



The Only Multi-Purpose RF Ablation System  
In the World with A Variety of Specialized Electrodes

# THE BEST CHOICE FOR RADIO FREQUENCY ABLATION THERAPIES

## Company Introduction

The world's medical device market is showing remarkable growth driven by cutting-edge minimally invasive technology and its industrial value is limitless. Among various medical technologies, radiofrequency ablation is utilized in a wide range of medical fields. Having business agility of a venture company, RF Medical maintains a high commitment to R&D and an ability to introduce advanced technologies that can lead to new market creation.

RF Medical is working diligently in an effort to keep pace with the advanced medical market. Improving health and safety of mankind is our top priority, and we are dedicated to carrying our mission as a leading medical device company through continuous investments in a superior workforce and R&D. Moreover, with relentless endeavors to be at the forefront of the market, we strive to address the most pressing needs of our customers.

To further our dedication to improving overall healthcare through pioneering cutting-edge medical devices, RF Medical is committed to developing effective, affordable, and less invasive medical devices. It is our pledge to provide the highest quality products and services to our customers and to achieve improvements in global healthcare.

## Management Philosophy

### Focus on R&D

We always strive to find better treatment modalities for different diseases and invest heavily in research & development to offer more improved devices.

### Patient Oriented

We take patients, the end-user of our products, as our top priority. Because your quality of life matters to us, our main goal is to provide the best treatment options with proven technologies for every patient.

### Great Customer Service

We strive to achieve a high level of customer satisfaction by offering prompt and reliable support to our customers worldwide. With continuous dedication and commitment to providing better services, we welcome any feedback and communications that can lead to opportunities to improve customer experiences.

## Business Area

- Liver RFA
- RFA for bone tumors
- Bloodless liver resection
- RF Thyroid
- Lung RFA
- RF Myolysis
- Disposable biopsy needle
- Endometrial Ablation
- Guiding system for Lung biopsy needle & RFA
- RFA Renal cancer
- Varicose vein treatment
- Renal denervation for Hypertension
- RF Snoring Treatment
- RF Pain Management
- Cosmetic skin care & Rejuvenation
- Treatment for various kinds of tumors
- Bronchial Thermoplasty

## Awards



Korean World-Class Product Award from 2012~Present

## Certificates



CE 1639    ISO 13485    U.S. FDA 510(k)    Korea KGMP    Taiwan TFDA    Brazil ANVISA    Russia GOST    Saudi FDA

## Patents

- 12 National registered patents.
- 5 International registered patents (USA, Japan, China, Germany, France, UK, Italy, Spain, etc.)
- 10 more patents pending approval





## What is Radiofrequency Ablation?

Radiofrequency ablation (RFA) is a medical procedure in which part of the electrical conduction system of the heart, tumor or other dysfunctional tissue is ablated using the heat generated from high frequency alternating current (in the range of 350–500 kHz). RFA is generally conducted in the outpatient setting, using either local anesthetics or conscious sedation anesthesia. Two important advantages of RF current (over previously used low frequency AC or pulses of DC) are that it does not directly stimulate nerves or heart muscle and therefore can often be used without the need for general anesthetic, and that it is very specific for treating the desired tissue without significant collateral damage.

Documented benefits have led to RFA becoming widely used during the last 15 years. RFA procedures are performed under image guidance (such as X-ray screening, CT scan or ultrasound) by an interventional pain specialist (such as an anesthesiologist), interventional radiologist, otolaryngologists, a gastrointestinal or surgical endoscopist, or a cardiac electrophysiologist, a subspecialty of cardiologists.



## 140W Compact Generator RF ABLATION SYSTEM V-1000



### Characteristics of RF Medical Generators



#### ⓘ M-3004 Generator

200W Multifunctional generator with various treatment algorithms. Can be used with up to 3 electrodes at once. See pages 6 and 7 for more information.



#### ⓘ V-1000 Generator

140W Compact generator with various treatment algorithms. Can be used with a single electrode. See page 5 for more information.



#### ⓘ V-700 Generator

Endovenous thermal ablation dedicated generator with enhanced UI and usability. See pages 23 and 24 for more information.

### Features

- ⓘ Compatible with various electrode types
- ⓘ Various treatment algorithms in memory
- ⓘ 7" TFT LCD touch screen with smart UI
- ⓘ Advanced self-test function upon startup
- ⓘ Automatic identification and function test of the catheter for the varicose vein mode
- ⓘ Easy PC monitoring by USB drive
- ⓘ Easy S/W upgrade and data download by USB drive
- ⓘ Patient pad monitoring system
- ⓘ Voice information system
- ⓘ Dual controlling system, by touch screen monitor & foot switch

### Specifications

Protection Class	I
Protection Type	BF
Input Power Voltage	AC220V ~ 240V
Input Power Frequency	50/60Hz
Maximum Input Power	300VA
Output RF Frequency	480kHz
Output RF Power	140W
Measuring Temperature	0°C~200°C
Load Impedance Range	Z=25~1000 Ω at 480kHz
Alarm Sound	65dB
Software Type	A, T, & G type



# 200W Multifunctional Generator RF ABLATION SYSTEM M-3004



## Features

- Needle switching system for larger ablation sizes
- Compatible with various electrode types
- Various treatment algorithms in memory
- 7" TFT LCD touch screen with smart UI
- Advanced self-test function upon startup
- Automatic identification and function test of the catheter for the varicose vein mode
- Dual controlling system, by touch screen monitor & foot switch
- Easy S/W upgrade and data download by USB(Front)
- Easy PC monitoring by USB drive(Back)
- Patient pad monitoring system
- 3 channels of temperature sensing at the same time
- Supports both monopolar and bipolar needle switching mode
- Voice information system

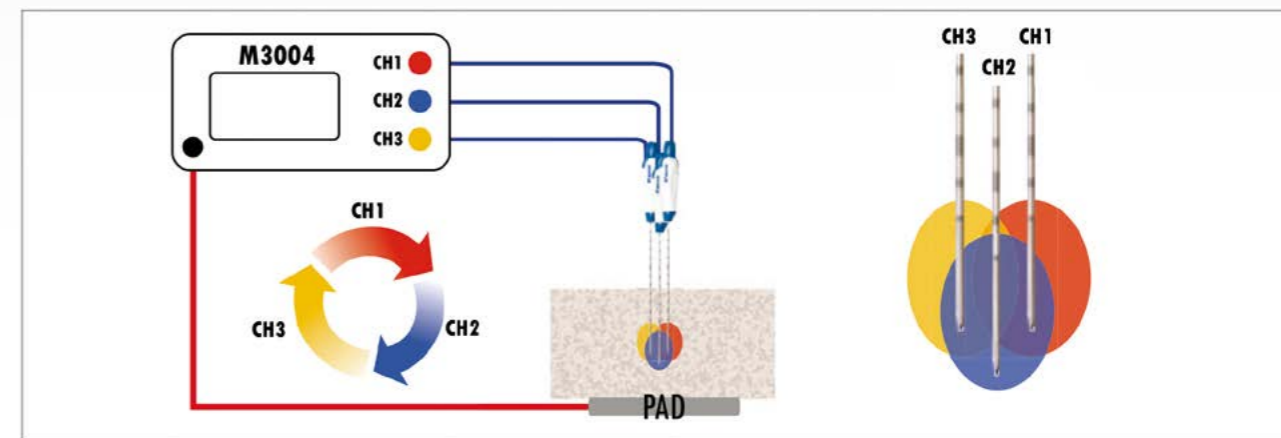
## Specifications

Protection Class	I
Protection Type	BF
Input Power Voltage	AC220V ~ 240V
Input Power Frequency	50/60Hz
Maximum Input Power	410VA
Output RF Frequency	480kHz
Output RF Power	200W
Measuring Temperature	0°C~200°C
Load Impedance Range	Z=25~1000 Ω at 480 kHz
Alarm Sound	65dB

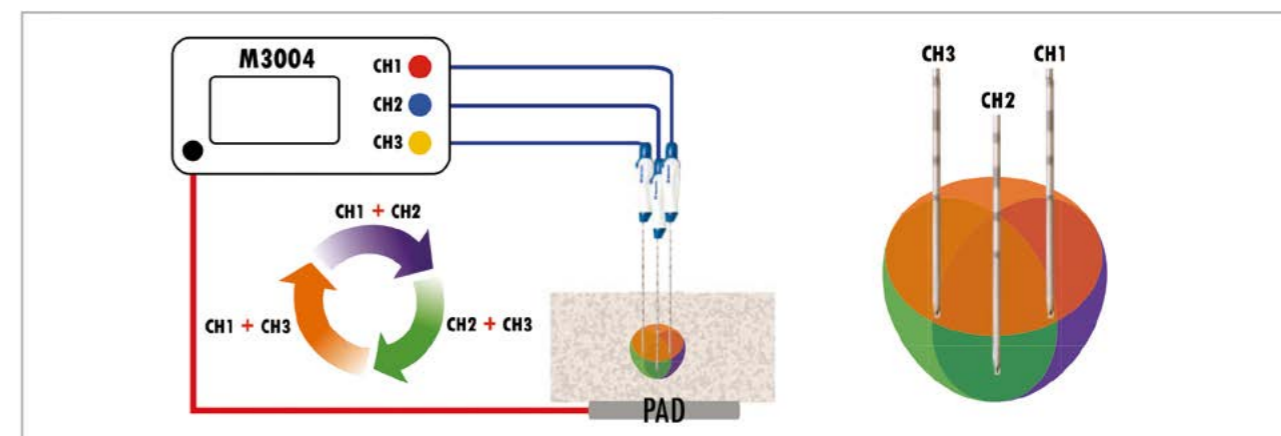
\*Specifications are subject to change without notice.

## Needle switching

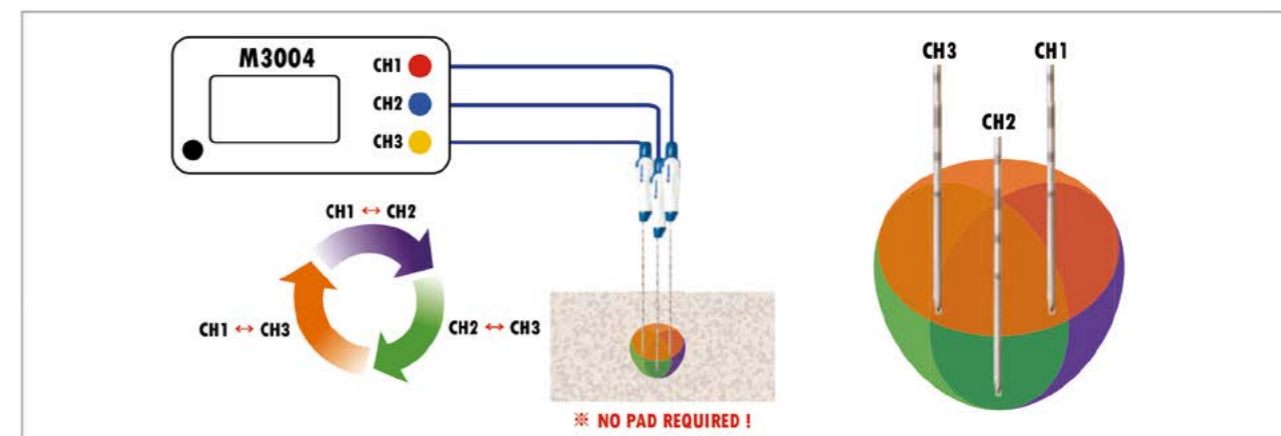
### ○ SINGLE MONOPOLAR



### ○ DUAL MONOPOLAR



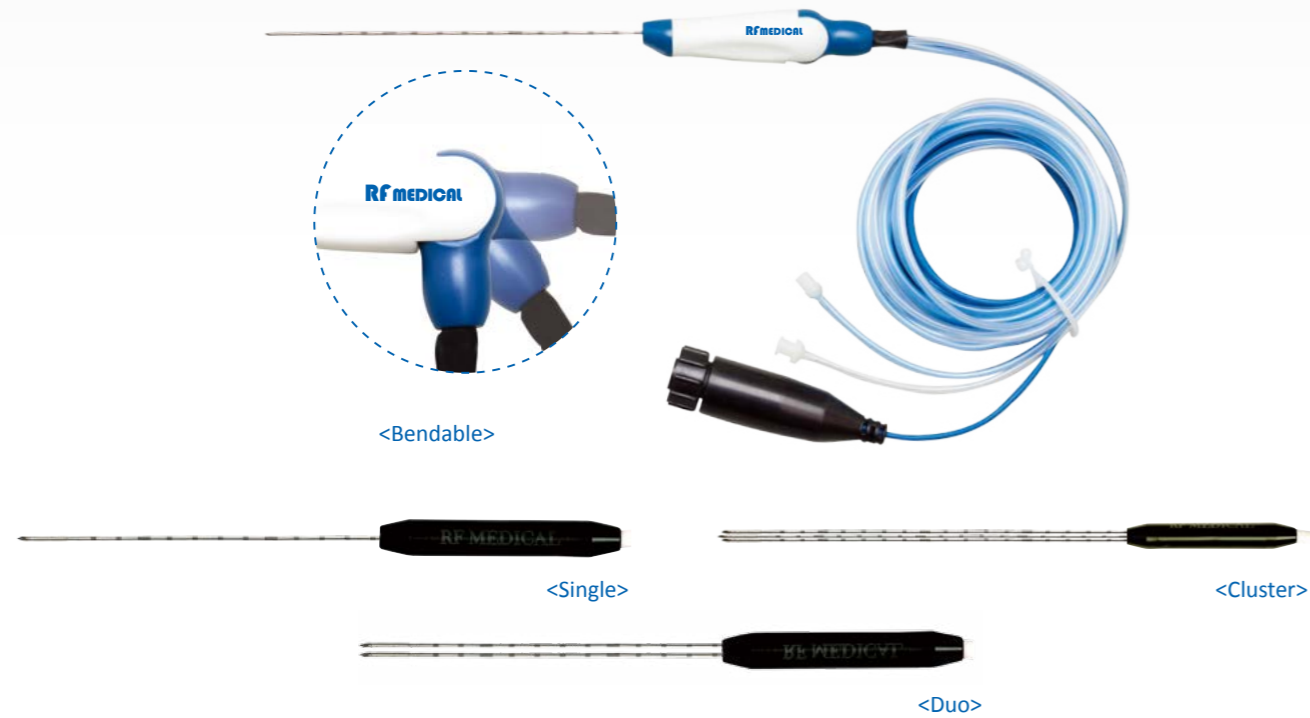
### ○ BIPOLAR





## Big-Tip (Internally Cooled Electrode)

Fast, Safe, Reproducible ablation



### Specifications

Product Code	Diameter	Length	Exposure	Type	Application
BT 1005(B)	Ø1.5 mm	10 cm	0.5 cm	Single Cooled Tip	For Liver Cancer, Lung Cancer, Kidney Cancer, and Breast Cancer
~	Ø1.5 mm	10 cm	5mm Intervals		
BT 1030(B)	Ø1.5 mm	10 cm	3.0 cm		
BT 1510(B)	Ø1.5 mm	15 cm	1.0 cm		
~	Ø1.5 mm	15 cm	5mm Intervals		
BT 1540(B)	Ø1.5 mm	15 cm	4.0 cm		
BT 2020(B)	Ø1.5 mm	20 cm	2.0 cm		
BT 2025(B)	Ø1.5 mm	20 cm	2.5 cm		
BT 2030(B)	Ø1.5 mm	20 cm	3.0 cm		
BT 2040(B)	Ø1.5 mm	20 cm	4.0 cm		
BTW 1520(B)	Ø1.8 mm	15 cm	2.0 cm		
BTW 1525(B)	Ø1.8 mm	15 cm	2.5 cm		
BTW 1530(B)	Ø1.8 mm	15 cm	3.0 cm		
BTW 2020(B)	Ø1.8 mm	20 cm	2.0 cm		
BTW 2025(B)	Ø1.8 mm	20 cm	2.5 cm		
BTW 2030(B)	Ø1.8 mm	20 cm	3.0 cm		
BTD 1020	Ø1.5 mm	10 cm	2.0 cm	Duo Cooled Tip	
~	Ø1.5 mm	10 cm	5mm Intervals		
BTD 1035	Ø1.5 mm	10 cm	3.5 cm		
BTD 1520	Ø1.5 mm	15 cm	2.0 cm		
~	Ø1.5 mm	15 cm	5mm Intervals		
BTD 1535	Ø1.5 mm	15 cm	3.5 cm		
BTD 2020	Ø1.5 mm	20 cm	2.0 cm	Cluster Cooled Tip	
~	Ø1.5 mm	20 cm	5mm Intervals		
BTD 2035	Ø1.5 mm	20 cm	3.5 cm		
BTC 1025	Ø1.5 mm	10 cm	2.5 cm		
BTC 1525	Ø1.5 mm	15 cm	2.5 cm		
BTC 2025	Ø1.5 mm	20 cm	2.5 cm		
BTC 2525	Ø1.5 mm	25 cm	2.5 cm		

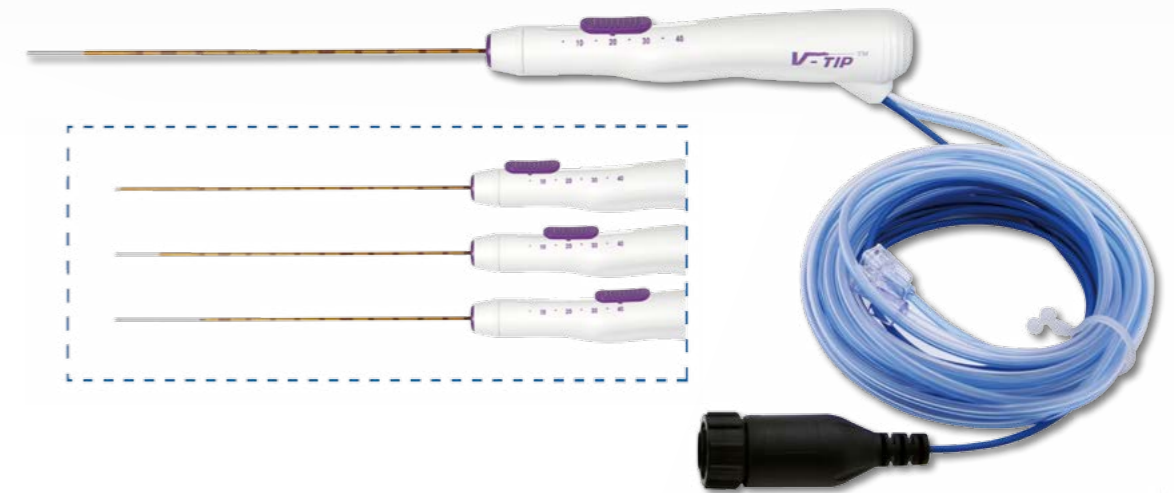
\*Big-Tip has two types of handle. Standard type(BT 1005, BT 1020, ...) and Bendable type(BT 1005B, BT 1020B, ...)



## V-Tip™ (Variable Exposure Length Tip)

Fast, Safe, Reproducible ablation

For liver cancer, lung cancer, kidney cancer, osteoid osteoma, uterine fibroid, and adenomyosis. Adjustable length of a tip eliminates the need different models of electrodes in stock. Provides convenience when treating different size of tumors in one patient.



### Features

- The internal cooling system prevents contiguous tissue from charring and thus widens the ablation zone.
- The exposure tip length is adjustable from 0.5cm to 4.0cm, which makes it possible to treat various lesions in different sizes with just one electrode.
- There are length marks in centimeters on the body of the electrode, which makes it easier for the operator to identify how deep the electrode is inserted.
- The angled handle makes RFA procedure under CT guidance much safer and easier by preventing the handle to collide with CT gantry.

### Specifications

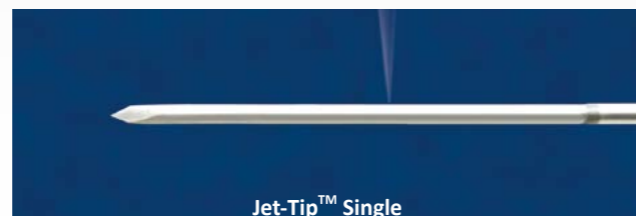
Product Code	Diameter	Length	Exposure	Type	Application
VCT 10XXB	Ø1.5 mm	10 cm	0.5 cm ~ 4.0 cm	Cooled Tip with Variable Exposure Length	For Liver Cancer, Lung Cancer, Kidney Cancer, Osteoid Osteoma, Uterine Fibroids, and Adenomyosis
VCT 15XXB	Ø1.5 mm	15 cm	0.5 cm ~ 4.0 cm		
VCT 20XXB	Ø1.5 mm	20 cm	0.5 cm ~ 4.0 cm		
VCT 25XXB	Ø1.5 mm	25 cm	0.5 cm ~ 4.0 cm		
VCT 30XXB	Ø1.5 mm	30 cm	0.5 cm ~ 4.0 cm		
VCT 35XXB	Ø1.5 mm	35 cm	0.5 cm ~ 4.0 cm		
VCTM 10XXB	Ø1.65 mm	10 cm	0.5 cm ~ 4.0 cm		
VCTM 15XXB	Ø1.65 mm	15 cm	0.5 cm ~ 4.0 cm		
VCTM 20XXB	Ø1.65 mm	20 cm	0.5 cm ~ 4.0 cm		
VCTM 25XXB	Ø1.65 mm	25 cm	0.5 cm ~ 4.0 cm		
VCTM 30XXB	Ø1.65 mm	30 cm	0.5 cm ~ 4.0 cm		
VCTM 35XXB	Ø1.65 mm	35 cm	0.5 cm ~ 4.0 cm		
VCTW 10XXB	Ø1.8 mm	10 cm	0.5 cm ~ 4.0 cm		
VCTW 15XXB	Ø1.8 mm	15 cm	0.5 cm ~ 4.0 cm		
VCTW 20XXB	Ø1.8 mm	20 cm	0.5 cm ~ 4.0 cm		
VCTW 25XXB	Ø1.8 mm	25 cm	0.5 cm ~ 4.0 cm		
VCTW 30XXB	Ø1.8 mm	30 cm	0.5 cm ~ 4.0 cm		
VCTW 35XXB	Ø1.8 mm	35 cm	0.5 cm ~ 4.0 cm		



# Jet-Tip™ (Cooled Wet Tip)

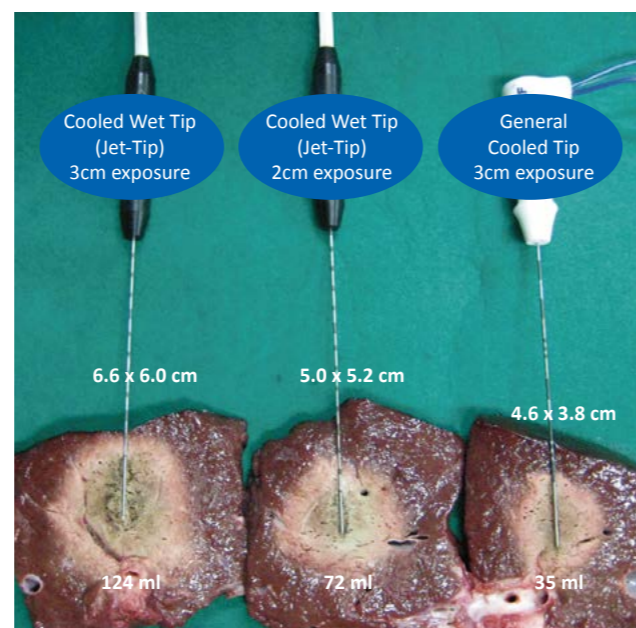


The ultimate version of the straight-type RF electrode.  
It creates a larger ablation zone than regular internally cooled electrodes and even microwave antennas.



## Features

- Internally cooled & perfused type of electrode.
- Perfused saline hinders contiguous tissue from charring and causes more ionic agitation, which aids the heat energy to travel further and leads to larger and rounder ablation the regular internally cooled electrode.
- Various exposure tip lengths are available for various lesion sizes.
- There are length marks in centimeters on the body of the electrode, which makes it easier for the operator to identify how deep the electrode is inserted.
- The bendable handle makes RFA procedure to be possible under CT guidance by preventing the handle to collide with CT gantry.



## References

- Percutaneous radiofrequency ablation using internally cooled wet electrodes for treatment of colorectal liver metastases. Clin Radiol. 2012 Feb;67(2):122-7. Epub 2011 Sep 8.
- Percutaneous radiofrequency ablation using internally cooled wet electrodes for the treatment of hepatocellular carcinoma. AJR Am J Roentgenol. 2012 Feb;198(2):471-6.
- Percutaneous Radiofrequency Ablation with Internally Cooled versus Internally Cooled Wet Electrodes for Small Subphrenic Hepatocellular Carcinomas. J Vasc Interv Radiol. 2013 Mar;24(3)351-6. Epub 2013 Feb 4.
- Switching bipolar hepatic radiofrequency ablation using internally cooled wet electrodes: comparison with consecutive monopolar and switching monopolar modes. Br J Radiol. 2015;88:20140468.

## Specifications

Product Code	Diameter	Length	Exposure	Type	Application
JET 0710T(B)	Ø1.2 mm	7 cm	1.0 cm	Single Cooled Wet Tip	For Thyroid Nodules
JET 0715T(B)	Ø1.2 mm	7 cm	1.5 cm		
JET 1010(B)	Ø1.5 mm	10 cm	1.0 cm		
JET 1015(B)	Ø1.5 mm	10 cm	1.5 cm		
JET 1510(B)	Ø1.5 mm	15 cm	1.0 cm		
~	Ø1.5 mm	15 cm	5mm Intervals		
JET 1540(B)	Ø1.5 mm	15 cm	4.0 cm		
JET 2010(B)	Ø1.5 mm	20 cm	1.0 cm		
~	Ø1.5 mm	20 cm	5mm Intervals		
JET 2040(B)	Ø1.5 mm	20 cm	4.0 cm		
JET 2505(B)	Ø1.5 mm	25 cm	0.5 cm		
~	Ø1.5 mm	25 cm	5mm Intervals		
JET 2540(B)	Ø1.5 mm	25 cm	4.0 cm		
JET 3005(B)	Ø1.5 mm	30 cm	0.5 cm		
~	Ø1.5 mm	30 cm	5mm Intervals		
JET 3040(B)	Ø1.5 mm	30 cm	4.0 cm		
JET 1520Q(B)	Ø1.8 mm	15 cm	2.0 cm		
~	Ø1.8 mm	15 cm	5mm Intervals		
JET 1540Q(B)	Ø1.8 mm	15 cm	4.0 cm		
JET 2020Q(B)	Ø1.8 mm	20 cm	2.0 cm		
~	Ø1.8 mm	20 cm	5mm Intervals		
JET 2040Q(B)	Ø1.8 mm	20 cm	4.0 cm		
JET 2520Q(B)	Ø1.8 mm	25 cm	2.0 cm		
~	Ø1.8 mm	25 cm	5mm Intervals		
JET 2540Q(B)	Ø1.8 mm	25 cm	4.0 cm		
JET 3020Q(B)	Ø1.8 mm	30 cm	2.0 cm		
~	Ø1.8 mm	30 cm	5mm Intervals		
JET 3040Q(B)	Ø1.8 mm	30 cm	4.0 cm		
JET 1520X(B)	Ø2.0 mm	15 cm	2.0 cm		
~	Ø2.0 mm	15 cm	5mm Intervals		
JET1540X(B)	Ø2.0 mm	15 cm	4.0 cm		
JET 2020X(B)	Ø2.0 mm	20 cm	2.0 cm		
~	Ø2.0 mm	20 cm	5mm Intervals		
JET 2040X(B)	Ø2.0 mm	20 cm	4.0 cm		
JET 2520X(B)	Ø2.0 mm	25 cm	2.0 cm		
~	Ø2.0 mm	25 cm	5mm Intervals		
JET 2540X(B)	Ø2.0 mm	25 cm	4.0 cm		
JET 3020X(B)	Ø2.0 mm	30 cm	2.0 cm		
~	Ø2.0 mm	30 cm	5mm Intervals		
JET 3040X(B)	Ø2.0 mm	30 cm	4.0 cm		
JETC 1510	Ø1.5 mm	15 cm	1.0 cm	Cluster Cooled Wet Tip	For Liver Cancer, Kidney Cancer, and Lung Cancer
JETC 1515	Ø1.5 mm	15 cm	1.5 cm		
JETC 2010	Ø1.5 mm	20 cm	1.0 cm		
JETC 2015	Ø1.5 mm	20 cm	1.5 cm		
JETC 2510	Ø1.5 mm	25 cm	1.0 cm		
JETC 2515	Ø1.5 mm	25 cm	1.5 cm		

\*Jet-Tip has two types of handle. Standard type(JET 0710T, JET 0715T, ...) and Bendable type(JET 0710TB, JET 0715TB, ...)



# Jet-Tip™ Twins & Jet-Tip™ Triple



### Features of Jet-Tip™ Twins

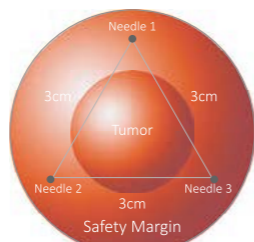
- Makes a larger ablation size (up to 7cm)
- Much easier to use than a cluster electrode
- Less traumatic than cluster electrode
- Highly effective in treating Portal Vein Tumor Thrombus

### Features of Jet-Tip™ Triple

- Makes a larger ablation size in the world (with RF)
- Can use with monopolar and/or bipolar needle switching
- With bipolar needle switching, "No-touch technique" is possible
- Less heat-sync effect

### Characteristics of Jet-Tip™ Twins & Triple

- Independent temperature sensor and RF cable for each needle
- United cooling system tubes
- Needle switching possible



No Touch Technique

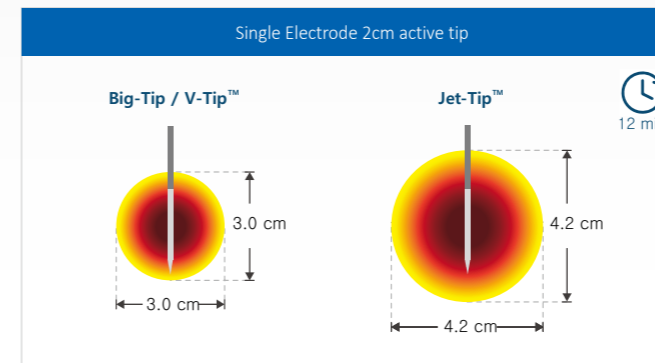
### Specifications

Product Code	Diameter	Length	Exposure	Type	Application
JET-T 1005~1040	Ø1.5 mm	10 cm	0.5~4.0 cm (5mm Intervals)	Jet-Tip™ Twins	For Liver Cancer, Kidney Cancer, and Lung Cancer
JET-T 1505~1540	Ø1.5 mm	15 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 2005~2040	Ø1.5 mm	20 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 2505~2540	Ø1.5 mm	25 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 3005~3040	Ø1.5 mm	30 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 3505~3540	Ø1.5 mm	35 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 1005Q~1040Q	Ø1.8 mm	10 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 1505Q~1540Q	Ø1.8 mm	15 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 2005Q~2040Q	Ø1.8 mm	20 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 2505Q~2540Q	Ø1.8 mm	25 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 3005Q~3040Q	Ø1.8 mm	30 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 3505Q~3540Q	Ø1.8 mm	35 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 1005X~1040X	Ø2.0 mm	10 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 1505X~1540X	Ø2.0 mm	15 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 2005X~2040X	Ø2.0 mm	20 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 2505X~2540X	Ø2.0 mm	25 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 3005X~3040X	Ø2.0 mm	30 cm	0.5~4.0 cm (5mm Intervals)		
JET-T 3505X~3540X	Ø2.0 mm	35 cm	0.5~4.0 cm (5mm Intervals)		
JET-TRI 0000-0000	Available in the same specifications as the Jet-Tip™ Twins			Jet-Tip™ Triple	

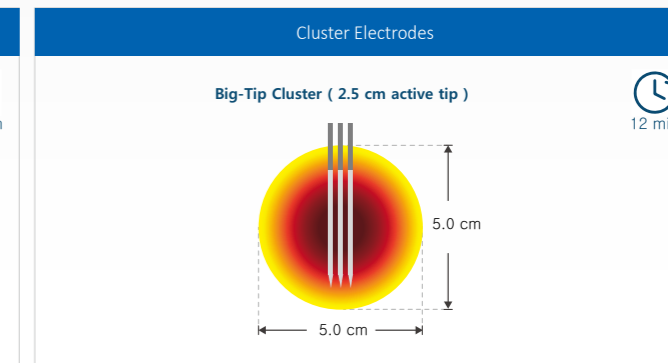


# Tumor Ablation Size Chart

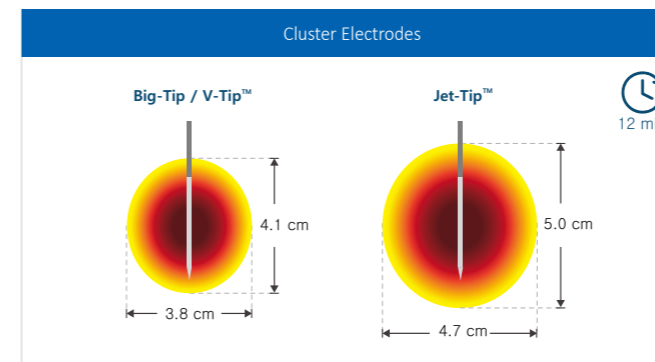
### 17G(1.5mm) - 2cm active tip



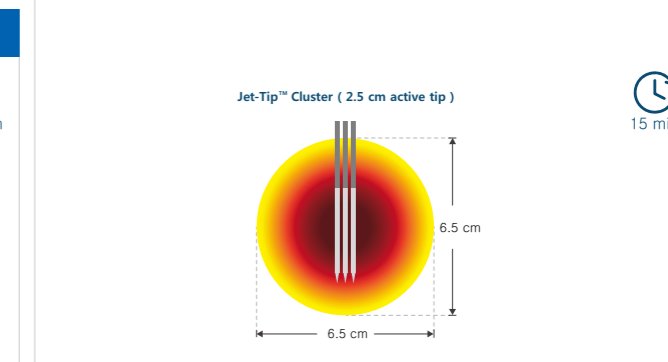
### 17G(1.5mm) cluster electrode



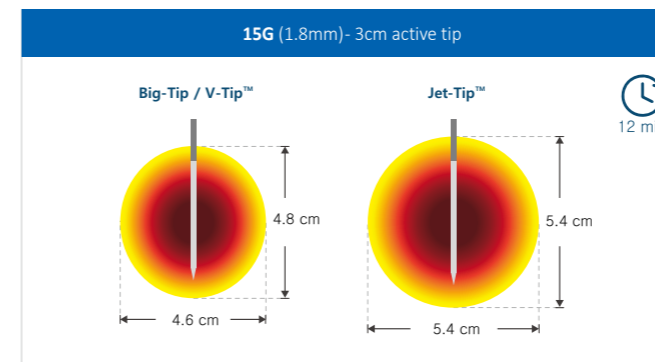
### 17G(1.5mm) - 3cm active tip



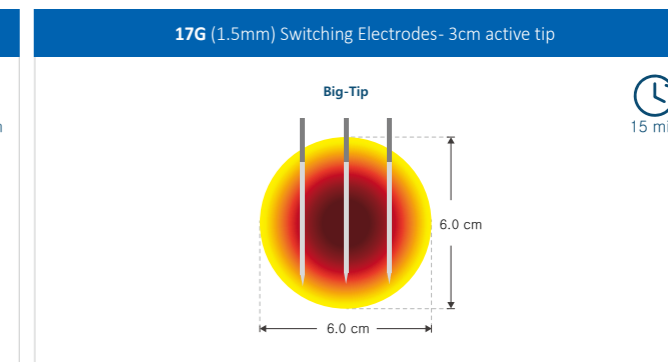
### 17G(1.5mm) cluster electrode



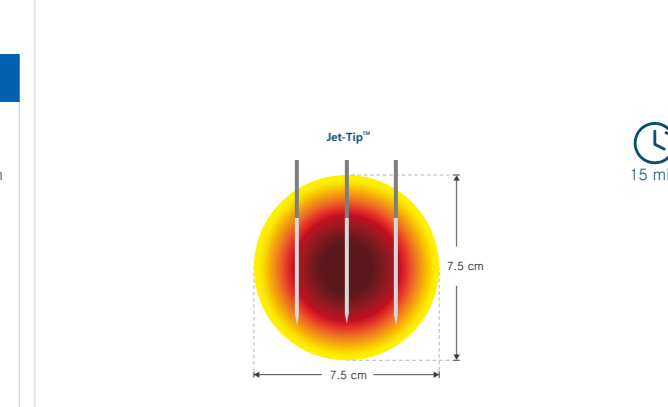
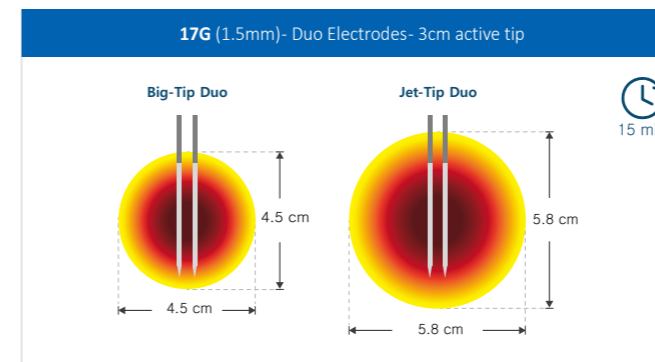
### 15G(1.8mm) - 3cm active tip



### 17G(1.5mm) Switching electrode - 3cm active tip



### 17G(1.5mm) Duo electrode - 3cm active tip

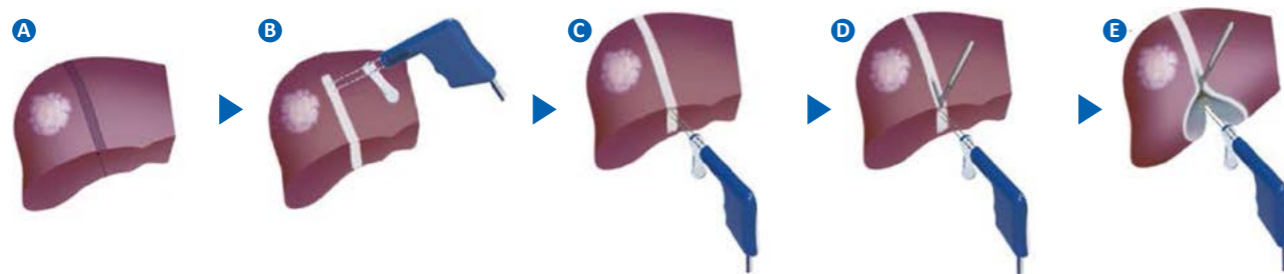




## Duo Bipolar Electrode for Bloodless Liver Resection



### Bloodless Liver Resection



### Features

- Blood loss is reduced significantly.
- Procedure time is decreased a lot.
- Possibilities for blood transfusions are declined remarkably.
- Functional portions of a cirrhotic liver can be spared.
- Occurrence of liver failure and bile leakage can be decreased prominently because of blood loss reduction and functional tissue sparing.

### Specifications

Product Code	Diameter	Length	Exposure	Type	Application
DBT 1220	Ø1.5 mm	12 cm	2.0 cm	Dual Tip, Bipolar	Bloodless Liver Resection
DBT 1225	Ø1.5 mm	12 cm	2.5 cm		
DBT 1230	Ø1.5 mm	12 cm	3.0 cm		
DBT 1235	Ø1.5 mm	12 cm	3.5 cm		
DBT 1240	Ø1.5 mm	12 cm	4.0 cm		



## Dedicated for endovenous thermal ablation VeinCLEAR™ System







## VeinCLEAR™ System Generator V-700



### Features

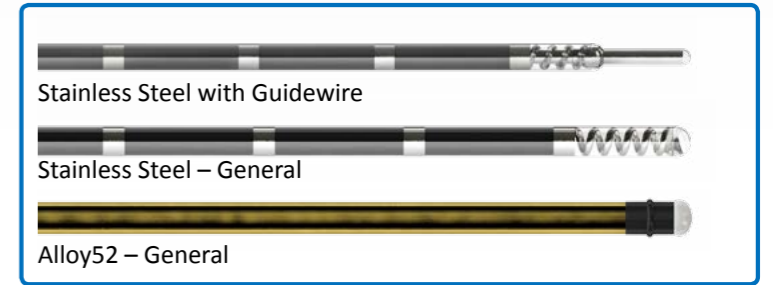
- LCD touch screen
- Compatible with all STS and Alloy52 catheters
- Advanced automatic self-test system
- Safe temperature-controlled algorithm
- PC compatibility for observation and data download
- Multi-language support with audio guidance
- Target temperature and ablation cycle time can be optionally adjusted
- Pre-set ablation algorithm available according to vein diameter

### Specifications

Protection Class	I
Protection Type	BF
Input Power Voltage	100-240V (AC)
Input Power Frequency	50/60 Hz
Maximum Input Power	150 VA
Measuring Temperature	0 °C- 200 °C
Alarm Sound	More than 65 dB



## VeinCLEAR™ System Catheters



### Specifications

Product Code	Compatible Introducer	Heating Element	Total Length	Heating Element Length	Compatible Guidewire
VVT 70FS	5Fr	Stainless Steel	70cm	7cm	N/A
VVT 100FS			100cm		
VVT 70FG			70cm		
VVT 100FG			100cm		
VVT 70FGL*			70cm		
VVT 100FGL*			100cm		
VVT 70FGW**			70cm		
VVT 100FGW**			100cm		
VVT 4510	7Fr	Alloy52	45cm	1cm	0.025"
VVT 4515				1.5cm	
VVT 4520				2cm	
VVT 4530				3cm	
VVT 60			60cm	7cm	
VVT 7020			70cm	2cm	
VVT 7030				3cm	
VVT 70				7cm	
VVT 90				90cm	
VVT 100			100cm	7cm	

\* LED light on tip of catheter

\*\* Embedded guidewire on tip

### Compatibility of catheters with generators

		V-700	V-1000	M-3004
Stainless Steel Catheter	with LED	✓	X	X
	General & with Guidewire	✓	X	X
Alloy Catheter	General	✓	✓	✓



## Tumescent Infiltration for Endovenous Thermal Ablation Tumescentor™ System Pump RFP-300

### Features

- Operation status display monitor
- Injection speed control
- Dedicated IV pole included



RFP-300

### Specifications

Product Code	RFP-300
Protection Class	I
Protection Type	BF
Input Power Voltage	100 - 240 V (AC)
Input Power Frequency	50/60 Hz
Maximum Input Power	100 VA
Display	Double line x 20 characters LCD
Injection Control	Foot switch



## Tumescent Infiltration Handpieces Tumescentor™

### Features

- Tumescentor™ accessories are compatible with:
  - RF Medical RFP-300 pump (handpiece option only)
  - Nouvag pump (simple tubing & handpiece option)



### Specifications

Product Code	Compatible Pump	Type	Injection Needle	Tube Length
TI-1B4PP-2380	RF Medical RFP-300	Handpiece	23G x 80mm	3m
TI-1BNV-3MH	Nouvag series DP-30	Handpiece	N/A	3m
TI-1BNV-4MH				4m
TI-1BNV-3M		Simple tubing		3m
TI-1BNV-4M				4m



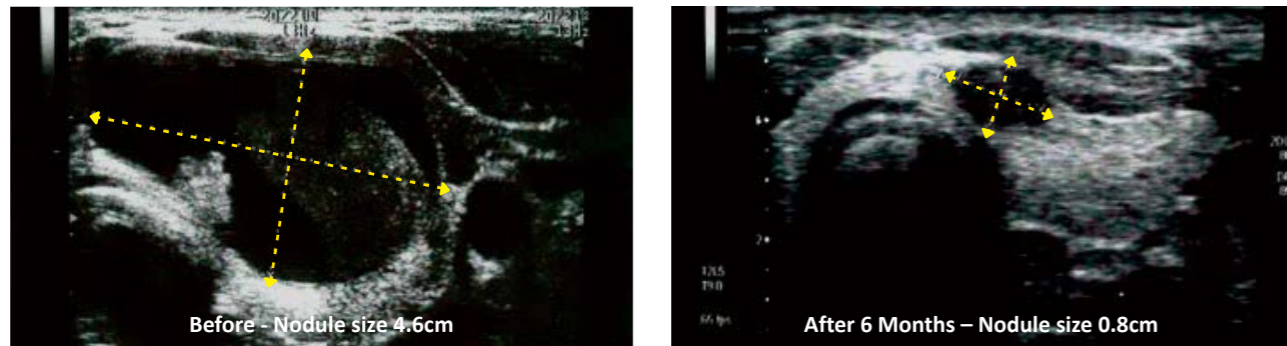
# RF Ablation of Thyroid

Highly effective & minimally invasive way of treating different types of thyroid nodules, including non-toxic benign thyroid nodules, autonomously functioning thyroid nodules, thyroglossal duct cysts, intrathoracic goiters, recurrent thyroid cancers, venous malformations in the neck, and etc.



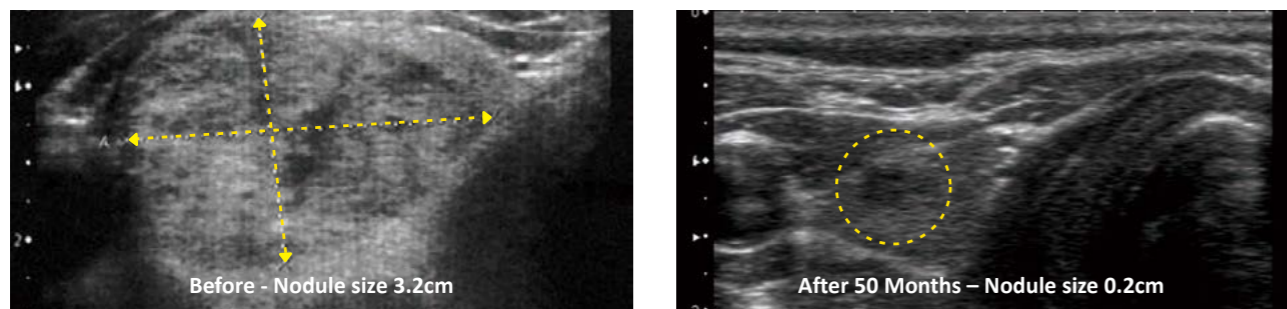
Courtesy of Prof. Spiezia

## Thyroid Nodule



Courtesy of Dr.Jung Hwan Baek

## Thyroid Nodule – Solid mass



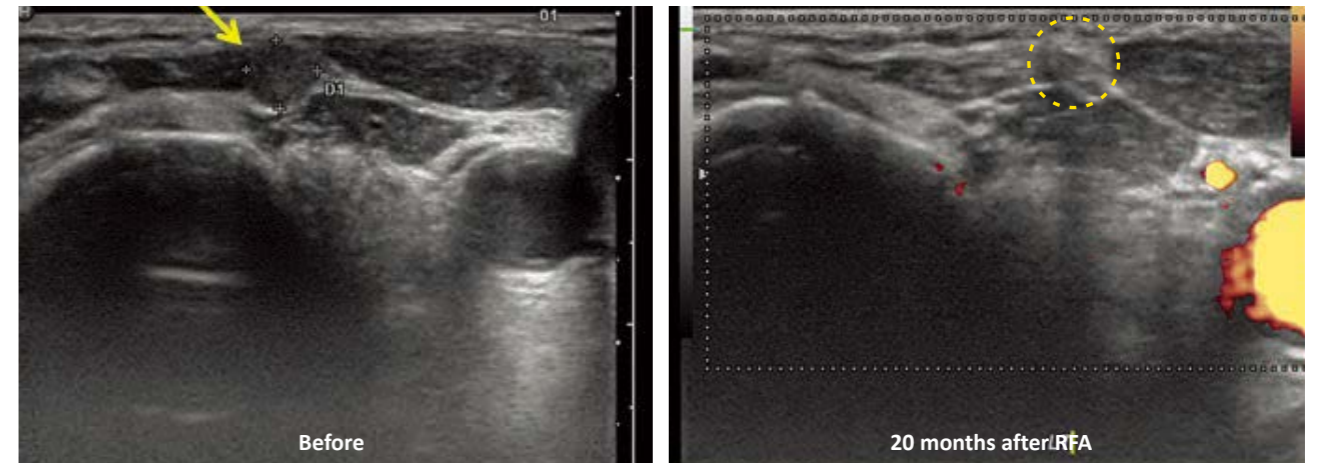
Courtesy of Dr.Jung Hwan Baek

## Recurrent Tongue Cancer



Courtesy of Dr. Jung Hwan Baek

## Recurrent Tongue Cancer



Courtesy of Dr. Jung Hwan Baek

## Advantages of Thyroid RFA

- ⊖ No scar
- ⊖ Minimally invasive
- ⊖ No patient admission
- ⊖ Quick recovery
- ⊖ Easy procedure
- ⊖ Low complication rates
- ⊖ Local anesthesia
- ⊖ Effective for patients with previous lobectomy



## RF Ablation of Thyroid

### Clinical Results

	6 months	1 year	2 years	3 years	Last
Total	70.3 ± 17.2	89.9 ± 10.2	90.1 ± 10.1	90.7 ± 15.8	93.5 ± 11.7
P value	< 0.001	< 0.999	< 0.001	< 0.001	
Solidity ≤ 50%	80.9 ± 14.6	93.6 ± 8.8	93.1 ± 8.9	92.0 ± 20.3	96.0 ± 8.8
Solidity > 50%	67.6 ± 16.8	87.8 ± 10.4	88.4 ± 10.4	90.0 ± 13.0	92.0 ± 12.9
P value	< 0.001	0.003	0.021	0.002	0.002

126 benign non-functioning thyroid nodules of 111 patients  
 Mean follow-up periods : 49.4±13.6 months  
 Mean No. of sessions : 2.2±1.4  
 Mean volume reduction : 93.4±11.7%  
 Therapeutic success rate : 98.4%(124/126)  
 Overall complication rate: 3.6%(4/111)  
 Overall recurrence rate : 5.6%(7/126)  
 Regrowth defined as a > 50% increase in nodule volume compared with the previous FU volume.

Radiofrequency ablation of benign nonfunctioning thyroid nodules: 4-year follow-up results in 111 patients. Eur Radiol. 2013 Apr;23(4):1044-9

Table 3. Outcomes for 276 Benign Thyroid Nodules after RF ablation

Variables	Before	1 month	12 months	P*
Largest diameter	3.8 ± 1.1	3.0 ± 1.0	2.0 ± 1.0	< 0.001
Volume	14.2 ± 13.2	8.1 ± 8.8	3.2 ± 4.7	< 0.001
Volume reduction rate (%)		44.4 ± 17.0	80.3 ± 13.7	
Symptom score	2.5 ± 1.8	1.3 ± 1.2	0.4 ± 0.6	< 0.001
Cosmetic score	3.7 ± 0.6	2.9 ± 0.9	1.9 ± 0.9	< 0.001
Vascularity	2.0 ± 0.8	0.6 ± 0.8	0.6 ± 0.9	< 0.001
Therapeutic success (%)†	-	-	270/276 (97.8)	

Efficacy and Safety of Radiofrequency Ablation for Benign Thyroid Nodules: A Prospective Multicenter Study. Korean Journal of Radiology. 2018 Jan/Feb; 19(1):167-74

### Complications

Multicenter Study(13 institutions), 1459 patients, 1543 nodules, 48 complications(3.3%), 20 major complications(1.4%)

The Major	The Minor
<ul style="list-style-type: none"> <li>Voice changes ( n = 15)</li> <li>Brachial plexus injury ( n = 1)</li> <li>Tumor rupture ( n = 3)</li> <li>Permanent hypothyroidism ( n = 1)</li> </ul>	<ul style="list-style-type: none"> <li>Hematoma ( n = 15)</li> <li>Skin burn ( n = 4)</li> <li>Vomiting ( n = 9)</li> </ul>

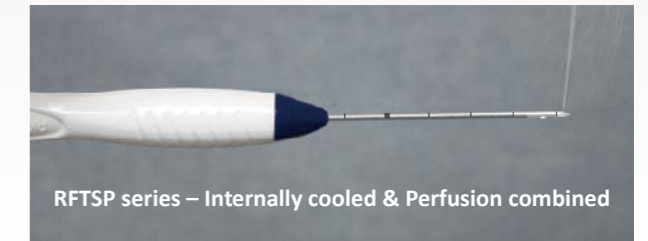
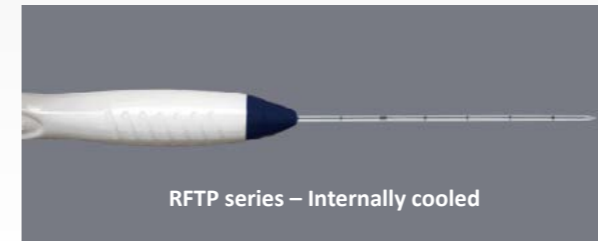
All patients recovered spontaneously except for one with permanent hypothyroidism and one who underwent surgery.

Complications Encountered in the treatment of benign thyroid nodules with US-guided radiofrequency ablation: A Multicenter Study. Radiology. 2012 Jan; 262(1):335-42

\*For more evidence and/or information regarding thyroid RF ablation, please contact us directly via overseas@rfa.co.kr.



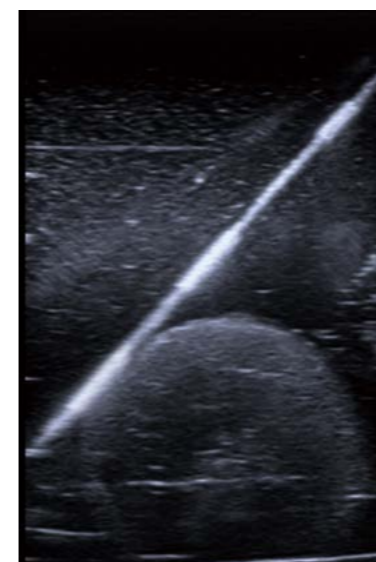
## Specialized Thyroid RF Electrode



### Specialized RF Electrodes



### Features



- Internally cooled electrodes
- Ultra thin needles
  - Available in 18G & 19G for minimizing injury to nearby normal tissues
- Shorter needle length
  - Available in 7cm & 10cm (2.7 inch & 4 inch)
- Wide variety of exposure tip lengths
  - Available in 3\*, 4, 5, 7, 10, 15, & 20mm
- Ergonomically designed handle allows for easy manipulation of electrode
- A new transparent, thinner, and smoother coating material applied on the needle surface for
  - Easier insertion and improved maneuverability of electrode
  - Stronger and thicker core of needle
- Special echogenic markers on the 2<sup>nd</sup>, 4<sup>th</sup>, and 6<sup>th</sup> centimeter
  - Provides enhanced ultrasound visibility
  - Allows the physician to determine the position of the active tip with greater ease and confidence

\* 3mm active tip is the smallest exposure tip size available in the market.

\* The Mygen V-1000 RF generator and RFT electrode series are CE approved.



## Specialized Thyroid RF Electrode



### Specifications

Product Code	Diameter	Length	Exposure	Type	Application
RFTP 0703LN	Ø1.0 mm	7 cm	0.3 cm	Cooled Tip	For Lymph Node
RFTP 0704LN	Ø1.0 mm	7 cm	0.4 cm		
RFTP 0705LN	Ø1.0 mm	7 cm	0.5 cm		
RFTP 0707LN	Ø1.0 mm	7 cm	0.7 cm		
RFTP 0710LN	Ø1.0 mm	7 cm	1.0 cm		
RFTP 0715LN	Ø1.0 mm	7 cm	1.5 cm		
RFTP 0720LN	Ø1.0 mm	7 cm	2.0 cm		
RFTP 1003LN	Ø1.0 mm	10 cm	0.3 cm		
RFTP 1004LN	Ø1.0 mm	10 cm	0.4 cm		
RFTP 1005LN	Ø1.0 mm	10 cm	0.5 cm		
RFTP 1007LN	Ø1.0 mm	10 cm	0.7 cm		
RFTP 1010LN	Ø1.0 mm	10 cm	1.0 cm		
RFTP 1015LN	Ø1.0 mm	10 cm	1.5 cm		
RFTP 1020LN	Ø1.0 mm	10 cm	2.0 cm		
RFTSP 0703LN	Ø1.0 mm	7 cm	0.3 cm	Cooled Wet Tip	
RFTSP 0704LN	Ø1.0 mm	7 cm	0.4 cm		
RFTSP 0705LN	Ø1.0 mm	7 cm	0.5 cm		
RFTSP 0707LN	Ø1.0 mm	7 cm	0.7 cm		
RFTSP 0710LN	Ø1.0 mm	7 cm	1.0 cm		
RFTSP 0715LN	Ø1.0 mm	7 cm	1.5 cm		
RFTSP 0720LN	Ø1.0 mm	7 cm	2.0 cm		
RFTP 0703N	Ø1.2 mm	7 cm	0.3 cm	Cooled Tip	For Thyroid Nodule
RFTP 0704N	Ø1.2 mm	7 cm	0.4 cm		
RFTP 0705N	Ø1.2 mm	7 cm	0.5 cm		
RFTP 0707N	Ø1.2 mm	7 cm	0.7 cm		
RFTP 0710N	Ø1.2 mm	7 cm	1.0 cm		
RFTP 0715N	Ø1.2 mm	7 cm	1.5 cm		
RFTP 0720N	Ø1.2 mm	7 cm	2.0 cm		
RFTP 1003N	Ø1.2 mm	10 cm	0.3 cm		
RFTP 1004N	Ø1.2 mm	10 cm	0.4 cm		
RFTP 1005N	Ø1.2 mm	10 cm	0.5 cm		
RFTP 1007N	Ø1.2 mm	10 cm	0.7 cm		
RFTP 1010N	Ø1.2 mm	10 cm	1.0 cm		
RFTP 1015N	Ø1.2 mm	10 cm	1.5 cm		
RFTP 1020N	Ø1.2 mm	10 cm	2.0 cm		
RFTSP 0703N	Ø1.2 mm	7 cm	0.3 cm	Cooled Wet Tip	
RFTSP 0704N	Ø1.2 mm	7 cm	0.4 cm		
RFTSP 0703N	Ø1.2 mm	7 cm	0.5 cm		
RFTSP 0707N	Ø1.2 mm	7 cm	0.7 cm		
RFTSP 0710N	Ø1.2 mm	7 cm	1.0 cm		
RFTSP 0715N	Ø1.2 mm	7 cm	1.5 cm		
RFTSP 0720N	Ø1.2 mm	7 cm	2.0 cm		



## P-Cut™ Biopsy Needle



P-Cut™ Biopsy Needle is specially designed to obtain specimens with less complication, high accuracy, and high consistency. It can be applied for various soft tissues such as breast, thyroid, lung, prostate, and liver.



### Features

- The uniquely processed etched tip enhances the ultrasound visibility of the needle.
- By providing a specialized model for each notch length (10 & 18mm), P-Cut takes intact core tissue samples regardless of the notch lengths.
- The ergonomically designed handle provides a comfortable grip and facilitates more precise control of the device.
- Even for models with 10mm notch, the maximum driving force of the spring ensures sufficient extraction of tissue samples.
- The relatively short distal tip of the stylet minimizes injury to normal tissue.
- The sliding stopper prevents from accidental misfiring of the needle.

### Specifications

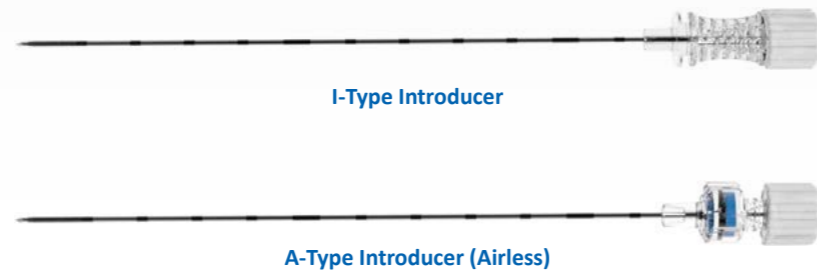
Product Code	Gauge	Needle Length	Notch Length	Product Code	Gauge	Needle Length	Notch Length	Product Code	Gauge	Needle Length	Notch Length
SA1407S	14G	7cm	10mm	SA1613L	16G	13cm	18mm	SA1824S	18G	24cm	10mm
SA1407L	14G	7cm	18mm	SA1619S	16G	19cm	10mm	SA1824L	18G	24cm	18mm
SA1410S	14G	10cm	10mm	SA1619L	16G	19cm	18mm	SA2007S	20G	7cm	10mm
SA1410L	14G	10cm	18mm	SA1624S	16G	24cm	10mm	SA2007L	20G	7cm	18mm
SA1413S	14G	13cm	10mm	SA1624L	16G	24cm	18mm	SA2013S	20G	13cm	10mm
SA1413L	14G	13cm	18mm	SA1807S	18G	7cm	10mm	SA2013L	20G	13cm	18mm
SA1419S	14G	19cm	10mm	SA1807L	18G	7cm	18mm	SA2018S	20G	18cm	10mm
SA1419L	14G	19cm	18mm	SA1810S	18G	10cm	10mm	SA2018L	20G	18cm	18mm
SA1424S	14G	24cm	10mm	SA1810L	18G	10cm	18mm	SA2024S	20G	24cm	10mm
SA1424L	14G	24cm	18mm	SA1813S	18G	13cm	10mm	SA2024L	20G	24cm	18mm
SA1607S	16G	7cm	10mm	SA1813L	18G	13cm	18mm				
SA1607L	16G	7cm	18mm	SA1819S	18G	19cm	10mm				
SA1613S	16G	13cm	10mm	SA1819L	18G	19cm	18mm				



## P-Cut™ Introducer



P-Cut™ introducer is specially designed for easy, accurate, and reliable insertion guide.



I-Type Introducer

A-Type Introducer (Airless)

### Features

- Available in 2 types: I- Type Introducer & A-Type Introducer (patented).
- The patented airless introducer prevents a lung from pulmonary vein thrombosis stemmed from the inflow of air through an introducer tube.
- A wide range of models with various gauges and lengths are available.
- Centimeter depth markings provide maximum safety and easy determination of the insertion depth.
- The uniquely designed echogenic tip enhances the ultrasound visibility of the introducer during biopsy procedures.

### Specifications

#### <I-Type Introducer>

Product Code	Gauge	Needle Length	Cap-Color
INT1304	13G	4cm	Green
INT1307	13G	7cm	Green
INT1310	13G	10cm	Green
INT1316	13G	16cm	Green
INT1321	13G	21cm	Green
INT1504	15G	4cm	White
INT1510	15G	10cm	White
INT1516	15G	16cm	White
INT1521	15G	21cm	White
INT1704	17G	4cm	Pink
INT1707	17G	7cm	Pink
INT1710	17G	10cm	Pink
INT1716	17G	16cm	Pink
INT1721	17G	21cm	Pink
INT1904	19G	4cm	Yellow
INT1910	19G	10cm	Yellow
INT1916	19G	16cm	Yellow
INT1921	19G	21cm	Yellow

#### <A-Type Introducer>

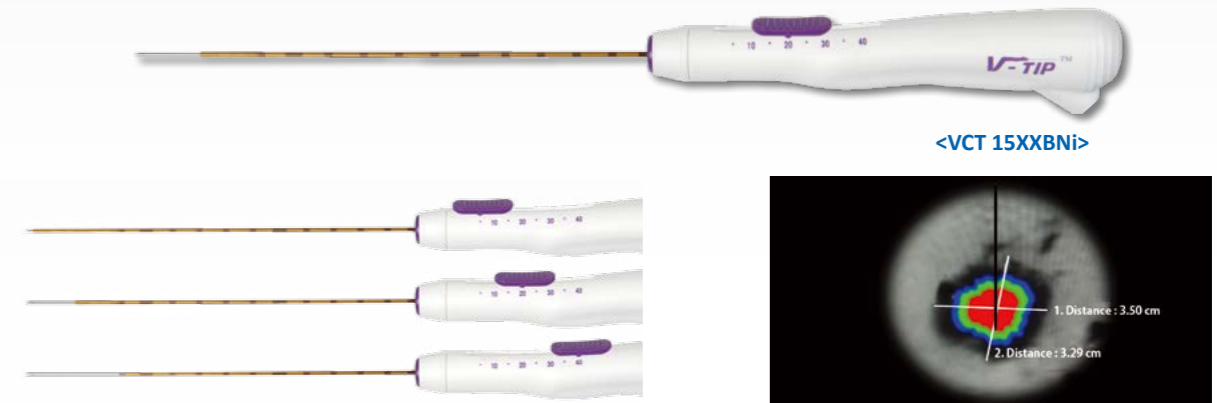
Product Code	Gauge	Needle Length	Cap-Color
INT1716A	17G	16cm	Pink
INT1721A	17G	21cm	Pink
INT1916A	19G	16cm	Yellow
INT1921A	19G	21cm	Yellow

\* When using with the P-Cut™ biopsy needle, choose an introducer with 1-gauge larger diameter than the biopsy needle.



## MRI-Guided Nitinol Electrode

MRI-Guided Nitinol electrode that allows for precise ablation.



<VCT 15XXBNI>

### Features

- Made out of nitinol for compatibility with MRI.
- Colorful real-time monitoring of the ablation progress is possible.
- The exposure tip length is adjustable from 0.5cm to 4.0cm, which makes it possible to treat various lesions in different sizes with just one electrode.
- There are length marks in centimeters on the body of the electrode, which makes it easier for the operator to identify how deep the electrode is inserted.
- The angled handle makes RFA procedure under MR guidance much easier by preventing the handle to collide with MR gantry.
- Also available in JET-Ni version that offers substantially larger ablation volumes.

### Specifications

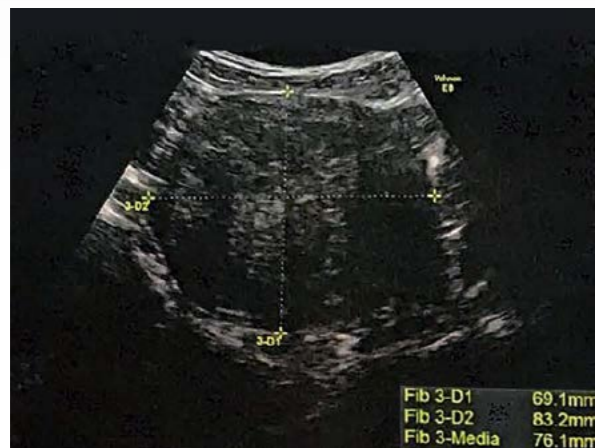
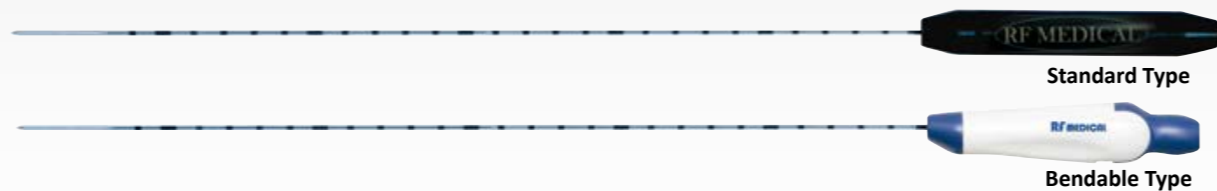
Product Code	Diameter	Length	Exposure	Type	Application		
VCT 10XXBNI	Ø1.5 mm	10 cm	0.5~4.0 cm	Cooled Tip with Variable Exposure Length	For Liver Cancer, Lung Cancer, Kidney Cancer, Osteoid Osteoma, Uterine Fibroids and Adenomyosis		
VCT 15XXBNI	Ø1.5 mm	15 cm	0.5~4.0 cm				
VCT 20XXBNI	Ø1.5 mm	20 cm	0.5~4.0 cm				
VCT 25XXBNI	Ø1.5 mm	25 cm	0.5~4.0 cm				
VCT 30XXBNI	Ø1.5 mm	30 cm	0.5~4.0 cm				
VCT 35XXBNI	Ø1.5 mm	35 cm	0.5~4.0 cm				
VCTW 10XXBNI	Ø1.8 mm	10 cm	0.5~4.0 cm				
VCTW 15XXBNI	Ø1.8 mm	15 cm	0.5~4.0 cm				
VCTW 20XXBNI	Ø1.8 mm	20 cm	0.5~4.0 cm				
VCTW 25XXBNI	Ø1.8 mm	25 cm	0.5~4.0 cm				
VCTW 30XXBNI	Ø1.8 mm	30 cm	0.5~4.0 cm				
VCTW 35XXBNI	Ø1.8 mm	35 cm	0.5~4.0 cm				
JET 10**(B)Ni	Ø1.5 mm	10 cm	** : 0.5~4.0 cm			Single Cooled Wet Tip	For Liver Cancer, Kidney Cancer and Lung Cancer
JET 15**(B)Ni	Ø1.5 mm	15 cm	** : 0.5~4.0 cm				
JET 20**(B)Ni	Ø1.5 mm	20 cm	** : 0.5~4.0 cm				
JET 25**(B)Ni	Ø1.5 mm	25 cm	** : 0.5~4.0 cm				
JET 30**(B)Ni	Ø1.5 mm	30 cm	** : 0.5~4.0 cm				
JET 10**Q(B)Ni	Ø1.8 mm	10 cm	** : 0.5~4.0 cm				
JET 15**Q(B)Ni	Ø1.8 mm	15 cm	** : 0.5~4.0 cm				
JET 20**Q(B)Ni	Ø1.8 mm	20 cm	** : 0.5~4.0 cm				
JET 25**Q(B)Ni	Ø1.8 mm	25 cm	** : 0.5~4.0 cm				
JET 30**Q(B)Ni	Ø1.8 mm	30 cm	** : 0.5~4.0 cm				
JET 10**X(B)Ni	Ø2.0 mm	10 cm	** : 0.5~4.0 cm				
JET 15**X(B)Ni	Ø2.0 mm	15 cm	** : 0.5~4.0 cm				
JET 20**X(B)Ni	Ø2.0 mm	20 cm	** : 0.5~4.0 cm				
JET 25**X(B)Ni	Ø2.0 mm	25 cm	** : 0.5~4.0 cm				
JET 30**X(B)Ni	Ø2.0 mm	30 cm	** : 0.5~4.0 cm				

\*Jet Tip has two types of handle. Standard type(JET 1005Ni, JET 1020Ni, ...) and Bendable type(JET 1005BNI, JET 1020BNI, ...)

\*Jet Tip's exposure is 5mm intervals(JET-1005BNI, JET-1010BNI, ...)



## Big-Tip & V-Tip™ for Myoma



### Features

- The internal cooling system prevents tissue carbonization and thus makes bigger and rounder ablation zone.
- The edge between the exposure tip and the insulated part of the electrode is evenly smoothed out for easier insertion and repositioning of the electrode.
- Larger shaft diameter (Φ1.65mm) and long enough electrode length for use in percutaneous, Intraoperative and laparoscopic approaches.

### Specifications

Product Code	Diameter	Length	Exposure	Product Code	Diameter	Length	Exposure	Type	Application		
BTM 2505R(B)	Ø1.5mm	25cm	0.5cm	BTM 2505Q(B)	Φ1.65mm	25cm	0.5cm	Cooled Tip	For Uterine Fibroids & Adenomyosis		
BTM 2510R(B)	Ø1.5mm	25cm	1.0cm	BTM 2510Q(B)	Φ1.65mm	25cm	1.0cm				
BTM 2515R(B)	Ø1.5mm	25cm	1.5cm	BTM 2515Q(B)	Φ1.65mm	25cm	1.5cm				
BTM 2520R(B)	Ø1.5mm	25cm	2.0cm	BTM 2520Q(B)	Φ1.65mm	25cm	2.0cm				
BTM 2525R(B)	Ø1.5mm	25cm	2.5cm	BTM 2525Q(B)	Φ1.65mm	25cm	2.5cm				
BTM 2530R(B)	Ø1.5mm	25cm	3.0cm	BTM 2530Q(B)	Φ1.65mm	25cm	3.0cm				
BTM 3005R(B)	Ø1.5mm	30cm	0.5cm	BTM 3005Q(B)	Φ1.65mm	30cm	0.5cm				
BTM 3010R(B)	Ø1.5mm	30cm	1.0cm	BTM 3010Q(B)	Φ1.65mm	30cm	1.0cm				
BTM 3015R(B)	Ø1.5mm	30cm	1.5cm	BTM 3015Q(B)	Φ1.65mm	30cm	1.5cm				
BTM 3020R(B)	Ø1.5mm	30cm	2.0cm	BTM 3020Q(B)	Φ1.65mm	30cm	2.0cm				
BTM 3025R(B)	Ø1.5mm	30cm	2.5cm	BTM 3025Q(B)	Φ1.65mm	30cm	2.5cm				
BTM 3030R(B)	Ø1.5mm	30cm	3.0cm	BTM 3030Q(B)	Φ1.65mm	30cm	3.0cm				
BTM 3505R(B)	Ø1.5mm	35cm	0.5cm	BTM 3505Q(B)	Φ1.65mm	35cm	0.5cm				
BTM 3510R(B)	Ø1.5mm	35cm	1.0cm	BTM 3510Q(B)	Φ1.65mm	35cm	1.0cm				
BTM 3515R(B)	Ø1.5mm	35cm	1.5cm	BTM 3515Q(B)	Φ1.65mm	35cm	1.5cm				
BTM 3520R(B)	Ø1.5mm	35cm	2.0cm	BTM 3520Q(B)	Φ1.65mm	35cm	2.0cm				
BTM 3525R(B)	Ø1.5mm	35cm	2.5cm	BTM 3525Q(B)	Φ1.65mm	35cm	2.5cm				
BTM 3530R(B)	Ø1.5mm	35cm	3.0cm	BTM 3530Q(B)	Φ1.65mm	35cm	3.0cm				
VCT 25XXB	Ø1.5mm	25cm	0.5cm~4cm	VCTM 25XXB	Φ1.65mm	25cm	0.5cm~4cm			Variable Exposure Cooled Tip	
VCT 30XXB	Ø1.5mm	30cm	0.5cm~4cm	VCTM 30XXB	Φ1.65mm	30cm	0.5cm~4cm				
VCT 35XXB	Ø1.5mm	35cm	0.5cm~4cm	VCTM 35XXB	Φ1.65mm	35cm	0.5cm~4cm				

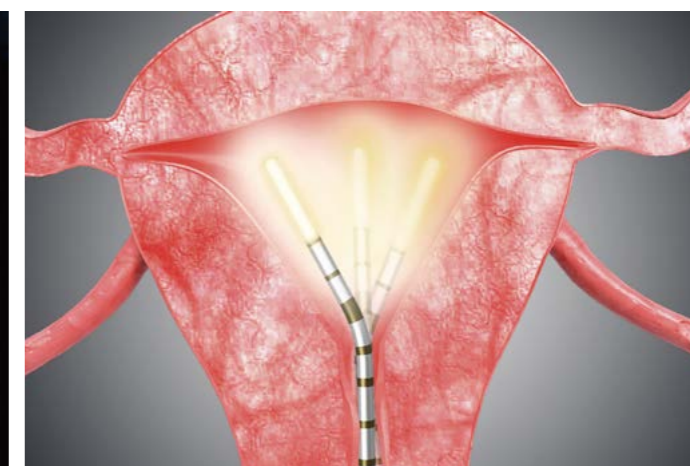
- Big-Tip for Myoma has two types of handle. Standard type (BTM 2030Q, BTM 2510Q, ...) and Bendable type (BTM 2030QB, BTM 2510QB, ...)
- Most popular commercial codes are shaded in blue in the table.



## EMT for Endometrial Ablation



Simple, quick and very effective



### Features

- Temperature-controlled algorithm
- Physician can choose amenorrhea or eumenorrhea by controlling the ablation zone
- Fast and easy procedure
- Uterus preservation
- Outpatient procedure

### Specifications

Product Code	Diameter	Length	Exposure	Type	Application
EMT 2305Q	Φ5.0mm	23cm	0.5cm	Temperature-Controlled Non-Cooled Tip	For Endometrial Ablation
EMT 2310Q	Φ5.0mm	23cm	1.0cm		
EMT 2315Q	Φ5.0mm	23cm	1.5cm		
EMT 2320Q	Φ5.0mm	23cm	2.0cm		
EMT 2325Q	Φ5.0mm	23cm	2.5cm		
EMT 2330Q	Φ5.0mm	23cm	3.0cm		
EMT 2335Q	Φ5.0mm	23cm	3.5cm		
EMT 2340Q	Φ5.0mm	23cm	4.0cm		

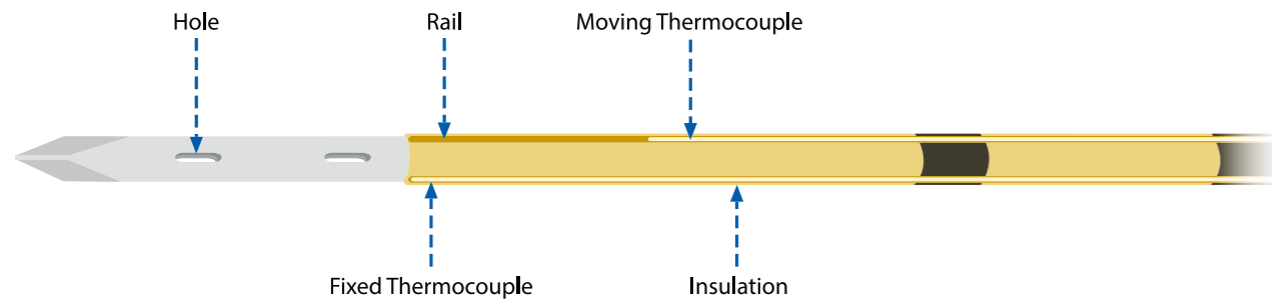
- Most popular commercial codes are shaded in blue in the table.



# Bone Metastasis Tip



<BMDT 1715B>



## Features

- Internal cooling system is not used in order to accurately measure the temperature of the lesion.
- Dual temperature sensors on the surface of the electrode (one fixed, the other movable).
  - Fixed temperature sensor can monitor the temperature of the lesion tissue.
  - Movable temperature sensor can monitor the change in temperature of the neighboring structures in real time.
- Leads to safer treatment of critical lesions such as the spinal body.
- Effective for palliation of terrible pain.
- Stable and precise temperature control.
- Can be used under C.T. guidance or C-Arm guidance.

## Specifications

Product Code	Diameter	Length	Exposure	Type	Application
BMDT 1310B	Ø1.5 mm	13cm	1.0 cm	Non-Cooled Tip	For Bone Metastasis
BMDT 1315B	Ø1.5 mm	13.5 cm	1.5 cm		
BMDT 1420B	Ø1.5 mm	14 cm	2.0 cm		
BMDT 1425B	Ø1.5 mm	14.5 cm	2.5 cm		
BMDT 1530B	Ø1.5 mm	15 cm	3.0 cm		
BMDT 1610B	Ø1.5 mm	16.5 cm	1.0 cm		
BMDT 1715B	Ø1.5 mm	17 cm	1.5 cm		
BMDT 1720B	Ø1.5 mm	17.5 cm	2.0 cm		
BMDT 1825B	Ø1.5 mm	18 cm	2.5 cm		
BMDT 1830B	Ø1.5 mm	18.5 cm	3.0 cm		

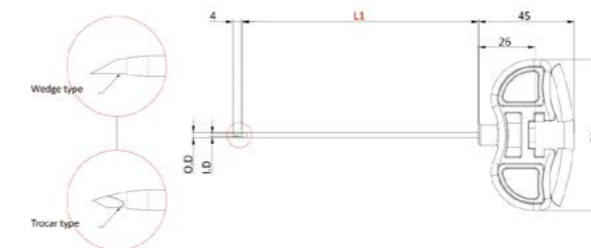
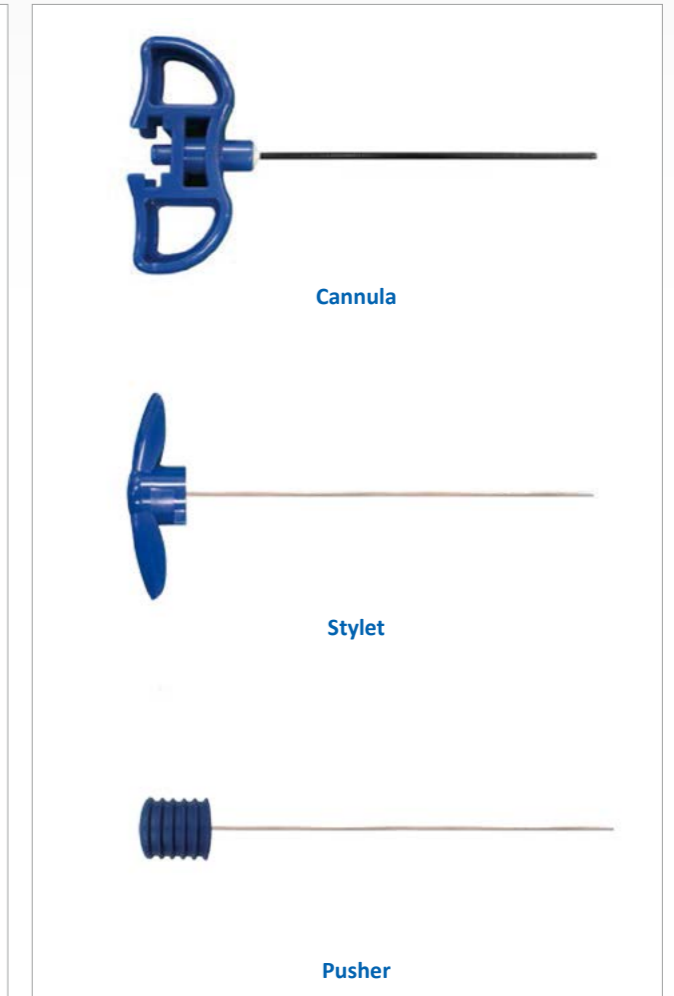


# Puncture Needle

## Usage



## Components



## Specifications

Product Code	OD	ID	** = (L1)	Type	Stylet Type		
VP**(T)	Ø2.4 mm	Ø1.7 mm	36 ~101 (5mm Interval)	Non Insulated	Trocar Type = T		
			105 ~180 (5mm Interval)				
VP**Q(T)	Ø2.6 mm	Ø1.9 mm	115 ~180 (5mm Interval)				
			36 ~101 (5mm Interval)				
VP**W(T)	Ø2.7 mm	Ø2.0 mm	105 ~180 (5mm Interval)			Teflon Insulated	Wedge type = Non-indication
			36 ~101 (5mm Interval)				
VPT**(T)	Ø2.4 mm	Ø1.7 mm	105 ~180 (5mm Interval)				
			115 ~180 (5mm Interval)				
VPT**Q(T)	Ø2.6 mm	Ø1.9 mm	115 ~180 (5mm Interval)				
			36 ~101 (5mm Interval)				
VPT**W(T)	Ø2.7 mm	Ø2.0 mm	105 ~180 (5mm Interval)				
			36 ~101 (5mm Interval)				





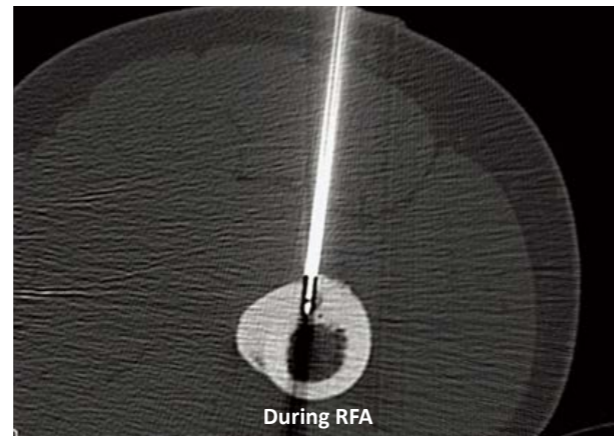
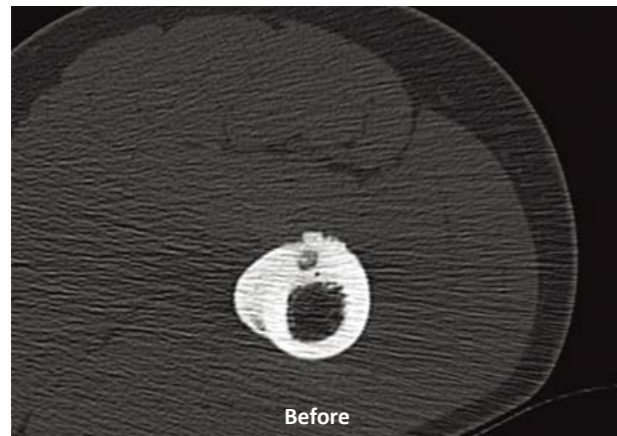
# Osteoid Osteoma



RF Ablation for Osteoid Osteoma - Minimally Invasive, Safe and Simple Therapy



<VCT 15XXB>



Courtesy of Dr. Akhlaghpoor

## Features

- Applicable for different sizes of nidus from 5mm to 20mm with one needle.
- Bendable handle requires minimum space under C.T guidance.
- Exact real-time temperature monitoring.
- Precise temperature control algorithm from the RF generator.

## Specifications

Product Code	Diameter	Length	Exposure	Remark	Application
BT 1005(B)	Ø1.5 mm	10 cm	0.5 cm	Cooled Tip	For Osteoid Osteoma
BT 1010(B)	Ø1.5 mm	10 cm	1.0 cm		
BT 1510(B)	Ø1.5 mm	15 cm	1.0 cm		
VCT 10XXB	Ø1.5 mm	10 cm	0.5 cm ~ 4.0 cm	Variable Exposure, Cooled Tip	
VCT 15XXB	Ø1.5 mm	15 cm	0.5 cm ~ 4.0 cm		

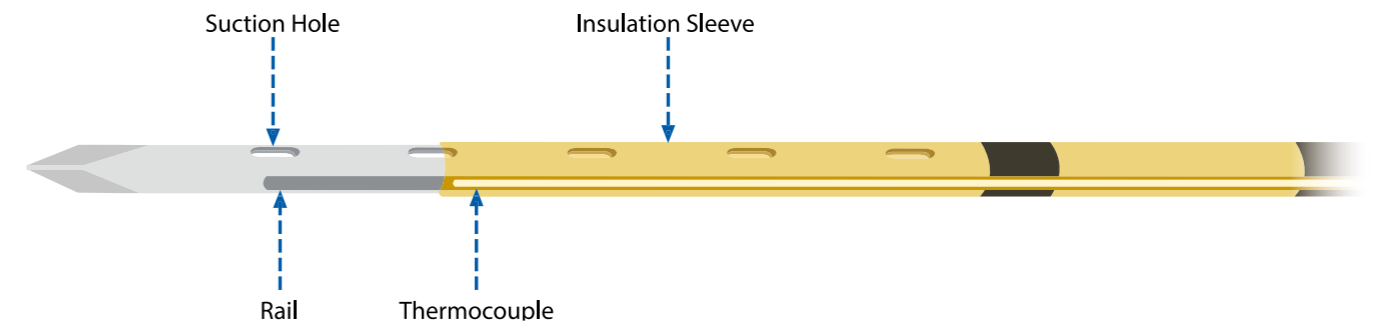
\*Electrode for the Osteoid Osteoma has two types of handle. Standard type(BT 1005, BT 1010, ...) and Bendable type(BT 1005B, VCT 10XXB, ...)



# CysTip™ for Various Kinds of Cysts



<CST 15XXB>



※ Insulation sleeve moves along with Thermocouple

## Features

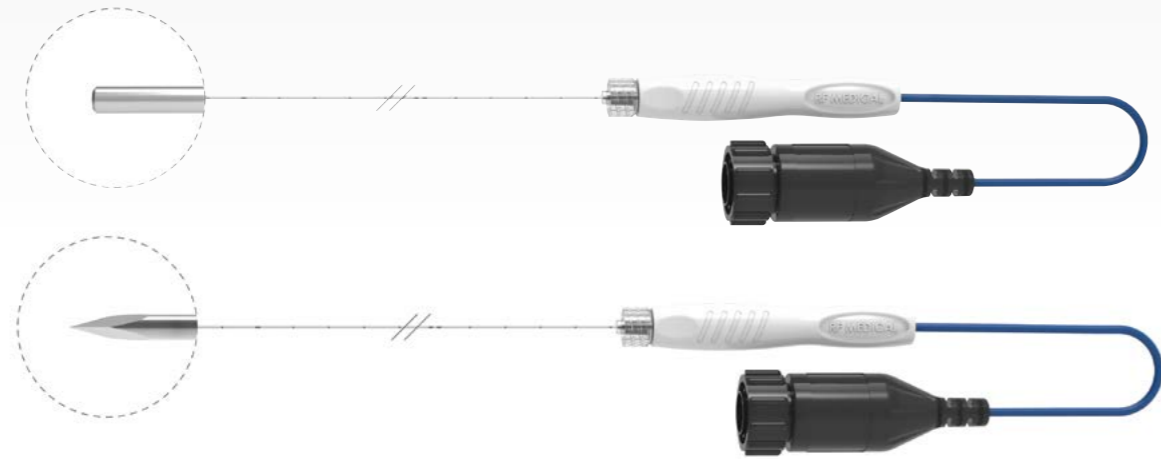
- Safe & effective procedure.
- It can measure internal temperature and cyst wall temperature in real-time by moving the temperature sensor.
- No need for a separate aspiration needle.
- Applicable for various sizes of cysts by adjustable exposure tip length.
- Ideal for liver cysts and renal cysts.

## Specifications

Product Code	Diameter	Length	Exposure	Remark	Application
CST 10XXB	Ø1.5 mm	10cm	0.5 cm ~ 4.0 cm	Variable Exposure along with moving thermocouple	For various kinds of Cysts
CST 15XXB	Ø1.5 mm	15cm	0.5 cm ~ 4.0 cm		
CST 20XXB	Ø1.5 mm	20cm	0.5 cm ~ 4.0 cm		
CST 25XXB	Ø1.5 mm	25cm	0.5 cm ~ 4.0 cm		
CST 30XXB	Ø1.5 mm	30cm	0.5 cm ~ 4.0 cm		
CST 35XXB	Ø1.5 mm	35cm	0.5 cm ~ 4.0 cm		



# HemoTip™



## Features

- A dedicated electrode for hemostasis after biopsy and for real time temperature monitoring when ablating close to critical structures.
- Available in a variety of models, with and without a temperature sensor, with a blunt or sharp point to ensure diversity in choice as required.

## Specifications

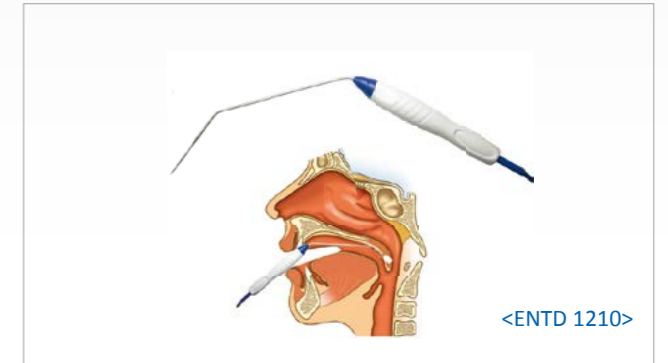
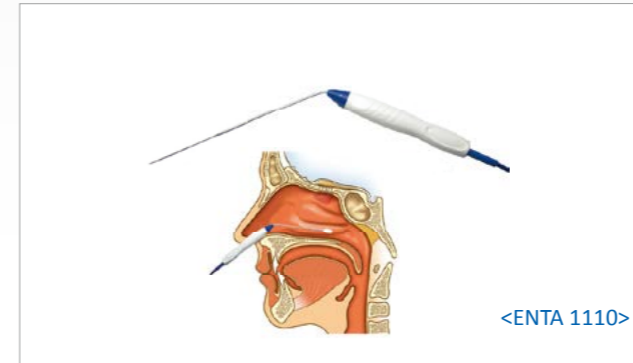
Blunt Type				Sharp Type				
Product Code	Diameter(Ø)	Length(mm)	Exposure(mm)	Product Code	Diameter(Ø)	Length(mm)	Exposure(mm)	
S1015-20G-IB (M)	0.8	100	15	S1015-20G-IB (M)	0.8	100	15	
S1615-20G-IB (M)		160		S1615-20G-IB (M)		160		
S2215-20G-IB (M)		220		S2215-20G-IB (M)		220		
S2715-20G-IB (M)		270		S2715-20G-IB (M)		270		
S1015-18G-IB (M)	1.1	100	15	S1015-18G-IB (M)	1.1	100	15	
S1615-18G-IB (M)		160		S1615-18G-IB (M)		160		
S2215-18G-IB (M)		220		S2215-18G-IB (M)		220		
S2715-18G-IB (M)		270		S2715-18G-IB (M)		270		
S1015-16G-IB (M)	1.5	100	15	S1015-16G-IB (M)	1.5	100	15	
S1605-16G-IB		160		5		S1615-16G-IB (M)		160
S1607-16G-IB		160		7		S2215-16G-IB (M)		220
S1610-16G-IB		160		10		S2715-16G-IB (M)		270
S1615-16G-IB (M)	2.0	160	15	S1015-14G-IB (M)	2.0	100	15	
S2215-16G-IB (M)		220		S1615-14G-IB (M)		160		
S2715-16G-IB (M)		270		S2215-14G-IB (M)		220		
S1015-14G-IB (M)		100		15		S2715-14G-IB (M)		270

\* (M) stands for the model without temperature sensor.



# ENT & Neurofibroma Electrodes

## Electrodes for Nasal, Palate, and Tongue procedures



## Electrodes for Neurofibroma



<ENTS 0510>



## Specifications

Product Code	Diameter	Length	Expanded width	Application
ENTS 0503	Ø0.71 mm	5 cm	0.3 cm	For Neurofibroma
ENTS 0505	Ø0.71 mm	5 cm	0.5 cm	
ENTS 0507	Ø0.71 mm	5 cm	0.7 cm	
ENTS 0510	Ø0.71 mm	5 cm	1.0 cm	
ENTS 1103	Ø1.06 mm	11 cm	0.3 cm	For Snoring, Sleep Apnea
ENTS 1105	Ø1.06 mm	11 cm	0.5 cm	
ENTS 1107	Ø1.06 mm	11 cm	0.7 cm	
ENTS 1110	Ø1.06 mm	11 cm	1.0 cm	
ENTS1203	Ø1.26 mm	12 cm	0.3 cm	
ENTS 1205	Ø1.26 mm	12 cm	0.5 cm	
ENTS 1207	Ø1.26 mm	12 cm	0.7 cm	
ENTS 1210	Ø1.26 mm	12 cm	1.0 cm	



## History

- 2020**
  - JAN. Acquired the certificate of Kazakhstan MOH
  - JAN. Appointed as an Inno-Biz by Ministry of SMEs and Start-ups
- 2019**
  - MAY. Established a European branch in Frankfurt, Germany
  - NOV. Awarded as a World Class Product of Korea
- 2018**
  - NOV. Obtained FDA approval from the United States
- 2017**
  - AUG. Acquired the certificate of ANVISA from Brazil
- 2016**
  - NOV. Established a European branch in the Netherlands
  - OCT. Acquired CE for Tumescentor™
- 2015**
  - MAY. Registered electrode patent in the United States
  - JAN. Registration of patent for electrode - JE1489197HO
- 2014**
  - OCT. Registration of patent for electrode - JE1449965HO
  - JUN. Appointed as a participant of Active Catheter System development project by The Ministry of Health & Welfare [Main organizer : Asan Medical Center]
- 2013**
  - JAN. Registration of patent for RF electrode – JE1227073HO
- 2012**
  - OCT. Awarded as a Korean World-Class Product Manufacturer from The Ministry of Knowledge Economy
  - JUN. Appointed as a participant of Interventional surgical robot development project by The Ministry of Trade, Industry & Energy [Main organizer : Asan Medical Center]
  - JAN. Registration of patent for RF electrode – JE1108569HO
- 2011**
  - AUG. Acquired the certificate of SFDA from China
  - JUN. Registered electrode patent in China
- 2010**
  - MAR. Acquired the certificate of TFDA in Taiwan
- 2009**
  - NOV. Acquired the certificate of GOST in Russia
  - MAY. Registered electrode patent in Japan
- 2008**
  - APR. Registration of patent for RF electrode – JE0825872HO
- 2007**
  - OCT. Registration of patent for RF electrode – JE0773587HO
  - APR. Certified RF Myolysis as New Medical Technology by The Ministry of Health & Welfare
- 2006**
  - DEC. Registration of patent for RF electrode - JE640283HO
  - JUL. Appointed as a Venture Business by The Small & Medium Business Administration
  - JUN. Established a Research Institute certified by the Korea Industrial Technology Association
  - FEB. Acquired certificate of KGMP from KFDA
- 2005**
  - NOV. Converted into a corporation, RF Medical Co., Ltd.
  - SEP. Acquired the certificates of CE 0120, ISO 9001 and ISO 13485 from SGS United Kingdom Ltd.
  - JAN. Registration of patent for RF electrode - JE466866HO
- 2004**
  - AUG. Registration of the manufacturing facilities
  - JUL. Acquired the certificate of manufacturing and license of items from the KFDA
- 2003**
  - DEC. Established a private firm, RF Medical systems