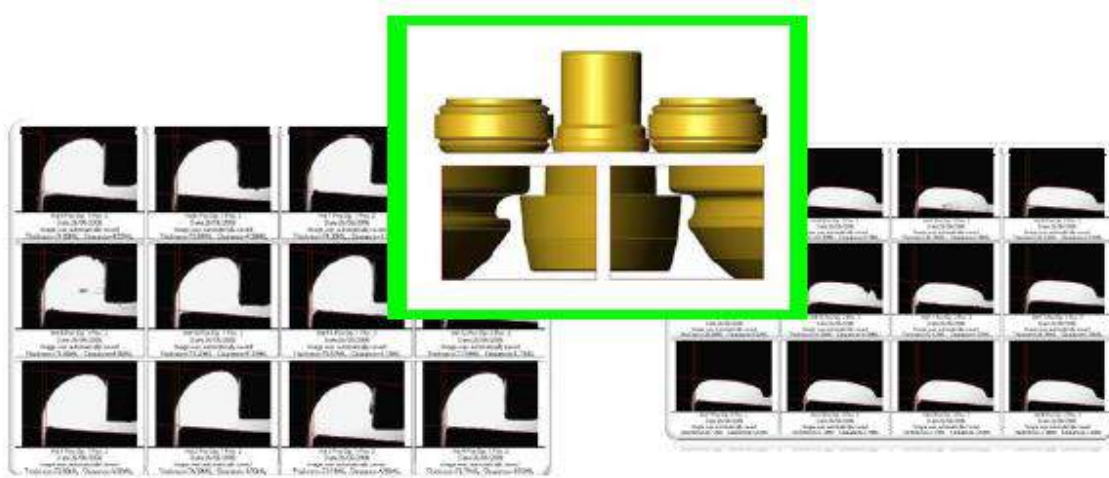


# Clearance Gauge



## Introduction Clearance Gauge (CG):



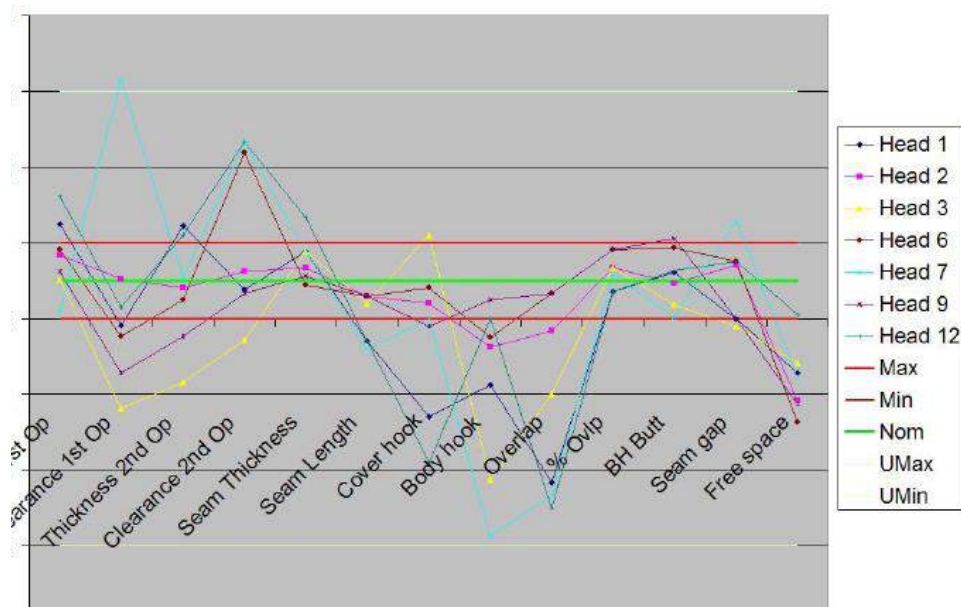
- For set-up/adjustment of rolls (1<sup>st</sup> & 2<sup>nd</sup> operation) versus chucks in multi-head seamers.
- With GC optical unit/camera instead of traditional manual practice using feelers or strings.
- Only suitable for round cans with OD <120mm or >100mm and <180mm
  - Beverage & 3-piece cans: 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 1<sup>st</sup> and 2<sup>nd</sup> operation) & chuck profile as shown in above image.
- 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 making adjustments and thereafter; plus compare results with preceding ones.
- For info & demo movie: <https://industrialphysics.com/product/clearance-gauge-double-seamer-setup-and-adjustment-system/>

## Additional comments to proposed CG:

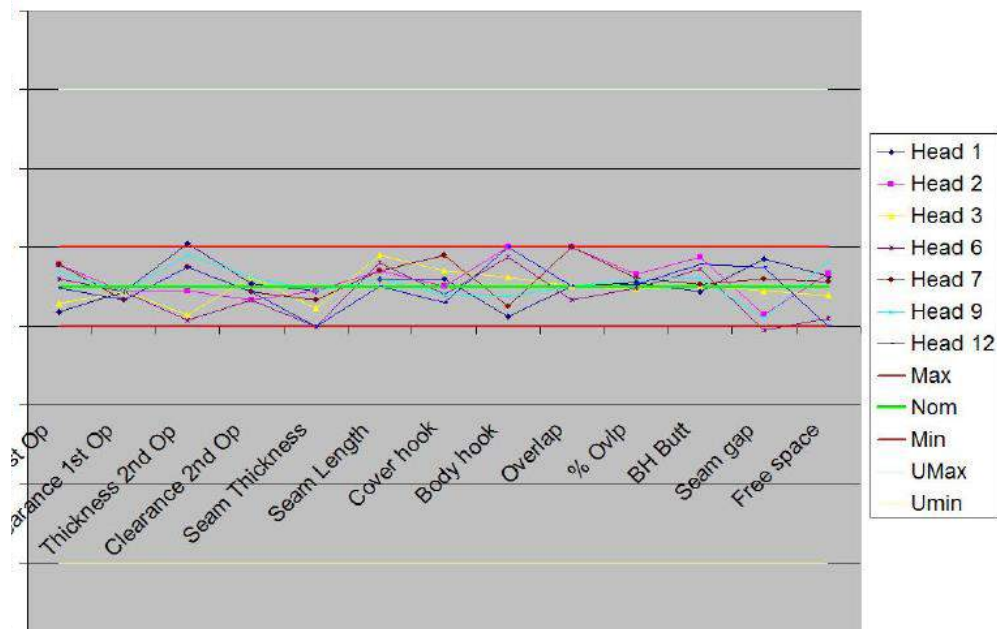
- Main advantage is that you see directly via laptop PC screen what you are doing and also if present roll & chuck profiles are still OK, which you cannot do with manual adjustment.
- Instead of working in "black-box" situation with feelers or strings, you can now document all what has been done and 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 3<sup>rd</sup> parties about seaming issues.
- While "manual practice" requires technicians with life-time experience & good knowledge of seamer, CG usage does not and mainly requires 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  $\pm 1\frac{1}{2}$  hours.

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.



Comments to “LITE” version:

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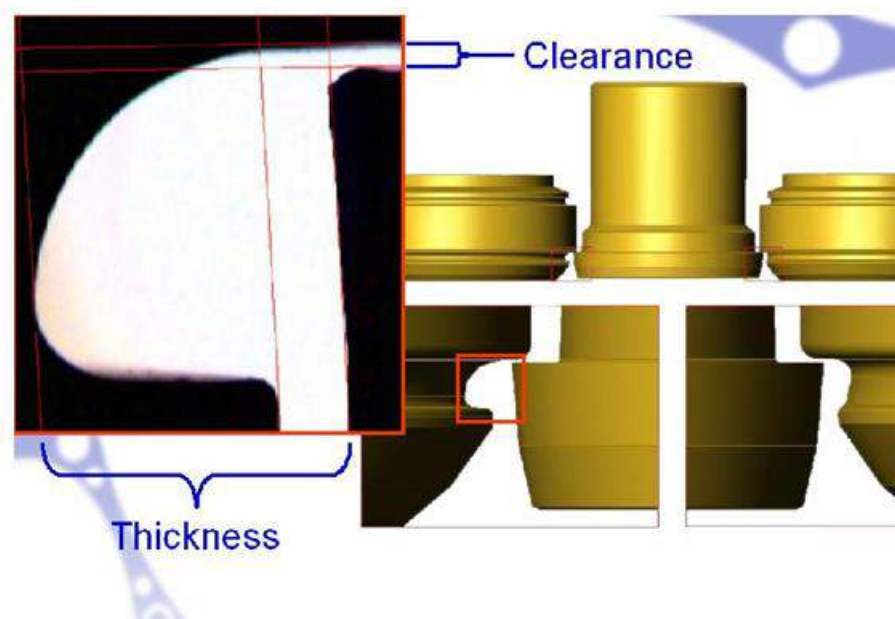
Phone: +31-6-46281669 – Skype markschatorje – E-mail: [info@quality4food.com](mailto:info@quality4food.com)  
[www.quality4food.com](http://www.quality4food.com)

- 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.
  - If you work with a larger range of can OD’s, you need a 2<sup>nd</sup> optical unit.
- Standard supply includes 1x chuck-fit for 1x chuck (to be specified with client)
  - If you work with more (different) chucks, you need additional chuck-fits.
- Note”2<sup>nd</sup> 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.

If interested, we can send you PDF files:

- “CLEARANCE GAUGE ACCESSIBILITY TO CLIENT SEAMERS-2016”
- “CLEARANCE GAUGE-CHUCK INFO FOR CHUCK-FITS-2016”

Which are used for preparing a Clearance Gauge proposal matching your seamer situation on site.



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## 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 can not 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.

### Examples of measurement screens for “LITE” (only live video) and “Standard”

LITE (only Clearance & Thickness, no Chin)

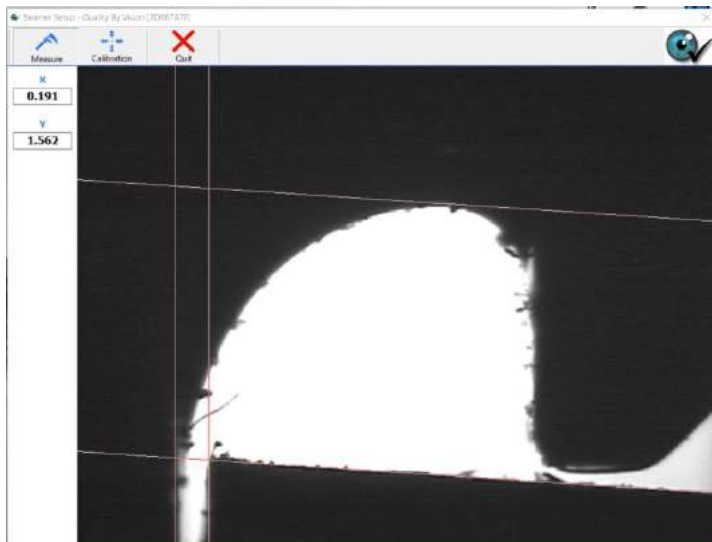
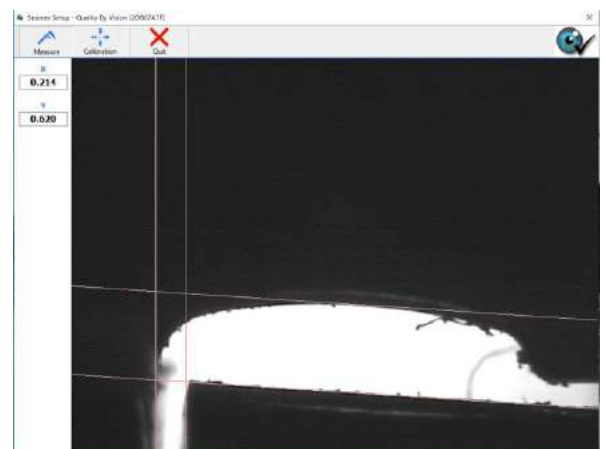


Image left 1<sup>st</sup> operation & below 2<sup>nd</sup> operation



FULL (Clearance & Thickness, if selected plus Chin)

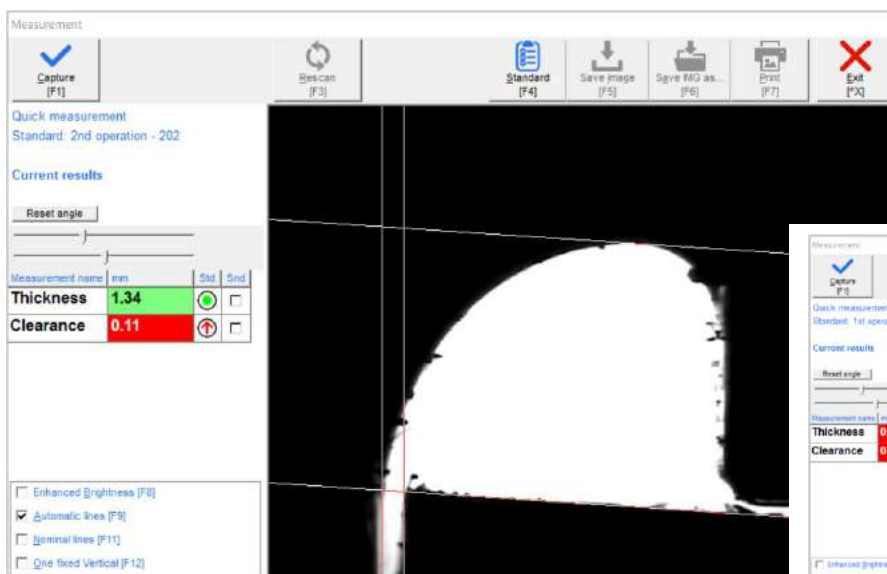
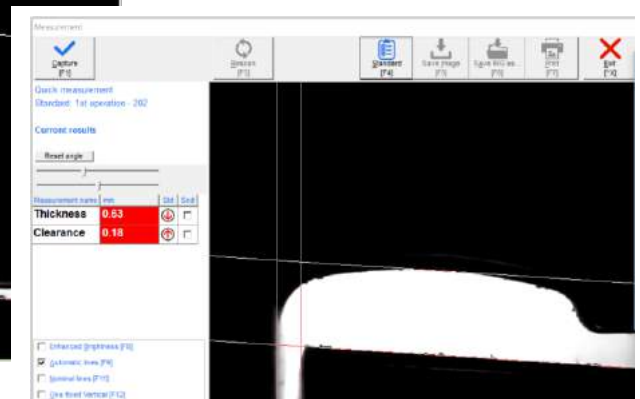


Image left 1<sup>st</sup> operation & below 2<sup>nd</sup> operation







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



Case with SEAMetal + Clearance Gauge



Additional Chuckfit for different chuck formats / types



Optional; special trolley case for Clearance & laptop PC

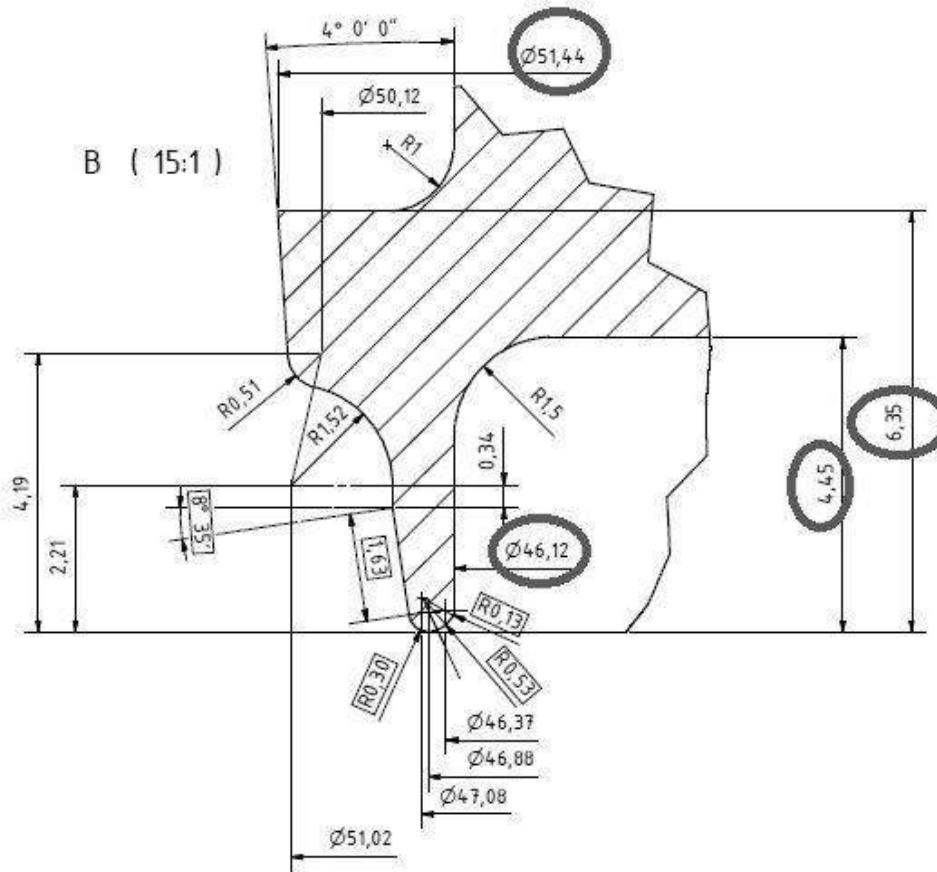
More info & demo-movie see also: <https://industrialphysics.com/product/clearance-gauge-double-seamer-setup-and-adjustment-system/>

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Requirements for order:

- Drawing of chuckfit with below mentioned dimensions:



- As well as seamer specifications and can dimensions for each can size.



## Clearance Gauge

### CLR-000007 Double Seamer Setup and Adjustment System

The Clearance Gauge is an easy and accurate solution for setting up your seamer. The camera takes the guesswork out of setting up the seamer by automatically measuring the seamer clearance and thickness. By minimizing downtime, this is especially useful for setup during changeovers and for daily use to make adjustments as the seamer warms up. The Clearance Gauge helps to determine which roll needs to be adjusted should a seam problem come up.

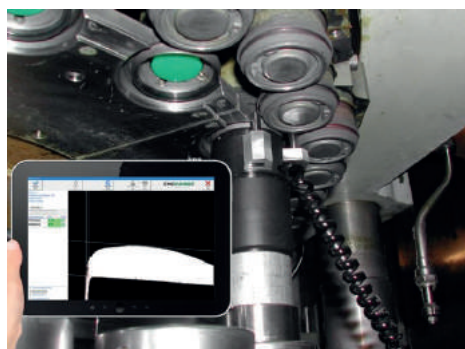


## Benefits

- The Clearance Gauge not only quickly and accurately sets up the seamer and fixes issues, but also makes sure all seamer heads are running perfectly and are identical to each other.
- The Clearance Gauge is suitable for food & beverage fillers of all sizes. The gauge comes with all the software needed for measurement as well as databasing of images and a suite of reporting and SPC. The gauge connects directly to any PC via USB.

## Features

- Specs loaded into data base for quick and easy seamer set up
- Directs operators up/down to the specification
- Used for both 1st and 2nd operation seaming rolls
- Database allows for reports, images and head comparison which can be printed or save as PDF
- Can be used for any size can (separate chuck fit required per diameter)
- Detect worn or damage chucks and rolls
- Plug and play with any Windows 10 laptop or tablet
- Portrait and landscape mode available on tablet
- Calibration piece included
- New! System supports individual tracking of set up per head on multiple lines!



## Technical Details

# of seamer specs allowed: Unlimited

|                         |  |
|-------------------------|--|
| Sizes:                  | Compatible with nearly all chuck/roll seamers              |
| Measurement Resolution: | 0.0002in-0.0004in<br>(5 – 10 microns)                      |
| Automatic detection of: | Seamer clearance, thickness and feeler gauge               |
| Can sizes supported:    | 200-603, any height  |
| Documentation:          | System saves all audits and adjustments numbers and images |
| Output interface:       | USB  |

## Contact Details

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