



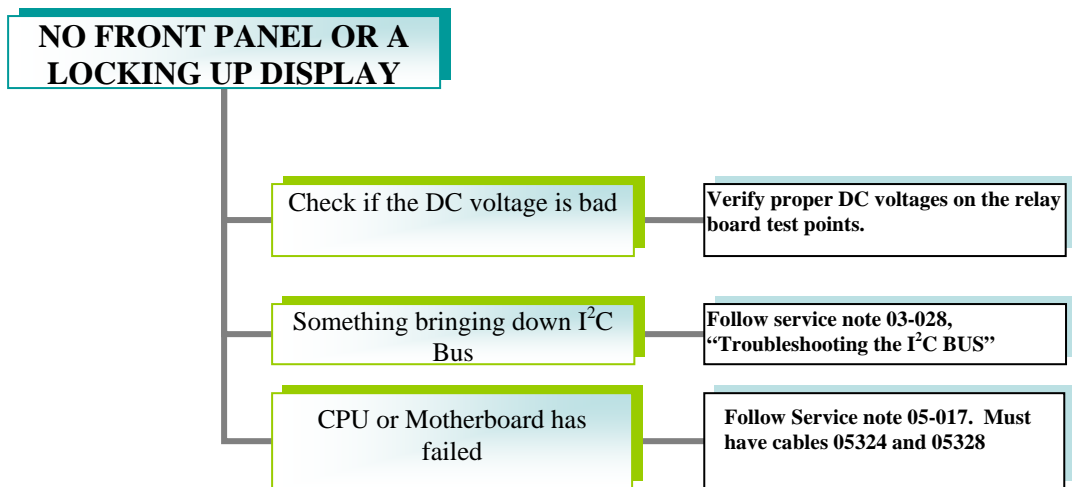
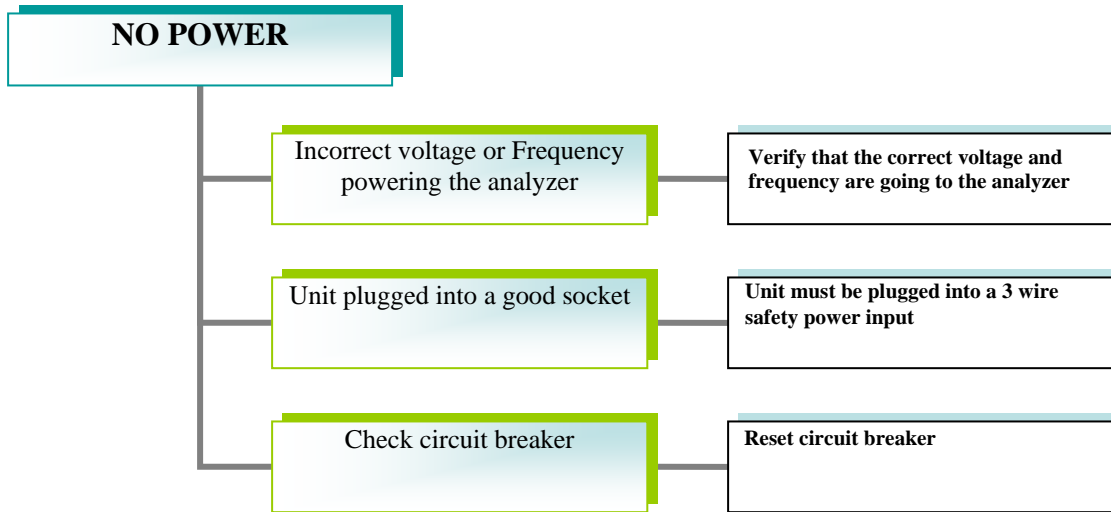
05-027A
28 February 2006

M400E TROUBLESHOOTING TREE

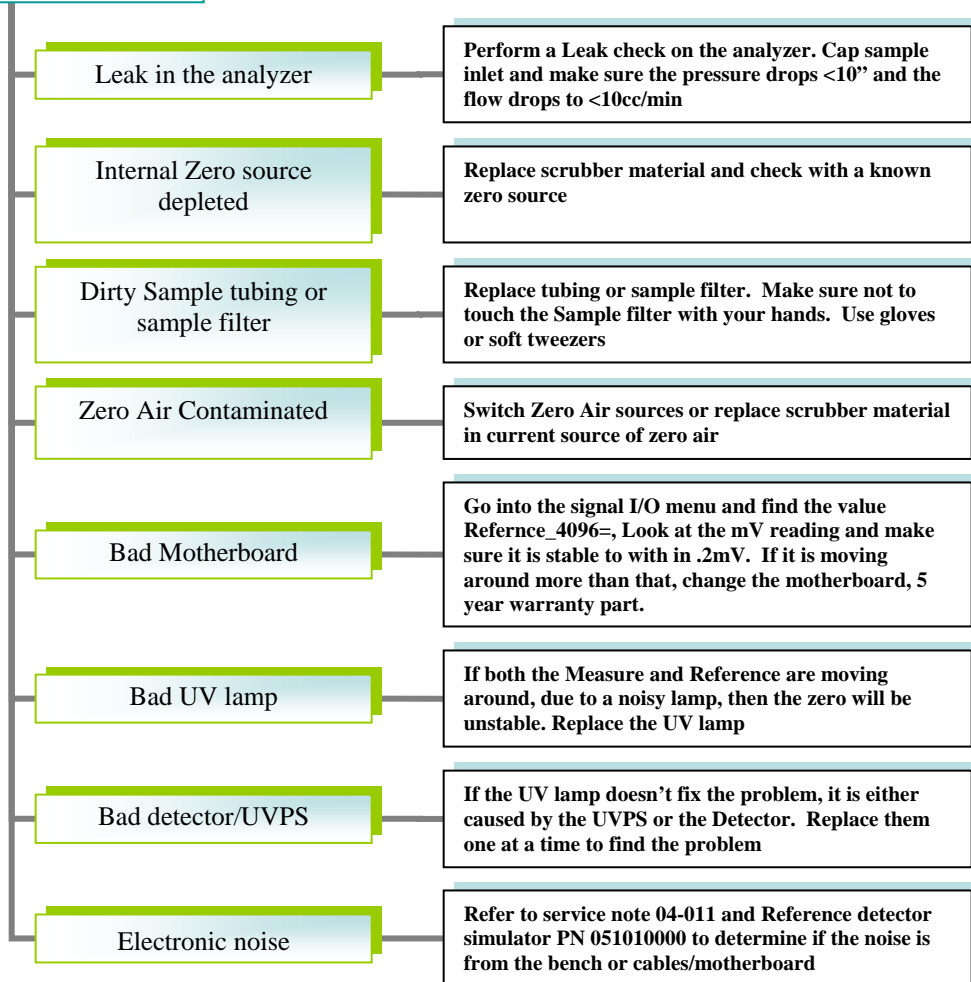
- I. PURPOSE:**
This document has the most common failures of the M400E analyzer, with possible problems and solutions
- II. TOOLS:**
NONE
- III. PARTS:**
NONE
- IV. PROCEDURE:**

To use this document find the symptom of your analyzer in the list below. Then go to the appropriate page number. The problem could be anything on the list and you will want to start from the top and work your way down going through each possible cause until you find the problem.

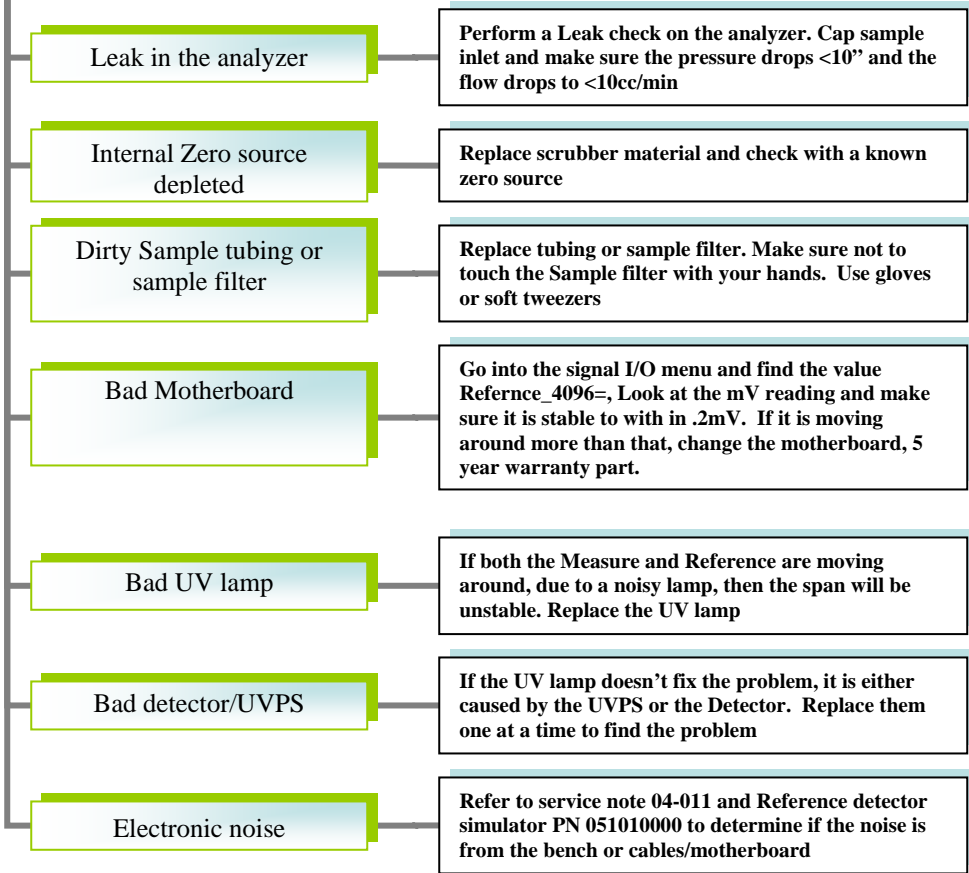
<u>Page</u>	<u>Problem</u>
2.)	No Power
2.)	No front panel or locking up Display
3.)	Unstable Reading at Zero, Zero noise
4.)	Unstable Reading at Span, Span noise
5.)	Unable to Zero (No Zero Button)
6.)	Unable to Span (No Span button or no response to Span gas)
7.)	Non-Linear Response
8.)	Slow Response to Zero or Span
9.)	No Flow
9.)	No analog or incorrect analog output
10.)	Photo Ref Warning
10.)	Any Temperature Warning



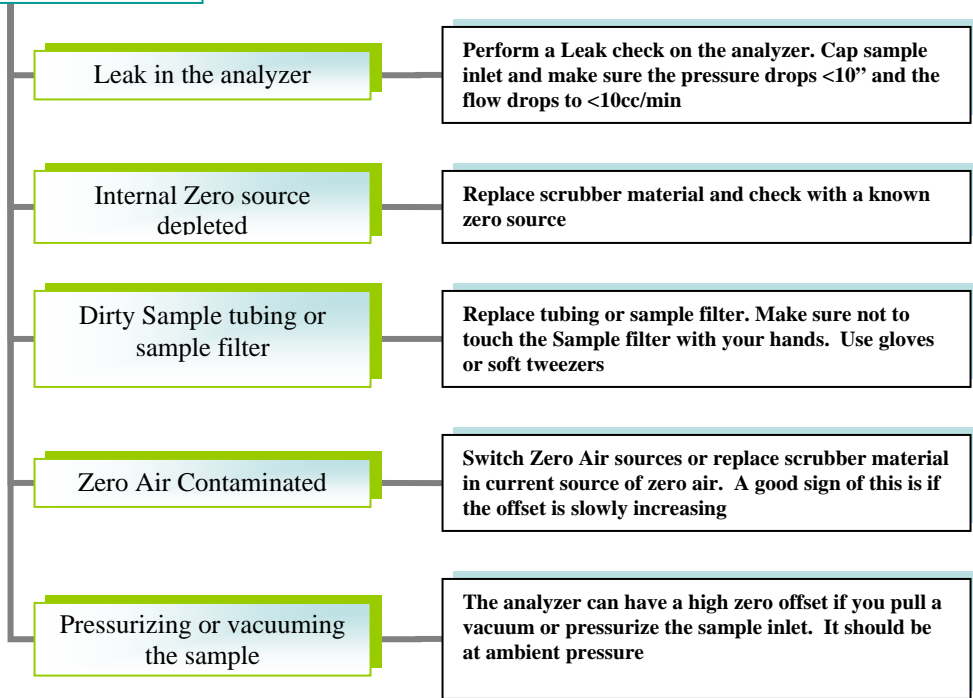
UNSTABLE READING AT ZERO, ZERO NOISE



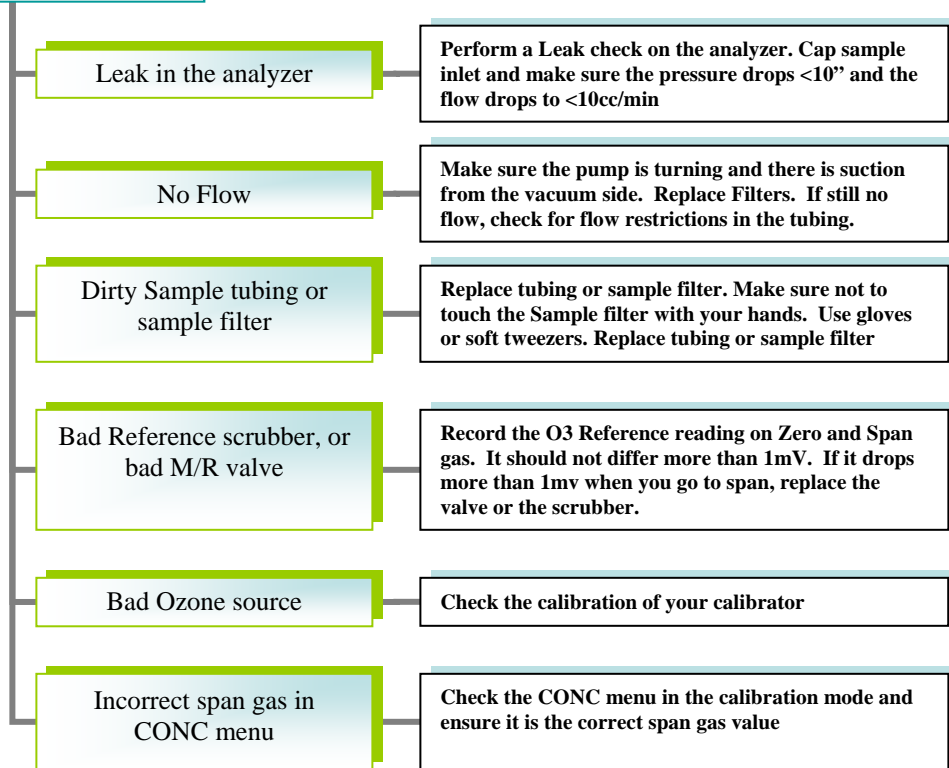
**UNSTABLE READING
AT SPAN, SPAN NOISE**

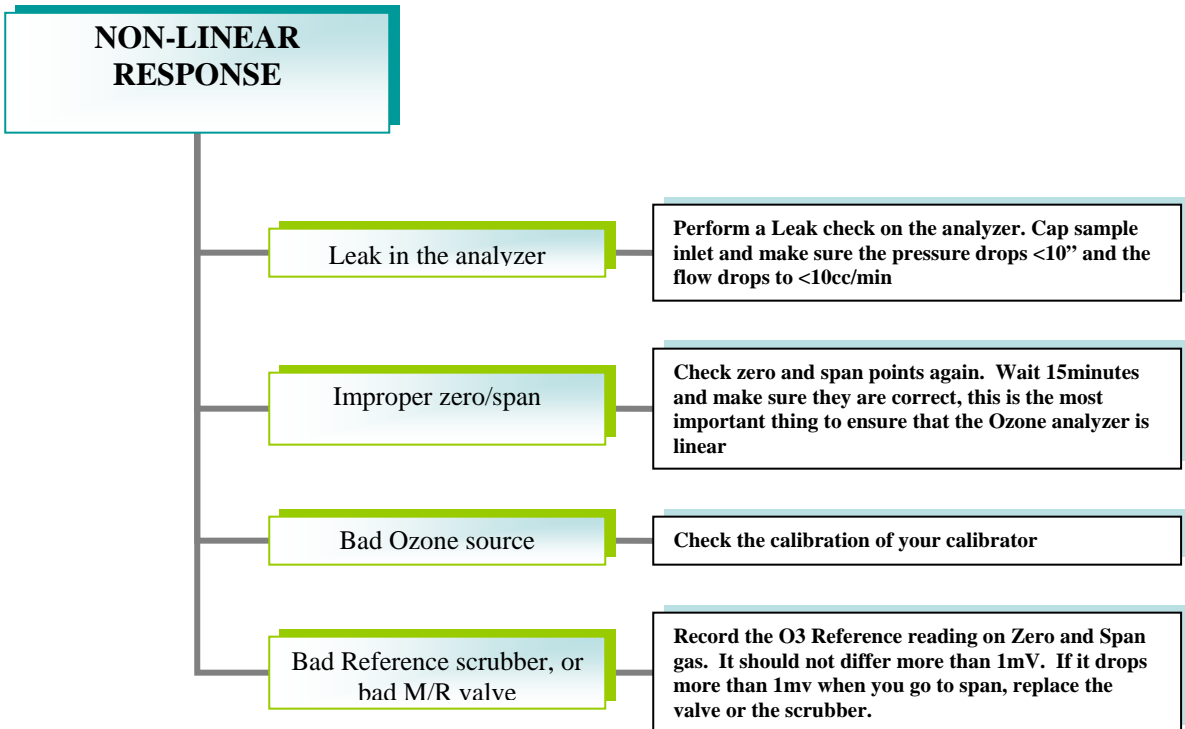


UNABLE TO ZERO (NO ZERO BUTTON)

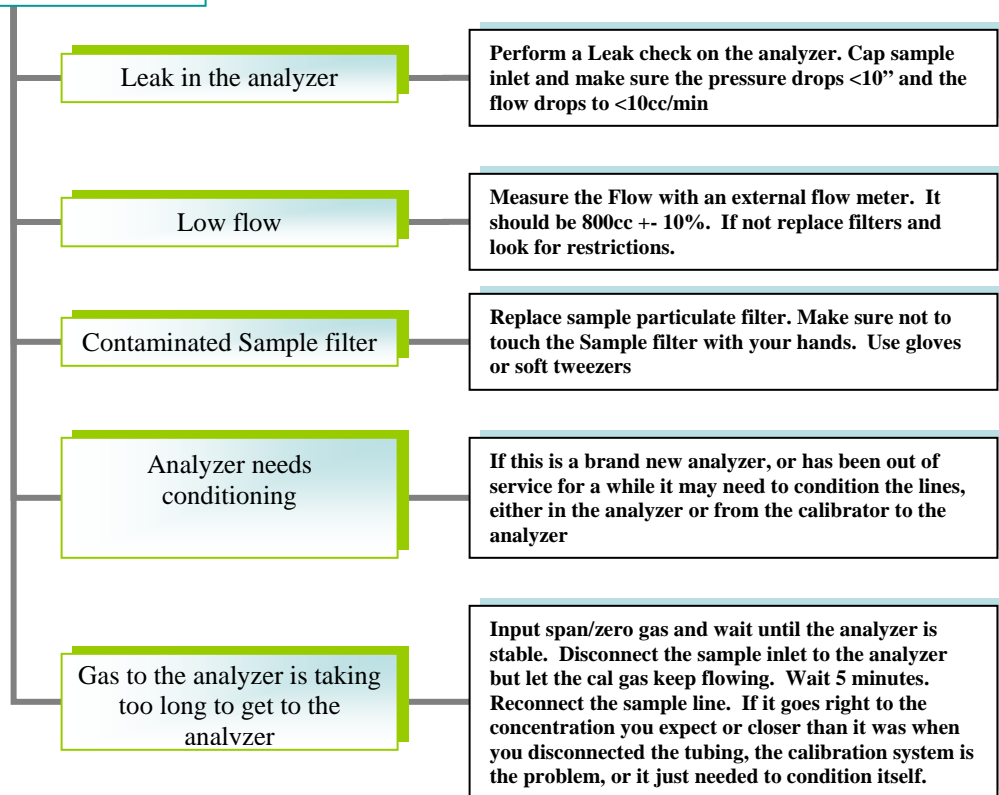


UNABLE TO SPAN (NO SPAN BUTTON OR NO RESPONSE TO SPAN)





SLOW RESPONSE TO ZERO OR SPAN



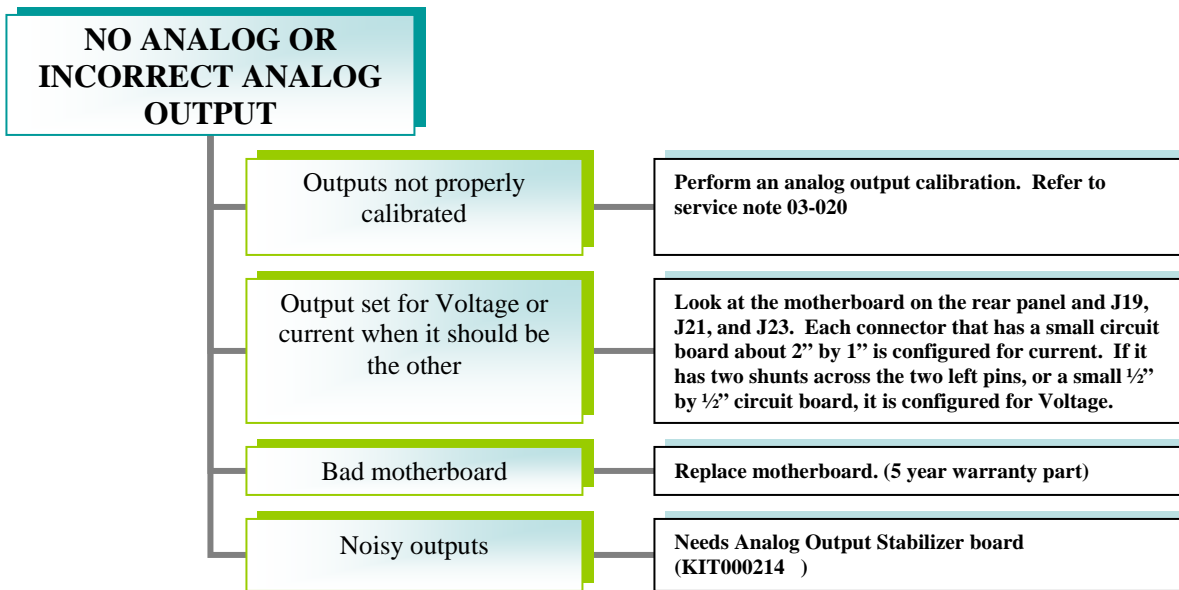
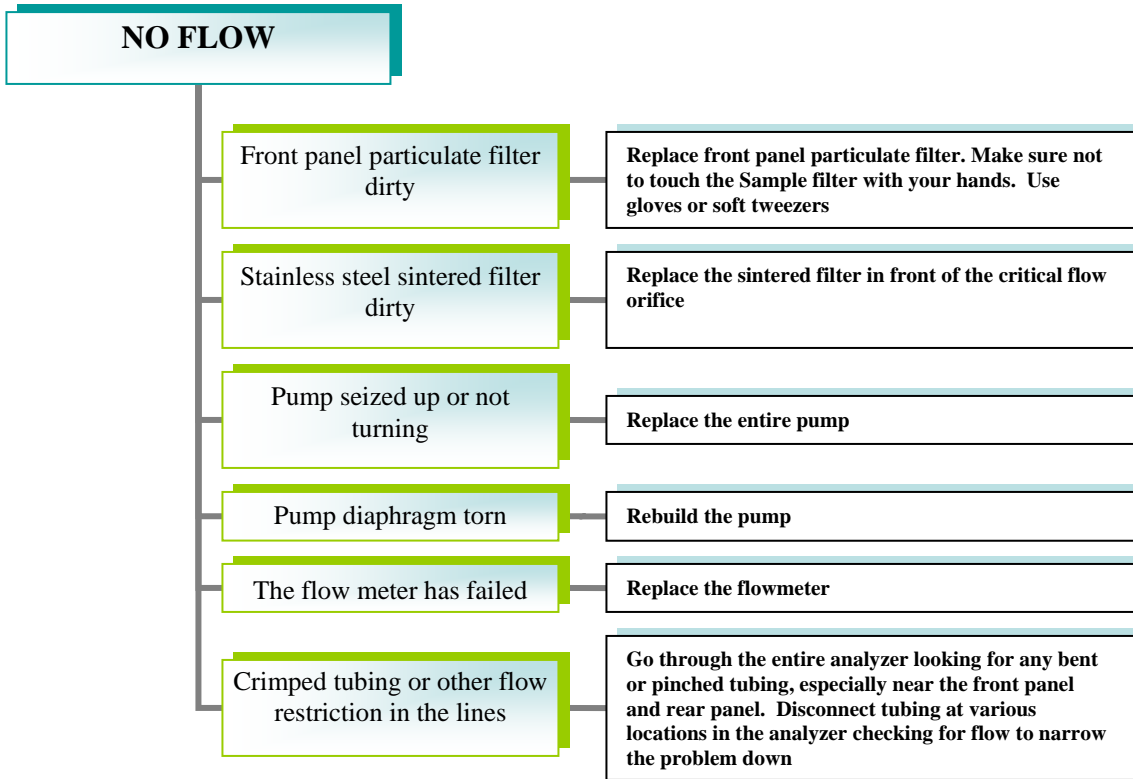


PHOTO REF WARNING

Reference too high

Look at the Reference value. If it is 4950mV or greater, adjust it back down using the Reference pot or physically adjusting the lamp

Reference too low

Adjust UV lamp. If the reference is reading around 100mV, check to see if the lamp is powered on. If it is, replace the detector. If it's not, replace the UVPS or the lamp.

Non-spike suppressing software

Make sure you have Version D.1 Software or greater. If you do not, contact API customer service for the newest version

ANY TEMPERATURE WARNING

Bad Relay

Toggle the heater on and off in the Signal I/O menu while measuring the DC voltage going to the heater. This should switch between 0V and 12V DC. If the LED is turning on and off but the voltage isn't changing, the Relay is bad.

Bad Thermistor

Measure the Resistance of the thermistor in question. It should be around 25K ohms at room temperature. As the temperature goes up the resistance will go down. If the thermistor reads open or a short it is bad.

Bad Heater

Measure the Resistance of the heater. It should be less than 1K ohms in most cases. If it is open or shorted, it is bad