



TORRENT ECO-CLEAN™

SEMITOOL Batch Spray System

Replace Chemicals with Award-Winning Ozone Cleaning Process

Ozone CLEAN ■ Ozone STRIP

Features

- Proven award-winning HydrOzone™ & FluorOzone™ cleaning technology
- Uniform, flexible, repeatable process
- Single / dual chamber
- 25/50 wafer batch at 200mm, 25/50/75 wafer batch ≤150mm
- Sealed chamber for operator safety
- Dry-in, dry-out processing
- Host communication
- High throughput
- Windows 10



Address Climate Initiatives

Replace Chemical Processes

- SC1
- SC2
- SPM
- HF

Benefits

- Green Process replaces costly chemicals, addresses environmental goals
- Dramatic cost savings with almost no chemical usage
- Lower maintenance costs
- Improved cycle times
- Fab footprint reduction over wet bench
- Low exhaust and facilities needs
- Low DIW consumption
- Base Process: Hot DIW and ozone gas
- Stand-alone Ozone system or combine with SAT for even more functionality

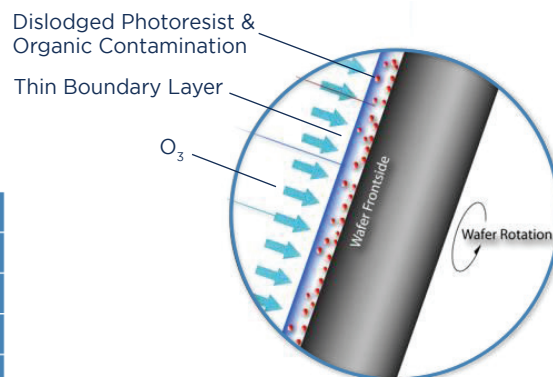


Applications

Ozone Process

RCA Replacement Cleans	HydrOzone
Metals Removal	FluorOzone, FluorOzone+
Post-Dice Cleans	HydrOzone
Organic Reside Removal	HydrOzone, HydrOzone+
Polymer Removal	HydrOzone, HydrOzone+, FluorOzone
Photoresist Strip	HydrOzone, HydrOzone+

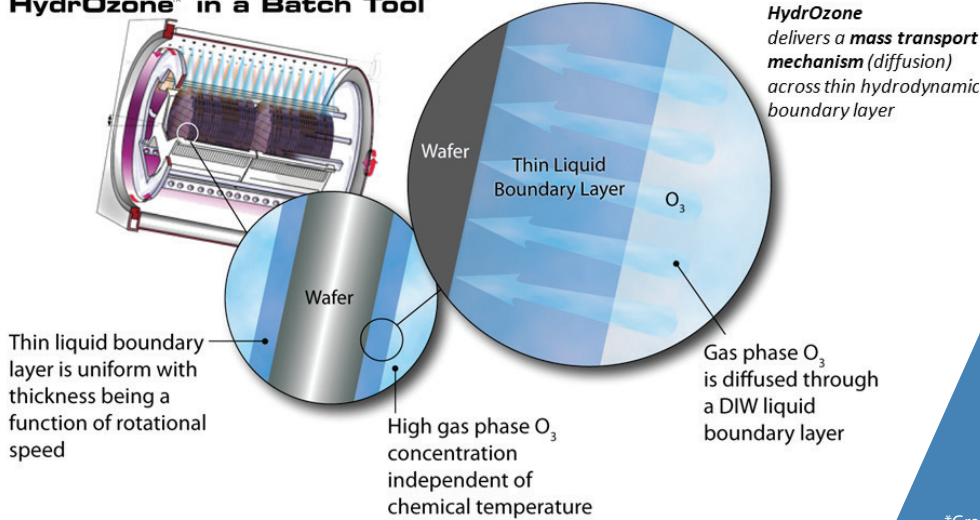
How HydrOzone Works



Navigate Tomorrow

Industry Proven SEMITOOL Ozone Technology

HydrOzone™ in a Batch Tool



HydrOzone™
Heated DIW+ O_3
resist strip

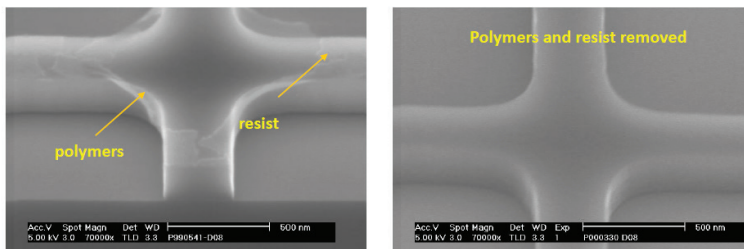
HydrOzone+™
Heated DIW+ NH_4OH+O_3
resist strip, particle clean, organics

FluorOzone™
Heated DIW+ $HF+O_3$
resist strip and metals removal

FluorOzone+™
Heated DIW+ $HF+O_3$ + HCL/DIW
enhanced metal removal (SC2+)

*Greater than 1000 to 1 dilution, onboard Ozone destruct unit

Eco-based PR Strip & Polymer Clean

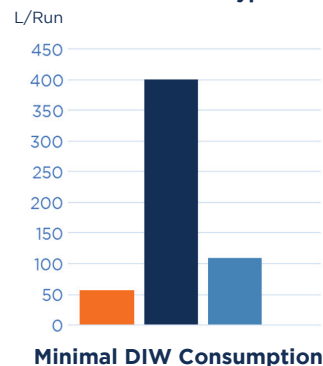
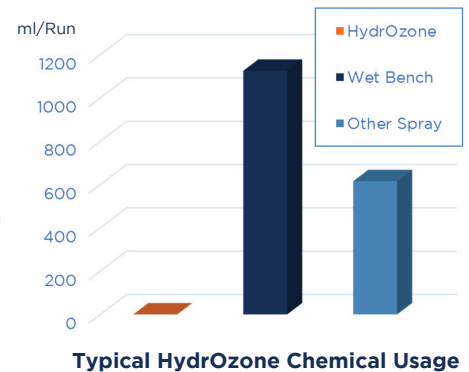


- HydrOzone (HZ) or HydrOzone+ (HZ+) used to strip PR
- FluorOzone (FZ) used to augment clearing of polymers
- Together, provide efficient and low-cost process
- Example: Post-polysilicon etch cleaning

Compelling Economics

The economics of Eco-Clean are as compelling as the process performance. The use of highly dilute media coupled with ozone provides an effective, low-cost clean. When compared to a standard Piranha resist strip or a standard RCA clean the economic benefits become obvious.

See the Savings
Address Green Initiatives



Scan to see more product information



Save Fab Space

Single Chamber



1143 x 2026 x 2213 mm
45 x 80 x 87 in

Dual Chamber



1727 x 2159 x 2197 mm
68 x 85 x 86.5 in

W x D x H



Batch Spray up to 300mm

Clean ■ Etch ■ Strip

TORRENT also available for Spray Solvent & Spray Acid Processes

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