## **QDOT MICRO**<sup>®</sup> Catheter

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A Smarter Ablation in a Fraction of the Time<sup>1</sup>



# What's QDOT MICRO?

### The Next Generation Ablation Catheter

- Consistent Lesion Creation<sup>\*2</sup>
- Advanced Diagnostics
- Simplified Workflow<sup>\*+3</sup>



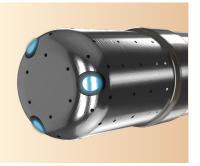
**Optimized Irrigation** 

Irrigation rate varies automatically for optimized power delivery, ensuring the tip is within the allowed target temperature range.



**Improved Temperature** Monitoring

Temperature sensitivity that enables temperature control on an irrigated catheter with the addition of 6 thermocouples embedded into the tip.



**Higher Signal Resolution** 

QDOT MICRO<sup>®</sup> Catheter includes 3 microelectrodes providing high resolution electrograms and discrete local signals.



**Advanced Ablation** 

With QMODE+<sup>™</sup> temperature control, the generator delivers thehigh RF energy at the set power for the set short duration or until the target temperature is reached.

# **QMODE: Optimized Irrigation**

### **Optimized Irrigation** Provides More Consistent Ablations

With QMODE<sup>™</sup>, irrigation and power are automatically controlled using temperature feedback to maintain the tip at an allowed target temperature range while avoiding over-heating.\*\*

QMODE<sup>™</sup> maximizes the power delivery by modulating the irrigation flow without exceeding the set target temperature.

### Get in the Flow with **Greater Control**

- Reduced Irrigation Flow
- Improved Proximal Irrigation\*\*
- Irrigation Varies Automatically to Ensure Tip Remains within Its Target Temperature Range.

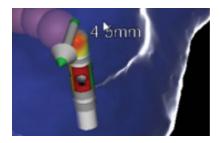
\*\* When compared to THERMOCOOL SMARTTOUCH® Catheter and THERMOCOOL SMARTTOUCH® SF Catheter

#### **The Bullseye Interface**

The bullseye tip display provides instantaneous feedback of ablation, in addition to stability.

#### **Intuitive Orientation Indicators**

Force vector along with indication from tip display, as well as bullseye display visually confirms orientation.\*\*





### Improved Temperature Monitoring

### Stability You Can Count On

Seamless Integration with CARTO SMARTTOUCH<sup>™</sup> contact force Technology\*\*\*.

Thermocouple placement in close proximity to the tissue interface allowing a detailed temperature feedback system.

- Higher Temperature Sensitivity
- Enables Temperature Control on an Irrigated Catheter
- Real Time Catheter/Tissue Stability and Orientation Indication

#### **Real-time Stability and Orientation**



\*\*\* Natale A, Reddy V, Monir G, et al. Paroxysmal AF catheter ablation with a contact force sensing catheter: results of the prospective, multi-center SMART-AF trial. J Am Coll Cardiol. 2014:64(7):647-656.

#### The QDOT MICRO<sup>™</sup> Unique Thermocouple Design



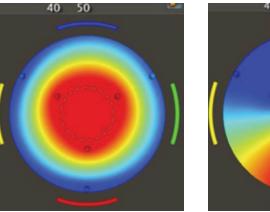
QDOT MICRO<sup>®</sup> Catheter, with its 6 thermocouples, improves temperature sensitivity that allows real-time temperature map display.



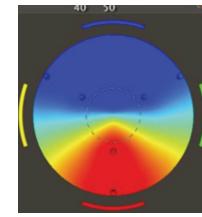
Thermocouples are in close proximity to tissue interface which allows for temperature feedback from tissue heating.

#### 2D View for Different Tip Orientations During Ablation

The placement of the integrated thermocouples enabled improved temperaturemonitoring visualized through the tip and bullseye temperature displays.



Perpendicular

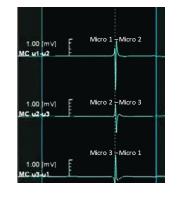


Parallel

# **Higher Signal Resolution**

### [In]formation You Can Count On

QDOT MICRO<sup>®</sup> enhances substrate mapping capabilities by delineating more accurately the border zone between scar and healthy tissue (smaller area), including identification of channels within the scar tissue.



### Rich, detailed signal detection and enhanced user interface

- 3 Distal Microelectrodes 1.5 mm apart
- High-Resolution Electrogram Imaging and Discrete Signal Detection
- Effectively Characterizes Border Between Scar and Healthy Tissue

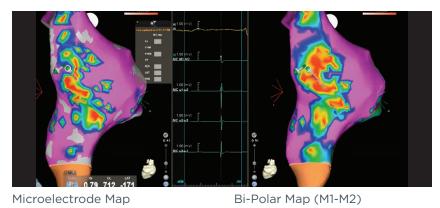
#### **3 Microelectrodes Empower Information**

QDOT MICRO<sup>®</sup> Catheter includes 3 microelectrodes providing highresolution electrograms and discrete local signals.



### High Resolution Mapping

Microelectrodes signals are used to create new type of voltage map based on the bipolar voltages of the microelectrodes.



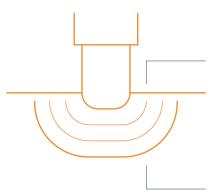
# **QMODE+: Advanced Ablation**

### Smarter Ablations In a Fraction of the Time<sup>1</sup>

QMODE+<sup>™</sup> with a temperature limit, resulted in wider ablation lesions, lesion depth similar to maximal depth achieved with standard ablation, and an overall improved lesion-to-lesion consistency.

#### **Resistive Heating vs. Conductive**

RF lesion formation results from two thermal heating phases; resistive and conductive heating.



Resistive heating of tissue occurs near the contact point.

Conductive heating exchange into tissue occurs away from heat source.

### 90 Watts, 4 seconds

□ It's the Only Time You'll Need □

High Power, Short Duration Energy Delivery You Can Count On

### **QDOT MICRO®** Delivers Smarter Ablations in a Fraction of the Time!

#### **Ordering Information**

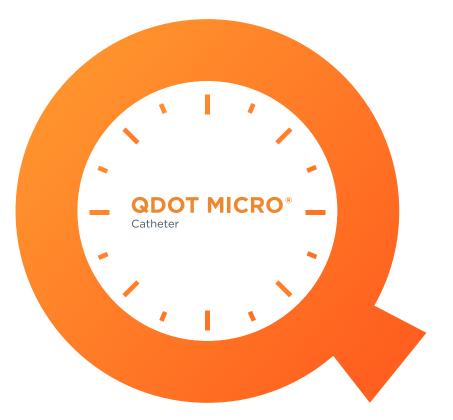
Bi-directional with curve visualization

Ordering #	Curve type	French size	Electrode tip (mm)	Length (cm)
D139501	DD	8	3.5	115
D139502	FF	8	3.5	115
D139503	LL	8	3.5	115
D139504	FJ	8	3.5	115
D139505	DF	8	3.5	115

Uni-directional with curve visualization

Ordering #	
D139401	
D139402	
D139403	

Curve type	French size	Electrode tip (mm)	Length (cm)
D	8	3.5	115
F	8	3.5	115
J	8	3.5	115



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 Reddy VY, Grimaldi M, De Potter T, Vijgen JM, Bulava A, Duytschaever MF, Martinek M, Natale A, Knecht S, Neuzil P, Pürerfellner H, Pulmonary Vein Isolation with Very High Power-Short Duration Temperature-Controlled Lesions: The First-in-Human QDOT-FAST Multicenter Trial, JACC: Clinical Electrophysiology (2019), doi: https://doi.org/10.1016/j.jacep.2019.04.009.

 Leshem E, 2018, High-Power and Short-Duration Ablation for Pulmonary Vein Isolation, Biophysical Characterization. JACC Clin Electrophysiol. 2018 Apr;4(4):467-479.

3. Design Verification Test Report for Evaluation of Qdot Micro-Electrode Catheter with Q-mode Ablation Mode: Beating Heart Animal Study, TR-0023068.

