Connecting efficiency to large-scale mixing

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The new generation of high-efficient double-circle paddle mixer with a volume of 8m^3 now is available to scale up your feed production.

Power: 2×37 kW
Mixing time: 60~90s
Mixing homogeneity: CV≤5%, lowest level:2.5%
Residue %: ≤0.1%
Capacity: 4t/batch; ≥ 16batches/h

Fig.1 SJHS8 Double-circle Paddle Mixer

Proportioning and mixing are the most important steps in the feed manufacturing process and often dictate the capacity of the plant.

As meat consumption rising dramatically over the past few years, especially in developing countries, global industrial feed market has been driven to grow larger and larger. Equipment which can cost-efficiently produce feed in large quantities, meeting the demands of high quality feed production has always been on the wish list of many large-scale plant investors.

In order to bring up the capacity of a mixing system, mixer size supposes to be increased, mixing circle needs to be shortened, and the production should be as economical as possible. But no matter how the mixer is refined, the objective of mixing is always to achieve a homogeneous mixture of balanced nutrition.

With the same object and based on the in-depth knowledge of feed mixing technology, Muyang researchers launched the SJHS8 Mixer, boosting the largest volume of Muyang double-circle paddle mixer from 6m3 to 8m3. (See Fig.1).

The mixer has been improved in terms of capacity, efficiency and hygiene.

1. Scale up production with high mixing homogeneity

There have been over 700 sets of Muyang SJHS mixers working for the feed and food industries worldwide since 2007, known for their up to 97.5% homogeneity and short mixing cycle (60~90s) thanks to the patented double-circle paddle rotor structure (see Fig.2).

The use of paddle mixers in the feed industry is growing as a result of improvements made to their mixing efficiency. Muyang SJHS double-circle paddle mixers further enhance such improvements by using the combination of inner and outer paddles that reinforce convectional mixing movement. Besides, the paddle faces are adjustable and allow to optimize mixing solutions for different formulations. It can achieve the formulations a mixing homogeneity over 95% within 90s easily.

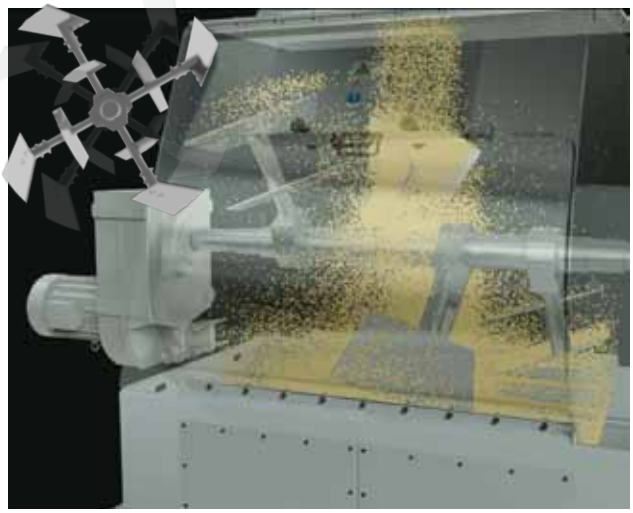

Fig.2 Patented double-circle paddle rotor

The SJHS8 Mixer performs as well as the other SJHS mixers in mixing homogeneity and efficiency. A volume of 8m3, on the other hand, enables it to handle 4 tones of product per batch and at least 16 batches per hour.

However, the product is not only a geometrically larger version of the original SJHS double-circle paddle mixer. Some remarkable innovations are new on the machine.

- Two motors, each with 37kW power, are installed at the two ends of the rotor shaft, driving the rotor to run, balancing the stress on it, and contributing to more uniform and stable mixing effect.

- Two air-return ducts are designed to route back the displaced air from the mixer by incoming ingredients, quickly balance the pressure in the mixing chamber, and smooth feeding and discharging as well. (See Fig.3).

Fig.3 Double air-return ducts

- A newly designed liquid application device with enhanced atomizing performance enables the mixer to achieve a very homogenous result and can mix liquids with powder ingredients without aggregation. (See Fig.4).

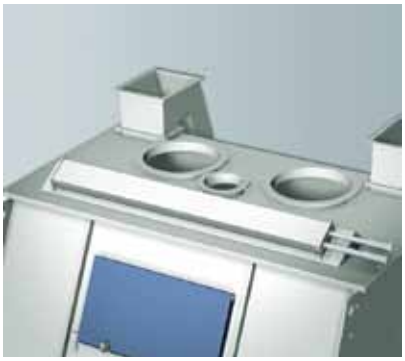

Fig.4 New liquid application device

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2.Hygienic production and friendly operation

The double full-length bottom gates ensure a complete discharge of the mixer content within seconds, hardly any residues. In addition, the adjustable paddles allow it to optimize the gap between paddle and mixer housing to diminish residues on the inner wall, avoiding cross contamination between different formulations. Besides, no ingredient can escape from shaft ends to the neighborhood environment, thanks to the excellent leak-proofing performance of the unique assembly type shaft end seal invented (see Fig.5).

Fig.5 Assembly type shaft end seal applied

On the other hands, the paddles have support arms that bolt around the main shaft for easy replacement when worn or damage. Next to that, the large door on mixer housing allows for fast and easy access to the mixer chamber and parts for repair and maintenance.

3.Boost plant efficiency

The higher capacity per mixer unit means need for less machinery in the feed manufacturing plant, thus reducing footprints of the feed mill and reducing number of ductworks, bins, as well as electrical wirings, etc.

Less equipment also means fewer operators and less maintenance costs. The geometry of the larger machine is also resulting in increased energy efficiency, all in support of improved cost efficiency for feed production.

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