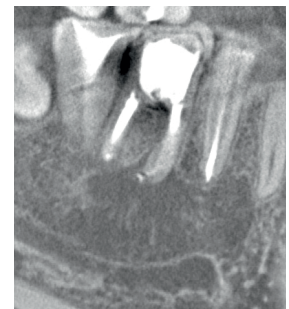
Perform root canal preparation and irrigation



Pre-operative



Post-operative (14 months)



Post-operative (25 months)

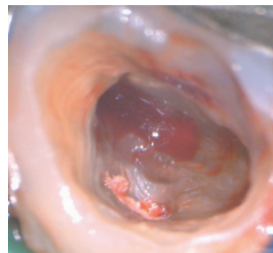
※Clinical image examples of post-surgery progress.



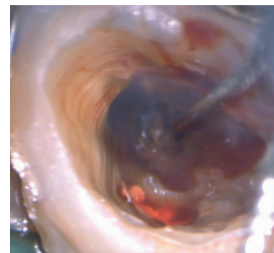
### Wide Range of Root Canal Treatment Applications

HFC is effective to cauterize infected tissue in un-instrumented areas and in the granulation. The hemostasis that results from HFC allows for further stability in the apex location.

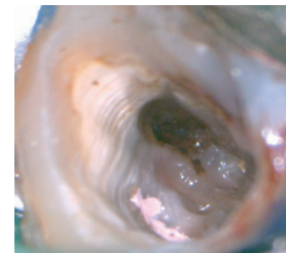
### Cauterization of granulation within the root canal



Pre-operative

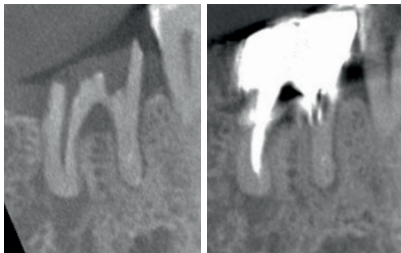


Intra-operative



Post-operative

### Application in Unnegotiated Root Canal

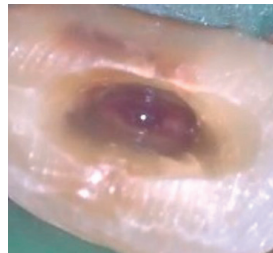


Pre-operative

Post-operative  
(5 months)

※Clinical image examples of post-surgery progress.

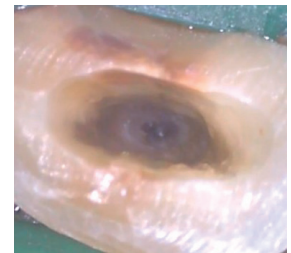
### Hemostasis in the root canal (coagulation of blood)



Pre-operative



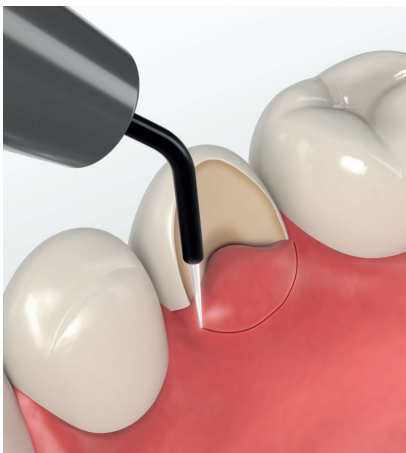
Intra-operative



Post-operative

### Application in Gingival Incision/Gingivectomy

HFC can be applied to a gingivectomy and gingival polypectomy during septum/matrix creation and gingival retraction.



Using HF Cutting Tip No.1

### Gingivectomy during gingival retraction



Pre-operative



Intra-operative



Post-operative (1 week)

### Gingival polypectomy



Pre-operative



Intra-operative



Post-operative

Clinical images were provided by Dr. Tominaga, Dr. Tada, Dr. Miyaji

# Specifications



Product Video

## Apex Locator Module





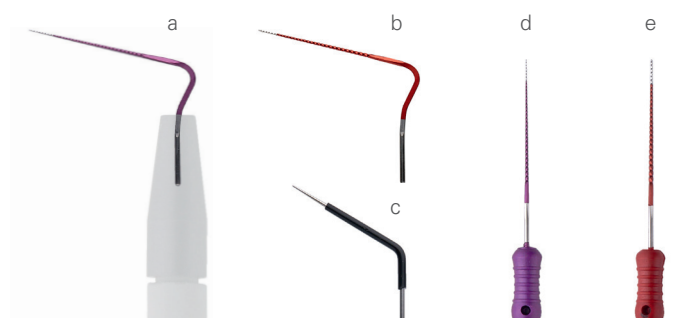
1. Contrary Electrode 2. File Holder

## Apex Locator Module + HF Module



3. Wide Contrary Electrode\* 4. Grip\*\* 5. HF Tip Holder 6. HF File Holder 7. Foot Switch  
\* Hook the wide contrary electrode to the corner of the patient's mouth when performing high-frequency conduction. \*\* Have the patient securely hold the grip when performing high-frequency conduction.

	Apex Locator Module	HF Module
		
	※ To use the HF Module, connect it to the Apex Locator Module.	
Name	Root ZX3	
Model	RZX3	
Type	RCM	HF
Dimensions	Approx. 85 mm/3.35" (Length) x 95 mm/3.74" (Width) x 100 mm/3.94" (Height)	Approx. 105 mm/4.13" (Length) x 95 mm/3.74" (Width) x 90 mm/3.54" (Height)
	110 mm/4.33" (Length) x 95 mm/3.74" (Width) x 100 mm/3.94" (Height) (Apex Locator + HF Module)	
Weight	Approx. 390 g/13.8 oz (with dry batteries)	Approx. 360 g/12.7 oz
	Approx. 550 g/19.4 oz (Apex Locator Module + HF Module)	
Power Rating/ Power Consumption	Solo operation: DC 6 V (alkaline dry batteries [AA size], Qty: 4)	DC9.6V (nickel-metal hydride rechargeable battery)
	Connected with HF Module: DC 9.6 V (Ni-MH battery)	AC Adapter Input: AC 100 V to 240 V, 50 Hz to 60 H Output: DC15V
Features	Apex locator, Customizable working length determination, Adjustable volume, Auto-calibration	Optional HF (high-frequency conduction) module, 4 output modes including electrocautery mode, Portable style
Components	5 × Contrary Electrodes 3 × File Holders 1 × Probe Cord 4 × Alkaline Dry Batteries (AA size)	3 × Wide Contrary Electrodes, 1 × Grip 1 × Foot Switch, 1 × Cap 1 × HF Probe Cord 1 × HF Relay Cord 1 × AC Adapter 1 × Battery Pack (nickel-metal hydride rechargeable battery)* 1 × HF Tip Holder 3 × HF File Holders 2 × HF Endo Tip Electrode K#10 2 × HF File Electrode K#10L25 2 × HF Cutting Tip No.1 Electrode *Built-in



#### Options (Sold separately)

- a. HF Endo Tip Electrode K#10 (2 pcs.)
- b. HF Endo Tip Electrode K#25 (2 pcs.)
- c. HF Cutting Tip No.1 Electrode (2 pcs.)
- d. HF File Electrode K#10L25 (2 pcs.)
- e. HF File Electrode K#25L25 (2 pcs.)

#### Ordering Information

Root ZX3 Apex Locator.....24K336ENG  
Root ZX3 HF Module.....24K337ENG



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