

EITRE[®] 3 / 6 / 8

NIL FOR RESEARCH & DEVELOPMENT



HIGHLIGHTS

- Versatile and flexible semi-automatic NIL tool
- Thin and uniform residual layer
- Capable of performing both UV- and Thermal NIL processes
- Highly customizable through tool options
- Wide range of UV-module options with up to 400 mW/cm²

EITRE[®] 3 / 6 / 8

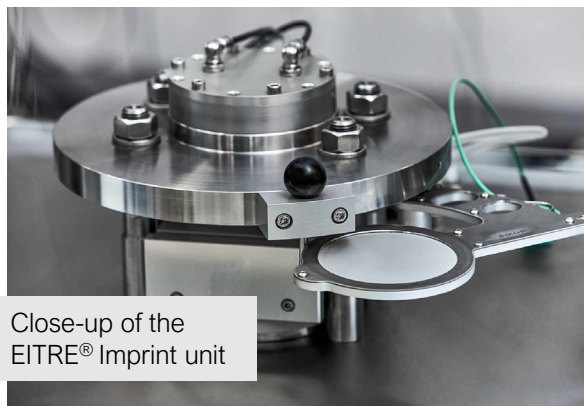
GENERAL INFORMATION

Key Features

- The EITRE[®] Nano Imprint Lithography (NIL) tools offer a semi-automated and affordable lithography solution, allowing pattern replication in the micro- and nanometer range.
- The EITRE[®] tools are particularly versatile because of the multiple imprint process capabilities and the wide range of configuration possibilities.
- An easy-to-use semi-automatic tool with a user-friendly interface.
- The embedded SoftPress[®] technology ensures excellent residual layer thickness control across the entire imprint area, enabling an accurate pattern transfer and simple down stream process development.
- The flexibility of the tools allows for a variety of imprint processes to be used, such as hot embossing, thermal NIL, UV NIL and Obducat's unique Simultaneous Thermal and UV (STU[®]) process.
- The EITRE[®] tools are suitable for research and development within application areas such as solid-state lighting, micro-optical and photonic components, bio-medical and life science devices, lab-on-chip, MEMS/NEMS and semiconductors.
- Full area imprint.
- UV-module can be configured for intensity levels from 50-400 mW/cm² at substrate level.
- Designed according to European safety regulations and CE Mark.



Intermediate Polymer Stamp, IPS[®]



Close-up of the EITRE[®] Imprint unit

Obducat's NIL Process Technologies

IPS[®] - Intermediate Polymer Stamp

The patented IPS[®] technology is based on making a replication of the master stamp into a soft Intermediate Polymer Stamp (IPS[®]). The IPS[®] is then used in a second imprint step to transfer the structures onto the target substrate.

The IPS[®] enables contamination control, increases the master stamp lifetime and makes the imprint process less sensitive to substrate contaminations and surface roughness.

SoftPress[®]

With Obducat's patented SoftPress[®] technology, the imprint pressure is applied using compressed gas, ensuring pressure uniformity over the entire imprint area. This allows the stamp or IPS[®] to conform to the substrate, eliminating negative effects from thickness variations, bow or waviness. SoftPress[®] enables thin and uniform residual layer across the substrate, which is critical for enabling high-resolution imprinting and pattern transfer fidelity.

STU[®] - Simultaneous Thermal and UV

The patented STU[®] technology combines, in one imprint sequence, the simultaneous use of thermal- and UV based imprint processes. The STU[®] process allows for increased polymer flow rate giving a shorter process time as well as enabling improved material compatibility and thereby a wider selection of workable imprint materials.

EITRE[®] 3 / 6 / 8

TECHNICAL DATA

TOOL CONFIGURATIONS

The standard configuration of the EITRE[®] tools includes Imprint Module based on the proprietary SoftPress[®] technology, Computer Controlled User Interface, Manual Loading System and SoftPress[®] Technology License for Non-Commercial R&D.

	EITRE[®] 3	EITRE[®] 6	EITRE[®] 8
Substrate Size	≤ 78 mm Ø	≤ 152 mm Ø	≤ 200 mm square
Imprint Pressure (minimum)	6-8 bar (depending inlet pressure on CA)	6 - 8 bar (depending inlet pressure on CA)	6 - 8 bar (depending inlet pressure on CA)
Imprint Pressure (maximum)	70 bar	80 bar	≤ 50 bar
Imprint Temperature (minimum)	Ambient temperature	Ambient temperature	Ambient temperature
Imprint Temperature (maximum)	250°C (200°C with UV Module)	250°C (200°C with UV Module)	250°C (200°C with UV Module)
Imprint Temperature Setting Accuracy	± 2 deg	± 2 deg	± 2 deg

TOOL OPTIONS

	EITRE[®] 3	EITRE[®] 6	EITRE[®] 8
UV imprint 50-400 mW/cm²	Option	Option	Option
STU[®] license for R&D	Option	Option	Option
IPS[®] for R&D	Option	Option	Option
Water cooling	Option	Option	Standard
Optical alignment	N/A	Option	Option
Low pressure Module	Option	Option	Option

FACILITY REQUIREMENTS

	EITRE[®] 3	EITRE[®] 6	EITRE[®] 8
Clean-room compability	Class 100	Class 100	Class 100
Room Temperature	18-32°C	18-32°C	18-32°C
Relatively Humidity	40 - 65 %	40 - 65 %	40 - 65 %
Power	220-240 VAC, 1 phase, grounded, pre-fused to 16A, 50/60 Hz, 3 kVA	400 VAC, 3 phase, grounded, pre-fused to 32A, 50/60 Hz, 16 kVA	400 VAC, 3 phase, grounded, pre-fused to 32A, 50/60 Hz, 16 kVA
Compressed Air	6 - 8 bar, 30 l / min	6 - 8 bar, 40 l / min	6 - 8 bar, 40 l / min
Exhaust Flow	1000 - 2000 l / min	1500 - 3000 l / min	1500 - 3000 l / min

SYSTEM DIMENSIONS

	EITRE[®] 3	EITRE[®] 6	EITRE[®] 8
Dimensions (L x W x H)	80 x 60 x 180 cm*	100 x 75 x 180 cm*	100 x 75 x 180 cm*
Weight	Approx. 250 kg*	Approx. 1000 kg*	Approx. 1000 kg*

*not including auxiliary equipment



CONTACT US

www.obducat.com



Obducat Technologies AB

Scheelevägen 2
22363 Lund
Sweden
Phone: +46 46 10 16 00

Obducat Europe GmbH

Robert-Gerwig-Str. 9
78315 Radolfzell
Germany
Phone: +49 7732 97 898-0
Fax: +49 7732 97 898-99

Obducat USA Inc.

851 Burlway Rd, #605
Burlingame, Ca 94010
USA
Phone: +1 510 871 0041

Sales Office China

Obducat Technologies AB
12F, Sail Tower, 266 Hankou Road,
Huangpu District,
200001 Shanghai
P. R. CHINA

Email:

sales@obducat.com

**Visit our website for more
information on local sales offices
www.obducat.com**

Made in Sweden. All rights reserved. This folder is subject to change without prior notice. Illustrations, photos and specifications in this brochure are not legally binding. Pictures could show standard equipment plus options.