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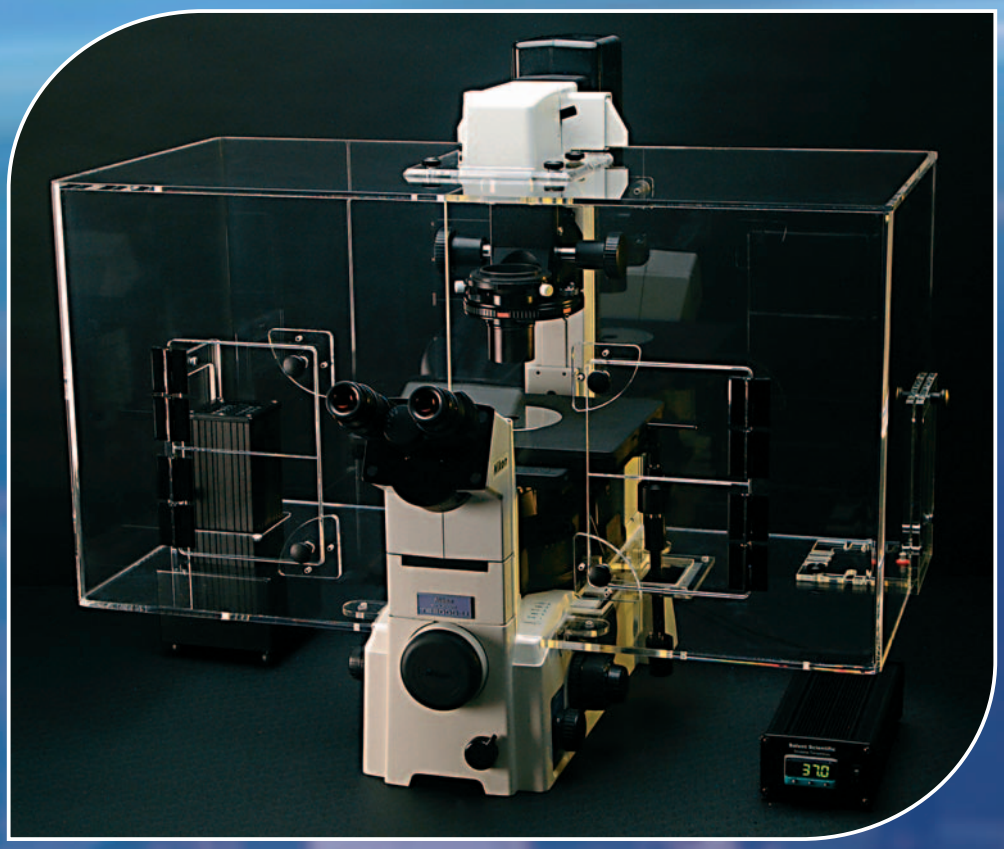
Microscope Incubation Chambers



for Nikon Microscopes

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37° Incubation Chambers for *Nikon* Microscopes

Warm, filtered air circulates within an acrylic enclosure from a heater unit which is mechanically isolated from the environmental chamber. Users may select temperatures within the range 32°C* to 42°C.

(*or ambient +10°C, whichever is greater)

The specimen, being at the centre of the enclosure, is uniformly heated. It receives heat in X,Y and Z planes.

Access to change specimens is provided through doors designed for both left and right handed researchers. Adjustments to the condenser and nosepiece are also made through these access ports whilst the regular controls of the microscope, e.g. focus and stage movement remain outside the enclosure.

Accessories such as cameras, filter wheels, monochromators, micromanipulators, and multi-viewing heads can be accommodated.

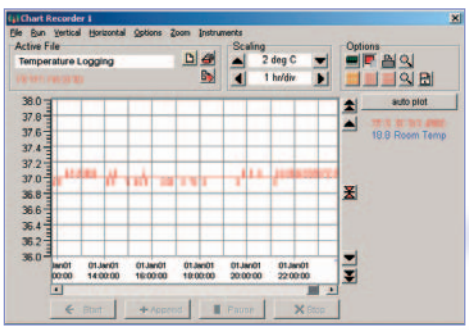
The chamber is simple to install and when not required, can be quickly and easily removed without the use of hand tools.

Temperature Control:

The full enclosure incubation chamber provides a heated environment all around the specimen. The stage, nosepiece and a large part of the microscope frame are at physiological temperature. There is no need for supplementary objective and/or stage heaters.

For long term time-lapse studies and confocal microscopy, the issue of cell viability may be secondary to the drift in focus which occurs when changes in temperature cause expansion and/or contraction of the microscope frame. Keeping the system in thermal equilibrium minimises such changes.

The longer the period of time involved, the more precise temperature control must be. The most demanding time-lapse studies are carried out not just over minutes or hours, but in many cases, over days. Here temperature control needs to be in the order of ± 0.1°C.



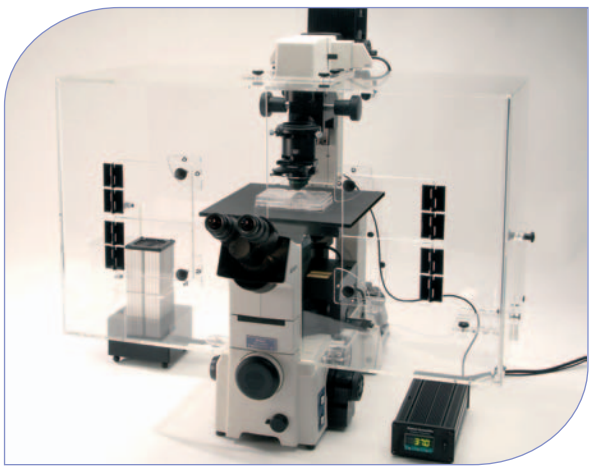
CO_2 & Humidity Control:

Keeping the live cells under a humid 5% CO_2 atmosphere maintains the pH of the growth medium.

Humidity does not need to be 'controlled'. It simply needs to be maintained close to the saturated vapour pressure of water at 37°C. Under these conditions evaporation is prevented and the cells remain stress free.

The flow rate of the blanketing gas is low so there is little need for creating the CO_2/air mixture in situ. It is more economical to use premixed 5% CO_2 in air from a laboratory gas cylinder.

In the case of Upright Microscopes, CO_2 atmosphere control is possible when dipping objectives are used.



Research Microscopy:

Full enclosure incubation chambers are available for:

- Inverted Microscopes
- Perfect Focus Systems
- Upright Microscopes
- Confocal Microscopes
- Laser Micro-dissection Microscopes
- IVF Microscopes

Low Light Level Microscopy:

Maintaining living cells in the dark can further help to keep them stress free.

In multi-photon microscopy the observed signal is very weak. The background noise from the detectors is significant so the signal to noise ratio is a matter of serious consideration.

Current technology indicates that there is little that can be done to enhance the signal strength, but if the background noise is reduced by lowering the ambient light level, there is a significant increase in the signal to noise ratio.

A low light level enclosure means that good experimental data can be obtained under red light conditions.

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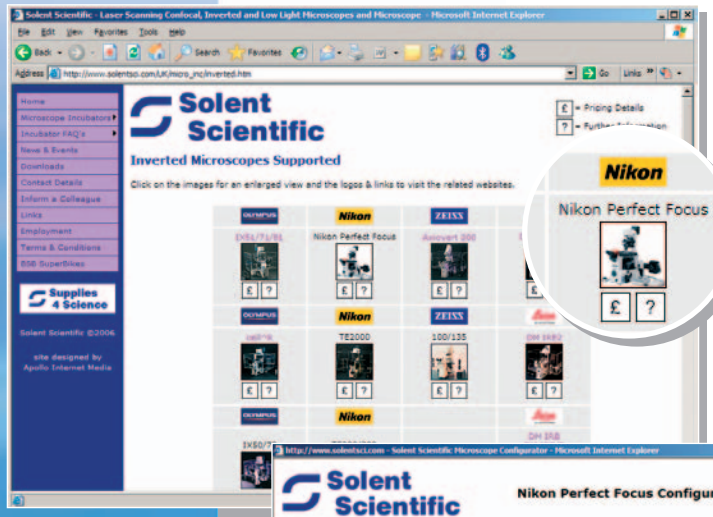
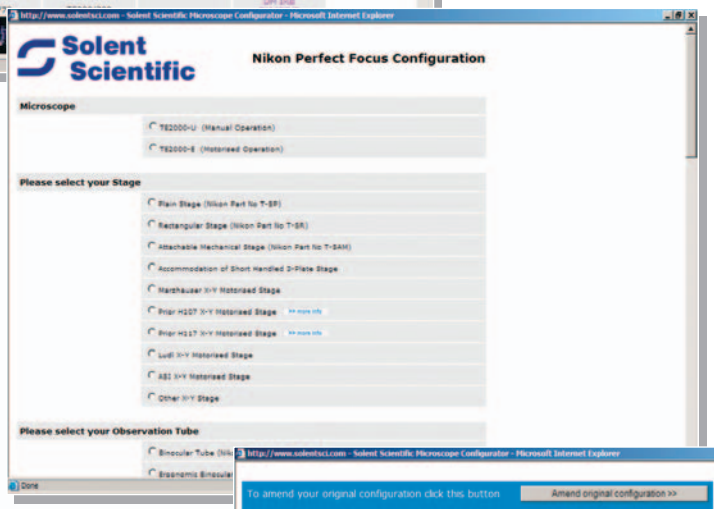
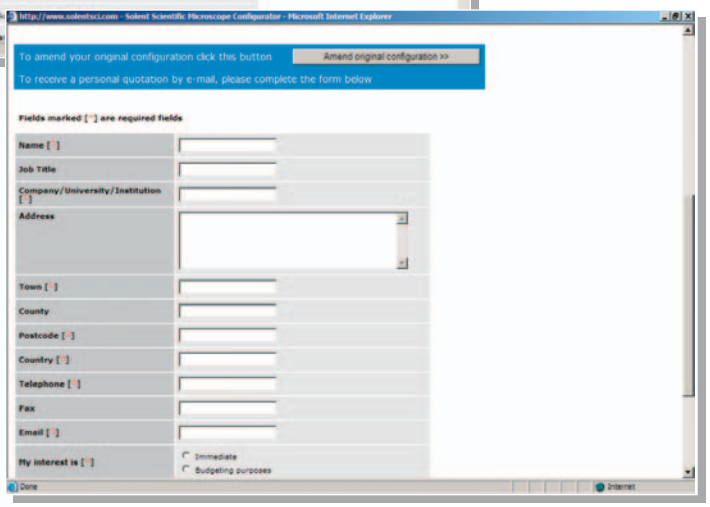
For a personal quotation, please visit www.solentsci.com



1 *Choose your microscope and click on the £ icon*



2 *Complete the questionnaire to specify your microscope's configuration*



3 *Complete your details and click SUBMIT*

Our sales office will process your enquiry and you will receive your quotation by E-mail

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