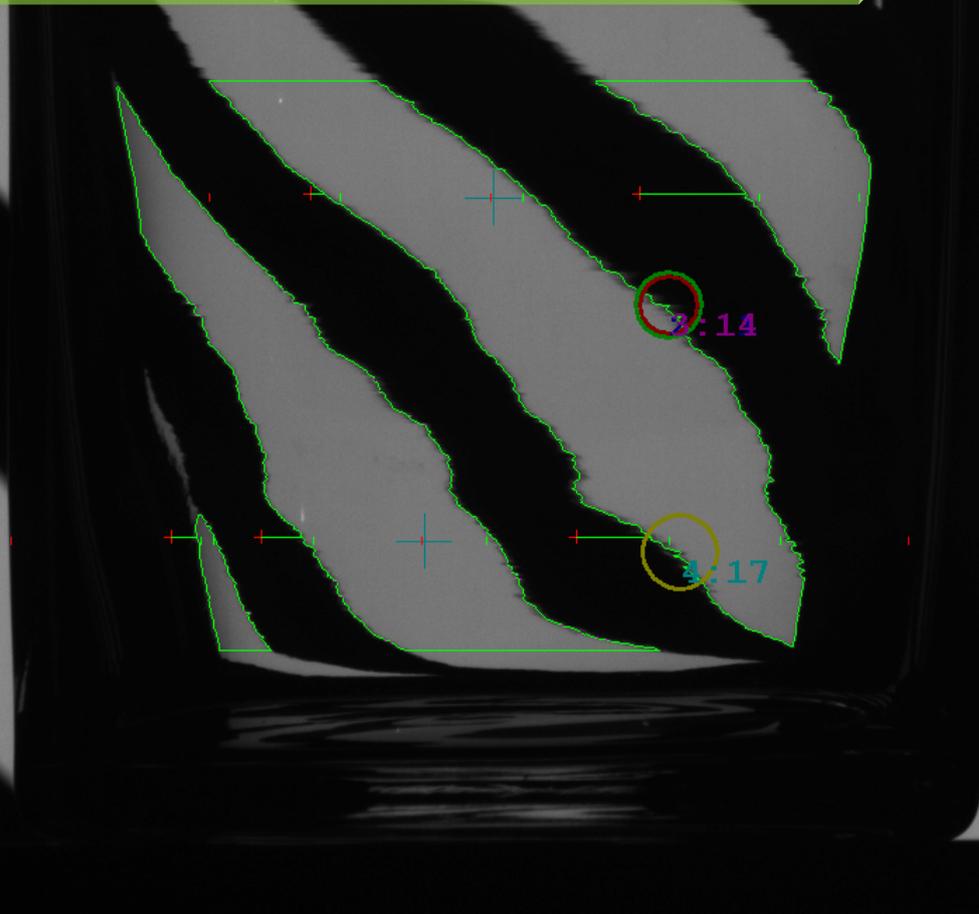


# Hot End Tableware Inspector



*Monitor and eliminate faulty tableware with an advanced JLI vision inspection system*

In the production of tableware the lehr time can be hours and it is therefore important to monitor machine performance before the lehr. The Hot End Tableware Inspector system is designed to measure and inspect the tableware just after the rim burn off.

The system consists of a light box and cameras mounted in water or air cooled enclosures. Background illumination is by the dynamic light box which in principle is a powerful LCD monitor generating patterns to enhance defects and improve measurements of the red hot tumblers. Using the dynamic light box technology makes job changes easy and automatic.

Trend statistics are generated for all forming tools, transfer mechanics and the burn off stations. Using the system as a trend analyser, enables the hot end operators to focus attention on the tools giving trouble, and thereby substantially improve yield. In addition the system will also reject tableware or debris that may cause problems in the lehr.

## Features

- Ruggedized unit for hot end environment
- Increase yield up to 5%
- Takes up only 400mm of conveyor space
- Comprehensive statistics for all tools in the process
- Easy set up for new jobs
- Timed reject air nozzle
- Internet connectivity for easy support

## General

|                                |  |
|--------------------------------|--|
| <b>Speed:</b>                  | 200 tumblers or stemware/min                       |
| <b>Cameras:</b>                | High resolution CCD matrix                         |
| <b>Max. height:</b>            | 200 mm (more on request)                           |
| <b>Operating temperatures:</b> | +0° C to +60° C                                    |
| <b>Humidity:</b>               | 20-80% non condensing                              |
| <b>Power:</b>                  | 110V, 60Hz or 230V, 50Hz                           |
| <b>Lighting:</b>               | Dynamic Light Box (DLB)                            |
| <b>Computer:</b>               | Industrial vision PC's                             |
| <b>Monitor:</b>                | High resolution touch screen                       |
| <b>Dimensions:</b>             | Adapted to actual hot end conditions. (On request) |
| <b>W x H x D</b>               |  |

## Measurements

|                    |   |
|--------------------|---|
| <b>Dimensions:</b> | Leaners, height, width, profile & volume.                                       |
| <b>Rim:</b>        | Pips/lumps, bubbles, slope, cracks, drag edge and spike/sharp edge.             |
| <b>Body:</b>       | Uneven glass distribution, mould rings, cracks, cord and other surface defects. |
| <b>Base</b>        | Uneven bottom and base thickness.   |

## Interface

|                             |  |
|-----------------------------|--|
| <b>Vision input/output:</b> | Signals adapted to requirements.<br>Input: revolution signal from burn off machine. Output: reject and alarms. |
|-----------------------------|--|

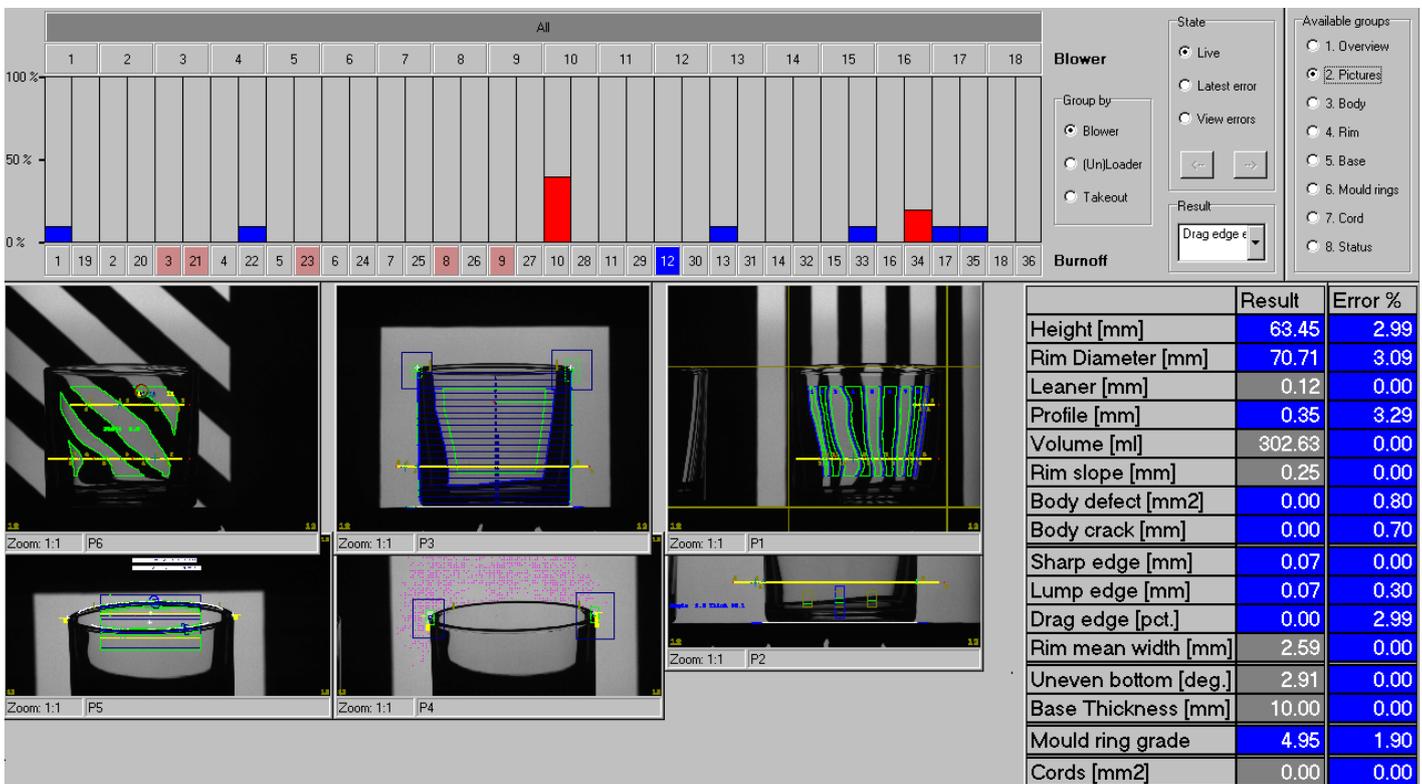


Illustration of principal for the Hot End Tableware Inspector using the Dynamic Light Box (DLB). All 6 images are taken with only 2 cameras while the glass passes the system. Patterns are changed 16 times/second to accomplish this.

## Company Profile



JLI vision a/s develops, designs and manufactures dedicated turnkey vision systems for the international industry.

With more than 27 years of experience, JLI is among the oldest companies in the computer vision field. Our customers include well known international companies. JLI works in many different industries ranging from food processing to material handling, glass, steelworks, pharmaceutical, plastics and packaging.