Interlock Explanation

Software Interlock

- Master Interlock on pump controller
- Polls all pumps
- If any pump has an error, shuts down all pumps

Hardware Interlock

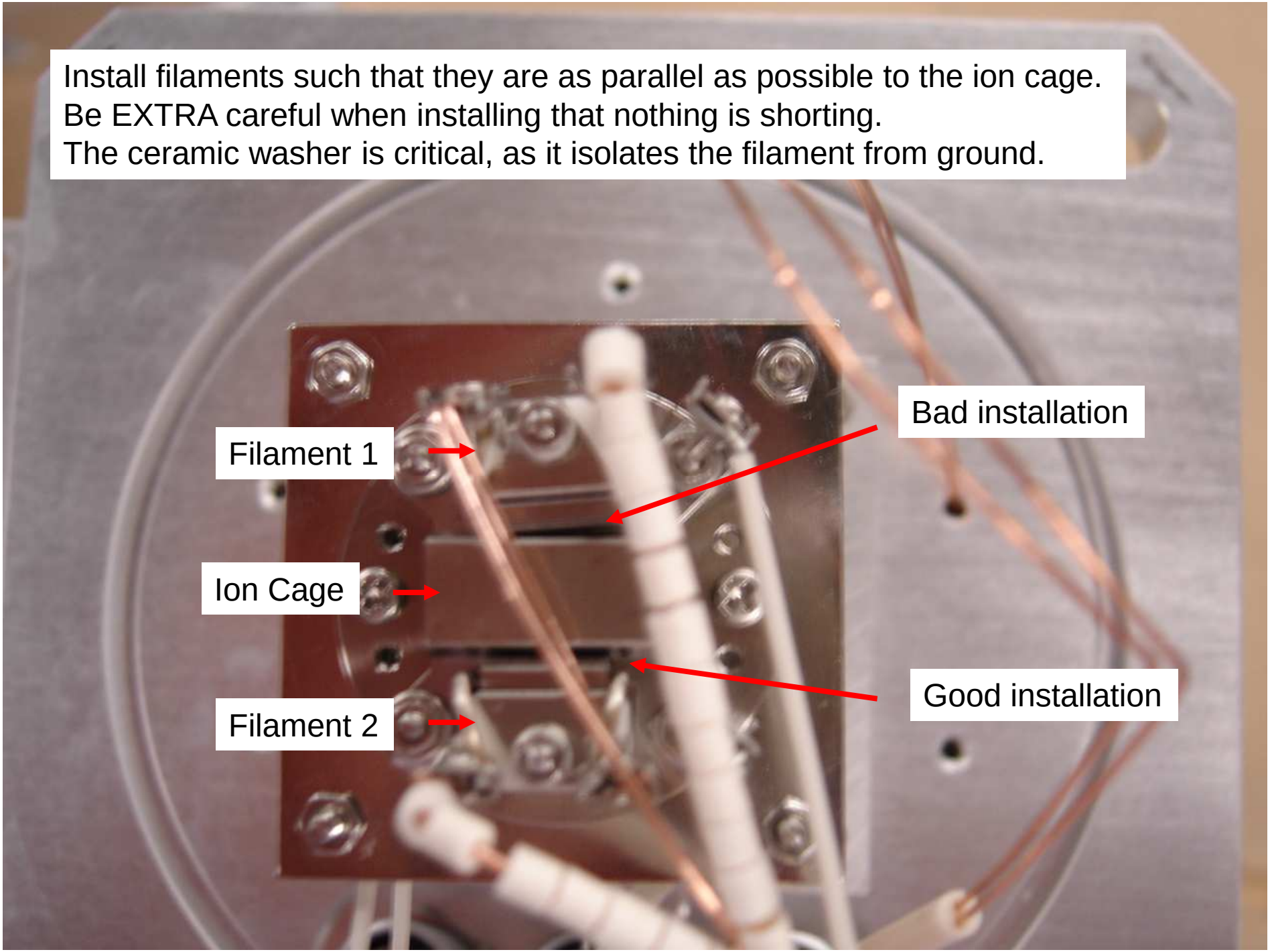
- Ionizer – if P5 falls below 90% of full rotational speed
- TPS - red LED on TPS, shuts off High Voltages

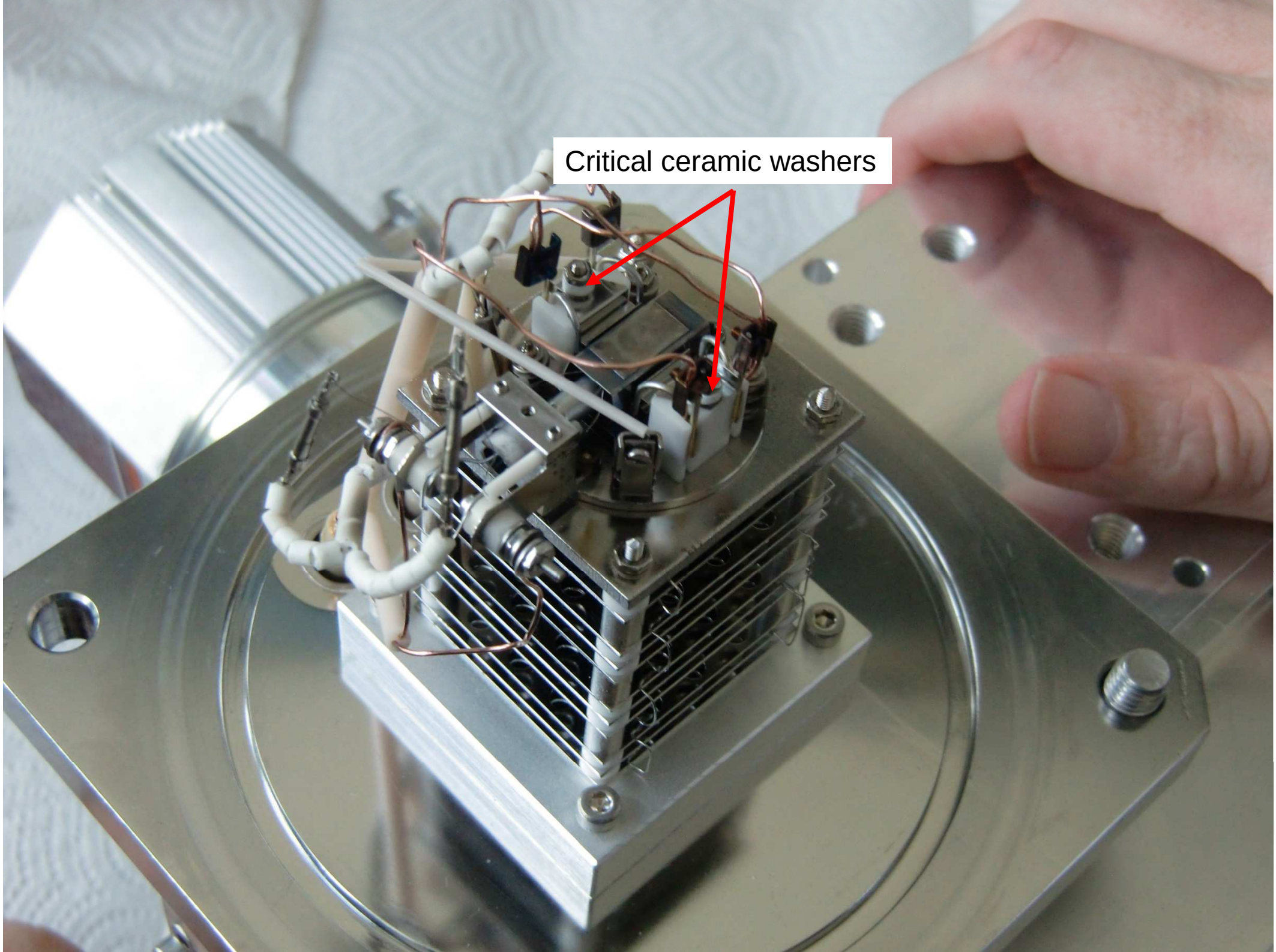
Vaporizer Interlock

- P4 and/or P6 fall below 90% of full rotational speed
- Heater LED and Heater Power LCD on EB shut off
- Shuts off power to Vaporizer

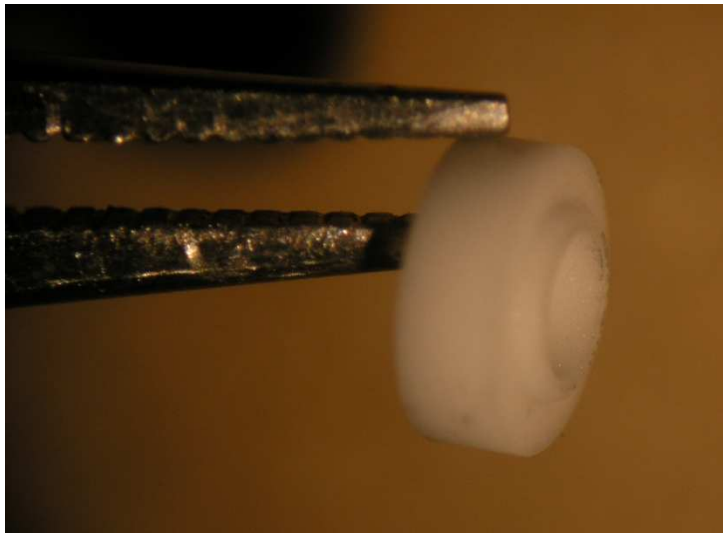
Filament Installation

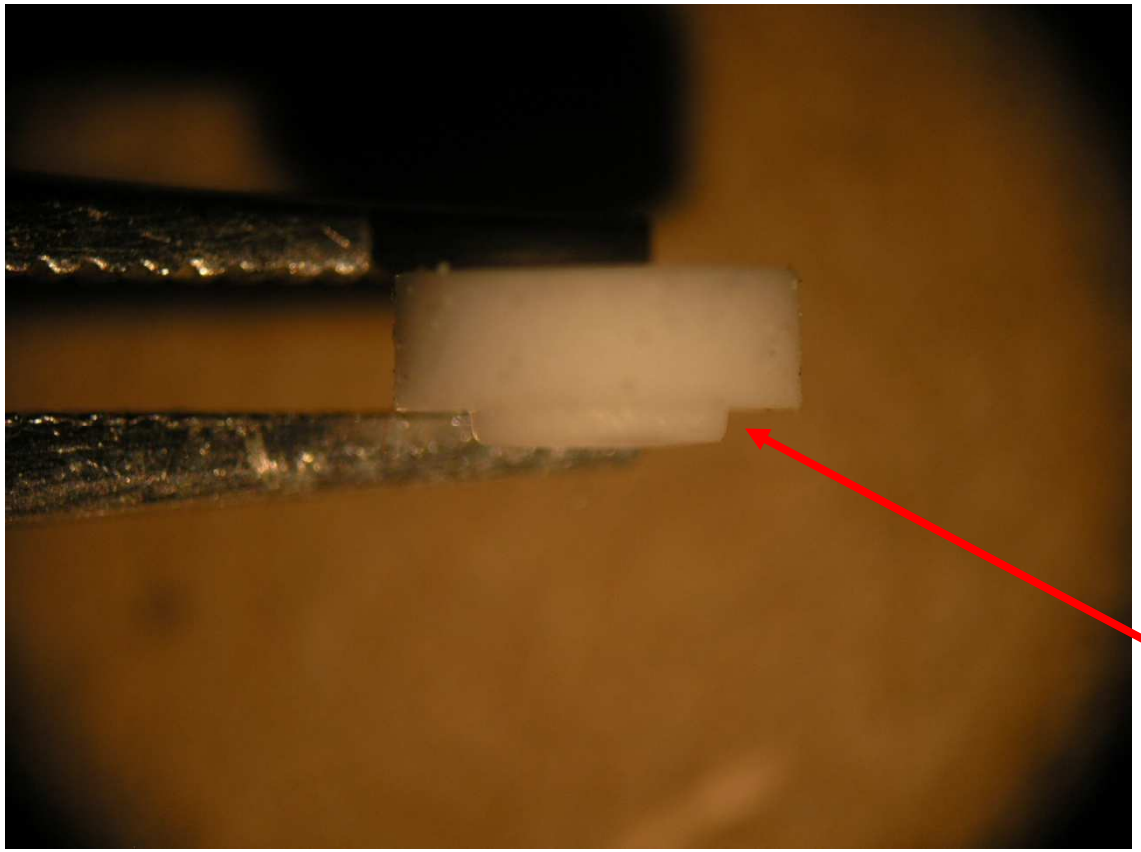
Install filaments such that they are as parallel as possible to the ion cage.
Be EXTRA careful when installing that nothing is shorting.
The ceramic washer is critical, as it isolates the filament from ground.




Critical ceramic washers

Positioning of the Ceramic Washer on Filament Mounting Post





This side on filament block

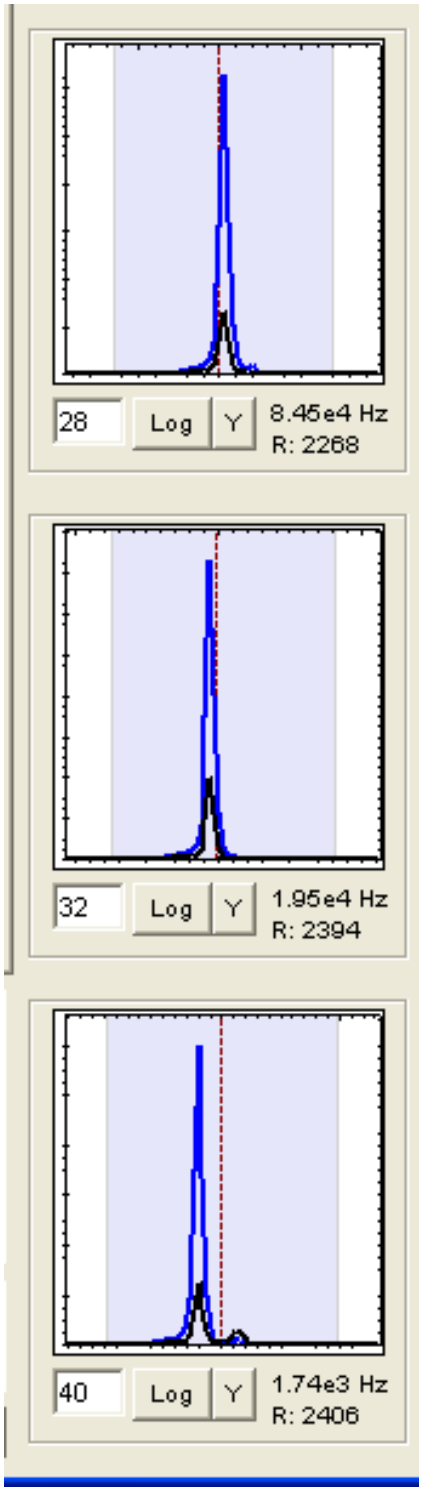
Pump operating currents and temps

	Gas Load Off (mA)	Gas Load On (mA)	Delta T* (Degrees C) (Closed/Open)
P2	~ 450	~ 850	9/13.3
P3	~ 250	~ 300	9/9.3
P4	~ 200	~ 250	6/5.9
P5	< 200	< 200	6.2/6.5
P6	~ 200	~ 200	9.6/9.6

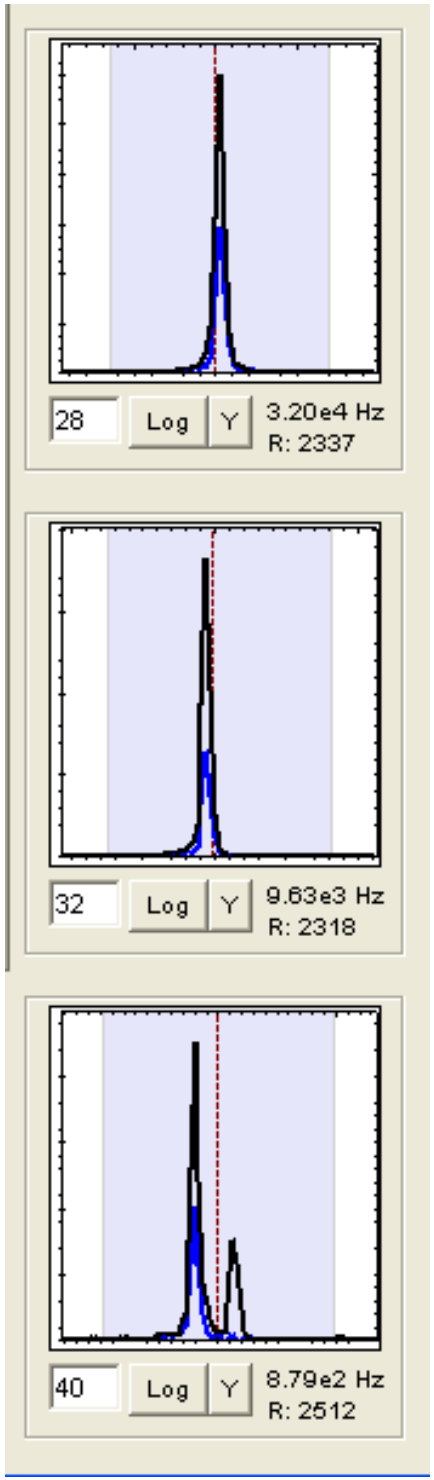
*Delta T = Pump Temp – Ambient Temp

About Leaks

Normal



Leak



If the Airbeam (m/z 28,32,40) has a diff/closed ratio of < 2 you have a leak that you should address.

More About Leaks

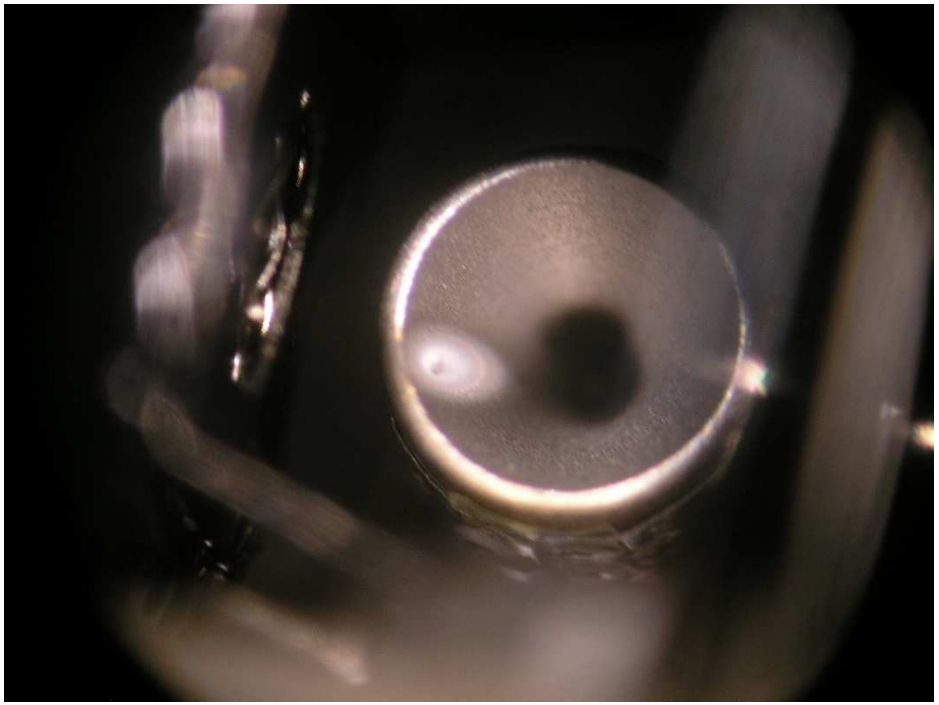
One can further get a clue as to where the leak is by *carefully* looking at your closed and difference Airbeam.

If the leak is in the PToF region, the difference Airbeam will be attenuated and the closed AB will not be changed too much from normal.

If the leak is in the detection region, the difference AB will be about the same as normal, but the closed air signal will have an elevated background.

Particle Beam Alignment
NH_4NO_3 “spots” on cold vaporizer

As received



After alignment from 20140616