

CIRCUMFERENTIAL PISTON & ROTARY LOBE PUMPS

Best Practices

1

GENERAL INSPECTION

STOP UPON RECEIPT:

- Examine equipment and file a claim in the event of damage or loss.
FACT: Typically, there is a limited timeframe for filing a claim.

OBSERVE & INSPECT:

- Check for water in the gearbox. Inspect bearings, shaft, rotor housing, and seals for damage. Verify pump-to-gear motor alignment. Inspect for contaminants. Ensure proper lubrication.
FACT: Water in the gearbox is the most common cause of failure in Circumferential Piston pumps (CPP) and Rotary Lobe pumps (RLP).



2

SAFETY



PROTECT:

- Install OSHA-approved guards over rotating parts.
FACT: Protective guards prevent injuries.
- Install strainers and filters ahead of pumps.
FACT: Installing filters and strainers keeps unwanted material from entering the pump.

RELIEF VALVE:

- Install when using almost any positive displacement pump.
FACT: This protects the process system from pressure overload.

INSTALLATION:

- Support piping to and from the pump so the pump itself provides zero pipe support.
FACT: This reduces binding of the pump and helps prevent misalignment.

3

REVIEW PERFORMANCE



GAUGES:

- Install pressure gauges near the pump on at least the outlet side, if not both inlet and outlet.
FACT: These gauges provide critical pump performance data.

CHECK ROTATION:

- Check rotation direction, especially if performance falls off.
FACT: Rotation checks can prevent operational issues.

FLUSHING:

- Always use seal flush for sticky and abrasive products.
FACT: Flushing from bottom to top removes air and ensures thorough cleaning or quenching of the seal.

4

SLOW & STEADY

START SLOWLY:

- Use soft starts or VFDs to gradually increase pump speed.
FACT: This helps avoid stress and damage to pump components from sudden starts.



5

MAINTAIN



MEASURE MOVEMENT:

- Check the shaft's radial and axial movement; replace bearings if needed.
FACT: These checks can catch current excessive wear that is likely showing up through other failure modes.

INSPECT GEARS:

- Check for wear and damage.
FACT: Regular maintenance, repairs, and pump speed adjustments reduce wear.

Proper preventive maintenance protects your investment, reduces downtime, and maximizes the lifespan of CPP and RLP pumps. Train your teams, apply these best practices consistently, and schedule routine inspections to ensure reliable performance.



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