

Clearance Gauge



The Quality by Vision clearance gauge:

For set-up/adjustment of rolls (1st & 2nd operation) versus chucks in multi-head seamers.

- With GC optical unit/camera instead of traditional manual practice using feelers or strings.
- Only suitable for round cans with OD <120mm or >100mm and <180mm
 - Beverage & 3-piece cans: minimum height 85mm
 - Aerosol cans: minimum height 100mm
- CG optical unit equipped with 2x “periscopes” (laser & camera) must be positioned to the bottom side of each chuck in such way that with the 2x “periscopes” it can view roll (both 1st and 2nd operation) & chuck profile as shown in the image on the next page.
- You adjust each roll with CG by simply moving roll simultaneously in 2 directions (vertical & horizontal) to its precise “clearance” & “thickness” standard values via the laptop PC screen.
- Compared to manual practice, where you first adjust the “clearance” and then “thickness”!
- With CG you can also view (& record) values and profiles seamer settings per seamer head both before adjusting and thereafter; plus compare results with preceding ones.
- For info & demo movie: <http://www.qbyv.com/product/clearance-gauge-double-seamer-setup/>



Additional comments to the clearance gauge:

- Main advantage is that you see directly via laptop PC screen what you are doing and also if present roll & chuck profiles are still OK, which you cannot do with manual adjustment.
- Instead of working in “black-box” situation with feelers or strings, you can now document all what has been done and at later date retrieve any values and images for further scrutiny.
 - During change-overs, check if new rolls & chucks are according your specifications.
 - Investigate reasons for possible changes in values of both settings over time.
 - Assure identical settings for all seamer heads for more similar seam parameters.
 - “Identical settings per seamer head” might also reduce to unplanned seamer stops.
 - In 2x graphs (last page) we show average seam values before and after using CG.
 - Experiment to search for optimal settings based on clear facts and not “black-box”.
 - Use CG values and profiles to communicate with 3rd parties about seaming issues.
- While “manual practice” requires technicians with life-time experience & good knowledge of seamer, CG usage does not and mainly require common sense and familiarity with PC’s.
- Note that for a 12-head beverage seamer, both CG measurements of settings before and after adjustment plus the actual adjustment (2x 12 rolls) takes in practice ± 1½ hours

There are two versions of the Clearance:

- The standard full version
- The Lite version

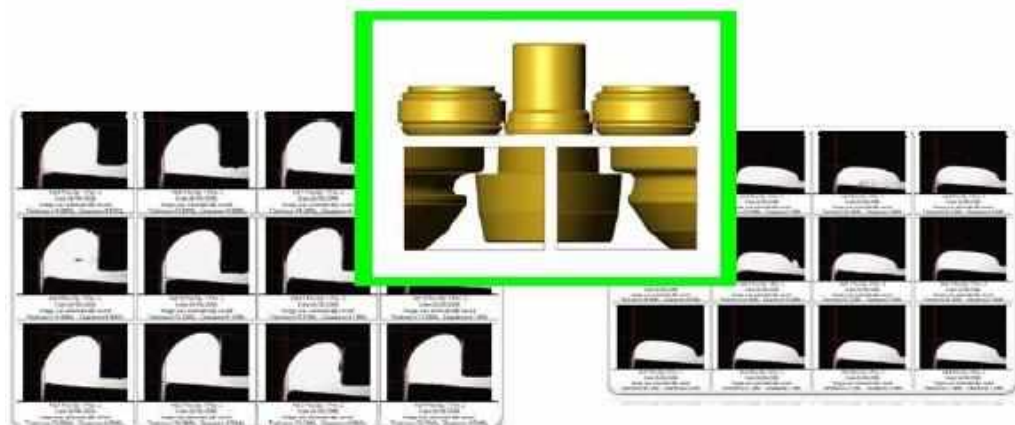
Difference Clearance Gauge LITE and FULL versions.

Main difference is flexibility of Clearance Gauge (CG) software where:

- LITE version can only perform measurement (live video) and optical unit calibration.
- Though these images cannot be stored, they can be printed via “*print screen*” option.
- Of course, CG optical unit can be supplied with extra chuck-fits for other chuck dimensions.
- Excluding storage of measurement data & images for later handling, review and other.

Comments to “LITE” version:

- Developed as simple & non-expensive tool for the upcoming Craft Beer companies.
- “Simple” as it can measure only Clearance & Thickness values in live video image.
- See also “*Difference Clearance Gauge LITE and FULL versions*” (see below page).
- Also “simple” as we can install & train client operators via “remote access” & phone.
- If you work with can OD’s ranging from 50-120mm, you can use 1x optical unit.
- Working with larger range of can OD’s, you need a 2nd optical unit.
 - Standard supply includes 1x chuck-fit for 1x chuck
- In case you have more (different) chucks, you need additional chuck-fits
- Note”2nd optical units and additional chuck-fits will be supplied at extra costs!
- If you select LITE version, you can later upgrade to FULL version at extra costs.
- While hardware for both versions is same, main difference is simplified software.



With over 150 units sold worldwide the clearance gauge is becoming more and more a standard in seamer set-up!!

Examples of measurement screens for "LITE" (only live video) and "Standard"

LITE (only Clearance & Thickness, no Chin)

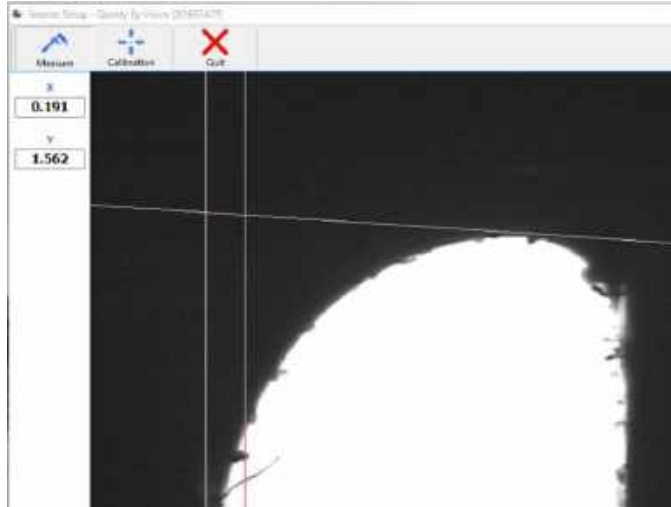
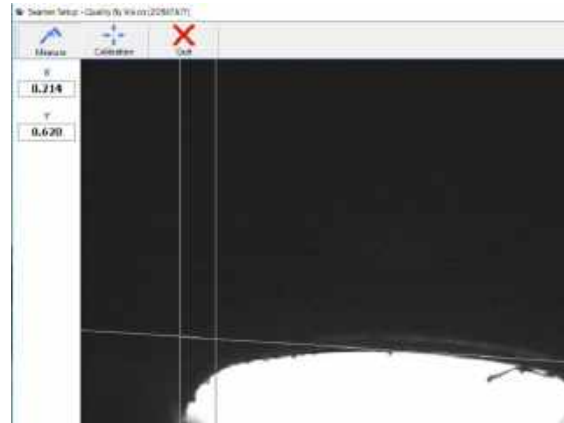


Image left 1st operation & below 2nd operation



FULL (Clearance & Thickness, if selected plus Chin)

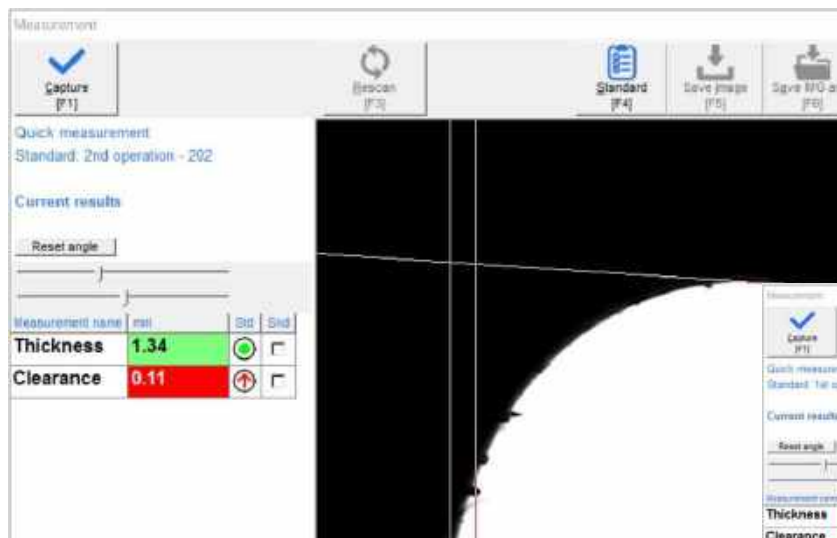
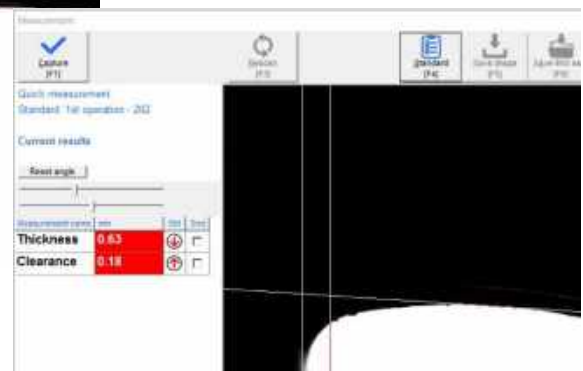
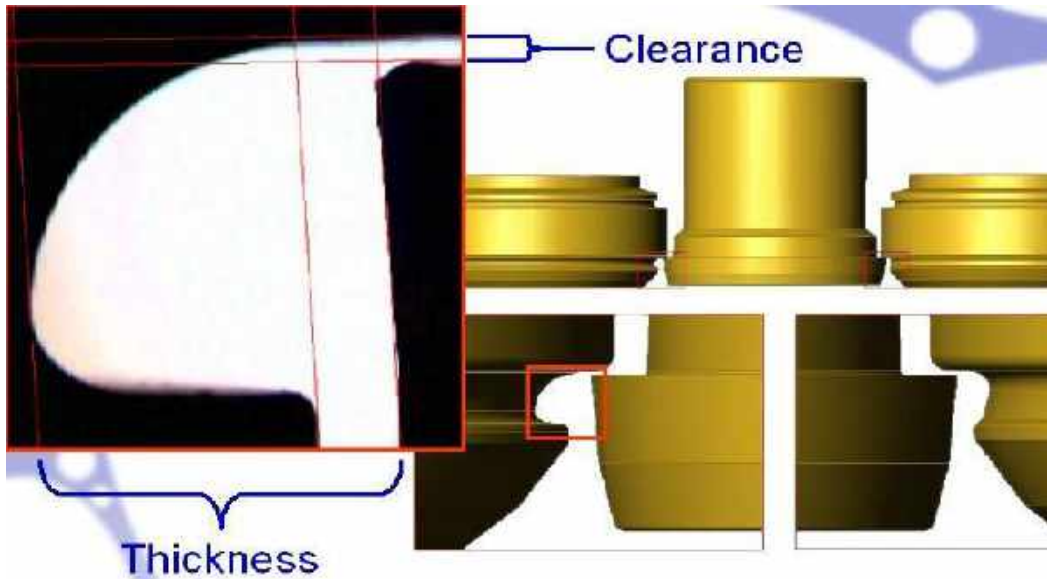


Image left 1st operation & below 2nd operation





To measure automatically clearance, thickness and chin between rolls and chucks both 1st & 2^d operation per head





Simple carrying case for optical unit(s), control box, chuck fits, spacers, calibration gauge, security key, cables and tools.



Separate chuck fit to be mounted on optical unit



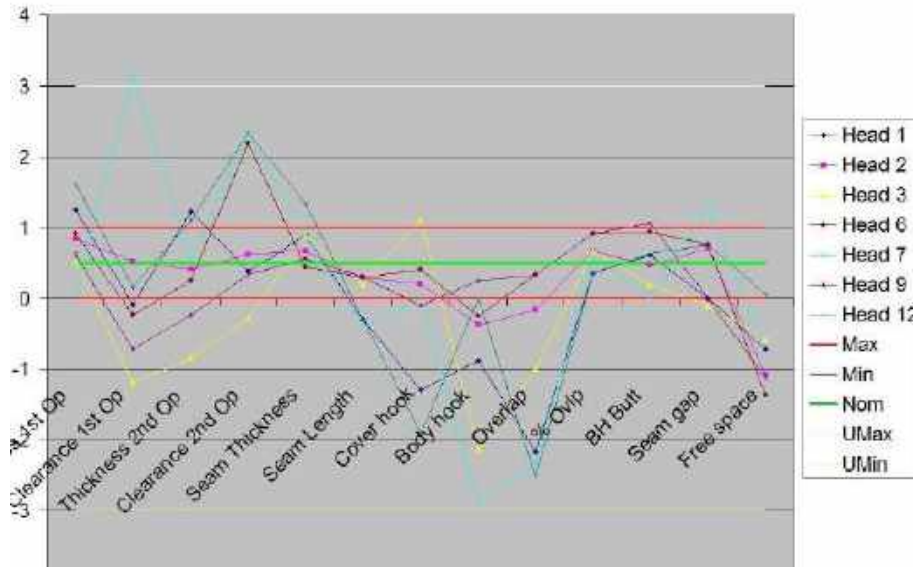
Optical unit with chuck fit for 202 cans



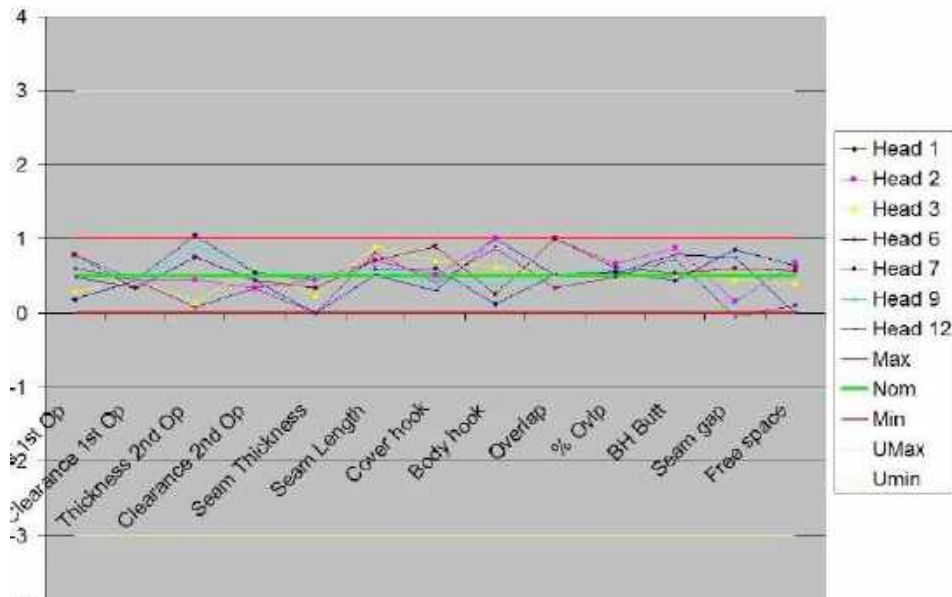
Optional; special trolley case for Clearance & laptop PC

As mentioned above, “identical settings for all seamer heads” will result in more similar average seam parameter values. First graph shows large differences per seamer head (“mountainous”) and second graph after arranging “identical settings” more evenly/flat (“Dutch lowlands”)

Seam parameter values after manual/traditional seamer adjustment and after verification that all seam parameter values are well within minimum and maximum values.



Seam parameter values after adjustment of seamer with Clearance gauge, in which rolls versus chucks in all heads are adjusted to identical height & thickness values.



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Quality By Vision

Quality you can see

Clearance Gauge [®]



Does it take too long to set up your seamer?

Does your seamer need frequent adjustments?

Do changeovers take too long?

Is your seamer really optimized?

- Adjusts seaming roll positions quickly
- Optimizes seamer performance
- Reduces seamer stops
- Reduces seamer downtime
- Reduces changeover time
- Limits seamer adjustments to scheduled stops
- Reduces operator experience requirements
- Allows different seamer and head adjustments to be compared
- Improves seam quality
- Monitors seamer performance over time



Takes the guesswork out of seamer setup

Clearance Gauge

Introduction

Seamer adjustment has always been difficult. It takes a qualified seamer mechanic hours to properly adjust or changeover a seamer. After adjustment, seamer heads may still not be positioned properly, causing bad seams, production delays and could cause damage to rolls, chucks or even the seamer.

Quality By Vision's Clearance Gauge is a unique tool that allows any mechanic to accurately perform seamer adjustments and changeovers, in a fraction of the time it takes using conventional tools. Perfect adjustments yield accurate and consistent seams, reduce seamer stress, improve tooling and bearing lifespan and decrease unscheduled downtime.

Benefits

The intuitive software provides immediate visual and audible feedback and allows the operator to easily adjust the roll positions against the chuck. Even novice operators can perform seamer adjustments quickly and accurately. The system also points out worn bearings by allowing the operator to see how the chuck behaves under pressure.

Perfect seams are the direct result of quality rolls and chucks, an accurately adjusted seamer and good cans and ends. Changeovers can be done quickly, minimizing seamer downtime and maximizing performance and quality.

