Vitrobot™ Mark IV System

The next-generation Vitrobot™ Mark IV, a fully automated vitrification device for plunge-freezing of aqueous (colloidal) suspensions, meets the demands of modern science. Its newly designed touch-screen user interface is robust and easy to use and its robotics guarantee high-quality, reproducible sample freezing and a high sample throughput.

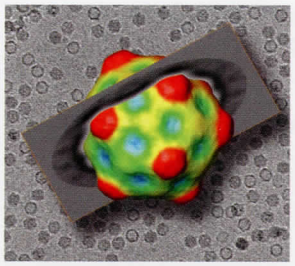
Its controlled-environment key technology prevents cooling and concentration artifacts that are inevitable in other 'open-space' freezing methods. The transfer from the vitrification medium into the liquid nitrogen atmosphere has been automated, thereby ensuring an even more consistent and high-yield sample output. It is a vital specimen preparation tool used in many cryo TEM labs.

Advantages and Capabilities

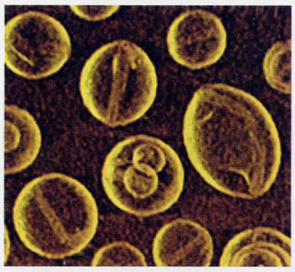
- Fully automated, reproducible vitrification of suspensions
- High vitrification quality through controlled environment
- Enclosed process chamber
- High sample throughput
- Easy and flexible instrument control
- Semi-automated grid transfer

Applications with Vitrobot™ Mark IV

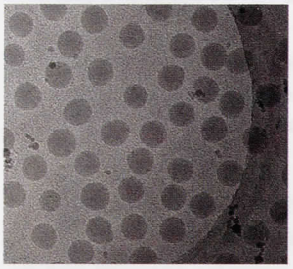
The new Vitrobot™ Mark IV is a state-of-the-art specimen preparation unit that offers great value to the demanding scientific areas of cell biology and molecular imaging as well as being very suitable for food, industrial, pharmaceutical and nanotechnological applications - where true colloidal structure needs to be viewed. The following illustrations show some applications examples of suspensions that can and have been vitrified with the Vitrobot™: Mark IV.



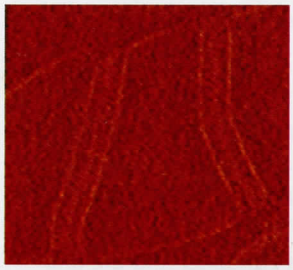
3D model of Cowpea Mosaic Virus (CPMV) visualized by single particle reconstruction. The radial color distribution represents the topology of the viral capsid.



Cryo-Tomogram of Vitrobot™ frozen liposomes containing the anti-cancer drug Doxil (Nature Medicine, 2003) Sample courtesy of Dr. P. Frederik and Mr. P. Bomans, University of Maastricht, The Netherlands



Cryo TEM can be used to validate the various production phases of Personal Care products as in this image of Vitrobot frozen shampoo/conditioner. Image shows the homogeneous dispersion of liposome particles.



3D cryo tomographic reconstruction of vesicles shown with cadherin arrays. Sample courtesy of: Dr. O. Lambert IECB, University of Bordeaux, France

Vitrification as Easy as 1, 2, 3

With the Vitrobot™ Mark IV, all essential vitrification parameters, such as temperature, relative humidity, the number of blottings, blotting pressure, and drain time can be programmed for each individual application and set for automatic retrieval. In fact, once the proper specimen-specific freezing parameters are set, the plunge-freezing session can be performed almost fully automatically and reproducibly. Additionally, the liquid coolant container - with anti-contamination ring - minimizes the contamination risk during the grid transfer while the optimally isolated container ensures better temperature conditions and a lower consumption rate of the liquid coolant. Finally, the grid transfer from the vitrification medium toward the grid storage box has been largely automated in order to further facilitate the sample throughput and vitrification quality.

For Domestic USA Sales Only.

continued on next page

Vitrobot™ Mark IV System *continued*

Technical Specifications

Operating parameters

- Working temperature 4-60°C (40-140°F) at an ambient temperature range between 18-25°C (65-77°F)
- Peltier controlled heating/cooling
- Relative humidity ambient - 100% (no condensation at an RH < 85%)
- Ultrasonic controlled humidification

Instrument control

- Linux operating system
- Touch screen control and set-up. Mouse and foot pedal controls also available

Sample application

- Small sample volumes can be applied manually with a pipette through a small side port on the left or the right side of the climate chamber
- Both application time and wait time (between application and blotting) are software controlled and can be set in the user interface
- Precisely timed control of multiple sample applications, blotting actions, and vitrification enables time resolved analysis of interactions among separately applied components

Blotting device

- Excess fluid is removed from the grid by (repeated) blotting with filter paper on rotating foam pad
- Number of blotting actions (max.16 times for one grid) and duration of blotting are software controlled and can be set in the user interface

Vitrification process

- Automated shutter control allows smooth, instant injection of the sample grid into the coolant (liquid ethane or propane). An automatic lift for the container brings the coolant close to the shutter to ensure optimal vitrification
- Synchronous lowering of the coolant container and the grid holder keeps the grid submerged in the coolant and minimizes the risk of contamination prior to transferring the sample into a storage box or cryo holder
- Coolant container including an integrated anti-contamination ring
- Grid transfer from the coolant towards a grid box in the liquid nitrogen environment is semi-automated

Weight

- 31kg (68 lbs)

Dimensions

- 413 x 260 x 890mm (16-¼ x 10-¼ x 35") (Lx W x H)

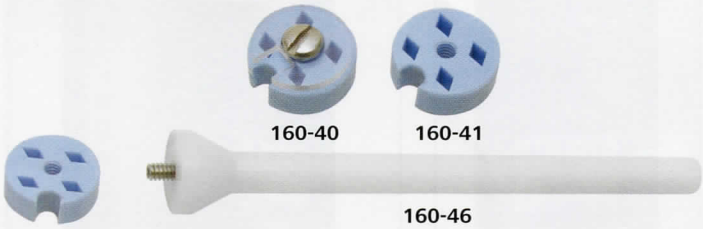
Power supply

- 110-230 V, 50-60 Hz, Fuse 4 AT (110 V USA)

Ordering Information

47000 Vitrobot™ Mark IV System . . . . . .each

Consumables and options for the Vitrobot™ Mark IV System

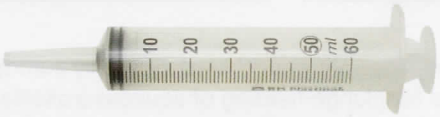


160-40 Cryo Grid Box with Lid, round . . . . . .each
160-41 Cryo Grid Box without Lid, round . . . . . .each
160-46 Cryo Grid Box Handling Tool . . . . . .each


47000-100


47000-120

47000-100 Blot Paper, round . . . . . .each
47000-120 Plastic Mounting Clip for blot paper . . . .each



47000-110 Syringe, 60ml . . . . . .each

47000-500 Replacement Tweezer Assembly . . . . . .each


47000-550


47000-520

47000-550 Ethane Container with assembled parts .each
47000-520 Ethane Container w/o assembled parts . .each

47000-530 Foot Pedal Assembly . . . . . .each
47000-540 Touch Screen Stylus . . . . . .each

PELCO® UVC2 Cryo Chamber

PELCO® UVC2 Exterior/Control Panel

PELCO® UVC2 Interior with BEEM® Cryo Capsule Holders and Capsules

The PELCO® UVC2 Cryo Chamber has been specifically designed to provide an economical yet precisely controlled low temperature environment for polymerization of polymers and resins for cryo specimen preparation. It can also be used for dehydration and infiltration of cryo specimens. This simple and functional unit has a large insulated chamber and comprises fully automatic temperature control for the polymerization process of embedding resins and polymers.

Features

- Unit uses inexpensive dry ice
- Automatic temperature control, can operate unattended for up to 24 hours
- Temperature range can be set from -10°C to -37°C (14°F to -34.6°F)
- Includes memory function for Min/Max temperatures during any run
- 365nm ultraviolet lamps thermally shielded by dual pane glass
- Holds up to 66 samples with BEEM® Cryo Capsule Holders
- Excellent for Unicryl, LR White, LR Gold, Lowicryls, JB-4, Quetols and other resins cured by 365nm UV radiation

Operation

- Add dry ice to the chamber
- Set temperature (-10°C to -37°C / 14°F to -34.6°F)
- Turn on UV lamp and cure embedding resins

Specifications

UV Source: Two 18" long, 15 watt, 365nm ultraviolet lamps
Interior dimensions: 56.5 (L) x 30.5cm (W) x 33.7cm (D) (22-¼" x 12" x 13-¼")
Exterior dimensions: 64.1 (L) x 36.8cm (W) x 48.9cm (D) (25-¼" x 14-½" x 19-¼")
Power requirements: 115VAC, 60Hz, 1A or 230V, 50Hz, 0.5A.

The UVC2 operates unattended for 24 hours with automatic temperature control. New special design and easy to use BEEM® Cryo Capsule Holders accept 66 samples.

Ordering Information

6202 PELCO® UVC2 Cryo Chamber, 115VAC, 60Hz, includes 3 BEEM® Cryo Capsule Holders . .each

6202-220 PELCO® UVC2 Cryo Chamber, 220VAC, 50Hz, includes 3 BEEM® Cryo Capsule Holders . .each

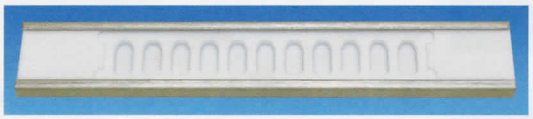
Molds for Cryo Flat Embedding

machined from PTFE resin

for electron microscopy specimen embedding
cured acrylics are successfully released

16 Cavities

11 Cavities



3 Cavities

- 16 Cavities, cavity dimensions: 14 L x 4.8 W x 3 D (mm)
- 11 Size 00 Cavities, cavity dimensions: 14 L x 6.9 W x 3 D (mm)
- 3 Cavities, cavity dimensions: 37.6 L x 13.8 W x 3 D (mm)
- Especially useful when embedding with LR White, LR Gold, and Lowicryls for electron microscopy
- Can be used for both low temperature UV and thermal polymerization
- Unique configuration provides recesses for Thermanox® Cover Slips or ACLAR® film to insure anaerobic polymerization (see ACLAR® under "Embedding")

Following curing, each of the specimen blocks can be removed by flexing the mold. To restore flatness of the mold, simply slide it back into the provided metal Clamping Frame. PTFE resin is non-reactive and provides durability, flexibility and ease of release.

10506 Flat Embedding Mold, PTFE, with metal frame, 16 cavities . . . . . .each

10506-10 Flat Embedding Mold, PTFE, with metal frame, 11 cavities . . . . . .each

10508 Flat Embedding Mold, PTFE, with metal frame, 3 cavities . . . . . .each

BEEM® 00 Embedding Capsule Holder

for curing resins under UV, 22 cavities

Can be used in the PELCO® UVC2 Cryo Chamber shown on previous page.

6207 BEEM® 00 Cryo Capsule Holder for UV Curing pkg/100

BEEM® 00 Embedding Capsules

Size 00

Produces blocks 7.9mm OD. For use in the BEEM® Cryo Capsule Holder for UV Curing, see above.

130 BEEM® Capsules, Size 0 . . .pkg/100

Tissue Freezing Medium

Embedding matrix for frozen sections. Less curling, less ice artifacts, freezes faster. 4 oz. (112ml) bottle. M

27209 Tissue Freezing Medium, 4 oz. (112ml) . . . . . .each

Tissue-Tek® OCT Compound for Cryostat Sectioning

No residue or background staining. Freezes specimen matrix for cryostat sectioning at temperatures <–10°C. Formulation of water soluble glycols and resins. No residue on slides during staining procedure. 4 oz. (112ml) bottle. M **For Sale in U.S.A. Only**

27050 OCT Compound, 4 oz. (112ml) . . . .each

LR White Resin, Medium

Resin with initiator (BPO) packaged separately. Accelerator 18185 can be used for cold-cure (room temperature). Heat cure is 24 hours between 50°C and 65°C. Gelatin capsules are recommended for temperatures below 60°C. Tightly closed BEEM® Capsules and PTFE Molds with ACLAR™ as cover (Prod. No. 10506 or 10508) work well at 65°C. Widely used because of excellent immunolabeling results. LR White is a polar, monomer polyhydroxylated aromatic acrylic resin (see PTFE Molds, page 602).

Sections from LR White appear "bumpy" in contrast to Epon resin sections. It is possible that Epon links covalently to tissue proteins while LR White links more weakly. "LR White appears to act in a manner similar to ice in a freeze-fractured specimen".* A. Yamamoto and Y. Tashiro, using AFM, found a strong relief surface on LR White sections, 3-4nm on average. Depressions range from 6 to 30nm. Protrusions could be seen on the complimentary surface. Epon sections show relatively smooth surfaces.** Micrographs appear similar to freeze-etched images but scaled to nm instead of µm. I; M T

18181 LR White Resin, Medium, 500ml . . . . . .each

References, see chemicals page 77.

LR Gold Resin, Hard

Non-toxic resin with catalyst packaged separately. Accelerator 18185 can be used for cold-cure (room temperature). Heat cure is 24 hours between 50°C and 65°C. Gelatin capsules are recommended for temperatures below 60°C. Tightly close BEEM® Capsules and PTFE Molds with ACLAR® as cover (Prod. No. 10506 or 10508) work well at 65°C. Widely used because of excellent immunolabeling results and very low viscosity (8cps). I; M

18182 LR Gold Resin, Hard, 500ml . . . . . .each

PELCO Histo/Cyto-Freeze™ Cryo Spray

Excellent for cooling liquid, semi-solid and solid specimens. Ideal for ultra-rapid freezing of fresh tissue, cooling of liquids to induce precipitation prior to filtering and cooling of field samples. Histo/Cyto-Freeze™ delivers instant flash freezing for cryostat sectioning. Cools down to -60°F (-50°C) in just three seconds. To cut frozen sections, mount section directly on the microtome holder, simply spray to flash freeze and section. Time saving procedure and prevents water crystals built up caused by slower methods. The provided nozzle delivers the freezing action exactly where it is needed.

Contains 10 oz pure, 100% virgin tetrafluoroethane for enhanced freezing and cooling performance. Non-flammable, non-corrosive odorless gas. Ozone safe. Contains no CFC's. M

27219 PELCO Histo/Cyto-Freeze™, 10 oz. (280ml) . . .each

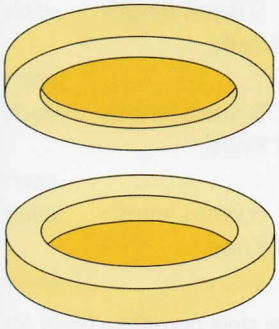
Cryogen Spray

For cooling and freezing tissue sections. Does not contain CFC's, cools to -60°F (-50°C). M

27218 Cryogen Spray, 10 oz. . . . . .each

M = MSDS on web page
T = Tech Note on web page
I = Irritant

Freezer Hats for High Pressure Freezing

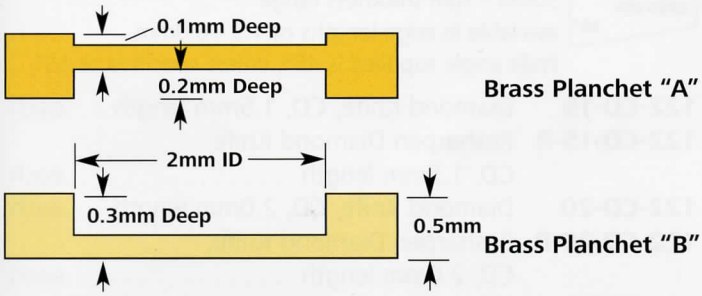


available at reasonable pricing

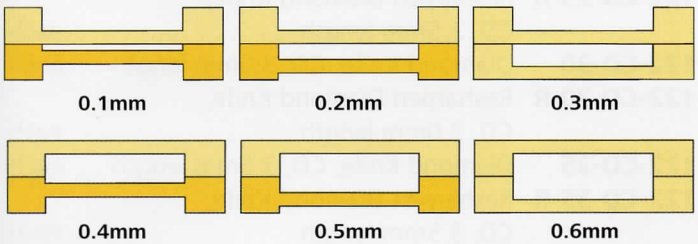
Freezer Hats are used in such Cryo instruments as:

- Balzers
- Leica
- Cressington
- RMC

Freezer Hats are available from Ted Pella, Inc. at prices significantly reduced from previous commercial levels. The planchet designs are shown below in cross section. They are available in brass only. Depths of cavity in the planchets are 0.1, 0.2 and 0.3mm. Using the two planchets, one on the other, in various combinations, permit the cavity thicknesses as illustrated below.



Possible Variations:



39200 PELCO® Freezer Hats, Brass, Specimen Holders, 2 Chambers, Type A . . .pkg/50

39201 PELCO® Freezer Hats, Brass, Specimen Holders, 1 Chamber, Type B pkg/50

Cryo Pliers

Easy to use cryo pliers are very useful for quick freezing of 1mm tissue samples. The cryo pliers have a flat faced parallel copper jaws to provide evenly applied contact pressure to the sample.

39800 Cryo Pliers for 1mm tissue . . . . . .each

Cryo-Gloves

Used in cryogenic atmosphere, ultra low temperature freezers, dry ice, autoclaves and ovens. Suitable for temperatures from -160°C (-250°F) to +148°C (300°F).

Note: Not for immersion in liquid nitrogen. Do not use near an open flame or hazardous areas where ignitions could occur.

- Resistant to solvents
- Warmth without bulk
- Machine washable/dryable, breathable.

81724 Cryo-Gloves, Mid Arm length, medium . . . .1 pair
81725 Cryo-Gloves, Mid Arm length, large . . . . . .1 pair
81726 Cryo-Gloves, Mid Arm length, x-large . . . . .1 pair
81727 Cryo-Gloves, Elbow length, medium . . . . . .1 pair
81728 Cryo-Gloves, Elbow length, large . . . . . .1 pair
81729 Cryo-Gloves, Wrist length, medium . . . . . .1 pair
81730 Cryo-Gloves, Wrist length, large . . . . . .1 pair

Cryo-Aprons

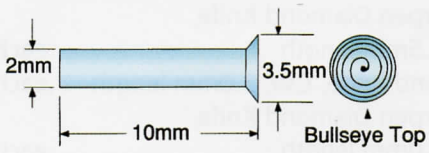
Provides a high-level of thermal protection to the torso and upper legs in harsh cryogenic atmospheres.

Multi-layered construction allows for a maximum level of thermal protection, and a rugged waterproof Cordura® nylon outer shell protects you from cryogenic splashes.

For added safety and function, aprons have quick-release buckles at the neck and waist.

81731 Cryo-Apron, 36" . . . . . .each
81732 Cryo-Apron, 42" . . . . . .each
81733 Cryo-Apron, 48" . . . . . .each
81734 Cryo-Apron, 54" . . . . . .each

Specimen Pin for Cryo-ultramicrotomy

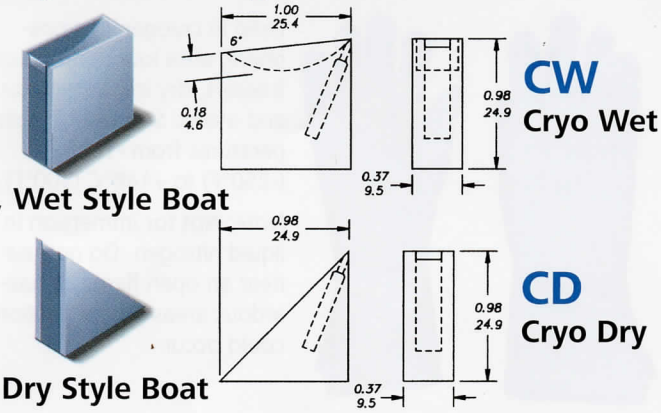


Aluminum specimen mount pin for mounting samples for cryoultramicrotomy for use in a low temperature sectioning system.

Also for quick-freeze devices such as Gentleman-Jim and KF-80.

16948 Cryo Specimen Pins, Bullseye pkg/50

Cryo Sectioning Diamond Knives



Passing through 25 quality control tests and 10 tests to reach flawless quality, you expect perfect sections free of striations and compression. Guarantee: You must be totally satisfied with the knife's performance.

The diamond knives are produced from carefully selected jewel quality octahedral diamonds. Each crystal is cleaved along its natural lattice into several thin plates which are microscopically screened.

Each plate is welded onto a steel shank and following that is a high precision series of processes to lap and polish the diamond into the sharpest cutting instrument made. The radius of the diamond knife edge is about 50 Ångstroms (5nm) or 30 carbon atoms and the entire length of its edge must be defect free to the same dimensions. Ultimately an exhaustive final sectioning test is performed through the entire length of the edge. Only if it is flawless is it approved for shipment and packed and sealed in its wood case.

Cryo Wet Ultramicrotomy Diamond Knives

CW 35° CRYO WET 45°

Frozen specimens sectioned wet with liquids like ethylene glycol
50nm - 1µm thickness range
Available in edge lengths of 1.5 - 6.0mm
Knife angle supplied is 45°, unless specified as 35°

122-CW-15	Diamond Knife, CW, 1.5mm length . .each
122-CW-15-R	Resharpen Diamond Knife, CW, 1.5mm length . . . . . .each
122-CW-20	Diamond Knife, CW, 2.0mm length . .each
122-CW-20-R	Resharpen Diamond Knife, CW, 2.0mm length . . . . . .each
122-CW-25	Diamond Knife, CW, 2.5mm length . .each
122-CW-25-R	Resharpen Diamond Knife, CW, 2.5mm length . . . . . .each
122-CW-30	Diamond Knife, CW, 3.0mm length . .each
122-CW-30-R	Resharpen Diamond Knife, CW, 3.0mm length . . . . . .each
122-CW-35	Diamond Knife, CW, 3.5mm length . .each
122-CW-35-R	Resharpen Diamond Knife, CW, 3.5mm length . . . . . .each
122-CW-40	Diamond Knife, CW, 4.0mm length . .each
122-CW-40-R	Resharpen Diamond Knife, CW, 4.0mm length . . . . . .each
122-CW-45	Diamond Knife, CW, 4.5mm length . .each
122-CW-45-R	Resharpen Diamond Knife, CW, 4.5mm length . . . . . .each
122-CW-50	Diamond Knife, CW, 5.0mm length . .each
122-CW-50-R	Resharpen Diamond Knife, CW, 5.0mm length . . . . . .each
122-CW-55	Diamond Knife, CW, 5.5mm length . .each
122-CW-55-R	Resharpen Diamond Knife, CW, 5.5mm length . . . . . .each
122-CW-60	Diamond Knife, CW, 6.0mm length . .each
122-CW-60-R	Resharpen Diamond Knife, CW, 6.0mm length . . . . . .each

BOAT: Supplied with Boat "W", stainless steel non-glare finish for wet cryo sectioning, cylindrical cavity and 6° inclined top edge

Cryo Dry Ultramicrotomy Diamond Knives

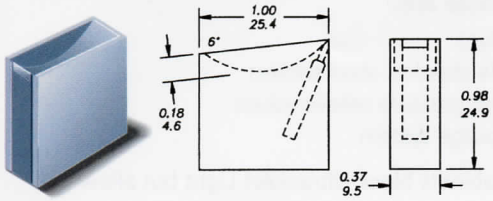
CD 35° CRYO DRY 45°

frozen specimens sectioned dry
50nm - 1µm thickness range
available in edge lengths of 1.5 - 6.0mm
knife angle supplied is 45°, unless specified as 35°

122-CD-15	Diamond Knife, CD, 1.5mm length . . .each
122-CD-15-R	Resharpen Diamond Knife, CD, 1.5mm length . . . . . .each
122-CD-20	Diamond Knife, CD, 2.0mm length . . .each
122-CD-20-R	Resharpen Diamond Knife, CD, 2.0mm length . . . . . .each
122-CD-25	Diamond Knife, CD, 2.5mm length . . .each
122-CD-25-R	Resharpen Diamond Knife, CD, 2.5mm length . . . . . .each
122-CD-30	Diamond Knife, CD, 3.0mm length . . .each
122-CD-30-R	Resharpen Diamond Knife, CD, 3.0mm length . . . . . .each
122-CD-35	Diamond Knife, CD, 3.5mm length . . .each
122-CD-35-R	Resharpen Diamond Knife, CD, 3.5mm length . . . . . .each
122-CD-40	Diamond Knife, CD, 4.0mm length . . .each
122-CD-40-R	Resharpen Diamond Knife, CD, 4.0mm length . . . . . .each
122-CD-45	Diamond Knife, CD, 4.5mm length . . .each
122-CD-45-R	Resharpen Diamond Knife, CD, 4.5mm length . . . . . .each
122-CD-50	Diamond Knife, CD, 5.0mm length . . .each
122-CD-50-R	Resharpen Diamond Knife, CD, 5.0mm length . . . . . .each
122-CD-55	Diamond Knife, CD, 5.5mm length . . .each
122-CD-55-R	Resharpen Diamond Knife, CD, 5.5mm length . . . . . .each
122-CD-60	Diamond Knife, CD, 6.0mm length . . .each
122-CD-60-R	Resharpen Diamond Knife, CD, 6.0mm length . . . . . .each

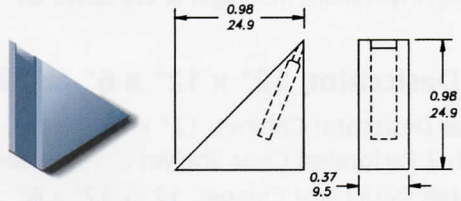
BOAT: Supplied with Boat "D" (no trough) for dry cryo sectioning. Stainless steel, non-glare finish.

Light Microscopy (Histology) Cryo Diamond Knives



W, Wet Style Boat

LC
Histo Cryo



D, Dry Style Boat

- Frozen sections to be examined at light microscopy magnifications
- 0.1µm - 5µm thickness range
- available in edge lengths of 4 - 7mm
- Knife angle supplied is 45°, unless specified as 55°
- Specify **"W" Boat** (stainless steel non-glare finish for wet cryo sectioning, cylindrical cavity and 6° inclined top edge) or **"D" Boat** (no trough, for dry cryo sectioning, stainless steel, non-glare finish) when ordering.

122-LC-40	Diamond Knife, LC, 4.0mm length	. . .each
122-LC-40-R	Resharpen Diamond Knife, LC, 4.0mm length	. . . . . .each
122-LC-45	Diamond Knife, LC, 4.5mm length	. . .each
122-LC-45-R	Resharpen Diamond Knife, LC, 4.5mm length	. . . . . .each
122-LC-50	Diamond Knife, LC, 5.0mm length	. . .each
122-LC-50-R	Resharpen Diamond Knife, LC, 5.0mm length	. . . . . .each
122-LC-55	Diamond Knife, LC, 5.5mm length	. . .each
122-LC-55-R	Resharpen Diamond Knife, LC, 5.5mm length	. . . . . .each
122-LC-60	Diamond Knife, LC, 6.0mm length	. . .each
122-LC-60-R	Resharpen Diamond Knife, LC, 6.0mm length	. . . . . .each
122-LC-65	Diamond Knife, LC, 6.5mm length	. . .each
122-LC-65-R	Resharpen Diamond Knife, LC, 6.5mm length	. . . . . .each
122-LC-70	Diamond Knife, LC, 7.0mm length	. . .each
122-LC-70-R	Resharpen Diamond Knife, LC, 7.0mm length	. . . . . .each

Note: Knives 7mm and longer require a **"K" Boat** (large boat with cylindrical cavity and 6° inclined top, black anodized.

Cryogenic Dewar Flasks

Superior vacuum performance and insulation provide maximum holding times

Sealed vacuum space between inner and outer shells. Outer shell is constructed of durable, light-weight aluminum. Vacuum space is filled with technologically advanced insulation. Neck-tube core minimizes liquid nitrogen loss.

5 liter 10 liter 25 liter

Safe Handling of Liquid Nitrogen

The LD series of cryogenic dewars are designed for storing and dispensing small amounts of liquid nitrogen in material science and biological cryo labs. The series includes a beaker style dewar with a wide mouth and pitcher style model for easy pouring. Ⓣ

Specifications				
Capacity/liters		5	10	25
Neck I.D.		5.6"	2"	2.5"
Static holding time/days		6	45	109
Evaporation/liters/days		0.77	0.22	and .023
Specifications	**Height**	17.5"	23.5"	25.8"
	O.D.	7.6"	11.4"	15.6"

Accessories

Roller Base Tipping Stand

Storage Dewars Tipping Stand

Tipping stand supports the weight of the Dewar while you safely tip the unit. Easily move storage Dewars with sturdy cast aluminum frame. Unit has five wheels with ball-bearing swivel casters. Use with Dewars with 15.4" diameter base

81750-5	Cryo Dewar Flask, 5 liter	. . . . . .each
81750-10	Cryo Dewar Flask, 10 liter	. . . . . .each
81750-25	Cryo Dewar Flask, 25 liter	. . . . . .each
81750-25-1	Roller Base for 25 liter Flask	. . . . . .each
81750-25-2	Tipping Stand for 25 liter Flask	. . . . . .each
81750-25-3	Dipper	. . . . . .each

Ⓣ = Tech Note on web page

Standard Acrylic Desiccator Cabinets

Cabinets from 12" x 12" x 6" to 48" x 24" x 60"

Our new and improved PL desiccators are designed to protect, store or assist in moving critical materials and to prevent contamination. These dust and moisture-free enclosures safeguard valuable research specimens, sensitive parts, electronic components, calibration standards or precision mechanical assemblies. When a positive dry N_2 gas flow is applied, the desiccators prevent moisture from reacting with stored items. The clear acrylic enclosure allows for easy observation and location of your items. The amber units are effective for protection of light sensitive materials from harmful UV light. For materials or specimens sensitive to visible light, black desiccators are available.

The acrylic desiccator cabinets are constructed of ¼" thickness acrylic material, featuring easy-open doors and full visibility for the clear and amber models. Shelf support strips are provided at 2" (51mm) intervals.

The Static Dissipative PVC models are constructed from ESD safe material (only available in clear). The dissipative PVC has a surface resistivity of only 105-108 Ohms/Square with a surface potential of less than 15V. Decaying time is less than one second.

Features and benefits of the PL desiccators:

- Full length hinges
- Spring loaded sealing clamps for uniform tension
- Closed cellular sealing PVC gaskets with "Gasket Guard" for improved sealing
- All doors have reinforced framework to ensure flat sealing
- Each chamber has a hygrometer (RH) in the door
- All shelves include perforated slots to ensure optimum gas flow
- Each chamber is provided with two nylon gas nipples (¼" NPT with ⅛" hose barb fitting)
- Solid dividers for independent chambers
- Units are stackable with non-slip feet

Accessories available are:

- Additional shelves
- Interchangeable stainless steel shelves
- Flow meters and pressure relieve valves
- Controlled N_2 purge system

AMBER colored cabinets block Ultraviolet Light but allow full visibility of interior

BLACK cabinets protect specimens from light or are suited for confidentiality

Single Door Desiccator, 12" x 12" x 6" or 12"

22201	Clear Desiccator Cabinet, 12" x 12" x 6" with 2 Perforated Clear Shelves . . . . . .each
22201-AMB	Amber Desiccator Cabinet, 12" x 12" x 6" with 2 Perforated Amber Shelves . . . . .each
22200	Clear Desiccator Cabinet, 12" x 12" x 12" with 2 Perforated Clear Shelves . . . . . .each
22200-DSP	Static Dissipative, Clear Desiccator Cabinet, 12" x 12" x 12" with 2 Perforated, Clear DSP Shelves . . . . . .each
22200-AMB	Amber Desiccator Cabinet, 12" x 12" x 12" with 2 Perforated Amber Shelves . . . . .each
22200-BLK	Black Desiccator Cabinet, 12" x 12" x 12" with 2 Perforated Black Shelves . . . . . .each

2 Door Desiccator, 12" x 12" x 24" with Permanent Divider

22204	Clear Desiccator Cabinet, 12" x 12" x 24" with two chambers and 4 Perforated Clear Shelves . . . . . .each
22204-DSP	Static Dissipative, Clear Desiccator Cabinet, 12" x 12" x 24" with two chambers and 4 Perforated Clear DSP Shelves . . . . . .each
22204-AMB	Amber Desiccator Cabinet, 12" x 12" x 24" with two chambers and 4 Perforated Amber Shelves . . . . . .each
22204-BLK	Black Desiccator Cabinet, 12" x 12" x 24" with two chambers and 4 Perforated Black Shelves . . . . . .each

Shelves for 12" x 12" Desiccators

22200-1	Clear Acrylic Perforated Shelf, 12" x 12" x ¼" . . . . . .each
22200-2	Clear, Static Dissipative Acrylic Perforated Shelf, 12" x 12" x ¼" . . . . . .each
22200-3	Amber Acrylic Perforated Shelf, 12" x 12" x ¼" . . . . . .each
22200-4	Black Acrylic Perforated Shelf, 12" x 12" x ¼" . . . . . .each
22200-5	Stainless Steel Perforated Shelf, 12" x 12" . .each