

Control Techniques drives boost Boumans business



One of Holland's leading suppliers of animal feed, O. Bouman B.V. of Andel experienced major cost benefits when they switched to a Control Techniques AC drive for one of its two hammermills.

The ability to be able to accurately control the mills has improved product quality – and the considerable time savings in stopping and restarting the high inertia machine achieved with a Control Techniques regeneration unit has cut downtime considerably – as well as giving payback from reduced energy costs.

The hammermills are used to reduce the size of particles in each animal feed 'recipe' to a specified size. Such is the service and flexibility offered by Bouman that an individual farmer can order feed tailor-made to his own operation.

Up to 26 ingredients are used – peas, soya, malt, maize, tapioca, soya milk and coconut husk being just a few – and these arrive daily from around the globe.

After a mix is made, fines are separated out and particles larger than specification are fed in batches to a hammermill. Each mill has eight rows of 22 hammers, which are rotated at up to 3,000 rpm – typically for four minutes for a 2,000 kg. batch. Meshes of between 3 mm and 12 mm fitted around the diameter determine final particle size. 400 varieties of processed feed is then extruded to the required pellet or nut size needed for chickens, pigs, cattle, horses etc.

"With direct on line power, even with soft starters, we have experienced several problems," explains Johan Van Tilburg, Electrical Engineer at the plant.

"The starting current was peaking at 800 amps and it was

taking a full minute to run up to speed. Secondly, with a fixed speed, we often had problems making the product fine enough. Worst of all, because of the inertia, these mills take 15 minutes to stop, so downtime can be considerable. We asked Control Techniques to make recommendations to solve the problem."

Ad Van Genderen of Control Techniques local Drive Centre explained the approach: "The speed control was straightforward one for a drive, but the braking required a little more thought. Conventional braking resistors were out of the question because of the potential hazard of dust explosion - so we agreed to turn a problem into a benefit by feeding braking power through a regen unit back into the plant power supply."

Now, the hammermill runs up to speed in just 18 seconds, with current limited to 250 amps, a major benefit since no peak power charges are incurred. Even more significant is that the stopping time has been cut from 15 minutes to just 30 seconds!

The client is delighted with the results. "It gives us considerable time savings," says Johan Van Tilburg, "plus energy savings and most important, we now have precise speed control for each mix, which improves our product quality. We have been very pleased with the support we've had from Control Techniques and their ability to supply custom-made systems to meet our precise needs."

Control Techniques B.V. has also supplied Bouman with several frequency inverters and soft starters for hoists for ship unloading and a 30 kW, 59 amp Commander ac drive for crane control.

KEY BENEFITS

- REDUCED DOWNTIME
- ENERGY SAVINGS
- IMPROVED PRODUCT QUALITY
- PRECISE SPEED CONTROL



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