

AIR-BEARING C-LVDT

This device uses a standard capacitive sensor to create a high-performance, LVDT-like contact measurement system. The noncontact capacitive sensor measures position changes of a target on the internal end of the plunger. Internal air pressure is adjustable to control contact force as low as 0.2 g.

Air-Bearing Precision

The air-bearing of the C-LVDT is the key to providing incredibly high-resolution contact measurements.

A porous carbon bearing flows air around the probe's plunger. The air cushion provides friction-free movement and radial stiffness that minimizes side-loading effects when scanning a moving target.

Diamond Tips

Each Lion Precision C-LVDT comes complete with an interchangeable diamond tip. The high-precision measurements performed by the C-LVDT demand the highest quality contact interface.

Diamond is Superior to Ruby:

Low Friction - Side forces cause less lateral deflection from moving targets and less hysteresis on direction reversal.

Highly Polished Surface - Diamond accepts and holds a high polish, minimizing the possibility of scratching the measured surface.

Minimal Wear - Increased accuracy and longer life.

Specifications

Measurement Range	0.5 mm, 0.020"
Contact Force	0.2 g to 100 g
Radial Stiffness	< 0.25 $\mu\text{m/g}$
Bearing	Linear, porous air bearing
Diamond Tip	Radius: 3.175 mm, 0.125" Mount: 4-48AGD Thread
Weight of Moving Mass	4.2 g
Air Connection	1/16" ID fl exible tubing
Air Consumption	3-7 lpm, 0.10-0.25 cfm
Operating Air Pressure	420-480 kPa, 60-70 psi
Air Filter Requirement	5 μm particle size

