



Improving Flowability and Reducing Processing Time with the Volkmann's Vacuum Transfer System

Oral Rehydration Solutions, consisting of salts and sugar are highly hygroscopic, posing challenges in the production of electrolyte powder without humidity control. Consequently, a fully automatic vacuum transfer system was needed to enhance production efficiency, increase output, and prevent environmental contamination.

Challenge

Salt and sugar are prone to environmental contamination due to their rapid moisture absorption, which alters their properties and flow characteristics. There is also a pressing need to streamline processes by reducing manual labour.

Traditional Approach

Traditional salt mixing methods, affect material properties post-mixing. This leads to segregated feeding and variance in the final product.

Our Solution

Gansons employed Volkmann's closed material transfer system with vacuum assistance. This approach significantly reduced transfer duration and ensured consistent mixing without compromising material properties, resulting in a free-flowing powder of salt and sugar. The entire manufacturing process involved milling for particle size control, sifting to remove impurities, and transferring materials to the Gansons Nauta mixer for uniform blending—all facilitated by vacuum transfer using the 'suck and dump' method.

Trials conducted at the Aishin facility demonstrated effective material transport across production stages using Volkmann's vacuum transfer system.



Figure 1: Trial setup

What did we achieve ?

- Reduced in process time
- Reduced labour and operator errors
- Decreased process steps
- Increased productivity (total increase in production: 13 tons/month)

Conclusion

The integration of Ganson's machinery with Aishin's Volkmann's vacuum transfer system proved highly effective in handling sensitive materials. The simplified and user-friendly process not only boosted annual production rates but also delivered substantial cost savings. Aishin's Volkmann system emerged as a robust solution for optimizing material transfer systems.



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