



magnet news

new directions in magnets...

Case Study-002



ENEFLUX ARMTEK MAGNETICS, INC.

EAM Causes Quite a 'Stir' for a Laboratory Equipment Manufacturer

The challenge - improve existing technology...

Technology that other vendors couldn't supply was developed by EAM. Here's what we did to provide the solution...

A major laboratory equipment manufacturer in the northeast wanted to improve their line of magnetically driven lab stirring equipment. This type of stirring machinery is highly desirable because it allows the liquid to remain completely sterile as magnets alone are used to drive the Teflon® coated stir bar during the mixing process.

This manufacturer wanted to have the greatest possible coupling strength between the magnet and stir bar - even at high speeds through a viscous (5000 Centistokes) fluid. The coupling also had to resist



high temperatures because these particular mixers were to work in conjunction with a hot plate.

EAM designers obtained several samples of the mixers and went to work. Using empirical testing and finite element analysis, the EAM team determined the best shape and material combination to withstand the high temperatures of the application and meet the strong coupling strength criteria - all while keeping costs at the reasonable levels requested by the customer!

Eventually EAM designed a round ceramic ring assembly with a small inner diameter and a specific magnetic pattern imprint - lining up the peak poles of the magnet with those of the stir bar.

...high strength, high speed, low cost!

Eventually EAM designed a round ceramic ring assembly with a small inner diameter and a specific magnetic pattern imprint - lining up the peak poles of the magnet with those of the stir bar. The base of the assembly was designed to reduce wobbling at high speeds.

The manufacturer was so pleased that they put us in contact with their customer, for whom we were able to design an even more powerful stirring machine driven with rare earth magnets. The coupling EAM designed in this application has enabled the customer to produce one of the most powerful magnetically driven lab stirrers on the market today!

Product Spotlight

EA Magnetics has a strong grounding in the precision that critical laboratory equipment components require. Our application experts routinely **re-examine and re-design** parts that can make all of the difference, in production, after-sale reliability and your bottom line. Contact us with your requirements.

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Toll-Free: (877) ENEFLUX • (877) 363-3589
Tel: (516) 576-3434 • Fax: (516) 349-5522
Email: info@enecon.com
6 Platinum Court • Medford, NY 11763

