

Ware handling for best results

Wilfried Seidensticker describes the importance of ware handling for ambitious productivity and quality results in the hollow glass industry.

High results in production require good forming techniques, as well as a modern ware handling system to meet increasing speed and precision demands. Ware handling itself begins with the pusher system, which transports containers from the dead plate to conveyor belt.

THREE AXIS SERVO PUSHER

The transport of hot containers benefits significantly from an improved motion profile when implementing Heye International's high speed pusher type 2158. The optimised motion profile results in a parallel pusher movement to the conveyor belt.

This recent pusher innovation, replacing the former 2155 version, combines high speed with long

lifetime and less parts. Many parts are also used in the two axis 2157 series for standard applications. The servo direct drives in particular reduce maintenance requirements. For large plants with many production lines, the modular design renders a quick conversion from right-hand to left-hand operation.

In short, this high speed pusher design provides reduced service requirements, minimum wear, long lifetimes, quick article changeovers through easy profile settings and the fast exchange of pusher fingers. A further advantage is a simplified job change. Mechanical setting is no longer necessary, for example the manual adjustment of cylinder stroke. Thus, a large part of possible disturbances and inaccuracies in the

production process are essentially excluded. Conversant and approved parameters can be reproduced when running a job again which, in turn, ensures a smooth start-up after a job change.

The geometry of pusher mechanisms can be considered a 'constant'. By setting defined parameters controlling the motion profile, the system set-up almost becomes a constant when running a job again. Thus, incorrect settings can be excluded after a job has been successfully run once. The setting menu is easy to use, set so a high usability is guaranteed. The high speed pusher can be implemented on machines with a large number of sections, in double, triple or quad job operation.

HIGH PERFORMANCE WARE TRANSFER

Furthermore, the accurate ongoing transport of containers is assured once the high speed pusher has precisely positioned them on the machine conveyor. Heye International's high performance ware transfer type 4220 (with two parallel running conveyors) makes use of a simple but important principle that is also well known by motor sports racing drivers. They reduce speed when turning (direction change) and then speed up again. Centrifugal forces that also affect containers in ware handling processes and make them unstable are reduced significantly. The containers perform direction changes in a smooth and even motion sequence.

By reducing centrifugal forces and implementing a



Type 2158 pusher.



Lehr loader bar.



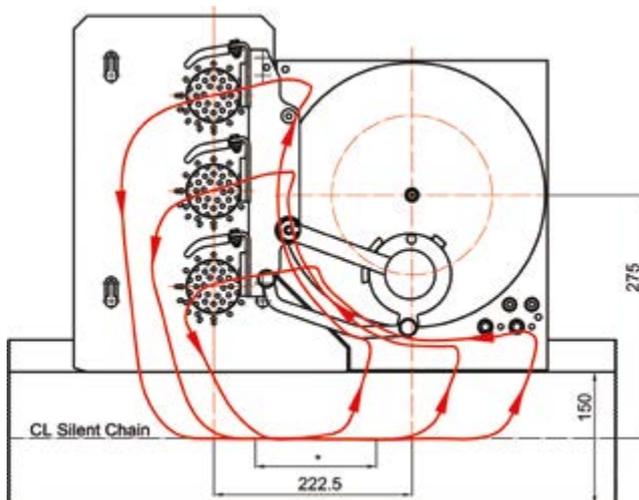
Heye ware transfer.

modern drive system (Simotion) with constant and reproducible parameters, the transport of containers at this critical point is managed successfully.

ACCURATE LEHR LOADING

Once containers reach the cross conveyor, it is critical to avoid negating the advantages achieved when pushing ware into the annealing lehr. Here too, lehr loaders driven by servo motors and equipped with up to three independently driven axes operate high speed production lines. The modern and reliable Simotion drive system provides parameters that can be repeated precisely for each production run, once properly determined.

In addition to these technical accomplishments, the question remains how possible investments can be paid off. This question can certainly be answered by model calculations. However, it makes no sense to implement the latest technologies from batch house to production machinery but accept rejects due to poor ware handling. Every high class article produced properly but rejected during the ware handling process reduces turnover and profit. ■



Motion profile of the 2158 pusher.

ABOUT THE AUTHOR:

Wilfried Seidensticker is Hot End Product Manager at Heye International

FURTHER INFORMATION:

Heye International GmbH, Obernkirchen, Germany
tel: +49 5724 26 452
email: marketing@heye-international.com
web: www.heye-international.com