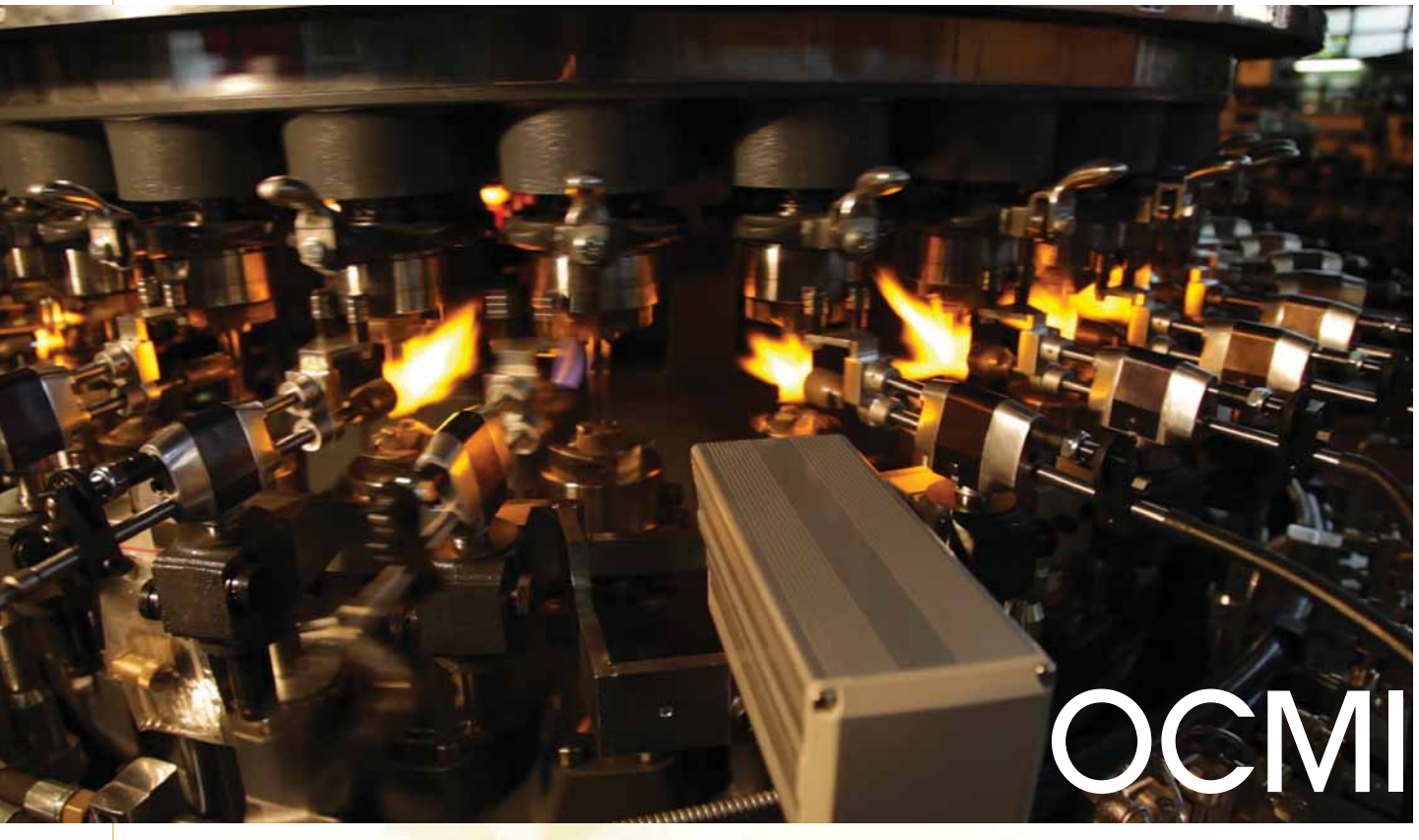


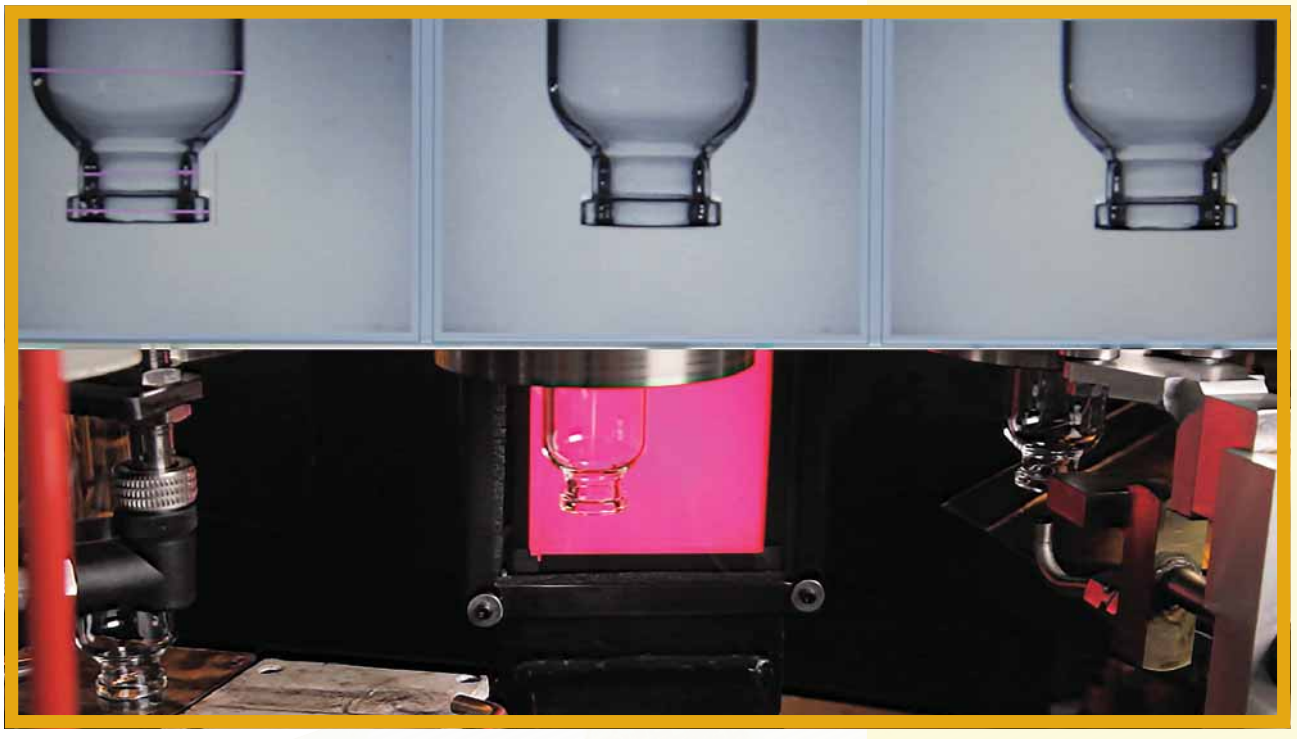
improved control and minimized quality issues for glass tube forming machines

Glassworks are continuously looking for ways to improve machine productivity and make machine setting operations easier and more accurate – especially when we are speaking about pharmaceutical glass. OCMI provides the solution with its camera vision systems for dimensional control purposely dedicated to each type of forming machine.

COMPLETE RANGE OF CAMERA INSPECTION SYSTEMS

Camera control systems to perform different types of inspections on borosilicate glass containers are the devices on which end-users focus extremely in order to minimize quality issues and get a better control on production.

These devices are nowadays mandatory in production lines, installed in hot-forming area to assist the machine operator to improve efficiency, or before final packing station to fulfil expectations of pharmaceutical laboratories.



The feedback coming from the end-users has been extremely important for OCMI-OTG, in order to progressively update the software if camera inspection system with new function and features aimed to manage any possible production need.

HOT FORMING INSPECTION

OPTISTEM/2 camera control system for the hot forming area is actually available to be installed on new ampoule forming machines MM30 and FA36S, both brand new and existing. It was the first camera control system developed by OCMI then followed by other versions dedicated to different glass containers.

This system is equipped with two cameras: the first detecting the heating level of each glass tube before the neck forming area. According to the data shared by the first camera, the oxygen level in the two last burners before the forming area is automatically adjusted through proportional valves.

That allows to process all tubes under the same temperature conditions and keep the diameter of the ampoule neck under control, which is the most important size for operations such as colour rings and OPC applications.

With this working concept focused on oxygen regulation and not on flame position, there is no stress of mechanical parts of the burners with consequent longer working life.

Operators can check the trend of all diameters of glass ampoules (except for the total length that can be controlled on the line with electro-mechanical gauges) inside tolerance limitations via the user-friendly control panel suitable to be integrated in the main machine cabinet or supplied separately.

The software allows to store data regarding each production batch and to recall parameters of ISO type ampoules (parameters of ampoules out of ISO standards can be set manually).

IMPROVED SOFTWARE

OPTISTEM/2 software has recently been improved to provide higher inspection accuracy by increasing the number of pictures capturable by the camera placed before the unloading area. In fact, OPTISTEM/2 is now able to collect five pictures of the same ampoule instead of only three as in the past, thus increasing the accuracy of the average value calculated for each dimension.

Furthermore, a new addition to the second camera program enables to consider the individual picture value instead of average for ampoule rejection.

On operator request, the ampoule can be rejected if the average value of one critical dimension is compliant but the value of only one picture is out of tolerance.

The data collected from OPTISTEM/2 operation can be now organized per production batch. One of the purposed of this function is to verify the stability of the quality along the working day. With the update program bar-graphs are available to immediately display the trend of each production batch.

Even the control of some optional functions available on after-forming line can be inte-

grated in the OPTISTEM/2 panel. For example, the data coming from the control of total height, available on after-forming line, can be displayed on OPTISTEM/2 panel in order to get the full control of ampoule dimensions.

With the purpose to keep under control the production efficiency of the whole line, OPTISTEM/2 panel can show the counting of good ampoules detected in different points of the line. That allows to understand which device is producing more rejections and focus the attention on it.

CAMERA VISION SYSTEMS FOR DIMENSIONAL CONTROL

Following the same concept of OPTISTEM/2, OCMI has also developed camera vision systems for dimensional control purposely dedicated to each type of forming machine for pharmaceutical tubular containers.

OPTIVIAL camera system has been developed for all models of vial forming machines supplied by OCMI, continuous rotation machines FLA20 and FLA35 and index-rotation machine TAM114.

In this case the system adopts the same user-friendly software of OPTISTEM for the control panel and realizes only a dimensional control at the end of forming process.

Especially in FLA35, the most complex and productive vial forming machine produced in OCMI, statistics can be obtained divided per each main forming head and consequently detect any type of eventual trouble on one specific head.

The operator has the possibility to see the statistics of rejections per each controlled dimension in order to optimize machine set-up accordingly.

One of the main advantages of OCMI control system is the flexibility of the software that allows to apply that to different types of productions.

In the last forming machine produced for glass droppers OPTIVIAL has been supplied for the control of ball-shaped tip and constriction.

Also for dental cartridges and droppers

Same system, purposely programmed, can be supplied for the control of dental cartridges and droppers, on OCMI forming machine FLA20/CAR and FLA20/DROPPER.

Most orders confirmed in the last months by pharmaceutical laboratories and glass factories include camera control system for hot forming, which are a good investment to improve machine productivity and make the machine setting operation easier and more accurate.

SETTING UP REMOTE ASSISTANCE

OCMI has recently invited all customers using these camera control systems to use their existing Internet connection or arrange a new one, in order to provide remote assistance in real time.

Through supplied router working with cable connection or Wi-Fi network, the camera inspection system installed wherever worldwide can be connected with OCMI After-sales service and skilled engineers can check the inspection on their PC as if they were in front of the control panel.

More than 90 per cent of glass tube forming machines manufactured by OCMI are now supplied with camera inspection systems already installed. All versions of control systems have been fully developed in-house by OCMI so customers can be sure to have complete and integrated assistance on machines and inspection systems. ■

ocmi
a Division of OCMI-OTG

OCMI OTG SPA

Via Venezia Giulia 7
20157 Milano (MI) - Italy
Tel.: +39 - 02 - 3909181
Fax: +39 - 02 - 3570944
E-mail: info@ocmigroup.com
www.ocmigroup.com