

Aerofeed OSP improves the drying process for aquafeed

Continuous Improvement Brings Better Products, Processes, and Profits



If “filling a need” is the lifeblood of successful business, then “continuous improvement” is the beating heart that sustains it. In the same way, if “innovation” is the spark that gives life to an idea for improvement, then “collaboration” is the means by which the idea matures. These concepts are not unique to the aquafeed industry, but it is in this industry where all four elements recently came together.

Aquafeed producers have the need to continuously improve their products, processes and profits, the same as any other manufacturer. To help fill that need effectively Bühler Aero-glide has always made the application of customer knowledge a fundamental component of innovation. Feedback and collaboration make it possible for the company to serve market needs with real solutions, that make a real difference in supporting continuous improvement efforts.

Continuous Improvement Opportunity Identified

In the drying step of the aquafeed production process, variation in product bed loading leads to peaks and valleys in the bed load, and inconsistencies in loading means air can't flow uniformly through the product. If the product depth on the bed is uneven and the dryer is unable to uniformly dry across the product bed, certain areas of the bed will hold more moisture than others, affecting feed density, or the floating and sinking characteristics. When a processor needs to overdry to compensate for those higher moisture areas, the overall functionality of the feed is reduced. Additionally, overdrying can mean that bulk weights and saleable yields are reduced, which means that processors could literally be sending valuable moisture, and profit, right out the dryer exhaust. Achieving a more uniform moisture content could significantly improve the process.

With these two critical factors in mind, product bed loading was identified as an area of process improvement that would not only enhance the product, but also improve the processor's bottom line.

Enter the AeroFeed OSP

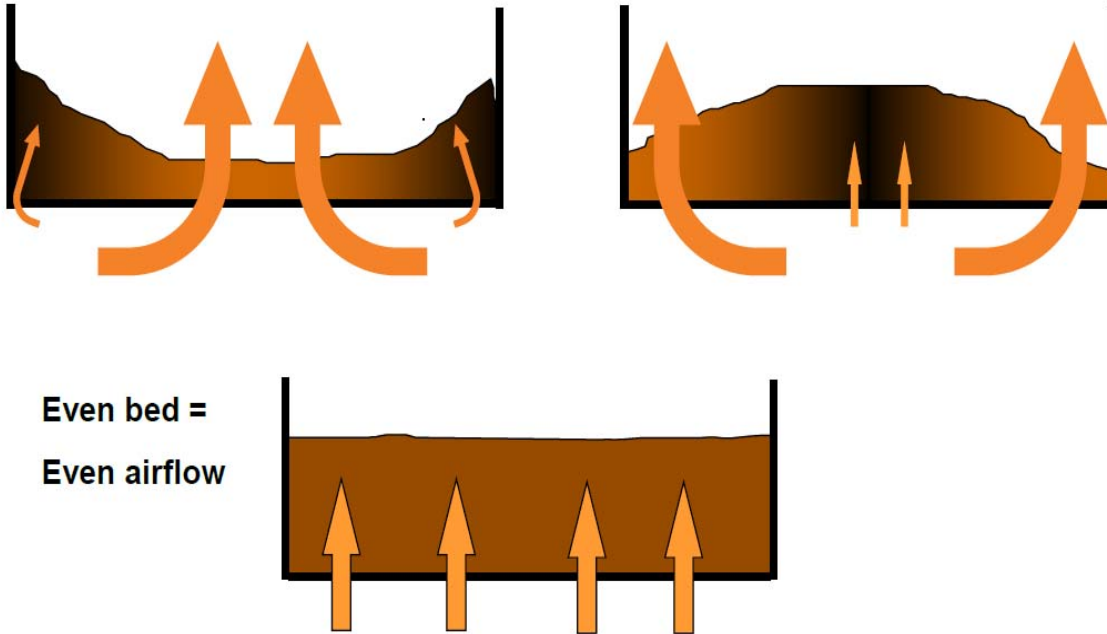
Bühler Aeroglide's AeroFeed OS (oscillating spout) feeder has been in service around the world loading dryer product beds in the aquafeed industry for a number of years, and has its own track record of continuous improvement. It is a critical component to achieving a uniform bed depth. Collaborating with a variety of feed processors, the company recently developed a technological advancement for the AeroFeed OS that could represent the most significant step forward in final product moisture uniformity improvement to date.

The new feeder, the AeroFeed OSP (oscillating spout programmable) is the most advanced feeder on the market, designed to provide the most even bed load achievable across the entire width of the product bed. It allows the operator to program the feeder, via the dryer control system, with variable oscillating speeds so that product can evenly load across the bed. At the edges, where peaks tend to form, the feeder can be programmed to travel at a faster speed to eliminate the overlap effect of the feeder changing direction. The speed can then be reduced when the oscillator moves into the middle of the bed ensuring the product is a consistent depth across the entire bed. If the bed load is even, air flow will be even and the product will dry uniformly. This yields a much more consistent product, as well as significant gains in production.

Programmable Controls Increase Efficiencies

An even bed load allows the processor to maximize production according to time and temperature. While too much moisture affects density, a certain amount is needed to achieve a desired quality and bulk weight. The key to achieving the ideal moisture content is the ability to run a dryer that can consistently hit a much tighter moisture target. The programmable nature of the AeroFeed OSP allows the operator to raise the moisture set point to its optimal level, hit that tighter moisture level target, and increase production. As an example: if an aquafeed processor generates 10 tons an hour, this equates to 240 tons per day. Operating 325 days a year, the result would be 78,000 tons a year. If the operator raises the moisture set point by as little as a quarter of a percent ($78,000 \times .0025$), there could be an improvement of 195 tons a year. Therefore, a small adjustment like this can mean a significant increase in production, as well as better utilized dryer energy.

Bed loading affects drying uniformity



Aside from being offered on new feeders, this programmable feature can also be retrofitted to existing AeroFeed OS feeders.

For quality and process conscious aquafeed producers, successful continuous improvement efforts mean greater profitability and sustainability. Innovations like the AeroFeed OSP, while seemingly improving a relatively small aspect of the overall process, can represent substantial steps towards the universal continuous improvement goals of product, process and profitability improvement.

Bühler Aeroglide is the drying center of competence for the Bühler Group in Uzwil, Switzerland. Headquartered in Raleigh, North Carolina, Bühler Aeroglide maintains sales and service offices in Philadelphia, Pennsylvania; Stamford, UK; and Kuala Lumpur, Malaysia. Its worldwide service network offers unmatched support regardless of the make, model, or vintage of a dryer. Since 1993, Bühler Aeroglide's field engineers have performed over 1,000 evaluations on more than 40 different brands of dryers in 45 countries.

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