

WG1 Gage Head

A rugged and accurate single-finger gage with wide-ranging capabilities

For more than 35 years Control Gaging Inc. has been putting its single-finger gage heads on some of the toughest applications that manufacturing plants can offer.

In a corner of one plant there is a gage controlling part size by measuring on the wet surface of a spinning grinding wheel. In another location there are two gages mounted on a shoe-centerless grinder, controlling diameter on deep roller tracks in a 30" precision bearing. In yet another, there are five pairs of gages on an in-line gage station with automatic change-over for parts within a 25mm size range.

A compact design that delivers superior repeatability over an extended range makes the WG1 our most versatile gage. Machined from stainless steel and assembled to the highest standards, the WG1 provides precise measurement under the most demanding conditions.

A single WG1 can be used as a locator, a height gage or any other application requiring one contact point. Two WG1 gages can be combined to measure diameter, thickness or length.



- Rugged compact design
- ID or OD capable
- Stainless steel body
- Gaging range to 12.5mm
- Smooth or interrupted surfaces
- Pneumatic retraction up to 16mm
- In-process or post-process
- Externally adjustable contact force, overtravel & retraction, ALL with no special tools!
- .0003mm repeatability @ 5.15 sigma
- Optional "Quick Setup" tooling
- RoHS compliant

A finger retract capability of up to 16mm allows wide-range measurement (12.5mm per head, 25mm when used in pairs) and entry into deep grooves and tracks. And an optional tooling set, installed on the external portion of the gage arm, is available to convert the gage head for quick-setup capability.

Workpiece Features and Applications

Position	Lateral Locator / Flagger
Width	Large diameter shoe centerless
Length	Post-process fixture
Diameter, OD or ID	Microfinish to size
Groove width	Disc grinder wheel position
Runout	Disc grinder part sizing
Thickness	Infeed centerless
Deep bearing track diameter, OD/ID	and many more

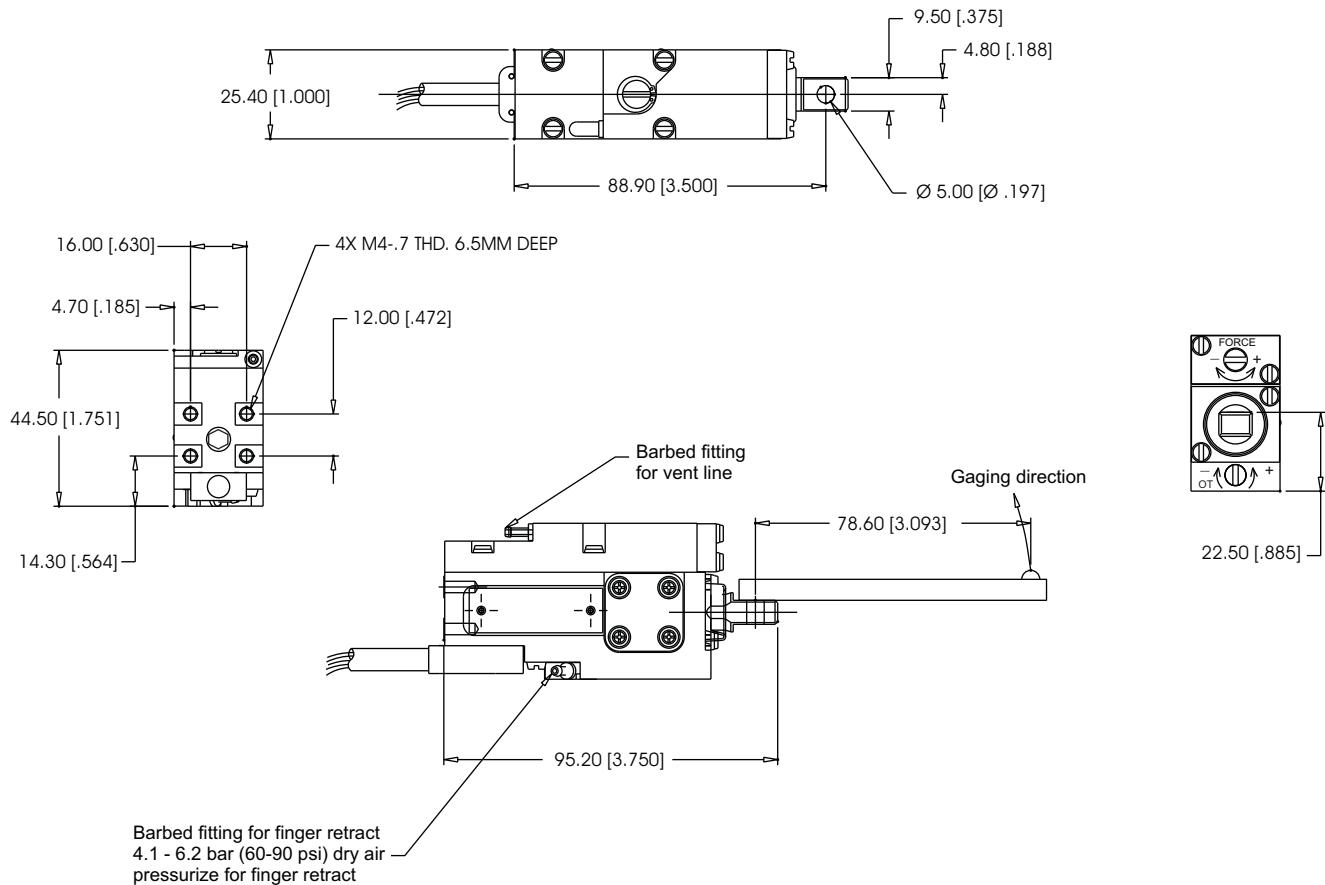
TAKE CONTROL & SAVE MONEY

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WG1 Single Finger Gage Head Dimensions



Technical Specifications

Repeatability: .0003mm (.000012") @ 5.15 sigma
Measuring Range: Maximum 12.5mm (.50") with 121mm fingers
Retraction Amount: Maximum 16mm (.628") with 121mm fingers
Total Travel: +/- 3.5 degrees from null (+/- 6.73mm using 78.60mm length finger)*
 * Total travel +/- from null = 1.94mm + (.061 x L), where L=finger length in mm
 Maximum recommended finger length is 150mm
Retraction Mechanism Pressure: 4.1 - 5.5 bar (60 - 80 psi)
Weight: .74kg (1.625lbs.)
Sealing: IP67

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WG1



Dual WG1 Solutions

Single-finger gages used in pairs meet the needs of many flexible processes

For both in-process and post-process applications

W G1 gage heads are often used in pairs to satisfy the expanding flexibility and range requirements of modern production lines. The combination of large mechanical setup range and wide electrical measuring range makes these gages ideal for flexible cells and group-technology applications.

Large size-range adjustability

Two gages, on separate mounts, can be adjusted on dovetails or rods over a very wide size range. When the signals are added together in the gage controller, the sum provides diameter measurements on large bearings, rolls or shafts. Lengths and heights between workpiece features (even between a feature and a reference surface on a machine tool) can also be measured accurately, either in- or post-process.

With the gages on separate mounts, they can also be attached in locations that would be otherwise inaccessible. An example is on a rotary carrier double-disc grinder, where a WG1 may be mounted on each of the separate wheelhead bases, on opposite sides of the carrier, for part size control.

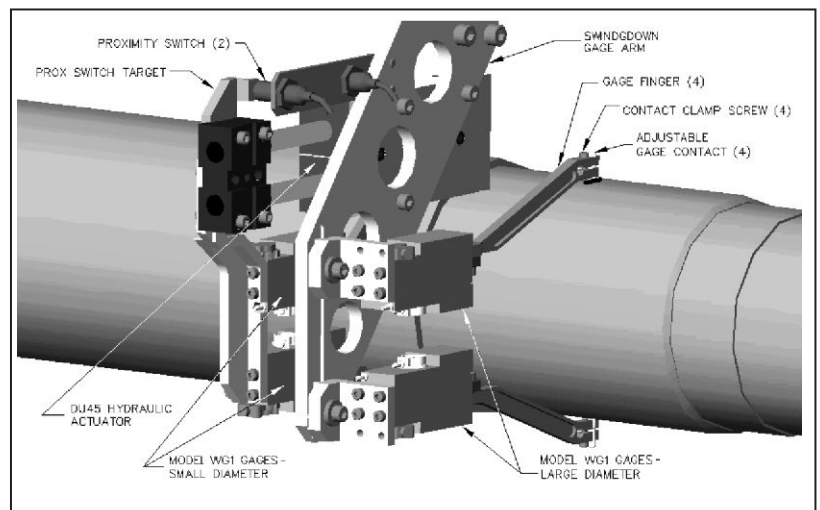


- ✓ Combined measuring range of 25mm in same mechanical setup
- ✓ ID/OD convertible

- ✓ Combined pneumatic retraction to 32mm
- ✓ Combined repeatability .0005mm @ 5.15 sigma

Wide-range measuring capacity for automatic changeover

The combined measuring range of two heads is 25mm or 1" per mechanical setup. Many component manufacturers have multiple similar parts with dimensions within this range. After the gages are mechanically set up and zeroed on each of the parts, gage changeover and re-zeroing is handled automatically by an input from the machine controller.



Two Pairs of Large Diameter, Wide-Range WG1's on CNC Grinder

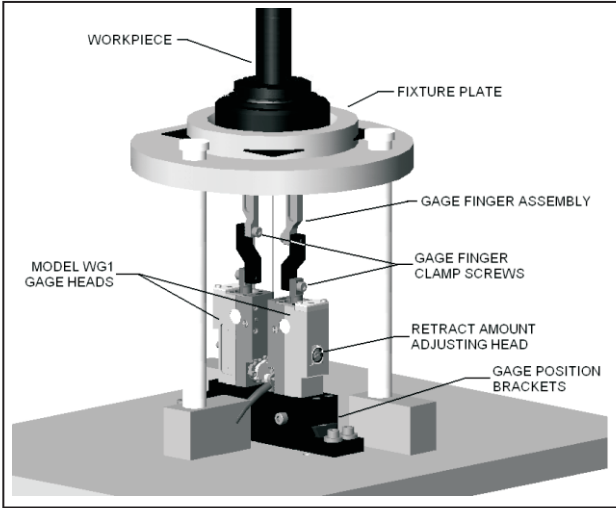
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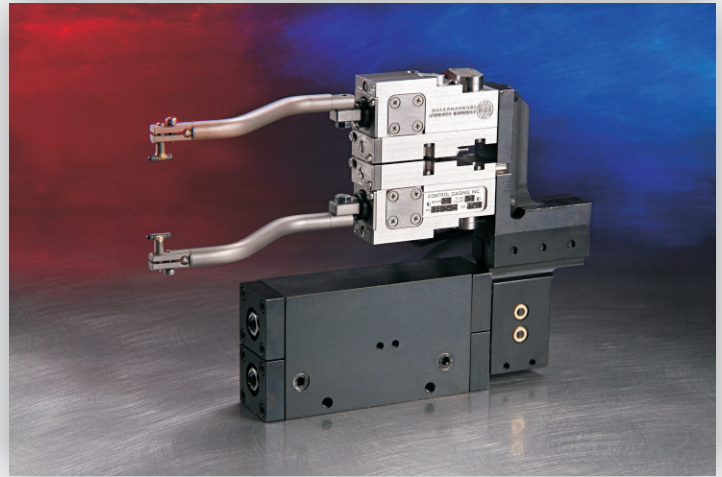
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WG1

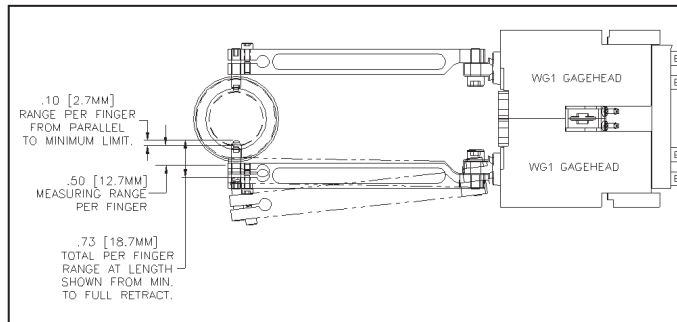


Dual WG1 Wide-range ID Inspection Station

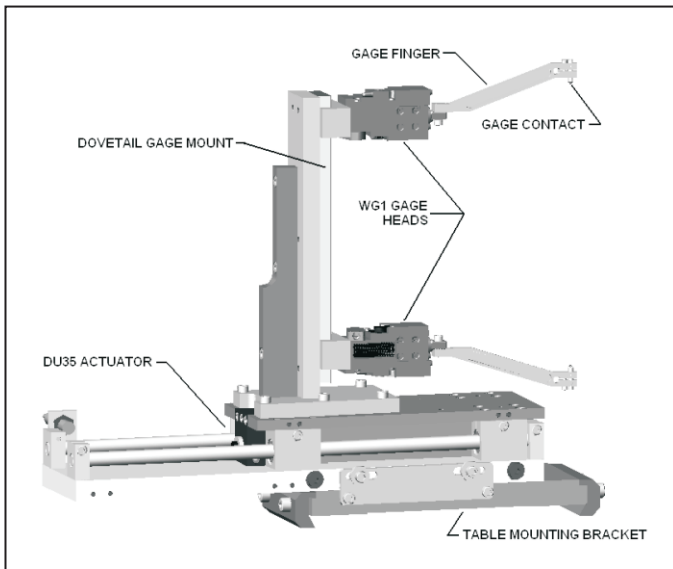


Wide-Range Gauge Pair on DU45 Hydraulic Actuator

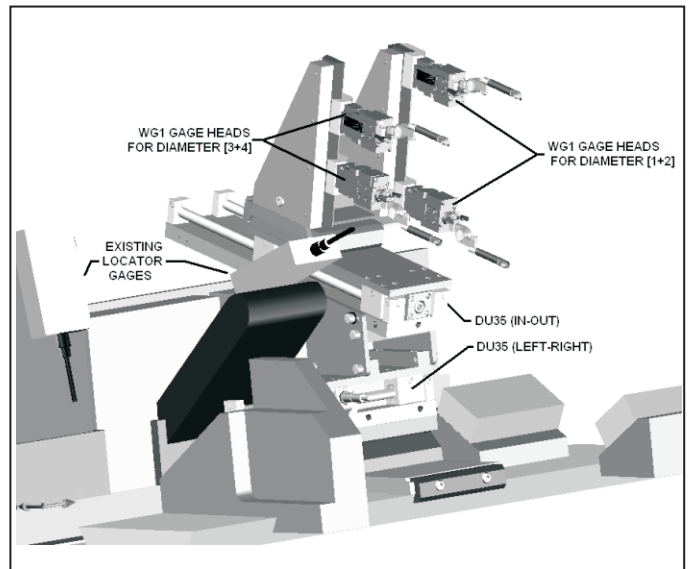
Large size-range adjustability (below) and wide-range measurement capacity (right and above) can provide solutions for complex manufacturing and processing requirements.



Wide-Range Measurement Dimensions



Dual WG1 on Large Grinder, ID or OD Applications



Two Pairs of WG1's with X-Y Actuator on CNC Grinder

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