



SUPPORTING OUR CUSTOMERS IN MANUFACTURING WORLD CLASS PRODUCTS

BUSBARS

WIRE EROSION

LASER CUTTING

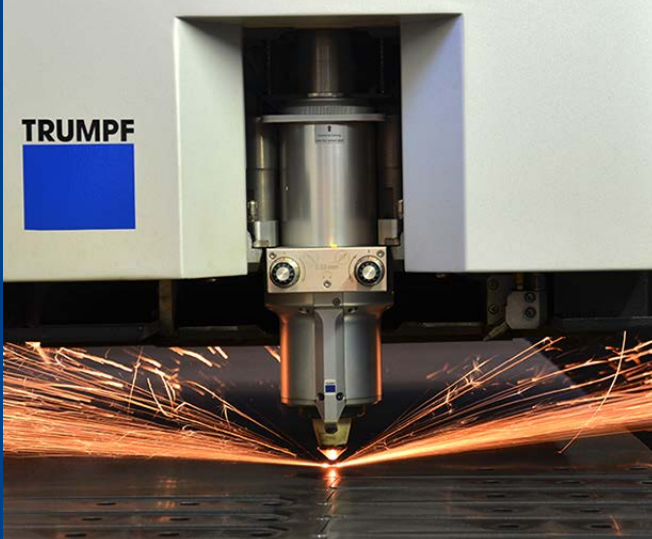
PRESSWORK + TOOLING

ASSEMBLY

ELECTROPLATING

www.hvwooding.co.uk

 Find us on linkedin



> OUR SERVICES:

04

VISION, SUPPORT AND QUALITY

From design assistance and prototyping through to hard tooling and large volume production.

06

BUSBARS

High quality busbars with flexible short lead-time service.

07

WIRE EROSION

Wire Erosion, precision components manufactured down to 3 microns tolerance.

08

LASER CUTTING

Laser Cutting components, secondary operation and assembly all under one roof.

09

PRESSWORK AND TOOLING

Precision Presswork delivered in volume and on time.

10

ELECTROPLATING

Experienced in-house electroplating

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ASSEMBLY

Mechanical sub assembly, Busbar sub assembly and general sub assembly.



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We take a project management approach to all new applications and regularly manage sub contracted processes giving the customer a single supplier responsible for the quality of products supplied.

> ESTABLISHED OVER 50 YEARS

Offering an unrivalled wealth of engineering resources, skills and experience

Ongoing Investment in state-of-the-art technology, including the latest CNC equipment and 3D SolidWorks, has helped us find success in new markets.

This includes emerging sectors such as renewable energy, electric vehicles and science and research, where we are now working with major manufacturers and institutions Worldwide.





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Our focus on product quality, customer service and innovation is the reason why companies such as Schneider Electric, Honeywell, Rolls Royce and General Electric have worked with us for over 40 years.

> OUR VISION

We aim to exceed all expectations including quality, efficiency and innovation to become the partner of choice for our Customers from concept and prototype to volume production.

TECHNICAL ADVICE AND EXPERTISE

A key part of our business success has been our ability to work closely with our Customers.

Our objective is to understand customer needs and become the partner of choice by supporting manufacturing while also managing external supply chains.

Technical support can be provided on manufacturing route, material selection and design assistance to help our customers optimise their product offering.

PERFORMANCE AND QUALITY

As a customer-focused business operating in a highly competitive marketplace, we recognise the need for continuous improvement and innovative ideas. In addition to achieving ISO 9001, ISO 14001 and OHSAS 18001 accreditation, we have developed our own unique Buffer Management System to enhance manufacturing performance and delivery.



> SECTORS

RENEWABLE ENERGY

Power Conversion, Power Electronics & Electrical Systems

Busbar connections, terminals in Copper/Aluminium. Electroplating (Tin, Silver & Nickel) and insulation.

Generator Busbar Assemblies & Segmented Lamination Assemblies.



SCIENCE AND RESEARCH

CERN – Yokes and Collars for Large Magnets.

Fusion UK - Research and Innovation (UKRI) through the Science and Technology Facilities Council (STFC).

Satellite applications.

Universities and Research institutes.



ELECTRICAL SWITCHGEAR

Components & Assemblies for MV & LV Switchgear, Busbars to Utility, Nuclear, Rail and Oil & Gas industries.

F4N approved Laser cut and Pressed parts – Zinc Electroplating, Volume production - optimised delivery and batch sizes VMI, EBAN.



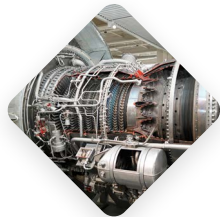
ELECTRIC MOTORS

Laminations and Core Packs, Wire Erosion, Laser Cutting & Stamping.

Post & Pre bonding processes.

Prototype, development & small series production.

Wide range of Electrical Steels and Cobalt Iron.



MEDICAL & SURGICAL

Annually we are producing over 325,000 components for the sector including components for surgical electrodes, respiratory heater plates, medical and spinal implants.

Manufacturing techniques for prototype and volume production. Suppliers of Ventilator components for the UK Ventilator Challenge initiative fighting the effects of COVID-19.



ELECTRIC & HYBRID VEHICLES

Projects include Motorsport / High performance / transportation.

Laminations / Core Packs for Motors / Drivetrains for delivery vehicles, Truck applications and next-generation cars, taxis and public transport.

Busbars for Battery Packs & Systems electroplating and insulation.



AUTOMOTIVE

HVW have been supplying F1 for over 20 years, applications include Motor Laminations for kinetic recovery systems.

Other High-performance vehicles applications such as segmented pole pieces, rotor and stator lams/stacks for oil pump generators/rotors.

Also supplying Formula E Motors and MOTO E.



AEROSPACE & DEFENCE

Motors/Generators/Actuators – Cobalt, Nickel Irons, Silicon Steels next-generation electric planes and heat exchangers.

Wire erosion of Laminations and Core Packs, using various coated electrical steels with pre and post bonded applications.



DATA CENTRE

Busbars for Critical Power applications.

Busbars for LV & MV Switchgear.

Components for Racks & Enclosures, Busbars for Data Centres.



> BUSBARS

High quality busbars with flexible short lead-time service

Advanced manufacturing techniques enable us to produce a huge variety of customised busbars for major projects incorporating thousands of variants to single part demand with little or zero tooling costs.

We manufacture busbars for Electrical Switchgear, Transformers, Data Centres, Power Conversion and EV/Hybrid Vehicles.

- ✓ Over 50 years' experience of busbar production ISO 9001, ISO 14001, OHSAS 18001 approved. FMEA
- ✓ 100% due date performance guarantee
- ✓ Quick response times: project and spot order lead times of 2-3 days
- ✓ One-off requirements and production volumes
- ✓ Production of complex shapes / edge-bending
- ✓ Capability to reduce copper usage and assembly time
- ✓ Assembly of earth bars and insulators
- ✓ In-house electroplating facility: silver, tin and zinc



COPPER

At HV Wooding we have the most advanced copper busbar manufacturing equipment available so can offer exceptionally high levels of quality and delivery performance. Experience gained from our many years' of inheriting production from large OEMs (component transfer) means we are able to offer a rapid response service with short lead times utilising our state of the art EHRT Punching and Forming Machines.



ALUMINIUM

Aluminium is used for busbar production where final weight is a consideration. We have produced aluminium busbars for a great many applications including the power conversion, rail, marine and aerospace industries. We have produced aluminium busbars for transformers, electrical panel boards and distribution boards.



INSULATED BUSBARS

HV Wooding offer busbar insulation services including powder coating, heat shrink sleeving and electroplating in tin, silver and nickel to suit your requirements.

Applications range from the use of Polyolefin and PVC for 11KVA Switchgear used within the Energy and Rail sectors to complex Busbars for EV/Hybrid Battery systems that are selectively coated (masked) with a range of insulation materials including Resicoat EL HGC20R and Nylon BB for a resistance between 1.5 and 5KV.



FLEXIBLE

Flexible Busbars are made by a unique endless loop system process. They have many technical advantages over other styles of flexible bars in their capability and performance. Our Flexible busbars are made from thin usually soft copper which is then wound and compressed to thickness to give the relevant cross-sectional area required to carry the desired current. We are also able to provide Press Welded and Braided Busbars.



> WIRE EROSION

Wire Erosion, Precision Components Manufactured to 3 Microns Tolerance

Our facilities include state of the art Agie Charmilles wire EDM machines with automatic wire feed, submerged cutting and large beds for multi-loading. We have vast experience within wire erosion and offer a flexible 24-hour service, covering everything from prototyping to volume production, fast turn around and expert technical support.



- ✓ Exceptional technical knowledge and over 25 years of wire erosion experience to call on
- ✓ Evolved processes for volume production
- ✓ Expert technical advice and demonstrations
- ✓ Prototype components and tooling
- ✓ ISO 9001, ISO 14001, OHSAS 18001 approved. FMEA.
- ✓ Reverse engineering for special projects
- ✓ Specialists in wire eroded laminations for high-end motors (aerospace, F1, defence, electrification)
- ✓ High-quality metrology department with CMM and Quick Scope





**Specialists in cutting
Copper, Aluminium,
Brass and Steel**

> LASER CUTTING

*Laser Cutting Components, secondary operation
and assembly all under one roof.*

Our latest fibre laser cutting technology has capabilities to laser cut copper up to 8mm in thickness. Together with enhanced deburring equipment and our in house Electroplating, we produce the most accurate of parts and sub-assemblies.

Applications for this service are wide-ranging including state of the art Motor Laminations, Battery Terminals and Contacts within the growing Hybrid and Electric Vehicle sector to Busbars for Power Electronics, Electrical Systems and Transportation.

- ✓ **Flexibility** - Sheet thicknesses of up to 25 mm can be cut. Problem-free processing of sheets with film coating without vaporising and a greater variety of material processing including Copper- up to 8mm, Aluminium - up to 20mm, Mild Steel - up to 25mm, Stainless Steel - up to 20mm and Brass - up to 8mm.
- ✓ **Productivity** - The one-cutting-head strategy with collision protection resulting in minimised downtimes, higher machine dynamics due to direct drive, productivity advantage with thin sheets thanks to the TruDisk solid-state laser alongside high throughput and high process reliability due to intelligent functions.
- ✓ **Quality and Tolerances** - Lasers are naturally an extremely precise and accurate profiling machine, however, we have decided to guarantee the best in profiling services by investing in a Fibre Laser over the more common Co2 laser.



> PRESSWORK & TOOLING

Precision Presswork Delivered in Volume and On Time

We have 50 years' experience and expertise of providing economic presswork solutions to major names within the electrical switchgear, electronic, power generation, medical, marine and automotive industries, so you can rely on us to provide you with a prompt, efficient service. Many customers find it beneficial to consult us at the start of their presswork manufacturing projects, enabling us to optimise tooling and production processes using advanced quality planning, PPAP, FMEA and other value chain management techniques. We have the skills and resources to cope with short lead times, high volumes and can provide a full project management service if required.

SECTORS/GLOBAL REACH

We are supplying to a wide cross section of industries including Electrical Switchgear, Renewable Energy, Automotive & EV/Hybrid Vehicle, Medical, Electric Motors, Aerospace and Science & Research.

Currently 30% of production is exported to Europe, USA and Asia.

DELIVERY

We offer our customers a 100% due date delivery option meaning you can plan your outbound logistics in the secure knowledge that your components will be with you exactly when you want them, on time, every time. And because we've been part of the product design process, our expert team and advanced manufacturing techniques will ensure that the delivered products will be at a competitive cost, in spec and to world class quality standards

TOOLMAKING

We have our own well-equipped in-house tool-making department. This facility, coupled with our team's technical expertise, enables us to design and produce a wide range of different types of tool to extremely high standards and

specifications. All tool design is carried out using advanced SolidWorks 3D CAD software. Manufacturing can be conducted by our partners in the UK or overseas, depending on the nature of the project.

3D PRODUCT DEVELOPMENT

Using CAD software SolidWorks 3D, we are able to offer customers a range of support services to enhance the design and manufacture of tooling and the general supply of metal pressings. Engaging more fully with our customers enables us to provide value, over and above traditional component suppliers.

PRESSED LAMINATIONS

We have many years' experience of producing pressed laminations from hard tooling and our skilled engineers have developed a high level of expertise in this specialist area. Customers also often make use of our wire erosion capability at the development and prototype stage. We can offer services from initial prototyping through product development into high volume production.

- ✓ Modern pressing's manufacturing techniques
- ✓ Advanced capacity planning
- ✓ Product and tool design/value engineering/ opportunities for cost reduction through international partnerships
- ✓ In-house electroplating facility: silver, tin and zinc
- ✓ Major OEMs/multinationals
- ✓ ISO 9001, ISO 14001, OHSAS 18001 approved. FMEA.
- ✓ Customer service and supply chain – Kanban /Eban/VMI
- ✓ Fully integrated ICT network





> ELECTROPLATING

Specialists in Electroplating

HV Wooding has been Electroplating for over 50 years offering a range of finishes from our in-house facilities where Tin, Silver and Zinc in both barrel and vat are amongst our capabilities. This is enhanced and extended through our business partners and suppliers to offer other coatings to include a wide range of electroless nickel, anodising, passivating, gold immersion and chromate conversion coatings.





> ASSEMBLY

HV Wooding are increasingly partnering with customers to conduct additional operations, provide complete kits or supply sub assemblies direct to line or to the customer's warehouse.

Our advanced sub assembly facility allows our customers to outsource the assembly at low risk, and focus on their core business activities, secure in the knowledge that we will provide them with a fast, cost-effective service. Reducing inventories, part numbers and supply base saves time and effort and can also result in significant cost savings.

MECHANICAL SUB ASSEMBLY

- ✓ Resistance welding.
- ✓ Capacitor discharge welding.
- ✓ Tapping and screw insertion.
- ✓ Rotary table and manual assembly.
- ✓ Motor Core Pack assemblies, specialising in high end Motors for PEMD applications across numerous E-machine sectors.

GENERAL SUB ASSEMBLY

- ✓ Cross material type assembly including metal and plastic components.
- ✓ Pressed and machined components.
- ✓ Finished products.
- ✓ Direct to warehouse including part marking, bar-coding and packaging to customer requirements.

BUSBAR SUB ASSEMBLY

- ✓ Pemming and insertion of studs, nuts, helicoils etc Sleeving and insulation materials.
- ✓ Earth bar assemblies.
- ✓ Pre-packaged kits direct to line side/warehouse Multi type busbar assemblies.





SUPPORTING OUR CUSTOMERS IN MANUFACTURING WORLD CLASS PRODUCTS

WE CAN SUPPORT YOUR REQUIREMENTS AND ADD VALUE TO YOUR BUSINESS

- ✓ Strategic outsourcing partner
- ✓ Helping our customers engineer solutions for manufacture
- ✓ Adding value through technical support and innovation
- ✓ Managing multiple supply chains – Sub-assemblies
- ✓ Developing cost effective solutions

CONTACT US TO DISCUSS YOUR REQUIREMENTS IN MORE DETAIL

CONTACT US ON:

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