

Bright

Instruments

Bright Instruments 10400 Whole Human Brain Slicing Machine

**The World's Only Cryostat
Engineered Specifically for
Whole Frozen Human Brain
Sectioning**



INTRODUCTION TO BRIGHT INSTRUMENTS

For over 80 years, Bright Instruments has been at the forefront of precision cryostat and microtome manufacturing in the UK. Our machines are trusted by scientific institutions worldwide for their reliability, accuracy, and engineering excellence.

The Bright Instruments 10400 Whole Human Brain Slicing Machine is the only cryostat in the world specifically designed to produce high-quality, reproducible coronal slices of whole un-fixed frozen human brains with micron-thickness precision.

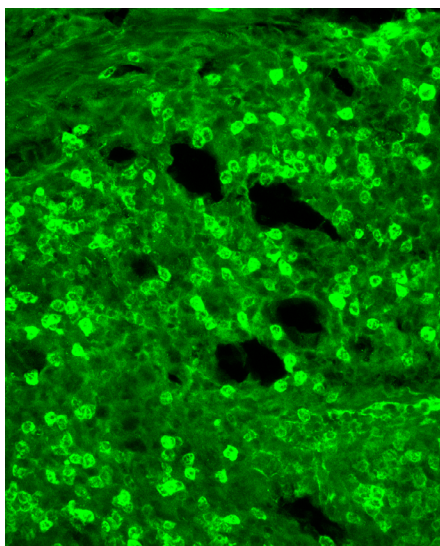
The chamber depth, large stage size and impressive depth of motion allows for a full frozen brain coronal section without pre-dissection or division of the cerebrum into hemispheres enabling more complete study of the intact architecture of the brain, while preserving DNA, RNA, and native proteins for molecular analysis and studies of biological processes not possible with formalin fixed tissue.

APPLICATIONS IN NEUROSCIENCE

The 10400 supports cutting-edge research including:

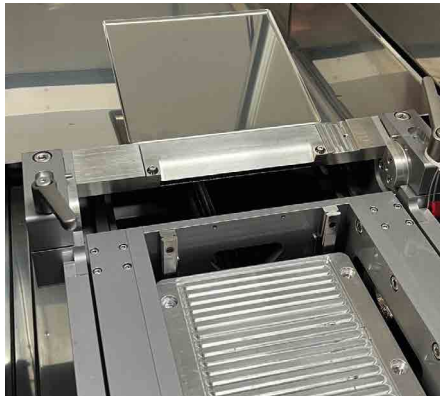
- Developmental neuroscience
- Neurodegenerative disease studies
- Functional brain mapping
- Study of the architecture and connections of nerve fibres
- Gene expression and protein localisation

By providing high-precision coronal slices that preserve both anatomical fidelity and molecular integrity, this machine helps researchers chart neural pathways, build brain roadmaps, and uncover insights into disease progression and therapeutic targets.



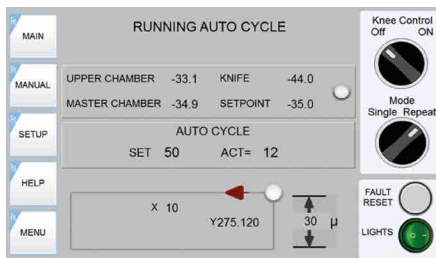
ADVANCED CRYOSTAT ENGINEERING

- Electro-linear cryostat with triple refrigeration system
- Chamber temperature control down to -40°C
- Solid steel or tungsten knife options
- Adjustable Perspex anti-roll plate for clean, uniform sections
- Knee switch for hands-free operation
- Camera mounting points for documentation and analysis



USER-FRIENDLY CONTROL SYSTEM

- Touchscreen interface for intuitive operation
- Programmable cutting window and speeds to optimize quality and efficiency
- Customisable cutting modes: single or continuous
- Programmable batch slicing and thickness presets
- Heated anti-fog window and LED chamber lighting
- Waste collection tray and easy-clean surfaces



Protected under Global Patent GB18031310, this machine represents a breakthrough in anatomical sectioning and neuroscience research.

TECHNICAL SPECIFICATIONS

- Section Thickness: **1µm – 200µm**
- Cutting Stroke: **490mm**
- Specimen Size: **Up to 300mm x 210mm x 400mm**
- Chamber Temperature: **Down to -40°C**
- Knife Type: **Solid steel or tungsten**
- Control: **Touchscreen + optional knee switch**
- Camera Mount: **Yes (camera not included)**
- Electrical: **110V / 240V**
- Dimensions: **H2060 x W2600 x D890 mm**
(incl. control unit)



DEMONSTRATION & EVALUATION FACILITY

We operate a fully equipped demonstration laboratory at our headquarters in Huntingdon, Cambridgeshire, where visitors are welcome to evaluate our cryostats



and microtomes using a range of tissue samples.

This hands-on environment allows customers to assess performance, workflow, and suitability against their specific application requirements.

For those unable to visit in person, live online demonstrations can also be arranged.

Contact the Sales Team for further information
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