

Instantizing Methods using Two Different Freund-Vector Technologies

The Process...

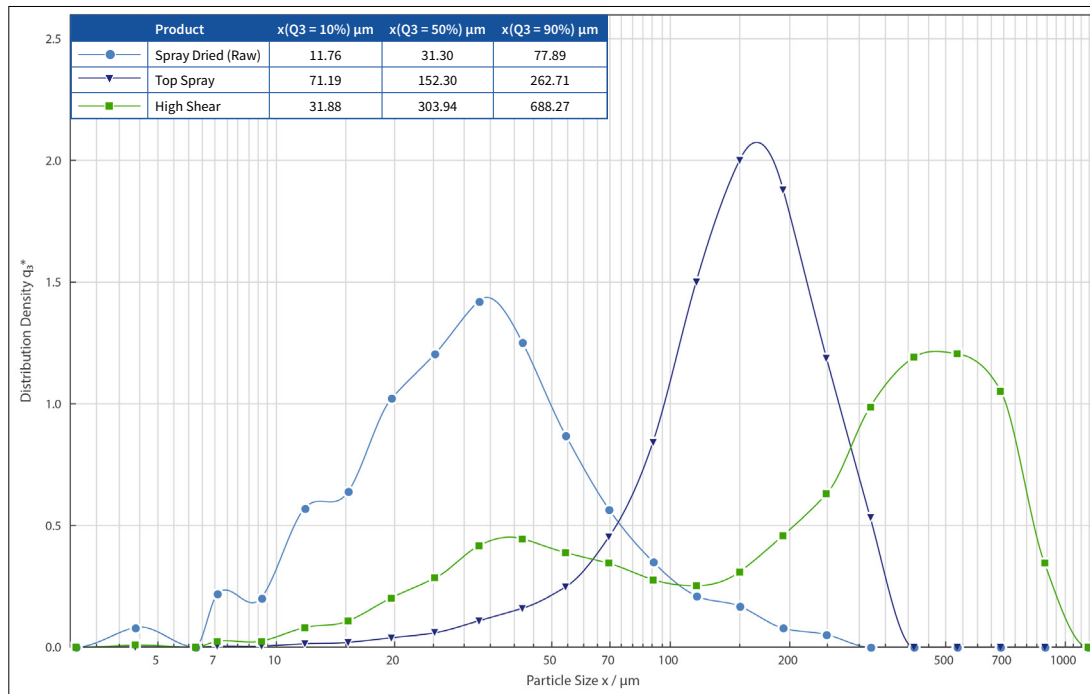
The ability for a powder to be quickly dispersible is a common problem for consumer nutraceuticals and food products – especially in the areas of protein powders, sports drinks and nutritional supplements. Typically, non-processed powders will not be able to break the surface tension of the liquid (typically water), making the powder very difficult to mix without physical forcing the powder into the liquid (usually through vigorous mixing).

A typical solution is to granulate the powder to make it more dense, thus allowing it to break the surface tension and become submerged in the liquid. However, most granulation methods (such as a high shear mixer) create such a dense/compact granule that it takes significant time for the granule to go into solution.

To resolve these typical problems, Freund-Vector has developed state of the art processing methods that transforms the physical characteristics of the powder into a physical configuration that can ‘instantly’ become constituted in solution. We refer to these processing methods as Instantizing.

PROCESS EQUIPMENT...

- ✓ **GMXB-Pilot GRANUMEIST®**
 - MW195 Hydraulic Atomizing Spray Nozzle
 - 32mm Pump Element
- ✓ Batch Size: 1 kg
- ✓ Solution: Water
- ✓ Drying Equipment: VFC-LAB 3
- ✓ **VFC-LAB 3FLO-COATER®**
 - 1.2mm Nozzle with Extension
 - 3.4mm Air Cap
- ✓ Batch Size: 1.233 kg
- ✓ Solution: Water



Advantages of Instantizing

- ✓ Better dispersibility
- ✓ Increased wettability
- ✓ Better flowability
- ✓ Rapid solubility
- ✓ Reduction of dust

As you can see from the chart, top spray granulation and high shear granulation improved flowability and dispersibility of the product, but top spray provides better instantizing properties and can be processed with very little difficulty. Top spray would be the recommended method for instantizing unless high bulk density is required.

The Conclusion...