

CASE STUDY

PART IDENTIFICATION MARKING ON ELECTRONIC COMPONENTS

Our customer Global Digital Instruments manufactures a wide variety of very small digital meter products (average size of .75" wide x 1.125" long). The print surface is black. Metal FASTON connector tabs that are .250" wide x .5" long protrude from the product print surface. The products are nested in trays arrayed from 54 per tray to 84 per tray with the print surface up. These products are stationary when being printed and marked at one time.

The company previously used pigmented yellow ink in a continuous inkjet printer. The printhead was mounted downward on a traversing arm, and the tray table was indexed one row at a time during printing. As a result, the print needed to be very small in character height. Cycle time was five minutes per tray on average.

CHALLENGES

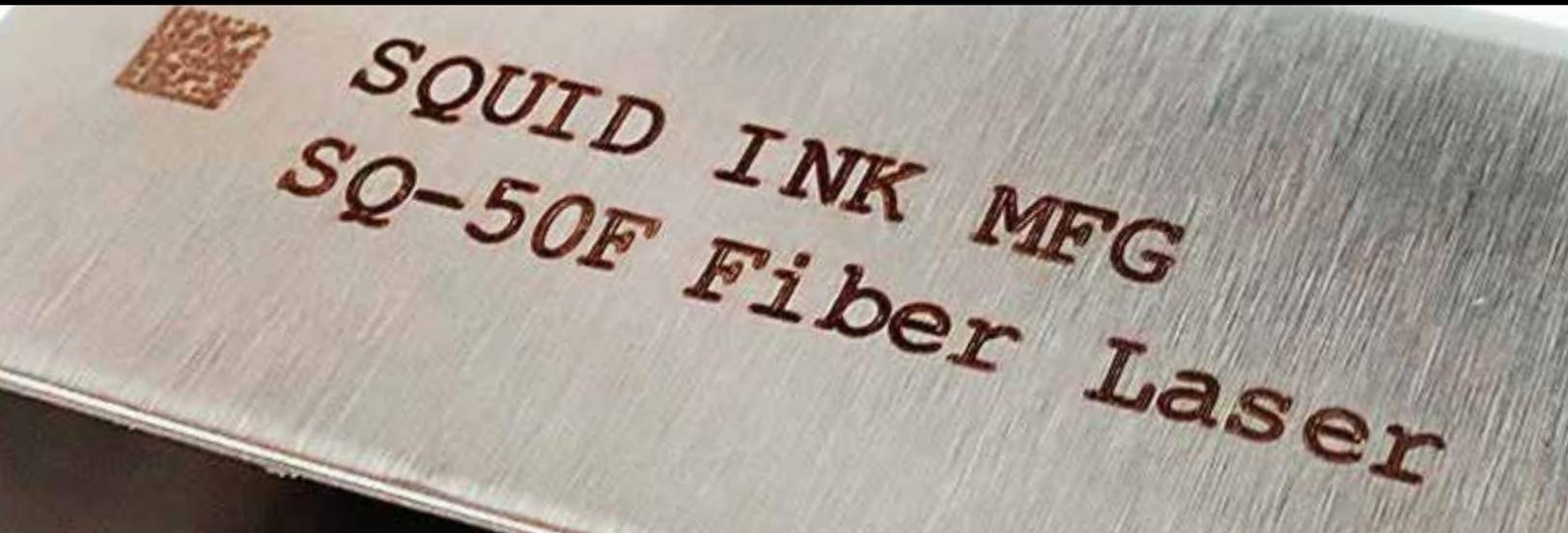
The ink-based printer was used a few hours each, two to three days a week. The CIJ pigmented printer often clogged between uses. This delayed printing required a technician to clean it, and expensive filter changes had to be made yearly or more frequently depending on clogging. Customer frustration occurred. It was not easy to print rush orders in a timely manner. When the CIJ printer needed a substantial rebuild, they had to print labels and manually apply them to the products, which was even more time-consuming and costly.



SOLUTION

Marktec Products, Inc. installed a Squid 50-Watt Fiber Laser printer with a wide laser lens and fume extractor. The laser also came with safety glasses. The wide-angle laser lens could mark all the parts in the nest without moving the tray. Fifty-four parts are now marked with high-quality, easy-to-read part numbers in 3.5 seconds!

The customer had a local supplier build an enclosure with a roll-out platform that holds the tray. After loading the tray, the platform is rolled into the marking chamber for positioning under the laser printhead. A tinted window with specific laser wavelength filtering was also installed to aid in visual programming setup, plus, if desired, allows the operator to see parts being laser printed.



RESULTS

- Elimination of inkjet printer maintenance causing downtime and frustration.
- Elimination of expensive inks and solvents.
- Elimination of printing print labels and manually placing them on each part.
- Immediate part marking when needed.
- Part marking cycle extremely fast, just 3.5 seconds to print 54 stationary parts.
- Permanent mark which cannot be removed.
- Very clean operation with no hazardous, flammable inks.
- Extremely low/infrequent maintenance (virtually no maintenance).
- Programmable to mark a number of print and array variations. Once programmed, the stored print information can be called up quickly.
- Happy customer!

