

## Verifying the Performance of Magnus Engineered Equipment 20 kHz Radial Ultrasonic Transducers

Magnus Engineered Equipment (MEE) manufactures the world's most powerful ultrasonic transducers for use in cleaning applications. The Powersonics™ transducers utilize magnetostrictive technology and operate at 20 kHz. These transducers are not to be confused with the more common piezoelectric based transducers which deliver a shorter life and about 25 times less cleaning power.

To verify the performance of Powersonics™ radial ultrasonic transducers, a simple aluminum foil test can be conducted. A sheet of standard household aluminum foil (approximately 3" wide, 0.63 mils thick) is inserted in solution and inside the transducer cavity. The transducer is operated for 5 seconds. After the 5 seconds of ultrasonic treatment, the aluminum foil sheet is withdrawn and inspected. Figure 1 shows a section of un-tested aluminum foil and one after 5 seconds of exposure in the radial transducer. A properly operating radial transducer will uniformly "dimple" the aluminum foil and can produce holes in the foil as shown in Figure 1.

If your MEE Powersonics™ radial transducer fails this aluminum foil test, please contact MEE for replacement.

**Before exposure  
inside MEE**                      **After 5 seconds  
inside MEE**



**Figure 1**  
**Powersonics™ Radial Transducer Aluminum Foil Test**