



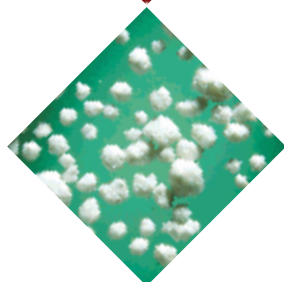
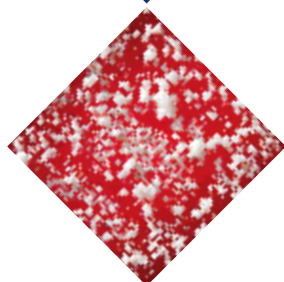
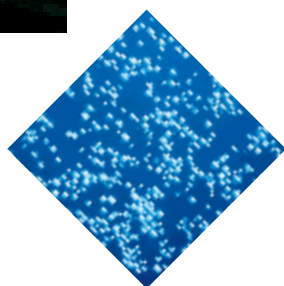
Powder Technology
Division

Test Station and Analytical Laboratories



Pilot plants for

- spray drying
- spray absorption
- flash drying
- fluid bed drying
- agglomeration
- granulation
- extraction
- membrane filtration
- evaporation





Impressive Test Facilities



The largest building at Niro's test station is high ceilinged. The photo shows a multi-stage spray drying plant with fluid beds and with the option of either a cyclone, a scrubber and/or an advanced CIP-able bag filter.

Test Facilities

Niro's test station in Soeborg, Denmark, is one of the best-equipped facilities in the world for spray, flash and fluid bed drying including pre-treatment equipment. More than 35 plants are available to convert liquids into dry powders.

Our future and present customers can benefit from these facilities by co-operating with our engineers in conducting test work to establish the concept of a new product.

We are also able to optimise the operating conditions of the customer's industrial process plant and to produce samples for market analyses, if required.

Product and Process Evaluation

We offer product and process evaluation by demonstrating the influence of all main parameters on the end-product, e.g. direct or indirect heating of the drying air, which could be atmospheric air or inert gasses in open/

In our latest building we have a semi-industrial plant for spray drying products in an inert, closed-cycle system with the option of a cyclone/scrubber or a bag filter.

closed cycle, atomization methods, gas distributors, drying air temperatures, retention times, chamber geometry etc.

Capacities

Our pilot plants can be operated in batch as well as continuous mode with the possibility of producing from a few up to several hundred kilos of product in each test.

Powder Separation

Efficient equipment to constantly separate the powder from the drying air is an important parameter in a drying process. In our test station the pilot plants can be connected to either cyclones, wet scrubbers and/or the

most efficient, CIP-able, sanitary bag filters.

Other Process Plants

The test station also comprises plants for extraction, membrane filtration and evaporation of liquids before final drying, as well as special-purpose plants such as the SPRAY FLUIDIZER™, SWIRL FLUIDIZER™, High Efficiency Compactor – HEC™, and plants for dedusting or agglomeration/granulation of dried products.

Contract Drying

We offer contract drying to determine particular product parameters and for market analysis purposes.



A very efficient plant: the High Efficiency Compactor – HEC™ – for granulating and compacting dry products.



The latest of Niro's mini-processors – the SDMicro™ spray dryer for extremely small capacities within chemistry and pharmacy.



The test station also comprises analytical laboratories with equipment for advanced measurements and analyses such as atomic absorption, spectroscopy, chromatography, particle size distribution etc.

The primary task of the laboratory is to provide customers and test engineers with analytical data to make the test work more effective.

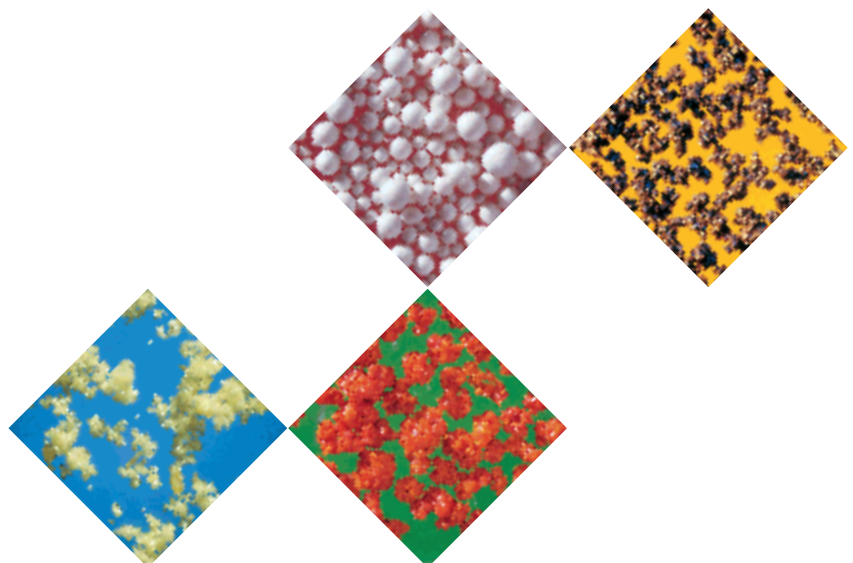


We find solutions

The activities in our test station range from traditional demonstration runs with well-known products to tasks that challenge the design of the test plant as well as the ingenuity of test operators and test engineers to find the optimum process to obtain the properties required of the final product.

We work together with our customers

The R&D Department develops processes within our core technologies in co-operation with our customers.



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