ARACA SM

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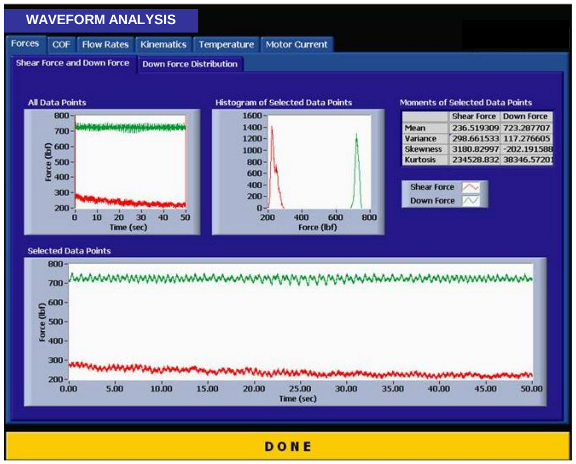
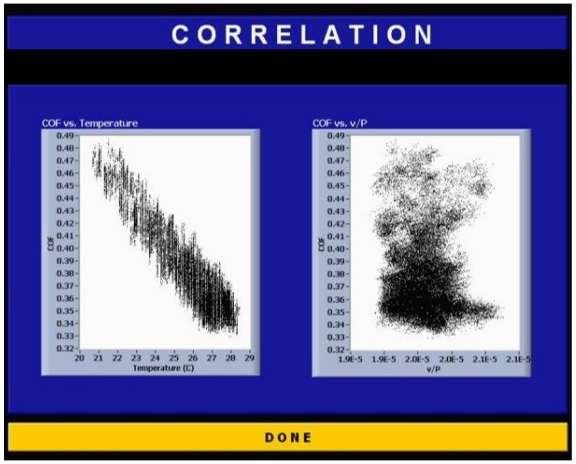
NEW APD-800 Prime® Polisher and Tribometer for R&D and Low-Volume Manufacturing



Moments of Selected Data Points

	Shear Force	Down Force
Mean	236.519309	723.287707
Variance	298.661533	117.276605
Skewness	3180.82997	-202.191588
Kurtosis	234528.832	38346.57201



APD-800 Prime® – Technical Specification

Manufacturer:	Fujikoshi Machinery Corporation (Nagano JAPAN). Sold exclusively in North America and the EU by Araca, Inc. (Tucson, AZ USA).
Wafer Size:	300 and 200-mm with interchangeable, dedicated wafer carriers.
Wafer Carrier:	Pressure range of 0.5 to 7 PSI. Independent pressure control (2 zones for the wafer and 1 zone for the retaining ring). Rotation range of 15 to 200 RPM. Rotation and vertical displacement controlled via servo motors.
Platen:	800 mm in diameter ceramic with integrated heating and cooling capability (chiller and heater sold separately). Rotation rate of 20 to 180 RPM. Rotation control via inverter motor.
Conditioner:	100 mm in diameter (can accommodate most standard CMP discs). Rotation rate range of 12 to 120 RPM. Sweep velocity range of 0 to 500 mm/sec through 10 independently controlled zones and dwell times. Down force range of 1.5 to 6 kg-force. In-situ and ex-situ capability.
Chemical Delivery Systems:	Two computer-controlled, 20-liter, chemical-resistant, removable tanks each with an impeller mixer, roller pump and level sensor. Flow rate range of 10 to 450 cc per min.
Slurry Injector:	Araca's patented slurry injection system – SIS® is available as an option.
Pad Rinse:	Dedicated high flow rate (up to 3,000 cc per min).
Force Sensors:	Shear force transducer above the carrier head and normal force transducers below the platen.
Temperature Sensor:	Adjustable single-point pad surface IR detector.
Control & Monitoring:	Intuitive programmable touch-screen controller for complete polisher operation.
Data Capture vs. Time:	Powered by Araca's FSX-800P® proprietary force acquisition and data analysis. Data capture frequency up to 2,300 Hz recording the following: Platen, carrier and conditioner rotational velocities, platen oscillation speed, conditioner oscillations speed and position, chemical tank flow rates, shear force, normal force, and pad surface temperature.
Data Analysis & Reporting:	FSX-800P® off-line data analysis software (with user-friendly GUI) developed by Araca, Inc. Capable of reporting (vs. polish time) shear and normal forces, coefficient of friction and temperature. Advanced features include shear and normal force Fast Fourier Transform (FFT), force cluster plots, Stribeck+ curves and kinetic curves.
W × L × H & Weight:	100 × 180 × 203 cm and 1,825 Kg (for the polisher) 50 × 80 × 81 cm and 35 Kg (for the 2 chemical delivery systems)
Utilities:	200 V – 3 Phase, 60 Hz, 25kVA; minimum CDA pressure of 75 PSI (50 KPa); vacuum 95 PSI (65 KPa).
Enclosure & Exhaust:	Enclosed and sealed polishing chamber with 10 cm diameter standard tool exhaust port.
Warranty:	One year parts and labor warranty included. Optional extended warranties and service contracts available.