

TECHNICAL DATA SHEET (TDS)

Knelson Concentrator – Complete Cap Assembly with Lid Cover

Part No.: KC-40-100014

Equipment Type: Batch Concentrator model QS40

Manufacturer: Afrilime Mineral Processing solutions Limited

Category: Spare Part – Cap Assembly

1. Product Overview

The Complete Cap Assembly for the Knelson QS40 Concentrator is a precision-engineered component designed to enclose and protect the upper section of the concentrator bowl. It ensures a secure seal during operation, maintaining pressure integrity and preventing slurry or water leakage from the fluidization system. The cap incorporates a reinforced lid with handle and integrated launder cover for efficient maintenance and operational reliability.

2. Functional Description

- Provides a sealed enclosure for the fluidization chamber.
- Prevents contamination and slurry spillage during concentration cycles.
- Ensures smooth operation under high G-force conditions.
- Facilitates easy removal for cleaning and inspection.

3. Technical Specifications

Parameter	Specification
Model Compatibility	Knelson QS40 Concentrator
Assembly Composition	Lid, Handle, Launder Cover, Inspection Port, Gasket Set
Material of Construction	Stainless Steel 316 / Cast Aluminum Alloy
Surface Finish	Corrosion-resistant epoxy coating
Cap Diameter	915 mm (approx.)
Assembly Weight	68 kg ± 5%
Sealing Type	O-ring / Rubber Gasket, oil and chemical resistant
Operating Pressure	Up to 250 kPa
Operating Temperature	0°C to 80°C



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Mounting Type	Bolted flange type, with safety latch locks
Recommended Torque for Fasteners	55 N·m
Replacement Interval	Every 24–30 months under standard operation

4. Installation & Handling

- Ensure the concentrator bowl rim is free from debris before installing the cap.
- Inspect gasket and sealing surfaces for wear before assembly.
- Tighten all retaining bolts in a diagonal sequence to prevent misalignment.
- Use mechanical lifting assistance for handling (weight > 60 kg).

5. Maintenance & Inspection

- Clean the inner and outer cap surfaces after each operational shift.
- Check lid hinges and handle bolts for fatigue monthly.
- Replace gaskets during any disassembly.
- Repaint if corrosion is observed on metallic surfaces.

6. Safety & Compliance

- Do not operate the concentrator without the cap securely fastened.
- Always depressurize before removing the lid.
- Designed in compliance with ISO 12100:2010 for machine safety and ISO 14121 risk assessment standards.

7. Packaging & Storage

- Supplied in wooden crate with protective foam padding.
- Store in a dry, covered area to prevent corrosion.
- Avoid stacking more than two assemblies.

8. Reference Drawing

Drawing No. QS40-CAP-100014

Fabricator Supplier:

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