Gage Fixtures Roundup

A directory of these essential metrology accessories

he world of metrology can be slick and sexy, with large-part inspection devices priced in the hundreds of thousands of dollars, or simple and mundane, with inexpensive gages designed to take quick measurements of thousands of parts. Although the CMMs, height gages, surface measurement gages and the hundreds of other metrology tools get all the attention, the fixtures that hold the devices or parts in place are just as important to ensure accurate measurements.

Walk onto any shop floor and you'll inevitably see gage fixtures holding down the fort. Like the metrology tools they support, these fixtures can be pricey or cheap, simple or complex. Selecting the right fixture is just as important as selecting the right gage for the measurement task.

Some gage manufacturers supply the fixtures needed to hold their devices, some work with fixture suppliers and some let their customers purchase fixtures on their own. And don't forget the quality technicians who cobble together custom fixtures themselves.

To help you in your quest for the perfect gage fixture, *Quality Digest* has assembled a directory of gage fixture suppliers. Some of the companies listed sell their fixtures only with the inspection devices they sell; others custom design fixtures for anyone.

As with all *Quality Digest* directories, this guide is in no way meant to endorse or exclude any particular organization. We suggest that you use this directory as a starting point in your research. Talk to your gage suppliers. Surf the Net. See what your suppliers and vendors are using.

AMETEK Inc.

34 N. Valley Road, Building 4 Paoli, PA 19301 Phone: (727) 536-7831 Fax: (727) 539-6882 www.chatillon.com

AMETEK Test & Calibration Instruments provides a complete line of force gages, test stands, grips, fixtures and accessories for material-testing applications.

Blanchette Tool & Gage Manufacturing Corp.

845 Bloomfield Ave. Clifton, NJ 07012 Phone: (973) 471-2100 Fax: (973) 471-2104 www.blanchettetool.com

Blanchette is the exclusive manufacturer of the Sheffield Visual Gage comparator as well as the N9 Internalchek, vertical comparator, feathertouch height gage, ID-OD gage and gage block comparator. Blanchette also manufactures air gage tooling compatible with any major system. Air gaging products include air spindles, air rings, taper gages, rifling spindles, balljet spindles, and air and mechanical fixtures.

Dimensional Data Systems

3387 Woodman Drive Dayton, OH 45429 Phone: (937) 299-5225 Fax: (937) 299-0698 *www.stardds.com*

Dimensional Data Systems' products and services feature gaging systems, including

design, build and installation; industrial computers and SPC software; production gage fixtures for both variables and attributes; and digital (indicators, probes, etc.) and analog (LVDT and lasers) measuring tools.

Dorsey Metrology International Inc.

53 Oakley St. Poughkeepsie, NY 12601 Phone: (845) 454-3111 Fax: (845) 454-3888 www.dorseymetrology.com

Dorsey provides gages, indicators, optical comparators and coordinate stages. Our customers are in the aviation, automotive, medical and technology industries.

Dyer Co.

1500 McGovernville Road Lancaster, PA 17604 Phone: (800) 631-3333 Fax: (717) 569-6721 www.dyergage.com

Dyer specializes in standard and customized designs for groove, bore and minwall thickness gaging.

Gage-Line Technology Inc.

121 LaGrange Ave. Rochester, NY 14613 Phone: (585) 458-5310 Fax: (585) 458-0524 www.gage-line.com

Designer and manufacturer of products for optical gaging, precision imaging, dimensional gaging, calibration and OEM.



LEAN OPERATIONS

Answers to Frequently Asked Questions

This booklet will clarify what "lean operations" is and what it can do for your company. It will be distributed to you via e-mail using Microsoft Word.



17055 Qualiridge Road • Cottonwood, CA 96022 USA Tel. (530) 347-1334 • Fax (530) 347-6987 E-mail: info@gci-infl.com • Web site: www.gci-infl.com

Glastonbury Southern Gage

87 Upton Road Colchester, CT 06415 Phone: (860) 537-7340 Fax: (860) 537-7345 www.gsgage.com

Glastonbury Southern Gage manufactures fixed limit gages (cylindrical and threaded rings and plugs), special part masters, surveillance masters, design-and-build machining and inspection fixtures, and calibration services.

Intra Corp.

885 Manufacturers Drive Westland, MI 48186 Phone: (734) 326-7030 Fax: (734) 326-1410 www.intra-corp.net

Designers and builders of gaging fixtures and equipment, from plug gages to custom automatic in-line inspection systems. Intra provides program and project management services, including integration of other equipment. Intra has a patented laser alignment system and provides alignment services for transfer and CNC machines including inspection equipment.

Jus•Rite Engineering Inc.

56977 Elk Court Elkhart, IN 46516 Phone: (574) 522-9600 Fax: (574) 522-0685 *www.jus-rite.com*

Jus•Rite Engineering Inc. specializes in the design, engineering and manufacturing of target gages, CMM staging fixtures and test systems for many diverse applications. This includes castings, machining, stamping, plastics and fabrications for use in the automotive, aerospace and appliance industries.

Mahr Federal Inc.

1144 Eddy St. Providence, RI 02905 Phone: (800) 343-2050 Fax: (401) 784-3246

www.mahrfederal.com

Mahr Federal provides dimensional gages, including hand-held measuring tools; dial and digital indicators; mechanical, electronic, air and height gages; length metrology; dimensional standards; gage calibration systems; laboratory gages; geometry and form metrology; surface finish and contour metrology; gear metrology; custom gages; laser, optical and touch-probe CMMs; gage repair and calibration; and rotary stroke bearings.

Midwest FlexSystems Inc.

415 Southbound Chavez Drive Flint, MI 48503 Phone: (810) 424-0060 Fax: (810) 424-0066 www.midwestflex.com

Manufacturer of the FlexPort Universal Gage Interface for digital, serial and analog gages. By connecting a variety of gages and converting to a standardized output, operators can use any SPC software that best fits their needs. Advanced features allow complete control over the flow of data to any software.

Mitutoyo America Corp.

965 Corporate Blvd. Aurora, IL 60504 Phone: (630) 820-9666

Fax: (630) 820-7403

Mitutoyo America Corp. offers metrology products, software, service and support. Products include calipers, micrometers, indicators, quality control software, form-inspection instruments, CMMs, digital readout systems, hardness testing instruments, height gages, optics, vision inspection systems, precisionmeasuring microscopes, profile projectors, toolmakers' microscopes, vision inspection systems and more.

Omni Structures International Inc.

7112 30th St., S.E. Ada, MI 49301 Phone: (616) 977-0333 Fax: (616) 954-0153 www.omnistructures.com

Omni Structures is a pioneer and world leader in the development of flexible tooling systems. Omni is dedicated to helping engineers and technicians build superior flexible workholding fixtures, gages and special machines.

Optical Gaging Products Inc.

850 Hudson Ave. Rochester, NY 14621 Phone: (800) 647-4243 Fax: (585) 544-0131 *www.ogpnet.com*

Optical Gaging Products Inc. designs and produces metrology systems that use video, laser and touch-probe technologies to measure critical dimensions of manufactured parts. Products include video measuring systems, multisensor measuring systems, optical comparators and laser profile scanners. A suite of metrology software applications supports these products. Custom fixtures and systems are also available.

Paul W. Marino Gages Inc.

21300 MacArthur Blvd. Warren, MI 48089 Phone: (800) 528-9785 Fax: (586) 759-2423 www.pmargage.com

Exclusive North American distributor of Alufix modular fixturing, for rapid assembly of work-holding fixtures. A complete line of accessories includes clamps, vee and delta blocks, screw-jacks, and off-grid devices. All parts are reusable.

Pinnacle Gage & Tool LLC

45 Cox Drive Gilbertsville, KY 42044 Phone: (270) 362-4763 Fax: (270) 362-4185 www.pinnaclegage.com

Pinnacle Gage & Tool primarily supplies the automotive and aerospace industries with high-quality attribute gages, go/no-go gages, statistical process control gages, CMM holding fixtures and other related products.

Rayco CMM Fixtures

P.O. Box 161 Grand Haven, MI 49417 Phone: (616) 847-6045 Fax: (616) 847-6082 www.cmmfixture.com

Modular fixturing for CMM and vision systems. Rayco fixtures are the most widely used fixtures on the market.

Reliable Measuring Systems Inc.

P.O. Box 2881 Big Bear Lake, CA 92315 Phone: (909) 878-4458 Fax: (909) 878-5048 www.reliablemeasuringsystems.com

RMS Inc. is an importer for Pretec electronic comparators, transducers, air-electronic converters and gaging fixtures. We repair and service Pretec and Alina products. RMS represents Hultgren ring gages, master discs and plug gages, bore-groove and wall-thickness gages, and Stephen Datalyzer statistical software.

The L.S. Starrett Co.

121 Crescent St. Athol, MA 01331 Phone: (978) 249-3551 Fax: (978) 249-8495 *www.starrett.com*

The L.S. Starrett Co. offers a complete line of highquality precision tools, saw blades and contractor tools. Products include micrometers, calipers, rules, electronic gages, dial indicators, gage blocks, tape measures, levels, granite surface plates, vises, M1 lubricant and precision ground flat stock. Metrology products include the Galileo class of vision systems with available multisensor capability, the new OV^2 optical/video adaptor, a broad line of optical products and CMMs.

Starwin Industries

3387 Woodman Drive Dayton, OH 45429 Phone: (937) 293-8568 Fax: (937) 299-0698 www.starwin-ind.com

We serve the automotive, aerospace, appliance, electronic, glass and packaging industries with design and building of turnkey electronic shop-floor gaging systems, relations gaging, CMM fixturing and assembly fixtures with error-proofing. ISO 9001:2000- and AS9100-registered.

Suburban Tool

4141 N. Atlantic Blvd. Auburn Hills, MI 48326 Phone: (248) 391-7800 Fax: (248) 391-7462 www.subtool.com

Manufacturer of workholding and inspection equipment, pallet fixtures (tombstones), sine plates, angle plates, index fixtures, V-blocks, magnetic chucks, straight edges, optical comparators and Taft-Pierce metrology products. We keep many products in stock or build them to your specification.

Valenite Gaging Systems

21101 Fern Ave. Oak Park, MI 48237 Phone: (800) 624-5489 Fax: (248) 597-4933 www.valenite.com

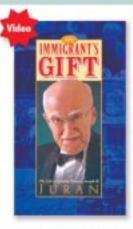
Valenite Gaging Systems produces measurement solutions for automotive, heavy equipment, farm, defense and consumer products industries. We provide hand-held gages, bench gages, automatic and semiautomatic gage machines, tool compensators, tool setting gages, and calibration services.

Western Gage Corp.

3316-A Maya Linda Camarillo, CA 93012 Phone: (800) 423-5062 Fax: (805) 445-7530 www.westerngage.com

Western Gage Corp. supplies high-quality dimensional air gages for ID and OD gaging applications. Our Micro II air comparator readout features a combination analog and digital LCD backlit display and RS-232 serial digital outputs. Custom gage designs are available.

qd



An Immigrant's Gift The Life of Quality Pioneer, Joseph M. Juran

The teachings and writings of Joseph M. Juran have had a profound impact on the quality of the products we buy and use every day. His pioneering work in quality is heralded all around the world, and yet the story of this very private individual has remained unknown, until now.

Through candid interviews with Juran, fam-

ily members and industry notables, including Peter Drucker, Steve Jobs and Robert Galvin, we understand the events that guided this immigrant's journey through life. This video dramatizes how quality affects each of us, and why it has become so critically important to our everyday lives.

Video Information

Format: VHS Length: 56 Minutes Price: \$49.95 www.patonpress.com

Paton Press LLC

P.O. Box 44 Chico, CA 95927 Ph. (530) 342-5480 Fax (530) 342-5471





(3 different models have their own working distances)

Get down to the details... with the QM-1

The Questar Long Distance Microscopes can image like a classical microscope but at a working distance of 4 inches to infinity.

The .335mm insulin needle was photographed at 25 inches with camera close coupled.



Camera: 1/3 B/W CCD Field of view: x=1.9mm, y=1.4mm Image magnification 112X

Call us for details relating to your specific application and specification sheets.

