



Profile

Stephenson Engineering is a long established engineering company, operating from a seven acre site in Atherton near Manchester. We have extensive facilities for the manufacture of medium to heavy components, and are ideally situated close to the M6 & M61 motorway networks.

Over the last sixty years we have developed a broad customer base, offering general and specialist engineering services to the power generation, mining, civil, and oil & gas industries.

We are continually investing in new plant and buildings, to offer our customers the most efficient manufacturing methods with close tolerance work.

Facilities

- **Flame cutting**

Plate profile cutting on six multi-head CNC machines.

- **Fabrication**

Plate fabrications up to 20 tonnes in weight.

- **CNC Machine shop**

Large capacity CNC machining on both horizontal and travelling gantry type machines.

- **Conventional machining**

Planing, Plano-milling, centre lathe turning, radial arm drilling.

- **Non-Destructive testing**

Proof load testing up to 120 tonnes, Ultra-sonic testing, Magnetic particle examination, Dye penetrant.

- **Finishing**

Shotblasting & painting.

- **CAD / CAM**

Engineering drawings and design, Wireframe & Solid modelling, machine toolpath generation.

Steel Stock

Specification	Grade	Uses	mm min	mm max
BS:EN10025	S355 J0	General applications	3	250
BS:EN10025	S355 J2 G3	Structural steel	5	250
BS:EN10025	S355 K2 G3	Structural steel	5	250
BS:1501	161-430 A/B	Boiler making	6	180
BS:1501	224-490B LT50	Low temp service	6	180
BS:1501	621	High temp service	6	150
BS:1501	622	High temp service	6	100
ASTM A516	60	Boiler making	6	180
ASTM A516	70	Boiler making	6	180
ASTM A387	11 C1 2	High temp service	6	150
ASTM A387	22 C1 2	High temp service	6	100
ASTM A387	5 C1 2	High temp service	6	60
BS:2772 Pt2 1989	150M12	Colliery haulage	various	
BS:2772 Pt2 1989	150M19	Colliery haulage	various	
Branded Steel	RQT 501	Weldable structural steel	10	100
Branded Steel	RQT 701	Weldable structural steel	10	100
Branded Steel	SUPRALSIM 690	Weldable structural steel	10	100





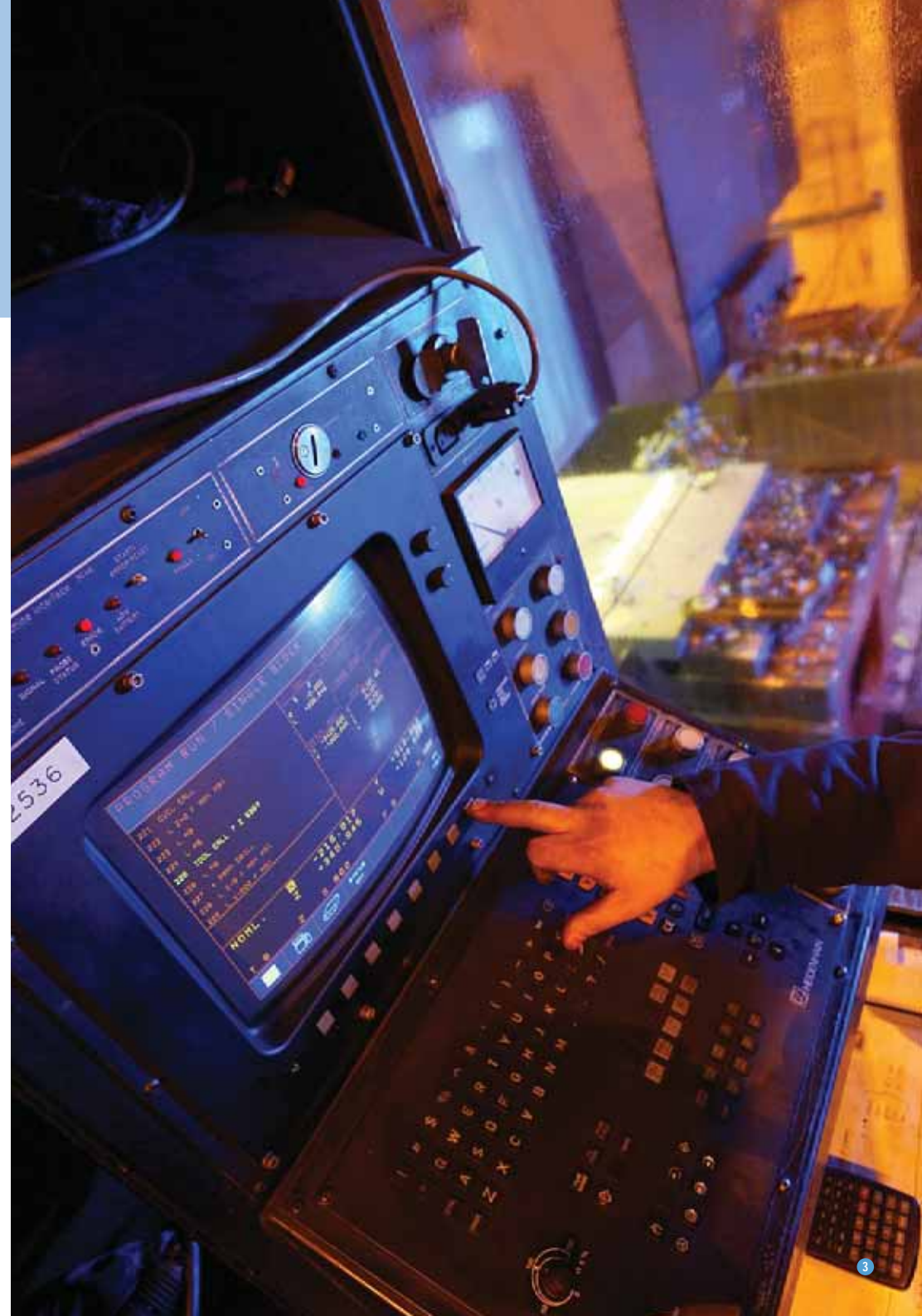
From conventional...



...to state of the art

The combined facilities at Stephenson Engineering are geared towards the batch production of medium to large size, machined components and fabrications. The vast proportion of work is carried out in-house, enabling us to keep close control throughout all stages of manufacture and inspection.

We have extensive design facilities, and if required are able to offer either full engineered solutions, or help with design improvement to aid the manufacturing process.



Large Capacity CNC Machining





CNC Machine Specifications

Asquith Butler Starcut 250

Key features:

- 4 Axis travelling gantry universal machining centre
- X Axis traverse 9000
- Y Axis traverse 3000
- Z Axis traverse 1000
- C Axis traverse 360°
- Spindle power – 45Kw
- Auto-Loading Right Angle milling head
- Auto-Loading Long reach Right Angle milling head
- Auto-Loading Universal milling head
- 120 Station tool changer
- Renishaw component probing & inspection
- Zoning
- Machine accuracy of 0.008mm/meter

Asquith Butler MDB 180

Key features:

- 3 Axis travelling gantry universal machining centre
- X Axis traverse 4500
- Y Axis traverse 2500
- Z Axis traverse 600
- Spindle power – 45Kw
- Right angled milling attachment
- Renishaw component probing & inspection
- 20 station tool changer
- Machine accuracy of 0.008mm/meter

Asquith Butler Powercentre

Key features:

- 3 Axis horizontal travelling table machining centre
- X Axis traverse 3000
- Y Axis traverse 1500
- Z Axis traverse 1000
- Spindle power – 30Kw
- 60 station tool changer
- 2.5° orthogonal auto indexing head
- Renishaw component probing & inspection
- Machine accuracy of 0.008mm/meter

Machine Attachments

As well as machining straight out of the spindle, all the machines are equipped with either auto indexing heads or auto-loading heads. This enables machining on multiple sides of a component in a single setting, increasing machine efficiency, and reducing errors due to component re-setting.

Heads are typically:

- Right Angle Spindle – to machine at any angle normal to the spindle centreline
- Universal – to machine at compound angles to the spindle centerline
- Orthogonal 2.5° – auto indexing to cardinal planes & compound angles divisible by 2.5°
- Speed up, Speed Down Heads
- Long Reach Heads, etc

This system of interchangeable heads makes the machines extremely versatile, capable of machining otherwise inaccessible details without having to re-set the component.

Renishaw Component Probing

All machines are fitted with Renishaw component probing systems. These systems allow not only the rapid setting of components, but also allow in-process inspection of critical dimensions and geometry. Inspection cycles are written within the NC programme, with recorded information written back to a satellite computer for inspection reports.





Profile Cutting

Profile Cutting Capacity

Key features:

- 6 No Multi-head CNC profile cutting machines
- Maximum cutting thickness 280mm
- Overhead craneage 20 tonnes
- Fork truck capacity 13 tonnes
- Maximum plate size 10000 x 3000

Profile cutting is a core part of our business, and supplies not only our own fabrication department, but many customers nationwide. We hold large stocks of pressure vessel and structural steel plate, and can provide a fast turnaround in any of the grades we hold.

Please see page 2 for stocked materials.





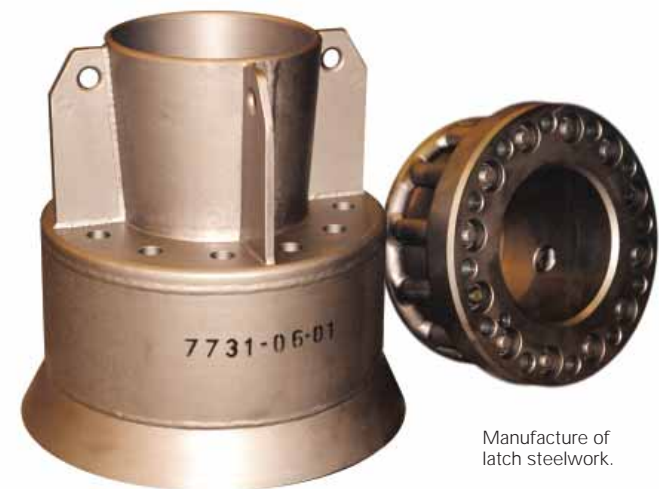
Fabrication

Fabrication Capacity

Key features:

Coded welders to BS EN 287
Fabrications up to 20 tonnes

Our fabrication department specializes in heavy section, small to medium size fabrications for the mining and oil & gas industries. The vast majority of fabrications that we produce are 'high integrity', requiring specialist weld procedures, coded welders, and non-destructive testing of the welds.



Manufacture of latch steelwork.

Conventional Machining

Machine	Manufacturer	Capacity	Overhead craneage
Plano-Miller	Craven	22"x6'x6'	10 tons
Centre lathe	DSG	36"x120"	4 tons
Centre lathe	DSG	30"x96"	4 tons
Centre lathe	DSG	25"x72"	4 tons
Centre lathe	DSG	18"x60"	1 tons
Centre lathe	DSG	18"x60"	1 tons
Radial arm drill	Asquith	8'	10 tons
Radial arm drill	Asquith	4'6"	4 tons
Radial arm drill	Asquith	4'6"	4 tons
Radial arm drill	Asquith	4'6"	4 tons
Radial arm drill	Asquith	4'6"	4 tons
Vertical milling machine	Cincinnati	76"x18"	4 tons
Vertical milling machine	Kendal & Gent	76"x18"	1 tons
Vertical milling machine	Kendal & Gent	76"x18"	1 tons





Painting Facility

The majority of our painting is carried out to the NORSOK standard M501 system 7.

We do however have a broad range of inspection equipment which enables us to work not only to the NORSOK standard but other bespoke customer standards as well.

All our painting is fully supported with documentation as per our painting procedures.

Most commonly used paint systems

- Interzone
- Sigmaguard



Inspection equipment

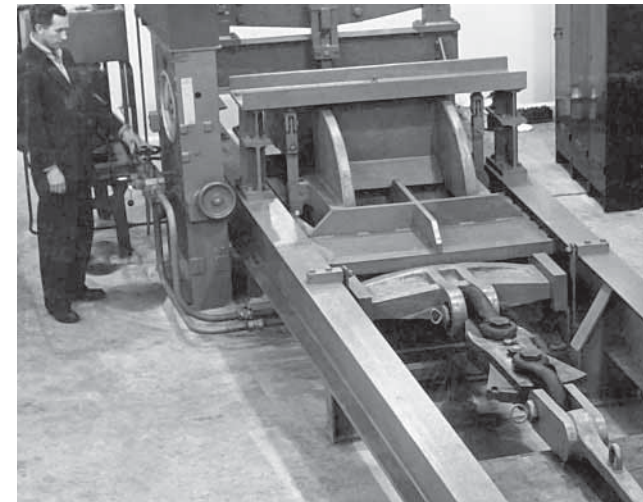
- Testex tape measuring equipment
- Adhesion testing equipment
- Paint thickness measuring equipment
- Climatic condition monitoring equipment
- Pin hole detection equipment

Non Destructive Testing

Key features:

- Magnetic Particle Inspection
- Ultra sonic examination
- Proof load testing up to 120 Tonnes x 6000 long

Many of the components we produce will have some form of non destructive testing performed on them prior to delivery. We have both in house facilities as well as employing external sub contractors, all of which can be witnessed by a customer representative or 3rd party if required.



A broad range of capability

Mining Equipment

Edward Ormerod & Co., founded in 1867, is a wholly owned subsidiary of Stephenson Engineering, and specialises in the design and manufacture of mine cage suspension equipment.

Typical products include:

- Ormerod safety detaching hooks
- Winding rope sockets
- Drum winder suspension gear
- Friction winder suspension gear
- Balance rope suspension gear
- Balance rope swivels
- Weight rope suspension gear
- Hambone rope clamps
- Spherically seated rope glands
- Weight rods



General Engineering

Stephenson Engineering undertake a wide range of engineering work, from the supply of flame cut profiles, to the complete design & manufacture of mine cage suspension gear. We work in most sectors of industry and are able to offer a 'build to print' sub-contract service, or alternatively offer a full turnkey package.

We have the facilities to manufacture large and complex structures, machined to very fine tolerances, and crucially under the same roof and QA control.





Oil & Gas Industries

- 1 Manufacture of reaction plates for Dalia sub-sea project.
- 2 Typical example of offshore fabrication.
- 3 Ormerod 14 1/4" bottom flange detaching bell.



Civil Engineering

- 4 Machining of Trunk, Bowl, and roof node castings for Heathrow Terminal 5.
- 5 East & West façade steelwork for Heathrow Terminal 5.



CAD/CAM Design

Today, CAD / CAM plays a fundamental role in engineering, and combined with the internet, allows rapid transfer of designs, ideas, and engineering drawings. We use it extensively for prototyping of components, and after final approval, the data is used for generating the required CNC machine code.

We operate both solid and wire frame modellers, and are able to import and export most file types via the internet. For companies who do not operate CAD systems, we generally e-mail drawings in PDF format.

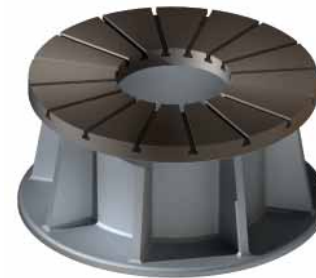
Below are a number of examples where components have been developed using CAD, and manufactured using CAM.



Five ton cast iron machine table
Design & Manufacture
Stephenson Engineering



Interface flange
Manufacture
Stephenson Engineering



1800mm dia cast iron machine fixture
Design & Manufacture
Stephenson Engineering



Spherically seated rope gland
Designed & Manufactured
for Hatfield Colliery



Contact



Stephenson Engineering is an
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