

## Press Release: Products for Nanotechnology

FOR IMMEDIATE RELEASE

# Mixers for Nanotechnology

*Delp Mixer Provides Manufacturing Solution for Ohio Company*

**Columbus, Ohio** - Delp & Associates, LLC, is pleased to announce the delivery of its first laboratory mixing system for the safe manufacture of nanomaterials. Based on the standard Delp 500ML mixing system the equipment will allow scale up from R&D to meaningful manufacturing for Ohio based Columbus NanoWorks. Call 800-504-1935 or email [info@delpmixer.com](mailto:info@delpmixer.com) to request a copy of the case study for this project.

Delp Mixers which work with standard laboratory vessels, motors and shafting have long been used for low volume production of hazardous and high value materials. The ability of the mixers to operate under pressures as high as 200psi and under vacuum conditions down to 30 in. Hg. has been beneficial to the development and manufacturing of products for companies in the Life Science, Advanced Materials and Coatings industries. Users find that Delp products are well suited to material processes which require so called "green technology" due to concerns about user or environmental exposure to chemical releases or processes. Processes that demand high levels of purity benefit from magnetic couplings that eliminate the need for secondary treatment due to contamination from packing glands, stuffing boxes, barrier fluids or Teflon bearings that spaul into the vessel contents. These features made it possible for Delp Mixer to accept the challenge to create a nanomaterial mixing system for Columbus NanoWorks, a growing nanotechnology company and a collaborator in medical research at the Ohio State University and Cleveland Clinic.

Columbus NanoWorks, Inc. is engaged in the development of magnetic nanoparticle reagents for the detection of cancer cells, the isolation of stem cells and other medical applications. When they were ready to move their product from R&D to manufacturing they had specific requirements for the new equipment they would use. The ideal system would effectively contain their constituents and finished product, provide opportunity to collect process information, allow absolute repeatability for success, and be available at a reasonable cost.

It is well known that the very nature of nanomaterials present many problems in manufacturing scale-up from research to meaningful production. Synthesis of particles thousands of times smaller than a human hair requires control of a variety of physical parameters; uniform mixing of reactants is just one of many variables. The options for reactor vessels of an appropriate size and configuration are limited and expensive. In addition to size constraints the reaction vessel for the production of nanomaterials must be manufactured from durable, high quality materials. Systems for this purpose may also require temperature control, monitoring or additional process control devices. Given the need for absolute purity, sealing technology that will not contaminate the product is also critical. Finally, as with all manufacturing systems, scalability and the ability to increase production are crucial for organizational growth and improved market position.

Delp Mixer was able to successfully build a system around off-the-shelf vessel components that met the requirements; and the result was a very pleased customer. "Delp is our exclusive supplier for mixers because of a combination of their knowledge of the product and their proximity, and their prices are reasonable," says Arfaan Rampersaud, President, Columbus NanoWorks, Inc. Delp Mixer looks forward to future projects with Columbus NanoWorks and new opportunities to introduce its' mixer technology to other nanoparticle manufacturers.

Founded in 1996 and headquartered in Columbus, Ohio, Delp & Associates designs and manufactures cost-effective, built-to-task products for the advanced materials, life science, and coatings industries. The Delp Mixer Company, the laboratory mixer division of Delp & Associates, manufactures and markets versatile, durable, bench-scale mixing equipment for a variety of chemical and scientific applications. Call 800-504-1935, email [info@delpmixer.com](mailto:info@delpmixer.com) or visit [www.DelpMixer.com](http://www.DelpMixer.com) to request more information about the company and its products.

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