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**Additional Locations**

Eastern Washington: (509) 949-3368

Idaho & Montana: (208) 360-3833

Oregon: (503) 708-9609

Rotary Gear Pump Troubleshooting Guide

PROBLEM	PROBABLE CAUSE	SOLUTION
Pump not delivering liquid	Pump not primed.	Re-prime pump, verify suction line is full of liquid.
	Wrong direction of rotation.	Change rotation to concur with direction indicated by arrow on bearing housing or pump casing; swap motor connections if necessary.
	Suction lift too high.	Check with a gauge at pump inlet suction. Review/revise level of suction. Install shorter suction pipe.
	Suction strainer clogged.	Clean strainer.
	Suction line clogged.	Unclog suction line. Confirm that any suction valves or control valves are not stuck shut.
	Valves closed.	Open all suction and discharge valves.
	Pump starving or liquid vaporizing in suction line.	Increase suction pipe diameter or reduce pipe length; position below liquid level.
	Pump speed too low.	Check driver speed.
	Rotating parts worn or damaged.	Replace worn or damaged parts.
	Internal clearance too great.	Check and readjust clearance if required.
Pump not delivering rated flow or head	Air leak in suction line.	Locate and seal air leak; replace gaskets. Tighten connections.
	Foot valve or end of suction line pipe not immersed deeply enough.	Check and correct as required.
	Foot valve too small or obstructed.	Check and correct as required.
	Air leak though stuffing box.	Inspect packaging/mechanical seal; replace or adjust packing.
	Rotating parts worn or damaged.	Replace worn or damaged parts.
	Internal clearance too great.	Check and readjust clearance if required.
	Pump speed too low.	Check driver speed.
	Suction lift too high.	Check with a gauge at pump suction inlet. Review/revise level of suction. Install shorter suction pipe.
	Relief valve pressure set too low.	Readjust.
	Pump starving or liquid vaporizing in suction line.	Increase suction pipe diameter or reduce pipe length; position below liquid level.
Suction or discharge lines blocked; valves closed.	Remove obstruction. Confirm that any suction valves or control valves are not stuck shut. Open valves.	

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Pump requires too much power	Pump speed too high.	Verify motor speed, reducer ratio, sheave size and other drive components are correct for this application.
	Total head greater than specified.	Check with gauge at pump discharge outlet.
		Increase pipe diameter.
		Decrease pipe run.
	Liquid heavier than expected.	Check specific gravity and viscosity.
		Verify the actual power consumption is correct.
	Suction or discharge lines blocked.	Unclog suction and/or discharge lines.
	System pressure relief valve set too high or not operating properly.	Readjust relief valve and check valve.
	Power source undersized.	Check power requirements for application; resize as required.
	Stuffing box is incorrectly packaged.	Readjust packing. Replace if worn.
Mechanical defects (bent shaft, internal parts worn, insufficient clearances).	Check internal parts for proper clearances.	
	Replace damaged and worn parts.	
	Contact Northwest Industrial Repair for service and repair.	
Improper alignment.	Realign pump and motor.	
	Check alignment of pipe line connections.	
Pump is noisy or vibrates	Pump speed too high.	Reduce speed.
	Cavitation.	Review suction system. Increase NPSH available.
	Relief valve chatter.	Increase pressure setting.
	Base not rigid enough.	Tighten hold-down bolts of base, pump and motor. Recheck alignment.
	Improper alignment.	Realign pump and motor.
	Pump starving or liquid vaporizing in suction line.	Increase suction pipe diameter or reduce pipe length; position below liquid level.
	Rotating parts worn or damaged; improper end clearance.	Replace worn or defective parts.
Check end clearances.		

