Semcon® 2500

Automated Production Tool for Electroless and Immersion Plating

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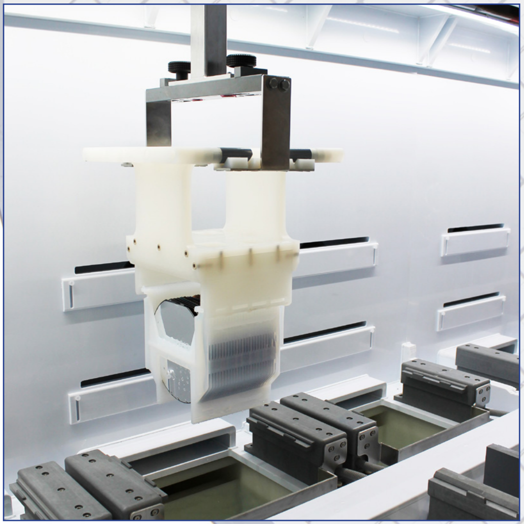
Semiconductor Electroless Tool for Medium to High Volume Applications

With the growth of ENIG and ENEPIG for wire bonding or soldering of semiconductor dies, the need for production-proven plating equipment has become critically important. While there are many good options on the market for purchasing semiconductor ECD tools for high-volume manufacturing, electroless and immersion plating require a much different type of tool. The unique and specialized aspects of designing a plating cell for successful and consistent electroless and immersion plating are well known by the engineering staff at Technic's Surface Finishing Technologies Group. The Semcon 2500 plating tool is the culmination of years of experience designing such tools and is fully compatible with any commercially available electroless, immersion, and ancillary chemistries as well as Technic's exclusive line of Elevate brand chemistry for ENIG and ENEPIG.

The Semcon 2500 is a tri-axis, fully automatic, cleanroom-rated plating tool for deposition of electroless nickel, electroless palladium, immersion gold, immersion palladium, and immersion silver chemistries. The system processes wafers from 50 – 200 mm using custom or commercially available wafer cassettes. The Semcon 2500 offers ease of operation with multiple programming options, easy changeovers, with convenient maintenance access all in a space-saving and highly reliable tool.



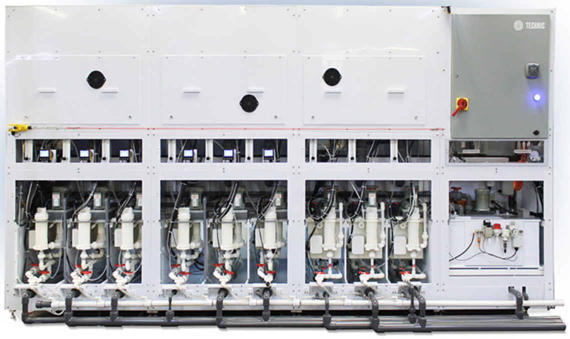
Features

- Tri-axis cleanroom grade automatic hoist with dynamic scheduling software
- Rotomolded tanks designed with rounded corners for reduced plateup
- Independently adjustable flow controls in processing cells and reservoirs
- Multi-recipe management system with data logging for traceability
- Chemical dosing and filling system with programmable mixing sequences
- Choice of custom or industry-standard wafer cassettes

Benefits

- Turnkey process available including analytical controllers, chemical dosing, and Technic Elevate electroless and immersion chemistries.
- Fully compatible with all Technic Elevate chemistries which reduce time and costs by being able to quickly establish optimum process parameters and efficient control systems.
- Space-saving configurations – process cells configured in two rows vs. single row which results in a slightly deeper but much shorter tool. Fully maximizing valuable cleanroom floor space.
- Extended bath life – rotomolded rounded corner tank design extends bath life by preventing excess plate-out on sharp corners and irregular surfaces.
- Wafer size processing flexibility (50 – 200 mm)
- Reliability and value – designed, fabricated, and installed by an experienced industry leader in electroless and immersion production plating.

Multi-recipe management system with data logging for traceability.



Easy access and maintenance operations to all plumbing, electrical, and changeover operations.

Sample Process Sequence

Position	Process	Module	Dwell (min.)	Temp (°C)	Volume (Liters)
1	Load / Unload Station	1	1	-	-
2	Cleaner	2	5	50	40
3	Quick Dump Rinse 1	2	3	RT	20
4	Microetch	2	1	30	40
5	Quick Dump Rinse 2	2	3	RT	20
6	5% Acid Dip 1	2	1	RT	20
7	Pd Activator	3	2	30	40
8	Quick Dump Rinse 3	3	3	RT	20
9	5% Acid Dip 2	2	1	RT	20
10	E-Less Nickel 1	3	22	82	40
11	E-Less Nickel 2	3	22	82	40
12	Hot Quick Dump Rinse 4	3	3	50	20
13	Immersion Palladium	4	TBD	TBD	40
14	Hot Quick Dump Rinse 5	3	3	50	20
15	E-Less Palladium	4	12	49	40
16	Hot Quick Dump Rinse 6	4	3	50	20
17	Immersion Gold	4	30	75	40
18	Hot Quick Dump Rinse 7	4	3	50	20
19	Hot N2 dry	4	3	90	-

Specifications

Turnkey process solution	Compliant to ANSI, OSHA, NEC, FM-4910, UL, NFPA, and Semi S2, S8, E95 codes
Substrate sizes handled	Wafer sizes 2" - 8" diameter or square substrates.
Number of 8" wafers per cassette	Process tank size designed for one (25) wafer count standard Fluoroware cassette.
HMI Process control and data logging	Included
Recipe management software	Included
HMI process recipes per each (cassette)	Included
3 Axis servo motor controlled hoist	Included
Chemistry compatibility	Electroless and /or immersion chemistries.
System materials of construction	Standard or optional FM4910 and CE certified
SECS GEM communication protocol	Optional
Customized wet benches features	Optional
System transport flexibility	System is designed for quick changeover for various size wafers.
Dimensions L x W x H (mm)	Length is based on number or process cells W= 2690mm H= 1900
Automatic Ni chemistry controller	Included Process chemical component replenishment system
Process chemistry exhaust ventilation	Approximately 1600 CFM
Power- 3 Phase 230 - 480 VAC , 50/60 hz	Actual power required depends on number of processes.
DI Water usage	Depends on number of processes. Can be heated or chilled