

BUSINESS CASE

HAMMERWITT

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With the pressure-shock-resistant hammer mill HammerWitt Frewitt manufacturer of machines offers a grinding system for the highest demands on quality and security.

THE PRESSURE SHOCK-RESISTANT HAMMERMILL HAMMERWITT



FOR CUSTOMERS WITH DEMANDING NEEDS

A shock resistant hammer mill, designed according to the guidelines of the pharmaceutical industry has successfully established itself in the food industry.

The main reason is its cost. The construction of a hammer mill for 10 bar pressure shock resistance is much less expensive than a hammer mill which must be equipped with nitrogen inerting system in order to reliably prevent explosions.

SAFETY: CUSTOMER REQUIREMENTS

Safety is a must in all processes today. This can be seen in the trend that more and more grinding systems used for the preparation of active ingredients in the pharmaceutical industry are also used in the food industry.

The following example illustrates this: an explosive dust product is prepared, finely ground and pulverized on a Frewitt hammer mill in an explosion shock-resistant system at a Swiss pharmaceutical manufacturer. A dairy producer in western Switzerland uses the same hammer mill, in this case to grind milk powder and proteins.

THE SHORTEST WAY TO A SOLUTION

There are few options available to dairy producers. One has to give up the idea of an inerting system due to its high cost. The customer knew Frewitt's hammer mill well, as these offer flawless service, but powder with a MIE (Minimum Ignition Energy) of less than 1 mJ is not suitable due to the increased risk of explosion. But since the hammer mill HammerWitt has become recently available in an explosion-proof version, the decision was easy: the dairy producer saw the pressure shock resistant hammer mill as an ideal solution, as it meets TÜV standards, and Frewitt is one of the few manufacturers which can show TÜV certification of its hammer mill.



THE SOLUTION

The explosion shock proof hammer mill HammerWitt has been certified valid for the entire

European Union since July 1, 2003 in accordance with ATEX 94/9/EC directives. With a relative pressure shock resistance of 10 bar (11 bar absolute) the working and production environment are protected from explosions.

The dosed feeding of dry and well-flowing raw material, as well as metered discharge of the ground material, are performed by a pressure shock resistant rotary valve. The system remains resistant to a pressure of up to 10 bar even in critical areas, while providing optimal product feed, thanks to the bucket wheel. Thus Category 1D (Zone 20) and certification criteria are met.

The system operator's decision to process milk powder and proteins not only had a positive impact on the safety of the process, but has also led to an increase in productivity: the hammer mill has proved to be an extremely efficient device through increasing product density by 48%. The unit reaches a throughput of 4.5 tonnes/hour with lactose, and 2 tonnes/hour with protein, using a 250 mm dosing unit. The product warms by a slight 8°C due to the cantilevered rotor, allowing the system to dispense with a cooling system.

The pressure-shock-resistant hammer mill HammerWitt is modular and can be integrated into any system configuration.

CONCLUSION:

The ATEX-compliant hammer mill HammerWitt has proved to be multi-use, safe and productive device for Frewitt customers. Users from the pharmaceutical, chemical and food industries have chosen to use the explosion shock resistant HammerWitt for the present as well as the future. Dust explosive substances with a MIE (Minimum Ignition Energy) of less than 1 mJ can be finely ground with this device.

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