

# Bench-top lapping for SiGe, GaAs, GaN, InP and more

Engis Corporation has launched a new bench-top lapping machine, the Hyprez Microtech AM-15. With its small footprint, the machine is especially suited for R&D and academic work. It has the ability to take materials from a ground state to 5 Angstroms flatness in 1.5 hours, using diamond technology throughout.

Working with materials such as Calcium Fluoride and Magnesium Fluoride, Engis has developed a three-step process, which provides a high removal rate and results in a high-quality finish and a damage-free surface. In recent laboratory work, the process took 135 minutes when applied to Calcium Fluoride and 45 minutes when applied to Magnesium Fluoride.

Microtech AM-15 is designed to accommodate a variety of surface preparation requirements. Specifically, it is capable of backthinning, lapping and/or polishing compound

semiconductor materials, such as SiGe, GaAs, GaN, and InP, as well as electro-optic materials and ceramics. Standard features include a digital readout cycle timer, with auto-reset capability, a powered pressure plate

system, which provides both variable down-pressure pneumatically, and a direct drive variable speed control. In addition, a "spin-up" feature allows non-movement of piece-parts at cycle completion.



*Hyprez Microtech AM-15 bench-top lapping machine.*

## IntelliFlow 3XP qualified

Mykrolis Corporation announced that a US-based semiconductor equipment supplier has selected the IntelliFlow 3XP mass flow controller (MFC) as a standard option for its etch tools.

IntelliFlow 3XP is Mykrolis' third generation of IntelliFlow Digital MFCs. It integrates several of Mykrolis' gas delivery core technologies into a single, modular solution which provides options for integrated pressure transducers, displays, and UHP contamination control.

## Brooks Automation selected by Veeco Ion Beam as automation outsourcing partner

Veeco Ion Beam Equipment has selected Brooks Automation Inc to supply front-end automation systems for its ion beam product line. Veeco will standardise its ion beam products on a common tool architecture incorporating the Brooks Marathon Express family of vacuum automation systems.

Michael Pippins, senior VP and chief marketing officer at Brooks Automation, said: "This new design-in win at Veeco represents a significant accomplishment for Brooks as we position our company as the premier automation partner for the capital equipment industry. There is a clear benefit to companies like Veeco to outsource their automation systems as it allows them to focus on their core process technologies and reduce cost, while staying competitive in their non-core technologies by using commercially available best-in-class systems."

## First near UV LD in mainland China

Aixtron AG announced the development of the first near UV laser diode by the Institute of Semiconductors at the Chinese Academy of Science (ISCAS) in Beijing, using a Thomas Swan MOCVD reactor.

ISCAS installed the Thomas Swan Close Coupled Showerhead (CCS) MOCVD reactor two years ago. The 3x2" GaN on sapphire and 1x4" GaN on silicon MOCVD reactor has been utilised primarily for the development of short-wavelength laser diodes and UV photo-detector based devices.

After two years of research, the State Key Laboratory on Integrated Optoelectronics research group at ISCAS, led by Professor Hui Yang, in collaboration with another research group headed by Professor LiangHui Chen, has been successful in developing the first near UV laser diode in mainland China.

The near UV laser diode employed 5 period InGaIn/GaN MQWs as the active region and AlGaIn/GaN superlattices as the cladding layer, which was epitaxially grown on a GaN/Sapphire template. The lasing wavelength is 410 nm. The laser

diode is gain-guided with a strip width of 5 micrometers and a strip length of 800 micrometers.

Aixtron also announced the delivery of an additional Thomas Swan MOCVD system to Genesis Photonics Inc (GPI), for the mass production GaN-based UHB-LED wafers and chips. The Thomas Swan large-scale GaN reactor has a capacity of 19x2" wafers.

GPI was established in January 2002 and is headquartered in the Southern Taiwan Science-Base Industrial Park, with offices in Taipei and Shenzhen, China.