

Digital Mel-Temp® 3.0



Model 1401

Product Specifications

- Used for recording beginning and ending points of each of three samples.
- Designed for determinations of melting points using glass capillary tubes.
- Space saving design; occupies only 4.6" x 6.1" (11.7 x 15.5 cm) of bench space.
- Easy to follow instructions are printed directly on the front of the unit.
- Sample observation is enhanced by an integrated light and precision 6X lens.
- Safety eye piece protects your eyes from contact with the capillary tubes.
- Digital microprocessor with 0.1°C resolution provides fast warm up, accurate temperature control and eliminates the need for a mercury thermometer.
- Dual digital LED's display actual and set temperature simultaneously.
- The temperature display is easily calibrated without tools, using a melting point standard.
- Temperature data can be temporarily stored and recalled on the LED display.

PRODUCT SPECIFICATIONS

| | |
|---------------------------|---|
| Temperature Range | Ambient to 400°C. |
| Temperature Accuracy | ±0.5° from ambient to 250°C. ±1°C from 250-400°C with factory calibration. (User may calibrate to 0.1°C accuracy at a specific temperature using a melting point standard.) |
| Temperature Resolution | ±0.1°C. |
| Ramping Rate | Selectable from 0.1°C/min.-10.0°C/ min. in 0.1°C/min. increment |
| Reproducibility | ±0.2°C |
| Heat-Up Time | Ambient to 250°C in 5 minutes |
| Cool-Down time | 400° to 100° C in 3 minutes (with built-in cooling fan) |
| Melting Point Capillaries | 1.5-1.85 mm outside diameter x 100 mm long |
| Power Requirements | 200 watts, 100-120 VAC or 200 watts, 210-250 VAC |

Compact and Low Cost!

- Compact size saves bench space
- Audible-visual alarm indicates when oven temperature is stable
- Selectable ramp rates
- High speed fan cools unit quickly

- Heating chamber consists of aluminum heating block which avoids the hazards and mess associated with oil baths.
- Conforms to U.S. Pharmacopeia requirements.
- Includes 1 vial of 100 capillaries.

Operation

- Programmable ramp rates from 0.1 to 10°C/min in 0.1°C increments.
- An audio-visual alarm indicates when oven temperature is stable. User may then insert charged capillaries and press the ramp key to begin testing at the predetermined heating rate.
- A distinct "beep" confirms that the temperature has been stored and allows uninterrupted sample observation.
- Stored temperatures may be recalled and manually recorded.
- High-speed fan quickly cools the unit back to the selected start temperature.

ORDERING INFORMATION

| Model # | Volts | Overall Dimension Inches (cm) | | | Shipping Weight Lb. (kg) |
|---------------------|-------|----------------------------------|-----------|------------|--------------------------------|
| | | W | H | D | |
| 1401 ¹ | 120 | 4.6 (11.7) | 12.3 (31) | 6.1 (15.5) | 8 (3.6) |
| 1402 ^{1,2} | 230 | 4.6 (11.7) | 12.3 (31) | 6.1 (15.5) | 8 (3.6) |

¹ CSA

² CE marked

ACCESSORIES

| Model # | Description |
|---------|-------------------------|
| 1403 | Capillaries, Box of 100 |
| 1008 | Mel-Temp Standards |

Digital 9000 Series



Model IA9300



Best Selling, Top-of-the-Line!

- Adjustable 8 x viewing magnifier arm folds away
- Stored temperature data available
- Large LCD display eliminates subjective interpretation
- Optional accessories

Product Specifications

- Adjustable extension arm facilitates comfortable viewing and helps reduce operator fatigue.
- The viewing head can be rotated for easier viewing and folds flat for easy and compact storage.
- Object lens can be adjusted to sharpen the focus on the sample.
- Safety eye piece reduces glare and protects your eyes from contact to the hot zone.
- Sample observation is enhanced by an integral light and an 8x wide angle viewing magnifier which enables all three samples to be viewed.
- Digital microprocessor with 0.1°C resolution provides fast warm up, accurate temperature control and operates without the need for a mercury thermometer.
- Three audible beeps indicate when oven temperature has stabilized and it is time to place the sample in the oven.
- Simple push-button controls are conveniently located so you can easily record temperatures without looking away from the sample.
- Heating chamber consists of aluminum heating block which avoids the hazards and mess associated with oil baths.
- Models 9100, 9200 & 9300 are designed for determinations of melting points using glass capillary tubes. Model 9400 utilizes glass slides.
- Models 9100, 9200 & 9300 have a temperature range of ambient to 400°C. Model 9400 has a temperature range of 10 - 100°C.
- RS232 output connector allows interface with the PR2000B printer or computer. (Models 9200, 9300 & 9400 only.)
- Units can be calibrated in the field or can be sent back to the manufacturer for calibration.

Model IA9100

- Records four discrete temperatures by simply pushing the "go-to" button.
- Unit comes with one fixed temperature ramp rate (1°C/min.).
- Fast Ramp Rate of 10°C/min. feature can be used if the melt temperature is unknown. This fast ramp feature can help to find an approximate measurement of melt temperature.
- Temperature data can be temporarily stored and recalled on the LCD display.

Model IA9200

- Records up to four discrete temperatures by simply pushing the "go-to" button.
- Five fixed temperature ramp rates (0.2, 0.5, 1.0, 2.0 and 3.0°C/min.).
- Programmable ramp rates from 0.2 to 10.0°C/min. in 0.1°C increments.
- Can store up to 1000 batches of data, which can be later recalled and viewed on the LCD display or can be printed.
- Dates and time can be recorded or printed using the real time clock function.



Model IA9400

Model IA9300

- Used for recording beginning and ending points (melting point ranges) of each of three samples.
- Features pre-programmed ramp rates of 1°C per minute.
- Programmable ramp rates from 0.2 to 10.0°C/min. in 0.1°C increments.
- Batch memory can store up to 500 sets of data, which can be later recalled on the LCD display or can be printed.
- Each set of data contains the beginning and ending points for each of the three samples.
- Dates and time can be recorded or printed using the real time clock function.
- LED indicator light identifies which of the three capillary tubes is being viewed on recorded.
- Conforms to U.S. Pharmacopeia requirements.

Model IA9400

- Used to test waxes, fats, grease oils, etc.
- Samples for test are located on a glass slide and placed in slide chamber.
- Temperature range of -10 to 100°C.
- Capable of holding a slide at temperatures down to 0°C.
- Features preprogrammed ramp rate of 1°C/min.
- Programmable ramp rates available from 0.2°C per minute to 10°C per minute.
- Temperature data can be temporarily stored and recalled later on the LCD display.
- Dates and time can be recorded or printed using real time clock function.

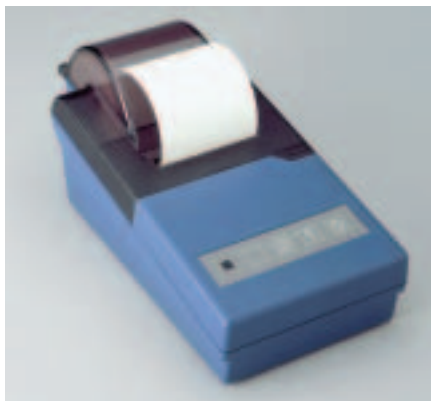
ORDERING INFORMATION

| Model # | Volt | Overall Dimension Inches (cm) | | | Shipping Weight Lb. (kg) |
|-------------------------|------|----------------------------------|---------|-----------|--------------------------------|
| | | W | H | D | |
| IA9100 ^{1,2} | 230 | 8 (20) | 3.3 (8) | 14 (35.5) | 5.5 (2.5) |
| IA9100X1 ^{1,2} | 115 | 8 (20) | 3.3 (8) | 14 (35.5) | 5.5 (2.5) |
| IA9200 ^{1,2} | 230 | 8 (20) | 3.3 (8) | 14 (35.5) | 5.5 (2.5) |
| IA9200X1 ^{1,2} | 115 | 8 (20) | 3.3 (8) | 14 (35.5) | 5.5 (2.5) |
| IA9300 | 230 | 8 (20) | 3.3 (8) | 14 (35.5) | 5.5 (2.5) |
| IA9300X1 | 115 | 8 (20) | 3.3 (8) | 14 (35.5) | 5.5 (2.5) |
| IA9400 ² | 230 | 8 (20) | 3.3 (8) | 14 (35.5) | 5.5 (2.5) |
| IA9400X1 ² | 115 | 8 (20) | 3.3 (8) | 14 (35.5) | 5.5 (2.5) |

¹ CSA

² CE

| Model # | Description |
|---------|---------------------------------|
| AZ9062 | Low end melting point standard |
| AZ9118 | High end melting point standard |
| AZ6730 | Calibration Kit |
| AT4042 | Cap Tubes 1.5 mm (1000 count) |
| AT4043 | Cap Tubes 2.0 mm (1000 count) |



ACCESSORIES

| Model # | Watts | Shipping Weight Lb. (kg) |
|---------|-------|--------------------------------|
| PR2000B | 5 | 11 (5) |

Printer

- Interfaces with IA9200, IA9300 and IA9400.
- Allows printout of data with date codes included.
- Plastic case
- Power saving feature allows unit to shut off after 1-5 minutes as selected by the user.

Manual Mel-Temp®



Model 1001



The Lowest Cost Melting Point Apparatus Found Anywhere!

- Low cost unit
- Temperature range to 500°C

PRODUCT SPECIFICATIONS

| | |
|-----------------------------|--|
| Temperature Range | Ambient to 500°C |
| Heating Rate Control | Continuously adjustable with built-in variable transformer |
| Temperature Resolution | 0.1°C with low mass thermocouple and precision digital thermometer |
| Reproducibility | 1°C |
| Melting Point Capillaries | 1.5-1.75 mm outside diameter |
| Thermometer Well | 6.75 mm inside diameter, 76mm deep |
| Heat-up time (Full Power) | Ambient-400°C in 5 minutes 400°C-500°C in 4 minutes |
| Cool-down time (unassisted) | 500°C-400°C in 2 minutes 400°C-300°C in 2 minutes 300°C-200°C in 5 minutes |
| Power Requirements | 200 watts, 100-120 VAC or 200 watts, 210-250 VAC |

Product Specifications

- Aluminum casting conducts and radiates heat uniformly to capillaries and thermometer.
- Heating chamber consists of aluminum heating block which avoids the hazards and mess associated with oil baths.
- Sample observation is enhanced by an integrated light and precision 6X lens.
- Three thermometer options are available: mercury-filled thermometer, precision digital thermometer or student digital.
- Includes 1 vial of 100 capillaries.

Operation

- Mel-Temp provides precise melting points up to 500°C.
- Simple manual controls adjust the heating rates.
- Accepts up to three samples simultaneously using glass capillaries.
- Simple to operate: bring oven to a stable temperature, insert capillary tubes, adjust heating rates and record melt temperature when sample(s) melt.

ORDERING INFORMATION

| Model # | Thermometer | Volts | Overall Dimensions | | | Shipping Weight |
|----------------------|---------------------|-------|--------------------|--------|----------|-----------------|
| | | | W | H | D | |
| 1001D ¹ | No thermometer | 120 | 4.6 (11.7) | 9 (23) | 5.5 (14) | 6 (2.7) |
| 1002D ^{1,2} | No thermometer | 230 | 4.6 (11.7) | 9 (23) | 5.5 (14) | 6 (2.7) |
| 1101D ¹ | Precision digital | 120 | 4.6 (11.7) | 9 (23) | 5.5 (14) | 8 (3.6) |
| 1102D ^{1,2} | Precision digital | 230 | 4.6 (11.7) | 9 (23) | 5.5 (14) | 8 (3.6) |
| 1201D ^{1,2} | Mercury thermometer | 120 | 4.6 (11.7) | 9 (23) | 5.5 (14) | 7 (3.2) |
| 1202D ^{1,2} | Mercury thermometer | 230 | 4.6 (11.7) | 9 (23) | 5.5 (14) | 7 (3.2) |
| 1301D ^{1,2} | Student digital | 120 | 4.6 (11.7) | 9 (23) | 5.5 (14) | 6 (2.7) |
| 1302D ^{1,2} | Student digital | 230 | 4.6 (11.7) | 9 (23) | 5.5 (14) | 6 (2.7) |

¹ CSA, ² CE

ACCESSORIES

| Model # | Description |
|---------|--------------------------|
| 1003D | Capillaries, Vial of 100 |
| 1008 | Mel-Temp Standard |



Model 2001D



Product Description

- CHEM-DRY® will: dry primary standards for preparation of standard solutions; remove trace solvents from compounds before micro-analysis; perform “loss and drying” tests; and dry samples prior to melting point determination.
- The patented CHEM-DRY uses heat, vacuum and desiccant to remove moisture from samples.
- Modular design permits removal and storage of dried samples in sealed drying tubes, process samples in rapid succession or service multiple users.

PRODUCT SPECIFICATIONS

| | |
|---------------------------------|---|
| Operating Temperature Range °C: | Ambient to 175°C |
| Sample Chamber: | 3.2 cm inside diameter x 16.0 cm long |
| Dimensions W x H x D: | 9" x 4" x 8.6" (24 x 11 x 22 cm) |
| Shipping Weight: | 9 lb.(4.1 kg) without drying tube 0.2 lb. (0.9 kg) per drying tube |
| Vacuum Requirements: | Vacuum pump (not included) |

ORDERING INFORMATION

| Model # | Description | Electrical (50/60 Hertz) | |
|----------------------|----------------------|-----------------------------|-------|
| | | Volts | Watts |
| 2001D ¹ | CHEM DRY Vacuum Oven | 120 | 150 |
| 2002D ^{1,2} | CHEM DRY Vacuum Oven | 230 | 140 |

Drying tube assembly sold separately

¹ CSA, ² CE

Compact, Low-Cost Vacuum Drying!

- Drying using heat, vacuum and desiccant
- Glass viewing window lets user see the sample
- Digital control panel

1008 - Melting Point Standards

1. Benzophenone
2. 1,3-Diphenoxybenzene
3. 2,6-Di-*tert*-butyl 4 methylphenol
4. Acetamide
5. Imidazole
6. Benzotriazole
7. *m*-Toluic acid
8. DL-Mandelic acid
9. Methylhydroquinone
10. Acetylsalicylic acid
11. L-Xylose
12. Cyclohexanone 2,4-dinitrophenyl hydrazone
13. L-Tartaric acid
14. 3,3-Tetramethyleneglutaric acid
15. Succinic acid
16. 4-Benzoylbenzoic acid
17. 4-Fluorocinnamic acid
18. *aaa*-Trifluoro-*p*-toluic acid
19. Saccharin
20. Dimethylglyoxime
21. 1,4-Phenylenediacetic acid
22. Sodium formate
23. 3 Nitroterephthalic acid
24. Anthraquinone
25. Anthraquinone-2-carboxylic acid
26. 1,8-Naphthalimide

ACCESSORIES

| Model # | Description |
|---------|-------------------------------------|
| 2003D | Drying Tube Assembly |
| 1008 | Mel-Temp Standards (26 per package) |