

Hello <<First Name>>

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My
Pump is NOT
running *right?!?*



*“Your pump isn’t producing enough flow!”
“I can’t get enough pressure out of your pump!”
“Your pump is making noise!”*

*We often get these calls from the field. While it is entirely possible, in reality,
it is rarely the pump’s fault.*

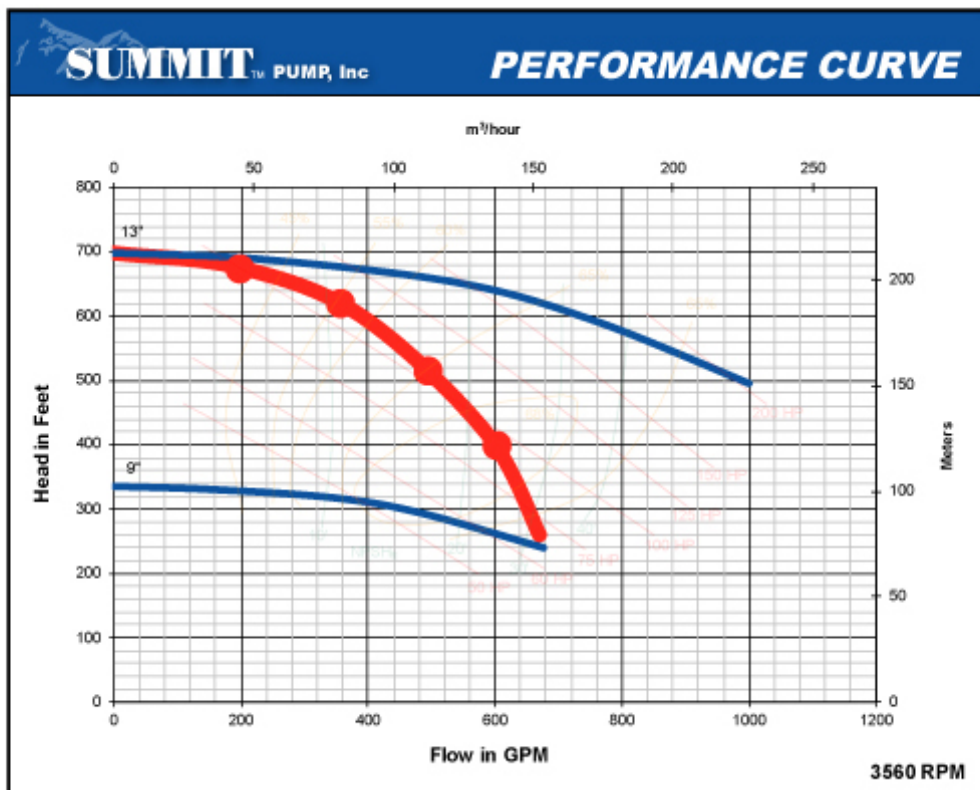
From my almost fifty years of field experience with pump troubleshooting; I've

found almost **80 percent of all centrifugal pump issues are on the suction side of the pump**. I always start looking there first.

Key Data Needed, Prior to Calling Factory or RSM:

- *Pump serial number.*
- *Fluid properties, or as I like to call it the “fluid personality”. (Temperature / Vapor Pressure / Specific Gravity / Viscosity / Suspended Solids / pH*
- *What condition was the pump sized for? Flow and head (differential head)*
- *What clearance is the impeller set at?*
- *What is the Shutoff pressure?*
- *Duty Cycle*
- *NPSHA?*
- *Submergence?*
- *Is the pump suction condition in a lift or flooded situation?*
- *Perhaps supply a sketch or photos of the system showing pipe size, elevations and components. “A picture is worth a thousand words”*
- *New application or replacement? If it’s a replacement pump, ask why they are replacing it.*

The above data should be fairly quick and easy to get from the customer, using a [Summit Pump Application Data Sheet](#). If you cannot solve the problem based on the above data, below are some more in-depth items to investigate further:



Sketch your pump's performance against the Summit Pump performance curve.

Further Investigation:

1. **Confirm pump speed (RPM).** This can be done with a tachometer. Be on the lookout for VFD issues, belt or engine driven installations.
2. **Confirm direction of rotation.**
3. **Proper suction piping per ANSI/HI 9.6.6 guidelines.** Proper pipe diameter, length and orientation is critical to successful pump/system operation
4. **Check the suction source.** Is the tank too small, causing turbulence and high velocity? Is there entrained air in the liquid? Is there proper submergence?
5. **Gauges.** Are the proper gauges installed? Are they calibrated?
6. **Suction lift conditions.** Is the lift too high? What is the vapor pressure? Air leaks?
7. **Head & NPSHa Calculations.** Confirm the head & [NPSHa calculations](#). What is the NPSH margin? If the calculations are incorrect, the pump could be incorrectly sized for the application.
8. **Confirm liquid properties.** Is the given information actually the liquid they are pumping? Did the process liquid change? (Specific Gravity,

Viscosity, Temperature, Vapor Pressure)

9. **Pipe Strain.** Is the piping properly supported? If not, pipe strain will usually manifest as hot bearings and alignment related issues. Was it laser-aligned?
10. **Parallel or Series Pumping.** If not installed/operated correctly, pumps operating in parallel or series can have problems, and the pump(s) might not perform correctly.

Next Steps:

If you don't know how to investigate these issues, and/or you are simply not comfortable with the process, we can assist, but please know that we are not system designers.



We fully understand that when the pump is *misbehaving and cranky* the customer is pointing at you and directing unpleasant pressure to fix the issue immediately. Your best friends in this situation are pump/system knowledge, experience and the IOM; so we strongly recommend you (and your customer) read and understand the IOM before starting the pump.

Last, but most assuredly not least, the *Summit Pump* staff are here to assist.

-The Summit Pump Team

We are your **Best Value by
"providing quality pumping
products in a timely manner,**

at a fair market price."



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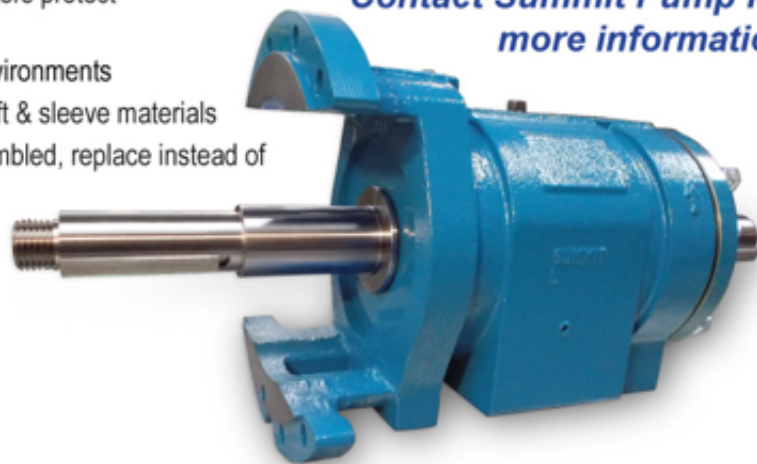
Jim Elsey's Pumps and Systems Articles

SUMMIT POWER ENDS TO FIT 3180 PUMPS

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- ✓ Easy access external impeller adjustment
- ✓ Quality SKF® bearings increase pump life
- ✓ Quality hybrid bearing isolators protect your pump's bearings
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