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Argon and Oxygen Bottle Replacement for PHI systems

When you replace the argon or oxygen bottle on your PHI system, a small volume of air is introduced between the bottle and the leak valve. This air needs to be pumped out. The process for replacing the bottle and pumping out the air is different for systems with and without poppet valves. Both processes are provided here.

Replacing Bottles on Systems without a Poppet Valve

1. Close the leak valve.
2. Keeping the valve on the new bottle closed, remove the old bottle and install the new one.
3. Turn off all filaments on the system, including the DIG.
4. Turn off the Boostovac ion pump control.
5. Open the leak valve all the way.
6. Turn on the turbo pump and pump intro.
7. After the turbo has reached full speed, open the V1 gate valve and pump out the system for about 10 minutes with the turbo pump.
8. Close the V1 gate valve.
9. Start the ion pumps.
10. Turn on the DIG.
11. Pump until the base vacuum returns to normal.
12. Close the leak valve.
13. Open the argon bottle.

Replacing Bottles on PHI systems with a Poppet Valve

1. Close the leak valve.
2. Keeping the valve on the new bottle closed, remove the old bottle and install the new one.
3. Turn off all filaments on the system including the DIG.
4. Close the poppet valve.
5. Open the leak valve all the way.
6. Turn on the turbo pump and pump intro.
7. After the turbo has reached full speed, open the V1 gate valve and pump out the system for about 10 minutes with the turbo pump.
8. Close V1 gate valve.
9. Open the poppet valve.
10. Turn on the DIG.
11. Pump until the base vacuum returns to normal.
12. Close the leak valve.
13. Open the argon bottle.