The optimal drying process

**Minimum Amount of Product – Maximum Process Improvement**

Often only small amounts of product are available for process development in the fine chemical and pharmaceutical industries. In such cases, a small apparatus to test the behavior of the product during drying is of great value. The Siemens drying laboratory has developed a unique agitated vacuum contact dryer that is especially suited to the online monitoring and recording of the entire drying process. This proprietary instrument offers the following key advantages:

- Sample size of approx. only 20 g per drying run
- Online-monitoring of the drying process with a resolution of 0.01 g
- Real-time data acquisition of the true torque on the impeller axle during drying
- No sampling required during drying
- Easy determination of the drying end-point
- Prevention of over-drying
- Assessment of optimal drying conditions
- Evaluation of and suggestion for equipment selection
- Preparation of product samples

**Example: Comparison of the torques developed by the drying of known products and a new product in the Siemens Mini Dryer**

In an existing plant, a paddle dryer had been designed for drying products A and B. The new product C was expected to behave troublesomely during the drying process. The suitability of the existing dryer for processing product C required investigation. Using the Siemens Mini Dryer the existing drying conditions for products A and B were reproduced with the corresponding torques. Trial runs with tiny quantities of Product C and a minimum of experimental effort successfully demonstrated that the new product C can be dried with the existing equipment.