

FOR MILK POWDER DRYERS

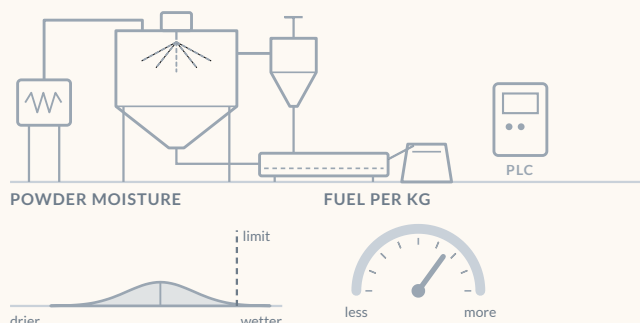
More powder. Less fuel.

Closer to the moisture limit, every hour.

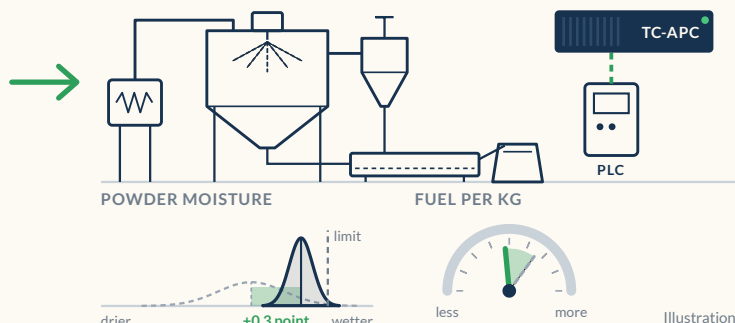


Thermo-Cognitive Advanced Process Control (TC-APC): moisture held close to its limit on milk and food powder dryers.

YOUR DRYER TODAY



YOUR DRYER WITH TC-APC



The milk and the weather change. Your setpoints don't. With TC-APC, they do.



THE SCIENCE UNDER TC-APC

A dryer's result is decided in the droplet, in seconds.

A powder's moisture, density and particle size are set in the droplet. That's the science TC-APC is built on, and AI makes it sharper. So TC-APC knows how wet your powder is every few seconds, not every hour. Droplet science is the field of our Chief Scientific Advisor, **Prof. Pratim Biswas**, Member, US National Academy of Engineering and former Dean of Engineering, University of Miami; Fuchs Memorial Award 2018, the highest honor in aerosol science.

- Porous particles made by spray drying. *Advanced Materials*, 2007
- A model of particle-laden gas flows with strong heat and mass transfer. *Computers & Fluids*, 2006

- Predicting the size and charge of particles formed as droplets evaporate. *Chemical Engineering Science*, 2021

WHAT TC-APC DOES ON YOUR DRYER

- **Optimizes and adjusts the dryer in real time** as the concentrate, the weather and the season change, holding moisture close to its limit while touching it no more often than today. Fuel per kilogram comes down.
- **More milk dried in the flush season.** More profit from the extra throughput: with no water removed that didn't need removing, the same dryer takes more concentrate an hour, just when milk arrives fastest.
- **The same powder in January and in July.** Dried for today's air, not for the most humid hour of the worst day, so every lot lands near the same moisture.

YOUR NUMBER, WORKED OUT

₹1.2 crore a year

per 0.1 point of moisture, plus fuel savings

On a 150 TPD dryer, each 0.1 point closer to the limit is 45 tonnes more powder a year from the same milk: about ₹1.2 crore at ₹265 a kg and 300 days.

We work out your own number free, from your lab results and dryer logs.

- No gain, no project
- Shadow mode first
- Savings on your own meters

An engineering group of IIT Bombay alumni

Advisors: Prof. Pratim Biswas, Member, US National Academy of Engineering; former Dean of Engineering, University of Miami · Prof. Janat Shah, founding Director, IIM Udaipur

Published in Chemical Weekly, Special Report, October 2025

yielddynamics.in/applications/dryers

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Scan for the dryer page