

2021-22 香港工商業獎：設備及機械設計優異證書 2021-22 Hong Kong Awards for Industries: Equipment and Machinery Design Certificate of Merit

產品名稱： 一種新穎磁場輔助批量超精加工設備
Product Name: **A Novel Magnetic Field-assisted Batch Superfinishing (MABS) Equipment**

公司名稱： 香港理工大學 - 超精密加工技術國家重點實驗室
Company Name: **The Hong Kong Polytechnic University - State Key Laboratory of Ultra-precision Machining Technology**

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評審委員會意見：

磁場輔助批量超精加工 (MABS) 設備將為當前的磁流變輔助拋光技術轉變為一種具備經濟效益的超精加工工具邁出了堅實的一步。該設備能同時對各種幾何形狀表面和不同形狀的部件進行批量超精加工。該系統能夠實現納米級的表面粗糙度，適用於多種材料，如金屬、陶瓷和玻璃等部件，通過在腔內正確地固定部件位置，此設備可以同時容納數十到數百個元件。MABS 系統非常適合應用於光學、生物醫學、牙科和珠寶等行業的產品。

General Comments on the Product:

The MABS Equipment presents a strong step to translate current MR-assistive polishing technology towards becoming an economical and effective tool of superfinishing workpieces. The Equipment has the ability to conduct simultaneous batch superfinishing of components with wide-ranging surface geometries and shapes. The system is capable of achieving nanometer-scale surface roughness and can be used on metals, ceramics, and glass components. Tens to hundreds of components can be accommodated at the same time with proper positioning of the items inside the chamber. The MABS system is well suited for products from industries such as optics, biomedical, dental, and jewelry, and more.

