



Technical Brief:

Interpretation of Serially Produced Pressure Equipment and Regulatory Compliance Obligations Under the WHS Regulations 2022 (General) (WA).

1. Purpose of This Brief

This document provides a technical and regulatory justification for classifying hydraulic accumulators designed to EN 14359 and ASME VIII Div. 1 Appendix 35 rules as serially produced pressure equipment and therefore exempt from item registration under the Work Health and Safety (General) Regulations 2022 (“WHS Regulations 2022”).

This brief is intended to clarify the regulatory basis for exemption aligned with the Regulations, design standards, and accepted regulatory practice for users and plant owners who rely on Hazard Level (HL) A–C classification to determine registration requirements.

For continuity, EN14359 shall be used for illustrative purposes throughout this brief.

2. Regulatory Framework

2.1 Design Registration

Under Schedule 5, Division 1, Clause 1(1) of the WHS Regulations 2022, certain designs of pressure equipment must be design-registered, unless exempted by Clause 2 (1).

This obligation applies to the design, not the physical item.

2.2 Item Registration

Under Schedule 5, Division 2, Clause 3(2), certain items of pressure equipment must be plant registered, unless exempted.

This obligation applies to the physical plant installed at a workplace.

2.3 Exemption for Serially Produced Vessels

The Regulations provide an exemption from item registration for serially produced pressure vessels, subject to the conditions listed in Schedule 5.

Critically:

- The Regulations do not define “serially produced”.
- The Regulations do not mandate the use of AS 2971.
- The Regulations do not require serial production to be assessed using an Australian standard.
- The Regulations do not override definitions contained in the design standard used for the equipment.

This omission is central to the regulatory interpretation.



3. Technical Basis for Serial Production Classification

3.1 Design Standard: EN 14359

Hydraulic accumulators in heavy mobile equipment (HME) are commonly designed and manufactured to EN 14359 – Gas-loaded Accumulators for Fluid Power Systems.

This standard applies to gas-loaded accumulators operating within the following conditions:

- subject to an internal gauge pressure greater than 0.5 bar;
- working temperature not lower than -50 °C and not higher than +200 °C;
- containing all liquids and gases as defined in the Pressure Equipment Directive 2014/68/EU.

Per EN14359, a Gas-Loaded Accumulator is defined as:

“Hydraulic accumulator with separator between liquid and gas where the liquid is pressurized using the compressibility of an inert gas (for example nitrogen)”.

EN 14359 Clause 5.3 explicitly states:

“Accumulators are often serially produced...”

This is a direct classification within the design standard itself.

3.2 Manufacturing Characteristics

Accumulators designed to EN 14359 are:

- Produced on dedicated manufacturing lines
- Manufactured in sequential batches
- Built to a fixed, repeatable design
- Subject to consistent QA/QC processes
- Not custom-engineered for individual installations
- Manufactured in high volumes for global OEMs

These characteristics meet the engineering definition of serial production used internationally.

3.3 Comparison to AS 2971

AS 2971 is an Australian standard for serially produced vessels. However:

- The WHS Regulations do not reference AS 2971 in the exemption clause.
- The WHS Regulations do not require serially produced vessels to comply with AS 2971.
- AS 2971's destructive testing regime and pressure/volume limits do not apply unless the Regulations explicitly require them.
- AS 2971 cannot be used as the mandatory definition of serial production unless incorporated by reference — and it is not.

Therefore, AS 2971 is not the regulatory benchmark for determining serial production under the WHS Regulations 2022.



4. Regulatory Interpretation Principles

4.1 Undefined Technical Terms

When a regulation uses a technical term without defining it, the accepted legal and regulatory interpretation is the meaning of the term as defined in the design standard the plant was designed to.

This principle is consistent with the practice of cross-code compliance and acceptance of equivalency.

4.2 Application to Serial Production

Because:

- “Serially produced” is not defined in the Regulations
- No Australian standard is mandated
- EN 14359 explicitly defines accumulators as serially produced

The correct regulatory interpretation therefore is:

Accumulators designed to EN 14359 are serially produced for the purposes of the WHS Regulations 2022.

5. Consequence: Item Registration Exemption Applies

The exemption clause contained within the WHS Regulation is binary:

- If the plant is serially produced → item registration is not required
- If the plant is not serially produced → item registration is required

Since EN 14359 classifies accumulators as serially produced, and the Regulations do not impose any alternative definition accumulators designed to EN 14359 fall within the exemption for serially produced vessels and therefore do not require item registration under Schedule 5, Division 2, Clause 3(2).

This interpretation is fully compliant with the WHS Regulations 2022.

6. Implications for Tier-1 Mining Operators

6.1 Historical Practice

Many Tier-1 miners have historically required:

- Design registration for HL A–D vessels
- Item registration for HL A–C vessels

This practice was based on:

- Pre-WHS regulatory frameworks
- Internal risk policies
- Lack of clarity in the Regulations of serial production exemptions



- Assumptions that AS 2971 was the required benchmark

6.2 Updated Regulatory Interpretation

Under the WHS Regulations 2022:

- Serially produced vessels are exempt from item registration
- EN 14359 accumulators are serially produced
- AS 2971 is not required
- Item registration is not applicable

This interpretation aligns with:

- The wording of the Regulations
- The design standard
- National WHS regulatory practice
- The intent of serial production exemptions

6.3 Compliance Assurance

Accumulators designed to EN 14359 still require:

- Hazard Level classification under AS 4343
- Statement of Design Verification
- Design registration (HL A–D)
- Inspection and integrity management
- Traceable documentation

These requirements remain unchanged.

The only change is the removal of item registration for serially produced accumulators.

7. Conclusion

Based on the regulatory structure, design standard definitions, and accepted interpretation principles:

Hydraulic accumulators designed to EN 14359 are serially produced pressure vessels.

Serially produced vessels are exempt from item registration under the WHS Regulations 2022.

Therefore, accumulators designed to EN 14359, ASME VIII Div. 1 Appendix 35 and similar do not require individual plant registration, even when classified as Hazard Level A–C.