

Stephen Pearce BEng (Hons)

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Profile

A highly professional engineer who has developed a progressive and successful career in mechanical engineering founded upon a solid apprentice training background. Accumulated a wealth of experience in the design, manufacture and assembly of precision machined and fabricated components to be used in a wide variety of electro-mechanical, opto-mechanical and fully and semi-automated special purpose machinery used across all sectors. Able to demonstrate particular expertise in the development of concepts through to completion and delivery to the end-user. Meticulous design detail at component and assembly level, utilising 2D and 3D design packages and evaluation tools, coupled with a clear understanding of the product design process ensuring that quality and cost-effective products are realised.

Key Skills

Innovative and divergent approach with the aptitude for technical research to solve challenging design problems.

Outstanding analytical and decision-making abilities.

Excellent communicator, able to establish and maintain working relationships at all levels.

Planning and managing multiple projects to meet deadlines.

Flexible approach resulting in ability to adapt plans to ever changing business and industry needs.

Education & Qualifications

The University of Hull

2006 - 2010

- First Class Honours Degree (BEng) in Mechanical Engineering.
- Hull Association of Engineers 'Alec Appleby' award for engineering excellence.

East Riding College

2004

- City and Guilds two-dimensional computer aided design level 2.
- City and Guilds two-dimensional computer aided draughting and design level 3.

The University of Lincoln

2001 - 2003

- BTEC Higher National Certificate in Engineering (Mechanical/Manufacture)

Beverley College of Further Education

1999 - 2003

- BTEC National Certificate in Engineering.
- Engineering Advanced Modern Apprenticeship.
- NVQ Level 3 Engineering Production.
- NVQ Level 2 Engineering Manufacture (Foundation).
- City and Guilds Computer Aided Graphics 1.

Hull Information Technology Centre

1997 - 1998

- NVQ Level 2 PCB Assembly and Repair.

Kingston High School, Hull

1992 - 1997

- 7 GCSE's Grade A-C

Career History

SPM Mechanical Engineering Ltd, Hull, HU8 8PU

December 2016- Present

Director | Freelance Mechanical Design Engineer December 2016 - Present

Incorporated SPM Mechanical Engineering Ltd and began operating as a freelance mechanical design engineer. Providing precision mechanical design from concept through to completion utilising SolidWorks Professional and Visualize Standard. Offering a full mechanical design service across all sectors. Major projects and clients include:

- Negotiated a long-term contract to provide mechanical design services to a manufacturer of digital label converting machinery based in Illinois, USA. Redesigned and redeveloped their existing equipment to make fully modular, improve integrity, improve build quality, standardise manufacture

and assembly and reduce overall cost. Fully designed new equipment and modules that allowed the company to offer new services and ultimately venture into new markets and revenue streams.

- Collaborated with a manufacturer in Germany to design and develop a specialist screen printing machine to be used to manufacture innovative substrates. These substrates were used in reverse osmosis filtration systems. The final product was to be used within the de salination industry. Responsible for the full mechanical design and supplied everything from concept models through to precision manufacturing data. Developed a new and innovative glass rod vacuum table that was vital for curing the product.
- Collaborated on many projects with a large blue-chip company in the UK who operate within the Oil and Gas sector. Tasked with designing fully-automated and semi-automated production machinery as part of their digital transformation and Industry 4.0 strategy. Services provided included site layouts and building alteration drawings. Full mechanical design of new production machinery and associated infrastructure. Sub floor steelwork layouts and installation drawings. Manufacturing and machinery installation support.
- Worked with many different clients from SMEs to large blue-chip companies. Projects have ranged from the design and supply of a manufacturing drawing for a simple component taking 30 minutes through to been fully integrated within a design team at large blue-chip companies and working on projects for months/years.

Dunlop Oil and Marine (Continental), Grimsby, DN31 2SP **July 2014- December 2016**

Mechanical Design Engineer - CAPEX July 2014 – December 2016

Responsible for the mechanical design of jigs, fixtures and test platforms related to the manufacture of large-scale industrial rubber hoses for transportation of oil and gas.

- Full 3D mechanical design using Autodesk Inventor and utilising embedded Autodesk Inventor Simulation software for design verification.
- Full management of projects and budgets from technical specification through to installation and commissioning.
- Liaising with suppliers and contractors in order to execute robust, cost-effective designs and installations.
- Design and installation of a semi-automated hose bending test fixture used for verification of bend stiffness of the company's hose range. Designed to accommodate hose lengths up to 12.2 metres long and with a maximum weight capacity of 10 tonnes.
- Design and installation of access platforms, walkways and gantry systems in order to improve overall plant safety.

A B Graphic International Ltd, Driffield YO25 9UQ

July 2011- July 2014

Mechanical Design Engineer July 2011 – July 2014

Responsible for the complete mechanical design, detailing and specification of machinery used in the labelling industry, in particular label converting and re winding using conventional mechanical die systems and 3 axis laser die cutting.

- 3D Modelling with Solid Edge ST4 including part, assembly and drafts.
- File/Product management in multi user environment utilising TeamCenter Xpress PLM software.
- Specification and procurement of 'bought out items' and bill of materials structuring for production.
- Development of 3 axis laser die cutting machinery in order to capture larger share of 'digital converting' market. Developing a family of machines tailored for specific converting applications. Reduced cost entry level system design aimed at helping convert sales enquiries into hard orders and thus gaining market presence. Cost reduction achieved through careful supplier selection coupled with detailed design and multi-function piece part design.
- Design of components and assemblies aimed at improving and extending AB Graphics current range of conventional die cutting and converting equipment.
- Commissioning and calibration of 3 axis laser die cutter.

Rofin - Sinar UK Ltd, Hull, HU10 6HD

March 1998- July 2011

Mechanical Design Engineer May 2005 – July 2011

Responsible for the mechanical design and detailing of sealed carbon dioxide laser sources, periphery electro-mechanical and opto-mechanical equipment and a range of vector driven laser printing machines for the use in the industrial, packaging, pharmaceutical, beverage, food and consumer markets.

- 2D/3D modelling and detailing of components and assemblies using AutoCAD & SolidWorks.
- Product lifecycle management using PDM Vault file management in multi-user environment.
- Bill of materials structuring and documentation finalisation for production.
- Full mechanical design of harsh environment IP67 rated vector driven laser printer, to be used in beverage, food and agricultural environments.
- Project managed the mechanical/electronic design and production implementation of new family of innovative air cooled DC power supplies. Project deliverables of reduced cost, piece part reduction and improved quality achieved resulting in direct annual savings to business of £50K.
- Worked alongside and with industrial and educational partners in the mechanical design, test and development of a new solid state laser technology which allowed Rofin Sinar to enter into previously unavailable markets due to increased material processing speeds.
- Product costing and feasibility studies using DFMA techniques in order to reduce cost and increase product quality and throughput.
- Daily mechanical support for all business operations including Sales, Service, Purchasing, Manufacture, Assembly and Test.

Mechanical Machine Shop Engineer March 1998 – May 2005

Responsible for the manufacture of precision components utilising conventional and CNC machine tools to be used in the research and development of new laser products and periphery equipment. Small batch production of established components.

- Machining detailed components in a wide variety of materials from 2D technical drawings.
- Working with geometric tolerances, specific surface finishes and to tight machine tolerances.
- Jig and fixture design for machining and assembly.

Additional Training

SolidWorks 2024 Silver Training Passport. 34 days training covering:

Essentials, Drawings, Advanced Part Modelling, Assembly Modelling, Sheet Metal, Weldments, Animations, Mould Design, Surface Modelling, Pipe Routing, Electrical Routing, Visualize Standard, Simulation Fundamentals, Simulation, Motion Simulation.

Inventor Simulation 2016 2 Day Private Course

Transitioning from 3D CAD to Inventor 2015 3 Day Private Course

TeamCenter Express 3 Day (Siemens PLM) User Training

Solid Edge 5 Day Foundation Training Course

SolidWorks Simulation Professional 2009

SolidWorks Simulation 2009

SolidWorks 2009 Update Training

TACK Project Management

Appointed Person First Aid Certificate

Basic Health and Safety at Work Certificate

Fire Extinguisher Training Course

Duties and Responsibilities of fire Wardens

Additional Qualifications

Certified SolidWorks CAD Design Professional (CSWP) 2024

Certified SolidWorks Drawing Tools Professional (CSWPA) 2024

Certified SolidWorks Weldments Professional (CSWPA) 2024

Certified SolidWorks Sheet Metal Professional (CSWPA) 2024

Other Information

Associate Member of Institute of Mechanical Engineers

Full Clean Driving Licence

Excellent Health (Non-smoker)