BB operation efficiency with HEYE's gob weight control

Using 3D gob imaging to measure weight and shape in real-time, HEYE's GobMaster camera-based weight control system enhances operational efficiency by stabilizing gob weight in blow-blow production. Improving production accuracy while reducing waste, the system also integrates seamlessly with existing IS machines - offering flexibility across various production processes.

Plunger cylinder sensor technology is a well-proven function of the Heye Process Control, supervising and adjusting both press-blow and NNPB production processes. The camera-based weight control of the Heye GobMaster now closes the gap for processes operating in blow-blow.

PROCESS CONTROL 4.0

Heye Process Control 4.0 is a closed-loop solution for the pressing process of all plunger mechanisms within an IS machine. Simultaneously, it keeps the gob weight stable. The technology displays a number of forming events on several selectable charts

and permits the improvement of parameter setting by comparing data. Early recognition at the start of malfunctions increases production efficiency. The integrated plunger cylinders ensure certain gob parameters for press-blow and NNPB production. That said, this technology cannot be used for heavy and premium articles produced using blow-blow operation. Consequently, glass container manufacturers have increasingly requested access to gob supervisory and adjustment technology for blow-blow production as well. The Heye GobMaster satisfies this requirement.

FUNCTIONALITY AND BENEFITS

The camera-based system makes it possible to determine and control the gob weight while favourably exploiting the additionally generated data for all production processes. Two cameras placed underneath the shears act as sensors, generating 3D gob images. The software logic determines such geometric digital 3D model data as length, diameter, position and tilt angle - all data that ultimately calculates gob volume and weight.

GOB WEIGHT AND SHAPE

In real time, gob weight and gob shape are measured, with weight deviations above or below the production limits being automatically rejected. Weight deviations are corrected through the Heye tube and plunger drive systems. Production runs operating the blow-blow process benefit most from this recent technology. However, the added value for press-blow and NNPB production runs is also obvious. With GobMaster technology, gob shape and gob fall are both measured - being made impossible using the plunger cylinder functions alone. Gob shape and weight become reproducible, which results in a stable production process - ultimately improving efficiency and quality. Neither energy nor raw materials waste due to data inaccuracies will result.

ANSWERED BY EXPERTS

Heye International experts confirm that the GobMaster can be retrofitted to all types of IS-Machines: Where a Heye Process Control 4.0 is already available, the latest version can easily be retrofitted via a plug-and-play device. But it is also available as a stand-alone version. Various upgrade paths are possible depending on the existing equipment. The GobMaster itself consists of two high speed cameras, a control unit and a monitor. Furthermore, the settings of the Heye Process Control system can easily be adapted to several gob weights running simultaneously on a single machine. This underlines the high flexibility of the system and shows its sophisticated functionality. ■

ABOUT HEYE INTERNATIONAL

Based in Obernkirchen, Germany, Heye International GmbH supplies the container glass industry with its high-end technology and equipment as well as sophisticated production know-how. Its mechanical engineering has set industry standards for more than six decades. Extensive industry expertise, combined with the positive attitude and enthusiasm of Heye International employees is mirrored by the company motto 'We are Glass People'. The glass people at Heye got the vision to ensure cost-effective, sustainable and safe operation of glassworks worldwide and thus further strengthen the position of glass as the packaging material of the future. Its three sub-brands HiPERFORM, HiSHIELD and HiTRUST form the Heye Smart Plant portfolio - addressing the glass industry's hot end, cold end and service requirements respectively.

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