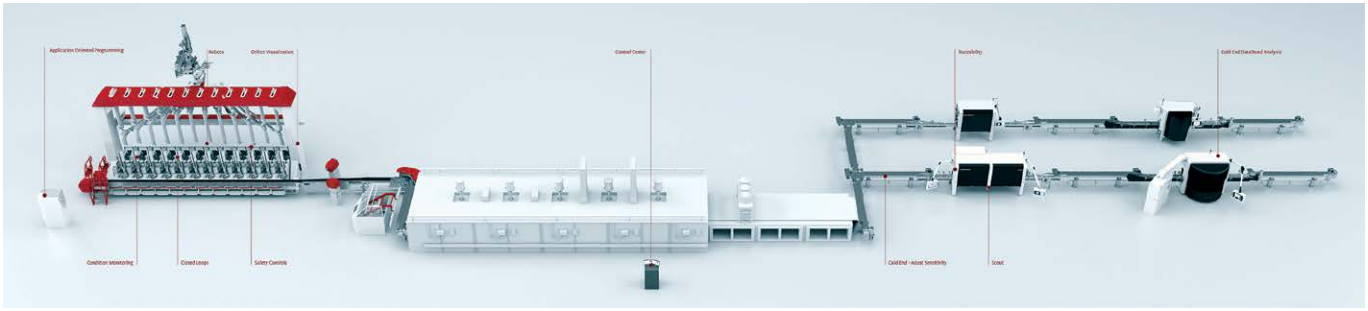
glass WORLDWIDE



Process stability through automatic adjustments of timing and machine settings, based on measured data.

Bridging the knowledge gap

The glass packaging industry faces the growing challenge of attracting young, highly skilled people, who are willing to work in glass plants. Over time, says Thomas Bewer, process knowhow within the plant will diminish, resulting in less productive processes and reduced revenues. In order to face this challenge, Bucher Emhart Glass' End to End strategy provides technology and services to bridge the knowledge gap.

The End to End strategy consists of several modules, all aimed at stabilising and controlling the glass manufacturing process, for example by connecting the hot end and the cold end. Where this is impossible with technology, the people working at glass plants are empowered by the Emhart staff to run the process as stable and controlled as possible, in order to achieve repeatable high pack rates and minimum downtime, even with less skilled personnel.

Repeatable forming

One part of the puzzle involves reliable and repeatable forming machines. The servo-driven NIS and BIS machines and servo-driven mechanisms offered by Bucher Emhart Glass fulfill these requirements. Furthermore, they also offer the possibility to monitor and compare settings among individual sections easily. This enables the operator to set up section timings all the same, making an upstream root cause analysis possible. In cold end inspection, Bucher Emhart Glass SCOUT technology gives clear indications on the classification of defects. Together with the Defect Animation Tool, this allows users to perform root cause analysis for the defects reported by the inspection machines.

Stable process

In a more direct approach, efficient ways of stabilising the forming process are automatic adjustments of timing and machine settings based on measured data. Different sensors such as the PPC (Plunger Process Control), the TCS (Temperature Control System), the Blank Radar and the FlexRadar measure process data. Based on such data, settings and timings of the forming machine, Bucher Emhart Glass machines adjust the plunger movement, gob weight, blank mould temperature and ware spacing. The result is a stable process, with less human interaction.

Glass forming is a statistical process. A lot of the same containers are manufactured on individual cavities and sections. The Flex Control Center collects and stores all machine settings and processed measurement data from the hot end and the cold end. This data is visualised and analysed in order to assist the machine operator. Eventually, it will be used to identify the root causes of defects detected by the inspection machines and to automatically adjust settings to avoid these defects. However, this journey will keep Bucher Emhart Glass engineers and glass plants busy for the future.

In areas where technology cannot yet control the process automatically, Bucher Emhart Glass closes the knowledge gap by supporting its customers with support services that go far beyond just keeping the process running. The company offers the opportunity to conduct operational training under glass within its glass production research facility in Windsor, USA. Glass plant staff have the opportunity to create defects intentionally, learning about their root causes, their potential remedies and efficient ways to detect them in the inspection machines. Another key area is maintenance support. Specialists consult the customer about equipment condition, as well as maintenance plans and systems. They can also perform maintenance, ranging from customised repair proposals and repair projects to dedicated maintenance service engineers supporting maintenance planning and daily maintenance operations in the glass plant.

Data collection to analyse and react automatically.

Bringing together these End to End modules from Bucher Emhart Glass will ensure profitable glass plant operation, even with diminishing knowhow in the glass industry. ●

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