

Lectra Diamino Fashion V5r2c3 Crackl 'LINK'

Photo/Ocular panel with Chemically sensitive detector. Ocular/Ocular panel. Lectra Diamino Fashion V5r2c3 Crackl. The invention relates generally to methods and systems that remove undesired particles from a gas stream. A variety of gas streams require removal of undesired particles from the gas stream. For example, in the semiconductor industry, formation gas streams are used for various purposes, such as chemical vapor deposition (CVD) and/or physical vapor deposition (PVD), after PVD or CVD, for example. There may be a need to remove carbon ash or residue or residue forming species from the treated surface of the substrate. For example, the treatment of a wafer surface is PVD or CVD operations results in a deposit on the wafer surface. Existing CVD equipment is configured to maintain a high vacuum, e.g., better than 1 x 10⁻⁶ Torr, in order to minimize particulate generation. CVD operations typically are conducted at approximately 700° C. to about 1,200° C. and at temperatures up to about 100° C. for oxide deposition, up to about 1,200° C. for silicon systems, and up to about 1,200° C. for tungsten and titanium tungsten CVD processes. During PVD or CVD processes, the wafer surface may become coated with the residue from the PVD or CVD process. The resulting residue, which may be metal or metal compound, may agglomerate and cause etching or other deposition. Due to the combination of heat and the force of gravity, the residue may fall to the floor and accumulate in form a layer on the floor. These and other compounds residue may form deep within the semiconductor structure. For example, some of these agglomerates may be greater than about 1,000 Angstroms deep. Each layer of the structure may have to be mechanically polished or chemically etched away to remove the residue from the substrate. The cost of such an in-situ cleaning process may be very high, both in terms of the initial capital cost of an in-situ cleaning tool as well as the maintenance cost of the in-situ cleaning tool. As such, semiconductor processing equipment may operate under relatively high vacuum to minimize particulate generation. The equipment is typically sealed to maintain the pressure within the chamber.



