

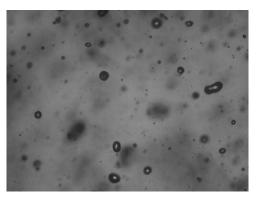


Doc. No.: NR101012E

## Establishment of World's First Cleaning Technology for Ultra Miniaturization

— Achieving Increased Yield in Next-generation Semiconductor Devices through
Optimization of Cleaning Droplet Energy —

Kyoto, Japan -- October 12, 2010 -- Dainippon Screen Mfg. Co., Ltd., announced today that it has successfully developed the NanosprayÅ (Nanospray Advance), the world's first\* spray cleaning system capable of cleaning wafers without damaging the ultrafine circuit patterns used in next-generation semiconductors.







NanosprayÅ droplets

Please download the photos from http://www.screen.co.jp/press/nr-photo/indexE.html

Recent semiconductor industry trends towards further circuit miniaturization and multilayered wiring have made the establishment of process technologies for next-generation 32-nanometer semiconductors and future processes an urgent task. In particular, with wafer cleaning processes accounting for a large part of the semiconductor manufacturing process as a whole, the issue of preventing circuit pattern collapse during cleaning is a significant one and there is great demand for systems with new cleaning functions capable of handling an ever diversifying range of materials as well as ultrafine circuit patterns.

NanosprayÅ cleaning technology is indispensible in next-generation semiconductor processes. The new technology represents a further evolution of Nanospray2, a spray cleaning system for 45-nanometer processes that has earned an outstanding reputation since its release in 2006. During development of the new system, water droplet energy was optimized by individually controlling the diameter and speed of droplets in the cleaning spray. A new, specialized nozzle design makes it possible to spray the surface of the wafer with several tens of millions of evenly sized ultrafine droplets every second. With its ability to eliminate pattern damage resulting from variation in cleaning droplet size and speed and improve cleaning efficiency, NanosprayÅ provides a solution to the problem of wafer pattern collapse in next-generation semiconductor cleaning processes, contributing significantly towards increasing device yield.



Screen will continue the practical validation of the new NanosprayÅ, integrating it with single wafer cleaning systems for cutting-edge device manufacturing, and gradually releasing it onto the market. Screen will use the NanosprayÅ alongside its extensive process technology to further strengthen the competitiveness of its wafer cleaning systems, which boast a leading share of the global market, and will continue to contribute to the development of the semiconductor industry as a leading company in the field of cleaning systems.

\* As of October 2010