



CASE STUDY

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# Controlling crystal size distribution using a continuous crystallizer for speciality chemicals major

# Improved crystal size distribution using a Plug Flow Crystallizer



## Case Study | Speciality Chemicals Industry

While the customer was setting up a plant for a new product, selecting the right equipment for crystallization was a challenge. The product specification required narrow crystal size distribution and the crystals were found to heavily foul the cooling surface.

The **Plug Flow Crystallizer (PFC)** of Technoforce has potential to take these challenges. It has a rotor option which keeps the cooling surface free of depositions. The plug flow improves the residence time distribution and hence improves crystal size distribution.

It was decided to conduct trials in the **Technoforce pilot plant**. Multiple jackets on PFC, each having different cooling media, allowed better control on nucleation and saturation levels along the crystallization pathway.

The results showed **narrow crystal size distribution** as compared to batch crystallization. The uniquely designed rotor efficiently kept the heat transfer area clear of any encrustations.

The project manager noted *"We are glad to find a better solution and see it work in the pilot plant before investing in the production facility"*

The scaled up PFC was designed for a capacity of 18 tons/day. It was supplied and commissioned in 7 months.

[www.technoforce.net](http://www.technoforce.net)

### Our Expertise

Evaporation

Drying

High Vacuum Distillation

Extraction

Crystallization

Zero Discharge Systems

**TECHNOFORCE™**



**Uniformity**  
in crystal particle sizes



**30 %**  
Less operating cost