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emhart glass

Technical News Bulletin

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Dual Row Ware Handling

Introduction

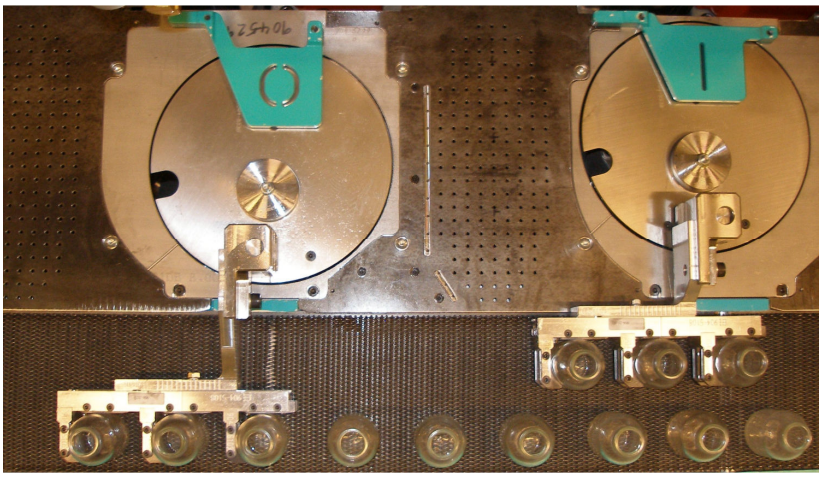
Ware handling is a continuous development to meet production demands. Dual Row Ware Handling is a product of such a demand.
The meaning of Dual Row Ware Handling is to allow two rows of containers on the machine conveyor belt. By having two rows on the conveyor the belt speed will be reduced by 50%.
Reasons for this can be:

- To improve ware handling on unstable small ware
- Generate more time for hot end coating

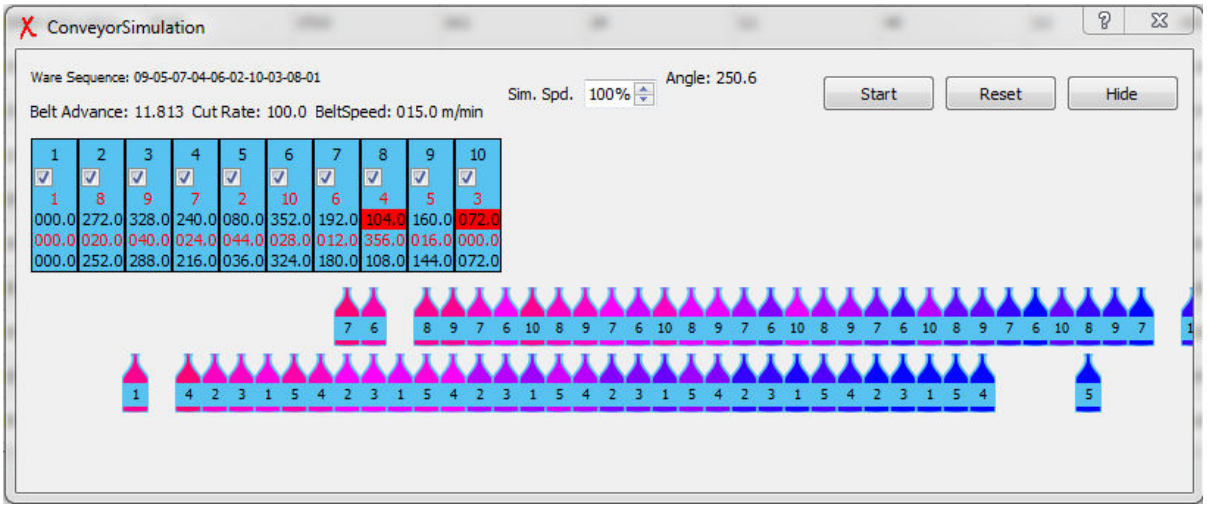
The Dual Row Ware Handling system focuses on small ware. It is fully integrated into the FlexIS and uses the newly developed FlexPusher SP mechanism which addresses challenging ware handling, like with none-rounds, triple gob, and quadruple gob (TNB189). It allows changing between single and dual rows within minutes.

Specification

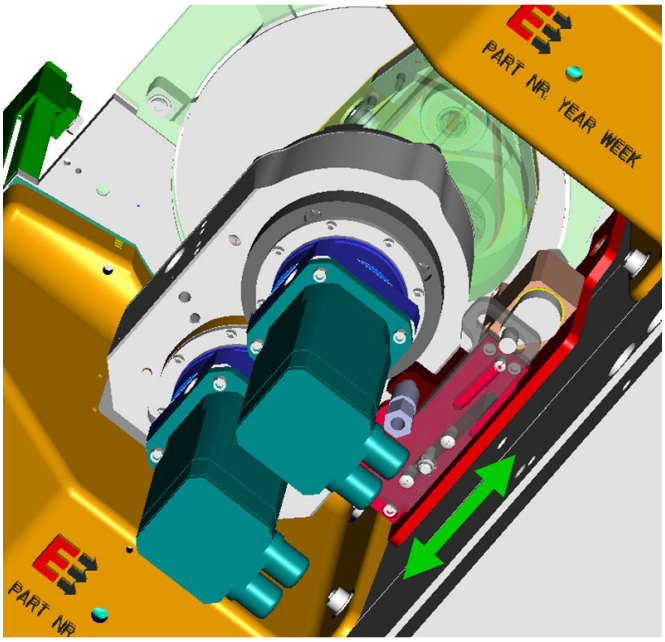
The Dual Row Ware Handling system allows for 80mm between rows (smaller distances upon customer request).
Motion profiles between dual-row-mode and single-row-mode are different and they are automatically generated when mode is chosen.



Dual row firing orders are implemented into FlexIS. Calculation of conveyor speed and Hot End Ware Reject (HEWR) is done automatically. HEWR for dual row is with two valves and two events.
The Emhart Glass Ware Handling Controller (WHC) also allows for two conveyor belt drives where speeds can be adjusted separately.



When converting from Single Row to Dual Row the pusher rotating point is moved. Special pusher brackets are designed allowing different positions which can easily be adjusted without dismounting the FlexPusher mechanism.



Application

The Dual Row Ware Handling system is available for following Emhart Glass Machine Conveyors:

Description	Part Number	Machine
Universal conveyor	117-8200	4-¼"DG, 5"DG, 3"TG, TG85, QG64
FLEXConveyor	182-14	4-¼"DG, 5"DG, 3"TG, TG85, QG64
8000-Series conveyor	117-8080	4-¼"DG, 5"DG, 3"TG, TG85, QG64

There are ware range restrictions on what maximum diameters can be produced when using the Dual Row Ware Handling system. Figures below are for dual row with spacing of 80mm between rows.

Number of cavities/section	Single row	Dual row
Maximum diameter in DG	Ø94mm	ø55mm
Maximum diameter in TG	Ø63mm	ø55mm
Maximum diameter in QG	Ø42mm	Ø42mm

Installation Requirements

An existing conveyor can be converted to Dual Row Ware Handling. The system is using the 180mm-wide conveyor belt as the standard.
Drawing numbers for reference:

Description	Part Number	Old Part Number as reference
Dual row	117-8200-19	
Dual row, conversion	904-68	
FlexPusher bracket, inner row	904-18	904-2
FlexPusher bracket, outer row	904-19	904-2
Dead plates	904-135	117-8213
Covers	904-82	

Manual:

- H51002

Features / Benefits

Features	Benefits
Easy and quick to convert from: Single row ↔ Dual row	Flexible
Built into FlexIS	Standard choice
Fits all Emhart Glass conveyors	Universal