



Oil and Gas Case Study 06/2019

Company: Pacson Valves

Zenith 3

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Originally established in the small Scottish coastal town of Carnoustie, for over 30 years, Pacson Valves have been at the very forefront of design, development and manufacture of high-integrity pressure valves for the Oil and Gas industry. Valves that are now supplied Worldwide, to some of the biggest names within it.

With a long-standing history in the precision engineering of valve equipment, the now Dundee-based, Pacson, continue to buck the trend in the oft-volatile industry of Oil and Gas. Not only maintaining a solid order book but continuing to expand and invest in further cutting-edge manufacturing tooling and technology to cope with global customer demand.

The almost entirely in-house process of design, development, manufacturing and assembly championed by Pacson has resulted in bespoke R&D work for the likes of BP, Exxon and Shell. This dynamic approach has meant that customers regularly task Pacson with creating valves, capable of exceptional performance in controlling very strictly regulated pressures, for very specific one-off projects.

Using exotic materials such as Carbon Steel, Duplex and Super Duplex Stainless Steels, Inconel and Titanium, Pacson manufacture a wide range of ball, gate, needle and check valves.

In an industry where every part is integral and safety critical, quality assurance plays a vital role and customers demand that the very latest accreditation is held. Pacson, through a quality assurance programme committed to continuous improvement and performance, are accredited to ISO9001:2015, Pressure Equipment Directive 2014/68/EU and meet the requirements of API17D which governs the Design and Operation of Subsea Production Systems - Subsea Wellhead and Tree Equipment.

Already in use by quality inspectors were two articulating measurement arms and an Aberlink Axiom too Manual CMM. When the need to speed-up throughput via the use of a CNC CMM was identified, the company didn't need to look too far for an ideal solution.

Quality Manager, Frank McGraw and Quality Assurance Engineer, Simon Hamilton explain: "Although we had looked at other CMM suppliers, quality staff were already familiar with the ease of use of Aberlink CMMs and measurement software, having had experience at both Pacson and through use at previous employment at other manufacturing companies."

Able assisted by the Aberlink regional sales manager, Tony Smith, the decision was made, and an order placed for Aberlink's accurate and cost-effective Zenith 3 CNC CMM, with its generous, large-volume measurement range ideally suited to the Oil and Gas industry.

Now installed in a dedicated inspection area, Frank and Simon explain the impact the Zenith 3 CMM has made: "We can already see the difference our new Aberlink CMM is making, especially when measuring smaller batches of 20-25 components. We measure a wide variety of (mostly) singular machined components, ranging from 100mm<sup>2</sup> up to 0.5m<sup>2</sup> in size and before, measuring them manually may have taken up to 45 minutes per part, whereas now, it's perhaps 5 – 6 minutes per part and the repeatability is excellent."

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“With a limited number of staff in our inspection team, the Zenith 3 CMM with its CNC capabilities has sped up the measurement process, and both our day and night shift staff have found that the CMM has completely removed bottlenecks. We’re saving a lot of time.”

“Our investment was very much prompted by an up-turn in workload and the need to increase inspection throughput. The Zenith 3 CNC CMM will benefit Pacson for years to come and we expect to see a rapid return on our investment.”

Installed with Aberlink’s industry-standard, easy-to-use 3D measurement software, Pacson are also enjoying the depth of functionality offered by the optional Programming from CAD software module.

Quality Assurance Engineer, Chris Friar continues: “The Aberlink 3D software is really easy to pick-up, especially in comparison to other software packages we’ve looked at, but the addition of the CAD software makes our inspection work so much quicker.”

“Within an hour we can have a fully-fledged program that, once complete, allows us to start batch loading components. We can take a CAD model and upload it straight to the CMM so we can pre-program components before they even hit the shop floor. Once we get more programs onto the CMM, the work becomes repeat, speeding up the whole measurement process.”

“The Aberlink 3D software really is easy to use, from novice to expert, no matter your background and previous experience of using CMMs.”

Now the largest UK owned CMM manufacturer, Aberlink’s comprehensive range includes 40 variants of both CNC and manual CMM. Aberlink CMMs enable the precise measurement of the smallest of components, to parts of over 3metres long and up to 6 tonnes in weight. Customers can select from a wide range of probing and non-contact measurement options and on-machine fixturing. The company’s wide range of available solutions allows Aberlink to offer high quality CMMs and vision measuring systems to suit all applications and budgets.

Based in Eastcombe, Gloucestershire, Aberlink has established a global reputation for its metrology products which are innovative, easy-to-use and competitively priced.

Designed and manufactured by Aberlink, the largest UK owned Coordinate Measuring Machine manufacturer, the Zenith 3 Series consists of 10 large capacity CNC machines with XYZ capacities ranging from 1000x1000x600mm up to 1000x3000x800mm. As well as being the easiest to use, a major benefit of Aberlink CMMs is just how affordable they are. Aberlink are proud to be *the only major metrology* manufacturer to supply machines with **zero annual software maintenance contracts or subscriptions** and, **free software updates** for the life of the machine. All of this means that the cost of ownership is very low and the shortest return on your investment is possible.

Visit us at: [www.aberlink.com](http://www.aberlink.com) email: [sales@aberlink.com](mailto:sales@aberlink.com)  
or call: +44 (0)1453 884461 for more information.