

'Old' knives of a different make can often be used to buy diamond knives at a discount - please ask

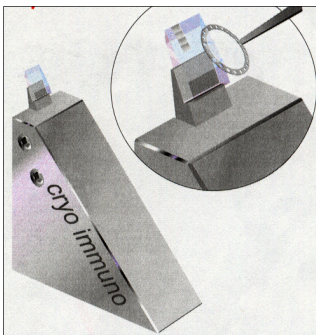
## TAAB Diamond Knife Wetting Agent

Most new diamond knives are hydrophilic and should not present problems with edge wetting. However have you got an older knife that causes problems or is the exception to the rule? Then our wetting agent either full strength or diluted should solve your problem for several weeks before re-treatment is needed.

**W101** Diamond knife wetting agent 100ml



Cryo 35°/45°



Cryo immune knife



Ultrasonic knife with controller

## Diamond Knives

We are able to offer a choice of the market leading brands of diamond knives for ultrathin and semithin sectioning. All knives are guaranteed and details of their care and use are available in data sheet form from TAAB free of charge.

Diamond knives are not only for those people with tough specimens where they produce results unobtainable with glass knives, but also for the hard pressed modern laboratory where time is of the essence and results are required without time-loss. Diamond knives have the ability to cut all manner of soft and hard specimens and section samples with mixed densities within the same block. They have a remarkable tolerance for producing results from difficult specimens that makes them an invaluable tool for any modern electron microscope laboratory.

The cost of the diamond knives is more than compensated for by the speed of production of useable results from imperfect embeddings or from samples unavoidably accepted from third parties where preparation quality is unknown. Diamond knives supplied by TAAB can be resharpened an infinite number of times at a price a little over half that of a new knife.

Please ask for a copy of our free publication 'The Care and Use of Diamond Knives'.

## Diatome Diamond Knives for EM

### Diatome knives for ultrathin ambient sectioning

#### Standard ambient knives

The standard holder is blue anodised with the diamond is ground to a 45° angle. We now recommend 35° as a no-cost option for all standard work being the best compromise between performance and edge life. We can offer black anodised boats for those who prefer them. The choice of holder does not affect the purchase price. The edge lengths available are as follows:

**K065/15** 1.5mm, **K065/20** 2.0mm, **K065/25** 2.5mm, **K065/30** 3.0mm, **K065/35** 3.5mm  
**K065/40** 4.0mm  
**K065/30/J** 35° 3.0mm knife with Jumbo water bath

### Diatome Cryo Knives

#### Standard cryo knives

Holders for cryosectioning are normally triangular (without flotation bath) and manufactured from a special alloy. They can be specified with a flotation bath and 35° or 45° angles at no extra cost. Knife sizes available:

**K065/C/15** 1.5mm, **K065/C/20** 2.0mm, **K065/C/25** 2.5mm, **K065/C/30** 3.0mm, **K065/C/35** 3.5mm and **K065/C/40** 4.0mm

#### Cryo immune knife for sucrose droplet and frozen hydrated sections

The cryo immune knife has a 35° or 25° diamond for lowest section compression and is the first cryo diamond knife with a plateau. The 35° gives optimised section pick-up resulting in the best section quality for immunocytochemistry using a loop and sucrose/methyl cellulose droplet. This method reduces the stress applied to the section and leads to better structural preservation. The 25° knife is designed for frozen hydrated specimens. Both are available only with 3mm edge.

**K065/30/CI/35** 3mm Diatome Cryo immune diamond knife 35° for sucrose  
**K065/30/CI/25** 3mm Diatome cryo immune 25° for frozen hydrated

*Please ask about cryo 25° knife for frozen hydrated sections*

### Diatome Ultrasonic Knife

A totally new concept in ultrathin sectioning giving practically zero compression, thinner sections, better structural preservation and easier sectioning of 'difficult' materials. The oscillations are strictly controlled in the horizontal plane. The results at room temperature are exciting but at low temperature are exceptional.

**K067/30** 3.0mm Diatome Ultrasonic oscillating diamond knife with controller

## Diatome Trimming Knives for Cryo or Polymers

For successful ultramicrotomy precise trimming of the specimen is essential. The extreme sharpness of the Diatome trimming blades ensures accurate trimming with minimum mechanical damage resulting shiny surfaces that make alignment easier and safer. All three versions can be fitted into Leica or RMC cryo ultramicrotomes:

### Trim 45 and Trim 20

The Trim 45 produces pyramidal sides with an inclined angle of 45° and the Trim 20 produces 20° sides. Both are ideal for **sucrose** protected biological samples, **frozen** hydrated samples and **epoxy** and acrylic polymers.

**K094/45** Trim 45

**K094/20** Trim 20

**K094/90** Trim 90 A trimming tool for [plastic](#), [cryo](#), [FIB](#) and [Array Tomography](#) samples giving 90° sides to specimens.



## Knife Cleaning Sticks

Ideal materials for cleaning diamond knives. Bevel one end to a 60° "V" with a degreased razor blade. Dip in ethanol 100% ethanol (50% for biological samples) and shake off the excess. Gently run the rod across the cutting edge without applying lateral pressure.

**C097** Pithwood bundle of 10 pieces

**C259** Polystyrene cleaning stick pack of 5



## Diatome Diamond Knives for Light Microscopy

### Histoknives for Light, Semithin and Materials Microscopy

Polished to a degree which provides excellent results for ultrathin materials sectioning, these knives are resilient enough to produce first class sections over a long period of time in the micron range for light microscopy. Available in the following sizes:

**K090/40** 4.0mm, **K090/50** 5.0mm, **K090/60** 6.0mm, **K090/80** 8.0mm **K090/100** 10.0mm

### Histo Jumbo

A 6mm Histoknife with a water bath large enough to accept 3" x 1" microscope slide.

**K090/60/J** 6mm Diatome Histoknife with jumbo water bath

### Diatome Cryohistoknife

A triangular knife with holder of special alloy suitable for low temperature cryostat sectioning in life science and materials applications.

**K090/4/C** Diatome 4mm Cryo Histoknife





## Diatome Knives for AFM

The high quality Diatome diamond knives are not just perfect for producing ultrathin and semi-thin sections, but also for surfacing sectioning of all kinds of biological and industrial specimens for AFM investigation. Instead of a section as for TEM, the specimen surface is investigated using AFM. In order to achieve the best results for AFM investigation, only the highest quality diamond knives should be used.

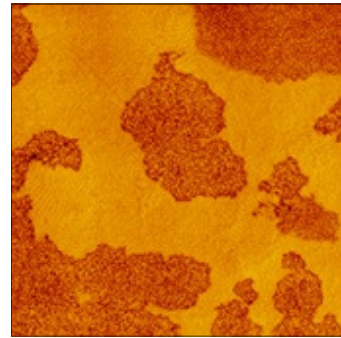
Diatome ultra AFM and cryo AFM knives are specially tested to ensure that they meet the increased quality requirements of AFM investigation. They produce extremely smooth sample surfaces and guarantee the best possible structural preservation. They are produced with a 35° angle.

**K092/20** Diatome Ultra AFM 2mm  
**K093/20** Diatome Cryo AFM 2mm

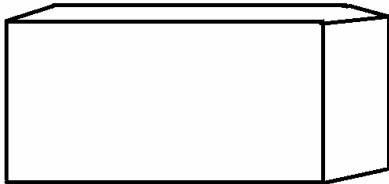
**K092/30** Diatome Ultra AFM 3mm  
**K093/30** Diatome Cryo AFM 3mm

Morphology of a blend of two SBS block copolymers with different chain-architecture. AFM tapping mode, phase image.

Rameshwar Adhikari, Institut für Werkstoffwissenschaft, Martin-Luther-Universität, Halle-Wittenberg.



## Diamond Knife for Gatan 3View®



Diatome diamond knife for fitting to Gatan 3View® ultramicrotome system for serial blockface SEM 3D reconstruction. Consists of the complete diamond shank ready to fit to the 3View® system by the customer. Alternatively the complete holder can be returned for factory fitting at no extra cost other than postage. A sharpening service is also available.

**K121** Diatome diamond knife for Gatan 3View® 3D reconstruction system



## Diamond Knife Cleaner

This instrument has been specially designed for cleaning diamond knives. The diamond knife (any make with a 9.5mm base) is held in a special holder which fits into a 100ml beaker mounted on top of a magnetic stirrer turning at approximately 1800 rpm. Direction is reversed twice every minute. The cleaning liquid can be distilled water or one of the mild surfactants recommended in our "Care and use of diamond knives" data sheet. The six position timer can be set from 15 minutes to eight hours. Dimensions 4¾" x 3" x 2½" high (with beaker in place 5½")

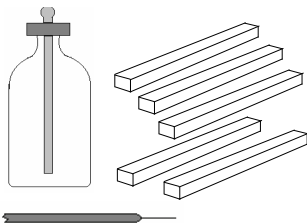
**C205/1** Diamond knife cleaner 230V 50Hz

**C205** Diamond knife cleaner 110V 60Hz

## Diamond Knife Cleaning Kit

A kit for cleaning the edge of diamond knives consisting of Tween 80 solution (100mls), dropper bottle, polystyrene sticks, single bristle brush and cleaning instructions.

**C262** Diamond knife cleaning kit



## Microstar Diamond Knives

American knives with a large range of holders. Each knife has a 12 month warranty against any defects. Comes in a strong protective wooden-box. [Excellent performance and excellent value - highly recommended](#). The following types of knife are available:

**SU** Standard Ultramicrotomy      **CW** Cryo Wet      **CD** Cryo Dry

**MT** Materials Science      **LH** Light Microscopy      **LC** Light Microscopy Cryo

There are eight different boat styles but we supply standard black anodised holder type SU unless otherwise instructed, or for cryo, triangular stainless steel with non-glare finish. [Normal knife angle is 45° but 35° and 55° are no-cost options for some applications.](#)

**Microstar ultrathin knives Types SU, CD, CW**, in sizes:

<b>K080/10</b> 1.0mm	<b>K080/12</b> 1.2mm	<b>K080/14</b> 1.4mm	<b>K080/15</b> 1.5mm
<b>K080/16</b> 1.6mm	<b>K080/18</b> 1.8mm	<b>K080/20</b> 2.0mm	<b>K080/22</b> 2.2mm
<b>K080/24</b> 2.4mm	<b>K080/25</b> 2.5mm	<b>K080/26</b> 2.6mm	<b>K080/28</b> 2.8mm
<b>K080/30</b> 3.0mm	<b>K080/32</b> 3.2mm	<b>K080/34</b> 3.4mm	<b>K080/35</b> 3.5mm
<b>K080/36</b> 3.6mm	<b>K080/38</b> 3.8mm	<b>K080/40</b> 4.0mm	<b>K080/42</b> 4.2mm
<b>K080/44</b> 4.4mm	<b>K080/45</b> 4.5mm	<b>K080/46</b> 4.6mm	<b>K080/48</b> 4.8mm
<b>K080/50</b> 5.0mm	<b>K080/52</b> 5.2mm	<b>K080/54</b> 5.4mm	<b>K080/55</b> 5.5mm
<b>K080/56</b> 5.6mm	<b>K080/58</b> 5.8mm	<b>K080/60</b> 6.0mm	

**Microstar ultrathin knives type MT** (Materials Science)

Ultramicrotomy knives suitable for difficult materials samples and not polished to the same degree as **SU** knives and therefore lower cost. Available in the following sizes:

<b>K081/20</b> 2.0mm	<b>K081/25</b> 2.5mm	<b>K081/30</b> 3.0mm	<b>K081/35</b> 3.5mm
<b>K081/40</b> 4.0mm	<b>K081/45</b> 4.5mm	<b>K081/50</b> 5.0mm	<b>K081/55</b> 5.5mm
<b>K081/60</b> 6.0mm	<b>K081/65</b> 6.5mm	<b>K081/70</b> 7.0mm	

**Microstar light microscope knives types LH**

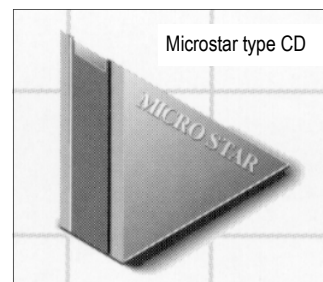
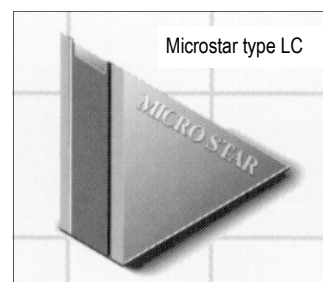
Knives suitable for thicker sections (>1µm) on ultramicrotomes or special motorised rotaries. Available in the following sizes:

<b>K082/40</b> 4.0mm	<b>K082/45</b> 4.5mm	<b>K082/50</b> 5.0mm	<b>K082/55</b> 5.5mm
<b>K082/60</b> 6.0mm	<b>K082/65</b> 6.5mm	<b>K082/70</b> 7.0mm	

**Microstar light microscope knives types LC**

Knives suitable for cryostat sectioning (>1µm) or low temperature materials EM. Available in the following sizes:

<b>K083/40</b> 4.0mm	<b>K083/45</b> 4.5mm	<b>K083/50</b> 5.0mm	<b>K083/55</b> 5.5mm
<b>K083/60</b> 6.0mm	<b>K083/65</b> 6.5mm	<b>K083/70</b> 7.0mm	



Microstar Knife in Box

# 12 Microtomy and Histology

## Please Note

DDK no longer manufacturer or sharpen diamond knives for ultramicrotomy. We can however, offer your old DDK in exchange against Diatome or Microstar at a very advantageous price. Please ask for details.

All other DDK products are still available

### DDK Knives for Ultramicrotomy

We will normally supply a 45° diamond blade sealed in the standard, black anodised holder with a large oval reservoir which will fit all standard ultramicrotomes. Please contact us if you require other included angles. The old boat style is still available. Please indicate this on your order should you prefer it.

#### Edge Lengths mm

K113/10	1.0-1.4	K113/15	1.5-1.9	K113/20	2.0-2.4	K113/25	2.5-2.9
K113/30	3.0-3.4	K113/35	3.3-3.9	K0113/40	4.0-4.4	K113/45	4.5-4.9
K113/50	5.0-5.4	K113/55	5.5-5.9				

**Cryo knives** are available in the same sizes with holders in *stainless steel*. For Dry Cryo Knives please add the suffix */C* and for cryo knives with boats please add the suffix */CW*

Example: the **Cat. No.** for a 3mm Dry Cryo knife is **K113/30/C**  
for a 3mm Wet Cryo knife is **K113/30/CW**

### DDK "Histoknives" for Histology

The DDK diamond histo knives are made from natural diamond and will cut thin sections of plastic embedded tissue/material. Suitable for Biological or Materials work they are a cost-effective solution for cutting semi-thin or hard materials. As with the Ultra knives they may be resharpened an infinite number of times.

#### Edge Lengths in mm

K114/20	2.0-2.9	K114/30	3.0-3.9	K114/40	4.0-4.9	K114/50	5.0-5.9
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## DDK Triangular Tungsten Carbide Knives

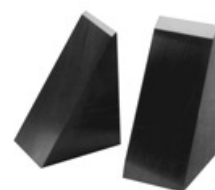
A *disposable* knife made to fit glass knife holders on ultramicrotomes or specialised rotary microtomes for cutting location sections 2—15µm or trimming plastic blocks or hard specimens. Example applications are:

Serial sectioning of the cornea, mouse brains, fish embryos, Spinal cords, Section scanning, Polyester film and hard materials, Trimming / block facing, Ovaries / Fish eggs, Skin biopsies, Bone marrow biopsies and mineralized bone, Lymph nodes, Decalcified bone.

### Specifications:

Cutting edge length	9.6mm (0.38")
Blade height	25.4mm (1")
Cutting angle	40°
Material	100% high grade, solid Tungsten Carbide

**K119** DDK triangular tungsten carbide knife pack of 3



## DDK Disposable Tungsten Carbide Knives

These blades give improved productivity and versatility when sectioning plastic. They feature a low angle (35°) for best quality sections of soft samples. Try them for your toughest cryostat sectioning problems too! Other applications are:

Fibres in GMA	3µm	Animal tissues in cryostat	3µm
Cartilage in paraffin	5µm	Decalcified bone in paraffin	5µm
Renal biopsies in GMA	1.5µm	Skin in cryostat	7µm
Paint samples in GMA	3µm	Eucalyptus root in GMA	1µm
Neurotox studies in GMA	1µm	Tumours in GMA	2µm

**K120** Disposable tungsten carbide blades pack of 3



These blades will fit **most** standard "Feather" type holders. The blades are 1mm thick so check that your holder opens **more** than 1mm to accommodate the blade. Feather blades are 0.25mm thick. We recommend that when cutting plastic you use a screw clamping holder e.g. our LL09427 for more secure clamping rather than the lever type.

## Sapphire Knife Synthetic Single Crystal Sapphire for Vibrating Microtomes

These cost effective knives offer outstanding section quality, easily cutting through a variety of densities with consistency and are unconditionally guaranteed. With a sapphire knife, thinner sections are possible with [vibrating microtomes](#). Made from synthetic single-crystal sapphire, the more-perfect edge of this knife gives distortion-free sections under 10 microns thick. Makes the vibrating microtome an attractive alternative to the cryostat when you need thin sections of fresh or lightly fixed tissue for fluorescent labelling, autoradiography, immunohistochemistry, etc.

With cleaner sections and smoother surfaces the sapphire knife provides significantly improved section quality over traditional razor blades, particularly in electrophysiology applications. By making a cleaner cut, the surface cells remain alive and intact, so the researcher can more easily explore the live and responsive interior cells. The clean cut produced by the sapphire knife results in vibratomed sections for histology that have smoother surfaces, making it easier to follow small labelled elements.

Avoid the hassles of frequent changing of disposable blades! Take care to avoid contact of the edge with anything other than your sample and your sapphire knife edge will last for thousands of sections. The knife is easily cleaned of glue and tissue and fits tightly in knife holders of most vibrating microtomes.

### Specifications

Height 12mm (0.5") Length 40mm (1½") Width 0.9mm (0.035")

**B581** Sapphire blade (each)

