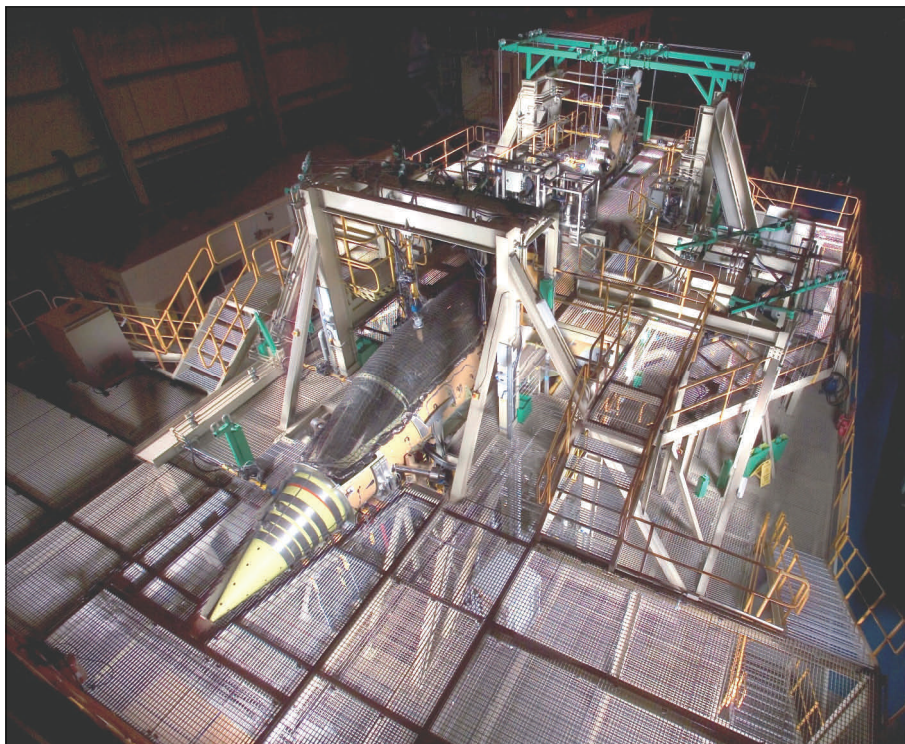


# THE COMPLETE QUALITY SERVICE GUIDE



s y s t e m s - s e r v i c e s

PROVIDING SERVICE SINCE 1982

[www.systems-services.com](http://www.systems-services.com)

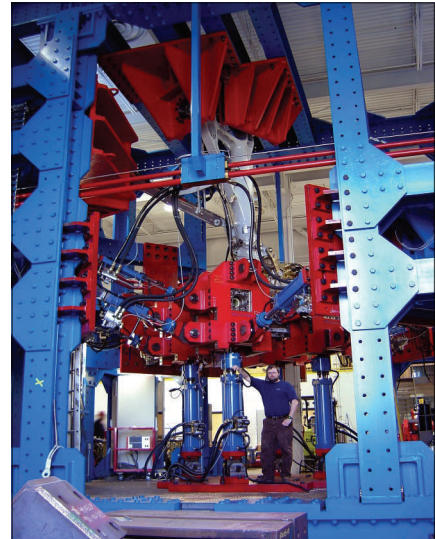
Technical support you *can* depend on



# Introduction

Systems Services offer the complete service to hydraulic motion control systems for industrial, structural and mechanical testing, ranging from single channel test machines to multi-axis, interactive, full scale fatigue tests.

Established in 1982 and incorporated in October 1984, Systems Services have earned a reputation for high standards in consultancy, service and support and training.



A380 Landing Gear Full Scale Fatigue Test

The wealth of support is amply demonstrated by the range of services on offer, each one fully supported by an ISO9001 quality system.



Systems Services have experience of over 28 different makes of fluid power motion control equipment in industries ranging from aerospace to automobile and concrete to polymer composites.

Systems Services sole aim is to consistently provide outstanding customer support in all their fields of activity.

For more information please contact [sales@systems-services.com](mailto:sales@systems-services.com) or call 01205 724242

“Technical support you can depend on”



# What Systems Services Offer

- Training
- Consultancy
- Commissioning
- Engineer on Call
- Instant Technical Support
- Service and Calibration
- Planned Preventative Maintenance
- Project Management
- Installation
- New Equipment
- Laboratory and Machinery Relocation
- Accumulator Testing
- Used Test Equipment



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“High standards in service and support”



# Generic & Customised Training Courses

Systems Services have been supporting companies since 1982 in industries ranging from aerospace to automotive and concrete to polymer composites. Engineers, technicians and managers in major organisations including Jaguar Land Rover, Rolls Royce, BAE SYSTEMS, Alstom & Tata have experienced Systems Services training as part of their organisational development.



Our principal trainer has over 40 years varied practical experience in fluid power motion control encompassing over 28 different makes of equipment.

Systems Services offer a range of generic and customised courses to suit all ability levels & requirements. A sample of the courses available includes:-

Non Technician / Non Engineer	Basic Level	Advanced Level	Fault Finding & Maintenance	Safety	Bespoke
Fluid Power Awareness	An Introduction to Hydraulics	Advanced Hydraulics	Fault Finding & Diagnostics Basic and Advanced	Safety in the Test Laboratory	Manufacturer or Facility Specific
	An Introduction to Closed Loop Control	Advanced Closed Loop Control	Hydraulic Systems Maintenance	Safety and Fluid Power	Kelsey Instruments K7000 and K7500
		Multi Channel System Commissioning		Pressure Systems	Moog AeroTEST & PTC
<div style="border: 1px solid black; padding: 5px; width: fit-content;">                     Additionally, modules may be added to encompass site or laboratory specific facilities.                 </div>					Iron Bird Rig Training
					Assessment of Competence

For more information please contact [training@systems-services.com](mailto:training@systems-services.com) or call 01205 724242

“Technical support you can depend on”

# What Our Customers Say About Our Training

## Quotes - Advanced Hydraulics

“I was extremely happy with the professional manner in which the course material was delivered”

*EADS Astrium*

## Quotes - Closed Loop Control

“I enjoyed the course and feel I have a better understanding of the basics of our Rig equipment”

*BAE SYSTEMS*

## Quotes - Safety in the Test Laboratory

“The course was an excellent refresher for reinforcing basis safety principles”

*Jaguar / Land Rover*

## Quotes - Pressure Systems

“Good course and well run - many thanks”

*BAE SYSTEMS*

## Quotes - Multiple Course Training Package

“My impression of Stephen Barrett from discussions prior to the course was that he was extremely knowledgeable and experienced in the field of servo-hydraulics and a very good communicator. This was confirmed by the course attendees who were all impressed with Stephen’s knowledge and the quality of his presentations. Everyone enjoyed the various modules and came away better equipped to do their jobs. I would recommend this course (and Stephen) to other organisations”

*CORUS*

## Quotes - Bespoke Training

“The course completed by Stephen was extremely useful and very well explained. It is clear that Stephen is not only knowledgeable but is proficient in teaching and getting his point across.

Although the course was squeezed into one day and was quite intense with regards to the amount of data proffered that needed to be learned, I felt that nothing was left out and everything was explained fully. Thanks”

*Global Marine Systems*

“... the training was well received. This course has been delivered before at Brough, and is well tailored to our requirements. The feedback received from delegates was positive”

*BAE SYSTEMS*

For more information please contact [training@systems-services.com](mailto:training@systems-services.com) or call 01205 724242

“Delivering training courses for improved business performance”



# Consultancy

Our experience has been gained working in many facets of industry employing closed loop motion control. Systems Services' experienced team of multi disciplined engineers has an extensive knowledge of the control techniques of the many and varied manufacturers who produce motion control equipment.



Our independent consultancy service offers:

- Development of technical specifications.
- Review and implementation of facilities design.
- Independent advice on fluid power designs and destructive testing issues.
- Information gained first hand relating to supplier selection and procurement.
- An expert witness service.
- Loss assessing and loss adjusting for insurance purposes.

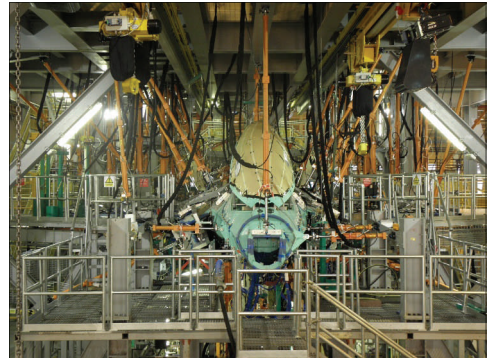
For more information please contact [consultancy@systems-services.com](mailto:consultancy@systems-services.com) or call 01205 724242

“Experienced in overcoming mechatronic problems”

# Commissioning

Systems Services have commissioned systems:

- With over 166 interactive control channels.
- Embodying full digital control.
- Data logging and complex data manipulation.
- Analysis systems including real time graphics.



F35 Lightning II Full Scale Fatigue Test

Engineer on call – Systems Services engineers' are available, at short notice, to offer commissioning support around the world.

- We have a team of multi disciplined engineers with expertise in control and instrumentation, hydraulics, electronics and mechatronics.
- Systems Services have extensive experience in commissioning rigs for static durability, fatigue and iron bird tests.
- With some engineers being over 50 we have expertise in both analogue & digital systems.



JCB Transmissions Durability Test Rig

Systems Services can provide instant technical support 24 hours a day.

- 24 hour telephone support.
- E mail / internet - web cam support service.
- Next day visit on site (Premium service).



Suzlon Wind Turbine Blade Test Facility

For more information please contact [commissioning@systems-services.com](mailto:commissioning@systems-services.com)  
or call 01205 724242

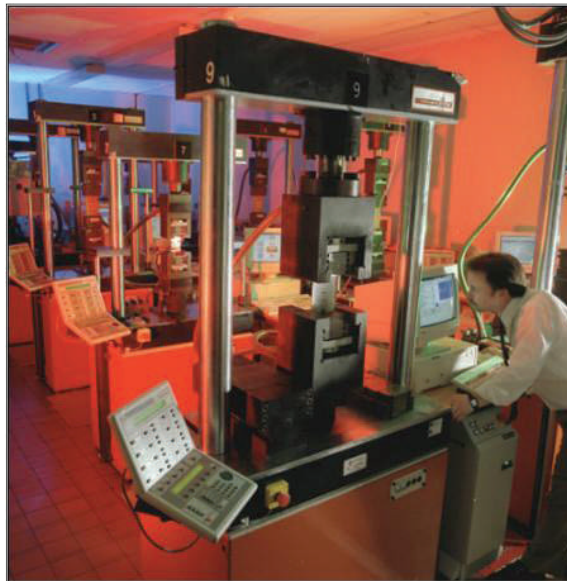
“Extensive experience in complex systems”

## Service and Calibration

Systems Services offer a full service and UKAS calibration for all makes of equipment and will determine the best service requirements leading to detailed service schedules and machine or system specific service checklists.

Annual service contracts are offered which include preferential service engineer call-out charges, a 24 hour telephone support service and a special emphasis on a rapid response following system breakdowns. Systems Services engineers' are available, at short notice, to offer technical support around the world.

Annual service contracts are further enhanced by Planned Preventative Maintenance.



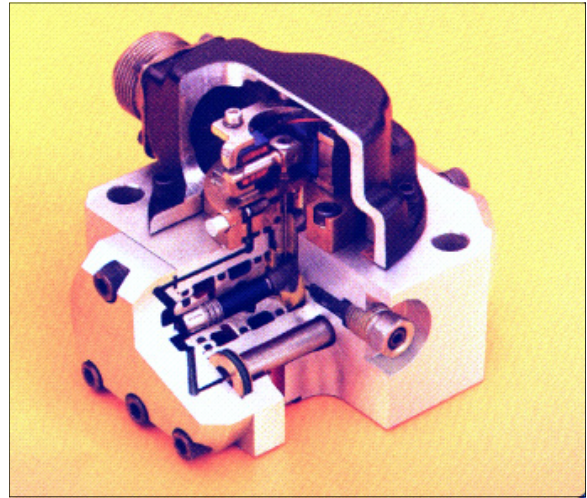
Losenhausen & Instron Test Equipment

For more information please contact [support@systems-services.com](mailto:support@systems-services.com) or call 01205 724242

“Maintaining materials testing systems”

## Planned Preventative Maintenance

Whenever heavy demands are made on equipment in continuous processes or when a large number of machines are in regular use, Systems Services advocate the concept of planned and preventative maintenance.



Usually this form of maintenance is an extension of the annual service contract entailing up to four visits a year. During that period there are two extensive service visits with two more inspection visits to highlight any areas that may require special attention at the next major visit. The number and frequency of visits are agreed with the customer at the outset of the contract.

System oil samples are taken for analysis of cleanliness and wear element evaluation by a UKAS laboratory. Regular monitoring of performance critical components, such as servo and proportional valves, allows for pre-emptive decisions to replace or repair.

Detailed records are kept of each visit and trends analysed, building up a full service history.

In this way, the user can be assured of the readiness of the system to meet the demands placed upon it.

For more information please contact [support@systems-services.com](mailto:support@systems-services.com) or call 01205 724242

“High standards in service and support”

# Project Management

Systems Services offer project management services covering all aspects related to motion control systems.

- **Commissioning;** Systems Services have wide experience of preparing commissioning plans and project planning is an integral part of that process.
- **Maintenance Project Management;** Many facilities have equipment purchased over many years from a diverse range of manufacturers. Keeping control of the maintenance, issuing numerous purchase orders and arranging site visits can be an administrative nightmare. Systems Services will completely run the maintenance of any facility with a single purchase order and, for a guaranteed fixed budget, ensure that all machines are serviced and calibrated exactly when due and to the highest standards.
- **Procurement Project Management;** Systems Services offer a complete procurement project management service. From initial concepts to final acceptance, Systems Services will assist in specification writing, obtaining proposals and quotations, progress manufacturing and supervise commissioning and final acceptance. This approach ensures that the system is capable of adequately performing the functions required of it and that it will continue to maintain that performance.



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“Technical support you can depend on”

# Installation

Systems Services offer electrical, electronic and hydraulic design and installation services for both existing and new systems. Systems Services will, for instance, visit the proposed site of a new hydraulic ring main, establish hydraulic and electrical requirements, prepare detailed proposals and, when these are accepted, carry out full installation, flushing and commissioning.



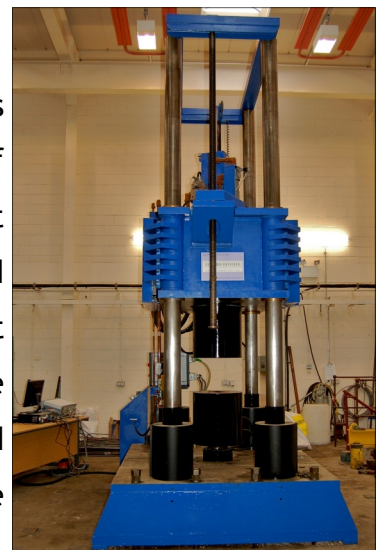
Global Marine Submarine Cable Testing

- **New Equipment**

In association with a consortium of companies, Systems Services offer feasibility studies, new digital control electronics to modernise existing equipment and a complete range of electro-hydraulic electronics and associated equipment.

- **Laboratory and Machinery Relocation**

The current trend to centralise disparate resources has lead Systems Services to create an excellent team of relocation specialists. With Systems Services project managing the complete exercise, laboratory and production plant may be relocated efficiently and cost effectively. From the moment the power at the old site is switched off until full operations of the calibrated laboratory commence, Systems Services will ensure everything, down to the last detail, is attended to. This includes civil engineering, building works and all electrical, mechanical and H&V services. Systems Services have successfully relocated £1.5 Million of test equipment in a single exercise and in a very short time.



Heriot Watt 2MN Test Machine

For more information please contact [installation@systems-services.com](mailto:installation@systems-services.com) or call 01205 724242

“Removing the hassle of installation and relocation”

# Accumulator Management and Testing

Systems Services offer management of gas charged accumulators in order to assist their customers to comply with the Pressure Systems Safety Regulations 2000.

We will carry out the role of Competent Person and fully manage your accumulators including testing and maintenance of records.

*The 2000 regulations, and the guidelines issued by the British Fluid Power Association and the HSE, require that:*

*For all pressure systems containing a relevant fluid at a pressure greater than 0.5 bar above atmospheric pressure,:*

- a. safe operating limits are established*
- b. that all relevant records are maintained; and*
- c. accumulators shall be supplied with all necessary information and markings.*

*Amongst other things required are that:*

*a. all accumulators where the product of the system pressure  $P$ (bar) and accumulator volume  $V$ (litres) is less than 250, there shall be an established maintenance procedure;*

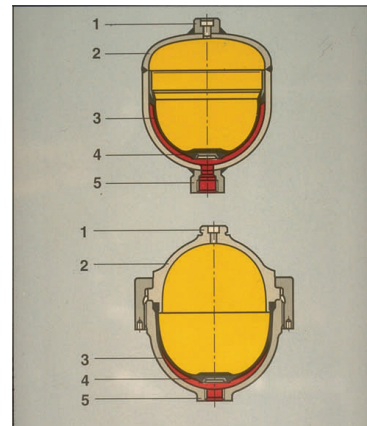
*b. for accumulators where  $P \times V$  exceeds 250 bar litres, there shall be a written scheme of examination together with an established maintenance procedure.*

Systems Services will

- Audit your existing system
- Create a data base of your accumulators
- Determine which accumulators exceed 250 bar litres
- Ensure all accumulators are identified
- Determine frequency of accumulator examination and testing
- Prepare a written scheme of examination
- Establish maintenance procedures
- Arrange testing and certification through an approved test house
- Maintain and manage records
- Complete regular inspections

For more information please contact [sales@systems-services.com](mailto:sales@systems-services.com) or call 01205 724242

“Failure to comply is a criminal offence”



## Used Test Equipment

Systems Services have a wide range of pre owned test machines and accessories available (including power packs, loadcells, servovalves etc.) which can be provided in a refurbished or as seen condition.

As part of a complete package we also offer:

- Delivery
- Installation (including all services)
- Commissioning
- Calibration
- Training
- Ongoing support and service



For more information please contact [sales@systems-services.com](mailto:sales@systems-services.com) or call 01205 724242

“Technical support you can depend on”



# Systems Familiarity

Systems Services are familiar with many systems and equipment from a diverse range of manufacturers.

Some of these are listed below:

A number of these manufacturers no longer trade and Systems Services can usually provide technical data (circuits etc.) and replacement component parts, as well as first class technical support.

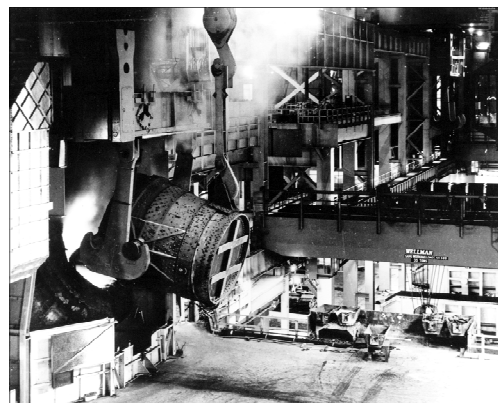
- |                      |                  |
|----------------------|------------------|
| Abacus               | Mayes            |
| Avery                | Mohr & Federhaff |
| Dartec               | Moog             |
| Denison              | MOOG FCS         |
| ESH                  | MTS              |
| Farnell              | Roell Amsler     |
| Galdabini            | Schenck          |
| Indentec             | Servocon         |
| Instron              | Servotest        |
| Integrated Systems   | Si-Plan          |
| Keelavite Hydraulics | Testwell         |
| Kelsey Instruments   | Tonipact         |
| Losenhausen          | Vickers          |
| Mand                 | Zwick            |



Wave Simulator—Taiwan—1975



Hercules C130K Wing Fatigue Test—1979



BSC Port Talbot (now Tata) - 1982

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“Over 40 years varied practical experience”

## Client List

Established in 1982 Systems Services have experience of over 28 different manufacturers of motion control systems for industrial, structural and mechanical testing. Systems Services have provided world-wide technical support to the following organisations :-

### **AIRBUS**

**Agusta Westland**

**Alstom Power**

**AMEC (SERCO Assurance)**

**Anthony Best Dynamics**

**APPH**

**BAE SYSTEMS**

**BWI Group (Delphi)**

**Dunlop Oil and Marine Ltd**

**EADS Astrium**

**Element (Material Engineering)**

**E ON UK (Powergen)**

**ERIKS**

**Exova (Bodycote)**

**GKN Group**

**Global Marine Systems**

**Instron**

**Jaguar Land Rover**

**Johnson Controls**

**JCB**

**Lotus Engineering**

**Marshall Aerospace**

**Marshall Slingsby Composites**

**Millbrook Proving Ground**

**Ministry of Defence**

**Messier-Dowty**

**MOOG Control Systems**

**Oceaneering—OIS**

**Parsons Chain Company**

**Rolls Royce**

**QinetiQ (DERA)**

**SERCAL**

### **Tata (Corus)**

**Thyssen Krupp Tallent Engineering**

**The Welding Institute**

**Universities of :**

**Aston**

**Birmingham**

**Cambridge**

**Edinburgh**

**Loughborough**

**Oxford**

**Salford**

**Sheffield**

**Swansea**

**City University**

**Heriot Watt University**

**Imperial College**

**Kings College, London**

**Wavin**

### **International:**

**Thales Alitalia - Turin**

**BMEEI - Beijing**

**DGA C.E.A.T.—Toulouse**

**Dubai Municipality**

**Goodrich Landing Gear—Toronto**

**GTRE—Bangalore**

**Indonesia Aerospace - Jakarta**

**Modern Ironworks - Eire**

**Ontario Research - Toronto**

**Suzlon—India**

**Transport Laboratories - New Delhi**

For more information please contact [sales@systems-services.com](mailto:sales@systems-services.com) or call 01205 724242

## What Our Customers Say About Our Services

“Systems Services have maintained our 18 testing machines since 1985 and provided a calibration and service. Some machines are in permanent use whilst others only once or twice a year. In both cases it is essential that these machines work accurately when required. Systems Services have provided this reliability of service.”

*Materials Test Department*

“Systems Services have successfully upgraded four uni-axial test machines here at the Brough-based Structural Test Facility..... The upgrade work was carried out in a professional manner, respecting tight constraints on both timescales, machine down-time and budget. The system operators are very pleased with the systems, which now offer improved reliability, functionality and ease of use.”

*Colin Lattimore, BAE Systems*

“The ability to buy in mechatronic expertise as required is critical; there are some problems that are outside of the skills of existing staff. In many cases we find that Systems Services have previously solved a problem we thought unique to us, therefore they can solve it in a fraction of the time.”

*Simon Evans, Chief Engineer, JCB Transmissions*

“I worked with Steve Barrett (System Services) during the commissioning of the Nimrod Iron Bird in 2001 and the A380 Landing Gear Test Rig in 2004-5. On both occasions I found Steve to be a highly skilled engineer with vast experience in the field of testing. His knowledge of hydraulic systems is superb and is complimented by his in depth experience of control systems and electronics.”

*Martin Jones, Airbus UK*

“During the last decade I have made use of Stephen's services in many projects around the globe. Stephen's broad experience and detailed knowledge in structural testing accelerate faultfinding for complex mechatronic test systems used for Structural Testing in the aerospace industry, and hence reduces test setup and commissioning times.

Furthermore, Stephen is a great team member and a pleasure to work with.”

*Hans Klaufus, Technical Manager, Moog Industrial*

For more information please contact [support@systems-services.com](mailto:support@systems-services.com) or call 01205 724242

“Maintaining materials testing systems”

## Some of our Customers



For more information please contact [sales@systems-services.com](mailto:sales@systems-services.com) or call 01205 724242

“High standards in service and support”

## Contact Details



### Technical

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 Managing Director  
 Email: [stephen.barrett@systems-services.com](mailto:stephen.barrett@systems-services.com)



### Administration

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 Office Administrator  
 Email: [sue.vivian-smith@systems-services.com](mailto:sue.vivian-smith@systems-services.com)

### Office

Systems Services [www.systems-services.com](http://www.systems-services.com)  
 The Coach House, 303 Willington Road  
 Kirton End, Boston  
 Lincolnshire, PE20 1NR  
 England

Telephone: +44 (0) 1205 724242 Fax: +44 (0) 1205 724247

### Quality Management

Systems Services operate a fully certified quality management system to ISO9001.

Our scope is:-

“Provision of consultancy and training for fluid power motion control systems, including associated servicing, calibration management, commissioning, gas loaded accumulator management and technical procurement services.”

Our system is approved by Lloyd’s Register Quality Assurance.  
 Certificate number 955191.



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“Technical support you *can* depend on”

Systems Services The Coach House, 303 Willington Road, Kirton End, Boston, Lincolnshire, PE20 1NR  
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