Integra 3™
Inspired
Intelligent
Indispensable

No Cold Spots
Thermosafe™ maintains sample temperature with a gentle stream of warm air under the Petri dish

Super-fast
Improved rapid micropipette set-up with one-step angle adjustment

Practical
Motion sensor LED light underneath the stage for improved visibility when changing objectives

Safe
Stage temperature control status indicator light and alarm monitors every second of the process

Integrated
Bigger built-in mechanical XY stage and controllers with easy access buttons and touch screen space

Accurate
New extra fine XY mechanism for smooth and precise movement of the stage

The definitive micromanipulator

Integra 3™
The world’s most advanced micromanipulation system
Designed for making life

Every detail of the Integra 3™ is geared towards one goal – to ensure you create the best possible conditions for ICSI and sample manipulation. One feature that makes this possible is our new and world-leading Thermosafe™ warm-air technology.

Put simply, this is an integral heating system that helps to keep samples at the optimum temperature. It emits warm air towards the Petri dish precisely and uniformly. The result of this is a fail-safe guarantee, with no more cold spots, no more hot spots and no more ambiguity. There is also a stage temperature health indicator light to reassure you that the integrated heated stage is functioning correctly.

Comparison with other systems

Thermal images, above and below, display the cooling effect of the objective in the centre of the dish with and without Thermosafe™

Without Thermosafe™

Market leading glass ITO insert with objective

With Thermosafe™

RI heated metal insert with Thermosafe™ air heating system with objective

Ultimate Thermal Control

Thermal image of dish surface when placed on heated metal plate with Thermosafe™

Ultimate Thermal Control for Integra 3™
Integra 3™ takes micromanipulation to new heights

You push the boundaries. We try to remove them. Together, we’re a pretty good team because we both believe in a pioneering approach. Integra 3™ is the latest evidence of our relentless desire at RI to maximise your expertise and make your day go as smoothly and successfully as possible.

Temperature is critical, but time is also crucial. Integra 3™ is ultra-responsive and effortlessly smooth, so it’s quick and easy to use, thanks to RI’s advanced mechanical design. You can change micropipettes in seconds which can transform the efficiency of your lab overnight.

We have increased the size of the integrated heated stage by 40% but kept the footprint to a minimum to keep your work area uncluttered.

More giant steps in the world of micromanipulation

We’ve added a whole spectrum of other functions and features that improve on our previous model, the Integra Ti™. You’ll find they all add up to making the Integra 3™ the most intuitive and natural micromanipulation system the world has ever known.

Motion-triggered LED light

This shines up underneath the stage as soon as it sees your hand, to help you see when changing objectives.

Colour touch screen

A 3.5 inch touch screen display can check temperature, track time with a stopwatch and count the number of injections done. The electronic height gauges track the vertical movement of the fine controller.

Precise and intuitive control

When you perform ART micromanipulation procedures, accuracy is paramount. Integra 3™ offers the finest possible movement on the XYM stage and fine and coarse levers, centring knobs and a choice of oil or air syringes for the control of specimens.

Precise and Intuitive Control

Quick Pipette Set-up

Motion Triggered LED Light

Shortcut Functions

Shortcut video and images

If you need to keep track of samples or procedures, just hit the shortcut buttons to film or photograph any stage of the process. There’s a stopwatch to keep track of timings too.

RI Viewer™ software

You can use the Integra 3™ as a stand-alone machine, or if it’s connected to a computer, we can supply the RI Viewer™ software. With RI Viewer™ you can use the shortcut keys and sync up with Saturn™ laser and IMSI systems. Enjoy razor-sharp full screen imaging from the microscope, with digital magnification and a modern, clean user interface. It also offers line measurement tools and a built in simulator for training and demonstration purposes.

Syringes

The Integra 3™ includes two of our SAS air syringes as standard. These syringes offer superb control and eliminate the need for oil. Also available is the SAS-SE for superfine air control or our SOS oil syringe with a quick fill feature for minimum set-up time.
Great British Biotech Quality, since 1962

The Integra 3™ is very proudly built at our high-tech factory in the South West of Britain. We’ve made thousands of micromanipulators since the early sixties, each one assembled under the dutiful eye of the designers who developed them. Our commitment to quality, durability and reliability has been there since day one. This is why our Integra™ has proven to be the micromanipulator of choice for ART clinics worldwide.

Microscope Compatibility

**Nikon**
- TMD, D200 / 300
- TE2000, TE200 / 300, Ti

**Olympus**
- IMT2, IX50 / 70, IX51 / 71 / 81, IX53 / 73 / 83

**Zeiss**
- Axiovert 40 / 100 / 200
- Observer, Axiovert A1

**Leica**
- DMIRB, DMI3000B / 4000B / 6000B
- DMIL

Specifications

<table>
<thead>
<tr>
<th>Manipulators</th>
<th>X, Y and Z movement from one lever (X = side to side, Y = front to back, Z = up and down) Sub-micron resolution 1.0mm Adjustable X and Y travel, 5mm Z travel</th>
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<tr>
<td>Coarse Control</td>
<td>X and Y movement, 10 micron resolution, 4mm X and Y travel</td>
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**Toolholders**

- Fast pipette location
- Pipette angle adjustment - 16 to 40 degrees

**Heating System**

- Thermosafe Air Heating System with:
  - Heated Metal Insert: 25mm (standard)
  - 16mm (optional)
- ITO Heated Glass Insert (optional)

**Temperature Controller**

- Accuracy: better than ±0.1°C when calibrated against known reference
- Resolution: 0.1°C

**Displays**

- LCD touch screen displays for temperature control

**Connectivity**

- USB Type B socket for connection to PC running RI Viewer™ software. Refer to software manual for further information
- Connected PC to be compliant with IEC 60950-1

**XY stage**

- Aluminium heated stage plate
- 40mm travel in X and Y, 28mm per turn

**Syringes**

- Choice of SAS (air), SAS-SE (air) and SOS (oil)

**Weight**

- Maximum weight of microscope mounted components (excluding front and rear adaptors): 10.4kg
- Actual weight is configuration dependent

**Dimensions**

- Footprint (not including microscope): width 56cm, depth 38cm

**Power supply**

- Input: 100-240VAC, 50-60Hz, Max. 1.8A, Class I
- Output: 12VDC, Min. 11A (132W)

**Operating Range**

- Temperature: 15°C (59°F) to 40°C (104°F)
- Humidity: 15% to 85% RH (non condensing)
“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

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

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

**Rapid**
Faster than ever directional laser increases functionality and decreases procedure times

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

**Multi-Pulse Mode**
Rapid fire options

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Saturn 5™ Lasers
Fixed and Directional Laser Systems
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™.

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.

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

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

For Blastocyst/Trophoderm 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.

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

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<tr>
<td><strong>Pilot Laser</strong></td>
<td>630-650nm spot targeting solid state diode laser - red pilot beam guarantees the position of the invisible ablation laser</td>
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<tr>
<td><strong>40x Objective</strong></td>
<td>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</td>
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<tr>
<td><strong>Ablation Laser</strong></td>
<td>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</td>
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<tr>
<td><strong>Laser Unit Dimensions</strong></td>
<td>(WxDxH) 220mm x 180mm x 34mm</td>
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<tr>
<td><strong>CRI Oosight™ Compatibility</strong></td>
<td>Compatible with CRI Oosight™ and SpindleView™ systems</td>
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<tr>
<td><strong>Operation Software</strong></td>
<td>RI Viewer™ imaging software included – with digital laser targeting</td>
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<tr>
<td><strong>PC System Requirements</strong></td>
<td>Operating systems: Windows 8, Windows 7, Windows Vista, Windows XP</td>
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<tr>
<td><strong>Mains Input</strong></td>
<td>100-240VAC, 50-60Hz</td>
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The RI IMSI™ solution allows morphological screening of sperm cells at very high magnification and in real time. Studies suggest that this can lead to higher pregnancy rates.\(^1,2\)

**Fast**
Uses 60x air objective with larger field of view than traditional IMSI, resulting in much quicker procedure times.

**Quality Imaging**
Up to 7000x magnification with high contrast and high resolution.

Speed and affordability are important to you and with this in mind RI has developed a carefully chosen package for intracytoplasmic Morphologically-selected Sperm Injection (IMSI) for routine clinical use.

**Practicality first**
Offering the perfect compromise between image quality and ease of use, RI IMSI™ is designed for real lab conditions. With the RI set-up you can perform IMSI with sufficient image clarity to detect large or numerous vacuoles and the morphological details necessary to select the sperm. The set-up means you can use plastic Petri dishes and dry objectives, avoiding the inconvenience and expense of traditional IMSI, to ensure fast and efficient use of the technique.


**High tech solutions**
RI IMSI™ includes a high-sensitivity camera, medical-grade monitor and versatile imaging software. Working with Modulation Optics Inc., RI provides a unique, highly sensitive optical system with a 60x objective ensuring a high-resolution source image. The monitor offers colour depth and accuracy superior to standard PC monitors, and is perfect for accurately reproducing the subtle details in moving sperm images.

The camera’s large sensor has high-sensitivity pixels for bright, high-contrast images. The pixel count is a perfect match for the resolution of the optics, and allows smooth video at 15 frames per second.

RI IMSI™ is supplied with the easy to use RI Viewer™ software – the only application you need for ICSI and IMSI. Capture, record, annotate and measure, with intuitive zoom and pan.
## Specifications

### RI IMSI™ Microscope Compatibility

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Nikon</td>
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<tr>
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<td>Olympus</td>
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<tr>
<td>Zeiss</td>
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### IMSI / ICSI Rig

- **Objective**
  - RI - HMC® 60x/0.7 or 63x/0.7 (Depending on Microscope)
- **Condenser**
  - RI - HMC® WD45mm, NA-0.6 (Depending on Microscope)
- **Contrast**
  - RI - HMC® Hoffmann Modulation Contrast System
- **DC2 Digital Camera**
  - High sensitivity, 1.4MP, 2/3” colour CCD
- **Monitor**
  - 21” 1600 x 1200, DICOM compliant medical imaging monitor
- **Software**
  - Imaging software included
- **Magnification**
  - Up to 7000x without loss of resolution

## Quality Assurance

### Device Approval

All RI medical devices carry the CE mark.

The CE mark shows that RI’s products comply with the Essential Safety Requirements of the European Medical Device Directive (93/42/EEC) as amended.

Many of our medical devices also have USA FDA market clearance, Health Canada medical device licenses and certification in Taiwan and China.

We are continuously working to expand our registration with the relevant medical device authorities across the world.

### Quality Management System for Medical Devices - ISO 13485

All RI products are designed, developed and manufactured within an ISO 13485 environment.

All materials and packaging used within the manufacturing process of RI medical devices are comprehensively tracked and logged to ensure full traceability.

We hold certification to ISO9001, ISO13485 (including CMDCAS and FDA GMP) and Medical Device Directive 93/42/EEC as amended. Continual evaluation of our products has led to the creation of the finest range of devices on the market that clinics aspire to own and use.

### Quality Control

Within RI a dedication to quality permeates all that we do.

For further information, please refer to our website.