System One Specifications Summary:

Hardware	**Model 111**	**Model 106**	**Model 105**	**Model 104**	**Model 10X**	**Model 103**	**Models 102 / 101**
Plasma Power	RF 100-500 W Auto-tune, 600 Watts maximum, 13.56 MHz,	RF 100-500 W Auto-tune, 600 Watts maximum, 13.56 MHz,	RF 100-500 W Auto-tune, 600 Watts maximum, 13.56 MHz,	RF 100-500 W Auto-tune, 600 Watts maximum, 13.56 MHz,	RF 100-500 W Auto-tune, 600 Watts maximum, 13.56 MHz,	RF 100-500 W Auto-tune, 600 Watts maximum, 13.56 MHz,	RF 100-500 W Auto-tune, 600 Watts maximum, 13.56 MHz,
Wafer Size Capability	100 - 150mm round Silicon and GaAs wafers, 4.5" square substrates	100 - 150mm round Silicon and GaAs wafers, 4.5" square substrates	100 - 150mm Si & GaAs, 4.5" square substrates, (special chuck for 75mm - 150mm range) and (special chuck for 50mm wafers)	100 - 150mm round Silicon and GaAs wafers, 4.5" square substrates	100 - 150mm round, < 4.5" square substrates	100 - 150mm round, < 4.5" square substrates	100 - 150mm round, < 4.5" square substrates
Cassette Platform	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable	Fixed	Fixed
Closed Loop Pressure Control	Tylan Butterfly Valve & Capacitance Manometer	Tylan Butterfly Valve & Capacitance Manometer	Tylan Butterfly Valve & Capacitance Manometer	Tylan Butterfly Valve & Capacitance Manometer	Tylan Butterfly Valve & Capacitance Manometer	Butterfly Valve & Capacitance Manometer	Butterfly Valve & Capacitance Manometer
Latest Software Version / Overhead Time	4.07CX18 / 32-36 sec (includes pre-heat option)	4.07CX10 / 32 sec	4.07CX10 / 32 sec	4.07CX10 / 32 sec	4.02 / 45 sec	4.01 / 45 sec	2.0 / 45 sec
Temperature Control of Wafer Chuck	Closed Loop, Resistive Element Heated, Anti-Skate Center-Draw Chuck, 150°C - 300°C (±5°C). Descum: 100°C - 150°C (+5°C) @ <250W)	Closed Loop, Resistive Element Heated, Center-Draw, Grooved Chuck, 150°C - 300°C (±5°C). Descum: 100°C - 150°C (+5°C) @ <250W)	Closed Loop, Resistive Element Heated, Perimeter-Draw Pump Ring, Grooved Chuck, 150°C - 250°C (±5°C). Descum: 70°C - 150°C (+5°C) @ <250W)	Resistive Element Heater & Water Circulated Chuck: 25°C - 80°C (+/-5°C). Heater only & with TCU off, can operate to >120C. (Chuck electrically grounded).	Closed Loop, Resistive Element Heated, Deep Grooved chuck, Range: 100°C - 220°C (±5°C)	Closed Loop, Resistive Element Heated, Flat chuck, Range: 100°C - 220°C (±5°C)	Ambient chuck, no lift pin movement
Plasma Chamber / Electrode Design	Side Shooter Gas Inlet / Full Meshed Electrodes	Side Shooter Gas Inlet / Full Meshed Electrodes	Side Shooter Gas Inlet / Full Meshed Electrodes	Side Shooter Gas Inlet / Full Meshed Electrodes	Showerhead / Interleaved Wide Ground Electrode	Showerhead / Multipoint Positive Electrode	Single Orifice / Multipoint Electrode
Baffle Design	Single Silicon	Dual Quartz - Clamped	Dual Quartz - Clamped	No Baffle	Dual Quartz - Fixed	No Baffle	No Baffle
Baseplate cooling	No	No	Yes	Yes	Yes	Yes	Yes
Wafer Cooling Station	Yes	Yes	No	No	No	No	No
Process							
Throughput	>55 WPH	>45 WPH	>35 WPH	>40 WPH Descum	>25 WPH	>25 WPH	>20 WPH
Process Gases	0_2 & N_2 Standard (3rd MFC optional)	0_2 & N_2 Standard (3rd MFC optional)	0_2 & N_2 Standard (3rd MFC optional)	0_2 & $H2N_2$ Standard (3rd MFC optional)	0_2 & N_2 Standard (3rd MFC optional)	0_2 & N_2 Standard (3rd MFC optional)	0_2 & N_2 Standard (3rd MFC optional)
Strip Rate (6" wafers, 1.2 µ 120°C baked resist)	>2.5 µ/min @ 250°C >3.5 µ/min @ 300°C Repeatability ± 10%	>1.2 µ/min @ 250°C >1.8 µ/min @ 300°C Repeatability ± 10%	>1.2 µ/min @ 250°C Repeatability ± 10%	>1000 A/min @ 60°C >3000 A/min @ 100°C Repeatability ± 10%	>0.8 µ/min @ 220°C	>0.8 µ/min @ 220°C	>0.8 µ/min
Non-uniformity, 1 sigma	< 5%	< 5%	< 5%	< 5%	< 10%	< 15%	< 20%
Particulates added/ size	<0.10 / cm2 > 0.2mm	<0.10 / cm2 > 0.2mm	<0.10 / cm2 > 0.2mm	<0.10 / cm2 > 0.2mm	<0.10 / cm2 > 0.3mm	<0.10 / cm2 > 0.3mm	<0.10 / cm2 > 0.5mm
Descum? (+10% 1sigma)	YES	YES	YES	YES	YES	YES	YES
Min Vacuum Pump speed	169 CFM	32 CFM	32 CFM	26 CFM	26 CFM	26 CFM	26 CFM
Reliability							
Availability	> 95%	> 95%	> 95%	> 95%	>90%	> 85%	> 85%
MTBF	>450 hours	> 450 hours	> 450 hours	> 450 hours	> 250 hours	>250 hours	>250 hours
MTBA	> 24 hours	> 24 hours	> 24 hours	> 24 hours	> 24 hours	> 24 hours	> 24 hours
MTTR	< 4 hours	< 4 hours	< 4 hours	< 4 hours	<6 hours	<6 hours	<6 hours
Year Introduced	1998	1994	1991	1993	1989	1988	1986
Availability	Yes	Yes	Yes	Yes	No - obsolete	No - obsolete	No - obsolete