



PROTOCON ENGINEERING LIMITED

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Based in Southend-on-Sea, we produce a wide range of components in ferrous and non-ferrous materials.

With substantial annual investments we offer a wide range of sub-contract machining services and this latest technology provides customers with CNC Machining, EDM Wire Erosion, and CNC turning facilities.

“Our personal approach, flexibility and diversity, form the relationships we have with our customers. We feel it is important to take on board every customer’s needs and see each requirement as a unique challenge.”

Geoff Smith

Managing Director

geoff@protoconengineering.co.uk

Geoff as Managing Director has been with the company since 1974 having served his apprenticeship and the early years of his working life at what was then Elliott Brothers Rochester and is now BAE Systems. His main role within the company, apart from the general day to day administration, is the securing of new and continuing business.

Matthew Smith

Production Director

matt@protoconengineering.co.uk

Matthew is the Production Director. He joined the company in 1993 having served a tool making apprenticeship with the Ford Motor Company. His role is to ensure the flow of work through the company from its inception, to the required quality standards and to customer delivery requirements. His professional relationships with all our sub-contractors ensures speedy throughput.

Mike Jordan

Production / Quality Engineer

mike@protoconengineering.co.uk

Mike is our Production / Quality Engineer. His activities include shop floor planning and the maintenance of quality standards. He has been instrumental in the incorporation of the CMM, Seiki Systems DNC links and GibbsCam. He is also responsible for the development of the company computer network.

Karl Cadman

Estimating / Planning Engineer

karl@protoconengineering.co.uk

Karl has spent over 30 years working within the production engineering sector, with the last thirteen years in estimating and planning. He joined us in July 2011 and his role is to perform all aspects of estimating and planning, including interpreting customer technical drawings, collation of technical, quality and production information, and the presenting of data for cost analysis.

Peter Glibbery

Machine Shop Foreman

info@protoconengineering.co.uk

Peter is our Machine Shop Foreman. Working closely with Matt and Mike he controls all the technical aspects of the shop floor including programming, training and final product quality.



Registered in England No: 1066364

BSI Registered to AS9100 Revision C / ISO BS EN 9100:2009, ISO 9001:2008
FM53894

www.ProtoconEngineering.co.uk



We currently produce components for the aerospace, communications, electronics and medical industries. Parts are currently produced for Airbus A320 and A380, Boeing 777, 787, and C17, Eurofighter, F16, F22 and several helicopter projects.



These components are used in the following

Fuel Management Systems, Fly by wire pilot controllers, Actuators and Relays,

Endoscopes and Fibrescopes, Telecoms devices, Pilot seats and aircraft galley equipment.



Our temperature controlled inspection facility hosts our two Co-ordinate Measuring machines (CMM).



Machining Section

Fanuc Robodrill Alpha T21iD (2 off)
21 tool station machines with 20,000rpm.



Fanuc Robodrill D21 MiA5 high power machining centre
21 tool stations, with 24,000 rpm

Fanuc Robodrill Alpha T21iF (2 off)
21 tool station machines with 24,000rpm,
Renishaw probing and Renishaw Laser Tool Detection.

Haas VF-2SS

A 24 tool station machine with a direct drive in-line spindle giving 12,000rpm.
Fitted with Renishaw probing the machine has a table size of 762 x 406 x 508mm



Haas CNC Rotary Indexers

Fully programmable these indexers use 5C and 16C collets.

HAAS VF-2SS Vertical Machining Centre

Super-Speed Vertical Machining Center; 30" x 16" x 20" (762 x 406 x 508 mm), 40 taper, 30 hp (22.4 kW) vector drive, 12,000 rpm, inline direct-drive, high-speed 24+1 side-mount tool changer, 1400 ipm (35.6 m/min) rapids, 1 MB program memory, 15" color LCD monitor, USB port, memory lock keyswitch, rigid tapping and 55-gallon (208 liter) flood coolant system.

Turning Section



Hardinge GS42 Mill / Turn Centre

42mm dia bar capacity, 12 station through coolant turret with Live Tooling and 'C' axis



Hitachi Seiki TS15 CNC lathe with magazine bar feed

1.5/8" dia bar capacity through spindle, programmable tailstock and tool setting

Hardinge Conquest T42 with Fanuc 18T control

1.5/8" dia bar capacity through spindle, programmable tailstock and tool setting

Eguro Nuclet 10 Lathe

27mm capacity with magazine bar feed and gang tooled machine



Hardinge Conquest GT27SP



Super precision machine with 27mm capacity and bar feed - gang tooled machine

Haas SL20

20HP 5000rpm machine with 50mm capacity through spindle. Programmable tailstock

HAAS ST-10T Lathe Turning Centre

CNC Lathe; 14" x 14" (356 x 356 mm) max capacity, 16.25" (413 mm) swing, 15 hp (11.2 kW) vector drive, 6000 rpm, A2-5 spindle, 6.5" (165 mm) chuck, 12-station bolt-on turret, 15" color LCD monitor, memory lock keyswitch, USB port and rigid tapping. Standard toolholder kit included with BOT turret.



Wire Erosion EDM



Wire erosion is an extremely accurate method of producing parts from any electrically conductive material with high quality results.

Protocon have significant experience eroding a wide variety of materials.



Fanuc Robocut C400i A

(Maximum work piece 700 x 555 x 250mm)

Wire eroding allows cutting extremely intricate contours, cavities and patterns with minimal damage to the overall structure of the substance. Complex shapes that would otherwise be difficult to produce with conventional cutting tools cut be machined using this process on extremely hard material to very close tolerances.

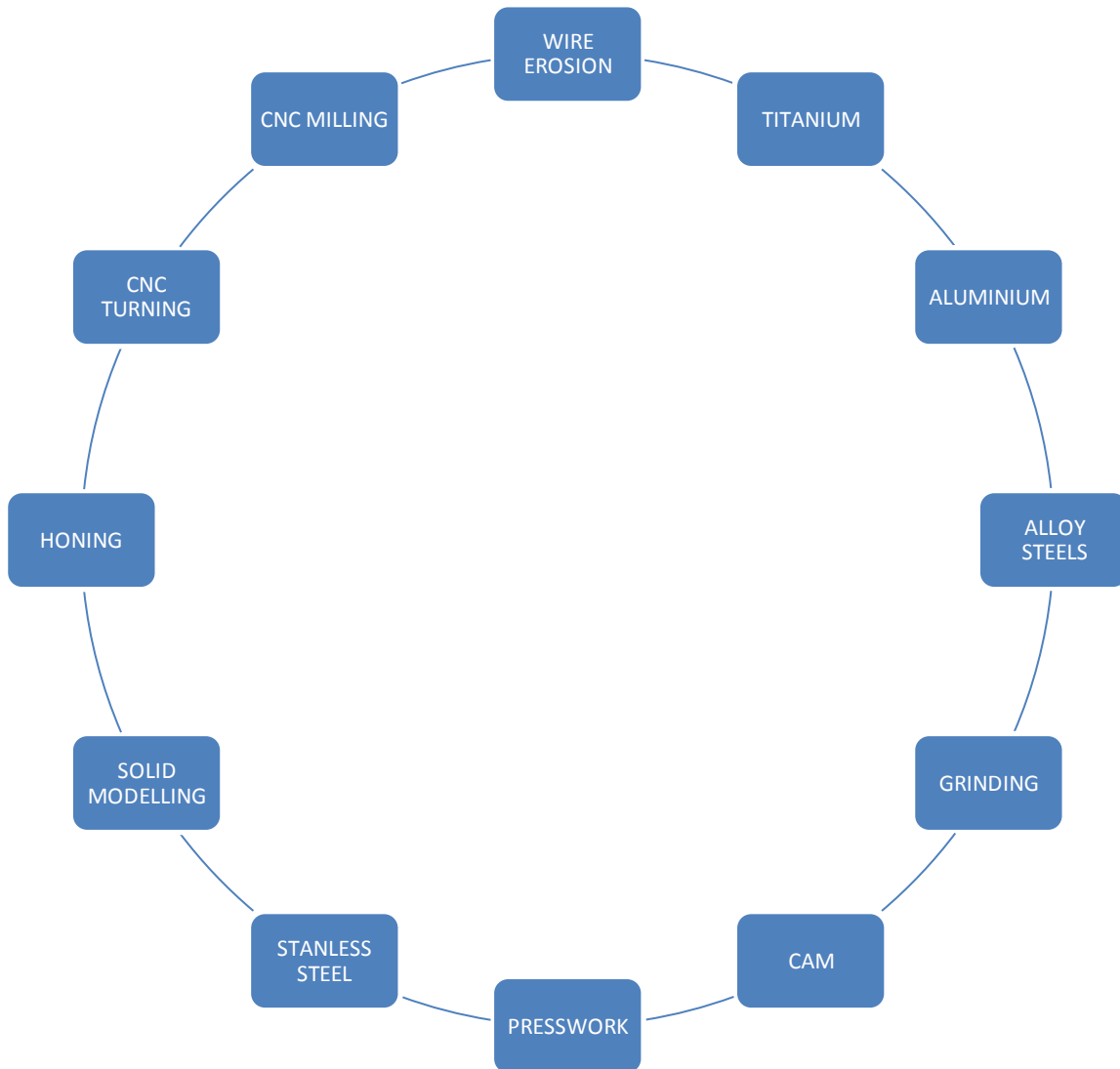
Due to there being no direct contact between tool and work piece, delicate sections and weak materials can be machined without any distortion and small work pieces can be machined where conventional cutting tools may cause damage.

Fanuc EDM Alpha OC (4 axis)

Automatic wire feed and 'lights out' machining capability



Do your requirements include....



If you have any bespoke requirements which are not included above, please do enquire, we will do our best to provide a solution for you.

Presses

- Sweeney & Blocksidge 35 tonne with air cushion and air feed
 - Norton Fly Presses (2,4,6 Tonne)
 - Desoutter 3 tonne pneumatic



Grinding and Honing

- Jones and Shipman 1074 cylindrical (internal and external)
 - Myford MG12 cylindrical (internal and external)
 - Jones and Shipman 540 surface grinder
 - Delapena Speedhone - (.045" to 2,625" Capacity)

Conventional Lathes / Milling Machines

- Hardinge HLVH Toolroom Lathe
- Colchester Triumph 2000 with DRO
- Hardinge HS59 2nd Op machine
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Programming and Computer Control

Our CAM system Gibbs-Cam, allows off-line programming for all our CNC machine centres, for both 2D CAD drawing files, and full solid models. Cut paths can be directly inputted to all our CNC machine centres through our dedicated post processors and DNC links.



Down time reduced by directly inputting our customers electronic data

- Production strategies can be investigated in detail using Gibbs-Cam's state-of-the-art graphical representation
 - Optimum cutter feed and speed data can be assigned using our tooling Database
 - Rapid program development both off-line or on the machine



Supported Formats

Our Gibbs-Cam system currently supports the following formats:

IGES files (*.igs), DXF files (*.dxf), Point List files (*.txt), Parasolid files (*.x_t or *.xmt), SolidEdge files (*.par) SolidWorks files (*.SLDPRT), DWG files (*.dwg), Pro E Part files (*.PRT or *.PDT), Granite / STEP files (*.STEP or *.STP)

Traditional paper drawings can be readily converted into cut paths using either our Visual CADD, CAD system or Gibbs internal drawing pallet. Fully Networked computer system and DNC

Network Seiki Systems
CAM Virtual Gibbs Cam 2D / Solid modeling
Seiki Systems Master Scheduling System

