Medical Components Manufacturer upgrades to OpenDMIS Software

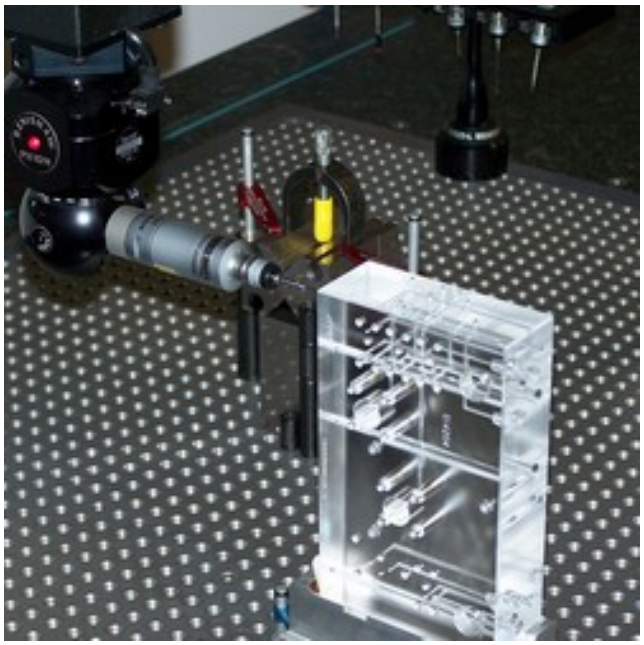
Xspect Solutions

An unfavorable experience with PCDMIS software upgrading, led Connecticut precision CNC machining company, Tomz Corporation, to purchase a new Wenzel machine with OpenDMIS software.

Tomz Corporation is a leading supplier of precision CNC machined titanium, cobalt, stainless steel, aluminum, and plastic for the medical industry. Surgical instrumentation, medical tooling, and implants make up the bulk of the medical products Tomz manufactures to TS16949 standards. In process, inspection by CMMs is a necessary component of the manufacturing process to not only ensure the resulting quality, but to ensure a level of dimensional integrity that minimizes scrap, and ultimately the profitability of the contract.

Gary Labbe, president of the Tomz Corporation Plastics Division says, “We have been using two CMMs for over ten years to measure and report the quality on the series of acrylic plastic parts that we manufacture for a variety of blood analyzer and dialysis machines. In that time, we have attempted to advance and improve the operation of those machines by upgrading with new software. Our experience with that process has been mixed. One of our CMMs is a Brown & Sharpe Model DEA Mistral that we upgraded with new PCDMIS software. The software upgrade never materialized like we expected and it became a time-consuming and irritating issue because we were not able to convert our part programs to the new versions, and

our computers kept crashing. Ultimately we had to maintain three different versions on two different PCs, which just weren't working. We made the decision to take a new approach and purchase a new machine with new software. After a thorough benchmarking search, we settled on a Wenzel LH 6.7.5 with a SP25 scanning head, OpenDMIS software, and a broad service package from Wenzel/Xspect Solutions, Inc [1]. We have been very pleased with the speed and scanning ability of the Wenzel machine."



Acrylic plastic medical equipment component measured with Renishaw scanning probe on Wenzel LH 6.7.5 CMM.

Labbe explains, "What we were very impressed with was the package that Wenzel/Xspect Solutions offered us. They examined our current situation and focused on trying to utilize the best of what we had and combine it with the new Wenzel machine. For example, the dimensioning and tolerances of the part prints that we receive from our customers were designed for use with PCDMIS. That presented some issues with respect to inputting the true-position of form tolerances on some part programs. Xspect Solutions built a software patch that could accommodate those issues and make them fully operational with OpenDMIS. This took just a few days to complete. This was necessary because our original DMIS software had a few commands interpreted differently to the current 5.0 standard. Because our programs had been originally created in pure native DMIS code, transition to a new CMM could have been very painful. However, what we discovered was that programming in the universal ISO Standard CMM language of DMIS is both technologically and vendor independent. The DMIS Standard works… and while many CMM purchase decisions are taken without any thought towards what will happen to the CMM in the future, DMIS offers the only long-term seamless and guaranteed migration path. At the end of the day, the CMM structure and the part programs will outlive the CMM software, so portability is critical over the long haul."

The Wenzel LH 6.7.5 is a CNC bridge type CMM with a Renishaw scanning probe system. The machine has a measuring range of 650 x 750 x 500 mm. The machine features a Y-axis that is machined directly into the impala black granite base plate, providing optimal long-term accuracy and stability. The X and Y axis guide-ways are bellows protected against contamination. High-speed dynamic servo drives with position monitoring provide the axes movement. A compact HT 400 joystick teach-pendant control is provided for inputting mouse-like function. It also has context-sensitive function buttons with two-stage speed selection and variable speed adjustment in all operation modes which results in sensitive movement via joystick or for CNC programming debugging.

Wenzel GmbH is the 4th largest CMM builder in the world and manufacturers its CMMs intrinsically accurate, negating the need for the huge error compensation files to achieve quoted accuracies, which have become the norm in past years from most CMM manufacturers. The black granite used on Wenzel CMMs is processed in-house at their impressive manufacturing facilities in Germany, not imported from China pre-finished, which is now the industry norm.

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