



# HSM

## ENGINEERING

EFFICIENT SOLUTIONS IN EVERY SECTOR



# ABOUT US

**HSM Provide Responsive Efficient Solutions Using Progressive Technology & Great People To Serve The Needs Of An Ever Changing Global Market Place.**

## OUR APPROACH

HSM believes in a personal approach ensuring complete control of quality, processes, productivity and fast turnaround; from receipt of order through to despatch. Total product integrity is key in everything we do enabling us to develop and adapt our global market-focused strategy, driven by our customer's needs and being a solution provider.

Our management team is continually focused on improving our competitiveness and growth within our current customer base, as well as looking to move into new customers and sectors to ensure a diverse portfolio, in an ever-changing environment.

We are firmly committed to investing in our people and in new plant and equipment as our customer expectations and technical requirements change. Already we have a full range of lasers, high pressure water jet cutting machines, press brakes, milling/turning centres, 7 axis sliding heads, welding and finishing machines to serve all industries.

## OUR COMPANY


HSM Engineering was founded in 1976, becoming a limited organisation in 1977. The company, established by John Paterson, began by manufacturing parts for weighing machines and was a key supplier to the Mining industry. As it expanded, achieving a reputation for quality and service, it moved progressively to its current modern built factory with floor space of over 18,000 sq. ft. and a staff of 30+ people. The factory is conveniently situated within 1.5 miles of Junction 26 of the M1 motorway and 3 miles of Nottingham city centre.

Continual work on improving our capabilities has enabled us to be awarded funding for capital investment via the East Midlands Development Agency. This has assisted our growth aspirations and we now have a dedicated purpose built high technology business unit to serve the Aerospace market. This new facility is fully AS9100 Rev D approved, Rolls Royce fully accredited and NADCAP approved on all special processes. It is an environmentally friendly unit with solar panelled energy and a biomass heating system enabling a constant temperature throughout the facility.

HSM Engineering are striving to support all areas of manufacturing, offering cost models to suit all industry sectors including Transport, Energy, Aerospace, Food, Health Care, Protection and Nuclear. In addition to OEM manufacture we offer a Repair and Overhaul alternative where we specialise in processing advanced and specialised materials.

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# CAPABILITY FRAMEWORK

**HSM Provide Responsive Efficient Solutions  
Using Progressive Technology & Great  
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## FRAMEWORK

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# ENGINEERING & DESIGN

**HSM offer engineering solutions to all of your manufacturing and design needs.**

Whether it be a make to print, solid model, digital drawings or even the conceptual, preliminary and detail design required to support your thoughts.

HSM offers more than just manufacturing, whether you want to expand a product line, launch a prototype program or redesign a current part, we can raise the quality of your products or help improve the cost.

## SERVICES INCLUDE

- CAD/CAM software
- Siemens NX, Auto-Cad, Edge-Cam, Tru-Tops, Tops-800, 1CNC, IGEMs
- Concept through to manufacturing
- Reverse Engineering
- 3D modelling
- Technical control
- Sector specific Engineering
- Reengineering customer design
- Process optimization
- Selection of most up-to-date technologies
- Maximization of product quality



# WATERJET CUTTING

**HSM have a huge capability when it comes to water jet cutting.**

HSM have a huge capability when it comes to Water Jet Cutting with its ability to cut all types of materials using a cold cutting process, with no thermal distortion or heat-affected zone, it offers many Engineering solutions. Materials can be closely nested and sometimes stacked, saving both time and materials, significantly reducing your cost.

HSM has the ability to handle anything from one-off custom projects, large productions runs, modifications to existing components and odd shaped blanks to tolerances of 0,1mm and thicknesses up to 200mm. HSM provide all Water Jet cutting to all sectors including Aerospace and Nuclear.

## SERVICES INCLUDE

- Multi Axis capability
- Micro cutting to the finest tolerances
- Cut virtually any material up to 200mm thick
- No heat generated / no heat affected zones
- No mechanical stresses
- No "scaley" edges, making it easier to produce a high quality weld
- Narrow kerf removes only a small amount of material
- Cut near net shapes prior to machining operations
- Waterjet is a green technology
- Metal removal support rather than machining



# CNC LASER CUTTING

## HSM specialise in cutting all types of metal.

With our multiple investments in laser machines and our NADCAP accreditation HSM specialise in cutting all types of metals from the most exotic such as Inconel and Titanium to commercial mild steels, we have a machine for everything. If its flatbed, multi axis or even Laser welding you require we have a solution.

Our primary gas is Nitrogen which we manufacture on site, this ensures the best cutting edges our machines can produce. HSM has the ability to handle anything from one-off custom projects, large productions runs, modifications to existing components and odd shaped blanks. HSM can rapidly turn your prints into parts for any industry.

## SERVICES INCLUDE

- 5 Axis Laser
- Lasers that run at night with loaders
- YAG Laser for perforation in aerofoils and combustion chambers
- Rapid turnaround
- NADCAP approved
- Cut up to 20mm thick
- Nitrogen manufactured on site
- Flat blank prototypes
- Multiple part and customer runs in the same sheet



# FABRICATION & ASSEMBLY

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**HSM is a full service metal fabricator with a wide range of capabilities.**

In addition to welding, waterjet and laser cutting, HSM offers a full array of part finishing to meet all your business needs. If it's Aerospace fabricated components or Off shore Electrical cabinets HSM have a solution to all of your metal fabrication needs.

All jobs are completed by our skilled craftsmen using state-of-the-art equipment in a controlled production environment. We work to continuously keep up to date on the latest technology, ensuring jobs are completed to the highest standards. HSM partners with many other industry manufacturers to support all finished product needs.

## SERVICES INCLUDE

- Sheetmetal Work
- Riveting
- Hand forming
- Rolling
- Multi Axis CNC Bending
- CNC Punching
- Drilling & Tapping
- Saw Cutting
- Painting
- Powder coating
- Anodizing
- Sub-components to full assemblies
- Parts kitting



# CNC MACHINING

## 5 Axis milling to 7 axis sliding head machines.

HSM have recently invested in various multi axis machine tools from 5 Axis Milling to 7 Axis Sliding Head machines.

In its fully Aerospace approved facility it can offer quick solutions to prototype or production requirements.

HSM utilise the latest software to develop optimised machining programs for the most complex small to medium components.

## SERVICES INCLUDE

- Multi Axis Milling
- CNC Turning with live tooling
- Bar feed Turning
- 7 Axis Sliding Heads
- Virtually no load/unload time
- Applicable to small as well as large batches
- Fixtures produced internally
- State-of-the-art engineering software
- Rapid turnaround
- Engineering completed in-house
- Stock material reduction prior machining achieved through in-house waterjet cutting





# WELDING

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**HSM is fully approved to nadcap requirements.**

HSM have a wide range of welding capabilities which is fully approved to NADCAP requirements.

Be it TIG, MIG, MMA, Laser or Tube welding HSM have a solution for all of your needs.

Using the latest state of the art equipment our approved skilled craftsman can work to the most stringent Quality requirements of any industry.

We can weld virtually any metal material, and any size.

## SERVICES INCLUDE

- NADCAP accredited
- BS Approved
- Rapid prototype turnaround
- Weld engineering prepared in-house
- Weld fixtures produced internally
- Applicable to small as well as large batches
- Capable of holding complex weldments to tight tolerance
- All exotic materials
- Full penetration X-ray standard
- Approved welders



# INSPECTION

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**HSM pride ourselves on product verification.**

Using our fully calibrated equipment we can measure and record to the highest Quality requirements from Nuclear to the finest tolerances required for Aerospace.

Our fully accredited AS9100 Rev D facilities ensure that manufactured product can be verified, improved and checked in accordance with our customers requirements.

## SERVICES INCLUDE

- Fully calibrated to industry standards
- AS9100 approved
- ISO9001 approved
- Manual measuring equipment
- CMM
- FARO arm inspection
- Laser scanning
- 2D Qualifier
- Renishaw probing



# AEROSPACE

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**We are a fully approved AS9100 & NADCAP accredited company.**

Providing an array of customers around the world. With our Engineering experience we can transform models to drawings using NX software or traditionally Engineer the most challenging make to print requirements. Then using our wide range of cutting technologies, fabrication and welding techniques we offer Fast turnaround Prototypes and Pre-production support, Production volume and Aftermarket solutions.





# NUCLEAR

## Quality solutions to the most demanding requirements of the sector.

HSM Engineering are a fully Rolls Royce approved Nuclear supplier of Waterjet and Laser cut parts and Welded Fabrications. With our attention to detail and 20 years experience of working in the industry we offer Quality solutions to the most demanding requirements of the sector.





# TRANSPORTATION

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**We design & manufacture solutions to the rail industry.**

HSM Engineering have provided design and manufacture solutions to the Rail Industry. With its main customer being Siemens we provide high Quality Fabricated components using an array of techniques such as Laser, Bending, Welding, machining and Assembly.



# OIL & GAS

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**Supplier to the sector for the last 40 years.**

HSM Engineering have been a supplier to the sector for the last 40 years providing small and large complex Fabrication components and Electrical cabinets to the most demanding of environments. With the capability of cutting up to 250mm using Waterjet and bending to 25mm we offer fabricated solutions to your required high standards.



# COMMERCIAL

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**We can manufacture or help design your requirements.**

HSM Engineering have provided manufacturing solutions for the last 40 years to the commercial sector. With its copious ability to manufacture and design weighing hoppers for the medical and food industry HSM can also help with shop fitting, catering equipment, recycling requirement or just a metal fabrication we offer support for all. Using our high technology cutting systems and fabrication welding techniques we can manufacture or help design your requirements.



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