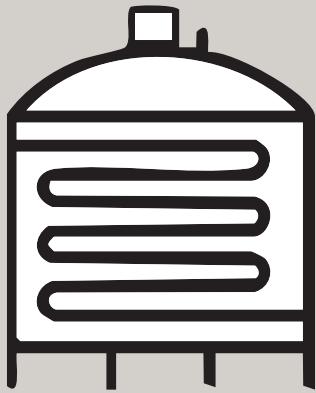


# FLOUR COOLING SYSTEM

ENHANCED PATENTED SYSTEM  
FOR TEMPERATURE SELF-REGULATION





# PRODUCT COOLING SYSTEM

## PRODUCT TEMPERATURE SELF-REGULATION FOR SUPERIOR QUALITY.

Flour cooling and temperature control are key to obtain a higher quality finished product. Air de-humidification crucial during cooling of the most abundant product in the dough – e.g. flour, starch, powdered sugar etc. **Agriflex / Mixsys has patented innovative cooling technology** that makes it possible to reduce temperature automatically up to 80 degree delta in product temperature **constant and homogeneously**.

### FEATURES AND ADVANTAGES

- Automation and control of the product cooling process; the process does not cause heat stresses to the product and the flour, sugar, and other powders, because the heat exchange liquids have a minimum temperature of 40°F
- Reduced energy consumption
- Excellent compliance with hygiene regulations
- Raw materials are not mixed with ice or other cooling substances that cause an uneven temperature drop in the product
- **Ice, CO2 and nitrogen** are not required



## COOLING COIL

The system has two parts: **an air cooling circuit and air treatment unit**.

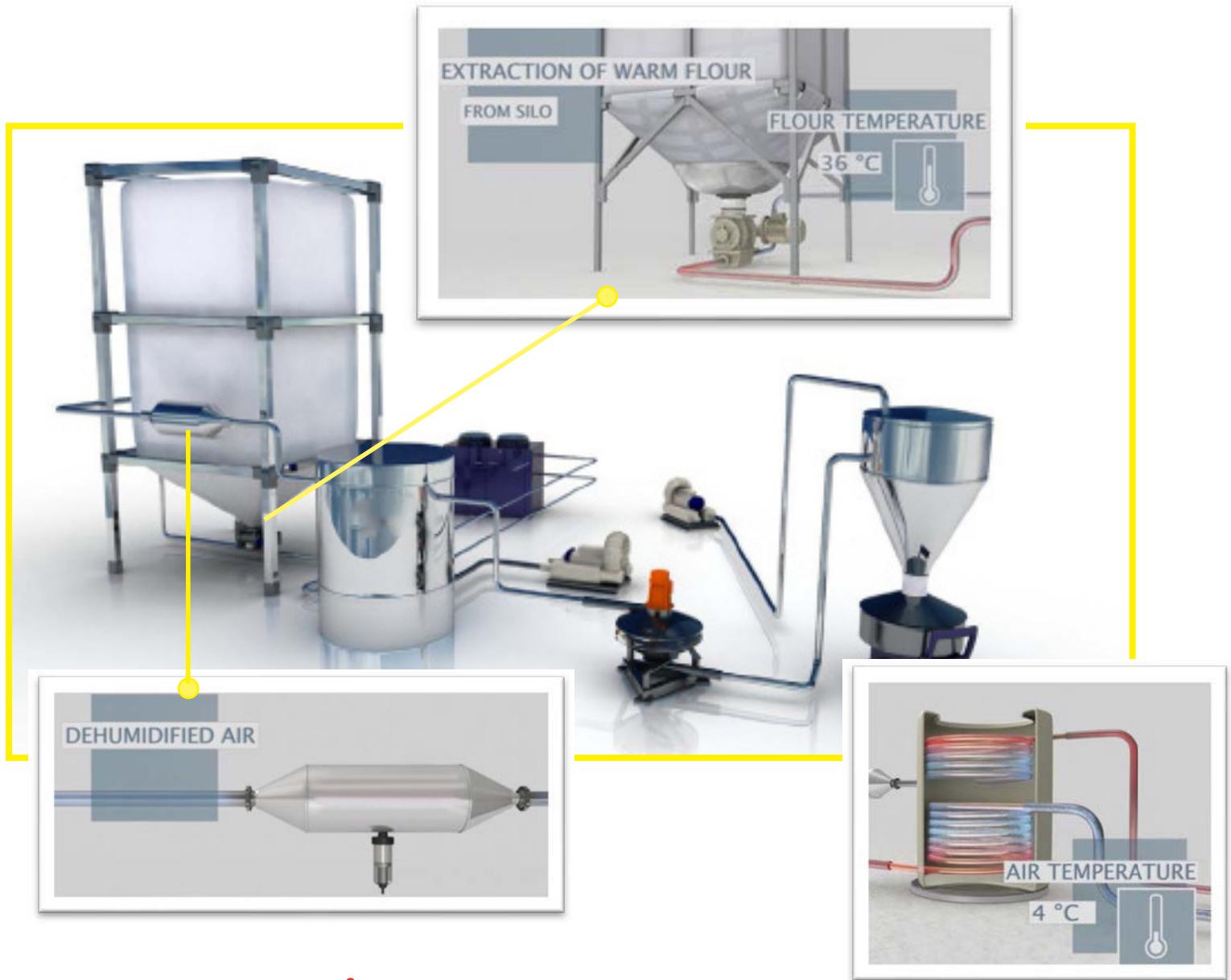
Pressurized air is channelled through the heat exchanger, where it is in contact with the tube bundle circuit through which the coolant runs. As a result, air is cooled and dehumidified. Then the air treatment unit separates and discharges the residual condensate to obtain **dry cool air that reaches the product** - e.g. flour, starch, powdered sugar.

### FEATURES AND ADVANTAGES

- High efficiency heat exchange and low energy cost
- Fully automated system that adjusts the temperature
- Easy maintenance through the whole flour route
- Low operating costs

# NON CO<sub>2</sub>

UP TO 95°F REDUCTION IN TEMPERATURE  
POINT OF USE COOLING



**MIXSYS**<sup>TM</sup>  
ADAPTIVE PROCESS TECHNOLOGY

PARTNERS WITH  
**AGRIFLEX**  
[www.mix-sys.com](http://www.mix-sys.com)



## STEP BY STEP OPERATION PRINCIPLE OF OUR FLOUR COOLING SYSTEM

- First stage – the heat exchanger is mainly used to lower air temperature (glycol temperature is steady at 36°F).
- Air dehumidifying and treatment – the air reaching the treatment unit is completely dehumidified.
- Cold air coming out of the heat exchanger is used for flour transportation. By using it, the air temperature is only slightly reduced, but the system can ensure conveying air dehumidifying, thus preventing the air–flour mix from producing condensate as it flows through the second heat exchanger.
- The spiral cooler in our system has a larger footprint but ensures better performance in terms of heat exchange.
- System self-adjustment – when the baker adjusts the temperature of the flour feeding the mixer, the system self-adjusts by activating the glycol proportional valve in the second heat exchanger, based on the feedback provided by the temperature probes of the plant.



PACKAGING SOLUTIONS



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MIXING



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