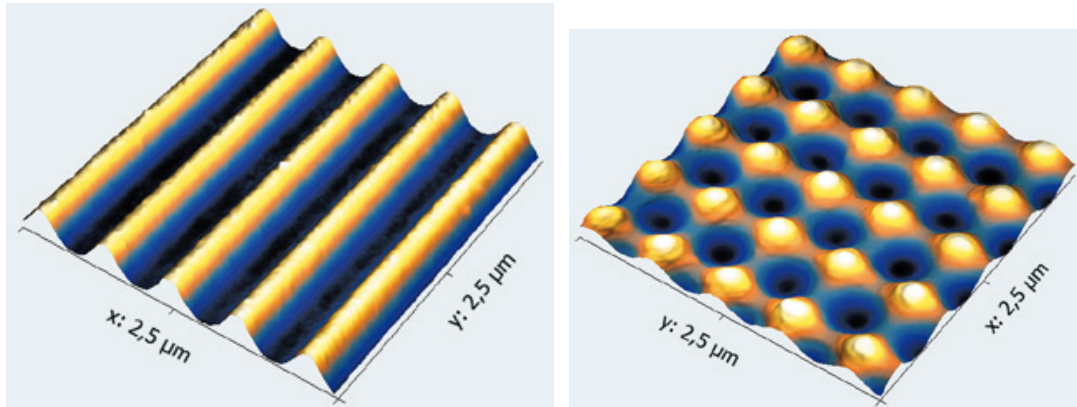


## HT-DG-500

### HT Diffraction Grating Molds

#### 衍射光栅模具



Light management using Diffraction Gratings – DG Diffraction gratings can be used to optimise and enhance the performance of optical systems. Applications include the enhancement of light extraction out of light emission devices, such as LED or OLED sources by efficient light out coupling from high-refractive index-materials, or the realisation of high-throughput detection devices. HT-DG-500 gratings are designed to be used in mass production replication process for fast and cost-effective production. We have chosen the structure parameters with the aim to be suitable for a variety of applications.

使用衍射光栅的光管理-DG 衍射光栅可用于优化和提高光学系统的性能。应用包括通过高折射率材料的有效光输出耦合或实现高通量检测器件来增强发光器件（如 LED 或 OLED 光源）的光提取。HT-DG-500 光栅被设计用于大规模生产复制过程中，以实现快速、经济的生产。我们选择的结构参数旨在适合各种应用。

#### How HT-DG works 工作原理

Surface diffraction gratings are flat optical elements with a regular pattern, which split incident light into a number of diffraction orders. The number of diffraction orders and the respective diffraction efficiency in the single orders depend on wavelength and incidence angle of the incoming light and on the refractive indices of the materials involved. By choosing the right set-up, diffraction gratings can be used to couple light into or out of wave guides and in this way increase the performance of optical systems, or to split light into several light beams. They can also be used in wavelength selective detector devices.

表面衍射光栅是具有规则图案的平面光学元件，它将入射光分成若干衍射级。衍射级数的数量和相应的单级衍射效率取决于入射光的波长和入射角以及所涉及材料的折射率。通过选择合适的设置，衍射光栅可用于将光耦合到波导中或从波导中耦合出来，从而提高光学系统的性能，或将光分裂成多个光束。它们也可用于波长选择性探测装置。

## HT-DG applications 应用

- Beam splitting for short visible and UV wavelengths, especially for collimated or diverging beams with a large beam diameter
- Out coupling from light emission devices such as LED / OLED
- Optical films
- In coupling of light into waveguides
- Laser sensor devices based on a variation of refractive indices for fast reading over large areas
- Thin-film and organic photovoltaics
  
- 波长较短的可见光和紫外光的光束分裂，特别是大直径光束的准直和发散
- LED/OLED 等发光器件的输出耦合
- 光学薄膜
- 将光耦合到波导中
- 用于大面积快速读取的基于折射率变化的激光传感器
- 薄膜与有机光伏

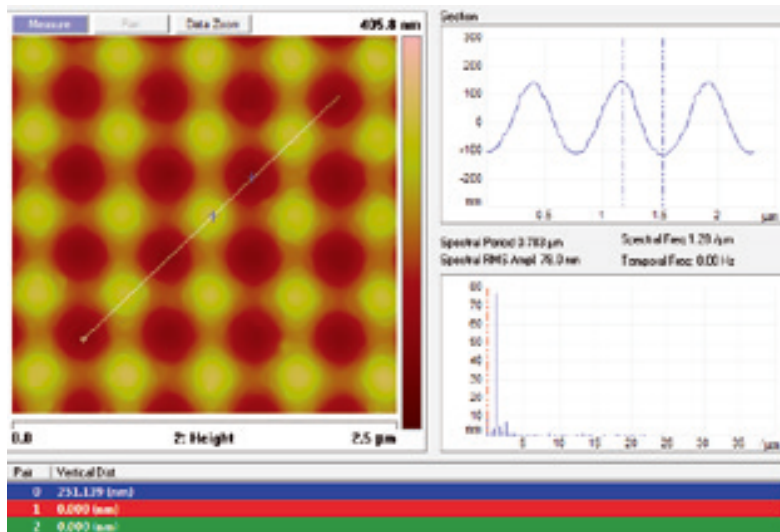
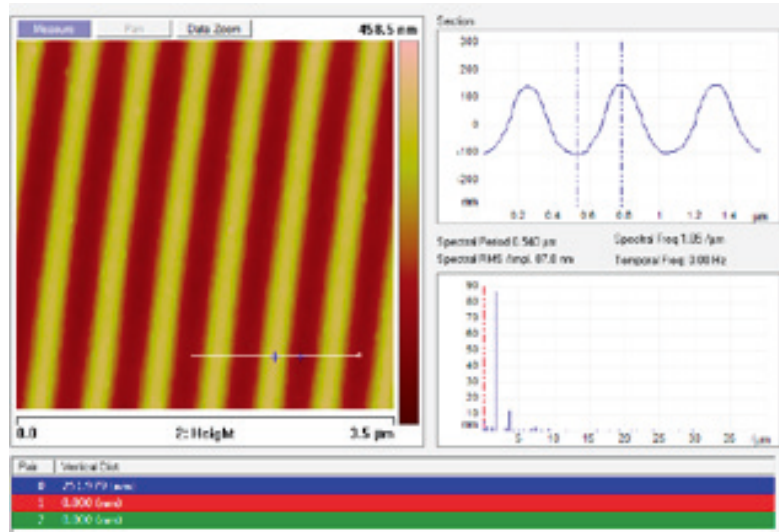
## Users of HT-DG molds 用户

- Film manufacturers – for product and process development work
- Manufacturers of light emission devices
- Manufacturers of fast reading sensor devices
- R&D institutes – for research activities on micro-optical structures
- Equipment manufacturers for injection molding, thermal embossing and Roll-to-Roll production equipment – as a reference to demonstrate the technical capabilities and homogeneity of their production processes
  
- 薄膜制造商-用于产品和工艺开发工作
- 发光器件制造商
- 快速读数传感器设备制造商
- 研发机构-用于微光学结构的研究活动
- 注塑、热压以及卷对卷生产的设备制造商 – 作为演示他们生产工艺的技术能力和重复性的参考

## Specifications

	HT-DG-L500	HT-DG-C 500
Grating type	<b>Linear Grating</b>	<b>Crossed Grating</b>
Profile shape	Sinusoidal	Sinusoidal
Pitch	522 nm	500 nm
Average depth	250 nm	250 nm
Material	Nickel	Nickel
Mold size*	100 mm x 100 mm	100 mm x 100 mm
Active area*	80 mm x 80 mm	80 mm x 80 mm
Mold thickness*	300 µm	300 µm

\* Customised sizes and thicknesses upon request



联系人：孙晓玉

Tel: +86-10-82867920/21/22-120 +86-13701029478

E-Mail: [xysun@germantech.com.cn](mailto:xysun@germantech.com.cn)

**GERMANTECH**

北京汇德信科技有限公司

汇聚一流纳米技术!

公司产品：■ 薄膜制备与分析设备 ■ 微纳加工与制造设备

■ 表面形貌与测量设备 ■ 红外测温设备 ■ 实验样品及耗材

北京市海淀区学院路30号 科大天工大厦B座1408室 [www.germantech.com.cn](http://www.germantech.com.cn)