

RECOMMENDED APPLICATIONS:

- Design for Manufacture (DFM) Analysis
- Supplier / Machine Tool Matching
- Manufacturing Process Diagnostics
- Manufacturing Process Error Budget Analysis

Locus CAE is a unique tool that estimates machining outcomes based upon user selected tolerated part attributes. Tolerance consumption estimates are provided based upon individual machine tool performance data or generic machine tool performance grades based upon IQL's extensive Machine Tool Performance Library.

How it works

A simple two step process first guides feature attribute selection (position, size, form, etc.), then the input of part geometry details (length, orientation, tolerance, etc.) as well as the machine tool(s) being analyzed. Locus CAE then provides tolerance consumption estimates for all machine tools selected.

Results are provided as a "percent of tolerance consumed". In addition, a process "Capability Index" CI is also provided based upon a typical manufacturing process error budget including:

- Inspection Uncertainty (15%)
- Process Variations (25%)
- Internal & External Thermal Influences (35%)
- Machine Tool Capability (25%)

Subscription Based

Locus CAE offers a Free 30 Day Trial and Standard or Premium Subscription options.



FREE TRIAL

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IQL helps leading manufacturers to improve the most challenging manufacturing processes. Established in 1984, IQL is a CAE development and engineering services resource that improves manufacturing productivity by focusing on manufacturing equipment performance and its impact on achieving desired part tolerances. Over time we have developed a comprehensive knowledge base of actual machine performance and specific design behavior which is used as the foundation to guide all of our research, development and support activities.

We work with advanced global manufacturers, including BAE, BMW, Boeing, Caterpillar, GE, GM, Kohler, Lockheed Martin, Northrop Grumman, Pratt & Whitney, Siemens, Sikorsky, Volvo, Westinghouse and many others. In addition, we are an active contributor to the development of national and international standards for the characterization of machine tools and inspection equipment: ASME B5.54 (Machining Centers), ASME B5.57 (Lathes & Turning Centers), ISO 230 (Metal Cutting Machine Tools) and ASME B89.1.12 (Coordinate Measuring Machines). IQL is also the machine tool metrology resource for several active DOD programs including: Smart Machine Platform Initiative (SMPI), National Center for Defense Manufacturing and Machining (NCDMM) and US Army Network Centric Manufacturing Program (NCM).

Services: Machine tool calibration, manufacturing process modeling, machine optimization, evaluation and adjustment, procurement specification support, machine capability evaluation, manufacturing process diagnostics as well as machine design reviews and recommendations.

Training: Courses and customer-tailored training in the latest methods for manufacturing process and machine tool evaluation.

Measurement Products: A comprehensive offering of instruments and artifacts, including lasers, electronic levels, ball bars, master squares and custom kits used for machine characterization as well as standalone software products for measurement and evaluation.

Our mission is to help manufacturers increase productivity.

Locus[®] eM Measurement & Alignment Software

Locus eM is a comprehensive software tool for measurement, analysis and diagnostics for machine tools and surface plates. When used in combination with supported instruments, users with little or no experience can successfully and quickly measure a wide range of equipment attributes.

Software includes a range of measurement tests: Axis Alignment (Squareness & Parallelism), Axis Angular (Pitch, Yaw, & Roll), Axis Positioning, Dynamic Step Test, System Compliance, Thermal Drift, Flatness X Pattern (Moody), Flatness Grid, Profile Straightness and Profile Parallelism, Earth Leveling as well as Volumetric Positioning Performance.

Call us today for a quote, reference P/N IQL-1000-114.

IQL *SuperTune* For Machining Centers

IQL SuperTune enhances Volumetric Positioning Performance for basic Haas Vertical Machining Center and Horizontal Machining Center models. IQL SuperTune is a multi-point process that more than doubles the volumetric accuracy of general purpose machine tools, approaching positioning performance of high precision European and Japanese machine tools at a fraction of the cost. When high accuracy is required to meet tight tolerance applications, IQL SuperTune is the answer.

IQL CalibrationPlus

A comprehensive diagnostic service developed upon field experience with hundreds of machine tools. Using IQL's "Locus Methods" you will take advantage of an experienced independent resource which quickly and cost effectively identifies true root cause problems. Our unique approach first takes into consideration your manufacturing needs and then applies the extensive IQL knowledge base of machine designs and behavior to identify those machine elements having the greatest impact. Focusing on only those areas that address your manufacturing needs allows you to confidently optimize the precision of your machines and invest in only those services that truly add value.