ABTech inc.
Pride In Precision

MicroForm™ Gages

Quickly & Easily Measure Precision Geometric Forms with Unmatched Performance

The foundation of our MicroForm line of roundness gages is an ABTech designed and built precision air bearing rotary table providing a stable, robust and maintenance free reference axis with certified system accuracy better than 5 millionths of an inch (5m" or 0.125 mm).

Our powerful yet intuitive software simplifies navigation, and the touch screen interface displays the results in a straight forward and familiar way. Combined, these ease-of-use features allow operators of all skill levels to take exacting measurements on the shop floor or in the QC lab. Standard features include auto-interrupt, harmonic analysis, polar and strip chart reports, and pdf printable report.

MicroForm gages measure roundness, runout, flatness, concentricity (in and out of plane), parallelism, and perpendicularity. A unique analog style TIR meter simplifies part alignment and provides a quick in-process shop floor check.

MicroForm gages are deployed for a variety of manufacturing and quality functions including in-coming inspection for vendor compliance, in-process tolerance confirmation, manufacturing process control and quality control.

All models let you rapidly switch from a face to a diameter feature or an ID to OD. The Articulating arm and probe mount features detents at 90 degrees for quick and stable movement so you will not waste time wrestling with locks or swivel joints. The MicroForm µfg150 and µfg200 models further speed the measurement process by offering multiple gage stand configuration options and dual gage head capabilities. Or for further flexibility, replace the articulating arm with two universal style gage stands on a T-slot base.

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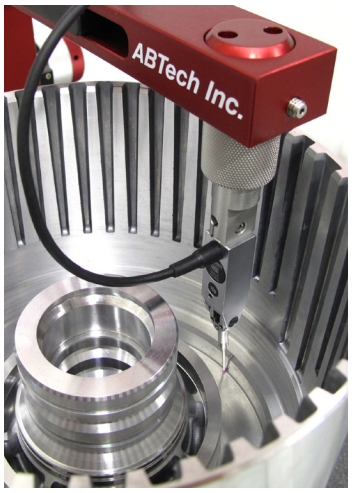
Features & Benefits

- Air bearing rotary table providing ultra-smooth, repeatable and maintenance-free operation
- Highly responsive lever-type probe with excellent linearity over the full travel
- Real-time operating system with FPGA processing platform and signal conditioners eliminating resource conflicts typical with systems running on PC's
- Gage stands designed for precise, stable movement while optimizing ease of use
- Standard tilt & center worktable to center and level parts to the bearing's axis of rotation reducing eccentricity, increasing accuracy of results and reduces time and frustration during setup of the part for measurement
- Intuitive navigation for shop floor use as well as full function analysis for quality control labs
- Step-by-step instructions for novice operators without reducing efficiency for experienced users
- Touch screen color monitor
- Easily customizable outputs and display settings such as filter, plot scale, units, and analysis type

MicroForm Gage Specifications

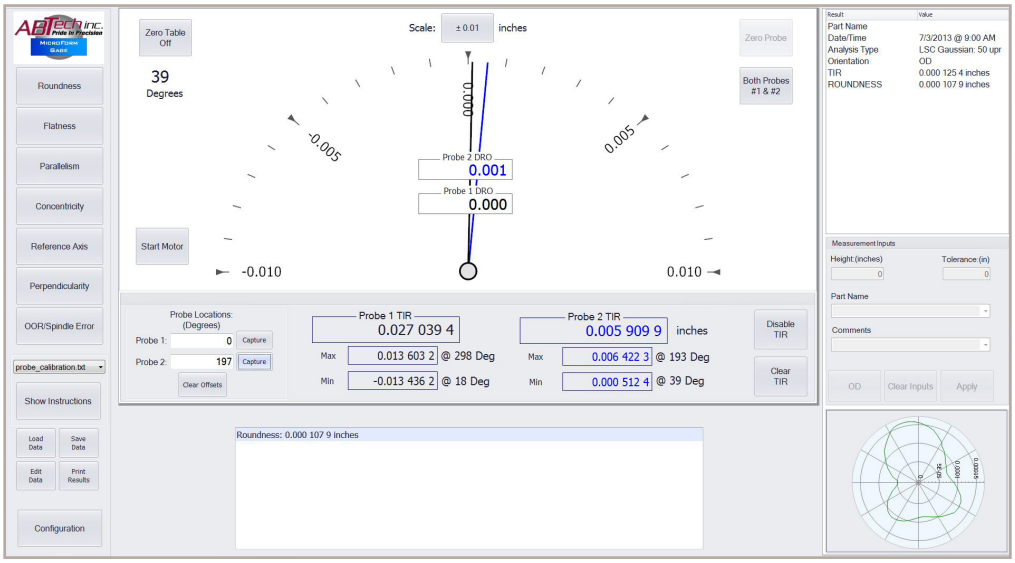


Options & Accessories

- Optional integrated motor drive (standard on µFG100 through µFG200 models)
- Universal style gage stand on a T-slot base (replaces the articulating arm style)
- Second gage stand and probe with dual probe software upgrade (not available on µFG100)
- Vacuum worktable and controller to hold sensitive lightweight parts safely and securely
- Various probe lengths, tip diameters and materials
- Welded steel base frames with vibration isolation leveling casters
- Electronics cart to house PC, monitor and MicroForm controller on µFG200 and up
- Precision centering fixtures, custom collets and part specific fixtures
- Certified 2µ" round master test ball and cover for system accuracy verification
- Full PC and monitor optional for µFG100 & µFG150 (standard on µFG200 and up)

	µFG100	µFG150	µFG200	µFG200T	µFG300	µFG400
System Accuracy						
Radial & Axial	<5.0 µ" (0.125 µm)					
Tilt	<.2 arcsec or 1.0µ"/in (0.025 µm/25mm)					
Working Envelope						
Maximum Part Diameter (swing)	8" 203 mm	12" 305 mm	16" 406 mm	16" 406 mm	24" 610 mm	32" 8123 mm
Maximum Part Height (OD probe access)	12" 305 mm	16" 406 mm	20" 508 mm	36" 914 mm	60" 1,524 m	60" 1,524 m
Height to Worktable	8.75" / 222 mm	9.60" / 244 mm	40" / 1,041 mm	41" / 1,041 mm	37" / 940 mm	30" / 762 mm
Axial Load Capacity	60 lbs / 27 Kg	125 lbs / 57 Kg	500 lbs / 226 Kg	500 lbs / 226 Kg	1,000 lbs | 454 Kg	2,000 lbs / 907 Kg
Tilt & Center Worktable Configurations						
Diameter	6" / 150 mm	6" / 150 mm	8" / 203 mm	8" / 203 mm	12" / 305 mm	16" / 406 mm
Thru-hole (removeable plug)	1.25" 31.75 mm	1.25" 31.75 mm	1.51" 38.35 mm	1.51" 38.35 mm	1.75" 44.45 mm	2.00" 50.80 mm
Tapped holes	1/4 - 28 tapped holes					
Knob Configuration	2 centering, 2 leveling at 90°	4 centering, 4 leveling at 90°				
Gage Stand Configuration						
Style	"High Output" Articulating Arm			Mini Tower	Counterbalance Tower	
Quantity	Single	Single (standard) & Dual Probe (option)				
Misc. Details						
Software	ABTech Micro TIR Software					
Metrology Controller	"FPGA" based "real-time" operating system housed in surface plate			Independent electrical box contains "FPGA" based "real-time" operating		
PC	Windows OS Industrial PC with 10" touchscreen			Windows OS Industrial PC with 22" touchscreen		
Air Consumption	2.0 cfm @ 60 psi, equipped with dual stage filter/regulator assembly					
Product Dimension	10" W x 12" D x 28" T	16" W x 16" D x 32" T	20" W x 24" D x 62" T	36" W x 20" D x 92" T	77" W x 42" D x 106" T	90" W x 42" D x 106" T
	254 x 305 x 711 mm	406 x 406 x 813 mm	508 x 610 x 1575 mm	914 x 508 x 2337 mm	1956 x 1067 x 2692 mm	2286 x 1067 x 2692 mm
Product Weight	60 lbs	120 lbs	400 lbs	650 lbs	2300 lbs	2600 lbs
	27 kg	55 kg	180 kg	295 kg	1050 kg	1180 kg

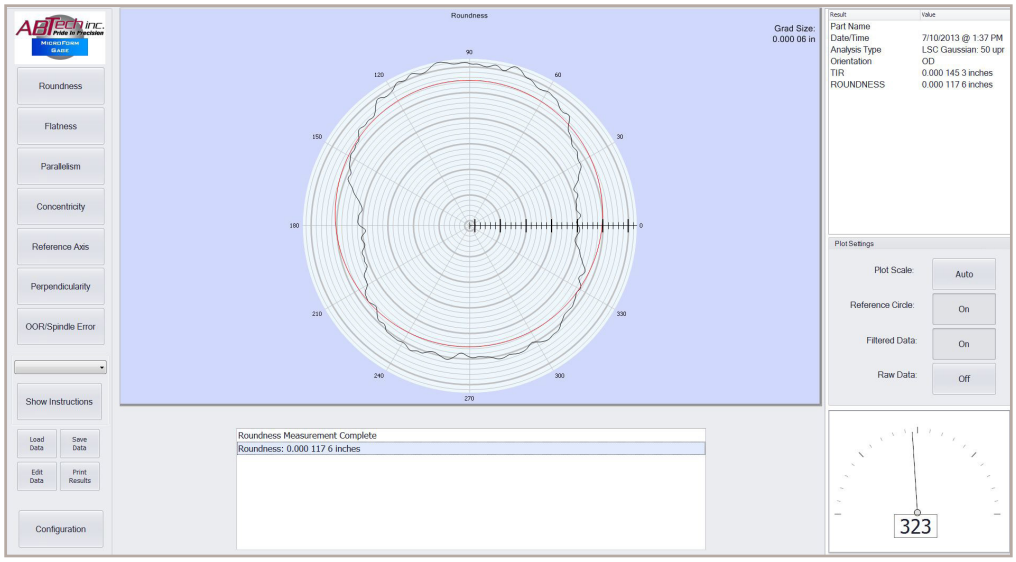
Main Screen with Analog Style TIR Meter



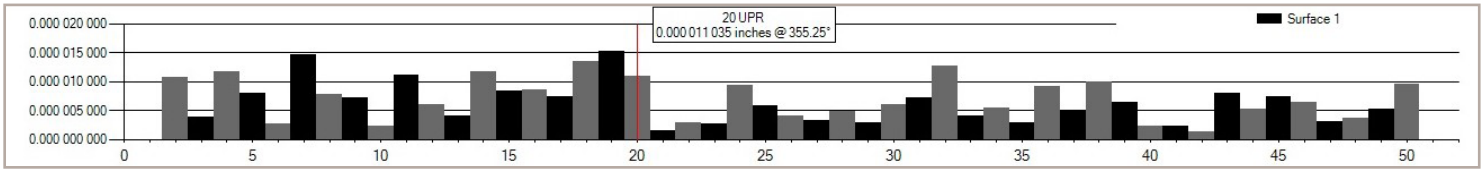
MicroForm's intuitive software features two simple views that clearly lay out access and navigation. On the left sidebar of the main screen you will find all the form options are always visible. The analog style TIR meter is large and easy to read. For the novice operators, on screen "step by step" instructions are available. The touch screen allows quick navigation between main and results screens.

Results Screen with Polar Chart

The results screen and large polar chart are uncluttered and easy to read. You can quickly print or save a pdf file of the data. And to provide remote file storage and enterprise connectivity, each PC includes an Ethernet network card. Auto interrupt feature allows automatic exclusion of interrupted surfaces or easily edit out using our drag and exclude feature.



Harmonic Analysis Results

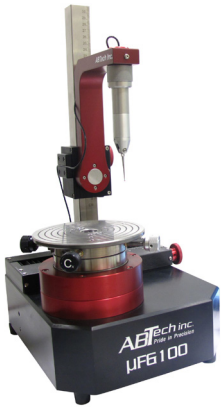


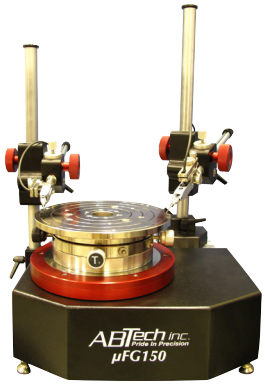
The Flexibility to analyze part harmonics (slope and lobing optional) right on the results screen. Or, export the data for statistical process control (SPC).

ABTech inc. Pride In Precision

Full Product Line Offering

The MicroForm gage line is designed to address the gamut of metrology needs. Whether measuring small parts requiring custom fixtures, large diameter heavy-weight parts, tall shafts with deep bores, bearings, pistons, turbo-chargers and other precision machined or ground parts, we have a gage that can handle it.





Unique Large and Tall Part Capabilities

These gages are turnkey systems with working load capacities up to 6,000 lbs and worktable diameters up to 48” without compromising accuracy or repeatability. With our counterbalanced tower designs, the sky is the limit (almost) for vertical height of the probe.

µFG300

µFG200T

µFG450

Made in the U.S.A.

Every product we sell exemplifies our company-wide commitment to “Pride in Precision” craftsmanship.

To that end, all of our products are designed, manufactured, and tested exclusively by ABTech at our New Hampshire facility.

Want to Learn More? Contact us today.

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