



Endo-Apex | Friendo | Gutta Easy

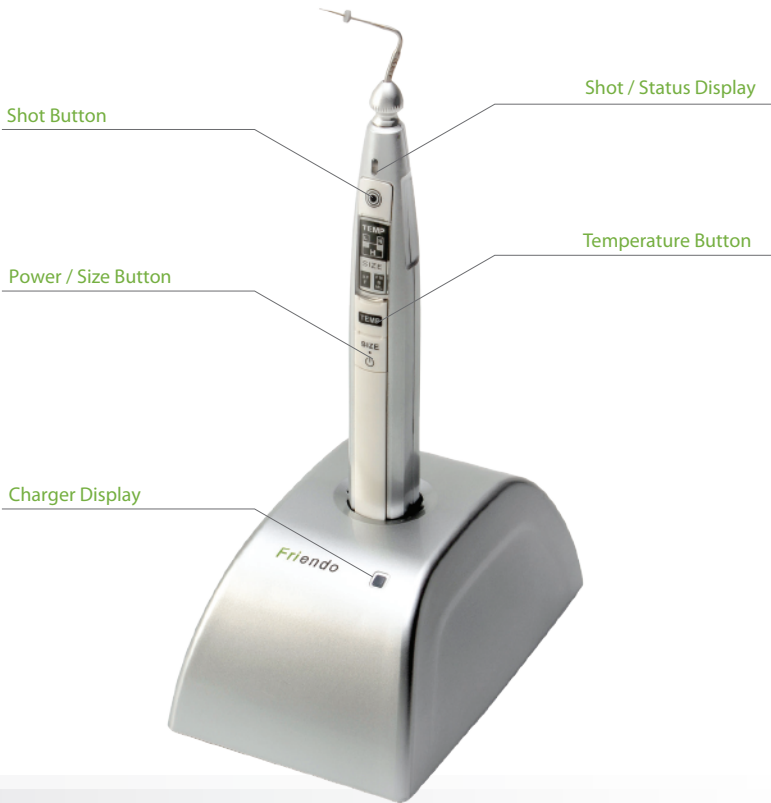
Cordless Endodontic Obturation Devices

# Friendo



## CORDLESS VERTICAL CONDENSATION DEVICE

Friendo pen offers optimum functionality and excellent apical control and is fully compatible with standard vertical condensation (compaction) techniques.



### FEATURES

- Excellent apical control over lateral and anatomically complicated root canals
- Rapidly liquefies root canal filling materials without delay (temperature reaches its maximum temperature of 230°C within 0.28 second)
- Cordless and lightweight design for maximum portability
- Ergonomic and user-friendly operation

- Color-coded pen tips are available in various sizes for easy recognition (XF, F, FM, M, ML)
- Adjustable temperature settings :



Low  
170 °C / 338 °F



Medium  
200 °C / 392 °F



High  
230 °C / 446 °F



FRIENDO handpiece



Charger base



Silicone handpiece protector



AC power cord



AC adapter



Pen tip: 5 sizes

Size	Color code	Taper/Size
XF	Green	.025/#45
F	Silver	.045/#50
FM	Yellow	.060/#50
M	Red	.080/#50
ML	Blue	.100/#50

PN # EF-1110 (FRIENDO BATTERY SET)

1. FRIENDO handpiece
2. Charger base
3. Silicone handpiece protector (2ea)
4. Pen tip #F with stopper (1ea)
5. Pen tip #FM with stopper (1ea)
6. SMPS (AC adapter & power cord)

Nomenclature	MFR PN
FRIENDO handpiece	F-1001
Charger base	F-1002
Silicone handpiece protector (5ea)	FE-1003
Battery pack	FB-1005
Pen tip : XF	FE-1004-XF
Pen tip : F	FE-1004-F
Pen tip : FM	FE-1004-FM
Pen tip : M	FE-1004-M
Pen tip : ML	FE-1004-ML
Power cord	AC-1001
AC power adapter	AC-1002

Product name		FRIENDO
Classification		Class II
Operation temperature		170~230 °C
Charging time		Approx. 2 hours
Operation time (when fully charged)		450 times / 2 sec. heat activation
Dimensions	Handpiece	19 x 22 x 167 (mm)
	Charger base	85 x 136 x 58 (mm)
Weight	Handpiece	60g
	Charger base	270g
	Adapter	200g
SMPS	Input	100-240V AC / 50-60 Hz
	Output	6V ( — — — ), 2.5A
Battery pack		Li-polymer battery, DC 3.7V , 1200mAh
Operation environment	Temperature	+10°C ~ +40°C
	Humidity	10% ~ 85%
	Atmospheric pressure	800 hPa ~ 1060 hPa
Shipping and handling environment	Temperature	-10°C ~ +40°C
	Humidity	10% ~ 85%
	Atmospheric pressure	600 hPa ~ 1060 hPa

# Gutta Easy



## THE THERMOPLASTIC BACKFILL OBTURATION DEVICE

Gutta Easy gun makes your guttapercha backfill obturation much easier and faster than ever. The Gutta Easy's rapid yet precise heating control mechanism delivers reliable and predictable clinical results every time.



Power / Temperature Button



Heat Chamber (360° swivel)



Temperature Display

Charger Display

### FEATURES

- Superior heating speed : temperature reaches 200°C within 23 seconds.
- Easy Swivel™ allows a full 360° swivel of the gun tip and improves access to hard-to-reach areas of the root canal.
- Premium quality silver alloy tips with less chance of breakage.

- Fast and continuous backfilling obturation without delay.
- 2 available gun tip sizes (23G, 25G)
- Adjustable temperature settings:



Low temp.  
160 °C / 320 °F



Medium temp.  
180 °C / 356 °F



High temp.  
200 °C / 392 °F



Gutta Easy handpiece



Charger base



Handpiece prop



Plunger



Gun tip (23G / 25G)



Thermal protector



Teflon cleaning brush



Teflon ring



Guttapercha pellet (Soft / Medium)



Multi-tool



AC adapter




AC power cord

PN# E G-1101 ( GUTTA EASY BASIC SET)

- |                            |                                 |  |
|----------------------------|---------------------------------|--|
| 1. Gutta Easy handpiece    | 5. Handpiece prop               | 9. Teflon cleaning brush (1ea)           |
| 2. Charger base            | 6. Teflon ring (3ea)            | 10. Guttapercha pellet - Soft (100 pcs.) |
| 3. Thermal protector (2ea) | 7. Guntip (23G - 2ea/25G - 1ea) | 11. SMPS (AC adapter & power cord)       |
| 4. Plunger                 | 8. Multi-tool                   |  |

Nomenclature	MFR PN
Gutta Easy handpiece	G-1001
Charger base	G-1102
Thermal protector (10ea)	GE-1005
Handpiece prop	GE-1003
Battery pack	GB-1005
Plunger	GE-1008
Plunger Teflon ring (10ea)	GE-1007
Gun tip - 23G (6ea)	GE-1004-23
Gun tip - 25G (6ea)	GE-1004-25
Multi-tool	GE-1010
Teflon cleaning brush (2ea)	GE-1006
Guttapercha pellet - Soft (100 pcs.)	GE-1009-S
Guttapercha pellet - Medium (100 pcs.)	GE-1009-M
Power cord	AC-1001
AC power adapter	AC-1002

Product name		Gutta Easy
Classification		Class II
Operation temperature		160, 180, 200 °C
Charging time		Approx. 2 hours
Operation time (when fully charged)		20 times / 5 min. operation
Dimensions	Handpiece	160 x 125 x 33 (mm)
	Charger base	85 x 136 x 70 (mm)
Weight	Handpiece	160g
	Charger base	340g
	Adapter	200g
SMPS	Input	100-240V AC / 50-60 Hz
	Output	6V (  ), 2.5A
Battery pack		Li-ion battery, DC 3.7V, 2200mAh
Operation environment	Temperature	+10°C ~ +40°C
	Humidity	10% ~ 85%
	Atmospheric pressure	800 hPa ~ 1060 hPa
Shipping and handling environment	Temperature	-10°C ~ +40°C
	Humidity	10% ~ 85%
	Atmospheric pressure	600 hPa ~ 1060 hPa



## CORDLESS 2-IN-1 OBTURATION SYSTEM

Endo-Apex dual obturation system from DXM combines 2 highly effective obturation devices into 1 convenient package for maximum efficiency (also available separately).

The Endo-Apex is one of the lightest cordless obturation systems on the market that offers optimum functionality and reliable apical control along with superior tactile sensing. With features such as 360 degree swivel tips and ultra-fast temperature control, the Endo-Apex saves chair time and improves the precision in both downpack and 3-dimensional backfill obturation.



### TECHNIQUES

#### Friendo pen

- Softening root canal filling material
- Spreading root canal filling material vertically
- Cutting guttapercha points of root canal filling materials
- Cutting plastic obturator handles

#### Gutta Easy gun

Thermoplasticized obturation (backfilling) of root canal filling materials



- Excellent apical control over lateral and anatomically complicated canals
- Superior heating mechanism :  
Friendo (temperature reaches 230°C within 0.28 second) / Gutta Easy (temperature reaches 200°C within 23 seconds)
- 360° swivel tip (Easy Swivel™) reduces hand and wrist fatigue and improves access to hard-to-reach areas
- Fast and continuous flow of canal filling material tightly seals the root canal
- Cordless and light weight design provides complete freedom of movement
- Adjustable temperature settings (Friendo - 170, 200, 230°C / Gutta Easy - 160, 180, 200°C)



Friendo handpiece



Gutta Easy handpiece



Dual charging base



Handpiece prop



Silicone handpiece protector



Pen tip: 5 sizes



Aluminum Friendo handpiece housing



Gun tip (23G / 25G)



Thermal protector



Teflon cleaning brush



Teflon ring



Plunger



Guttapercha pellet (Soft / Medium)



Multi-tool



AC adapter




AC power cord

PN # EE-1120 (ENDO-A PEXBASICSET)

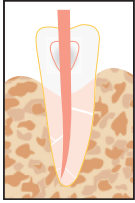
1. Friendo handpiece
2. Gutta Easy handpiece
3. Dual charger base
4. Pen tip #F and #FM with stopper (1ea)
5. Silicone handpiece protector (2ea)
6. Gun tip (23G - 2ea / 25G - 1ea)
7. Teflon cleaning brush (1ea)
8. Plunger
9. Multi-tool
10. Handpiece prop
11. Thermal protector (2ea)
12. Teflon ring (3ea)
13. Guttapercha pellet - Soft (100 pcs.)
14. SMPS (AC adapter & power cord)



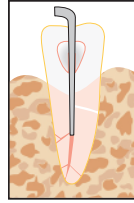
Nomenclature	MFR PN	Nomenclatur e	MFR PN
Friendo handpiece	F-1001	Plunger	GE-1008
Gutta Easy handpiece	G-1001	Multi-tool	GE-1010
Dual charger base	E-1002	Handpiece prop	GE-1003
Pen tip : XF	FE-1004-XF	Thermal protector (10ea)	GE-1005
Pen tip : F	FE-1004-F	Plunger Teflon ring (10ea)	GE-1007
Pen tip : FM	FE-1004-FM	Guttapercha pellet - Soft (100 pcs.)	GE-1009-S
Pen tip : M	FE-1004-M	Guttapercha pellet - Medium (100 pcs.)	GE-1009-M
Pen tip : ML	FE-1004-ML	Friendo battery pack	FB-1005
Silicone handpiece protector (5ea)	FE-1003	Gutta Easy battery pack	GB-1005
Gun tip - 23G (6ea)	GE-1004-23	Power cord	AC-1001
Gun tip - 25G (6ea)	GE-1004-25	AC power adapter	AC-1002
Teflon cleaning brush (2ea)	GE-1006		

Product name		Endo- Apex
Classification		Class II
Operation temperature		Friendo (170, 200, 230°C) Gutta Easy (160, 180, 200 °C)
Charging time		Approx. 2 hours
Operation time (when fully charged)		Friendo : 450 times / 2 sec. heat activation Gutta Easy : 20 times / 5 min. operation
Dimensions	Handpiece	Friendo : 19 x 22 x 167 (mm) Gutta Easy : 200 x 167 x 68 (mm)
	Charger base	85 x 136 x 70 (mm)
Weight	Handpiece	Friendo : 60g Gutta Easy : 160g
	Charger base	510g
	Adapter	200g
SMPS	Input	100-240V AC / 50-60 Hz
	Output	6V (  ), 2.5A
Battery pack		Gutta Easy : Li-ion battery, DC 3.7V, 2200mAh Friendo : Li-polymer battery, DC 3.7V, 1200mAh
Operation environment	Temperature	+10°C ~ +40°C
	Humidity	10% ~ 85%
	Atmospheric pressure	800 hPa ~ 1060 hPa
Shipping and handling environment	Temperature	-10°C ~ +40°C
	Humidity	10% ~ 85%
	Atmospheric pressure	600 hPa ~ 1060 hPa

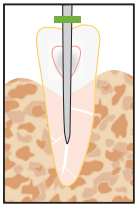




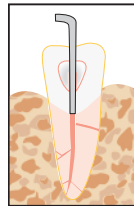
1. Prepare the canal with endodontic files. Then select and fit a master apical cone that is equivalent in size to the taper of the canal being obturated and check for tugback.



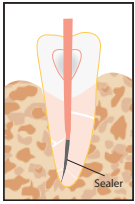
6. Insert the gun tip to reach the upper portion of the obturated master cone and wait for 5 seconds.



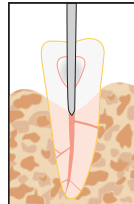
2. Dehydrate the canal with appropriately sized paper points to determine final working length. Pre-fit the pen tip 5mm short of the working length and adjust the silicone stopper to mark the reference point.



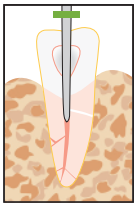
7. Extrude the melted guttapercha into the root canal by slowly pulling the gun trigger. At this time, do not quickly withdraw the gun tip. Simply allow the flow of guttapercha naturally pushes the gun tip upward.



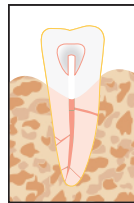
3. Lubricate the master cone with sealer and gently insert it to the canal.



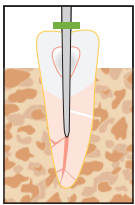
8. Harden and downpack the melted guttapercha with a larger pen tip or hand plugger.



4. Place the pen tip inside the canal and activate the pen by pressing the Shot button. Then cut the excess master cone over the orifice and downpack it to the point 6-9mm from the apex for approximately 2 seconds.

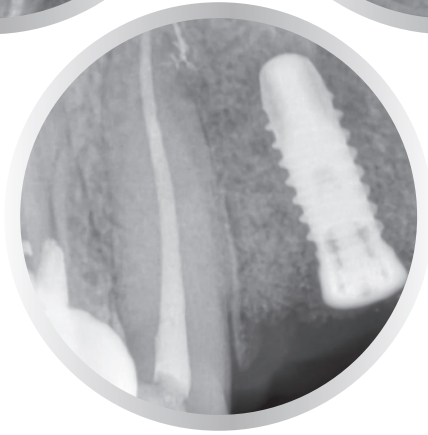
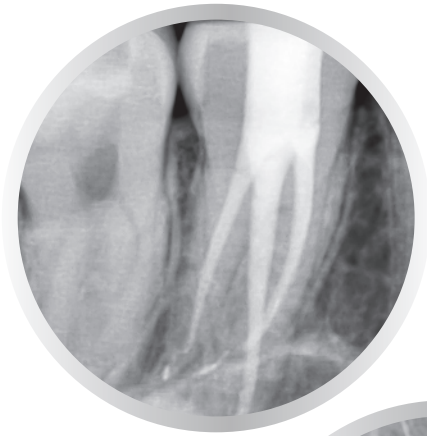


9. The root canal is completely obturated.



5. Release the Shot button to allow the pen tip to begin the cooling process. At the same time, firmly hold and push the cooled pen tip to the apex for 8 seconds to thoroughly fill the apical area and accessory canals. Reactivate the pen tip by pressing and holding the Shot button for approximately 1.5 seconds, downpack the master cone to the point 4-7mm short of the apex then remove the pen tip from the canal. Use a hand plugger to tightly compact the guttapercha (DX-Condenser 35/70 Ni-Ti is recommended).





- Completely sealed and obturated root canals by using Endo-Apex devices (Friendo and Gutta Easy).