DUOBLADE

ADVANCED ENERGY BLADE

FOR MINIMAL THERMAL INJURY,
LESS BLEEDING, REDUCED SURGICAL SMOKE

ADVANCED ENERGY BLADE

DUOBLADE™ DEVICES

DUOBLADE™ AIMS TO REDUCE SURGICAL RISKS AND ENHANCE EFFICIENCY

Lower Temperature

With a self-limiting mechanism, the blade stays below 100°C, reducing the operating temperature by over 60% compared to traditional electrosurgery.

Better Hemostasis

Providing more efficient surgery by minimizing thermal damage while maximizing the hemostatic performance inherent to electrosurgery.

Incision Healing

Markedly minimizes the depth of thermal injury and the width of scars in comparison with traditional electrosurgery.

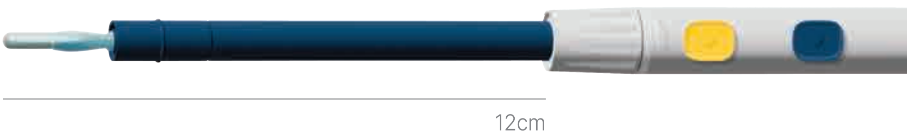
Less Surgical smoke

Remarkably reduced smoke, ensuring better visibility and protecting the health of medical staff.

Product model	Description
DB1SEP	Duoblade™ with smoke evacuation, rotating and telescoping shaft
DB1SP	Duoblade™ with rotating and telescoping shaft
DB1EP *	Duoblade™ with smoke evacuation
DB1P *	Duoblade™ with holster

* This model is not yet cleared by the FDA.

Blade selection	Description
Standard tip	Standard Blade Electrode
Distal tip	Only 3mm of distal tip exposure which may protect alternate site thermal injuries.



Model : DB1SEP

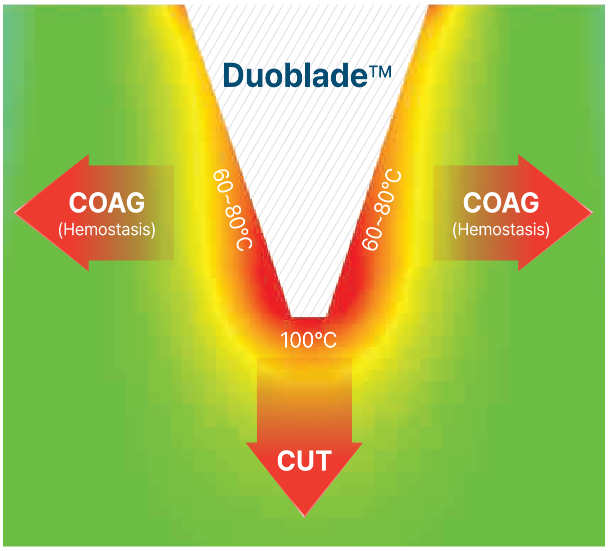
「DUO」 BLADE™ TECHNOLOGY

Dielectric **U**ltra-focused **O**scillatory Heating

Minimal thermal damage

DUO TECHNOLOGY FOR FASTER RECOVERY & SAFE SURGERIES

Duoblade™ utilizes Dielectric Ultra-focused Oscillation (DUO) technology, a combination of a uniquely shaped cutting-edge blade fully insulated with a heat-resistant oxide layer and non-stick coating.
This localizes a uniform electric field around the edge of the blade with a concentration at the distal tip, enabling exceptional low temperature soft tissue dissection blended with simultaneous optimized hemostasis around the blade perimeter.



Electric field distribution and temperature effect of Duoblade™

THE LOWEST CUTTING OPERATING TEMPERATURE[1]

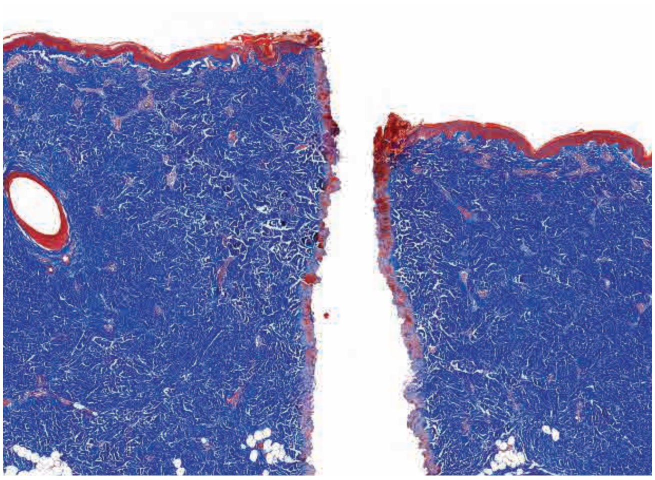
The Duoblade™ features a uniquely shaped cutting edge that is doubly insulated with an electrochemically converted, stable, and heat-resistant oxide layer. This advanced technology ensures exceptionally low-temperature soft tissue dissection, automatically limiting the tissue temperature to below 100°C. These infrared thermal images show that the traditional electrosurgery device has a high operating temperature.

Duoblade™ operates up to 100°C

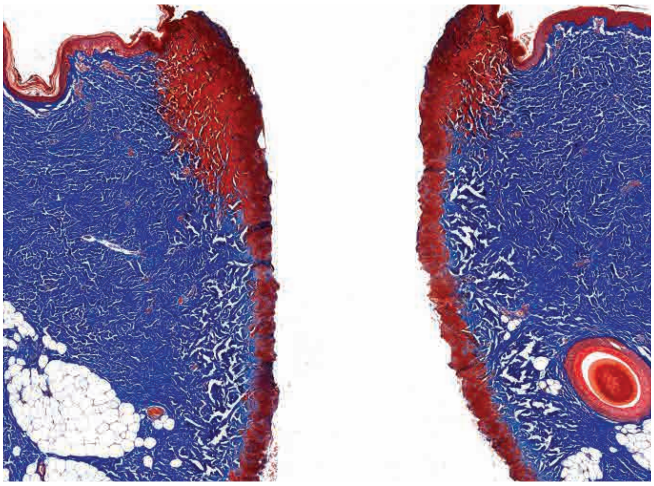
Traditional electrosurgery devices : 230 – over 280+°C

HISTOLOGY IMAGE PROFILE[1]

Up to 70% reduction in thermal injury compared to conventional energy devices. These histologic profiles compare the thermal injury (marked in red) between the Duoblade™ and traditional electrosurgery devices under similar cutting settings.



Duoblade™ incision using the CUT 50W setting, showing low thermal injury.

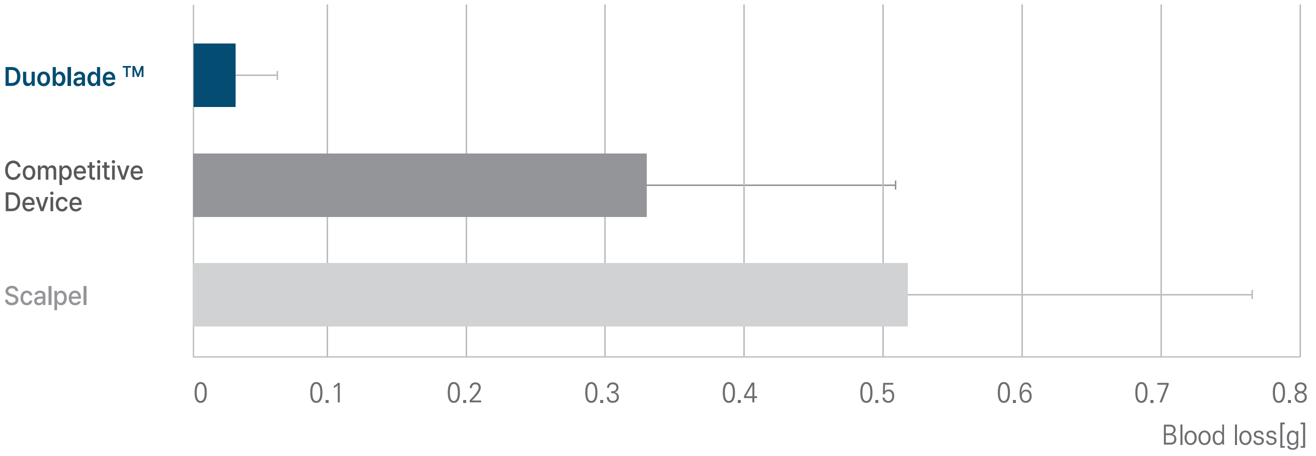


Incision using a traditional electrosurgical tool using the CUT 50W setting, showing significant thermal injury.

[1] TRE-00069 Rev. A. Preclinical operating temperature study. Data on File

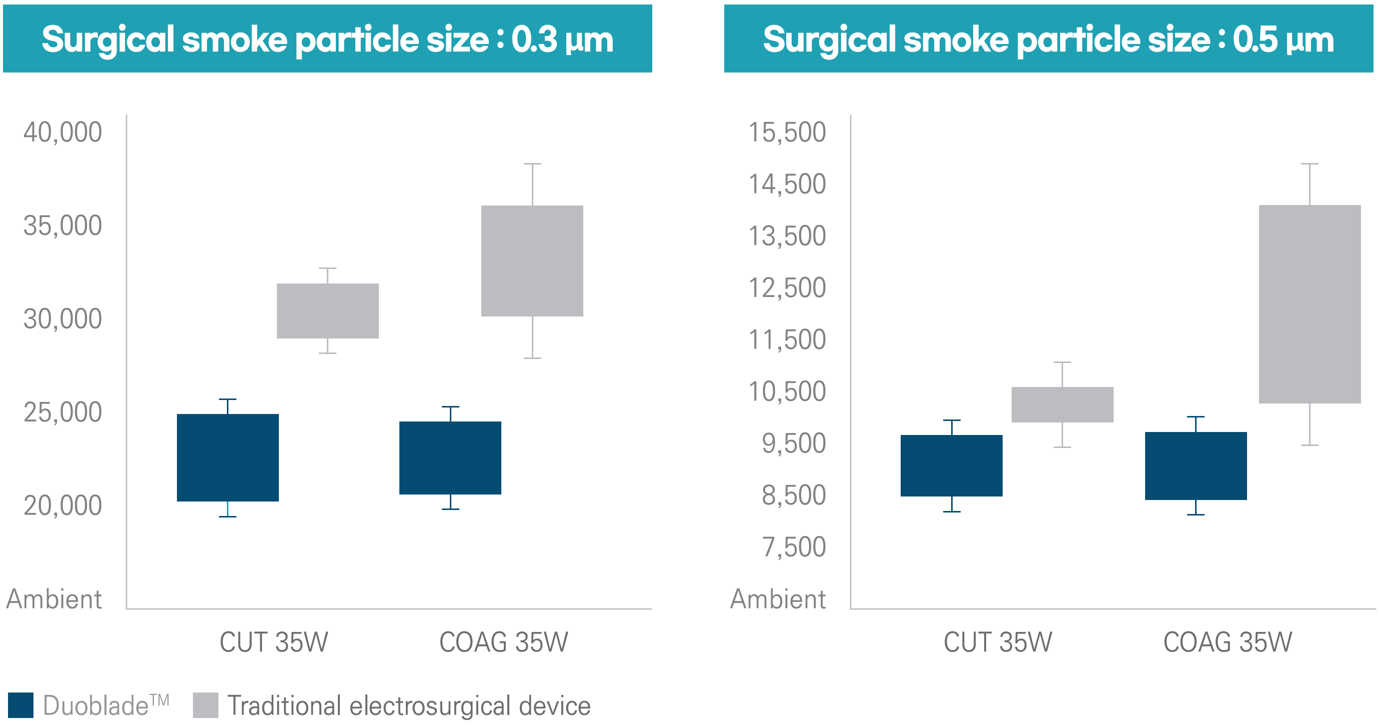
SUPERIOR HEMOSTATIC PERFORMANCE[2]

Throughout the quantification of blood loss, outstanding hemostatic characteristics were shown at the CUT & COAG 35W settings. Duoblade™ demonstrated significantly smaller estimated blood loss compared to a scalpel and other competitive devices ($P < 0.05$).



MINIMAL SURGICAL SMOKE[3]

Minimized surgical smoke due to the low operating temperature, reducing inhalation risks for OR staff through optimized-temperature operation. Air around the incision site (60 liters) was collected, and the number of particles was measured for surgical smoke sizes of 0.3 µm and 0.5 µm.



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[2] TRE-00082 Rev. A Comparative Bleeding Control Study. Data on File
[3] DOC-00044 Duoblade Technical Deck

This document is intended specifically for healthcare professionals. Surgeons must rely on their own professional clinical judgment when deciding whether to use a particular product for treating a specific patient. We do not provide medical advice and recommend that surgeons receive proper training in the use of any product before employing it in surgery.

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