



	Type	Product Platform	Description	Range/Size	Application
Inverters	Commercial & Utility-Scale Grid-Tie Solar Inverters	Solaron® Series	High-efficiency, transformerless solar inverters and accessories	333 kW & 500 kW	Solar PV inverters
Power Systems	Direct Current (DC)	Pinnacle® Series	Air-cooled power conversion and control systems	3 to 200 kW	PVD, bias
		Diamond™ Series	Water-cooled power conversion and control systems	8 to 15 kW	
		MDX Series	Power conversion and control systems	500 W to 80 kW	
		Pinnacle® Plus+ Series	Pinnacle with internal pulsing	5 to 60 kW	Reactive sputtering, bias, PVD
		DC Pulsing Products	DC supply pulsing accessories	500 W to 480 kW	
		E'Wave® Supply	Bipolar pulsed DC	2 or 3 channels; up to 2 kW each	Electroplating
	High Power	Crystal® Series	Low-frequency power conversion and control systems	60 to 180 kW; ~40 kHz	PVD sputtering, dual-cathode reactive sputtering
	Low and Mid Frequency	PE and PEII Series	Power conversion and control systems	1 to 60 kW; 40 kHz	Reactive and dual-cathode sputtering, CVD, PECVD, desmearing
		LFGS Series		1250 W; 40 to 500 kHz	
		RAS Split Inductor	Dual/redundant anode sputtering low-frequency/high-frequency accessory	10 kW	Reactive sputtering
		PDX® Series	Power conversion and control systems	900 W to 8 kW; 235 to 460 kHz	Plasma vacuum process source and bias

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Power Systems (Continued)	RF and High Frequency	Paramount® Series	Next-generation, advanced power conversion and control systems with Virtual Front Panel (VFP) power system monitoring and analysis software	1.5 to 3 kW; 13.56 MHz ±5%	Oxide, poly, and metal etch; PECVD, PVD
		Apex® Series	Power conversion and control systems	1.5 to 5.5 kW; 13.56 MHz	Oxide, poly, and metal etch; PECVD, HDCVD, PVD
		Hilight™ Series		300 and 600 W; 13.56 MHz	
		Ovation™ Series		2.5 and 2.7 kW; 60 MHz	
		HFV® Series		5 and 8 kW; 2 MHz	
		Cesar® Series		300 W to 5 kW; 2, 4, 13.56, 27.12, and 40.68 MHz	
	Match Networks	Navigator® Match Network Series	Match network for RF power systems	3.2 MHz up to 500 W 12.88 MHz up to 7 kW 13.56 MHz (for applications up to 10 kW) 40 MHz (for applications up to 4 kW) 60 MHz (for applications up to 5 kW) Dual-frequency options for advanced processing applications (available options include 2/13.56 MHz up to 2 kW, 13/60 MHz up to 2 kW, 2/60 MHz up to 5 kW)	Oxide, poly, and metal etch; PECVD, HDCVD, PVD
		VarioMatch™ Series	2 to 27 MHz (for applications up to 5 kW)		
		RF Instrumentation	Z'Scan® Sensor	RF metrology	350 kHz to 90 MHz

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Sources	Remote Plasma Sources	Litmas® RPS 1501 and 3001 Series	Integrated high-density plasma sources	100 to 1500 W 100 to 3000 W	Wafer pre-clean, photoresist ashing, exhaust gas abatement, reactive gas assisted deposition, ALD
		Xstream® Series (Not for sale or use in the U.S. or Germany. Please check with your AE representative regarding availability in other countries.)	Integrated plasma sources with active matching network	1000 to 6000 W 1000 to 8000 W	CVD chamber clean
Thermal Instrumentation	Thermal Sensing Systems	OR4000T	Non-contact, high-speed temperature measurement	Temperature measurement ranges from 50 to 3500°C (122 to 6332°F)	HDP-CVD, RTP, MOCVD, or any other semiconductor application requiring non-contact temperature measurement
		OR4000E	Non-contact, high-speed temperature measurement with real-time emissivity correction	Temperature measurement ranges from 50 to 3500°C (122 to 6332°F) with real-time emissivity compensation from 0.03 to 1.00	HDP-CVD, RTP, MOCVD, UV cure, or any other semiconductor application requiring non-contact, emissivity-compensated temperature measurement
		OR400T	Low-cost, single-channel, precision non-contact temperature measurement	Temperature measurement ranges from 50 to 3500°C (122 to 6332°F)	PVD, PECVD, LPCVD, metal/poly etch, or any other semiconductor application requiring non-contact temperature measurement

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Flow Products	Thermal-Based MFCs and MFMs	Aera® PI-980® Series	DeviceNet®, ultra-high purity, metal seals, MFC crosstalk insensitive, inlet pressure insensitive, fast response	10 sccm to 100 slm; multi-gas, multi-range models	Etch, PVD, CVD, or other semiconductor applications requiring pressure-insensitive performance with fast response
		Aera® Transformer™ Series FC-DN780 FC-DNR780 <sup>[1]</sup> FC-PA7800 FC-PAR7800 <sup>[1]</sup>	DeviceNet® and digital MFCs, ultra-high purity, metal seals	10 sccm to 200 slm; gas-specific or multi-gas models	Most semiconductor processes, fiber optics, FPD
		Aera® FC-D980 Series FC-DR980 <sup>[1]</sup> Series	Digital MFC, ultra-high purity, metal seals	3 sccm to 50 slm; gas-specific or multi-gas models	
		Aera® FC-D985 Series FC-DR985 <sup>[1]</sup> Series	Compact, digital MFC, ultra-high purity, metal seals	3 sccm to 30 slm; gas-specific or multi-gas models	
		Aera® FC-7800 Series FC-R7800 <sup>[1]</sup> Series	Analog MFC, high purity, metal seals	3 sccm to 200 slm; gas-specific	Most semiconductor processes, fiber optics, FPD
		Aera® FC-780CHT Series	High-temperature, analog MFC, high purity, metal seals	10 sccm to 50 slm (for temperatures up to 85°C [185°F])	
		Aera® FC-785 Series	Compact, analog MFC, high purity, metal seals	3 sccm to 50 slm; gas-specific	
		Aera® FC-7700 Series FC-R7700 <sup>[1]</sup> Series	Analog MFC, high purity, elastomer seals	3 sccm to 1000 slm; gas-specific	Semiconductor, FPD, fiber optics
	Pressure-Based MFCs	Aera® FC-P2000 Series	Analog MFC, high purity, metal seals	2 to 10 sccm	SDS applications
	Liquid MFCs	Aera® LX-1200C	Analog MFC, high purity, metal seals	0.1 to 10 gm/min (density dependant)	Where liquid flow control is preferable to the control of gas or vapor
	Vapor Delivery Systems	Aera® GS-430, GS-440	Large-capacity thermal vaporizer and delivery system	Up to six lines simultaneously at 90 gm/min each	Vaporized liquids, optical fiber, silica industries
		Aera® AS-50, AS-60, AS-70, AS-71, AS-92, AS-103	Compact thermal vaporizer and delivery system with reduced footprint	Designed for assembly into equipment	Vaporized liquids for deposition processes
		Aera® RS-90, RS-95, RS-100	Vaporizer refill and recharge systems	Up to ten lines simultaneously	
Pressure Control Products	Aera® EPC100 Series <sup>[1]</sup>	Exhaust pressure controller (absolute or differential)	Compact design consisting of control valve, controller, and pressure sensor	Atmospheric pressure diffusion systems	

[1] RoHS compliant

To view AE's power systems portfolio, visit:

[www.advanced-energy.com/en/Power\\_Systems.html](http://www.advanced-energy.com/en/Power_Systems.html)

To view AE's flow management portfolio, visit:

[www.advanced-energy.com/en/Flow\\_Management.html](http://www.advanced-energy.com/en/Flow_Management.html)

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