

# GBP-315-A Series Spring Loaded LVDT Gauging Probe

## Features

- Spring loaded probe
- AC LVDT
- Stroke lengths from  $\pm 0.040$  to  $\pm 0.200$  inches
- Non-Linearity better than  $\pm 0.5\%$  of FS
- Smooth Stainless steel housing sealed to IP65

## Applications

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



## Overview

The HGSi GBP-315-A series Spring Loaded Linear Variable Differential Transformer (LVDT) gauging probes are 8 mm diameter 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.

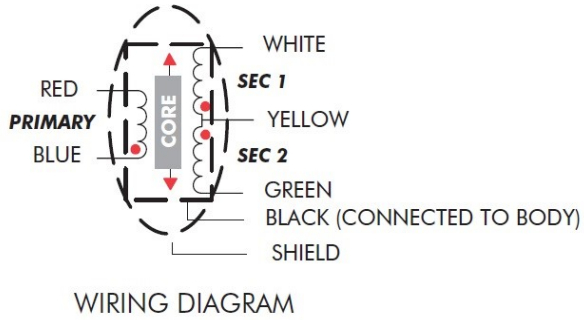
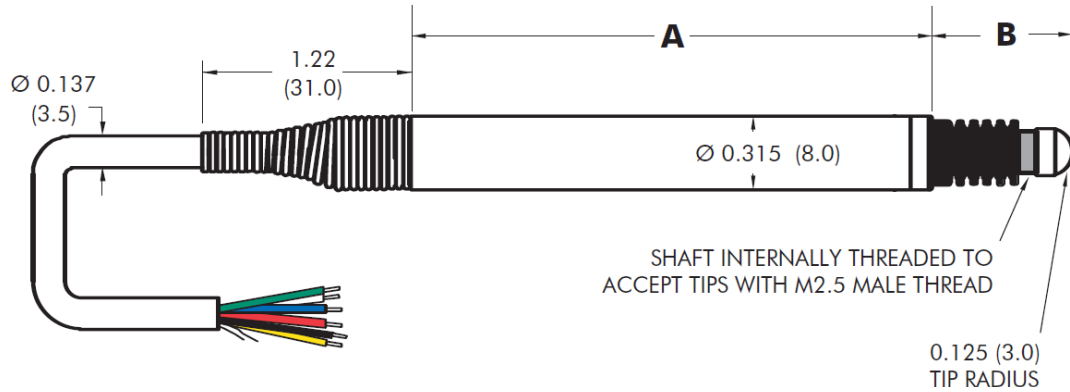
The sensor shaft is spring loaded and guided by a precision linear ball bearing assembly. The non-rotating probe shaft minimizes radial play and effects of side loading. These sensors are constructed of stainless steel and are resistant to dust, temperature, shock, and vibration.

The GBP-315-A 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

<b>Input Voltage:</b>	3 Vrms (nominal)
<b>Input Frequency:</b>	3 kHz (nominal)
<b>Linearity Error:</b>	$\leq \pm 0.5\%$ of reading typical
<b>Repeatability:</b>	$\leq 0.000006$ inches (0.15 $\mu\text{m}$ )
<b>Operating Temperature:</b>	5 to 80°C (40 to 176°F)
<b>Thermal Coefficient:</b>	$< -0.01\%/^{\circ}\text{C}$ of FS
<b>Housing:</b>	Stainless steel
<b>Contact Tip:</b>	AGD #9 hardened tool steel, chrome plated, M2.5 male thread, interchangeable
<b>Bellows:</b>	Fluoroelastomer
<b>Integral Cable:</b>	6.5 foot (2 m) long, foil shielded, with drain wire, PUR polyurethane outer jacket
<b>Life Expectancy:</b>	$> 10$ million cycles
<b>Shock Rating:</b>	1000g, 11 mS
<b>Vibration Rating:</b>	20 g to 2 kHz
<b>IP Rating:</b>	IEC IP65

# GBP-315-A Series Spring Loaded LVDT Gauging Probe



All dimensions in inches (mm)

## Specifications

	GBP-315-A-040	GBP-315-A-100	GBP-315-A-200
Measuring Range (in) [mm]	± 0.040 [± 1.0]	± 0.100 [± 2.5]	± 0.200 [± 5.0]
Sensitivity (mV/V/0.001 in) [mm]	5.3 [210]	3.8 [150]	2.7 [105]
Pretravel (in) [mm]	0.006 [0.15]	0.006 [0.15]	0.006 [0.15]
Overtravel (in) [mm]	0.014 [0.35]	0.033 [0.85]	0.033 [0.85]
Dimension A (in) [mm]	1.89 [48.0]	2.68 [68.0]	3.58 [91.0]
Dimension B (in) [mm]	0.56 [14.2]	0.69 [17.7]	1.01 [25.7]
Spring Force (ozf) [N] ± 20%	2.5 [0.7]	2.5 [0.7]	2.5 [0.7]

## Ordering Information

Model	Measuring Range	Options
GBP-315-A	- □□□	- □□□
	040 ± 0.040 inches 100 ± 0.100 inches 200 ± 0.200 inches	Consult Factory for custom designs

## Ordering Example

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