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## Engine Assembly Systems

### Ultra-Precision Air-Bearing Platforms

ABTech's EAS series Engine Assembly Systems are used worldwide to align and assemble high pressure compressors and turbines (HPCR and HPTR) for jet engine and land based gas turbine applications.

ABTech's Engine Assembly Systems feature ultra-precision air bearing rotary tables and rotary encoders mounted to natural granite bases for durability and stability, ensuring the highest accuracy and repeatability.

Operators can easily bring the engine part precisely in alignment to the air bearing's rotational axis using our heavy-duty adjustable tilt and center worktables. The spherical seat design on the tilt and center worktable maintains the parts center point when leveling, saving time in setting up for measurement and assembly.

Each system comes with swing-away gage stands or taller counterbalanced gage towers allowing easy access with loading parts or unloading finished assemblies. Each gage configuration is able to mount up to 8 electronic indicators plugged into the state-of-the-art USB controller making quick work of setup and measurement.



### ABTech's Features and Benefits

- Ultra-precision high capacity rotary air bearing tables
- Fine adjust tilt and center worktables
- High resolution rotary encoders for angular feedback
- Anti-rotation device for torquing engine bolts
- Multiple gage stand or tower configurations
- Granite base and frame with passive isolation feet
- Electronic lever-type gage heads and plunger probes
- Optional genspect electronics and software package
- Made in USA, all systems are CE certified

### Options & Accessories

- Complete Genspect systems with LVDT probes, controller, PC and software
- Lever/plunger type electronic gage heads and extension cable mount

- Fine adjust probe mounts
- Magnetic base portable gage stands
- Mobile electronics cart w/heavy-duty casters; articulating monitor mount
- Fixed base space-saving electronics rack with articulating monitor
- Certified 2 $\mu$ " round master test ball and cover

### Benefits

**Accurate, repeatable, smooth motion and configuration flexibility to meet your specific needs**

Our "Pride in Precision" philosophy means providing you with the precise solution needed. We don't believe selling our customers more, or less, than what their application calls for. Each air bearing is uniquely adapted to our customer, therefore expectations are always met and exceeded. For over two decades working with our customers we've developed a broad range of options and accessories to address the majority of ultra-precision motion applications.

# EAS Spec Sheet Table

Model	EAS-P	EAS500	EAS1000	EAS1000CP	EAS1000G	EAS2000	EAS3000	EAS3000-2T
GE Tooling Number	9471M13PO1	9471M13PO2	9471M13PO3	9471M13PO5	9471M13PO6	9471M13PO8	9471M13PO4	9471M13PO7
<b>Certified Accuracy (air bearing) as Tested at ABTech Facility</b>								
Radial & Axial	N/A	< 5.0 μ" (0.125 μm)						
Tilt	N/A	< 0.206 arc sec or 1.0μ"/in (0.025 μm/25mm)						
<b>Working Envelope</b>								
Maximum Part Diameter (Swing)	N/A	24" (610 mm)	46" (1,117 mm)	50" (1,270 mm)	50" (1,270 mm)	58" (1,470 mm)	50" (1,270 mm)	50" (1,270 mm)
Maximum Part Height (OD probe access)	N/A	30" (7,620 mm)	46" (1,117 mm)	58" (1,473 mm)	58" (1,473 mm)	48" (1,220 mm)	90" (2,286 mm)	80" (2,032 mm)
Height to Worktable	N/A	38" (965 mm)	26" (660 mm)	32" (813 mm)	21" (533 mm)	27" (686 mm)	26" (660 mm)	28" (711 mm)
Axial Load Capacity	N/A	500 lbs (226 kg)	1,000 lbs (454 kg)	1,000 lbs (454 kg)	1,000 lbs (454 kg)	2,000 lbs (907 kg)	3,000 lbs (1,261 kg)	3,000 lbs (1,261 kg)
<b>Air Bearing Rotary Table</b>								
Model	N/A	AT200	AT300	AT300	AT300	AT400	HDRT600	HDRT600
Encoder	200 line rotary encoder in magnetic base fixture	1000 line count rotary encoder kit						
Surface Plate Material	N/A	Grade A black granite surface with welded steel base and elastomer type passive vibration isolation mounts						
<b>Tilt &amp; Center Worktable Configuration</b>								
Type	N/A	Heavy Duty 4-Knob with spherical seat						
Diameter	N/A	12" (305 mm)	17.63" (448 mm)				24" (610 mm)	
Tapped Holes	N/A	1/4-28	1/4-28 and 5/8-11				1/4-28 and 3/8-16	
<b>Gage Stand Configuration</b>								
Quantity	N/A	2 posts, 2 arms each	2 posts, 2 arms each	1 post, 1 arm	1 post, 3 arms	2 posts, 2 arms each	1 tower, 1 arm	2 towers, 2 arms each
Style	N/A	GSI-36P/18A	GSI-48P/24A	GSI-60P/24A		GSI-48P/24A	T-90P/28A	T-80P/28A
Vertical Travel	N/A	36" (914 mm)	46" (1,291 mm)	60" (1,524 mm)		48" (1,291 mm)	90" (2,286 mm)	80" (2,032 mm)
Horizontal Travel	N/A	18" (457 mm)	24" (610 mm)			24" (610 mm)	28" (711 mm)	28" (711 mm)
Mounting Style	N/A	Mounted on sides of granite surface plate	T-slot bases with adjustable locking swivel mounted to top of granite			Mounted on sides of granite surface plate	Hard mounted to top of granite	
<b>Probe Configuration</b>								
Quantity		4		3	4			
Type		(2) Lever type and (2) Plunger type		(2) Lever type and (1) Plunger type	(2) Lever type and (2) Plunger type			
<b>Filter &amp; Regulator Assembly</b>								
Air Consumption	N/A	2.0 cfm @ 60 psi				4.5 cfm @ 60 psi		
Model	N/A	Model 00787A	Model 00938A					
Pre Filter	N/A	5.0 micron w/ regulator (0 – 150 PSI)						
Second Stage Filter	N/A	0.5 micron oil/water removing (coalescing)	0.3 micron oil/water removing (coalescing)					
<b>Electronics &amp; Display</b>								
Metrology Controller	Independent electrical box operating system, encoder interface, signal conditioners, and power supply							
PC (if equipped)	Windows OS with keyboard and mouse							
Display	27" wide format flat screen color monitor							
Genspect Software	Measures runout, roundness, concentricity, and perpendicularity. Includes step-by-step probe calibration program, tilt and center assist feature for easy part alignment, and WinSPS stack projection module.							
Mobile Electronic Cart	Removable casters for mobility							
	Adjustable shelf for keyboard and mouse							
	Shelves for Controller and Printer or other accessories							
	Articulating monitor mount							
Shelf and hangers for probes and encoder								
<b>Dimensions &amp; Weight</b>								
Product Dimension	N/A	75" W x 25" D x 70" T	106" W x 53" D x 78" T	60" W x 24"D x 96" T	65" W x 29" D x 84" T	66" W x 24" D x 81" T	96" W x 32" D x 125" T	155" W x 36" D x 127" T
		1,905 x 635 x 1,778 mm	2,691 x 1,246 x 1,981 mm	1,524 x 610 x 2,438 mm	1,651 x 737 x 2,134 mm	1,676 x 610 x 2,056 mm	2,438 x 813 x 3,175 mm	3,937 x 914 x 3,226 mm
Surface Plate Dimensions	N/A	32" W x 20" D x 6" T	60" W x 24" D x 8" T	42" W x 24" D x 8" T	42" W x 24" D x 8" T	60" W x 24" D x 8" T	60" W x 32" D x 8" T	90" W x 36" D x 10" T
		813 x 508 x 152 mm	1,524 x 610 x 203 mm	1,067 x 610 x 203 mm	1,067 x 610 x 203 mm	1,524 x 610 x 203 mm	1,524 x 813 x 203 mm	2,286 x 914 x 254 mm
Product Weight	N/A	900 lbs (408 kg)	1,500 lbs (680 kg)	1,400 lbs (635 kg)	1,400 lbs (635 kg)	2,000 lbs (907 kg)	2,800 lbs (1,270 kg)	3,500 lbs (1,588 kg)

ABTech is a licensed supplier of GE Aviation's Genspect systems including USB controllers and stack projection software. The controller has inputs for up to 8 LVDT gage heads and the rotary encoder from the air bearing table as well as a USB interface for PC's. Purchasing an Engine Assembly System from ABTech now comes complete with the air bearing platform, controller, required lever and plunger type probes, Genspect software preloaded in a Windows based computer, a large color touch screen monitor in a heavy-duty mobile electronics cart. A turnkey solution for assembling jet engine and turbines.