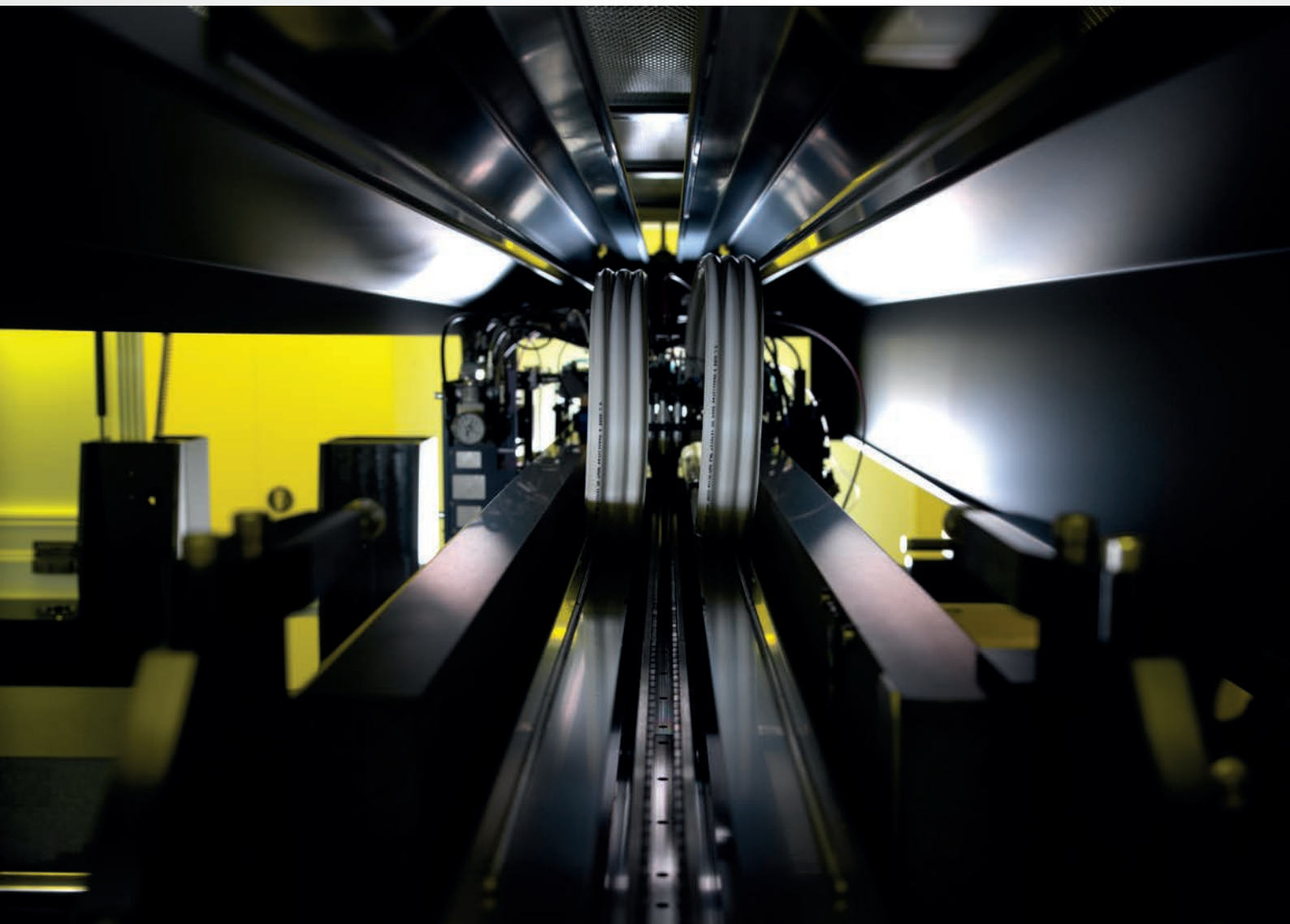


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Mycronic Prexision™

# Taking display photomask quality to a new level

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MYCRONIC

When passion meets innovation ●

# Mycronic Prexision

## Better, Faster, Larger - all at once

**Mycronic has been in the forefront of display pattern generation for more than a decade. With the industry standard LRS series, we have enabled the rapid evolution of TFT-LCD displays. Mycronic continues to lead display technology development with the new Prexision systems.**

### PRODUCTIVITY

Benefits for both mask makers and mask users  
The Mycronic Prexision system gives the mask shop improved photomask quality with superior mura performance as well as higher productivity. Mask users benefit from superior quality photomasks with better overlay performance, resulting in higher yields in display manufacturing.

### MYCRONIC PREXISION - FOR DISPLAY MASKS THROUGH G10

The Mycronic Prexision laser pattern generator is designed for TFT-LCD and color filter photomask production. The system is available in two models, Prexision-8 and Prexision-10 targeting G8 and G10 respectively.

### HIGHER YIELD AND BETTER QUALITY DISPLAYS

Mycronic Prexision systems improve yield and enable the production of higher quality photomasks, with CD specifications improved by up to 30%. The improved image quality is also an advantage when producing Multi Tone Masks (MTM), where CD control is of utmost importance for the result.

With the increasing mask sizes of new TFT generations, mask-to-mask overlay has become



a critical parameter. Accordingly, Mycronic Prexision's overlay and registration specifications have been improved by 50%. With the optional Z-correction function the registration performance is taken one step further. Z-correction compensates for registration errors from substrate distortions caused by particles or mechanical stresses from mask loading. Registration errors originating from flatness variations in the mask substrate are also compensated. These errors increase for thicker masks, making Z-correction increasingly important for the new TFT generations.

Z-correction substantially improves the mask-to-mask overlay within a mask set, which increases display performance and yield in display manufacturing.

Mura is another critical aspect of image quality. The stable technology platform of Mycronic Prexision combined with its high image quality ensures excellent mura control.

### SHORTER DELIVERY TIMES WITH HIGHER WRITING SPEED

Mycronic Prexision systems are available in two writing configurations - HA for high accuracy and HT for high throughput. The 11 exposure laser beams make the HT configuration 60% faster than existing LRS systems, the current industry standard. In the HA configuration, Mycronic Prexision writes with improved accuracy and improved productivity compared to previous generations.

### RELIABLE PRODUCTION

Mycronic Prexision system design is based on extensive experience from the current industry standard LRS systems, and includes design improvements in many areas. The result is a robust manufacturing platform where mechanical stability has been advanced to a new level. Serviceability aspects have also been improved to minimize the overhead time needed for preventive maintenance. The new platform addresses the increasing reliability requirements for manufacturing the very large photomasks of latest TFT-LCD generations.

### KEY SPECIFICATIONS

	HA	HT
Throughput	900 mm <sup>2</sup> /min	1200 mm <sup>2</sup> /min
Minimum lines and spaces (pitch/2)	0.75 μm	1.0 μm
CD uniformity (3s)	60 nm	85 nm
CD linearity 1.5 or 3-10 μm (p-p)	50 nm	85 nm
Pattern butting (mean + range/2)	30 nm	50 nm
Registration (3s)	90 nm	90 nm
Written overlay (3s)	120 (90*) nm	150 (120*) nm
Mask set overlay* (3s)	90 nm	150 nm
2nd layer alignment option (mean + 3s)	500 (250*) nm	500 (250*) nm

\* Requires Z-correction

### OPTIONS

Z-correction
Alignment III
CD mapping
Alternating multi pass
Angled line compensation
Panel pitch optimization
Distortion control
3D Toolbox
Flexible overlap

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