

## GB SERIES SPRING LOADED AC LVDT GAUGING PROBE

Precise pencil-type gauging probe

### FEATURES

- Spring loaded probe
- AC LVDT
- Stroke lengths from  $\pm 0.020$  to  $\pm 0.200$  inches
- Non-Linearity better than  $\pm 0.5\%$  of FS
- Stainless steel housing sealed to IP65

### APPLICATIONS

- Laboratory R&D Materials Testing
- Industrial Gauging Test Stands
- Factory Automation



### OVERVIEW

The HGSI GB series Spring Loaded AC Linear Variable Differential Transformer (LVDT) gauging probes are pencil-type gauging probes used for ultra-precise dimensional measurement. These spring-loaded sensors are ideal for use in industrial and laboratory applications including QC, SPC, metrology, & dimensional gauging.

The sensor shaft is spring loaded and guided by a precision linear ball bearing assembly. The non-rotating probe shaft minimizes radial play and effects of side loading. These sensors are constructed of stainless steel and are resistant to dust, temperature, shock, and vibration.

The GB series will operate with most any conventional differential input AC LVDT signal conditioner, but operation with ratiometric signal conditioning is not recommended. HGSI offers a full line of compatible AC LVDT signal conditioners. Please contact us for a recommendation.

### SPECIFICATIONS

**Input Voltage:** 3 Vrms (nominal)  
**Input Frequency:** 5 kHz (nominal)

**Linearity Error:**  $\leq \pm 0.5\%$  of reading typical  
**Repeatability:**  $\leq 0.000006$  inches (0.15  $\mu\text{m}$ )

**Operating Temperature:** 5 to 80°C (40 to 176°F)  
**Thermal Coefficient:**  $< -0.01\%/^{\circ}\text{C}$  of FS

**Housing:** Stainless steel  
**Contact Tip:** AGD #9 hardened tool steel, chrome plated, M2.5 x 0.45 male thread, interchangeable  
**Bellows:** Fluoroelastomer  
**Integral Cable:** 6.5 foot (2 m) long, foil shielded, with drain wire, PUR polyurethane outer jacket

**Life Expectancy:**  $> 10$  million cycles  
**Shock Rating:** 1000g, 11 mS  
**Vibration Rating:** 20 g to 2 kHz  
**IP Rating:** IEC IP65  
**Country of Manufacture:** USA

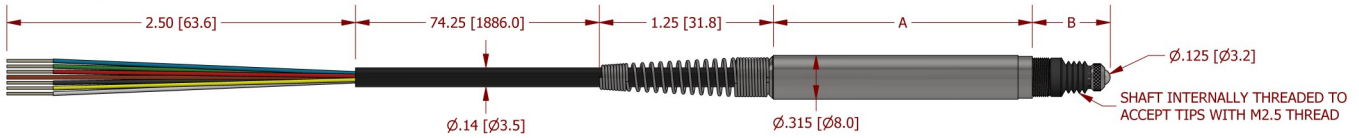


# LINEAR POSITION SENSOR

## GB SERIES SPRING LOADED AC LVDT GAUGING PROBE

Precise pencil-type gauging probe

GBP-315



GBP-375



GBT-375

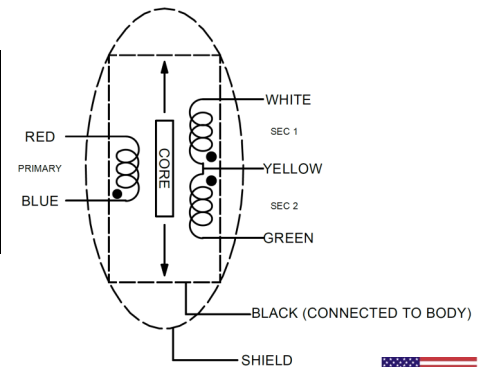


### SPECIFICATIONS

	GBP-315-A-020	GBP-315-A-040	GBP-315-A-100	GBP-315-A-200
	GBP-375-A-020	GBP-375-A-040	GBP-375-A-100	GBP-375-A-200
		GBT-375-A-040	GBT-375-A-100	GBT-375-A-200
Measuring Range (in) [mm]	± 0.020 [± 0.5]	± 0.040 [± 1.0]	± 0.100 [± 2.5]	± 0.200 [± 5.0]
Sensitivity (mV/V/0.001 in) [mm]	5.3 [210]	5.3 [210]	3.8 [150]	2.7 [105]
Pretravel (in) [mm]	0.001 [0.03]	0.006 [0.15]	0.006 [0.15]	0.006 [0.15]
Overtravel (in) [mm]	0.002 [0.05]	0.033 [0.85]	0.033 [0.85]	0.033 [0.85]
Dimension A (in) [mm]	1.09 [27.8]	1.89 [48.0]	2.68 [68.0]	3.58 [91.0]
Dimension B (in) [mm]	0.29 [7.5]	0.56 [14.2]	0.69 [17.5]	1.01 [25.7]
Spring Force (ozf) [N] ± 20%	2.5 [0.7]	2.5 [0.7]	2.5 [0.7]	2.5 [0.7]

### ORDERING INFORMATION

Series	Body	Measuring Range	Options
GB	□ - □ □ □ - A	- □ □ □	-
	P-315 Plain 0.315 inch OD [8 mm] P-375 Plain 0.375 inch OD [9.5 mm] T-375 Threaded 0.375 inch OD [9.5 mm]	020 ± 0.020 inches 040 ± 0.040 inches 100 ± 0.100 inches 200 ± 0.200 inches	<b>Consult Factory for custom designs</b>



### ORDERING EXAMPLE

GBP-315-A-100: AC LVDT, Plain 0.315 inch OD, ± 0.100 inch Measuring Range

