

Ultrapure Water Systems Entrained Gas Problems Solved by GDT™ Degas Separator

Integrated circuit (IC) manufacturing requires the world's highest-purity water to assure superior product performance, quality, yields and customer satisfaction. Ionic, organic, particulate and microbiological contaminants in water must be removed to produce ultrapure water. Manufacturers employ multiple water treatment processes to remove the myriad of contaminants in the water supplied to their plants.

In recent years, gases have been added to the list of contaminants of concern to industries that require ultrapure water to produce critical-use products. These include both dissolved and entrained gases in supply and treated water. Many IC manufacturers are finding that entrained gases, either present in municipal water, produced during temperature adjustment prior to treatment by reverse osmosis (RO) membrane systems or on tool change outs are causing prefiltration system binding or by-pass, pump cavitation and inaccurate particle and pH analysis and water hammer in treatment and recirculating systems.

A major IC Manufacturer in Portland, Maine faced this problem when the city's water treatment plant added ozone to the treatment process. The ozone was produced from oxygen gas, which resulted in saturated to super-saturated oxygen levels in the water distributed to homes and area industry. Patented GDT™ degas separators were installed after temperature blending to remove the entrained gases from two (2) 300 gpm make-up lines for ultrapure water production.

