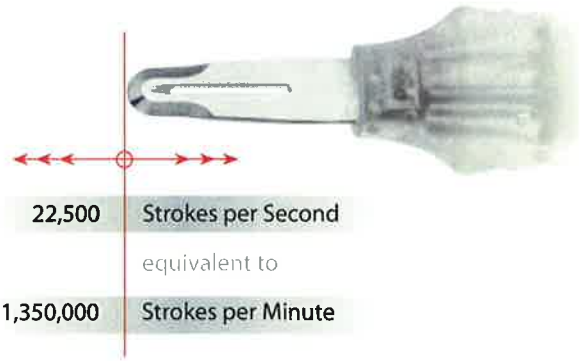
The Ultrasound Advantage

The BoneScalpel® is an ultrasonic surgical device that enables safe and controlled bone removal. It is designed to provide clean cuts through hard tissue structures while sparing adjacent soft tissues.



22,500 Strokes per Second

equivalent to

1,350,000 Strokes per Minute

The BoneScalpel handpiece receives an electrical signal with the nominal frequency of 22.5 kHz from the ultrasonic console. A piezoelectric transducer converts the electrical input signal into mechanical oscillations that are further amplified in order to achieve efficient cutting characteristics.

The BoneScalpel blade oscillates in a linear, piston-like motion enabling an effortless dissection of hard, cortical bone.

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"The advent of ultrasonic bone removal is as significant to spine surgery today as the adoption of the pneumatic drill was several decades ago. Power drills liberated spine surgeons from the slow, repetitive, fatigue inducing, and occasionally dangerous maneuvers that are characteristic of manually operated rongeurs. Now ultrasonic removal with the BoneScalpel empowers the surgeon to cut bone with an accuracy and safety that surpasses that of the power drill."

- Peyman Pakzaban, MD, FAANS Houston MicroNeurosurgery, Houston, TX

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11. Specifications

Console Specifications	
Power input (BCM-GN/E-BC06)	• 120VAC, 4 Amps, 60Hz • 220/230/240 VAC, 2.5AMPS 50/60Hz
Operating frequency	22.5 kHz
Ground leakage current	300 µA (max.)
Output power	130 Watts (max.)
Mode of Operation	• Continuous Wave • Pulse Wave
Controls	• Mains Power on/off switch (rear panel) • Footswitch control for ultrasonic and irrigation on/off • Ultrasound enable/standby button • Amplitude control • Pulse control • Flow control • Ultrasonic timer with reset • Menu button • Six screen-specific buttons
Irrigation pump	Peristaltic pump
Pump flow rate	Max flow > 67 ml/min.
Irrigation tubing	• Dedicated tubeset, sterile, single-use • Vented IV-spike, compatible with fluid bags and bottles • Dedicated handpiece connection
Handpiece cable	• 15 ft | 4.6m
Footswitch cable	• 14 ft | 4.3m
Footswitch	• IP 68
Generator	• IPX 0
Power cord	• 10 ft | 3.0m
Operating conditions	• Temperature 13-30°C (55-86°F) • Relative humidity 20-90% (non condensing) • Standard atmospheric pressure
Shipping/storage conditions	• Temperature:-20-50°C (-4-122°F) • Relative humidity: 15-90% (non condensing) • Ambient pressure extremes: 40,000 ft | 12,192m
Dimensions	7" H x 16" W x 19" D | 180mm H x 410 mm W x 485mm D
Weight	25.6 Lb. | 11.6 kg

Table 11.1 Console specifications

System Contents		
BCM-GN / E-BC06	Misonix console Includes IV pole, power cord, footswitch, peristaltic pump and instructions for use	1 ea.
BCM-HP	BoneScalpel handpiece	2 ea.
BCM-CW	Counter wrench for BoneScalpel handpiece	2 ea.
BCM-2W	T-Wrench	2 ea.
BCM-SS	Probe cover	2 ea.

Table 11.2 System contents

Components and quantities included with the system may change over time, please check with your Misonix representative for the most current configuration.

UL (IEC) 60601-1 Classification

Class 1 Equioment

Type B Equipment

Ordinary Equipment

12. Service, Repair And Technical Correspondence

WARNING 1.4 Proper system grounding can only be ensured when an approved, hospital-grade receptacle and matching power cord are used. To avoid the risk of electric shock, this equipment must only be connected to a supply with protective earth. Install plug and receptacles as per local regulations before operating the unit. Power cord, plug and receptacle should be examined to verify that they are in good working condition before connecting the console. Never pull on the power cord to remove it from the receptacle.

WARNING 12.1 Connecting the console to a power outlet with inadequate voltage or frequency may cause the unit to malfunction or to create a shock or fire hazard. Confirm that the voltage selector switch in the console rear is set to the local voltage setting and ensure that the correct fuses are being used. Refer to section 12 on fuse replacement

12.1. Fuse Replacement

Model BCM-GN / E-BC06	Fuse Specifications			
Line Voltage	Manufacturer	Manufacturer P/N	Rating	Description
120 VAC, 60 Hz	Cooper/Bussman	GDB-4	250V @ 4 A	Fast Acting, Low Breaking
220/230/240 VAC, 50/60 Hz	Littlefuse	021702.5	250V @ 2.5A	Fast Acting

Table 12.1 Console fuse specifications model BCM-GN / E-BC06