

PH - Series

# PH ENIX

## Powerful and Compact CMM for the Toughest Jobs



Sized for typical shop needs

Trigger Probe or Continuous Scanning

Inspect, Scan, Digitize,  
Reverse Engineer

Affordable and economical to own

Intrinsically Accurate  
and Repeatable

Strong, Rugged, Durable

Easy to learn,  
maintain and use

Powerful **Geomat** Software  
developed by Helmel

One company with  
total responsibility

Service, Support, Updates  
continuously since 1973

**made in usa**

By America's CMM Builder

low energy  
compressorless

# HELMEL

Builders of Coordinate Measuring Machines since 1973

# PHOENIX



## Hemel DNA:

Since 1973, a common genetic thread has run through all Helmel CMMs reflecting a philosophy and culture of sound mechanical designs, properly constructed, and coupled with leading probe systems and software that is powerful, efficient, and simple. Our objective is to provide customers with a durable and long lasting precision CMM that is affordable, economical to operate, easy to learn and use, and delivers decades of value and return on investment. It is an added bonus that Helmel is a stable company who will promptly provide knowledgeable service and support.

All Helmel Coordinate Measuring Machines have mechanical bearing systems characterized by strong bearing ratios, design emphasis on balance, attention to the center of moving mass, and optimized drive locations on powered machines. Our CMMs are constructed with Intrinsic Mechanical Accuracy - *IMA*: they are physically straight, flat, square, and true, with precision derived from the structure, not from software error mapping. That is our Credo.

***Intrinsic Mechanical Accuracy is standard in every Phoenix. Performance is delivered without 3D error correction software.***

Turn off error mapping on any competitive machine and you reveal a poor underlying product, for which you pay a dear price. Mapping is done to reduce production costs, but it will cost you more each time you need calibration. Error correction files are hidden behind password protection only the OEM can access, binding you to their higher priced services for years. A Helmel CMM employs scale correction factors only, and ours are open and accessible files.

We are a vertically integrated manufacturer with all key processes in-house: concepts, prototyping, mechanical and electrical design, machining, grinding, welding, painting, electronic and controller assembly, motion control and **Geomet** metrology software development, system build, calibration and test, installation, training, and ongoing service and support. Helmel takes total responsibility for our products. We are still servicing Helmel products over 30 years old.

Hemel's **Geomet® Universal CMM Software** has been an industry leader since the early 1980's. Like our machines, there has been a continuity of concepts, and a fundamental goodness in ease and efficiency, that runs through the decades. A user of early HP Basic **Geomet** would have little difficulty to walk up and use the later DOS versions, or today's Windows® versions, because the operating principles have not changed. The user interface, though vastly updated with graphical and Windows® functionality, remains recognizable through our parallel iconic keyboard keylabel interface trademarked "Keystroke Magic™". Users inevitably gravitate to this ultimately efficient interaction with **Geomet**.

## Standard Models:

		Model Number	
		112-102	216-142
Measuring Range	X	12 (300)	16 (400)
	Y	12 (300)	20 (500)
	Z	10 (250)	14 (350)

## Specifications:

Weight	440 lbs (200 Kg)	620 lbs (280 Kg)
Resolution	0.00002 (0.5 µm)	0.00002 (0.5 µm)
Volumetric Accuracy	0.00032 (8 µm)	0.00034 (8.5 µm)

**Linear Accuracy** 0.00018" + 0.000006" per inch  
(4.5 µm + L / 150 µm) L in mm

**Performance per ANSI B89.4.1a-1998.** Performance is based on dynamic measurements with touch trigger probes and 300 mm Ball Bar. Tests are at 68°F and 50% relative humidity.

**Utility:** 100-230 V~, 50-60 Hz, 10A grounded main power supply

*Note: Dimensions provided in "inch (millimeter)" format.*

## The Standard PHOENIX System includes:

- Dual beam bridge design
- Bearings, ways, drives and scales are covered
- Precision bearings on hardened & ground ways
- Non-contact optical steel scales mounted on steel ways
- Granite base
- 3/8-16 clamping inserts
- Machine cabinet
- Rugged 3-axis joystick
- Latest computer hardware
- Flat panel LCD monitor
- Pull-out keyboard with **Geomet** Keystroke Magic™ keylabels
- **Geomet** 101 DCC software
- Training part and manual
- 1.0 (25.4) calibration sphere
- 1 Year Warranty

Contact Helmel for the full range of options, accessories and training.  
1 - (800) BEST-CMM (1-800-237-8266) • www.Hemel.com • www.iGeomet.com

**HELMEL**

Builders of CMMs since 1973

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