

TABLETOP MASKLESS LITHOGRAPHY SYSTEM

桌上型雷射光罩直寫設備

The DaLI is a **universal table-top system for maskless laser lithography with all standard photoresists**. From microelectrodes, new materials research, quantum devices and nanotechnology applications to photomask fabrication, microfluidics and biophysics, the system produces structures down to sub-micrometer dimensions on both flat and irregular substrates.

DaLI 為萬用的桌上型雷射光罩直寫設備。應用面從微電極，新材料研發，量子元件和奈米技術應用到光罩製造，到微流道和生物物理學的應用，該設備可在平坦和不規則的基材上製作次微米尺寸的結構。

The shape, size and surface characteristics do not make a difference to the Dall. Even objects **smaller than 1 mm can be aligned, focused**, and processed just like wafers and substrates of standard shapes and sizes.

基板形狀，大小和表面特性不影響 DaLI 的運作。甚至小於 1mm 的基材也可以像標準形狀和尺寸的晶圓和基板一樣對齊，聚焦和處理。

Software-selectable beam spot size, sub-nanometer resolution of acousto-optic deflectors, adaptable raster spacing and advanced field-stitching algorithms are seamlessly combined into a single process for producing patterns with high details and edge smoothness limited only by photoresist resolution.

軟體可選擇光束尺寸，聲光偏轉器至次奈米級解析度，可用於光柵間距和先進的場無縫的組合，以產生具有高細節和邊緣平滑度的圖案。

Full PC control and intuitive all-in-one design and lithography software drastically shorten prototyping time and lower the costs, while maximizing flexibility that is required for **in-house prototyping, research and development environments**.

完整的 PC 控制以及直觀的多合一設計和雷射直寫大大縮短了原型製作時間並降低成本，同時最大限度地提高了內部原型製作，研發環境所需的靈活性。

Sophisticated software algorithms and ability to structure with variations on the nanometer scale makes Dall a powerful tool for grayscale lithography and precision structuring required in integrated waveguides. Straight-forward multilayer alignment using anchoring points and scaling is accurate and simple with the integrated color microscope.

先進的軟體算法和具有奈米級變化結構的能力使 DaLI 成為集成波導中所需的灰度光刻和精密結構化的強大工具。使用集成的彩色顯微鏡，能讓定位點和縮放比例直接進行多層對齊是準確而簡單的多層對齊。

The Dall package includes a **dedicated chiller for temperature stabilization**, which guarantees precision and superior reliability for your micro structuring needs.

DaLI 套件包括用於溫度穩定的專用冷卻器，可確保滿足您的微結構化需求的精度和卓越的可靠性。



Key Advantages 主要優勢

- Very compact, table-top design 非常精巧的桌上型設計
- True sub-nanometer writing resolution 真正的次奈米寫入解析度
- User-friendly PC control with intuitive 直觀的用戶友善 PC 控制系統
all-in-one CAD and lithography software 多合一的 CAD 和直寫軟體
- Multilayer alignment and anchoring 多層對齊和固定
- Thermally stabilized for ultimate precision 熱穩定以達到極致的精度

Applications 應用

- Microelectronics, photomask prototyping 微電子學 · 光罩
- Materials science 材料科學
- Quantum devices 量子元件
- MEMS and sensors MEMS 和傳感器
- Lab-on-a-chip, microfluidics 晶片實驗室 · 微流道



Specifications 規格

General 基本資訊	Substrate size, 基板尺寸 from sub-millimeter to 127 x 127 x 7mm 從次毫米到 127 x 127 x 7mm	Supported photoresists 支援雷射直寫 All common photoresists 所有普遍雷射直寫光阻
Optical Characteristics 光學特性	Laser wavelength, 雷射波長 375 or 405 nm	Beam spot size, 雷射光束尺寸 1 and 3 μm (software-selectable)
Performance 性能	Writing speed(spots per second), 直寫速度(每秒光點數)Hz: 100,000 Structure aspect ratio 結構深寬比: 20:1 Working area 直寫範圍面積:100x92mm	Writing resolution(beam positioning) 雷射直寫解析度: True sub-nanometer 真次奈米 Minimum structure size, 最小尺寸: <1 μm Multilayer alignment accuracy, 多層對準精度: 0.5μm
User Interface 使用者介面	Data Input ofrmats 數據輸入格式: DXF, BMP Intuitive CAD software for design, alignment, advanced anchoring and exposure control 直觀的 CAD 軟體 · 用於設計 · 對準 · 進階固定和曝光控制	Integrated optical monochrome or color Microscope for inspection and alignment 內建光學單色或彩色顯微鏡 · 用於檢查和對準
Technical data 技術資訊	Operating temperature, 運轉溫度: 21.5 \pm1.5 $^{\circ}\text{C}$ System dimensions, 設備尺寸: 650 x 626 x 522 mm (W x D x H) Electrical supply voltage 電力需求: 110-230 VAC, 50/60Hz Chiller data 冰水機資訊: 133 x 483 x 559 mm ³ (19" rack, 3U), 15kg 250W cooling capacity	Operating relative humidity, 運轉濕度: <80 RH % System weight, 設備重量: 77kg Power consumption, 消耗電力:<120 Watt Hardware/software requirements 硬體/軟體需求: Windows 10 / 8.1 / 8, 64 bit, 3GHz processor with SSE2 higher, 4GB of RAM and 16GB available hard disk space
All inclusive 包含	The DaLI system is shipped with the chiller, all connecting cables, coolant hoses and the Proprietary DaLI software. 本設備包含冷卻機 · 所有連接電線 · 冷卻劑軟管和專有的 DaLI 軟體。	

