

InspeCVision's Planar VS LaserQC (FabrIVISION Laser)

3D Measurement:

The LaserQC has no 3D measurement*. The InspeCVision machine has a laser line which can measure cross-sections of the part to confirm fold angles and lengths.

When used in combination with 2D inspection the laser line can completely confirm the 3D shape of a folded or formed part.

Furthermore InspeCVision intend to release further major 3D measurement advances in the coming months.

*(Virtek recently released a new software module which walks the user through the creation of an inspection report detailing the parts fold lengths and fold angles. However the measurements must be made manually with a set of calipers and protractors. In effect the same results can be achieved with a pencil.)

Extra Holes/Apertures:

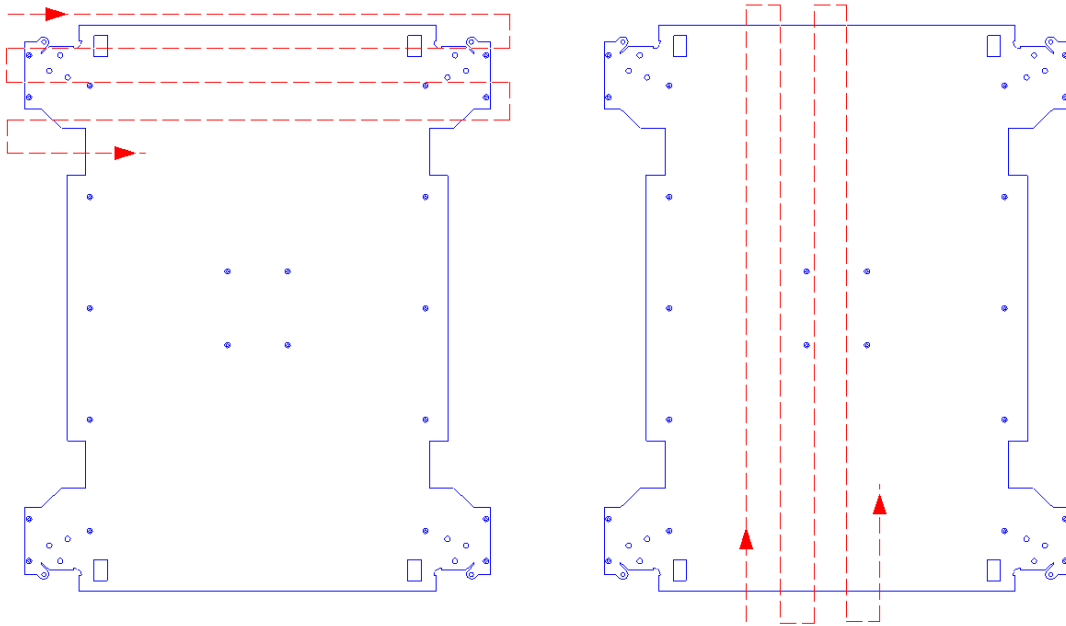
In normal operation the LaserQC will not spot extra holes or apertures.

Because the LaserQC must trace the edges of each line, arc, and circle with its laser, its measuring speed is inherently very slow.

To increase the speed of the system the LaserQC will "*cheat*" by only search for holes or features where the DXF file tells the system they should be. If an extra hole or feature exists or it has moved significantly the system will not find it!

While it is possible to disable this feature the LaserQC must then search the entire part to find each feature. When the feature has been found it will be traced and measured. This massively increases the measuring time. For a large part it can easily take 10 or 20 minutes to fully inspect.

In the image below we can see the search grid the LaserQC must use to find each hole/aperture.



The space between the search lines determines the minimum size of hole the LaserQC will find. For example, for the LaserQC to find 1mm diameter (0.04") holes it must move only 1mm between each search line. **For a 1000x1000mm (39x39") part the laser must scan 1km or 0.6 miles!!** Clearly this will take a very very long time!

In contrast the InspecVision Planar machine will measure the entire table in 0.1 seconds up to 30 million times regardless of the size or complexity of the part. It will always spot every missing or extra hole.

Accuracy:

The LaserQC has one accuracy, 2 thousands of an inch (50 microns).

Most InspecVision machines are at least twice as accurate as the LaserQC. Some InspecVision machines are up to 1/2 a thousand of an inch accurate (12 microns).

Most InspecVision machine can also detect much smaller features than the LaserQC.

Unlike the LaserQC all InspecVision accuracies have been certified by applying an ISO standard.

Maintenance:

It is well known that the LaserQC cannot measure when its expensive optical glass table becomes scratched* and sheet metal parts can quickly scratch the glass of both the LaserQC and the InspecVision Planar system.

However the InspecVision machine can continue to measure with scratched or even cracked glass. Furthermore it uses normal tempered window glass and its lights are regular fluorescent tubes. In fact, if a part were dropped through the entire table it would be possible to get it up and running again for a few hundred dollars!

The LaserQC has moving parts and consequently requires periodic recalibration. The InspecVision machine requires no recalibration, unless moved or damaged.

*(The fact that each machine is supplied with a spare sheet of glass is proof of this problem. Glass life is also quoted in their literature. To work the LaserQC must send a laser beam through an optical quality glass layer costing thousands of dollars, onto a retro-reflective base in the bottom of the machine. The beam must then bounce back up through the glass and hit a sensor at the top of the machine. Consequently even small scratches in the glass cause the machine to be inoperable in that part of the table.)

Automation:

The InspecVision machine can completely inspect a 2D part to a user defined report and tolerances, simply by double clicking its DXF.

The LaserQC has not achieved this level of automation.

Range of Machines:

The LaserQC comes in 3 sizes and 1 accuracy. The InspecVision machine comes in 7 sizes and 3 accuracies.

Our high accuracy desktop machines open up new markets which the LaserQC is not capable of serving, such as the measurement of precision stampings such as motor laminations, or very finely cut parts.

Reverse Engineering:

The InspecVision machine can convert printed CAD drawings, or even jpegs into DXFs.

Furthermore the InspecVision machine has an interface which is very similar to a CAD package in use and function to help speed up reverse engineering and editing.

Price:

InspecVision machines cost less than the nearest LaserQC alternative*.

*Prices may vary from region to region due to import duties, etc.