



FORMA GLAS
machines + engineering

Inspection and process control of tableware

M anual quality control of tableware products always used to be a high expenditure for all table ware glass manufactures. Over hours, employees must keep the level of quality testing at the same level. That this actually works only in theory does not need to be explained further. Especially because the quality requirements in high-end tableware continue to increase, in order to more correspond to the handmade glass. Also customers of glass manufactures are forcing them to guarantee constant and of course documented results of quality checking.

Also in standard production and high-end production of machine made table ware glasses, the guarantee of constant quality inspection rises up in the last years to provide the manufactures with numbers and evaluation of failures on product during production to give them the opportunity in improving the

production process in real time. Machine operators over the whole production process are linked to the statistics of the inspection machinery and could use them to adjust their machinery.

Of course also skilled employees lack forces the glass manufactures to automate their production to be able to use the existing staff effectively in the production chain to ensure economic growth anyway.

Therefore Forma Glass started a project to implement automatic quality inspection, which is used over years in container glass manufacturing, also to be used in high end table ware production (TCS á table ware control system). However, this requires a further development in advanced image processing and software technology to make the special type of failures from table ware visible.

Over the last years Forma Glass put into operation about 18 inspection machines (produced on blow-blow process) at different manufactures in Europe.

Together with our partner more than 50 machineries are in additional sold also for inspection of pressed articles and of course also for articles produced

in press-blow process. Therefore we have the opportunity to offer a machinery which is well tested and running in the field of inspection of table ware production

In case that the system is build up modular, we can offer solutions from 6 to 14 cameras and also for a different range of products

- Pressed tumbler and pressed stemware
- Plates
- Casserole
- Tumbler and stemware in blow-blow or press-blow process
- and many more

In addition to the quality inspection at the final product, Forma Glass also working continuously on improvement for process control during the production process itself. One of the main topics during the forming process in blow-blow or press-blow is the wall thickness distribution in the bowl (WCS á wall thickness control system).

Currently it is controlled manually by measurement of the bowl outside of the machinery or as random test in separate testing unit. We picked up the system of wall thickness measurement from the bottle production and implemented it first time in rotary machinery for blow-blow production of bowls for stemware and tumbler. Now the machine operator know in real time the quality of the bowl and is able to adjust in real time to keep production continuous running on high level.

Therefore Forma Glass is not only partner for forming machinery itself. Forma Glass became also a partner of improvement of the production process in inspection and process control to increase level of quality control and stabilize the production process.

