

VACUUM PUMP REMANUFACTURING SERVICES

CVN Vooner Paper Machinery has been involved in liquid ring vacuum pump applications for over 25 years. During that time we have developed the expertise to accurately diagnose and rebuild Vooner FloGard, Nash, Siemens, and Somarakis vacuum pumps. We can offer a Standard or a Full Clad Rebuild Service as described below.

STANDARD REBUILD

- Disassemble and sandblast
- Clad cones with 316 SS
- Re-machine rotor tapers
- Machine and match fit cones to rotor to restore OEM clearance to obtain 90% of original airflow
- Replace bearings, slingers, seals, gaskets, and piping
- Repair shaft for normal wear/re-metalize and machine to OEM dimensions
- Ceramic epoxy coating on wetted surfaces for wear resistance
- Paint with primer coat and grey paint

FULL CLAD REBUILD

- Disassemble and sandblast
- 316 SS cladding on cones, heads and body
- Body cladding includes epoxy resin between body and cladding to prevent vibration. Depending on pump size install 10-20 3/4" countersunk 316SS welded plugs to insure body cladding is secured to body
- 316 SS ring rotors as required
- Machine and match fit cones to rotor to restore OEM clearance to obtain 95% of original airflow
- Replace bearings, slingers, seals, gaskets, and piping
- Repair shaft for normal wear/re-metalize and machine to OEM dimensions
- Paint with primer coat and grey paint

TYPICAL VACUUM PUMP PROBLEMS

PERFORMANCE

- Less airflow at vacuum level
- Pump can't create enough vacuum
- Airflow too low for dewatering
- Process debris buildup plugs pump

STRUCTURALLY

- Vacuum pump leaks due to holes in the housing
- Shaft wear in packing ring area
- Bearing failure



Shaft Needing Repair



WAYS TO DETECT POOR PERFORMANCE

- Orifice Plate Testing (Measure of airflow at vacuum of installed pumps based on Heat Exchange Institute (HEI) Standards), *CVN Vooner can provide this service to you.*
- Boroscope Inspection shows what the pump looks like inside, but not a clear test of performance

FURTHER INTERNAL DAMAGE TO A PUMP NEEDING REPAIR

PERFORMANCE

- Iron Rotor Vanes have worn to not produce enough vacuum
- Iron Cones have worn to not produce enough vacuum
- Buildup of debris plugs pump

STRUCTURAL

- Hole in housing allows leaks also indicates more holes will soon appear
- Shaft wear in packing ring area cannot control normal drip
- Bearing failure may cause shaft break



Inside of body after cladding

REBUILDING THE VACUUM PUMP

PERFORMANCE

- Attempting to restore iron vane dimensions with nickel weld has a failure mode of the nickel weld chipping off
- Performance can be restored to 90% of original airflow by cutting a new larger dimension taper in rotor
- A remanufacture of the pump may include a replacement of a new stainless steel rotor.



New Stainless Steel Rotor

STRUCTURAL

- Clad the housing with Stainless Steel to stop leakage
- Rebuild the shaft in Packing Ring area with metal spray coating and grinding to final dimension
- Clad cones and match fit to rotor by re-machining the tapers
- Clad heads, ring housing, and rotors to original dimensions

WARRANTY

- **Two years for materials and repairs made except for bearings.**
- **95% of original airflow if OEM taper diameter clearances can be achieved.**



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