

Portsmouth  
Aviation  
ENGINEERING YOUR VISION



**CNC**

**MACHINING**

TECHNICAL SERVICES • CNC MACHINING • METAL FINISHING • QUALIFICATION, INSPECTION & TESTING • METAL FABRICATION • PAINT & FINISHING

# INDUSTRY LEADING

CNC Machining is a crucial part of Portsmouth Aviation's in-house capabilities. Our state-of-the-art equipment and wide-ranging expertise set us apart in the industry.



TECHNICAL  
SERVICES



CNC  
MACHINING



METAL  
FINISHING



QUALIFICATION,  
INSPECTION  
& TESTING



METAL  
FABRICATION



PAINT  
& FINISHING



INTEGREX  
i-300S

## What is CNC Machining?

CNC (Computer Numerical Control) Machining is a process in which computerised controls and machine tools are used for a variety of manufacturing purposes.

This type of machining evolved from the Numerical Control process, which used punch tape cards rather than computerised controls. Primarily, it is utilised to remove layers of material from a work piece to produce a custom-designed parts.







### **Why Portsmouth Aviation for CNC Machining?**

Over the past ten years, Portsmouth Aviation has invested over £10 million upgrading our plant and facilities.

This has included ensuring our CNC machining equipment is of outstanding quality, maintaining our ability to provide efficacy and quality to our valued customers. Our experienced team bestows upon us a comprehensive knowledge of CNC machinery, ensuring that our customers receive the best possible final product.

Through process inspection technology, our CNC machinery facilitates 'zero defect' practices, encouraging 'right first time' and eliminating costly rework or scrappage. This reduces manufacturing time, increases our production capabilities and, ultimately, results in a more cost-effective service.



We will always perform with enthusiasm, commitment and flexibility and go the extra mile to deliver precise requirements, on time and within budget to meet our customer's needs.

**Simon Escott, Managing Director**



# OUR CNC CAPABILITIES

We deliver our services in-house,  
optimising quality and control.

ZERO-POINT CLAMPING  
SYSTEMS

LIGHTS-OUT  
MANUFACTURING

IN-PROCESS  
INSPECTION

QUALIFICATION,  
INSPECTION AND TESTING

## Types of CNC Machine


Portsmouth Aviation boasts 17 CNC mills, including those with 3, 4 and simultaneous 5 Axis capability with up to 3 meters in length. These include a Mazak HCN5000 horizontal mill equipped with a Palletech system with 6 pallets.

Further to this, we have 10 CNC lathes including, 3 Mazak Integrex machines which are all capable of simultaneous 5 Axis and equipped with either bar feeders or pick and place robots.

We have 4 Driven Tooling lathes including twin spindle and Y axis capability, all fitted with either bar feeders or gantry loaders. There are also 3 off 2 axis lathes, all also fitted with bar feeders.

## Our plant list

### CNC Turn/Mill



- Mazak Integrex i-400 5-axis
- Mazak Integrex i-300s 5-axis Twin Spindle
- Mazak Integrex i-300 5-axis
- Mazak 250MSY
- Mazak 250M
- Mazak QT250
- Mazak 200MS Gantry Loader
- Mazak Multiplex 6200Y
- Hass SL30
- Doosan Lynx

### Milling

- 2 x Mazak VTC-800/30R (5 Axis)
- Mazak HCN5000 III with 6 pallet Palatech system
- 2 x Mazak VCN 530 Smooth
- 4 x Mazak VCN 530 Matrix
- 2 x Mazak VCN 510
- Mazak Vortex 815/20 5 Axis
- Mazak 200B
- Mazak 200C
- Hass VF4
- Hass VF6TR 5 Axis
- Hurco VMX608R 5 Axis

For more detailed information, contact the CNC Machining team.

## CNC Machining



### State-of-the-art Equipment

We endeavour to provide our customers with leading, cutting-edge technology to meet customer requirements.



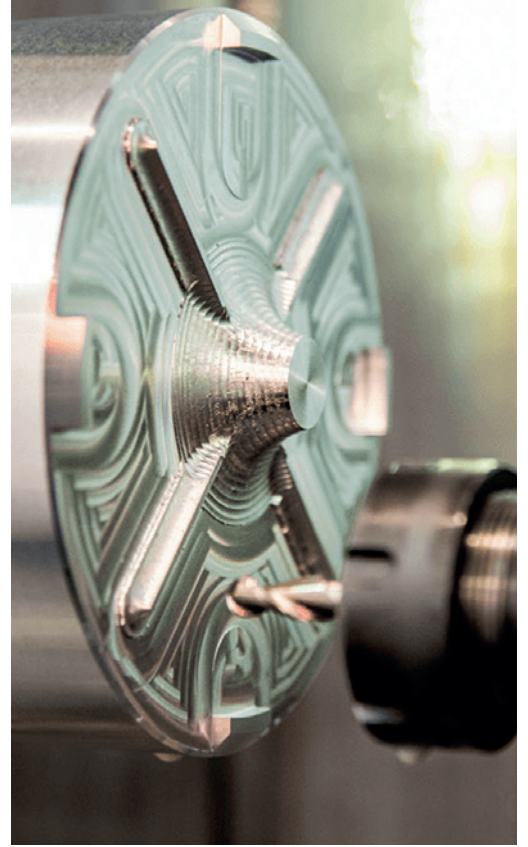
### Process Inspection Technology

Our zero-defect practices eliminate costly rework and scrapage.



### Experienced Team

The CNC department's team boasts a broad and diverse knowledge base, meaning we can cater to your needs, without compromising on quality.



## State-of-the-art CNC machinery

### Zero-point Clamping Systems

The use of zero-point clamping systems and tool presetting with our CNC machines allows us to position precision piece work quickly and efficiently, enabling precision work piece positing and clamping in a single step, scaling up our production capacity, reducing set up time and ensuring uniform interface across all machine centres.

### Lights-out Manufacturing

With our CNC machining, we also maintain some lights-out operational capacity. Several of our machine centres have been equipped with either Robot Loading, Pallet Loaders, Bar Feeders or Gantry Systems, to reduce the reliance on our employees, improve our production capacity and reduce manufacturing costs.

### In-process Inspection

Our in-process inspection technologies are designed to reduce downtime, limit scrap and increase productivity. These include In-Process Probing, Keyence Image Dimension Measurement Systems CMM's and Romer Portable Measuring Arms. By also investing in Mazak multi-tasking technology, we're benefitting from a platform that offers unmatched speed, accuracy, functionality, and ergonomics in virtually every type of metalworking application.

### Qualification, Inspection, and Testing

Portsmouth Aviation upholds the highest engineering standards with its Qualification, Inspection, and Testing services. These critical processes ensure the reliability, compliance, and performance of engineering products and systems. By evaluating design, manufacturing, and functionality, potential issues are detected early for necessary improvements. With extensive experience in defence and aerospace sectors, Portsmouth Aviation possesses a wide array of approvals and testing equipment.



# CONTACT OUR TEAM

Whatever your engineering need, our expert design, build and manufacturing teams are on hand to help your business create a tailored solution. Find out how we can support you on your project.

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