

Furnace



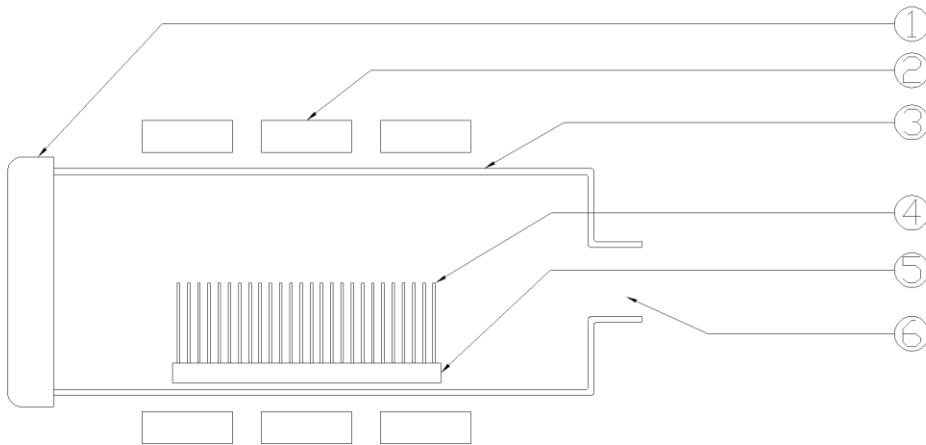
How It Works:

Oxygen gas flows into the gas tube and the temperature is increased to 800°C – 1100°C. The increased temperature increases thermal motion. Oxygen atoms diffuse into the wafer and react with the substrate to oxidize the atoms within. This is the only deposition technology which actually consumes some of the substrate as the film grows. As the thickness of the oxidized layer increases, the diffusion of oxygen to the substrate becomes more difficult. This allows for a predictable growth rate to occur depending on the time the wafer is left in the chamber.

Material / Applications:

Oxidation furnaces are used to grow films that electrically insulate components from one another on a wafer. This process is limited to materials that have the ability to oxidize.

Inert gases can be used in place of oxygen to thermally anneal substrates without a chemical reaction taking place.



- 1 Cap
- 2 3-zone heaters
- 3 Quartz tube
- 4 Wafers
- 5 Boat
- 6 Water vapor or oxygen inlet

Lindberg/Blue 3-Zone Tube Furnace Specifications

Gases:	Oxygen, Nitrogen, Argon
Temperature Range:	100°C – 1100°C, 3 zones
Pressure:	Atmospheric
Tube Dimensions:	2" and 3" diameter quartz
Temperature Uniformity:	±1°C over 14"