



FLUOROCARBON CASE STUDY

MEDICAL COMPONENTS

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THE CHALLENGE

We were approached by a medical company in China. They wanted to manufacture small valve seats and membranes from Virgin PTFE.

Both components had very small tolerances of +/- 0.02mm, however the customer had been unsuccessful in manufacturing these parts.

The Membrane was 0.2mm thick and had the following notes on the drawing 'Membrane surface must not have a nick, crease, fold'.

Our customer could not find anyone locally who could achieve the tolerances and drawing guidelines. We were excited to take on the challenge and after R&D working closely with the customer, we found a solution.

THE SOLUTION

Due to the parts being so small and fragile we could not hold them in the machine using traditional jaws or chucks. We set up a pump and held it in the sub spindle by creating a vacuum.

This enabled us to machine the membranes without damage and we successfully supplied thousands of components with a 100% pass rate following customer inspection.

The Valve seat also had tolerances of +/- 0.02 and came with drawing advisories of 'no burrs, no hairs, no impurities, no black specs under a 20 times magnification'.

THE OUTCOME

A microscope was set up, rigged to a laptop, so each time a valve seat came off the machine it would get checked under the microscope, we achieved 100% inspection pass rate, on all components.