

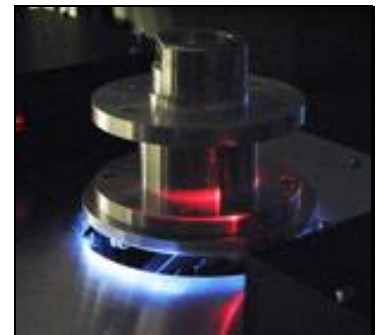


Figure 1: Example of work pieces gauged using Autonetics SGU

Autonetics Static Gauging Unit (SGU) provides a versatile platform for inspection of threaded connections, OD dimensions, turned features and distances between call outs. Our SGU line is easily customizable for a variety of applications for in-process, industrial metrology.

Deliverables

- Independent Gauging Application
- Easy mount chassis
- Air purge system
- Digital I/O platform
- Sensor emitters and receivers
- 21" Touch Screen HMI
- Metrology software suite
- Custom-design software interface



Software

Autonetics provides reliable, easy to use software for your metrology, CNC automation control and data management needs. The Autonetics Metrology Suite has over a decade of software experience in its development and is designed to be instantly usable and accessible for users of all levels of metrology experience. Clear and detailed markers are used to indicate current machine/gauge status, callout tolerances, gauging results, graphical representation of the part, and more. The graphing portion of the metrology suite is a powerful tool that can be utilized to zoom into the fine details of a part in order to inspect for micron-scale variations in part finish. Autonetics metrology suite also offers a variety of integration options for direct, automated offsetting of tools for nearly all machine tool controllers. Additionally, all Autonetics gauges are able to export the results of a measurement directly to your data management system for logging and analysis.



Shown left; Autonetics Static Gauging Unit for thread form inspection of hydraulic ram cylinder heads. This application performs real time adjustment for machine tool offsets in a lights-out robotic cell.

Designed and built for:
Hol-Mac Cooperation
Bay Springs, MS

Features

Autonetics Metrology Software

- Thread inspection, OD measurements, perpendicularity, circularity, runout, axial length measurements, etc.
- Customized touch screen interface with production logs and operator notation
- Onboard data archival and real time data export for CNC tool offset
- Continuous display of current tolerances, values and trends
- Controlled operator access and administrative tolerance authority
- Profile displays with zoom and scroll touch commands

Gauge Specifications / Features

- 6,900 measurements per second
- 0.0000393" resolution
- 0.0002" repeatability
- Unlimited part length/diameter range
- Cycle times measured in seconds
- 120v / 20amp power requirement
- 32°F to 120 °F temperature range
- Air purge to maximize system health
- Lights-out operation
- Swing-out HMI station
- Ruggedized enclosure for life in an industrial environment

Operation

The SGU line of gauges may be manually or automatically loaded with a part. A begin scan command is issued (manually via the HMI or via an I/O controller). A precision linear actuator traverses the length of the part while non-contact optical sensors record the profile of the work piece. Once the scan is complete, the gauge will notify the PLC/operator that the cycle is complete and the part is ready for retrieval. Results of the scan are instantly computed and made available via the HMI as well as export to a data management system. If desired, the gauge will also send results of the scan directly to the machine tool for real-time offsetting.

Contact Autonetics today to discuss your metrology needs.

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