

SUCCESS STORY

Contact drum dryer with full automation provides 3-in-1 food solution for Škrobárna Batelov



SEPARATION

FUTURE-PROOF: VERSATILE STARCH AND SOURDOUGH PRODUCTION

METRIS addIQ CONTROL SYSTEM AND
ANDRITZ GOUDA CONTACT DRUM DRYER

ANDRITZ

ENGINEERED SUCCESS

The challenge

Produce starch- and sourdough-based food ingredients with the highest added value

Mraz Agro, a family-owned company from the South Bohemian region of the Czech Republic, decided to expand their business in the food industry using on the expertise they have acquired by turning plant-based co-products into valuable animal feed ingredients while using older Gouda drum dryers. The owner of the company originally started producing and delivering animal feed materials in 1996 and, over the years, moved on to producing food ingredients with high added value.

After purchasing a starch factory in the Vysočina region of the Czech Republic, the Mraz Agro management quickly realized that a technological transformation would be required to make the food

ingredients business sustainable. Hence, they decided to invest in a new greenfield plant in the nearby town of Batelov. Local experts claimed that spray drying was the only option for starch modification and that roller drying was inefficient, slow, and outdated. However, Mraz Agro and their partners appreciated the unique, superior taste and properties that could not be achieved on other types of dryer.

As they had excellent, long-term experience with drum dryers and had heard about good starch and sourdough drying results with modern ANDRITZ Gouda drum dryers, they decided to contact ANDRITZ to run tests on the dryer.



UP TO
1,200 t/y
PRODUCTION
INCREASE

HIGHEST
FOOD-INDUSTRY
STANDARD MET
(FSSC 22000)

20%
MACHINE CAPACITY
USED FOR PRODUCT
DEVELOPMENT

Our solution

Fully automated kitchen with ANDRITZ Gouda contact drum dryer

Tests in the ANDRITZ pilot plant made it clear that drum drying is the optimum choice to obtain the desired taste and other properties in Mraz Agro starch and sourdough products thanks to the Maillard reaction, a non-enzymatic browning process. The slurry is fed to the drum (or single) dryer, processed to form a thin film, then cooked and dried within one rotation. As well as being dried, the slurry is pasteurized by the heat, making it non-perishable. The starch in the slurry is gelatinized so that the product can be digested, and this also ensures that it is easily soluble when reconstituted. One of the technological challenges Mraz Agro faced and asked ANDRITZ to solve was the option of drying multiple

products at different machine settings. Normally, a dryer fulfils only one purpose, but here there are different ways of running the machine, essentially delivering multiple dryers instead of just one. It can be run as one double, two single or one single drum dryer. Switching machine capacity is effortless with ANDRITZ Metris addIQ. Visualization and automation are adapted to the chosen machine, and only the selected functions are shown. Everything from viscosity and dry matter content to particle size can be easily controlled and optimized. The facility for adjusting temperatures during drying prevents any damage to sensitive ingredients and preserves vitamins.

Results

Maximum versatility at the touch of a button

Mraz Agro was already familiar with the ANDRITZ Gouda double-drum dryer in an entirely manual set-up. For their new starch production plant in Škrobárna Batelov, they decided on a double-drum dryer with additional applicator rolls plus a so-called kitchen, with two turbo-mixers and holding tanks capable of dosing the product into big bags – all controlled by the Metris addIQ control system. The scope of automation includes Metris addIQ Connect, with a direct link to the ANDRITZ experts for troubleshooting purposes, as well as Metris addIQ Monitoring for internal analyses to provide greater transparency and identify potential for process optimization. Moreover, the automated CIP (cleaning-in-place) system that ANDRITZ set up in cooperation with a local supplier allows the kitchen to be cleaned

automatically when there is no production active. The original vision of innovation and product development has become reality thanks to the flexibility of the contact drum dryer and its automated operation. The production capacity is split three ways: approximately one third of the capacity is used to produce Mraz Agro's own line of products based on modified starch and flour, one third is used for production and drying of sourdough-based products, and one third is reserved for R&D projects for Mraz Agro and its customers. Whether they are small bakers and confectioners, the world's largest food producers, or hospital nutrition suppliers – every Mraz Agro customer now knows who to call when they have an idea for a new product.

"I believe that we do not even know today what products we will be producing in a few years' time. But we must be prepared for all the challenges that are to come. The taste and properties of the products processed by the ANDRITZ Gouda drum dryer are simply unique.

This has taken our production to the next level, with a technological transformation for maximum quality."

VLADIMIR MRAZ, JR.
Director of Mraz Agro



WHAT'S YOUR SEPARATION CHALLENGE?

ANDRITZ Separation is the world's leading separation specialist with the broadest technology portfolio and more than 2,000 specialists in 40 countries. For more than 150 years, we have been a driving force in the evolution of separation solutions and services for industries ranging from environment to food, chemicals, and mining & minerals. As the OEM for many of the world's leading brands, we have the solutions and services to transform your business to meet tomorrow's changing demands – wherever you are and whatever your separation challenge. **Ask your separation specialist!**

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