PowerTome-X, XL and PC Specifications

- Autothin sectioning from 5 nm
- Autothick sectioning to 5 microns (X), 10 microns (XL), 15 microns (PC)
- Autothin and autothick sectioning via footswitch - PC
- Digital section counter - XL, PC
- Feed totalizer - XL, PC
- 15mm cutting stroke
- Cutting speed range 0.1-49.9 mm/sec
- Variable return speed selection over entire cutting speed range
- Automatic feed 200 microns
- Manual feed 50mm
- 4 Memory channels, 5 on PT-PC
- Built-in self diagnostic programs
- Compact two piece design with separate control unit
- Built-in hand rests
- Advanced technology multi-level vibration isolation system
- High stability mechanical drive systems for both specimen advance and cutting
- High precision micrometer knife stage
- Fully adjustable “scan and tilt” stereomicroscope
- LED back lighting and specimen transillumination

Supplied complete with:

- Arc segment mount
- Stereo microscope
- Self locking Positrac® knife stage
- Two specimen holders (transilluminating)
- Baulldight cable
- Transillumination cable
- Glass knife support (polished)
- Wooden accessory box
- Trimming block and post
- Footswitch
- Breathshield
- Control unit
- Power cord
- Interconnect cables
- Dust cover
- Spare lamps and fuses

Electrical:

input: 100 - 240 Vac 50/60 HZ
output: 12 VDC 55 watts maximum
Meets UL, CSA & CE requirements

Dimensions:

Controller 194 x 102 x 375 mm
Microtome 394 x 559 x 648 mm

Shipping:
Main Unit 559 x 635 x 839 x 72 kgs
Accessories 458 x 458 x 458 x 15.5 kgs

Boeckeler Instruments, Inc.
4650 South Butterfield Drive
Tucson, AZ 85714 • U.S.A.
Phone (520) 745-0001
Fax (520) 745-0004
E-Mail: info@boeckeler.com

© 2010 Boeckeler Instruments, Inc. Boeckeler is a registered trademark of Boeckeler Instruments, Inc., Tucson, Arizona. All other trademarks are the property of their respective owners. All specifications subject to change without notice. Manufactured in the U.S.A.
The RMC line of ultramicrotomes has the longest pedigree in the industry. When they became a part of Boeckeler Instruments, a company with over 60 years experience manufacturing precision instruments, the stage was set for us to add our expertise to an already excellent product. The result:

**POWER TOME™ X** and **POWER TOME™ XL**

### Smooth . . .

We designed a new cutting engine with exceptional levels of precision tolerance.

### Powerful . . .

These are the only ultramicrotomes with the patented Power Drive® technology. When gravity fails, the powered cutting stroke has enough strength to cut through even hard, inhomogeneous specimens.

While we were at it, we added . . .

- Self Lubricating Pivot Joints
- Frictionless Bearings

*Keeping your system smooth running, longer.*

---

Materials Science Applications

**Ultramicrotomy of Coated Surfaces**

**Cross Section of Hydrated Oxidized Film Created on the Aluminum Surface**

Cross Section of Hydrated Oxidized Film on the Aluminum Surface

**Total magnification 6.5 to 50x with 10x eyepieces 50/50 beam splitter**

---

Materials Science Applications

**Ultramicrotomy of Coated Surfaces**

**Cross Section of Hydrated Oxidized Film Created on the Aluminum Surface**

Stereomicroscope with Optional Tri-Noc.

**Cross Section of Oxidized Film on Etched Aluminum Surface**

50nm

---

**Handrests**

**Micrometer Adjustable Knife Stage**

**Bright LED backlight for critical approach**

**LED specimen transillumination for localization**

**Arc Segment Holder**
Materials Science Applications

Ultramicrotomy of Thin Film Coatings

Micrographs courtesy of Phil Swab

These images are cross-sectional electron micrographs taken from ultra-thin sections cut with a diamond knife on an RMC ultramicrotome.

The materials are extremely hard so sections are typically cut at a sectioning speed of 0.1 mm/sec with a section thickness of 40 nm. The Power Drive® feature of our ultramicrotomes makes it possible to cut such hard materials.

Cubic Boron Nitride on Silicon
Bar = 250A

The stereomicroscope provides sharp, distortion-free 3D images with:
- 7.7 to 1 zoom range with click stops
- 10x W-PL eyepieces as standard, providing 23mm field of view
- Total magnification 6.5 to 50x with 10x eyepieces
- Eyepieces adjustable to suit individual requirements with interocular distance from 55mm to 75mm
- Parfocal operation with focusing oculars for spectacle wearers

Controller for PowerTome X

Controller for PowerTome XL
**PowerTome PC**

**Computer-based Control, Data Base and Video Monitor System**

Touchscreen interface simplifies operation and helps you capture valuable information.

- **Large, Simple, Graphic Interface** - All commands are visible and controllable using the supplied 15” LCD touch screen monitor.
- **Easy to Read** - There’s never a question as to what’s being displayed, even at a distance.
- **Report Generator** - Easily capture and print reports based on the materials you’re sectioning.
- **On-screen Help** - With WorldWide Web-like simplicity.
- **Video Monitoring** - This option uses the center of your touch screen monitor to display the sectioning process in real time. It can greatly reduce the back and neck strain associated with hovering over the microscope. It’s even large enough to allow the operator to monitor sectioning from a distance.

**Touchscreen Control with Large, Simple Graphics**

Large, Simple, Intuitive Control Icons

Cutting Zone set by Unique “Visutrac” control, which can be adjusted at any time. Cutting zone can also be set by positioning specimen & activating upper & lower cutting zone icons.

**Optional Video Monitoring System**

While this represents a big step forward in data capture and reporting, we will be expanding this capability further.

**Integrated Data Base Functions**

The drudgery of capturing sectioning statistics is now automated! The data base records information with every stroke, an impossible task without computer assistance. This innovation will streamline installations where frequent reporting is required. You can even track the use of your diamond knives.

**Sample Report:**

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end-of-report

Reports Available

On-Screen, Printed, or in Text File Format