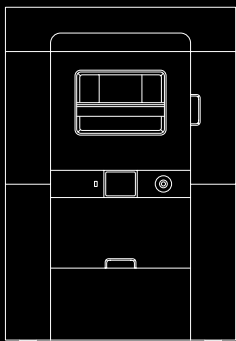


# SQP Engineering



Industry  
Application  
Technology  
Materials

Engineering / Manufacturing  
Vacuum Part Holding Jig  
FX20™  
Onyx®

# Vacuum Part Holding Jig

SQP Engineering is a Western Australian supplier of precision-machined products, primarily for the mining, oil and gas sectors. Established in 2006, SQP's 10-person team's extensive client list includes Australian industry giants BHP and Woodside. The company is proud to have been the first in Western Australia to purchase an FX20 printer.

SQP produces thousands of different precision components on their CNC machines, so avoiding downtime is important in maintaining revenue levels.

"AM is currently making a key contribution to SQP's productivity by printing components that facilitate the manufacturing process. These were previously produced in the machine shop, taking up valuable production time," he explained.

SQP regularly produces large production runs of small Perspex screens that require CNC milling. The company originally machined aluminum jigs in-house, but SQP found the aluminum often marred the soft Perspex — leading to unacceptable scrap rates.

The company turned to the FX20 and Onyx® in search of a non-marring workholding solution. Initially, they prototyped a small Onyx vacuum jig designed to hold four screens. After the small jig performed admirably, they scaled up the jig to the size of the full print bed, boosting jig capacity from four to 50.

"Vacuum jigs are part and parcel of the CNC methodology, but we have taken this to the next level by producing printed jigs that can hold very intricate parts. This we can do quickly, accurately and inexpensively using the printer," said David.

"These jigs are costing us about a dollar apiece to print in terms of material, and we can print them whenever one of our printers is not being used for production work – overnight, if necessary. To make them in aluminum, factoring in materials, operator time and lost machine time, each jig would conservatively cost five times as much." he said.

**"To make them in aluminum, each jig would conservatively cost five times as much."**

— David Miller  
Managing Director, SQP Engineering

## Advantages

- + Increased part yield rate due to a non-marring tool
- + Increased revenue generation on their CNC machine by eliminating time-consuming fixture manufacturing
- + Decreased tooling costs
- + Automated fixturing // increased machining bandwidth // saves busy work/labor



Vacuum Part Holding Jig printed on FX20.

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