

## Customer Case Study

# Spray Drying of API

Real-Time Spray Drying Analysis Flags Potential Off-Spec Batches Up to **90%** Faster

**Real-Time  
QC**

**Density  
Insights**

**Process  
Optimization**

**Direct Tablet  
Pressing**

## The Challenge

In pharmaceutical spray drying, achieving the right particle size and density is critical for optimal API properties. The customer's existing laser diffraction method with oil dispersion was slow, required extensive cleaning between measurements, and delayed quality control by up to two weeks. Late detection of off-spec batches led to larger quantities of discarded product and reduced throughput.

## The Approach

The ParticleTech Analyzer was installed directly by the production line, enabling rapid and accurate particle sizing in just two minutes with no cleaning between samples. It also quantified particle morphology, allowing simultaneous quality control of attributes that affect API dissolution rates and suitability for direct tablet pressing.

## The Implementation

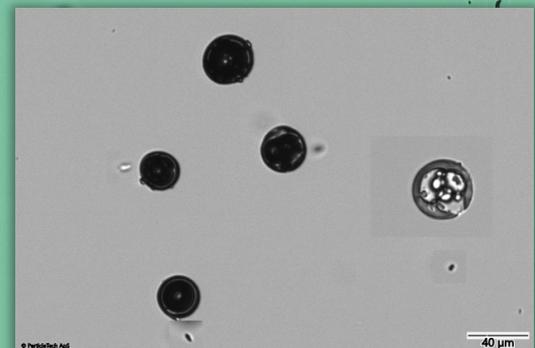
The solution was integrated into production, replacing slow offline QC with immediate in-process monitoring. Operators can now validate particle properties in real time and halt batches that fail to meet quality criteria.

## The Result

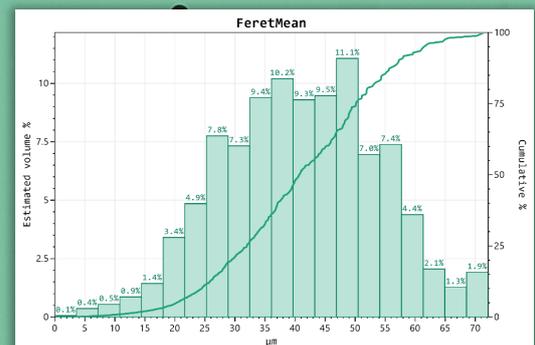
Delays in quality control were eliminated, ensuring every batch meets particle size and dissolution specifications. The customer gained actionable insights into particle morphology, enabling early QC of both product performance and tablet processability.



ParticleTech Analyzer



Hollow vs. Solid Particles



Particle Size Distribution