

Owens Design

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Press Release

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Contact Mark Danna | 510.659.1800
danna@owensdesign.com

Owens Design Shines on the Solar Industry

Contract Design & Manufacturer for Capital Equipment expands into the Solar Industry by providing automated equipment used to manufacture Solar Cells

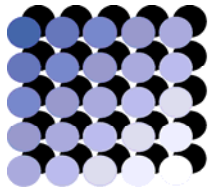
Fremont, California: Owens Design Inc., announces it has expanded its design & manufacturing capabilities to support the growing production equipment needs of the solar industry. Best known for their expertise in contract design and manufacturing of complex semiconductor capital equipment, Owens Design has expanded upon that expertise by designing and delivering production tools for the solar equipment market during the last two years. To date, Owens Design has designed and manufactured production equipment for multiple companies producing solar photovoltaic products.

Along with the new and growing solar equipment market, Owens Design has organized a growing team of dedicated design and manufacturing experts who average over 20 years of capital equipment industry experience. Whether the requirement is for multi-layer thin film (i.e. CdTe, CIGS) or silicon substrate based processes, Owens Design can provide the high efficiency and high yield manufacturing equipment needed to produce a product for the lowest cost per watt.

"Owens Design understands that the solar energy industry's demanding manufacturing requirements require innovative approaches to process automation, material handling, and high yield solutions. Global competition for alternative energy requires that successful companies ramp to high volumes quickly while maintaining relentless focus on reducing the cost per watt. Rapidly evolving silicon based and thin film technologies require an equally rapid evolution of the automated manufacturing equipment." says John Apgar, President of Owens Design.

Owens Design's Engineering and Manufacturing Solar Capital Equipment capabilities including:

Wafer Based Crystalline: Successful handling of ultra thin photovoltaic (PV) silicon wafers requires the necessary automation tool design experience for robust and reliable wafer handling. As PV wafers become thinner and thinner, the equipment to correctly handle these substrates will continue to require new and innovative approaches. Owens Design has the experience to handle these very thin and fragile wafers under very high speed processing conditions. Owens Design can work with your staff to deliver



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continuous manufacturing equipment solutions that will produce product at the highest yield and quality. As expected, these solutions must be rapidly scalable to high volume manufacturing while keeping the cost of equipment to an acceptable level.

Concentrating Photovoltaics (CPV): Automating the manufacture of concentrating photovoltaics requires a systems level approach to design for manufacturability, system design, and cost reduction. The integration of the added optical components in the concentrating design must be assembled and aligned with highly customized automated equipment. By clearly understanding the tradeoffs in system complexity, cost, and performance, Owens Design can work with your staff to design the optimum production tool for your application.

Thin Film Solutions: Emerging multi-layer thin film designs (i.e. CdTe and CIGS) require a new approach in continuous manufacturing equipment. Pre-deposition substrate preparation, post-deposition processes and test must be customized for the continuous nature of the process. Final assembly, automated vision inspection, load / unload automation, and high throughput are all necessary elements in a successful design.

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About Owens Design

Owens Design specializes in engineering and manufacturing of capital equipment. Located in Silicon Valley for over 25 years, they have been a strategic partner in the co-creation and manufacturing process for many leading OEM capital equipment companies. Owens Design engineers and manufactures customer's products from concept, through alpha, beta, pilot and on-going production. Their development process results in a rapid design cycle and concurrent manufacturing introduction. Owens Design has and continues to be an innovative and reliable partner for equipment companies in the semiconductor, solar and related industries.