

## 1310 In-Line Camshaft Inspection Machine

MODEL 1310



The 1310 gage is designed for fully automated, high speed camshaft manufacturing operations. Offering sub-micron accuracy, the 1310 can easily monitor (in real-time) the machining process of up to 200 parts per hour. Rapid camshaft measurement cycle times of <20 seconds — depending on part requirements — ensures optimal manufacturing quality and throughput

levels. The gage provides 3600 data points per revolution per follower, enables part capacities of up to 609 mm (24", with optional capacities available). This flexible gage offers 100 mm (3.9") of headstock travel, a tailstock assembly that offers a travel range of 150 mm<sup>1</sup> (5.9" with optional range of 300 mm [11.8"] available).

### Features:

- Measures up to 609 mm (24") length parts (with optional part lengths available)
- Offers a deep set of camshaft measurement parameters, containing lobes, journals, and timing references
- Provides menu-driven software for easy gage operation
- Affords a programmable parts elevator for accurate load and unload of parts into the gage<sup>2</sup>
- Engineered for shop floor conditions
- Available in robot, gantry or manual load by operator configurations

### Benefits:

- Enables high volume inspection capacity of up to 200 parts per hour
- Collects 3,600 data points per revolution per follower
- Affords camshaft measuring times of <20 seconds, depending on part requirements (not including load and unload time)
- Provides easy maintenance via modular gage design
- Permits easy part changeovers using a simple follower relocation system

<sup>1</sup> Not available on the 1310 S gage

<sup>2</sup> Not available on the 1310 S gage

# 1310 Gage Specifications

## 1310 & 1310S

<b>Accuracy Specifications</b>	Radial Resolution	.016 $\mu\text{m}^{\text{i}}$
	Spindle Total Runout	< 0.15 $\mu\text{m}$
	Radial Accuracy	$\pm 0.5 \mu\text{m}^{\text{ii}}$
	Axial Accuracy by LVDT	$\pm 1 \mu\text{m}$ over 25 mm <sup>iii</sup>
	Angular Resolution	0.00001°
	Rotation Speed	40 rpm (max)



		<b>1310</b>	<b>1310S</b>
<b>General Specifications</b>	Follower Heads	Up to 28	Up to 24
	Part Length (Max)	609 mm (24")	609 mm (24")
	Swing Diameter	102 mm (4")	102 mm (4")
	Part Weight (Max)	25 kg (55.5 lbs.)	25 kg (55.5 lbs.)
	Tailstock Travel	Up to 300 mm	30 mm
	Headstock	100 mm Maximum	Fixed
<b>Gage Dimensions</b>	Gage Height	1143 mm (45")	1074 mm (42.3")
	Gage Width	1803 mm (71")	1556 mm (61.2")
	Gage Depth	1143 mm (45")	984mm (38.7")
	Gage Weight	2041 kg (4500 lbs.)	1419 kg (3130 lbs.)

## Parameters 1310 Gage Measures

- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"> <li>• Angularity</li> <li>• Center Deviation</li> <li>• Concentricity</li> <li>• Diameter</li> <li>• Length</li> <li>• Perpendicularity</li> </ul> | <ul style="list-style-type: none"> <li>• Roundness (Circularity)</li> <li>• Straightness</li> <li>• True Position</li> <li>• Cam Lobe Lift Error</li> <li>• Chatter</li> <li>• Cylindricity</li> </ul> | <ul style="list-style-type: none"> <li>• Flatness</li> <li>• Parallelism</li> <li>• Profile</li> <li>• Runout</li> <li>• Taper</li> </ul> |
|---|--|---|

## 1310 Gage Options

The 1310 gage is available with tailstock, part capacity, and automation options. Tailstock assemblies with a center travel range of up to 300mm are available. For manufacturers requiring greater part size flexibility, optional part lengths of up to 712mm (28") are available<sup>iv</sup>. Hardware and software to interface to robots or gantries are available as options.

The 1310S gage is an entry level CCMM, designed to measure one part length and is engineered with fewer features than the 1310. Customers have the option of equipping the 1310S with a linear scan capability, enabling manufacturers to measure multiple cuts of a complex part.

## Adcole Machine Support

Adcole machine support is provided by a factory trained field service team that is backed by 50 years of industry experience and ISO 9000 certification. Machine and application support, machine retrofit and upgrade services, plus part inspection and gage recertification services are offered to our global customer base. Adcole's support regions include Japan, Korea, China, Brazil, Mexico, India, Europe and North America. Regular and after hours email and phone support is available 8am-11pm EST.

<sup>i, ii, iii</sup> Temperature 20±1 C°, Relative Humidity 40%-60%, Pressure 86KPa-106KPa  
<sup>iv</sup> Ask your salesperson about optional part length sizes for the 1310 gage