

Coordinate Measuring Machines

Coordinate measuring machines are no small investment; yet, ask any manufacturer who uses one and you'll likely hear that the CMM paid for itself a thousand times over. These manufacturers know that without the CMM, they couldn't possibly ensure the quality of their products.

CMMs have been around for several decades now and are constantly being improved as new technologies arise and others evolve. Modern CMMs are equipped with all the features a shop floor might necessitate—temperature compensation, contact and noncontact probes, graphically driven software, and even laser- and vision-based components.

The Quality Sourcebook's CMM Manufacturers Directory includes a number of companies that specialize in video- and laser-based products as well as those that manufacture traditional CMMs. *Quality Digest* will continue to monitor innovations in CMM technology, so look for future articles discussing the latest developments.

Coordinate Measuring Machines Guide

CMM Manufacturers Directorypage 42

This directory of CMM manufacturers includes the company name, address, phone and fax numbers and Web address. A brief description of each company's offerings is available at www.qualitydigest.com/directories. (Please note that not all companies provided us with descriptions.)

As with all *Quality Digest* directories the Coordinate Measuring Machines Guide is in no way meant to endorse or exclude a particular organization. Rather, it's meant to be used as the starting point in the data-gathering process. Readers are encouraged to contact the companies directly for more information and to ask for—and check—references.

Glossary

Accuracy—the deviation of a part or measuring system from a known standard. The quantitative measure of the degree of conformance to recognized standards of measurement

Actual value—the measured value of a feature

Deviation—the difference between the actual measured dimension and the nominal dimension

Linear accuracy—accuracy of the instrument when measuring along a single axis. This data is often integrated with the volumetric accuracy.

Nominal—the standard or desired dimension or size of a feature. The print values for the measurement as opposed to the measured values

Range—the X, Y or Z distance the CMM can travel while measuring a part. For articulating arms, the laser trackers and other nontraditional CMMs, this dimension may be represented as a sphere.

Repeatability—a measure of the ability of an instrument to produce the same measured value when sequentially sensing the same quantity under similar measurement conditions

Resolution—the smallest distance that can be measured by the instrument

Throughput—describes how many points per minute an instrument can measure

True position—the exact location of a point, line or plane with respect to a datum or other feature

VDI, B89 or ISO—accuracy standards to which instruments conform

Volumetric accuracy—accuracy of the instrument when measuring along all axes simultaneously

The information contained in *Quality Digest* directories, plus some additional information, is available online at www.qualitydigest.com/directories.

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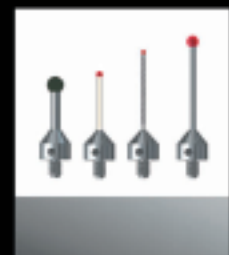
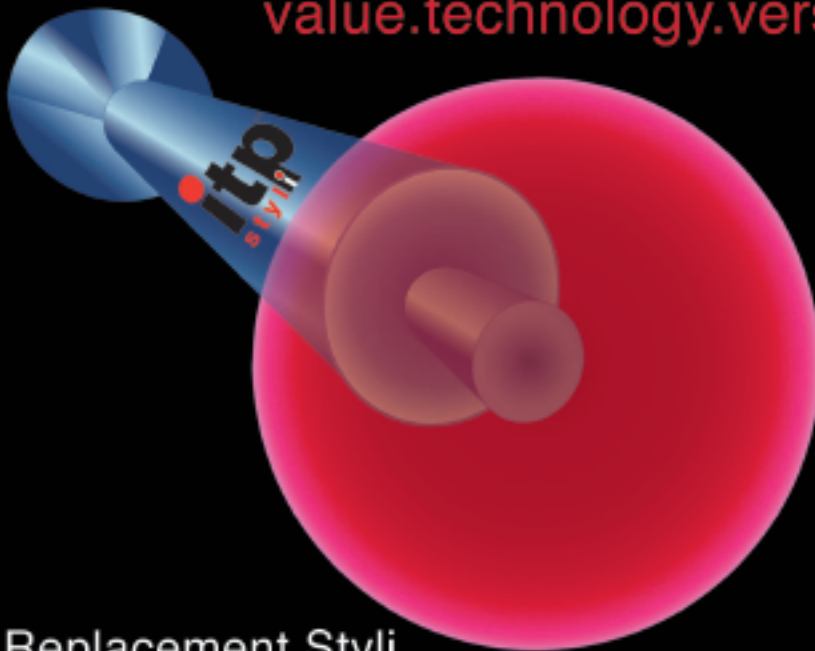
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itpstyli LLC

A New Replacement Styli Provider

Corporate Overview

St. Louis-based itpstyli LLC launched North American operations at the 2003 Quality Expo. The independent company was formed in partnership with itp GmbH of Volklingen, Germany.

The company was formed to address the growing needs of CMM professionals throughout North America searching for quick delivery of high-quality styli, accessories and customized solutions without the high prices, according to Peter Schlafly, co-founder and general manager of itpstyli. "Innovative solutions allow CMM users to search, view and order online at www.itpstyli.com," he

says. "Simple drop-down menus are used to select the various criteria and create an on-the-fly listing of product configurations. An extensive cross-reference database allows customers to cross-link an existing part to an itpstyli replacement."

- **Versatility**—The large product line differentiates itpstyli, which supplies M2 through M6 threaded styli and accessories for all CMM and machine tool probe systems

- **Technology**—itp's patented manufacturing processes maximize quality without increasing production costs.

- **Value**—Maximum quality can be obtained at prices substantially lower than CMM users have come to expect

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