

Centrifugal Pump Troubleshooting Guide

This "TROUBLESHOOTING" information is intended to guide in the general determination of pump problems and their solutions.

Little or no discharge

- Casing not initially filled with water. (Fill pump casing)
- Total head too high. (Shorten suction and/or head)
- Suction lift too high, or too long (Lower suction lift, install foot valve and prime, or shorten length of suction line)
- Foot valve or suction line not submerged deep enough in water (Submerge lower in water--at least 3 feet)
- Impeller damaged (Replace impeller)
- Suction piping too small (Increase to pump inlet size or one size larger)
- Motor wired incorrectly (Check wiring diagram)
- Casing gasket or "O" ring leaking (Replace)

Loss of suction

- Air leak in suction line (Repair & replace)
- Suction lift too high (Lower suction lift, install foot valve and prime)
- Clogged foot valve check valve or strainer (Unclog)
- Defective foot valve or check valve (Replace)

Motor Overheats and Shuts Off (Overload)

- Motor voltage does not match power supply voltage (Check motor connection against wiring diagram on the motor nameplate and against the power supply voltage)
- Impeller is rubbing against pump case or not turning freely (Dismantle pump, unclog or replace the impeller)
- Low voltage at the motor (Make sure electrical connections are tight)

Pump leaks at shaft

- Worn mechanical seal (Replace mechanical seal)
- Mounting plate or foundation not rigid enough (Reinforce)
- Foreign material in pump (Dismantle pump and clean)
- Impeller damaged (Replace impeller)
- Worn motor bearings (Replace bearings)

Pump will not deliver water or develop pressure

- No priming water in casing (Fill pump casing)
- Mechanical seal leaking (Replace mechanical seal)
- Leak in suction line (Repair or replace)
- Discharge line is closed and priming air has nowhere to go (Open)
- Pump is down (Replace worn parts)
- Foot valve or check valve is leaking (Replace valve)

Pump will not prime

- No priming water in casing (Fill pump casing)
- Mechanical seal leaking (Replace mechanical seal)
- Leak in suction line (Repair or replace)
- Suction line or valve is closed (Open)
- Foot valve or check valve is leaking (Replace valve)
- Suction screen clogged (Clean or replace)

Pump will not start or run

- Improperly wired (Check wiring against diagram on motor)
- Stone or foreign object lodged in impeller (Dismantle pump and remove foreign object)
- Motor shorted out (Replace motor)
- Thermal overload has opened circuit (Allow unit to cool, restart after reason for overload has been determined)