

TIAMA

Hot Lab, a key contributor to Smart Factories

Hot-End measurement

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In the continuous move to Smart Factories, Tiama is working to provide quick accurate hot-end measurements for today's fast-moving container glass sector. This article speaks about the company's most recent development – the Hot Lab – also in the words of one of its important customers.

HOT-END MEASUREMENT

In 2017, Tiama sold 12 Hot Lab machines worldwide covering five different continents, including some key global container producers. The Tiama Hot Lab now provides quick accurate hot-end measurements for customers who produce not only standard beer and wine bottles but also cosmetic ware and wide mouth jars. The unique design of the Tiama Hot Lab ensures it provides accurate measurement solutions for the industry's wide range of glass container designs including many non-round shapes too.

A UNIQUE COLLABORATIVE ROBOT

One item of technology that stands out from any other sampling system found within the

industry (both hot-end and cold-end areas), is the collaborative robot handling solution. Employing the robot rather than standard bottle handling systems allows the operator to switch from inspecting one production to a completely different type, without having to apply any mechanical adjustments. Instead, operators just choose the appropriate article from the simple interface, then, the robot within the integrated gripper automatically adjusts to suit the new ware.

INNOVATIONS PUSHED BY SOLID EXPERIENCE

During the past year, the Tiama Hot Lab has gained valuable feedback from working with new customers. This experience has enabled the company to add even more features, ensuring good customer satisfaction. Some of the new features include:

- 2D colour charts displaying the Sunk and Bulge results

- around the full 360° bottle;
- Sunk and Bulge measurements of panels on square/rectangular bottles;
- Data transfer protocol communications for iAfis, SIL, Easier, MySQL;
- Internal bore profile reports.

ZOOM IN THE NEW 2D COLOUR CHARTS

The 2D colour charts allow the user to view the results data in a format that can assist the bottle makers in understanding what changes they need to apply to the IS machine, in order to improve the glass thickness and or label area flatness.

The IS operator can orientate the container to a reference position on the cart in order to get immediate information about

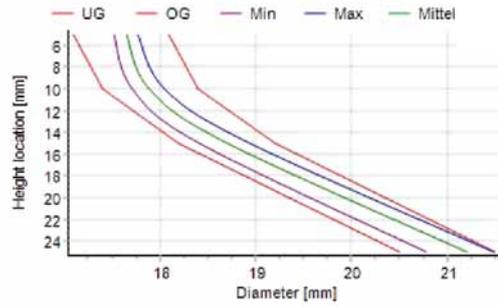
“The dream of the ‘closed loop’ is fast becoming a reality.”



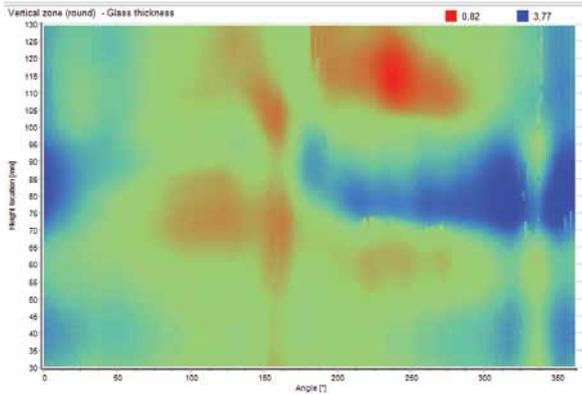
13.02.2018 17:22:00 - 13.02.2018 17:25:00

Time: 13.02.2018 17:24:07 **Section:** 1
Article: Inner **Cavity:** A
Line: L1 **Mould Nr.:** 0
Pallet: 0

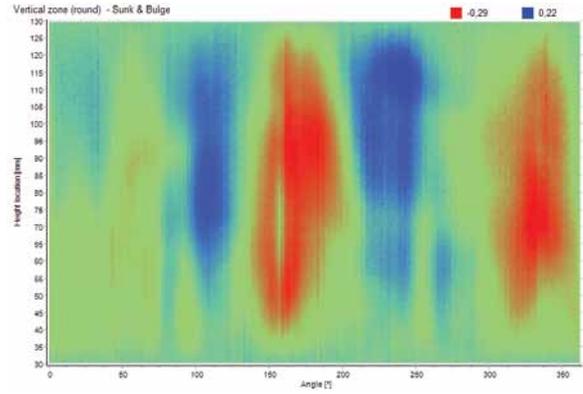
Pos.	LL	UL	Min.	Avg.	Max.	Oval.
5,00	17,10	18,10	17,52	17,66	17,77	0,25
10,00	17,40	18,40	17,71	17,90	18,05	0,34
15,00	18,20	19,20	18,42	18,70	18,94	0,53
25,00	20,50	21,50	20,79	21,21	21,49	0,70



An overview of the corkage profile



This example shows the glass thickness distribution on the sidewall of a bottle. The X axis shows the radial position in degrees around the bottle whereas the Y axis show the height location on the side wall. Red denotes thinner glass, blue thicker glass and green is the optimum thickness.



This example shows the sunk and bulge (side wall label area flatness). The X axis shows the radial position in degrees around the bottle whereas the Y axis show the height location on the side wall. Red denotes sunken areas, blue shows bulged areas and green is the flat area of the bottle.

the glass distribution around the mould. This exclusive information adds value for customers who want to monitor their process in more detail.

The new internal bore profile report feature provides the customer with an overview of the corkage profile for each measured bottle together with the associated results in a simple table. These results are stored locally and can be exported as a pdf report or csv data format.

2017 CUSTOMER CASE STUDY

One of Tiamo's new customers, who is a major player of the glass container industry, was recently asked what they thought of the Tiamo Hot Lab after four months of intensive use. His reply is further proof that the Tiamo Hot Lab is becoming a 'must have' for all glassmakers

who want to increase their productivity at a high quality level.

The glassmaker: "Our facility recently purchased a Hot Lab. We are a one-furnace, three-production-line operation manufacturing wine bottles using both the blow blow and narrow neck press and blow processes. We typically job change two to three times per week with bottles ranging from 350 grams through to 800+ grams in weight. Our line speeds range from 170 to 330 bpm.

We have installed the Hot Lab system in the hot-end on one of our production lines. We use this machine to check sets four times per shift with the remainder of the time used for troubleshooting and requalifying ware post sectional stoppages.

This system has transformed the way we operate. We continuously drive quality in the hot-

end however up until now have never had the right tools for our people to do so. To have a system that provides actual measurements and dimensional analysis at the hot-end on hot bottles enables us to verify quality in real time rather than waiting for cold-end inspection feedback. The system becomes extremely beneficial when troubleshooting quality issues as you are able to measure containers instantly post IS machine changes rather than waiting for cold-end feedback. Our lehr times range from 60 to 90+ minutes so this feedback saves us a lot of time and money.

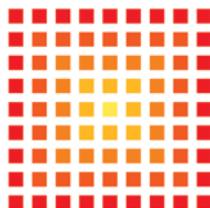
Robot technology enables our people to focus on core duties now spending more time operating the machine rather than inspecting ware. Our people simply load up a bottle cart and let the robot do the rest feeding bot-

HOT-END MEASUREMENT



Tiama
HOT
systems

tiamas



hotlab

ties to the hot lab machine.

Our plant has worked with Tiama on a variety of hot-end products. Tiama offers excellent customer service and always works with us to help deliver our needs. In the short time we have had the Hot Lab system, Tiama has already updated its software to give us the specific data we requested for sunk and bulge gauging.

Like any new technology, integration can take time but the opportunities are endless. With the right leadership driving change in conjunction with the Hot Lab system you can catapult your operation into the 21st century to obtain a competitive advantage in the industry.”

This new, fully satisfied, customer of Tiama confirms that the Tiama Hot Lab is a must have for every IS operator who wants to focus on producing good bottles with direct information about the quality they are producing. The Tiama Hot lab, as a ‘personal assistant’ for the IS operator, takes care of time-consuming actions to be undertaken and provides real measurement and valuable data.

The Tiama Hot Lab offers multiple sensors, which provides accurate data and precise measurements that are collated in the chosen plant supervision IQ systems for display. In the data mining and crunching process, the Tiama Hot Lab is one of the more powerful sources of knowledge. ■



Real-time Process & Quality Controls

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