Accumulator Repair, Test, and Recertification Program 2014

Hydraulic Accumulator Maintenance Procedures and Costs

Design & Maintenance Engineering Specialists

Contents

Overview

Today's Hydraulic and Pneumatic systems are complex and their performance and reliability are paramount in allowing your business to run smoothly and effectively without the costly loss of production and downtime from breakdowns.

At SIRUS Fluid Power Ltd we are firm believers in preventative and predictive maintenance. A service that plays a major part in not only preventing these costly breakdowns, but actually allows us in co-operation with our clients, to plan future maintenance that reduces the risk of breakdowns whilst monitoring the operation of the system for maximum efficiency.

Accumulator Repair, Test and Recertification

The Accumulator Repair, Test & Recertification Program 2014 is a result of continued contact and experience of our clients' needs to reduce maintenance costs, reduce costly breakdowns/call out charges and importantly maintain production.

Under the Pressure Systems Safety Regulations 2000, all hydraulic accumulators over a certain age must be tested periodically. Sirus recommend that they are tested and certified every five to ten years dependent on environment and fluid medium.

Users and owners of pressure systems are required to demonstrate that they know the safe working operating limits of their systems and that the systems are safe under these conditions.

They need to ensure that a suitable Written Scheme of Examination is in place before the system is operated, and that the pressure system is examined in accordance with the Written Scheme of Examination.

Accumulator Testing Service

Sirus Fluid Power Ltd is the South Wales Accumulator Recertification Test House representing QHP (Quality Hydraulic Products).

We provide Recertification, Written Scheme of Examination and new Accumulators to our clients and end users.

We also design and specify energy saving solutions to new and existing circuits.

Examination Planning

When deciding upon the periodicity between examinations, the aim should be to ensure that sufficient examinations are carried out to identify at an early stage any deterioration or malfunction which is likely to affect the safe operation of the system.
Protective devices may need to be examined at more frequent intervals than the equipment they protect. The examination should include checks that the devices function correctly and are properly calibrated or, alternatively, that they have been replaced by recently tested units.
All relevant factors should be taken into account when deciding upon the appropriate interval between examinations, including:

(i) The safety record and previous history of the system;

(ii) Any generic information available about the particular type of system;

(iii) Its current condition, e.g. due to internal and external corrosion etc;

(iv) The expected operating conditions;

(v) The quality of fluids used in the system;

(vi) The standard of technical supervision, operation, maintenance and inspection in the user's/owner's organisation; and

(vii) The applicability of any on-stream monitoring.

Maximum interval between examinations

Where an annual maintenance schedule is in place, it is recommended that an external examination be performed on gas-loaded accumulators at that time. Otherwise the frequency of examination will depend upon each individual pressure system and the environmental conditions in which it is installed.

The following examples are given as a guide:

Example 1: A corrosive fluid with a high humidity environment may require a frequency of internal and external examinations of every two years.

Example 2: If a gas-loaded accumulator is installed in a pressure system which uses a non-corrosive hydraulic fluid but the system is installed in a high humidity environment where there is a risk of external corrosion, then the period between examinations may be less frequent.

Example 3: A gas-loaded accumulator used in a process environment using a hydraulic fluid which may be corrosive would have the period between examinations increased to approximately five years.

Example 4: A gas-loaded accumulator in a general machine shop situation where there are no adverse environmental conditions to be considered and the hydraulic fluid used is non-corrosive a ten-year period between examinations may be acceptable.

Note: The BFPA/TC1 'Accumulators' committee are of the opinion that a maximum of 10 years between a pressure test or an ultrasonic test is 'industry practice' and PSSR 'competent persons' should bear this in mind when preparing any action plans.

Planned Maintenance Program

However many Accumulators you have on site, and whatever the size and capacity, Sirus Fluid Power Ltd can help you plan a full maintenance program, enabling them to be tested in turn, and minimising down time.

If required we can supply a new Accumulator to replace an existing unit, then once tested and recertified it can be used to replace the next matching accumulator, and so on until the series is replaced.

Your Written Scheme of Examination will contain records of when your accumulators were tested and we can therefore inform you, in time to plan the maintenance process before the existing certification expires.

Accumulator Full Service Details

Our comprehensive service includes collection and delivery services.

Included are the following in the Full Service package

- Visual inspection of specification and outer casing
- Testing of the casing in our pressure testing rig.
- Installation of new bladder
- Reassembly
- Full oil test on hydraulic test rig facility
- Repaint
- Fitting of specification and testing label.

Safety Block/Safety Valve Examination & Testing

The Accumulator Safety Block is a multifunctional valve placed between the hydraulic accumulator and the operating system. Its modular design permits versatility for mounting and a host of connection options for all hydraulic accumulators. The safety block allows for isolation of the accumulator during maintenance or system testing. Additionally, it can function as an emergency shut-off device and pressure relief valve to protect from over-pressurisation and system failure.

This vital component is often overlooked and given its inclusion in the Written Scheme of Examination its operational status cannot be underestimated.

It is a vital that this component if fitted is tested within the same time frame as the Accumulator it is fitted to.

Individual Accumulator Recertification (including all new rubber fittings)

Summary

As Sirus Fluid Power Ltd is the South Wales Accumulator Recertification Test House you are assured of a competent, service guaranteeing you a first class service offering with attention to detail and quality.

Whatever your requirements in either volume or time requirements we pride ourselves on our service that our clients including TATA Steel, Royal Mint and SAS International have come to trust and value.

Please do not hesitate to contact us for any enquiry you may have relating to your Accumulator service or component requirements, or simply for advice on this or other hydraulic system matters.

Sirus Fluid Power Ltd