

**PCT-150CRS**

# COATER/DEVELOPER TOOL SET



**PCT•150CRS (6 inch wafer)**

(SINGLE TRACK COATER & DEVELOPER SYSTEM)

**PCT-150CRS**

**PicoTrack**

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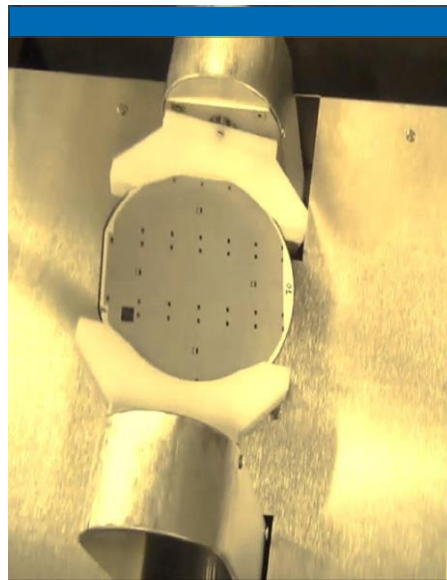
**PCT-150CRS (6 inch wafer)**  
(DUAL TRACK COATER & DEVELOPER SYSTEM)

**INNOVATION**

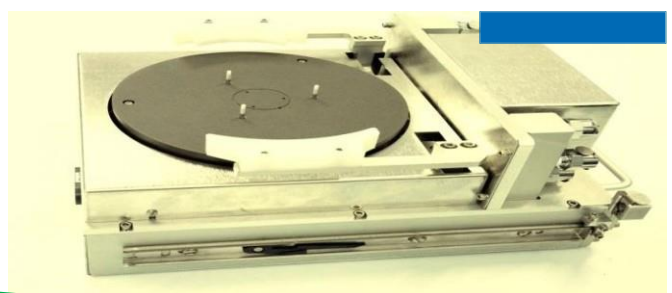


**semi**  
MEMBER

- Negative, Positive, SOG, Photo glass process
- Smart servo motor and controller for spin
- Programmable moving dispense arm with 3 or more nozzle as 3/16" , 1/4" and 3/8" OD tube
- Top and bottom EBR
- Cleaning Catch Cup & cleaning PR nozzle



- "Stack up and removable module
- "1" Lifter programmable with / without VAC
- "Watlow PID temp. controller
- "1" RTD Probe
- "1" Second RTD probe for monitoring (optional)



# PCT-150CRS

SYSTEM SPECIFICATION	PCT- 150CRS
System dimension (dual track) for mass production	93.5" length x 45" width x 90" height
System dimension (single track) For standard production or R&D	47" length x 45" width x 90" height
Customized system configuration	Flexible configuration & number of modules
Wafer size (workable dual size)	Up to 6 inch or 4" & 6" auto conversion
Wafer shape	Round/Square/Rectangular/Triangle/Special
Wafer material	Silicon/Sapphire/ GaAs/Ceramic.....
Indexer module	4, 8 or more (available upon request)
Vapor Prime Oven module (VPO)	1, 2 or more (available upon request)
Hot Plate Oven module(HPO)	4, 8 or more (available upon request)
Chill Plate module (CP)	2, 4 or more (available upon request)
Coater and Developer module	2, 4 or more (available upon request)
Double side Coating & Developing	(available upon request)
COATER MODULE	
Maximum spin speed	7000 rpm
Spin speed accuracy	+ 3 rpm
Acceleration range	0-50000 rpm/sec
Dispense arm motion control	Stepper motor drive and rotation
Dispense arm accuracy	0.1 mm
Wafer centering	0.1 mm
Number of coater nozzles	3X or more (3/16" or 1/4" OD or customize)
Dispense method	Resist pump/dispenser (TBD by customers)
Pre-dispense function	Yes
Top/Bottom EBR	Yes
Catch-cup rinse (CCR)	Optional
Cleaning tip nozzle	Optional
Humidity & Temp Control	Optional
PR/Fluid temperature control	Optional 11°C(10-50°C range)
Coating uniformity	10.5%
DEVELOPER MODULE	
Maximum spin speed	7000 rpm
Spin speed accuracy	+ 3 rpm
Acceleration range	0-50000 rpm/sec
Spin direction	CW (+) & CCW (-)
Dispense arm motion control	Stepper motor drive and rotation
Dispense arm accuracy	10.1 mm
Wafer centering	0.1 mm
Number of developer nozzle	1 Spray + 1 stream or 2 spray + 2 stream
Developer method	stream, puddle, fan spray, coin spray
DI water top and back side rinse	Yes
N2 Air Ring	Yes
Dual develop fluid process	Optional
N2 Blow off	Optional
Developer fluid temperature control	Optional 5°C (10-50°C range)
E0 Uniformity	3 %
HOT PLATE OVEN (HPO)	
HPO block type	Aluminum anodized with vacuum line or none
HPO Temp. PID controller	Watlow EZ-ZONE and heater element
Temperature range	25-250°C, At: 50°C fi200s (Ramp U/D) (>250°C option)
Temperature uniformity	11°C (25-150°C)± 2°C(151-250°C)
Bake method	Contact/ Proximity bake/ or fixed proximity
VAPOR PRIME OVEN (VPO)	
VPO block type	Aluminum with vacuum line
VPO Temp. PID controller	Watlow EZ-ZONE and heater element
Temperature range	Up to 200 C, At: 50°C s200s (Ramp U/D)
Temperature uniformity	+1 C (25-150°C), +2°C (151-200 C),
Prime method	Pressurize N2 with bubbler
Wafer contact angle	* 65° on prime silicon wafer
Contact angle uniformity	n 1.5 on prime base silicon wafer
Bake method	Proximity , Contact , vacuum & purge bake
CHILL PLATE (CP)	
Chill Plate block type	Aluminum anodized with vacuum line or none
Temperature	18°C to 30°C base on facility city water
Cool method	Contact/ Proximity contact
MTBF STABILITY	
MTBF	* 200 hours
MTBA	* 100 hours
MWBF	* 10,000 wafers
MTBR	* 2,000 wafers
Ups	fi 2 Hours
Wafer broken	± 98%
	fi 1 in 10,000 wafers

## INTRODUCTION

PCT-150CRS is the most advanced Coater and Developer tool set for Photolithography Process. Many features include face-lifting from Shuttle Robot Arm with dual or triple end-effector handlers, stacked up modules, PC & PLC controllers, and SECs/GEM compliance. The system is designed focus on high-reliability, high-throughput, footprint reduction, user-friendly, flexible process flow, various interface tools, easy maintenance, conservation of chemical and energy efficient. Our tool set is cost effective for Ownership, Operation, Spare Parts and Services. Beside PCT-150CRS, we also carry other tool set as: PCT-200CRS 8 inch, Scrubber, Lift-Off, Film Frame Cleaner, Mask Cleaner, and stand-alone Coater or Developer or Hot Plate. Please visit our web-site [www.picotrack.com](http://www.picotrack.com) for more details

## SYSTEM DEVELOPMENT & CORE DESIGN

**2010: Established R&D by engineering group.**  
**2011: Alpha Mode Development.**  
**2013: Beta Mode and production.**  
 Standard or customize system configuration.  
 Feasible for negative, positive, SOG, and photo-glass process.  
 Application & manufacturing are based on Semi. Organization standard.  
 Using Industrial proven brand name parts and devices  
 Commercially available "off the shelf" component  
 Reduced footprints and easy services  
 Modular design for easy access and maintenance.  
 High quality materials & good qualification  
 Durable testing, debugging & fully functional testing program  
 High performance spin servo motor and controller for expected coating thickness and uniformity control  
 Enhanced spin catch cup designed for uniformity  
 Nozzles programmable for cleaning to minimize defects  
 Upgrading wafer chuck to address unique process concerns  
 Dual or triple end-effector to minimize Load/ Unload time  
 Compatible with dual size wafer for automatic conversion with no required downtime for hardware changeover  
 Multi-recipe line programs for process flow  
 Optimized Recipes can be highest throughput  
 Various tool sets are installed worldwide

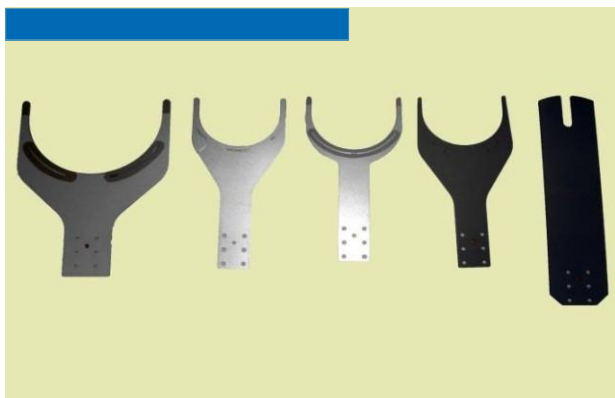
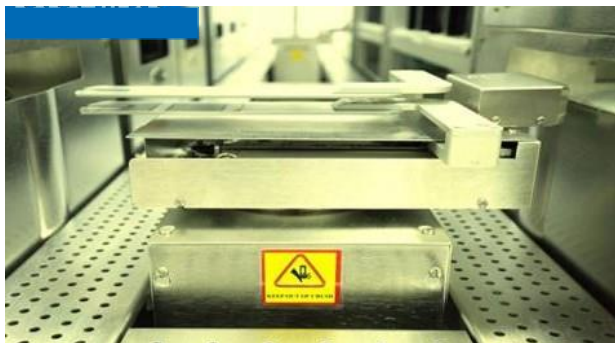
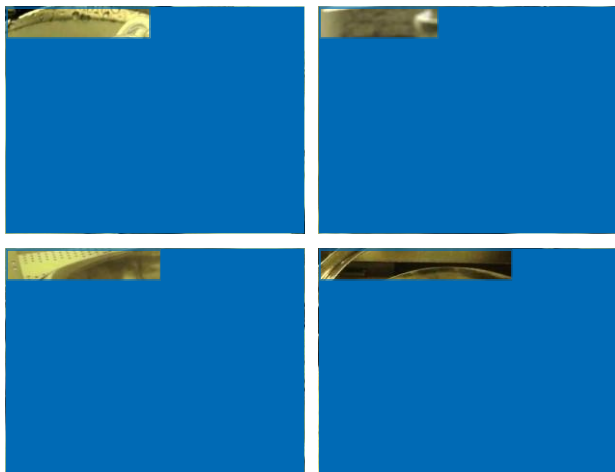
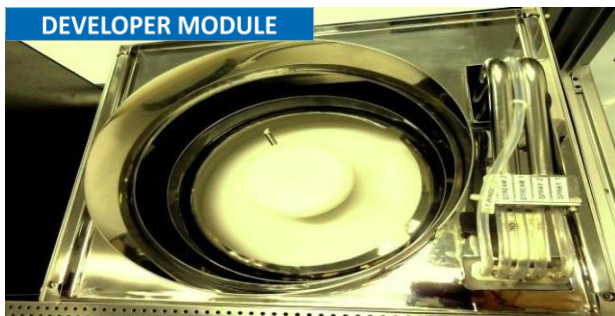
## SYSTEM FEATURES

Windows OS based on PC / PLC controller with network connectivity  
 Intuitive recipe generation & unlimited recipes storage  
 History of all system keyboard & GUI entries can be recorded for tracing  
 Daily data capture & report generation capability  
 Traceable system, operation history, system wafers, system hours, operation wafers, & operator error-free  
 Production integrated recipe selection  
 Paperless pass-down through e-log  
 Production summary & lot history  
 Comprehensive alarm management,  
 Teach-mode calibration  
 Single/continuous component exercise  
 Unlimited recipes  
 Import / export recipes  
 Auto, single and manual process  
 All sensor status display on monitor  
 GUI display (available for bilingual)

## OPTION ITEMS

SECs/GEM Compatibility: SEMI International Standards E5-95 (SECS II), E30-95 (GEM) and E37-95 (HSMS)  
 & Chemical Cabinets & canister auto-refill.  
 & Wasted collector Unit  
 & Photo-resist pump & Syringe dispenser unit  
 4 Ultrasonic resist spray nozzle  
 & Ozone chamber process  
 & Function of auto-cleaning catch-cup & nozzle tip  
 & Fan filter unit  
 & Air-flow humidity & temperature control  
 & Liquid flow-rate & volume control  
 & Barcode scanner  
 SMIF Indexer  
 Interface aligner or stepper through-track mode

## DEVELOPER MODULE



## DEVELOPER

- ❖ Negative, Positive, SOG, Photo glass... process
- ”Smart servo motor and controller for spin
- ”Spin direction: clockwise & counterclockwise
- ”Programmable moving dispense arm with multi nozzle as stream and spray
- ”DI water for top rinse and back side rinse
- ”Fluid Flow scale detection



- ”Smart precision servo and stepper motor control
- ”Dual or triple pick up arms with customized pick up forearm for special wafer
- ”Optical wafer mapping sensor

- ”Auto or manual refill
- ”Full communication to system
- ”Protect by safety sensor

