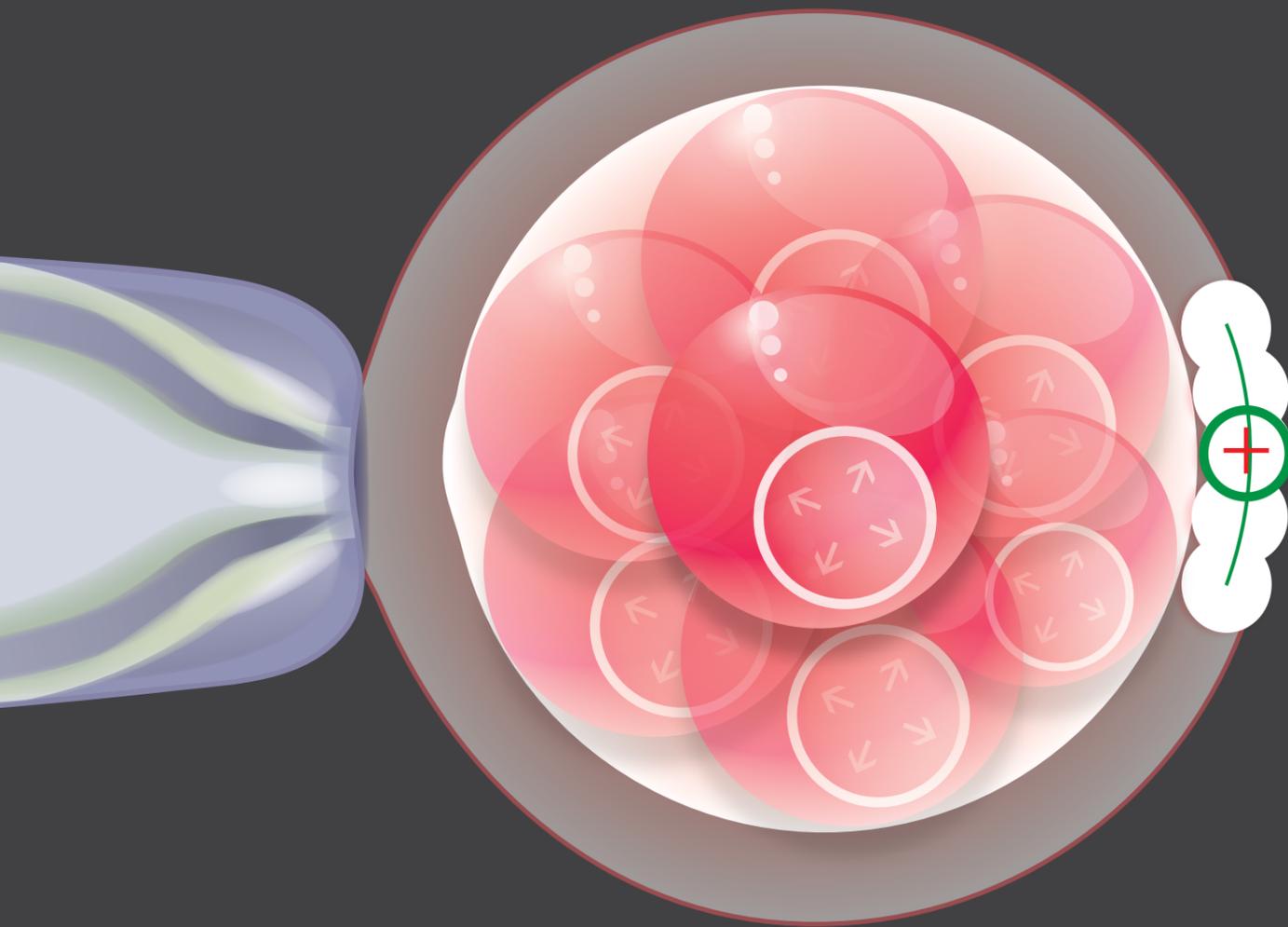




**RII**



Saturn 5™ Lasers



# Saturn 5™ Lasers

Fixed and Directional Laser Systems

*“The moveable Saturn™ laser means I can ablate the zona exactly where I want to, without having to move the embryo”*

Samantha Knight,  
SPIRE London Fertility Clinic, UK

## *Precise*

Sub-micron accuracy and unique computer controlled laser with guaranteed laser alignment

## *Easy to Use*

Intuitive RI Viewer™ software with streamlined user interface. An optional programmable foot pedal controls software and laser functions

## *Safest Power*

Lowest laser pulse times for minimal energy near critical cells. Exclusion Zone™ feature ensures cell safety

## *Curved Biopsy Mode*

Biopsy Mode allows accurate laser drilling along a drawn straight or curved line

## *Rapid*

Faster than ever directional laser increases functionality and decreases procedure times

## *Multi-Pulse Mode*

Rapid fire options



# Saturn 5™ Lasers

Faster Biopsies

Sub-micron Accuracy

Safest Laser on the Market

Intuitive Software

## Totally committed to embryo safety

Multiple safety features reassure you that the Saturn™ laser is the safest laser on the market. To keep your embryos safe, features include the Exclusion Zone™<sup>2</sup>.

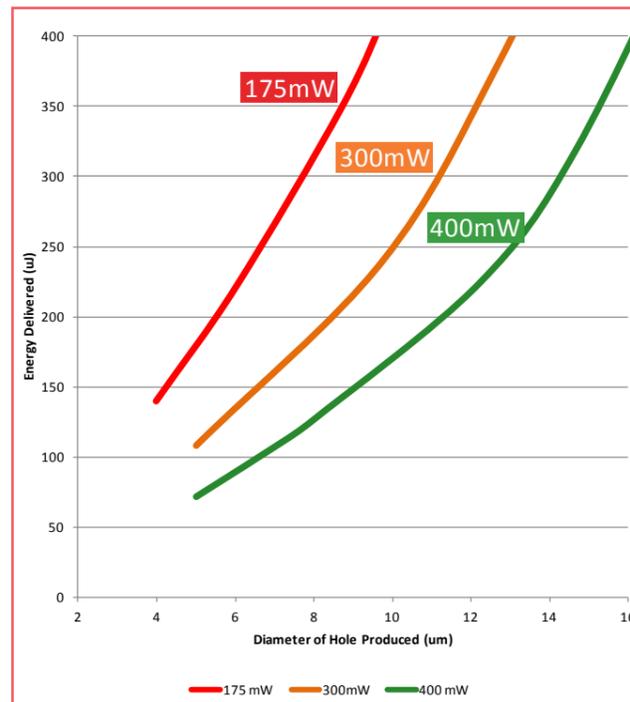
The Saturn™ employs a higher laser power to apply less total energy to make a specified hole size, in comparison to lower power laser systems<sup>3</sup>.

## Always spot-on

As Saturn 5™'s pilot laser travels down the same fibre optic path as the ablation laser, it guarantees consistent positioning. You can calibrate and verify hole size and firing position with sub-micron accuracy simply and quickly, leaving more time for your procedures.

## Intuitive software as standard

### Energy delivered vs. hole diameter<sup>3</sup>



## Faster biopsies

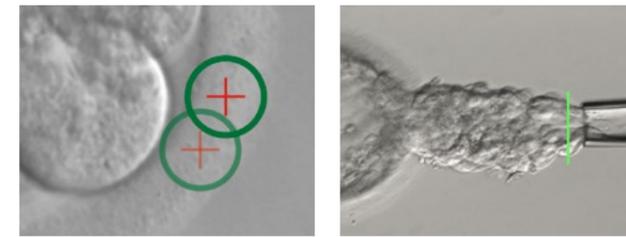
The Saturn 5™ Biopsy Mode is helping you to advance improvements in biopsy methods; potentially reducing procedure time, and lowering the incidence of blastocyst collapse and the need to mechanically tear off cells<sup>1</sup>.

Using the Biopsy Mode, you can draw a straight or curved line along the sample and then select the number and size of the holes on it, then simply “fire”. The laser will ablate exactly along the chosen path. It means you no longer need to move the holding pipette at all. Indeed, for assisted hatching a holding pipette is not required. It is that easy.

The Saturn 5™ Biopsy Mode is quickly proving to be an essential tool in the practice of biopsying across the world.

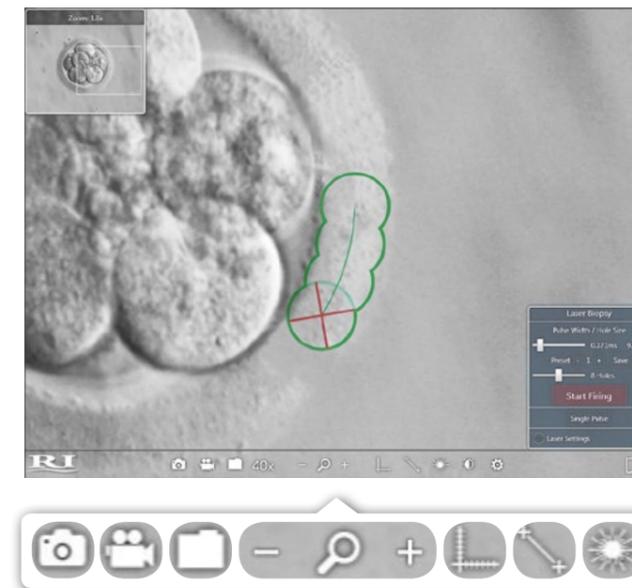
<sup>1</sup>Lloyd S, Doshi A, Harper J, Application note. A new method of biopsying TE cells using the latest Saturn 5 Active™ Laser System, offers several potential ways to improve your procedures - Available on request.  
<sup>2</sup>Chatzimeletiou, K., Pictan, H.M & Handyside, A.H., 2001. Use of non-contact, infrared laser for zona drilling of mouse embryos: assessment of immediate effects on blastomere viability. Reproductive biomedicine online, 2(3), p.178. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/12537793>.

<sup>3</sup>RI White Paper – “A comparison of different power levels used by laser systems in the IVF laboratory” – Available upon request.  
<sup>4</sup>The applicability of procedures is dependent on the regulations of the country into which the device is sold.  
<sup>5</sup>In the USA, FDA cleared for clinical use for Laser Assisted Hatching (LAH) only.



Directional Laser Target    Blastocyst Biopsy

## Biopsy Mode allows ablation along a drawn curved line



Biopsy Mode

In addition to its intuitive use and safety assurances, the new Saturn 5™ features class-leading software, RI Viewer™. The software offers uncluttered full screen imaging from the microscope, digital magnification and a modern, clean user interface. RI Viewer™ also offers a recording function, line measurement tools which are visible on-screen and are printable, plus a built-in laser simulator for training and demonstration purposes. RI Viewer™ is available in a range of languages.

## Applications<sup>4</sup>

For **Blastocyst/Trophectoderm Biopsy**, the Saturn 5 Active™ is unparalleled in its ease of use. The directional laser allows the user to make multiple ablations across the trophectoderm cells without needing to move the blastocyst. This gives the user superb accuracy, safety and incredible speed.

For **Blastomere Biopsy, Polar Body Biopsy and Blastocyst Collapsing (for vitrification)**, the Saturn 5 Active™ directional laser allows the embryo to stay in the desired position and focus so that ablations can be made wherever required without additional manipulation. Our unique Biopsy Mode also allows safe multi-pulse drilling along a predetermined line.

For **Assisted Hatching**, the directional laser means that accurate ablations can be made without the need to hold the embryo, making it very quick and accurate, with no additional consumable costs.

Using Saturn 5 Active™, you will find these procedures are almost effortless and can be performed quickly and accurately. These procedures can require difficult embryo manipulation when performed using fixed lasers. Using a Saturn 5 Active™ has clear advantages to the welfare of the embryo.

Saturn 5™ Laser Systems are Class 1 laser products as defined by international laser safety standards. They are CE-marked and FDA cleared<sup>5</sup>.

*As the only moveable laser for ART, Saturn™ lasers are spearheading a revolution in hatching and biopsy techniques in labs all over the world.*



# Saturn 5™ Lasers

# Specifications

## Microscope Compatibility

### Nikon

TMD, D200/300  
TE200/300, TE2000, Ti

### Leica

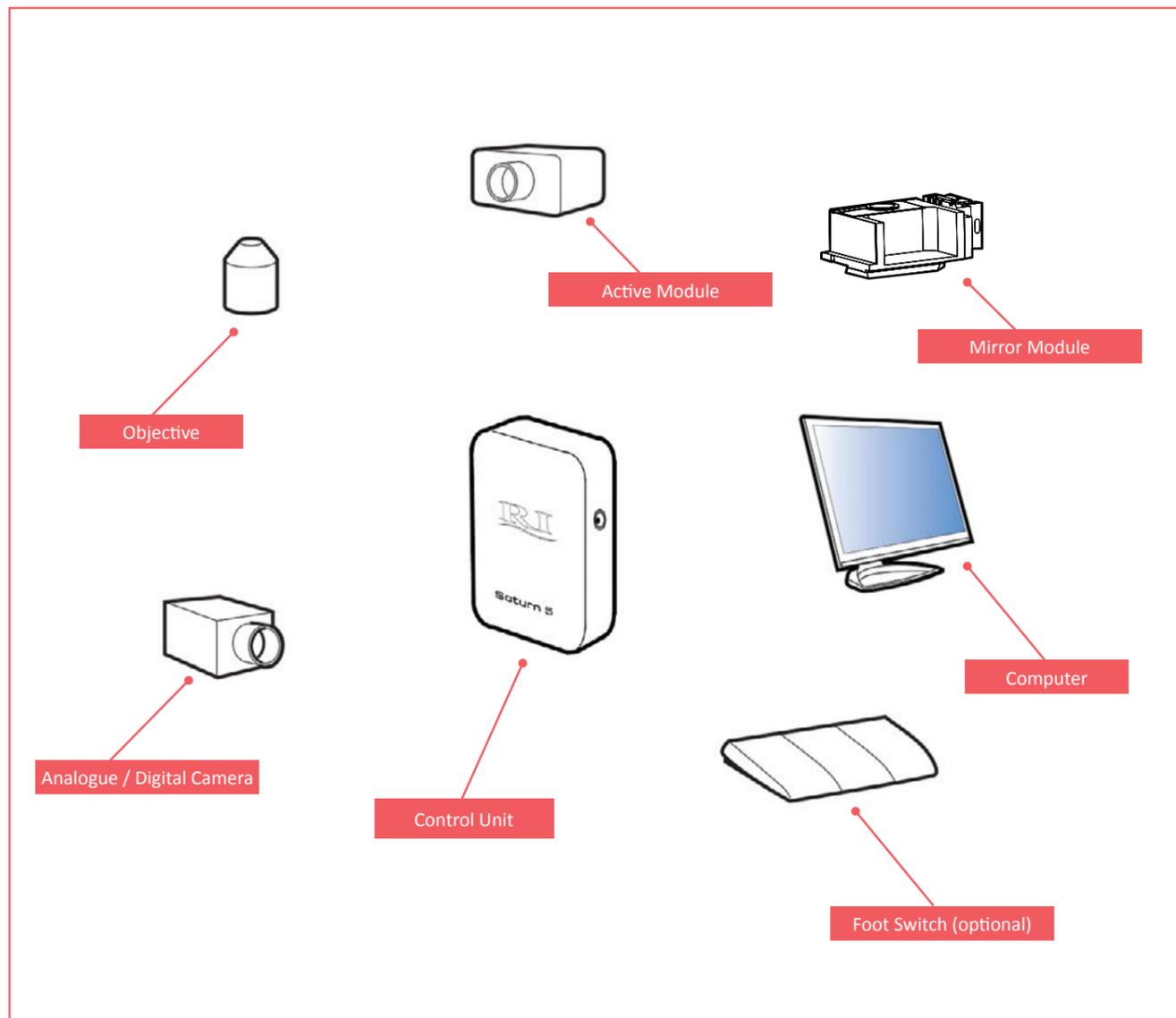
DMIRB, DMI3000B/4000B/6000B  
DMIL

### Olympus

IMT2, IX50/70,  
IX51/71/81, IX53/73/83

### Zeiss

Axiovert 40/100/200,  
Axio Observer



<i>Microscope Compatibility</i>	Nikon: TMD, D200/300, TE200/300, TE2000, Ti Leica: DMIRB, DMI3000B/4000B/6000B DMIL Olympus: IMT2, IX50/70, IX51/71/81, IX53/73/83 Zeiss: Axiovert 40/100/200, Axio Observer
<i>Pilot Laser</i>	630-650nm spot targeting solid state diode laser - red pilot beam guarantees the position of the invisible ablation laser
<i>40x Objective</i>	Custom designed objective for optimum laser transmission, crystal clear imaging and minimal laser pulse times. Tested and proven not to exhibit astigmatism with Saturn 5™ Laser Systems
<i>Ablation Laser</i>	1480nm / 400mW solid state diode laser. Pulse length range 0.001-2.0ms / 1-2000 μs Class 1 laser product ( IEC 60825-1:2007) Tested and proven not to exhibit thermal lensing
<i>Laser Unit Dimensions (WxDxH)</i>	220mm x 180mm x 34mm
<i>CRi Oosight™ Compatibility</i>	Compatible with CRi Oosight™ and SpindleView™ systems
<i>Operation Software</i>	RI Viewer™ imaging software included – with digital laser targeting
<i>PC System Requirements</i>	Operating systems: Windows 8, Windows 7, Windows Vista, Windows XP
<i>Mains Input</i>	100-240VAC, 50-60Hz



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