

# BREAKTHROUGH Products\* 2007



## LabRAM ResonantAcoustic® Mixer

In the fall of 2006 Resodyn Acoustic Mixers, Inc., commenced producing mixers utilizing the company's proprietary technology, ResonantAcoustic® Mixing (RAM). A U.S. patent for this technology issued in March 2007. The first product to launch was the LabRAM ResonantAcoustic® Mixer, a laboratory mixer that can mix up to 1 pint. Production scale products for mixing 5 gallons and 55 gallons will be commercially available in late 2007 and 2008, respectively. RAM is a new approach to solving mixing and dispersion problems that is distinct to either conventional impeller agitation, or ultrasonic mixing. Low-frequency, high-intensity acoustic energy is used to create a uniform shear field throughout an entire mixing vessel. The result is rapid fluidization and dispersion of material. A consistent mixture is achieved very quickly. Production cycle times can be reduced, or process steps can be eliminated, while at the same time improving product quality and consistency. Since RAM technology uses no impellers, cleanup time and product waste are reduced. There are no localized areas of high shear typically found in conventional mixers using impellers. Heat generation is minimal. The RAM technology is ideal for thermally sensitive or high value materials. RAM technology is suitable for mixing gases, liquids, solids, powders and very viscous compounds. RAM offers flexibility in vessel size and design. It provides the opportunity to mix in disposable containers, sealed vessels, or in the end-use container. In-vessel sealed mixing is particularly desirable for hazardous materials, or pharmaceutical compounds. RAM is a totally new and novel technology which will enable new process and product innovations. "Our testing with the ResonantAcoustic® technology has demonstrated filler incorporation at phenomenal rates and with very little viscous heating. This technology could have a far broader impact on the chemical industry than anyone is imagining today," Dr. Sue Gelderblom, Senior Process Engineering Specialist Dow Corning.

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