

**BUEHLER®**

# **SimpliMet® 1000 & 3000 AUTOMATIC MOUNTING PRESS**

- Easy-To-Use Automatic Mounting Presses
- Mount Metallurgical, Petrographic and Other Materials for Microstructural Analysis
- Increase Productivity and Sample Consistency
- 1" - 2" (25mm - 50mm) Duplex Mold Capacity
- Quickly Mount up to Two Specimens in a Single Cycle
- LCD Display With Backlit Lighting
- Electro-Hydraulic Operation
- SimpliMet® 3000 Upgrades Capability with Automatic Method Programmability
- Imperial or Metric Units
- Universal Power Supply
- Resettable, Built-in Circuit Protection



# Simplicity for Your Pressing Applications



## SimpliMet® 1000 and 3000 Family of Automatic Mounting Presses

The SimpliMet® 1000 and 3000 Family of Automatic Mounting Presses is designed to increase productivity and is easy to use. The SimpliMet® 1000 press is a basic press which can be used for most applications. The SimpliMet® 3000 expands versatility by featuring automatic programmability.

The SimpliMet® 1000 and 3000 automatic mounting presses are used to mount specimens with thermosetting resins, including Phenolics, EpoMet®, ProbeMet®, KonductoMet® I, and Diallyl Phthalate. The mold cylinders are designed for single or duplex mounting. The efficient heating/cooling system is mechanically mated to the mold to maximize heat transfer and to ensure fast cycle times. Easy to change molds are offered in a full range of sample sizes from 1" to 2" (25 mm - 50 mm).

## Hot Compression Mounting

Specimen mounting allows for convenient handling of various shapes and sizes during the subsequent steps of specimen preparation and examination. Hot compression mounting minimizes shrinkage, protects and preserves edges and surface defects during preparation steps and provides excellent sample quality. Compression mounting provides a predictable and convenient size and shape and allows specimen information to be marked on the backside for record keeping.

## Easy-to-Use

- Ergonomically positioned and angled control panel is easy to view
- Liquid Crystal Display (LCD) with user friendly touch control panel
- High resolution display equals unparalleled character readability
- User selectable pressure, temperature, heating and cooling time, mount size, language and units of measure

- Membrane control panel is easily wiped clean
- Backlit lighting allows readability under poor lighting conditions
- Language selectable between English, French, German, Portuguese, Japanese, Korean and Chinese
- Tactile feedback buttons
- Buzzer indicates cycle completion
- Diagnostic system displays total cycles, total cycle hours, and maximum voltage exposed
- Small dimensional footprint fits on most tables
- Easy to clean molded cabinet
- Manual cool button activates cooling when not in cycle
- Last settings retained programmability provides quick start-up and sample consistency, especially with multiple operators and mounting medias



### Fast Operation and Convenient Mold Change

- Efficient heating/cooling system physically connects to the molds to maximize heat transfer for quick cycle times
- Mold cylinder pre-warming maintains a constant ready-to-use temperature
- Mold assemblies quickly slip over lower ram and slide into place so that a variety of mold sizes can be selected and worn out molds can be quickly and economically replaced
- Easy-to-change molds are offered in a full range of sample sizes from 1" - 2" (25mm - 50mm)
- Easy-to-use dovetail connection for the lower ram eliminates the need for mechanical fastening
- Mold closure sensor prevents the cycle from being activated when the mold closure is open
- Replaceable individual heating cartridges minimize downtime and can be changed quickly and cost effectively

### Durable and Safe

- Safe, electro-hydraulic system requires no air

- Robust bayonet mold closure maximizes safety and eliminates incorrect mold closings
- Bayonet mold closure eliminates the need to clean cylinder threads before closing and the need to replace molds because of worn threads
- Insulated mold closure, keeps heat in the mold cylinder where needed and prevents heat transfer to mold closure to protect the operator
- Bayonet closure is supported when open and can be swung to either side for better mold access, convenience, and quick turnaround
- Safe, low-voltage touch panel controls

### SimpliMet® 1000 Automatic Mounting Press

The SimpliMet® 1000 is an easy to use and cost effective automatic mounting press. It can be used for most hot compression mounting applications and offers all the features listed above.

### SimpliMet® 3000 Automatic Mounting Press

The SimpliMet® 3000 is a state-of-the-art mounting press which expands

the versatility of this family by featuring automatic programmability and other advanced functions. It is easy to use and increases productivity and sample consistency.

- Automatic mold sensing feature detects the mold size and loads the appropriate parameters, eliminating the need to use look-up tables
- Select from four Buehler proven, pre-programmed methods or program up to 25 user-defined methods
- ThermoPlastic® function controls a special heating and cooling cycle for use with thermoplastic (TransOptic™) compounds to provide a controlled, linear cooling
- Linear cooling allows full polymerization resulting in the best thermoplastic mount clarity, and can be used for delicate parts where thermal shock is undesirable
- Preload pressure function applies gradual pressure for delicate specimens
- Automatic ram movement with the touch of a button



Changing mold assemblies is quick and easy due to the lower ram dovetail connection design.



Insulated bayonet closure system allows for quick and safe operation.



A full range of specimen mounts, from 1" - 2" (25mm - 50mm) in diameter, can be molded simply by changing the mold assembly.



All mold assemblies include a duplex spacer to provide the capability of producing two standard size mounts simultaneously.



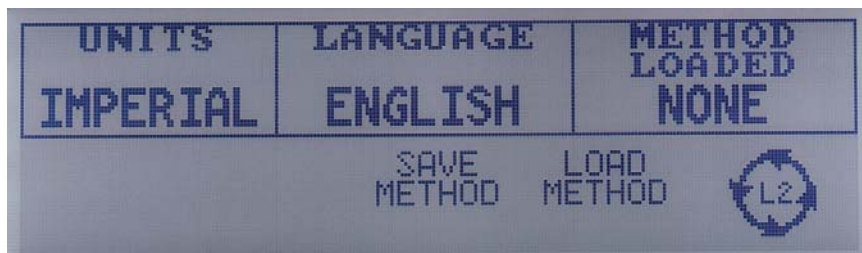
Hot compression mounting produces a reliable and consistent specimen mount.



The SimpliMet 1000 (top) and SimpliMet 3000 (bottom) feature a Liquid Crystal Display (LCD) with easy-to-use touch panel controls. Simply scroll to the desired parameter and adjust with the up/down arrow keys.



The default screen controls the most commonly used functions. The SimpliMet 1000 (top) displays Heat Time, Cool Time, Pressure, Mold Size, Temperature, Cycle Start, Ram Move and Cylinder Open. The SimpliMet 3000 (bottom) displays Heat Time, Cool Time, Pressure, Temperature, Preload Pressure, Mold Size, Cycle Start, Ram On, Manual Cool and Thermoplastic functions. Use the Parameter Scroll button to scroll through the LCD screen to display different parameters.



The second screen controls Units of Measure and Language. On the SimpliMet 3000, the loading and saving methods are also displayed for operator convenience. "None" is displayed under method loaded when the operator changes the parameters to differ from a loaded method.



On the SimpliMet 3000, use the Load, Next and Previous functions to save up to 25 user defined methods and to access the four Buehler methods.



The SimpliMet 1000 and SimpliMet 3000 are available in English, French, German, Japanese, Korean, Chinese, Portuguese and Spanish languages.

UNITS IMPERIAL	LANGUAGE ENGLISH	METHOD LOADED NONE
SAVE METHOD		LOAD METHOD
		L2

가열시간 6:30min	냉각시간 11:00min	압력 3500psi
주기 시작	램은동수동	냉투명몰
		L1

UNITES ANGLAISE	LANGUE FRANCAIS	METHODE CHARGEE AUCUN
SAUVEG. METHODE		CHARGER METHODE
		L2

加熱時間 6:30min	冷却時間 11:00min	壓力 3500psi
週期開始	活塞移手動	冷光透明
		L1

HEIZ ZEIT 6:30min	KÜHL ZEIT 11:00min	DRUCK 3500psi
ZYKLUS START EIN	STEMPEL BEWEGEN EIN	MANUELLE KÜHLUNG AUS
		L1

TEMPO AQUECIMEN 6:30min	TEMPO ESFRIAMEN 11:00min	PRESSÃO 3500psi
INI- CIAR CICLO	PISTÃO MOVER LIGADO	MANUAL ESFR. DESLIG.
		L1

加熱時間 6:30min	冷却時間 11:00min	圧力 3500psi
サイクル開始	作手動	冷透明試
		L1

TIEMPO DE CALENT. 6:30min	TIEMPO DE ENFRIAR 11:00min	PRESIÓN 3500psi
INICIO DE CICLO	MOVIM PISTON ENCENDER	ENFRIAR MANUAL APAGAR
		L1

## Technical Data For SimpliMet 1000 and SimpliMet 3000

### Operation:

Automatic electro-hydraulic

### Power Source:

84-264VAC, 50-60Hz, 1 Phase

### Molding Pressure:

1200 - 4400 psi (80 - 300 bars) in 100 psi (5 bar) increments

### Molding Temperature:

120° - 360 °F in 20 °F increments  
50° - 180 °C in 10 °C increments

### Heating Power:

1500 Watt @ 115/230 VAC

### Heating Time:

0 - 20 minutes in 10 second increments

### Cooling Time:

0 - 30 minutes in 10 second increments

### Mold Type:

Cylindrical, including upper and lower rams and duplex mold spacer

### Closure Type:

Insulated bayonet with position detent

### Mold Diameters:

25mm, 30mm, 40mm, 50mm, 1", 1¼", 1½" and 2"

### SimpliMet 1000 Touch-pad

#### Controls:

- On/Off
- Heat Time
- Cool Time
- Molding Temperature
- Molding Pressure
- Mold Size
- Ram Up/Down
- Manual Cool
- Cycle Start
- Cylinder Open

• Unit of Measure

• Language

### SimpliMet 3000 Touch-pad

#### Controls:

- On/Off
- Heat Time
- Cool Time
- Molding Temperature
- Molding Pressure
- Mold Size
- Ram Up/Down
- Manual Cool
- Cycle Start
- Cylinder Open
- Unit of Measure
- Language
- Thermoplastic
- Load and Save Methods

### Units of Measure:

Imperial or Metric

### Approvals:

In accordance with EC Directive(s)

### Water Flow rate:

0.5 gallons/minute  
(2 liters/minute) minimum

### Water Pressure:

45-75 psi (3-5 bar)

### Control Voltage:

24 VDC

### Weight:

73 lbs. (33kg)

### Dimensions:

W	x	D	x	H
16"	x	20½"	x	22⅞"
405mm	x	520mm	x	580mm

## Technical Data For SimpliMet 3000 Only

### Method Programmability:

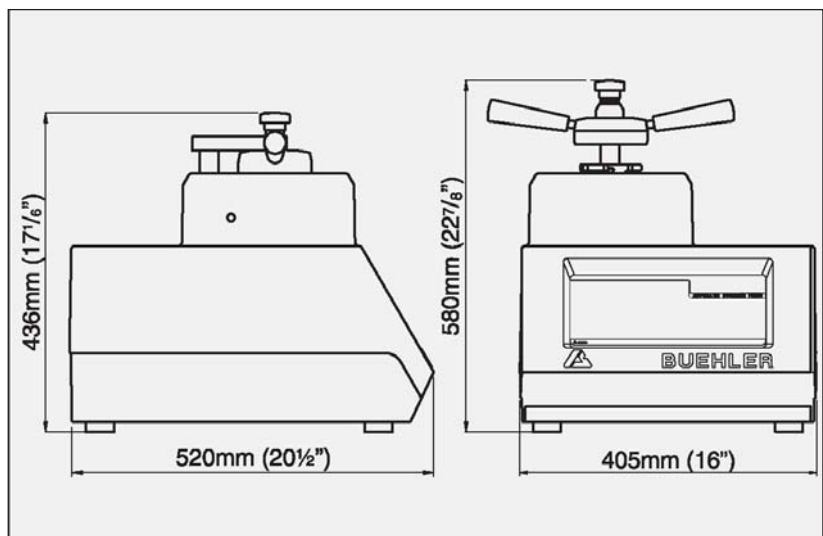
4 Buehler Preprogrammed Methods per mold size  
25 User Definable Methods

### Preload Pressure:

0 - 400 psi in 50 psi increments  
0 - 30 bar in 5 bar increments

### ThermoPlastic Function:

Automatically sets correct parameters for thermoplastic resins such as TransOptic and cools the mount in a controlled, linear fashion



Dimensions for SimpliMet 1000 and SimpliMet 3000 Automatic Mounting Presses.

## Ordering Information

**SimpliMet® 1000 and SimpliMet® 3000 Automatic Mounting Presses** include mold closure, all necessary hoses, fittings, and cables for installation, sample of black PhenoCure® Powder, sample of EpoMet® Molding Compound, release agent, scraper tool, brush, water filtration kit, wrenches and operating instructions. Mold assemblies with duplex mold spacers supplied separately.

**20-1415 SimpliMet® 1000 Automatic Mounting Press**

**20-1435 SimpliMet® 3000 Automatic Mounting Press**

## Accessories

Catalog Number	Description
20-2401	Mold Assembly with Duplex Spacer, 1"
20-2402	Mold Assembly with Duplex Spacer, 1¼"
20-2403	Mold Assembly with Duplex Spacer, 1½"
20-2404	Mold Assembly with Duplex Spacer, 2"
20-2405	Mold Assembly with Duplex Spacer, 25mm
20-2406	Mold Assembly with Duplex Spacer, 30mm
20-2407	Mold Assembly with Duplex Spacer, 40mm
20-2408	Mold Assembly with Duplex Spacer, 50mm

## Consumables

EpoMet® Thermosetting Powder is a premium mounting resin. It features high hardness, low shrinkage, chemical resistance, excellent edge retention and is not degraded by boiling etchants.

Material	Color	Filler	Quantity	Catalog Number
EpoMet® F	Black	Fine Filled Epoxy	4 lbs. (1.84kg)	20-3381-070
EpoMet® F	Black	Fine Filled Epoxy	25 lbs. (11.3kg)	20-3381-400
EpoMet® G	Black	Regular Filled Epoxy	4 lbs. (1.84kg)	20-3380-064
EpoMet® G	Black	Regular Filled Epoxy	25 lbs. (11.3kg)	20-3380-400

PhenoCure® is an alternative economical Thermosetting Powder which features fast cycle cures for non-critical applications.

Material	Color	Filler	Quantity	Catalog Number
PhenoCure®	Black	Wood Flour	5 lbs. (2.3kg)	20-3100-080
PhenoCure®	Black	Wood Flour	25 lbs. (11.3kg)	20-3100-400
PhenoCure®	Red	Wood Flour	5 lbs. (2.3kg)	20-3200-080
PhenoCure®	Red	Wood Flour	25 lbs. (11.3kg)	20-3200-400
PhenoCure®	Green	Wood Flour	5 lbs. (2.3kg)	20-3300-080
PhenoCure®	Green	Wood Flour	25 lbs. (11.3kg)	20-3300-400

Description	Quantity	Catalog Number
Release Agent with Swab**	2 oz. (0.03l)	20-8185-002

\*\* Used for mold release and other mounting applications

For a complete listing of Buehler consumable mounting supplies for use with the SimpliMet 1000 and SimpliMet 3000 Mounting Presses, please refer to our Quality At Work - Consumables Buyer's Guide. Buehler continuously makes product improvements; therefore, technical specifications are subject to change without notice.

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