

Australian Pressure Vessel Regulations (Queensland)

This document will provide a basic guideline to the requirements of Pressure Vessels and in particular hydraulic accumulators.

Three important issues to be addressed are:

1. Design registration of the accumulator
2. Plant registration
3. In-service inspections to AS3788.

Design registration of the accumulator

Accumulators with Hazard Levels A, B, C and D (under Australian Standard AS4343) should have their designs registered with Workplace Health and Safety Queensland (WHSQ) and have the design registration number clearly marked on the plant item. This applies to old and new accumulators. New accumulators manufactured to AS1210 are supplied with a design registration document with every accumulator.

Older equipment or equipment bought in from overseas should also be design registered with WHSQ by the importer or owner of the equipment. This may require a full manufacturing data report with detailed shell drawings. The design then needs to be verified to ensure it meets or is equivalent to the Australian standard.

For older accumulators which did not require design registration prior to July 2004, please note the law may change in the future due to the difficulty or cost associated with these older models.

Plant registration

Accumulators with Hazard Level A, B and C (under AS4343) should be plant registered with Workplace Health and Safety Queensland. The person responsible for the plant registration is the **owner** of the equipment.

In-service inspection (AS3788)

- Pressure equipment used in Australia is subject to periodic inspection as determined by AS3788 as well as the typical commissioning or re-commissioning inspection (See table below).
- The **owner** of the equipment is responsible for ensuring that inspections are carried out.
- The nominal inspection intervals are dependant on the process fluid and the Pressure-Volume relationship of the accumulator.
- Inspection covers both standard Accumulators vessels and also serially produced pressure vessel manufactured in accordance with BS/EN 286.1

Inspection - responsibilities and capabilities

- All Pressure vessel inspections shall be carried out by a competent person, such as a Boiler inspector or a company that specialises in pressure vessel testing.
- The in-service inspection takes into account where the product is used and the potential for failure in the future.
- AS3788 also enables risk based inspections to be used.

These are subject to:

- (i) Agreement between owner/operator and inspection body
- (ii) Justification of any variation of inspection practice from AS3788.

Thus, the inspection periods can be increased as long as the increase can be justified and agreed by the inspection body.

Inspection periods

				Internal inspection period in years		
Oil Service	Commissioning	1st Yr, Internal and external	External inspection	Nominal	Extended	
PV < 100 Mpa.L	N	-	-	-		1 & 2.5l
PV=100-200Mpa.L	Y	-	-	-		4L
PV > 200 Mpa.L	Y	Y	2	12	12	10L+
Chemical service	Y	Y	2	4	12	

In conclusion, for standard oil service units rated to a maximum working pressure of 345 Bar:

- **1** and **2.5** litre units are subject to no inspection
- **4** litre units are subject to commissioning inspection only
- **10** litre and above are subject to internal and external inspections.

All accumulators used with corrosive or flammable chemicals are to be inspected on a regular basis. The inspector can grant an extended period for internal inspections if he feels that there is no ground for expecting corrosion problem after his first internal inspection.

The information provided in this document should be used as a guide only. Olaer Fawcett Christie does not accept any responsibility with regard to the accuracy of the content or any legal ramifications which could arise from the using this document. It is the responsibility of the owner of the equipment to make sure they comply with Workplace Health and Safety Queensland.

12.3.06