

CASE STUDY MEDICAL APPLICATION



INTRODUCTION

Aurora Micro Machine, Inc. has been in the Micro EDMing business exclusively using SARIX Micro EDM Machines for over 7 years. Our customers are the Aerospace, Computer, Textile, Automotive, and Medical industries. When a medical company asked if this difficult Micro-mold cavity could be produced by the Micro-EDM process we knew the SARIX 3D Micro EDM Milling machine was the answer.

CAVITY REQUIREMENTS

The challenge was to 3D Micro EDM Mill the continuous radius profile, blending it with the half sphere, and the angled, flat plane on the top of the half-sphere. Also the part required five slots with perfect, sharp corners.

- Cavity diameter - 5.2 mm depth of 1.7 mm
- Half-sphere - 1.5 mm radius
- Slot widths - 0.18 mm depth 0.4 mm

Could the Sarix machine 3D Mill all these features in one set-up without any additional polishing or secondary machining steps? The answer is YES!

ONE TURN-KEY SOLUTION

The key factor in the success of this part is the flexibility of the SARIX 3D Micro EDM Milling machine. This feature gives the machine the ability to erode the entire 3D cavity in a single set-up! Achieving the required accuracy and surface finish in an unattended operation. Using the "built-in" device as the WDress attachment and the SX-uEDM Milling CAM software, all of the electrodes needed for this job are produced on the SX-200 machine in the same set-up that the part is machined.

Electrodes diameters generated: roughing 0.87 mm, semi and finishing 0.35 mm, and slot finishing 0.16 mm.

As we all know, for every additional pick-up, and electrode change you run the risk of adding to the tolerance accumulation and possible miss-match of a continuous cavity profile. And in world of Micro EDM Machining we sometimes just don't have a tolerance to work with. The last release SARIX – Rest-Material function of the SX-uEDM Milling CAM helps us on this matter and show up the real fact on the part.

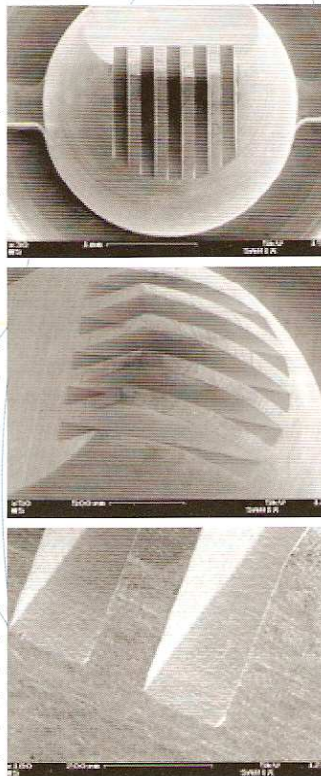
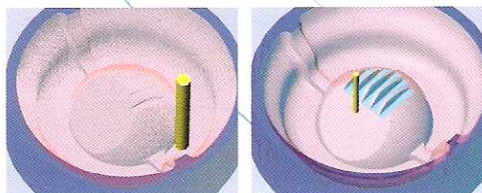
FLEXIBLE APPROACH

The reason for only having to have one set-up per cavity or on various cavities is the SARIX Machine's capability to utilize any of its several attachments to produce the required micro hole or cavity. From the initial reference point set-up you are able to switch between using the spindle of your choice to dressing the electrode on the WDress Unit to measuring the size of the dressed electrode. You even have the choice of using an A-B Indexing Unit for complex parts. All capable of being incorporated into one single machining! By being able to dress virtually any shape on an electrode the need for outside sourcing shaped electrodes is a thing of the past.

THE ONE SET-UP PROCESS IS HERE!

After seeing the result of a such cavity produced within the 3D Micro EDM Milling on the SARIX Machine it's clear that the one set-up Micro EDM process is HERE!

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Micro-Molding for medical device.

SARIX – AN EXPERIENCED PARTNER

Specific requirements need specific solutions - a typical SARIX Excellence. Our service complements our modular build up machine.

Our service covers consulting, carrying-out feasibility trials and definition of the right machine configuration. Practical trials are conducted to demonstrate the process feasibility and optimise the erosion parameters. Beside technical feasibility, practical test trials permit to verify cost effectiveness in many applications ensuring total transparency. The machine configuration is then established by the outcome of these practical experiments.

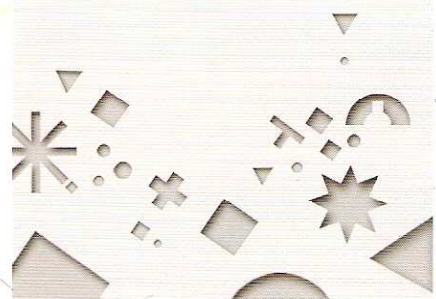
The SARIX' approach is to provide machine users with reliable and proven solutions to meet their specific requirements.

You're welcome to contact us.

ABOUT SARIX SA

SARIX designs, manufactures and markets highly efficient Micro-EDM Equipment typically used in many industries such as: die-making, microelectronics, medical, watchmaking, automotive and aerospace as well as research centres and universities.

The SARIX SX-100 and SX-200 product line is designed for use in various Micro EDM Machining modes offering users the highest level of flexibility including Micro-Drilling, Micro-Milling and Micro-Sinking.



THE BEST MICRO EROSION
TECHNOLOGY
SARIX
3D Micro - Milling

For additional product information
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or visit us @ www.sarix.com