July 22, 2019

Hi LGR Support team,

We are experiencing some continuous pressure flags with our LGR. Last time we had this issue it was related to the septum needing to be tightened. I have tightened the septum and the issue has not resolved. I've also noticed some water vapor condensing in the injection line from the block to the LGR just outside of the injection block. I've been running regular maintenance on the injection block to keep it clean using acid sonic bathes as directed in the manual.

Any insight on this issue? Please see attached run where this issue persists:

Thank you,

Aaron Bugaj

Hi Aaron

The first half of this run looks fine but then half through the cell pressure increases dramatically. Either the valve is no longer opening or the pump is not pumping. Also it appears that the sample “TAP Standard” did not have enough sample as this sample/standard never had any measurable injected water even in the first half of the run.

Can you try the following for me:

1) Turn off analyzer

2) Remove transfer line assembly from back of DLT and immediately CAP inlet with 1/4 inch swagelok cap

3) Remove drierite/dry gas from back of DLT and leave UNCAPPED

4) Turn power on

5) Run 5 "injections"

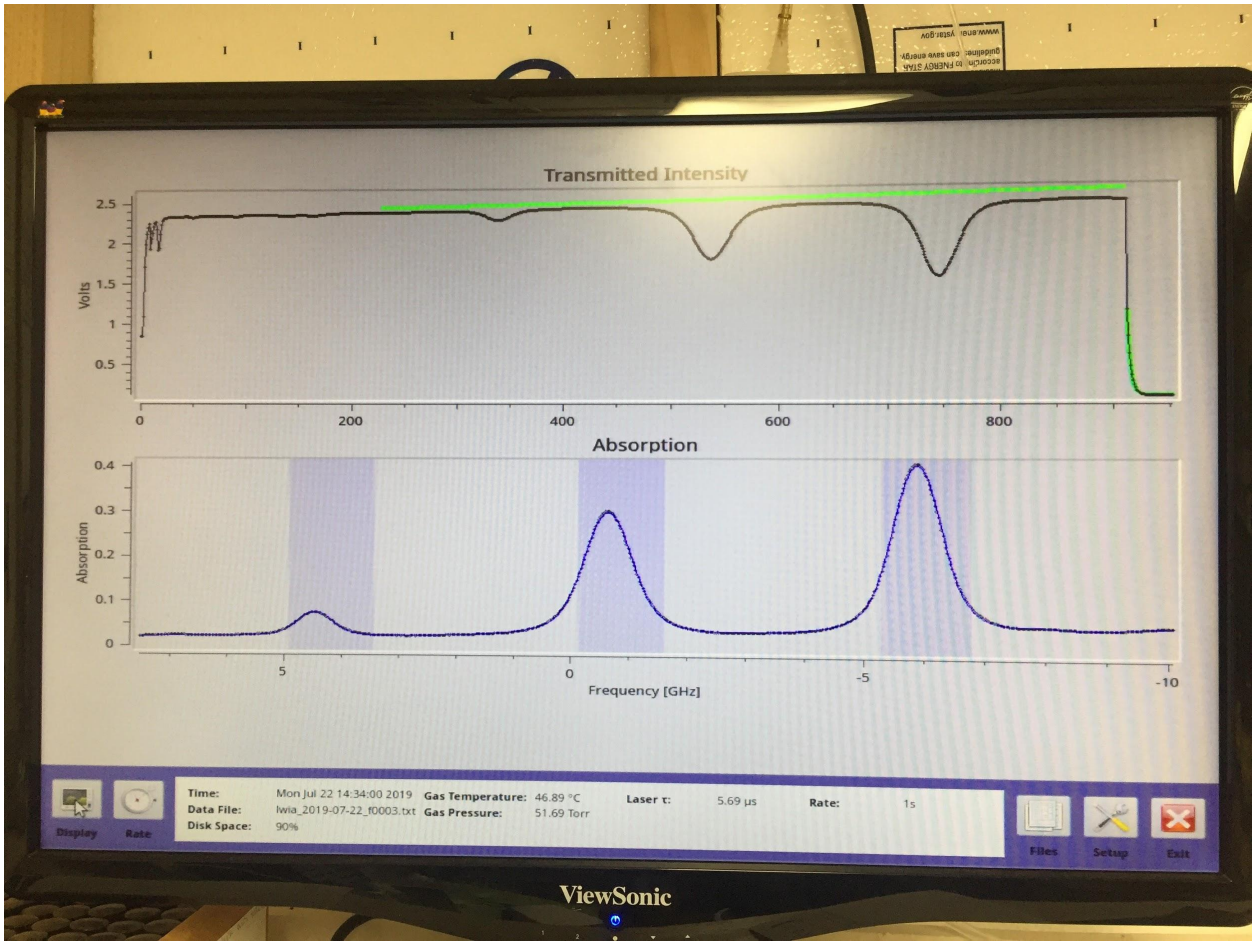
6) Send .f and .l (or .lgr and .txt) files as well as a spectrum screenshot while the analyzer is measuring one of the "injections"

Thanks

Bob

Hi Bob,

I followed the steps as instructed please see attached files and screenshot:



Hi Aaron

Yes sorry for the delay, I did get the files. Just to make sure…the transfer line is disconnected and the dry is open to the room right

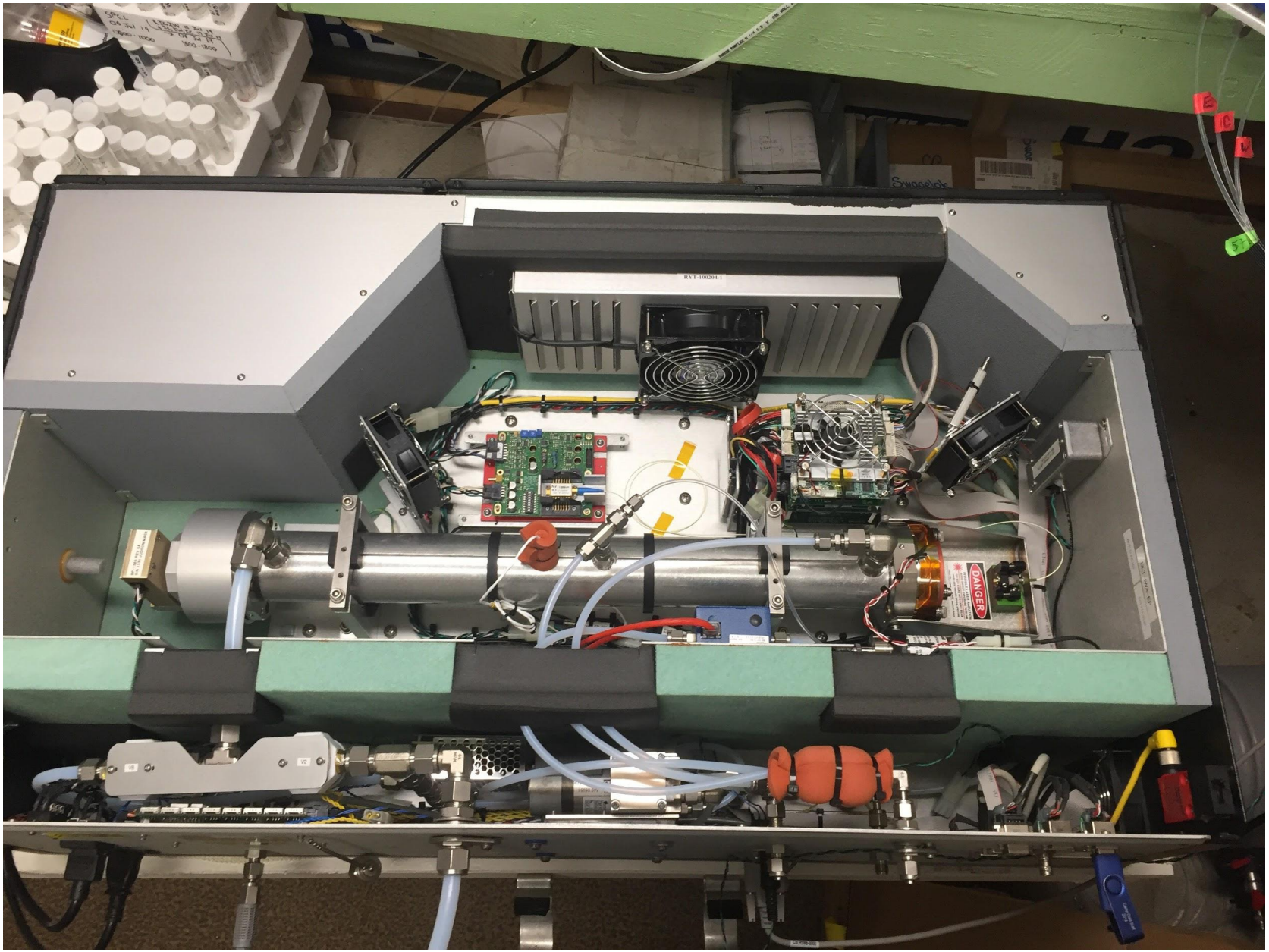
Do you hear the valves click or does the pump ever change sound like it is pumping? I think the exit valve is not working properly. Can you take off the cover and send me a picture of the inside of the analyzer?

Thanks

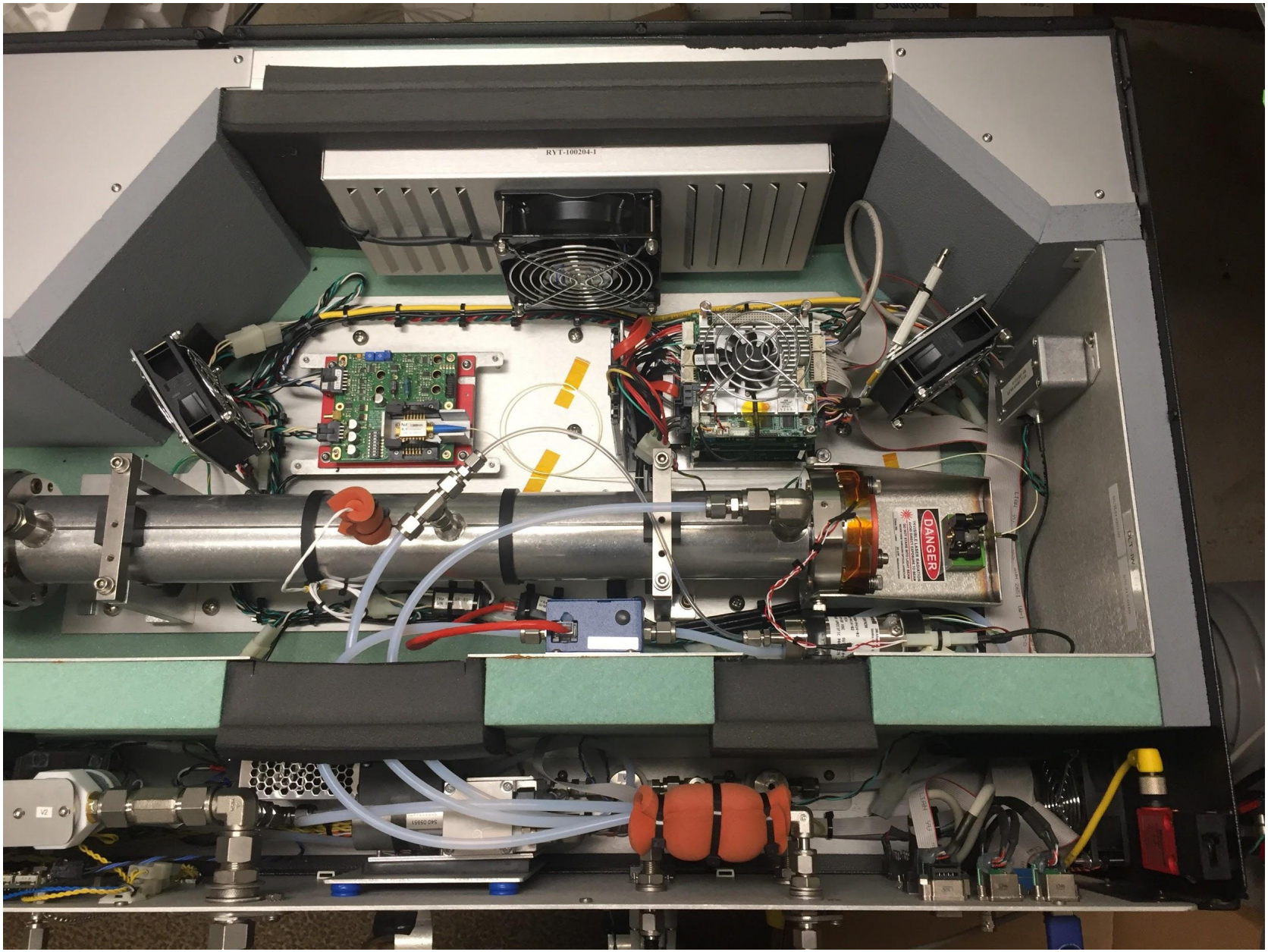
Bob

Hi Bob,

Yes the “To septum inlet” was blocked and the dry gas inlet was left open. I heard clicks during the “flushing cavity” stage and the “emptying cavity” stage. Pumps sounds normal to me. See photos:


DANGER


H20 VAPOR
INLET
TO SEPTUM
DRY GAS
INLET
0 5 PSIG
80 TORR
40 TORR


RYT-100204-I
DANGER

Hi Aaron

You can see the valve driver controller board located on the inside back panel next to valve 2/valve 8. There are switches along the top…..can you look at the switch for valve two. The current position is computer control, the middle position is manually off and the opposite is manually on. Can you manually turn on the valve say 10-20 times and make sure it clicks each time. Can you do the same for valve 1 (the dry air valve)

Let me know if it does not turn on each time

Has any service ever been performed on the pump?

Hi Bob,

Valve two was not clicking on and off during my manually turning the switch on and off. I was only hearing the clicking of the switch itself. Valve 1 was switching and clicking normally.

Should I expect the same clicking for valve two that we would for valve one manual switching?

I don't believe the pump has ever been serviced since we purchased the instrument.

Aaron

Hi Bob,

The pressure dropped steadily when I opened valve two as you said.

Aaron

How low did it go?

It dropped from about 150 down to 3 over the course of 2-3 min before I switched it off again.

Ok….it should go down to below 1 torr in about 20 seconds….so it sounds like it is not opening all the way…but it might be that the pumping speed of the pump is lower than it should be…can you manually open it and let it sit for ~ half hour and see if the pressure gets down to below 1 torr?

Also..the injection port is not connected correct?

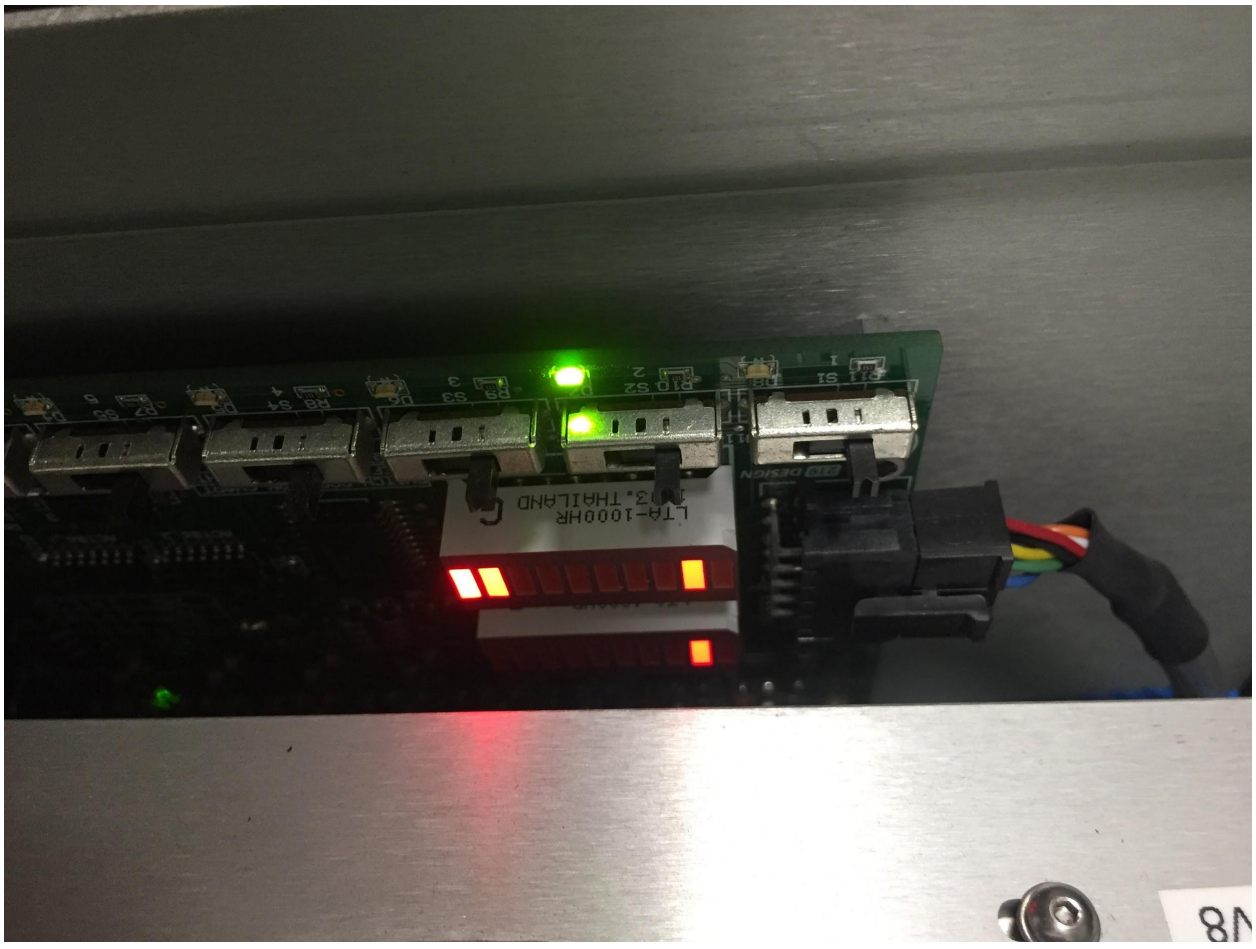
The injection port is closed. I turned the instrument off to grab the specs of the pump from the base. When I turned it back on I heard valve two engage and the pressure dropped rapidly down to zero within 20 seconds. Then I did the manual mode test again with valve one and two. When I opened one the pressure went back up, then I closed it. Then I opened two and the pressure dropped down to 0 in about 2 minutes. But I didn't hear the same clicking from valve 2

as I did when the instrument first turned on and dropped pressure for the manual valve two opening that I initiated later. It is idling at 0 torr now with valve two manually open.

Ok…..valve 1 is the dry air so pressure should go up when it open.

Valve 2 is the exit valve. Can you tell which lights light up on the driver board when the code first starts?

This is what I saw when the pump program engaged. Pressure dropped slower than the last time. I didn't hear valve two click like it had during the previous boot up yesterday. It took a couple minutes to get down to zero torr this time as opposed to 20 seconds yesterday.



Ok…it sounds to me like V2 is behaving inconsistently….Let me arrange for a quote for a replacement.

Replaced Valve 2*

Jan 29, 2020
Hi Bob,

I am experiencing the same issue with the new Valve that we replaced and installed roughly 6 months ago (per this thread). The pump is only engaging and evacuating the pressure once every 4-5 manual initiations on the control board. And these symptoms have been evident in our lims files starting just a vew days ago, where the pressure remains high throughout an entire injection and never gets pumped down.

Any insight into why this valve (Valve 2) is malfunctioning? Is there something breaking it down faster than normal?

Thank you for your support,

Aaron Bugaj

Hi Aaron

Ok…I think when you purchased the valve we must have been out of the new style valve. Can you provide me the order confirmation so I can send you a “new style” Replacement under warranty?

*** New Style Valve Installed***

Hi Francois,

I hope this email finds you healthy in the New Year. Per this thread above, you guys sent me a new valve last March as a replacement for an older version of the valve. I was experiencing some issues with the solenoid inside that older model valve and I am afraid those issues are occurring with the newer replacement you sent me. I have gone through the same trouble-shooting directives that Bob Provencal has guided me through in the past, and have reached the same conclusion about the valve that was sent most recently, as I did with it's two predecessors.

I have tried to reach out to Bob numerous times over the past 6 months to address this (via email and phone) and have received zero replies from tech support. I am at a stand still with what to do right now in the absence of any technical support, and would like to speak with someone directly about the issues and experience I've had with this instrument. Does LGR provide tech support site visits? Are you having similar issues with these valves with other customers? How can I take action to get my instrument up and running?

I'd like to speak with one of your managers if possible and would at least appreciate some transparency and response into these inquiries. I hope Bob Provencal is okay, as I have not heard from him whatsoever.

Thanks,

Aaron Bugaj

Hi Bob,

Got your email. Thank you for getting back to me. I sent emails in September and November directly to your email this fall, and additional emails and voicemails through the support page. Glad we have comms again. Don't know what the issue was.

Attached is a recent lims output csv file. Below is a video of an injection that shows the peaks and pressure situation:
https://drive.google.com/file/d/1oN35bqVCDCCCKXZjWCUqfuOI2lXiqyjp/view?usp=sharing

I went back through some of our old dialogue where you instructed me to manually open and close the V2 valve to check that the pressure draw down engages. When I did this yesterday, I found that manually engaging the V2 valve using the switch only engaged the draw down only 1 out of 10 times that I flipped it.

This mirrors the same issues i've had with the two prior V2 valves (older versions) which we recently replaced last spring with the newer version.

Hi Aaron

For all support related inquiries, you should email support and not me directly. The email address is icos.support@ca.abb.com

Can you send me the data file from the analyzer? The lims file is of no use in diagnosis.

As far as the issue with the valve….Does the same behavior happen with V1? If not then can you switch the connectors of V1 and V2 to see if the issue goes with the valve or the channel on the board?

Thanks

Bob

Hi Bob,

Please find attached files.

V1 is operating as expected--- engages every time I flip the switch. The quick connect for V1 is buried and mounted beneath a lot of fixed devices that I cannot access without dismantling units. Can I test V2 as you mentioned using a swap with V8 instead?

When I swapped V2 with V8 the V8 switch opens and closes the V2 valve reliably and I can see drawdown and hear the difference everytime (also when switched off, the V2 Valve makes a funny almost fart-like noise. V8 valve-- when switched onto the V2 switch-- was about 1 in 10 like I experienced when V2 valve was hooked up to it to the v2 switch.

Seems to me like the issue is the switchboard for that V2 position. And then, I'm not sure if the weird manually off switch noise that I heard for V2 valve is normal or of concern.

Hi Aaron

OK…it sounds like the board will need to be replaced. You could purchase a replacement, but do you think you could replace it yourself? Unfortunately it is not a part that fails often and there are lot of wires that might be part of wire bundles.

Let me know what you think

Thanks

Bob

Hi Bob,

We installed the new switch board today. When the program boots up V2 kicks in as expected but then continues triggering (clicking over and over) once the pressure drops to zero. Please linked video where I manually increase pressure with V1 and then initiate v2 manually to pump down pressure per previous instructions on this thread.

https://drive.google.com/file/d/1Tq4A8GqXHGZAzZn6PVeQJsn6k5A8R59G/view?usp=drivesdk

Any insight here would be greatly appreciated. This is making me think there is a v2 valve issue with the new model you sent us.

Thanks,

Aaron

HI Aaron

Yes unfortunately it looks like the card was not configured for 24V at the factory. I regret to tell you they will have to ship you another one that is properly configured.

I sent the request yesterday…hopefully it should go out by Monday at the latest and I will make sure they do it right this time….

Sorry for the inconvenience