华粤行医疗
HARIOMED

IVF Laser System

ILS-400M

Applications*:

Assisted Hatching
Zona Thinning or Drilling

PGT Biopsy
Trophectoderm/
Blastomere/Polar body

Blastocyst Shrinkage
Pre-vitrification of
Blastocysts

Designed for IVF | Precise control | A Safe 'trenchant edge'

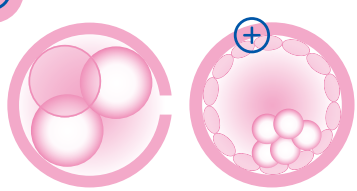
Exclusive 'Scalpel' For embryologists

①laser control module ②laser objective ③optical fibre
④moving control module ⑤mirror module

Single-pulse mode

Select the position and launch the laser via the software.

Click on the selected position in the software and the laser will move to aim at that position while the Petri dish does not need to move.

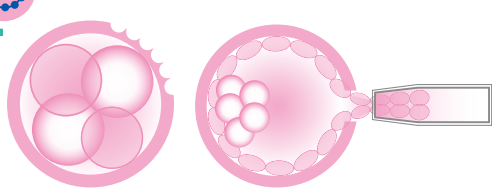


Zona drilling Shrinkage

Multi-pulse mode

Draw a path in the software to manipulate the laser movement.

The laser moves on a specified trajectory and is activated intermittently. The Petri dish keeps still during the whole process.



Zona drilling Biopsy

Excellent accuracy

Movement accuracy of ablation laser is less than 1μm

Dual-modality module for precise control of laser energy

Accurate pathway

- **Accuracy**

  Within the alignment region, the movement accuracy of ablation laser is less than 1μm.

- **Laser objective**

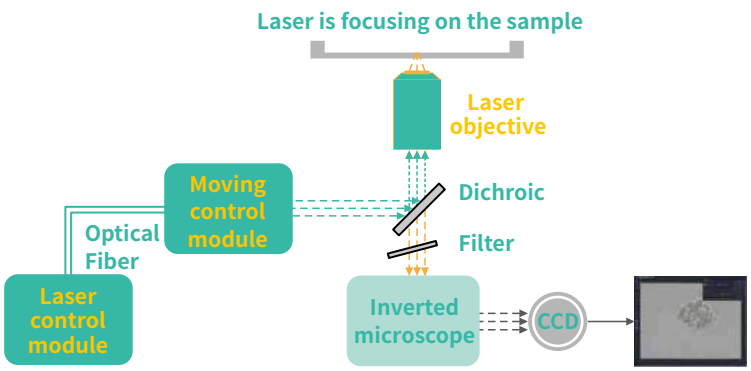
  Laser objective provides clear imaging and one 20x or 40x objective lens is available.

- **Visualization of laser pathway**

  The red visible pilot laser displays the position of the ablation laser actions on the zona pellucida, to confirm the accuracy of the trajectory

Laser pathway

The ablation laser shares the same pathway with the visible pilot laser. Two layers of filters are applied to prevent the lasers from entering the operator's eyes.



Accurate drilling size

Different drilling sizes are required for different sizes of cells at different stages. The relationship between cell sizes and drilling sizes can be preset so that the drilling size can be accurately indicated after calibration for different cells.

Safety IS TOP PRIORITY

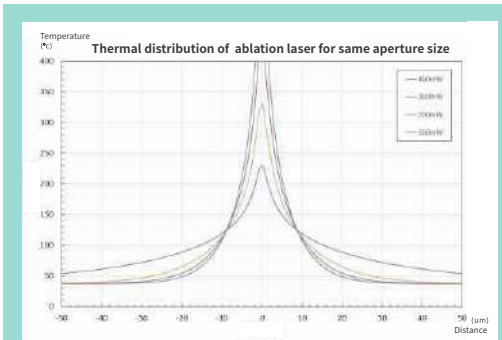
400mW laser produces lower thermal effects.

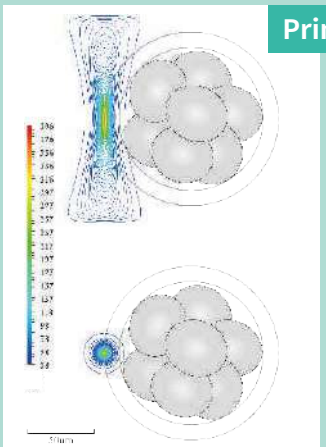
Class I Laser

Ablation laser: 1480nm/400mW, with pulse length range from 5~2000μs.
Safety class: Class I.
Pilot: 650nm/<150μW.
Safety class: Class I.

Higher laser power, Safer cells

400mW laser can produce lower thermal effects when the laser active on the zona pellucida, which reduces damage to cells.

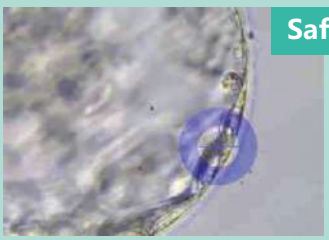




Principle of laser drilling

The energy of the ablation laser is absorbed by the water molecules in the target area and the resulting transient high temperature ablates the target tissue, e.g. the zona pellucida.

The wavelength and power of the laser are fixed and the drilling size is controlled by adjusting the pulse time of the ablation laser.



Safety zone

Safety zone could be calculated from the laser parameters and visible in the software, which enhance the precision of operation.

Care for embryos and you

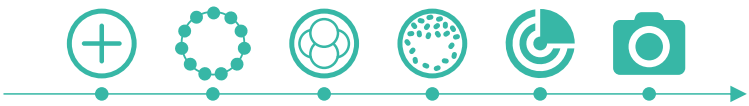
The pilot laser could be closed before calibration to avoid damage to the embryos.
Dichroic and infrared filter in the laser path protect users' eyes from laser damage.

Easier and more efficient

Easy operated with streamlined user interface via the software

Intuitive and easy-learning software

All functions can be selected by clicking on the patterns, including "single-pulse", "multi-pulse", "embryos", "blastocysts", "laser activate", "drilling size options" and "record" respectively.



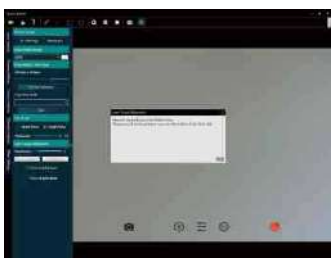
Main parameters

Model: ILS-400M		
Ablation laser	1480nm，400mW，Class1 laser product	
Pilot laser	650nm，≤150uW，Class1 laser product	
Pulse width	5-2000μs	
Laser Objective	40x or 20x as standard	
Laser control module	214mmx160mmx29mm，1.3 kg	
Laser position calibration	Automatic/manual calibration via software	
Laser operation software	Standard PC operating system: Windows 10 pro	
Footswitch	One pedal and two pedals are available	
Mains input	100-240V AC，50-60Hz，1-0.5A	
Microscope Compatibility**	Leica Nikon Olympus Zeiss	DMi3000B, DMi8，DMIL TE2000, Ti-E/U/S, Ti2-E/A/U IX51/71/81,IX53/73/83 Axio Observer 3/5/7

Other functions

File management

The images are assigned to the corresponding patients' files respectively.



7 Points Calibration

Automatic calibration is available and manual calibration is friendly for all users.

*The applicabiltiy of procudures is dependent on the regulations of the country into which the device is sold
**For more compatible of microscopes, please contact Hua Yue Medical Technolgy Co., Ltd

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