

ASK THE EXPERT

DELTRON THE ANSWERS TO YOUR MOST COMMON QUESTIONS

I recently caught up with **Güven Türemen, Group Metrology Manager**, and shared some interesting questions posed by our customers.

I started with the most popular question asked and then moved on to some interesting queries highlighting common issues within the manufacturing environment.

Q: Can you explain the difference between a shop floor CMM and a traditional CMM?

A: Of course. Unlike the traditional 'bridge type CMMs', shop floor CMMs are perfectly designed to withstand harsher workshop conditions. They are fitted with robust mechanical bearings as opposed to air bearings found in traditional CMMs, which are susceptible to fail in contaminated areas.

Non-Cartesian and cantilever type shop floor CMMs also have more open designs compared to bridge type machines, enabling easier access to the working volume. This makes the shop floor CMM more suitable for automated manufacturing cells and for automated material handling.

Q: We are currently re-working the layout of our shop floor to improve efficiency. As part of this we are considering moving inspection out of a separate controlled area onto the shop floor. This would mean installing a CMM next to a machine tool, but we are concerned about how the temperature variations on the factory floor will affect accuracy.

A: As a shop floor CMM, Deltron has been designed to withstand temperature variations. Five built-in temperature sensors constantly monitor the changes in machine and ambient temperature so that temperature compensation is applied when necessary. This means that even in varying temperatures, measurements are made as though they had been taken at 20°C.

Another point to bear in mind is that because Deltron is fitted with robust mechanical bearings rather than air bearings it can be positioned exactly where it is needed, as it doesn't have to be near a compressed air supply.

Q: Our Quality Manager is responsible for writing measurement programs for a large number of individual components. Will he need to do this at the machine on the shop floor or can he work on the software in his office?

A: Your Quality Manager will certainly be able work from his office. Our ViTouch3D metrology software supports both online and offline programing from CAD models. So you can work either on the machine itself, or on remote PC's. In addition to the programing from CAD option, a CAD comparison module is also available.

Q: Space is at a premium on our shop floor and when we have looked at a traditional CMM we have been unable to fit it in the available space. How does the footprint of the Deltron compare?

A: The Deltron definitely has a smaller footprint. Unlike the typical bridge or cantilever type CMM, Deltron utilizes a delta mechanism for the movement of the touch probe. The non-Cartesian design allows Deltron to perform very accurate measurements at high speed, while significantly reducing the weight and footprint of the machine.

At 465 lbs. (211 kg) and taking up less than a square meter, Deltron 520 is a compact machine, considering it offers a 20.4" (520 mm) diameter x 11.8" (300 mm) -height measurement capacity!

The unique design also eliminates frame distortion and backlash associated with conventional Cartesian CMM designs.

A very welcome by-product of utilizing a delta mechanism and therefore reducing the weight and footprint of the machine is the lower build cost compared to bridge or cantilever type CMMs, resulting in a more cost effective option for our customers.



About Güven Türemen

With a BSc in Mechanical Engineering and over 20 years' experience in working with leading manufacturers, Güven has an in-depth understanding of industrial metrology across a wide range of sectors including electronics, automotive, mechanical engineering, plastics and medical devices.

Since joining Vision Engineering Güven has led the transformation of our metrology product range and capabilities to offer a broad range of automated solutions aimed at helping improve customer's quality and efficiency.