

Manz Introduces New Thin-Film Solar Products at the EU PVSEC in Hamburg

- New Manz IQ-XRF system for inline quality control
- System inspects composition, thickness, and homogeneity of TFS coatings
- Manz IQ-XRF uses X-ray fluorescence for maximum precision

Hamburg/Reutlingen, September 5, 2011. High-tech engineering firm Manz AG will be presenting its latest range of products for manufacturing thin-film solar modules at the 26th EU PVSEC in Hamburg. In addition to efficient solutions for the wet chemical processing of glass substrates, a newly developed automation concept with a central corridor, and high-precision laser scribing systems, this also includes the Manz IQ-XRF system which can be integrated into existing production lines. XRF stands for X-ray fluorescence, the physical properties of which Manz uses for inspecting the quality of thin-film solar modules.

“X-ray fluorescence is one of the most practical methods of inspecting the composition and homogeneity of a layer of metal,” said Dr. Thomas Umschlag, Head of Sales in Manz’s thin-film solar division. “Since the efficiency of a thin-film module is largely dependent on these two characteristics, accurate quality control is extremely important for module manufacturers in order to ensure that they actually deliver products with the promised level of efficiency.” An additional benefit for customers is that production costs can be optimized by conducting rigorous quality inspections after critical processing steps, since doing so allows defective substrates to be rejected early in the process instead of after they pass through the entire production line. The fully automated XRF system, suitable for mass-production applications, is available for a variety of different substrate sizes. It has already been integrated into the first customers’ production lines and, since then, has been used continuously.

The metrological core of the system is an ELBRUS.COMPACT.DUO measuring head from IFG GmbH, which makes both highly accurate and extremely fast measurements possible. In order to measure different areas of the substrate, this measuring head can be moved extremely precisely along one axis. By moving the substrate perpendicular to the head, it can access and take a measurement at every point of the substrate. A flexible loading and unloading system allows the unit to be integrated into both existing and newly planned production lines. The measuring head can be positioned above the area to be inspected with an accuracy of less than one millimeter and is also self-calibrating. The results of the measurements are displayed on Manz’s human-machine interface, the Aico View Display, in order to optimize the coating system’s parameters. Modern interfaces allow the unit to be directly connected to the coating system as well as connecting it to an overarching MES system.

Manz also offers a modified version of its XRF system as a free-standing/independent unit.

About Manz

Manz AG, headquartered in Reutlingen, Germany, is one of the world's leading high-tech engineering firms. Founded in 1987, in recent years the company has grown from an automation specialist into a supplier of integrated production lines for crystalline solar cells and thin-film solar modules as well as lines for manufacturing flat panel displays. One of its newest areas of business is the development and manufacture of production systems for lithium-ion batteries. The company, led by founder Dieter Manz, has been listed on the stock exchange in Germany since 2006, and currently operates production facilities in Germany, China, Taiwan, Slovakia, and Hungary. At the end of the second quarter 2011, Manz AG had approximately 1,900 employees, 800 of which work in Asia. With its slogan, "Passion for Efficiency," Manz's engineers are making a promise to offer its customers – all companies active in important future markets – increasingly efficient production equipment.

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