

**Washington Office Location**21850 88<sup>th</sup> Place South

Kent, WA 98031

Office: (253) 872-2000

Fax: (253) 872-7033

Email: info@nwindustrialrepair.com

**Additional Locations**

Eastern Washington: (509) 949-3368

Idaho &amp; Montana: (208) 360-3833

Oregon: (503) 708-9609

## Rotary Vane (Single-Stage, Oil-Sealed) Pump Troubleshooting Guide

PROBLEM	PROBABLE CAUSE	SOLUTIONS
Rotary Vane pump smokes at the exhaust side or expels oil droplets from the exhaust	Exhaust filters are not properly installed with O-ring.	Check exhaust filter placement and replace if needed.
	Filter media is damaged.	
	Exhaust filters are clogged with foreign particles.	Replace filter and O-ring.
	Oil is not recirculating properly.	Check oil quality and make certain oil lines are clean.
Rotary Vane pump is running too hot	Not enough oil in the oil reservoir or oil is badly burned or carbonized.	Drain oil and refill with the proper oil. Change oil more frequently.
	Not enough air ventilation to the pump.	Clean radiator and motor fins. Make certain a sufficient amount of fresh air is supplied to the pump.
Rotary Vane pump will not operate (seized up)	Pump operated without oil and vanes broke.	Call Northwest Industrial Repair for service and repair.
	Liquid carry over into pump cylinder broke vanes while pump was running.	Install knock-out pot at inlet of pump.
Rotary Vane pump does not reach end pressure. This is the lower absolute (best vacuum) when running with the inlet closed.	Oil condition is most often the cause of not reaching end vacuum.	Drain oil from pump and refill with fresh oil. Run pump with fresh oil for 15 minutes and then take a few vacuum pressure readings.
	Inlet screen clogged with debris.	Clean screen and check inlet filter element.
	Shaft seal leak.	Replace shaft seal with overhaul kit or call Northwest Industrial Repair.
	Vane stuck in rotor slot.	Drain oil with flushing oil. Run pump for 15 minutes and drain. Replace fluid with fresh oil, exhaust filter and spin-on filter.
		Replace vane.
		Call Northwest Industrial Repair for service and repair
	Anti-suck back valve stuck in closed position due to oil contamination.	Disassemble valve and screen, and clean as required. Drain old oil and replace with fresh oil.
	No oil or low oil level in reservoir.	Shut down pump, drain balance of oil and refill with fresh oil.
Vacuum fitting or hose is not leak-tight.	Check hose and pipe connection for leaks.	
Radial clearance between rotor and cylinder is no longer adequate.	Overall pump or call Northwest Industrial Repair.	
Rotary Vane pump operation is very noisy	Coupling insert is worn.	Replace coupling insert in motor/pump coupling.
	Vanes stuck.	Replace vane or call Northwest Industrial Repair.
	Bearing noise.	Replace bearings or call Northwest Industrial Repair.

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Rotary Vane pump starts but it labors and draws high amperage	Oil is too viscous.	Drain and change with fresh oil.
	Exhaust filter is clogged.	Replace exhaust filters, maintain proper oil condition and oil level. See Maintenance Manual for recommended oil for normal duty and severe duty operating conditions. Make sure inlet filter is operational to prevent particulate carryover.
	Loose connection in motor terminal box wired for wrong voltage.	Checking wiring diagram for proper connections, and tighten or replace loose connections.
	Foreign particles in pump.	Overall pump or call Northwest Industrial Repair.
	Broken vanes or seized bearings.	
	The pump is overfilled with oil or the wrong kind of oil is in the pump.	Drain oil and replace with the correct type and appropriate amount of oil.
	Pump runs in wrong direction.	Check for correct rotation. If rotation is incorrect, switch any two leads.
Rotary Vane pump will not start	Supply voltage is not proper or is overloaded. Motor starter overload settings are too low or improper; fuses are burned; or wire size is too small or too long, causing a voltage drop.	Check voltage supply and overload settings in motor starter for size and settings according to motor nameplate. Install proper size wire. If ambient temperature is high, use the next larger size overloads or adjust settings 5% above motor nameplate valve.
		Turn pump fan by hand. If it will not turn, remove motor from pump and check motor and pump separately. Repair or replace if needed or call Northwest Industrial Repair for service and repair.