

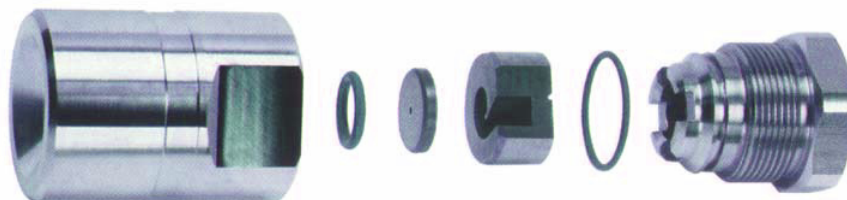
Spray Dry Technology

For many years now the world Spray-drying industry has used the 'tangential spray' principal to produce a hollow cone spray of well distributed droplets. This technical nozzle utilises two internal components to create the spray path. The Swirl and Orifice, both manufactured from tungsten carbide, are inserted to provide a wear resistant chamber and exiting port.

It is these two items that are regarded historically as one of the major operating costs with spray drying nozzles. In the past it was not unusual for the operating cost budget to exceed many hundreds of thousand of dollars. In the past large dairy sites would budget almost one million dollars annually for these components. The inherent design saw predominantly the swirl chamber component breaking prematurely, that is, before the component had worn beyond its operational tolerances.

In 1994, Bete Fog Nozzle Inc. USA and Spray Nozzle Engineering Pty Ltd, set about designing a Spray Dry nozzle that would address this and several other operational issues. This resulted in the release of the BETE TD spray dry to the world markets in 1996. The fundamental design features of this new nozzle are; the structural integrity of the swirl chamber, its shorter body allowing easier handling, and the use of compatible hardware metals to eliminate thread binding between the nozzle cap and body.

In 1997 Spray Nozzle Engineering, began an evaluation process to identify what merits the TD nozzle could offer to the New Zealand Dairy Industry. After a small start, the decision was taken to convert 18 nozzles in drier over to the Bete TD nozzle system. It was with this bold decision that the real benefits of the TD nozzles were realised. For this particular site, the consumption of swirl components dropped from 185 pieces (actual consumed items in the previous season) to only 22 Bete swirl components. At that time it was a real cost saving of just under 90%, or close to \$50,000 in that first year. Today, the BETE TD system is proven in the New Zealand Dairy Market and around the world.



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