

Eliminating a Powdery Mess during Packaging

The Paxton Ionized Air System removes sports nutrition powder adhering to bottles to improve production efficiency and labeling quality.



Nutrablend Foods formulates and packages sports nutrition products. Founded in 1999, the company has become a leader in formulation, production & packaging of products for the nutraceutical and sports nutrition market.

Nutrablend's two facilities, in Ontario and New York, ship 3,000 SKUs to over 90 countries. At these plants, Nutrablend creates private label products for sale in 40-50 countries. Both facilities are large (100,000 square feet in Brantford, Ontario and 70,000 square feet in New York) and busy (2 shifts operating 3 production lines in Canada, 3 shifts maintaining 4 lines on the other side of the border). Maintaining high standards of efficiency to meet shipping deadlines and client demands is a must.

The Challenge

All of Nutrablend's products are in powder form. During packaging, the powder accumulated on the exterior of the plastic bottles. One full time employee (FTE) had the job of wiping each bottle down after the capper and before the steam tunnel. However, the accumulated dust in the air of the plant, combined with the static charge of the bottles, meant that after each wiping, dust immediately adhered to the bottles again. As Joe McLaughlin, Plant Manager at Nutrablend's Ontario facility, described the situation, "due to the static environment, the dust jumped back on the bottles."

Attempts to speed up production only exacerbated the problem. Increased line speed resulted in more static which meant more dust build-up on the bottles. In order to minimize static and dust on the bottles, line speeds had to be kept slow. Even with slower production speed, the last few bottles of each run tended to have the largest accumulation of dust.

The type of bottles used also contributed to the problem with dust and static. Sixty percent of Nutrablend's products are packaged in PET black bottles with a gloss finish. These type of bottles hold more static charge than HDPE bottles. As a result, PET bottles emerged from the filler carrying a large volume of dust.



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The Solution

Nutrablend saw Paxton Products' display at the Pack Expo in 2013. At Nutrablend's request, Paxton distributor Eckert Machines visited Nutrablend's Ontario plant to assess the situation. The Eckert Machines' representative immediately perceived that Paxton's Ionized Air Solution would resolve the persistent issue with the powder and static.

How the Solution Was Implemented

Paxton Ionized Air System was installed at Nutrablend's Brantford plant, along with a custom-designed dust enclosure. The dust enclosure contains the powdery dust using a vacuum system. The enclosure runs at a negative pressure to ensure that all the powder is collected.

Paxton Ionized Air System blows Ionized Air to eliminate the static holding the powder to the bottles. The powder is then blown into the dust collection vacuum system.

Nutrablend now uses a Paxton 20 hp AT-1200 blower with polypropylene washdown enclosure for noise dampening. The Paxton blower is equipped with 3 ionizing air knives – one 12" knife for the top, two 18" knives for the sides. While the Paxton Ionized Air System is installed on only one line currently, the blower was sized to run 2 lines, so currently the unit is throttled using a variable frequency drive.

Since Nutrablend's plants must meet food-grade standards, easy clean-ability was one of the client's priorities. Everything in the new installation delivered by Paxton Products and Eckert Machines is stainless steel and can be washed down.



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Measuring Success

Nutrablend experienced an immediate ROI based on re-deployment of the 2 FTE's whose former job was to wipe dust off of bottles. This resulted in a savings of \$30,000/employee. Additionally, the elimination of dust from the plant created a cleaner environment overall. The resulting reduction in sanitation costs was not quantified.

Installation of the new system also resulted in another, unanticipated bonus in product quality. The powder granules which previously stuck to bottles after wiping caused the labels to have bumps. The new technology eliminated this minor defect in product appearance.



Ongoing Success and Client Comments

Nearly one year after the initial installation of the new system, Paxton's Ionizing Air System continues to perform reliably at the Nutrablend Ontario plant. Nutrablend plans to install a second system in this plant, and to bring the same technology to their New York facility.

When asked to grade the performance of Paxton's Ionizing Air System, Nutrablend's Ontario Plant Manager Joe McLaughlin stated that the system is "exceptional." His colleague, Maintenance Manager Charlie Lyver said "This machine works wonders." Lyver also noted that the Paxton equipment is "easily cleaned and very quiet."



For more information on the Ionized Air System, [click here](#) or scan this QR code with your smart phone.



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