Latest machine developments by OCMI-OTG for stemware sealing

Brought by Covid-19 pandemic, the great worldwide crisis of the HORECA sector had OCMI seeing some sector recovery with the reopening of its activities. As such, and with quality of design and finishing among its primary goals, the company could supply its high-speed sealing/stretching machines to three of the main glass factories in Europe.

OCMI machine type SA, available with 42, 48, 60 or, upon customer request, 108 stations, can produce drinking stemware articles by joining stem and bowl (previously produced in pressing and blowing machines) and, if necessary, by stretching the stem before unloading.

Stemware processing in OCMI machines must be previously clarified between supplier and end-user according to the type of articles to be produced. Here's why machine configuration must be as flexible as possible to properly satisfy the technical requirement of customers.

OCMI SA

A rotating machine divided into different working areas. The loading area consists of

Over the past two years OCMI-OTG has strongly consolidated its position as an appreciated supplier of glass stemware finishing technology. Already that has leading glass drinkware factories in Europe using OCMI sealing and stretching machines in their stemware processing lines.

two loading devices for stems and bowls with twelve arms each. These loaders must be perfectly synchronised with conveyors coming from previous machines in order to avoid losses and breakages - together with rotation of the sealing machine itself. The bowl loader is equipped with 12 mechanical grippers, designed according to bowl shape, while stem loader grippers can work by vacuum if the stem consists of a simple, foot-free disk.

Design of the stem and bowl to be processed by the OCMI sealing machine is decided in accordance with the shape of the finished article - all thanks to the experience of glass specialists.

The bowls are loaded in the lower chucks of the machine while the stems go to the upper chucks. The lower chucks can be developed with some adaptation in order to correct any stemware axiality defect. Floating chucks with a movable supporting plate serve this purpose.

Furthermore, the lower chucks can be developed for internal or external gripping of the bowl in accordance with the regularity of the moil shape.

For bowls without moil and if moil cut is made before sealing, lower chucks can be equipped with vacuum gripping to avoid contact of the mechanical grippers with the bowl edge as well as any resultant marks, breakages or cracks.

Lower chucks could be developed with special features aimed to avoid breakages or the loss of pieces during loading. This allows for a machine efficiency increase while, on the other hand, good machine conditions get preserved by minimising the falling of glass residues within the machine body.

The upper chucks could be automatically adjusted in height through a camera control system that checks the level of the items in the machine. This is very important in ensuring the same sealing point at each station while getting a uniform quality for all the batch.

SEALING POINT CONTROL

The vertical adjustment of upper chuck position is made through the linear movement of a servo-driven axis, which corresponds to a stroke between +2mm and -2mm.

Installed immediately after the loading area, the camera control system allows for organisation of the production statistics by batch or working shift - also saving the specifications of each article to be processed in order to easily recall a project without delay.

The initial working area of the machine is equipped with heating burners, given that items must be kept at the right temperature prior to operations.

The main machine cam allows for vertical movement of lower chucks up to the sealing point for stem joining. At this point the glass is then processed through specific burners especially dedicated to sealing.

The stem can be stretched, as needed, following sealing - thanks to the lowering of lower chucks. Here configuration of the cam can be designed to get either a quicker or slower stretching or a longer or shorter sealing area.

Even for stretching, dedicated burners will treat the glass to accord with this particular operation.

All burners follow the movement of articles inside their action range with perfect synchronisation. Developed by OCMI in accordance with different operations to be made on glass, the nozzles are also designed internally.

FUNCTIONALITY OPTIONS

OCMI machines can be developed for only the stretching

function as well in case the customer needs to process stemware pieces made of just one piece and made in a dedicated press-blow machine. In this case the SA model is converted into ST - also available in 42, 48 and 60 stations according to the productivity needed by glass factories.

At the end of the process an unloading device, also equipped with twelve arms with mechanical gripping hands, picks the finished articles and places them on the exit conveyor that goes either to the moil cutting machine or to the lehr.

Configuration of the cam affects the forming and attitude of the glass, coupled with the type of burners used, their position and the temperature of their flames.

The OCMI sealing machine will produce stemware articles with a maximum height of 350 mm and a maximum output of about 100 pieces per hour (in SAL108, the most performing model).

MACHINE SPEED

Speed will depend upon the type of article processed. Glass from blow-blow machines for higher quality items will require a slower rotation of the spindles in the OCMI sealing machine. As usual, the highest quality products can't be produced at the highest possible speed.

The most performing OCMI machine, with 108 stations, will achieve the most complete all-in-one solution since, after the stretching area, more space is available to perform other line stem flattening or moil crack-off operations.

All SA sealing and stretching machines can work in off-line mode, with items coming from heating tunnels or in line with pressing and press-blow or blow-blow machines.

This has OCMI ever at the ready to develop sealing/stretching machine SA according to different needs in terms of speed, glass types and production area process and layout. ■

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