



# CENTRIFUGAL PUMP TROUBLESHOOTING GUIDE

Adapted from a Goulds Pumps resource

Hydraulic Issue    Mechanical Issue

	No liquid is delivered	Insufficient capacity delivered	Insufficient pressure delivered	Intermittent Flow	Bearings have regular failures/run hot	Higher than normal vibration levels	Pump consumes excessive energy	Short packing life	Mechanical seals have high failure rate	Wetted parts wear quickly
Impeller is clogged	•					•				
Impeller is damaged		•	•	•						
Incorrect impeller or impeller diameter			•	•						
Speed is too slow	•	•	•							
Too much air trapped in fluid	•	•	•	•						
Insufficient NPSH available	•	•	•			•			•	•
System head is too high										
Closed or clogged suction/discharge valves	•	•	•			•				
Pump has lost prime, or not primed	•	•	•	•						
Incorrect suction piping	•	•	•							
Rotation incorrect		•					•			
Incorrectly assembled pump			•	•	•	•		•	•	•
Instruments give inaccurate readings			•	•						
Suction line has air leak				•						
Impeller is broken, or has bent vane					•	•				
Impeller is out of balance					•	•			•	
Improper coupling lubrication					•	•				
Coupling is out of balance					•	•			•	
Not enough lubrication					•					
Lubricant is contaminated					•					
Lubricant is not sufficiently cooled					•					
High suction pressure					•				•	
Shaft is misaligned					•	•			•	
Shaft deflection is excessive					•	•			•	
Shaft and/or shaft sleeve is worn								•	•	
Radial loads and/or axial thrust higher than bearing rating					•					
Bearing improperly installed					•	•			•	
Bearing failure					•	•			•	
Pump is experiencing run out					•	•	•	•	•	
Pump is run dry									•	
Operating speed is too close to system's natural frequency						•				
Improperly installed baseplate					•	•			•	
Pump and/or driver are not properly secured to baseplate					•	•			•	
Improperly anchored piping					•	•			•	
Liquid specific gravity higher than spec'd					•		•		•	
Liquid viscosity higher than spec'd					•		•		•	
Liquid contains chemicals not spec'd										•
Liquid contains higher solids concentration than spec'd										•
Seal faces overheating									•	
Insufficient seal flush at seal faces									•	
Seals installed incorrectly									•	
Improperly adjusted packing gland							•	•		
Improperly installed packing								•		
Tight internal clearances						•	•			