



TIR100/150 T.I.R. Gage System Turn-Key Package for Ultra- Precision Measurements

ABTech inc. offers ultra-precision compact gages based on our standard line of rotary air bearings and tilt/center worktables.

Our T.I.R. gages are engineered specifically for measurement and assembly of precision components. When measuring optical lenses and other manufactured parts for total indicated runout (TIR) it is critical to have a stable, repeatable gaging method. Using an air bearing rotary table as the reference axis provides the highest possible accuracy.

ABTech's TIR100/150 gage features our AT100 (4" diameter) air bearing and our TC8-100/150 (6" diameter) lockable tilt and center worktable matched up with our robust gage holder, adjustable vacuum "piece holder" feature and a natural granite base. This packaged design delivers a complete turn-key solution for your most demanding T.I.R. applications.

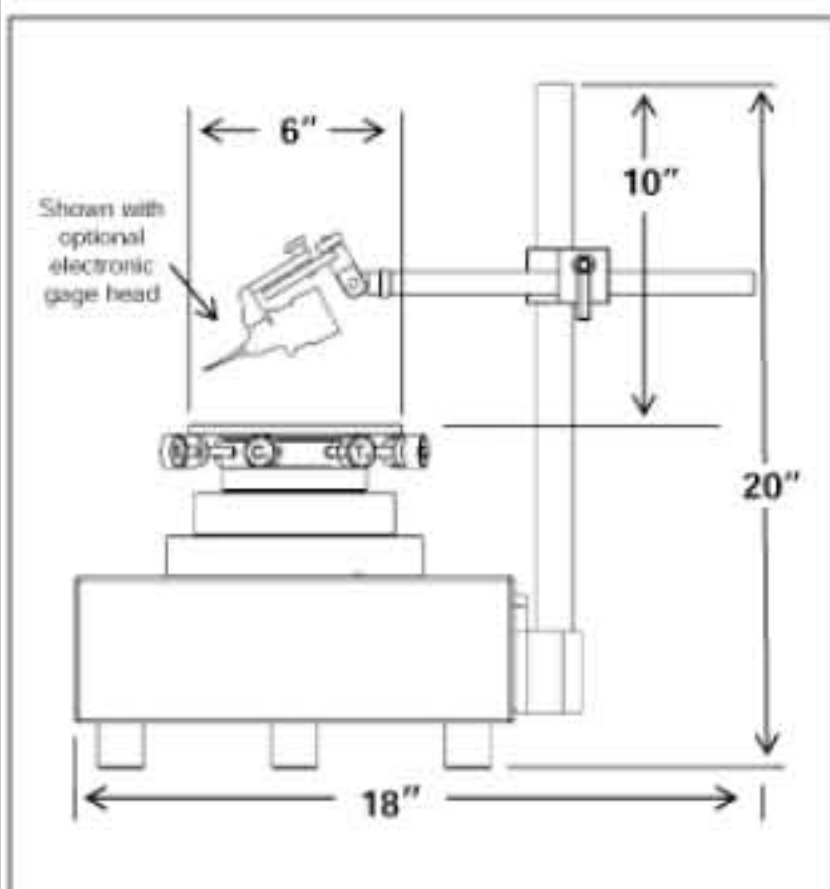
ABTech's T.I.R. gages are extremely precise yet economical and can be enhanced with our electronic package including a lever-type gage head, ruby tip probe and amplifier.

Designed for the optical industry, ABTech T.I.R. gages are ideal for lens alignment, individual piece inspection, ID to OD runout and tooling alignment.

TIR100/150 Features:

- AT100/100 air bearing spin table
 - Ultra-smooth reference axis with no static friction
 - Accuracies to $1.0 \mu"$ ($0.025 \mu\text{m}$)
- TC8-100/150 tilt and center worktable
 - 8-knob opposing screw design locks in adjustment settings
- Working envelope: 8.0" dia. x 10.0" height
- Vacuum feed thru center for part holding
- Air actuated vacuum pump with high/low/off controls
- Dual element air filter/regulator for air bearing supply
- High stability gage holder with fine adjust and swivel post
- Natural granite base plate for stability
- Made in USA

TIR100/150 T.I.R. Measurement Gage



Performance

Accuracy classes:

- Radial/axial
- A1 = $1.0 \mu"$ ($0.025 \mu\text{m}$)
 - A2 = $2.0 \mu"$ ($0.05 \mu\text{m}$)
 - A5 = $5.0 \mu"$ ($0.125 \mu\text{m}$)
 - A10 = $10.0 \mu"$ ($0.25 \mu\text{m}$)
- Angular (coring)
- A1 = $0.5 \mu"/\text{in.}$ ($0.012 \mu\text{m}/25\text{mm}$)
 - A2 = $1.0 \mu"/\text{in.}$ ($0.025 \mu\text{m}/25\text{mm}$)
 - A5 = $1.0 \mu"/\text{in.}$ ($0.025 \mu\text{m}/25\text{mm}$)
 - A10 = $1.0 \mu"/\text{in.}$ ($0.025 \mu\text{m}/25\text{mm}$)

Options & Accessories

- Electronic package: lever-type electronic gage head, ruby tip probe and amplifier
- Motor drives
- Custom work holder bolt patterns
- Custom tooling/fixture design and manufacturing
- 3-jaw scroll chuck
- Multiple gage holder assemblies
- Additional horizontal arms for gage holders

Ordering Information

TIR Gage:
Model number: TIR100/150-A1
Accuracy class _____
(Select A1, A2, A5 or A10)

*T.I.R. gages can be manufactured using other size air bearings and/or work tables. Consult your ABTech applications engineer for your specific requirement.

Electronic Package:
Model number: EP-1208/2056

3-Jaw Scroll Chuck:
Model number: SC-150/3J

Additional Gage Holder Assemblies:
Model number: GH-15P/8A

Additional Horizontal Gage Arms:
Model number: GH-8A

Specifications

Axial load capacity:	125 lbs (57 kg)
Work envelope:	8.0" dia. x 10.0" ht (200 x 250 mm)
Air usage:	1.0 scfm (1.7 m ³ /h) @ 60 psi
Tilt travel:	+/- 1 degree
Centering travel:	+/- 0.05" (1.3 mm)
Granite base:	12" x 12" x 4" (300 x 300 x 100 mm)
Total height:	20" (510 mm)
Total weight:	85 lbs (39 kg)
Footprint:	18" x 18" (460 x 460 mm)

Specifications are at 4 kgf/cm² (60 psi). Load capacities are for centered and balanced loads. Specifications are subject to change without notification. Consult ABTech's applications engineering for custom fixtures or special sizes.