Members' Profiles

Sumitomo Precision Products Co., Ltd.

1. Overview of business activities

In 1995, the British firm Surface Technology Systems (STS), an affiliate of Sumitomo Precision Products Co., Ltd., marketed the world’s first silicon deep etching unit. Building on this unit and its technology, Sumitomo Precision Products became the first Japanese manufacturer to produce a silicon deep etching unit. In 2001, Sumitomo Precision Products also began domestic manufacture of the silicon dioxide film etching unit, which uses HF vapor, of the U.S. firm Primaxx (which became funded by Sumitomo Precision Products in 2006). In order to better respond to the MEMS needs of its customers, Sumitomo Precision Products also handles a wide range of MEMS processing units, including SiO2/SiN etching units, SiC etching units, compound semiconductor etching units, PE-CVD units, silicon sacrifice layer etching units and units for wafer thickness reduction.

2. Domestic products designed for MEMS mass production

(1) MUC-21 ASE Pegasus (new silicon deep etching unit)

The ASE Pegasus is Sumitomo Precision Products’ most advanced model and was released in December 2005. It is based on the so-called Bosch switching process, as well as the Advanced Silicon Etch (ASE) technology established by STS by combining various proprietary technologies. The resulting hardware module and processing software offer superior performance that maximizes such switching process features as high etch rate, high mask selection ratio and high aspect ratio processing. Specifically, the unit offers greatly improved etching shape and in-plane distribution through the use of a newly developed plasma module, as well as an improved plasma matching system and a new type of gas introduction system that includes an MFC of high-speed switching processing. The result is a product that offers world-class performance. Moreover, Sumitomo Precision Products continues to focus on development in an effort to achieve further improvements in the future.

(2) VPX-ASE Pegasus (platform for mass-production factories)

In 2007, Sumitomo Precision Products released the VPX-Pegasus cluster type ASET unit for users interested in the mass production of MEMS devices. In this system, the ASE-Pegasus source is mounted on a cluster type conveyor system. Sumitomo Precision Products is confident that this system will make a major contribution to the production of various types of MEMS sensors, silicon microphones, silicon oscillators and other components already making the transition from the research and development stage to the mass-production stage.

3. A final word

Sumitomo Precision Products has a voluminous process library accumulated over many years, centering on silicon deep etching technology. The company is building systems that can respond rapidly to the extremely diverse needs of any MEMS user company. MEMS devices are now being asexploited for an ever-widening variety of purposes. By developing a diverse array of applications and equipment, Sumitomo Precision Products will continue to provide the means to respond rapidly to MEMS development needs.

For more information about Sumitomo Precision Products, access the SPP website at:
http://www.spp.co.jp

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