

# AbrasiMet® L Pro

Advanced Automatic Cutter



**AbrasiMet L Pro**

*Advanced.  
Intuitive.  
Reliable.*



*Strong Partner, Reliable Solutions*

# AbrasiMet<sup>®</sup> L Pro

Advanced Automatic Cutter



## AbrasiMet L Pro





## AbrasiMet L Pro is the Ultimate Solution for any Need

The AbrasiMet L Pro is the cutting solution you need, offering a wide range of cutting options and programmable methods to deliver consistency with an advanced overall feel. The touchscreen, joystick control, and versatile vise table make setup exceedingly easy, so users can handle any challenge. This cutter also features first-of-its-kind, automatic chamber cleaning which protects your machine while allowing you to spend more time on things that matter.

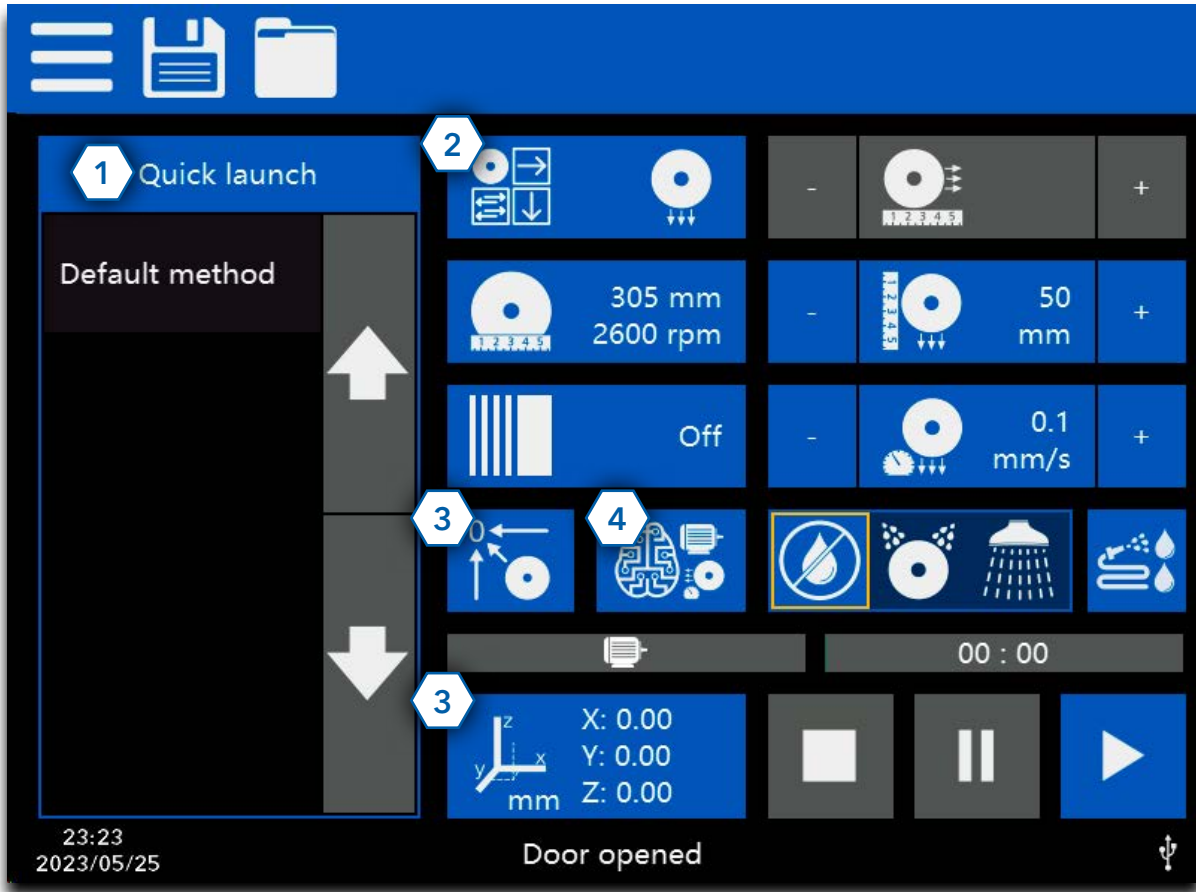


- Improve surface quality and feed rate using our innovative, Variable SmartCut® feature.
- Reduce cleaning time and increase machine life with complete wash down cleaning jets.
- Setup is fast and precise with 3 axis manipulation of the blade and table.
- Large chamber and range of movement increases the cutting envelope and ease of setup.
- Utilize the NEW recirculation system to quickly and easily empty debris from the system.

**ADVANCED.**  
**INTUITIVE.**  
**RELIABLE.**

# Simple to Learn, Advanced Solution/

The AbrasiMet L Pro's user-friendly controls are designed to maximize speed and efficiency. Easily access cutting modes and advanced options, like Variable SmartCut. Once parameters are set, save your unique settings to ensure the same great quality time after time.



## 1 Stored Methods

Ensures consistency between cuts and rapid set up by simply selecting your cutting program from the menu.

## 2 Cutting Mode

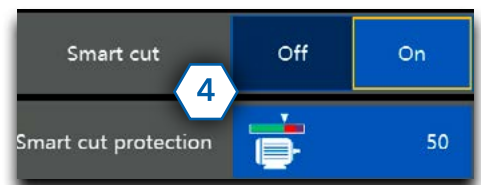
Choose between 4 cutting types: **Z-cut**, **Y-feed**, **Planar cut**, and **Manual Mode**. The flexibility in cutting methods and additional cutting options allows you to achieve the best cut for every sample.

## 3 Homing/Alignment

The machine always keeps track of its position making cut setup fast and easy. Use the Homing and Coordinates buttons to quickly measure/align your cut, then simply press a button to return to your cut position.

## 4 Variable SmartCut

Variable SmartCut is a unique feature to Buehler that will take your process to the next level. More than just protecting the life of your motor, Variable SmartCut will control and deliver great surface quality in the fastest possible time. Even between samples of varying size and dimension, the feature gives you the quality and consistency you need.



# Serial Sectioning

For samples requiring multiple sections, users can program their serial cut and walk away to perform other tasks while the machine does all the work. With precise X movement of the blade, users can set uniform or custom cut widths to perform the desired sections without re-clamping the sample.



## Programmable Features



### Planar Cut Mode

Combine vertical and Y-feed cutting for larger or more delicate samples. Creates better sample quality and increases overall cut capacity of the machine.



### Blade Size

Adjust motor speed by specifying blade size to maintain cut quality as the blade wears.



### Manual Mode

Utilize standard or Smart Manual mode to directly control the cut using the joystick.

### Cut Start Detect

Move at maximum feed rate before reaching the sample to reduce cutting time. Reduces to set feed rate when sample is contacted.

### Pulse Cut

For larger samples, reduce the heat generated to maintain the surface quality you need.



### Passcode Locks

Selectively lock out machine settings.



### Washing Gun

Manually clean the machine and samples.



### Chamber Cleaning

Activate the overhead and chamber cleaning jets to automatically clean the entire chamber.



### Save Methods Menu

Load previously saved cutting programs to ensure consistency.



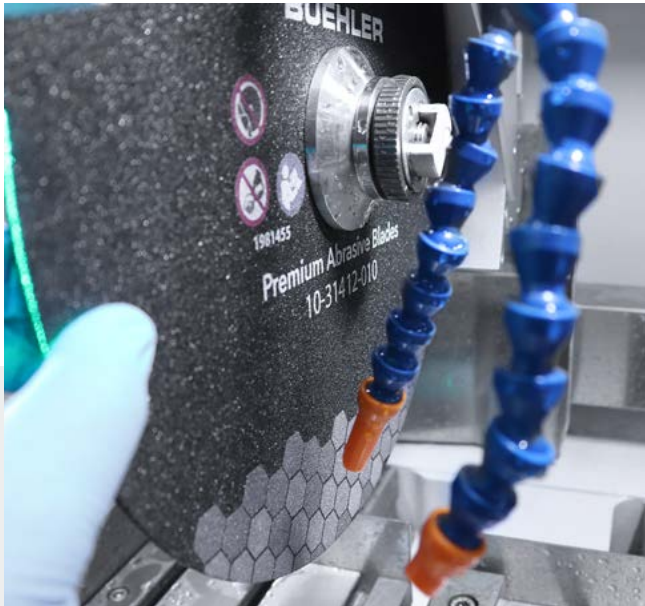
### Green Laser

Activate laser for easy alignment of the blade on the sample for faster setup.

# Versatile & Easy Setup

## Change Blades without Tools

Included with every machine is Buehler's Quick Lock Nut which allows users to hand loosen and tighten the nut onto the spindle. Without the need for tools and with low effort operation, it is a far safer and faster process than traditional methods.



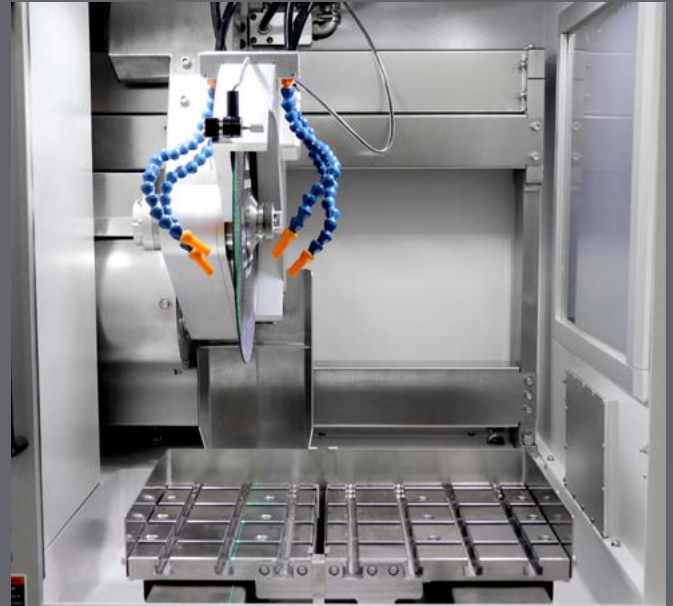
## High Visibility

Clearly see the sample, vising, and cut pieces from both the large front and right-side windows. The addition of bright lights illuminates the entire chamber while the laser alignment shows the precise cutting plane. This combination significantly reduces setup time and provides confidence in knowing the cut is correct before you start.



## Large Chamber

The spacious chamber and large ranges of motion on all axes make it easy to fit and cut all your parts. The combination of these important design features gives users the ability to position samples and vising with the highest level of ease and speed.



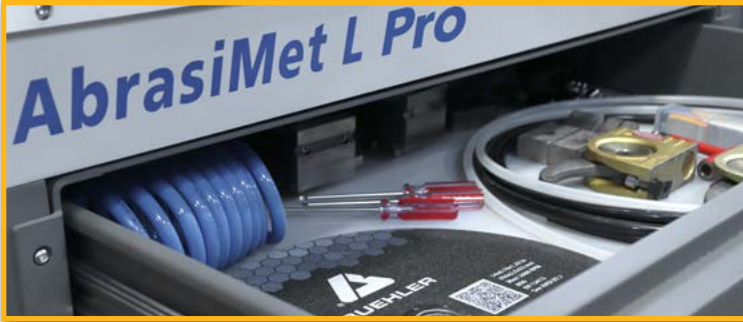
## Dynamic Vising Table

The two-piece vise table with a center gap allows users to cut directly on the table to maintain full cut capacity while eliminating the worry of damage. Meanwhile the X and Y direction T-slots increase the flexibility you have to position vises and clamp your sample down.



# Multiple Configurations

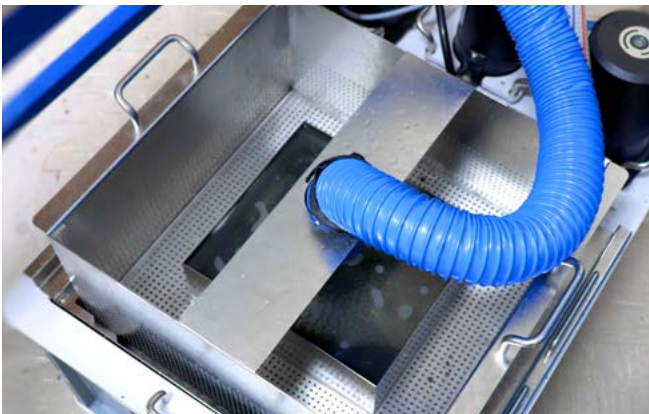
In addition to the benchtop option, the AbrasiMet L Pro is offered as a floor standing machine with a specially designed cabinet. The cabinet houses the recirculation system making this configuration closed-loop. Requiring only floor space for placement, it also comes with easy rolling wheels so you can conveniently move to any desired location, then lower the feet to secure in place.



The floor standing unit also comes with a storage drawer large enough for blades, vising, tools, spare parts, and more. Store the items you need exactly where you want them.



# Recirculation/Filtration System



Gain improved surface quality and easy debris removal using our efficient filtering recirculation system.

### *Achieve high quality cuts without burning:*

- High volume pumps to always ensure a strong flow rate
- 4 adjustable coolant nozzles on the blade arm to flood the sample
- 2 internal blade coolant outlets to provide additional cooling

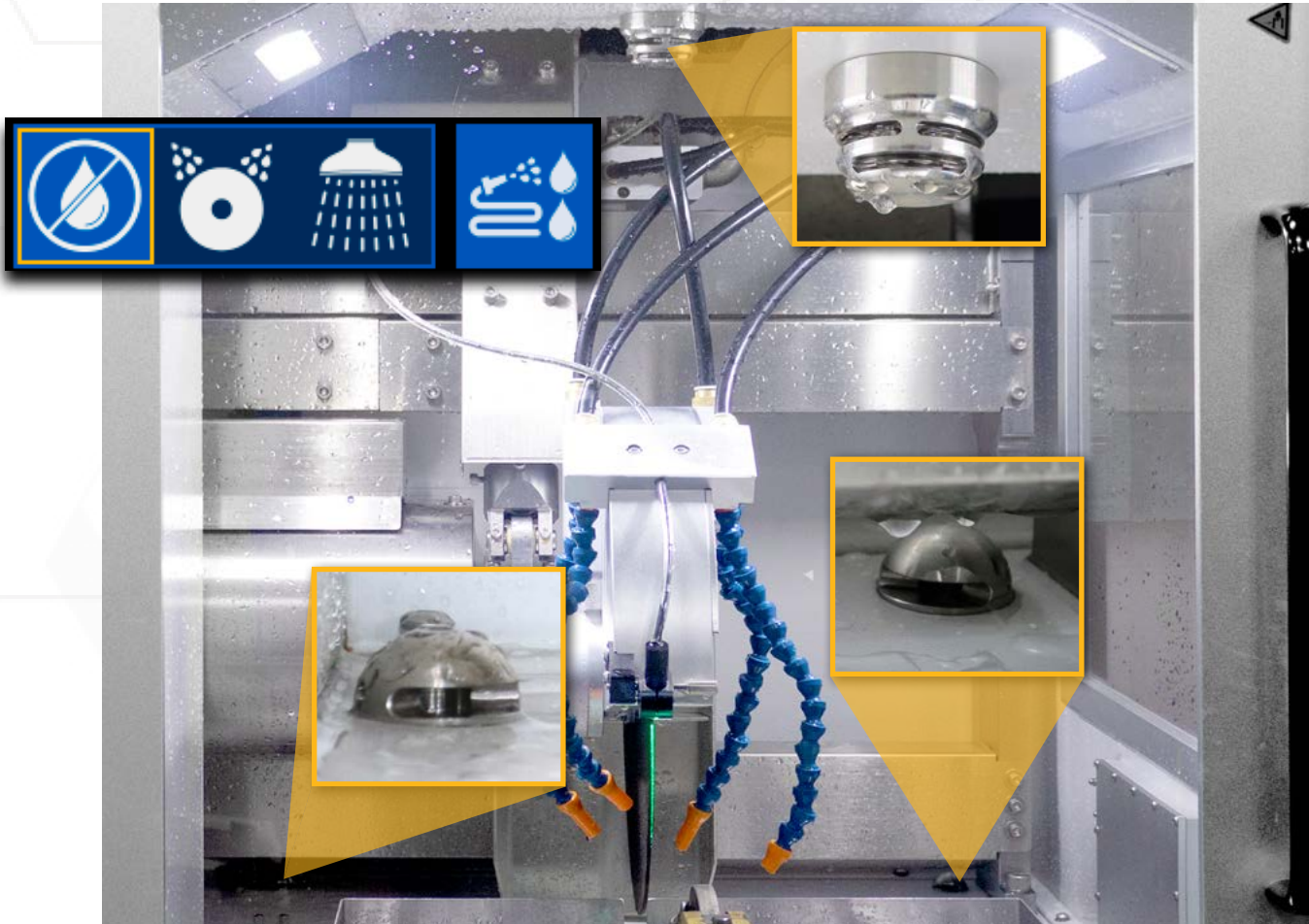
### *Easily clean in less time:*

- Efficiently trap debris while allowing coolant to pass and recirculate
- No disposable filters or tools required
- Empty the filter tank in seconds by lifting out and disposing debris
- Extend lifetime of coolant by regularly removing debris with the filter tank
- Easy rolling wheels for moving to disposal area



# Minimize Cleaning & Extend Machine Life

The AbrasiMet L Pro prioritizes user time by giving you the ability to automatically clean so you can focus on other tasks. With the push of a button, the auto-washing feature cleans the entire chamber in 10 seconds or less and, through consistent use, extends the life of your machine.



## Compressed Air

The AbrasiMet L Pro has an optional compressed air line to support cleaning and improved window visibility:

- An air nozzle allows users to clean and dry samples before removing them from the machine. Eliminate dripping on the floor and workstation before moving to the next stage.
- When opening the door, a compressed air blade will remove coolant on the window to maintain good visibility cut to cut.





# Technical Specifications

## AbrasiMet L Pro

### Operation

|  |   |
|--|---|
| <b>Cut Operation</b>                   | Automatic and Manual Control; enhanced with Variable SmartCut cutting feature |
| <b>Units</b>                           | English and Metric  |
| <b>Vertical (Z) movement (blade)</b>   | 8.7in [220mm]   |
| <b>Front-Back (Y) movement (table)</b> | 9.8in [250mm]   |
| <b>Horizontal (X) movement (blade)</b> | 11.8in [300mm]  |
| <b>Cut Type</b>                        | Chop (vertical), Y-feed, Planar (Saw), Standard Manual, Smart Manual          |
| <b>Display</b>                         | 10.5in [267mm] LCD Display with LED Back lighting                             |
| <b>Controls</b>                        | Touch Screen; Joystick Controller   |
| <b>Lighting</b>                        | 2 LED Strip, Adjustable brightness  |
| <b>Programming</b>                     | Retains Last Settings, Serial Sectioning, Saved Custom Programs               |
| <b>Laser</b>                           | Green Laser (520nm, Class 2)  |

### Dimensions

|   |   |   |  |
|---|---|---|--|
| <b>Maximum Sample Width</b>                     | Up to 26in [660mm] <sup>†</sup>   |   |  |
| <b>Cut Length Increment</b>                     | 0.04in [1mm]  |   |  |
| <b>Recirculation/Filtration Tank Capacity</b>   | 35gal [130L]  |   |  |
| <b>T-Slot Table Dimensions</b>                  | 18.9in x 11.8in [480mm x 300mm]   |   |  |
| <b>Benchtop Machine Dimensions &amp; Weight</b> | Width: 42.9in [1090mm]<br>Depth: 37.8in [960mm]*<br>Height: 42.1in [1070mm]<br>Weight: 948lbs [430kg] | <b>Floor standing Machine Dimensions &amp; Weight</b> | Width: 42.9in [1090mm]<br>Depth: 37.8in [960mm]*<br>Height: 77.2in [1960mm]<br>Weight: 1422lbs [645kg] |
| <b>Blade Sizes</b>                              | 10in [254mm]  | 12in [305mm]  | 14in [356mm]   |
| <b>Cut Capacity</b>                             | 3.4in [87mm]  | 4.4in [112mm]   | 5.4in [135mm]  |
| <b>Blade Speed</b>                              | 3000rpm   | 2600rpm   | 2100rpm  |

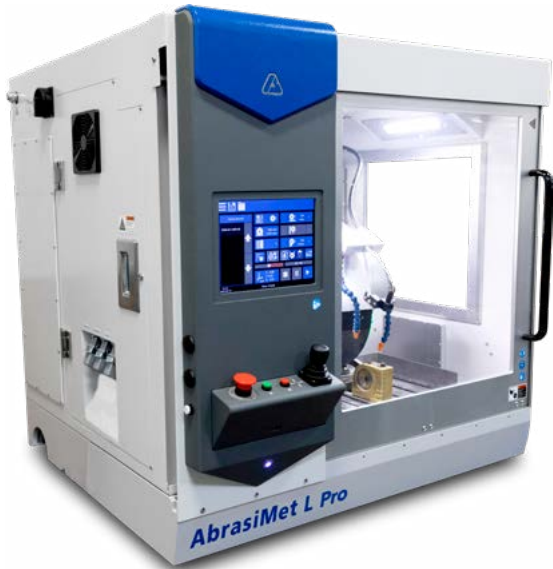
\*Depth is 33in [840mm] before control panel is installed

### Electrical

|                                |   |  |
|--------------------------------|---|--|
| <b>Motor Power</b>             | 5.5Hp [4kW]   |  |
| <b>Main Power Max. Current</b> | 200-240VAC, 3 Phase, 50/60Hz<br>26amp   | 380-460VAC, 3 Phase, 50/60 Hz<br>18amp |
| <b>Safety Features</b>         | Interlock Door Switch, Emergency Stop, 2 Hand Operation for Blade Movement (Open Door), Variable SmartCut |  |
| <b>Compliance</b>              | CE Directives   |  |

# Ordering Information

## Get Started



## AbrasiMet L Pro

|             |                                   |
|-------------|-----------------------------------|
| 10-2830-200 | 200-240VAC Benchttop machine      |
| 10-2870-200 | 200-240VAC Floor standing machine |
| 10-2830-400 | 380-460VAC Benchttop machine      |
| 10-2870-400 | 380-460VAC Floor Standing machine |

### Includes:

Quick Lock Nut and Recirculation/Filtration Tank



Quick Lock Nut



Recirculation/Filtration Tank

## Required Consumables

Visit [www.buehler.com](http://www.buehler.com)



### Abrasive Blades

Range in sizes from  
10in [254mm] to 14in [356mm]  
\*See Page 10 for Blade Listing



### Cool 3

10-6010

Water miscible fluid  
concentrate (2.6gal, 10L)



## Optional Accessory

Visit [www.buehler.com](http://www.buehler.com)



### Mist Extractor

10-2820-200: 200-240V  
10-2820-400: 380-460V

Use the Mist Extractor to  
remove vapor from the  
chamber and increase visibility.  
Highly recommended for  
customers without a current  
exhaust option.



# Highlighted Vising Options

To view Buehler's entire vising offering, please reference our catalog.

## Medium Quick Sliding Vise

10-3580 (Right)  
10-3581 (Left)  
2-piece vise,  
2.5in [63mm] stroke length.  
Has close-gap feature.



## MetKlamp VIII

95-C1822 (Right)  
95-C1821 (Left)  
Holds specimens up to 1.5in [38mm] from 2 point



## Large Sliding Vise Kit

10-3543 (Right)  
10-3542 (Left)  
Holds parts of any width.



## Large Vertical Clamping Kit

10-3528  
Provide a strong clamp for parts up to 7in [180mm] in diameter



# Highlighted Abrasive Blade Selection

1.25in [32mm] Arbor (Qty 10)

[Blade Thickness is listed under Part Number] Rubber Bond = ■ Resin Bond = ■

| Recommended Use                            | 10in [254mm]<br>Chop/Linear   | 12in [305mm]<br>Chop/Linear                                 | 14in [356mm]<br>Chop/Linear                                      |
|--|---|---|--|
| Superalloys, General Steel,<br>Non-Ferrous | 12-4205-010<br>0.051in [1.3mm]  | 12-4405-010<br>0.055in [1.4mm]                              | 12-4305-010<br>0.063in [1.6mm]                                   |
|  |   | 10-31205-010<br>0.08in [2mm]                                | 10-31405-010<br>0.10in [2.5mm]                                   |
| Ferrous materials<br>>HRC60                | 10-4210-010<br>0.083in [2.1mm]<br><br>102509P<br>0.06in [1.5mm]                                       | 12-4110-010<br>0.09in [2.3mm]                               | 10-4310-010<br>0.075in [1.9mm]                                   |
|  |   | 103009P<br>0.08in [2mm]<br><br>10-31218-010<br>0.08in [2mm] | 103509P<br>0.098in [2.5mm]                                       |
| Ferrous materials<br>HRC50-60              | 10-4212-010<br>0.083in [2.1mm]<br><br>10-31014-010<br>0.06in [1.5mm]                                  | 10-4412-010<br>0.105in [2.7mm]                              | 10-4312-010<br>0.09in [2.3mm]                                    |
|  |   | 10-31212-010<br>0.08in [2mm]                                | 103509P<br>0.098in [2.5mm]<br><br>10-31412-010<br>0.10in [2.5mm] |
| Ferrous materials<br>HRC35-50              | 10-4216-010<br>0.083in [2.1mm]<br><br>102510P<br>0.06in [1.5mm]<br><br>10-31014-010<br>0.06in [1.5mm] | 12-4116-010<br>0.105in [2.7mm]                              | 12-4305-010<br>0.063in [1.6mm]                                   |
|  |   | 103010P<br>0.083in [2.1mm]]                                 | 103510P<br>0.098in [2.5mm]                                       |
|  |   | 10-31218-010<br>0.08in [2mm]                                | 10-31416-010<br>0.10in [2.5mm]                                   |



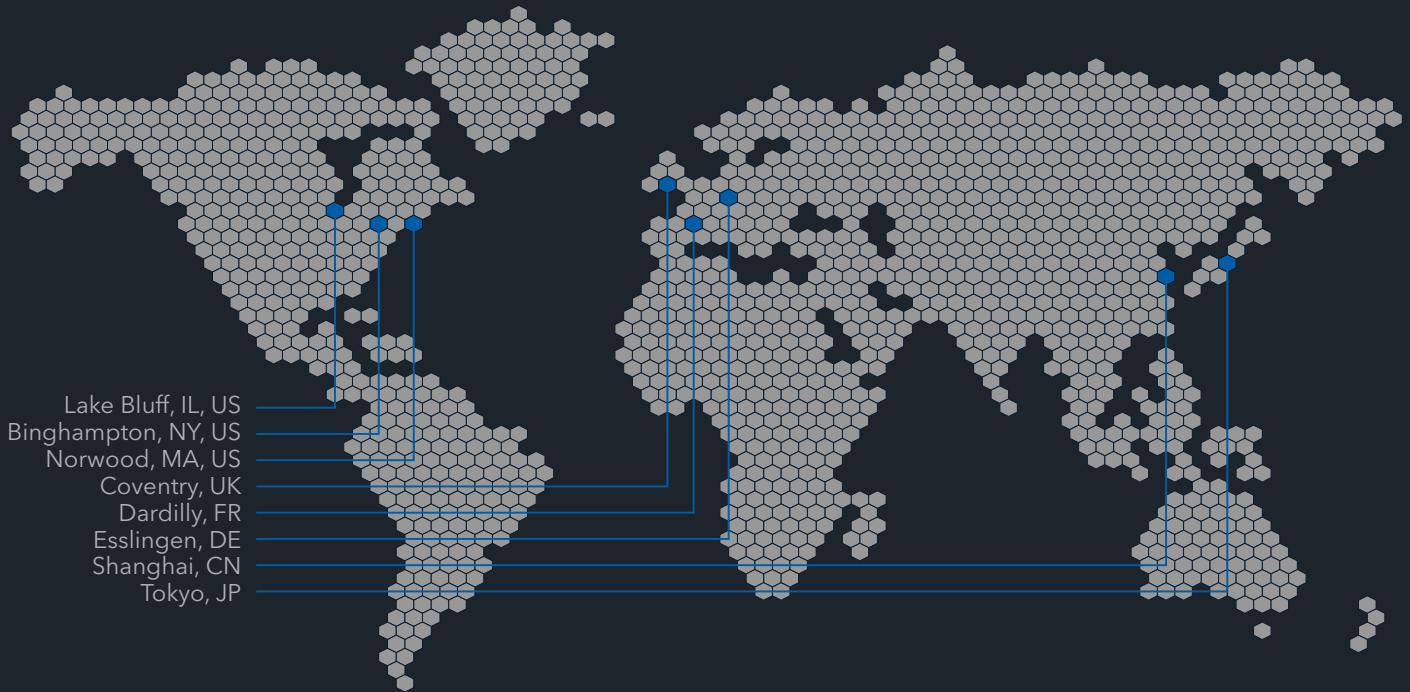
## AcuThin® Blades

1.25in [32mm] Arbor (Qty 10)

| Recommended Use          | 10in [254mm]                     | 12in [305mm]<br>Chop             | 14in [356mm]<br>Chop       |
|--------------------------|----------------------------------|----------------------------------|----------------------------|
| General Use <HRC45       | 102501<br>0.04in [1mm]           | 10-4360-010<br>0.032in [0.8mm]   | 10-3501<br>0.063in [1.6mm] |
| Ferrous Materials >HRC45 | 10-4261-010<br>0.025in [0.635mm] | 10-4361-010<br>0.025in [0.635mm] | 103502<br>0.105in [2.7mm]  |



# Buehler Worldwide Locations



Lake Bluff, IL, US  
Binghamton, NY, US  
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Dardilly, FR  
Esslingen, DE  
Shanghai, CN  
Tokyo, JP



# BUEHLER

Solutions for Materials Preparation, Testing and Analysis

## **BUEHLER Worldwide Headquarters**

### **BUEHLER North and South America**

41 Waukegan Road, Lake Bluff, Illinois 60044

**P:** +1 847 295 6500 | 800 BUEHLER (800 283 4537)

**W:** [www.buehler.com](http://www.buehler.com) | **E:** [info@buehler.com](mailto:info@buehler.com)  
[shop.buehler.com](http://shop.buehler.com)

### **European Headquarters**

#### **BUEHLER Germany - Esslingen**

**ITW Test & Measurement GmbH**

**P:** +49 (0) 711 4904690-0

**W:** [www.buehler-met.de](http://www.buehler-met.de) | **E:** [info.eu@buehler.com](mailto:info.eu@buehler.com)  
[www.metallographie.biz](http://www.metallographie.biz)

#### **BUEHLER France - Dardilly**

**P:** +33 (0) 800 89 73 71

**W:** [www.buehler.fr](http://www.buehler.fr) | **E:** [info.eu@buehler.com](mailto:info.eu@buehler.com)  
[www.metallographie.fr](http://www.metallographie.fr)

#### **BUEHLER United Kingdom - Coventry**

**P:** +44 (0) 800 707 6273

**W:** [www.buehler.co.uk](http://www.buehler.co.uk) | **E:** [info.eu@buehler.com](mailto:info.eu@buehler.com)  
[www.metallography.biz](http://www.metallography.biz)

## **Asia Headquarters**

### **BUEHLER China - Shanghai**

ITW Test & Measurement (Shanghai) Co., Ltd.

**P:** +86 400 111 8683 | **F:** +86 21 6410 6671

**W:** [www.buehler.cn](http://www.buehler.cn) | **E:** [info.cn@buehler.com](mailto:info.cn@buehler.com)

### **BUEHLER Asia-Pacific**

**P:** +86 400 111 8683

**E:** [info.asia@buehler.com](mailto:info.asia@buehler.com)

### **BUEHLER Japan**

**P:** +81 03 5439 5077 | **F:** +81 03 3452 7220

**W:** [www.buehler.jp](http://www.buehler.jp) | **E:** [info.japan@buehler.com](mailto:info.japan@buehler.com)