Atmospheric vs Low-Pressure Oxidation

- Low pressure wet oxidation was initially devised to prevent condensation on the optical window.
- Properly designed optical windows are not prone to condensation under atmospheric pressure.
- Low pressure chambers require thicker optical windows that can reduce image contrast.
- Low pressure oxidation is more prone to anisotropic (non-circular) oxidation.
- All batch oxidation furnaces used for production operate under atmospheric pressure.

Oxidation Halt

- Fast Oxidation Halt

  It has been argued that water vapor can be taken out of the oxidation layer faster under low pressure conditions and therefore the oxidation can stop more quickly than under atmospheric pressure.

  The fact is that moisture extraction from the oxidation layer is slow even under high vacuum. A quick temperature drop is the fastest way to stop the oxidation. Moisture is then allowed to diffuse out slowly during dry purge.