Sonicator® 715 Specifications

1.1 General Specifications:

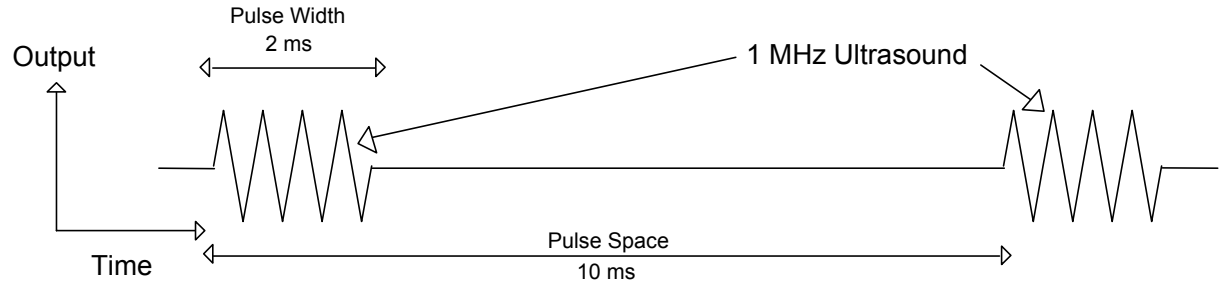
Input:	115 VAC (±10%), 50/60 Hz, 0.6 amperes maximum
Certification:	The Sonicator 715 complies with the ultrasound performance standards set forth in the Code of Federal Regulations, Title 21 (Food and Drugs), Part 1050.10.
UL and C–UL Listed:	Model ME 715 (E55876)
U.S. Patent Numbers:	4,966,131 and 5,095,890
Treatment timer Indicator:	The digital timer indicates time set in minutes and seconds prior to the start of treatment and treatment time remaining during treatment or when treatment is temporarily suspended.
Accuracy:	±0.5 minute for times less than 5 minutes ±10% for times from 5 to 10 minutes ±1.0 minute for times greater than 10 minutes
Maximum treatment time:	29 minutes
Size:	4.3 in (H) x 6 in (D) x 13.4 in (L)
Weight:	5.1 pounds
Operating Temperature:	+50°F to +131°F
Humidity:	Operating, 30% to 75% Relative Humidity at 104°F Nonoperating, up to 90% Relative Humidity at 149°F
Storage Temperature:	-40°F to 167°F

1.2 Ultrasonic Generator Specifications:

Frequency:	1.0 MHz ±5%
Modes:	Continuous Pulsed ±20% Duty cycle
Pulse repetition rate:	100 Hz ±20% (Pulse Mode)
Pulse duration:	2 msec ±20%
Temporal peak/average intensity ratio:	5:1 ±20%
Maximum output power:	11 Watts
Maximum intensity:	2.2 W/cm²

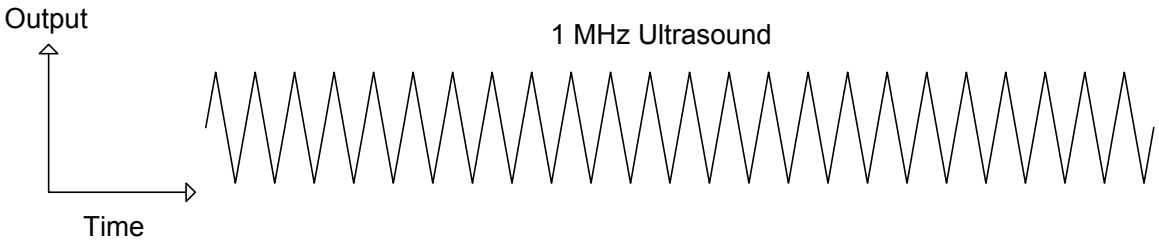
Indication accuracy: ±20% (for any level above 10% of maximum)

Output description: The output waveform is continuous or pulsed as programmed by the membrane panel control. In the pulse mode the 1.0 MHz is square wave pulse modulated. The power level is adjusted by varying the pulse amplitude. The pulse waveform is shown below:



Pulsed Waveform

of In the continuous mode, the power is on at least 95% the time the timer is running. The continuous mode waveform is shown below:



Continuous Waveform

1.3 Ultrasonic Applicator Specifications:

Piezoelectric discs: The output transducer utilizes a barium titanate disc with a specially coated face.

Frequency: 1.0 MHz ±5%

Effective radiating area: 5 cm² ±20%

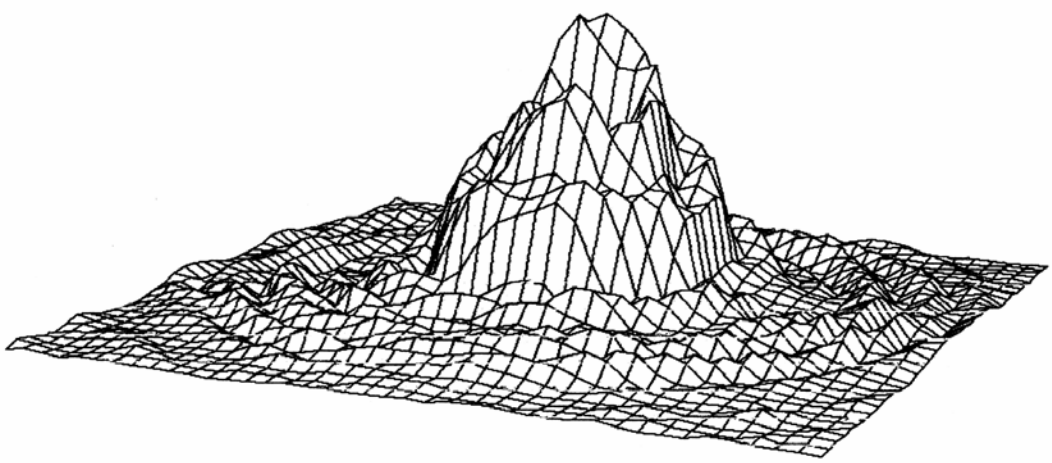
Beam type: Collimating

Maximum beam non–uniformity ratio: 6:1

Spatial Pattern: The applicator produces a collimated (cylindrical) beam with an area of 5 cm², measured 5 mm from the ceramic disc surface when the radiation is emitted into the equivalent of an infinite medium of distilled,

degassed water at 30° C, and with line voltage variations in the range of ±10% of the rated value.

The beam of the applicator is circular in all planes parallel to the applicator face. A few inches from the face, it is a single smooth bell–shaped curve. Nearer the face the pattern varies more due to phase cancellations. A sample curve as measured in the far field from the surface is shown in the figure below.



5 cm^2 Applicator (1 MHz)