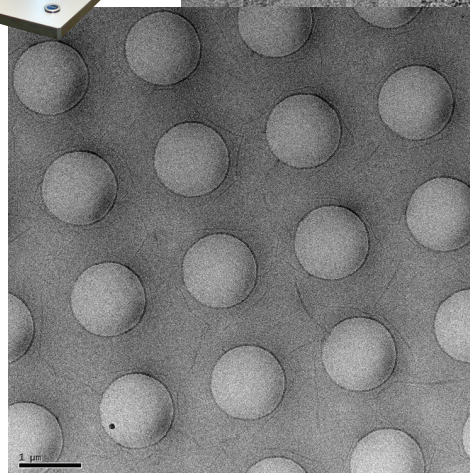
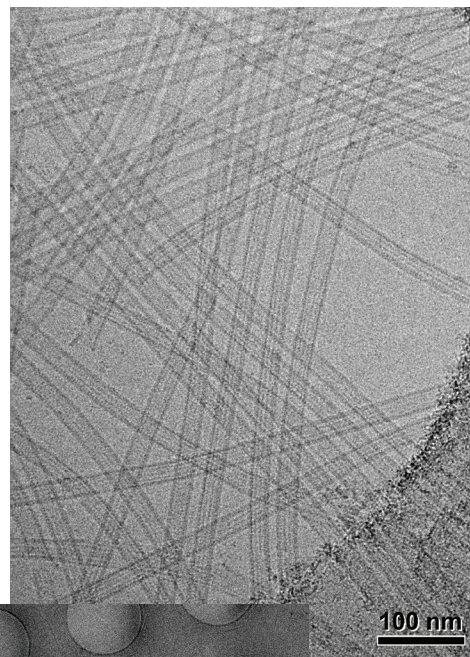
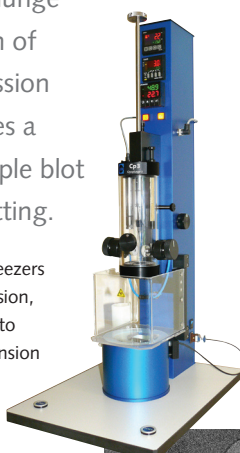


Cp3

Cryoplunge™3

Cryoplunge™3 (Cp3) is a semi-automated plunge freezing instrument used for the preparation of frozen hydrated specimens for cryo transmission electron microscopy (TEM). Cp3 incorporates a humidity chamber and timed single or multiple blot capabilities for either 1-sided or 2-sided blotting.

The specimen grid, clamped between the tines of plunging tweezers and containing generally 3 micro liters of the specimen suspension, is blotted to produce a thin, aqueous film. It is then plunged into a temperature monitored ethane bath and the specimen suspension is rapidly frozen as vitrified (non-crystalline) ice. A liquid nitrogen workstation, with a remote fill funnel and two removable covers, maintains the temperature of the liquid ethane vessel, which can be held at a temperature just above the freezing point of liquid ethane. As liquid nitrogen is added to the workstation, a blanket of cold, inert nitrogen gas fills the workstation chamber, minimizing condensation of atmospheric oxygen onto the surface of the ethane and providing a protective cryo interface for transferring the frozen hydrated grid within the workstation. The workstation covers are positioned to allow the operator easy access to the frozen hydrated specimen grid. One press of the quick disconnect on the plunge rod allows the operator to quickly and easily disconnect the plunging tweezers from the plunge rod. The frozen hydrated grid may then be moved to a pre-cooled cryo grid storage box within a removable, liquid nitrogen filled transfer vessel, or to a cryo grid box located on a screen mesh support within the workstation chamber. The specimen grid can then be safely transferred to a liquid nitrogen storage vessel or to the workstation of the cryo transfer holder for low electron dose imaging on the transmission electron microscope.



Features	Benefits
Easy installation	Everything is included for fast, easy set-up
Safe operation	Safety interlocks protect the user during the blotting and plunging cycle
Humidity chamber	Safe guards the specimen from drying during the blotting process
Specimen blotting	Pressure adjustable 1 or 2-sided, single or multiple blotting
Plunge mechanism	Pneumatically assisted, multi-positional plunge rod
Tweezer securing mechanism	Quick disconnect tweezer mounting mechanism makes it easy and fast to connect or disconnect the plunging tweezers from the plunge rod
Cryo workstation	Removable liquid nitrogen cryo workstation allows transport to and from explosion proof fume hood for filling and disposal of liquid ethane
Cryo specimen transfers	Workstation covers protect cryo specimen during transfer from ethane to cryo grid storage box and a liquid nitrogen transfer vessel protects the contents of your cryo grid box when it is removed from the workstation for storage or immediate viewing on the TEM
Liquid ethane	Long hold, temperature monitored ethane vessel

Top – Frozen hydrated microtubules prepared using Cryoplunge3. Image was recorded at TEM magnification of 59kX and electron dose of 20 e⁻/Å² at 300 keV using Gatan Ultrascan™ 4000. **Bottom** – Frozen hydrated TMV prepared using Cryoplunge3. Image was recorded at TEM magnification of 4700X and electron dose of 0.2 e⁻/Å² at 300 keV using Gatan Ultrascan™ 4000. Images courtesy of Dr. Chen Xu, Rosenstiel Basic Medical Sciences Research Center, Brandeis University, Waltham, MA, USA.

Specifications

Weight	12.25 kg
Dimensions (cm)	41L x 31W x 75H
Power input	24V --- 2.08A max
Maximum ambient temperature	26°C
Liquid nitrogen stabilization time at maximum ambient temperature	~15 minutes
Ethane pot capacity	4.1ml
Liquid ethane operating temperature	-186°C to -176°C
Liquid ethane hold time	Indefinitely as long as workstation is maintained at liquid nitrogen temperature
Plunge speed	1.7m/sec
Pneumatics	min 60psi, max 80psi (min 4.1bar, max 5.5bar)
%RH at ambient temperature	98%
Ethane alarm	User defined temperature cut off with audible and/or visual warning signal

Note: Specifications are subject to change.

Cryoplunge is a trademark of Gatan, Inc. Gatan is a registered trademark of Gatan, Inc. Other brand and product names are the trademarks or registered trademarks of their respective owners and manufacturers.

Ordering information

Part Number	Description
930.B	Cryoplunge3 (Basic instrument and accessory kit)
930.T	Installation and basic training (optional)
930.TWX	WebEx training (optional)

Please contact your Gatan sales representative for complete ordering information. Accessories and options are not listed below.

Primary applications

- Structural biology
- Soft polymers
- Pharmaceuticals



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