

# Wafer Scrubber and Cleaner

Veeco PSP's single and double-sided single wafer cleaning technology achieves high efficiency particle removal for many applications. Veeco's patented double-sided PVA brush systems cleans top, bottom and side surfaces. Additional single-sided PVA brush scrubbing technologies are available along with High Velocity Spray (HVS) and Megasonics for the most effective cleaning results on all wafer sizes.

### Double-sided PVA Brush Scrubbing

With Veeco's exclusive double-brush technology (US Patent Reissue 36,767), contra-rotating brushes grip and rotate the wafer at higher speed and with a greater force scrub than conventional double-sided scrub systems. Chemical dispensing is through the brush, for cleanliness and uniform distribution of cleaning chemistry.



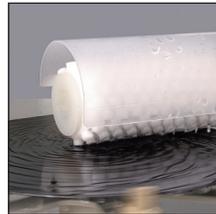
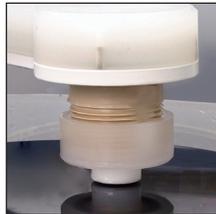
*Veeco's unique double-brush technology cleans the entire wafer surface quickly and efficiently.*

### Single-sided PVA Brush Scrubbing

PVA scrubbing of the top wafer surface can be accomplished using a rotary brush, with two available pad sizes, or with a single, horizontal brush. All PVA brushes provide through the brush chemical dispensing, closed loop servo motor operation at rotation speeds up to 1000 rpm, and real time control over brush pressure for the most consistent wafer cleaning. Automatic brush height control maintains position over the wafer with 0.001" uniformity. The rotary PVA brush uses hyperbolic brush motion for even dwell time across the wafer surface.



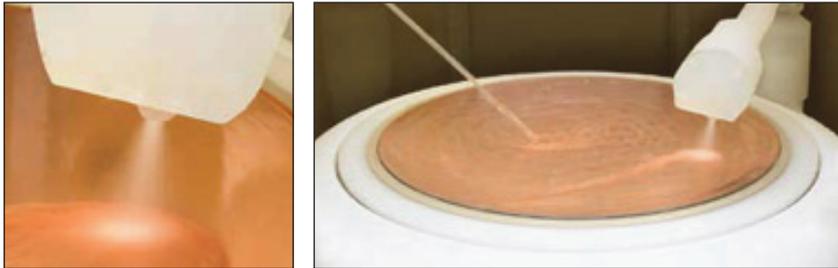
*PVA Rotary Brush with 2 Available Pad Sizes.*



*Single-sided PVA Horizontal Brush*

## High Velocity Spray Scrubbing

An enabling technology for structured wafer cleaning, the high velocity spray leverages off-the-shelf, low pressure, semiconductor gas and fluid filtration technology. The velocity of the droplets is controlled by the programmable nitrogen pressure; the size of the droplets by the programmable fluid pressure. Both variables, along with other processing parameters, including spin speed and chemistry mixture recipe, are controlled on a per-wafer basis.



High velocity spray (HVS) for efficient particle removal on all types of wafers

## Single Wafer Megasonic Scrub

With Programmable Duty Cycle and Power Feedback from a Digital Signal Processor controller, a high power, short duration power pulse megasonics scrub is provided. Veeco's Trisonic Megasonic scrubber provides complete coverage with up to a 2 liter per minute stream flow dispense of solution. The sonic energy is efficiently transmitted through the wafer surface for backside wafer cleaning through the use of backside chemistry solution dispenses.



## PC Programmable Chemical Mixing

Per recipe and per wafer selectivity is implemented, featuring closed loop volumetric chemical mixing with standard dilution ratios to 10,000:1. Intermediate dispense vessel washing and drying are provided between chemical mixtures, with the only moving parts being pneumatic valves and flow monitors.

## Spot-free Spin Drying

Spot-free spin drying is the final, critical step in producing a defect-free, particle-free wafer. Veeco's exclusive edge-grip spindle tool has centrifugal grip retainers and PC control of speed for efficient wafer drying.

## Veeco Systems for Effective, Economical Performance

Veeco systems are available in sizes and configurations suitable for your production requirements. All systems are SEMI® S2-0703E Safety and SEMI S8 Ergonomics Compliant, CE Marked, and ETL Listed.



Veeco 3303/4  
Fully Automated,  
3-4 Process Modules



Veeco 3305/8  
Fully Automated,  
5-8 Process Modules

Learn more about Veeco's single wafer process capabilities at [www.veeco.com/PSP](http://www.veeco.com/PSP)

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