# Standard Heating & Controls

## Glas-Col®

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**Standard "O" Series**

## Series "O" is our most popular line of soft heating mantles for round bottom flask

Heating mantles are preferred to Bunsen burners or hot plates for organic liquids. They provide even heating (no hot spots) and maximum surface coverage for better temperature uniformity.

The **Series "O"** spherical flask mantle covers only the flask's bottom half, letting you see its full contents. It should be used with the Series O supports and a control.

### Fabric Heating Mantles Feature:

- Fabric exterior provides effective heating in a space saving configuration
- Fabric interior to softly nest glass vessels to reduce the chance of thermal shock and damage to glassware
- Withstands 400°C internal operating temperature
- Ideal for bottom holes, viewing ports, and other tubulations
- All 115 volt units are CSA certified
- Electrical: Separable 4 foot 2 wire cord and locking connector. Larger size Series O

## mantles have a silicone impregnated exterior for moisture resistance

| Catalog Number | Voltage | Flask Capacity (ml) | Watts |
|---|---|---|---|
| 100A O394 | 115 | 50 | 60 |
| 100A O396 | 115 | 100 | 80 |
| 100A O398 | 115 | 125 | 80 |
| 100A O400 | 115 | 200 | 100 |
| 100A O402 | 115 | 250 | 180 |
| 100A O404 | 115 | 300 | 180 |
| 100A O406 | 115 | 500 | 270 |
| 100A O408 | 115 | 1,000 | 380 |
| 100A O410 | 115 | 2,000 | 500 |
| 100A O412 | 115 | 3,000 | 500 |
| 100A O414 | 115 | 5,000 | 600 |
| 100A O416 | 115 | 12,000 | 2@650 |

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| Catalog Number | Voltage | Flask Capacity (ml) | Max. Flask Diameter (mm) | Watts |
|---|---|---|---|---|
| 100B TM94 | 115 | 50 | 48 | 60 |
| 100B TM96 | 115 | 100 | 60 | 80 |
| 100B TM98 | 115 | 125 | 70 | 80 |
| 100B TM100 | 115 | 200 | 76 | 100 |
| 100B TM102 | 115 | 250 | 83 | 180 |
| 100B TM104 | 115 | 300 | 86 | 180 |
| 100B TM106 | 115 | 500 | 101 | 270 |
| 100B TM108 | 115 | 1,000 | 137 | 380 |
| 100B TM110 | 115 | 2,000 | 170 | 500 |
| 100B TM112 | 115 | 3,000 | 183 | 500 |
| 100B TM114 | 115 | 5,000 | 220 | 600 |
| 100B TM116 | 115 | 12,000 | 293 | 2@650 |
| 100B TM118 | 115 | 22,000 | 347 | 2@770 |
| 100B TM120 | 115 | 50,000 | 456 | 3@1,000 |

## Series "TM" is another popular line of Rigid mantles for round bottom flask
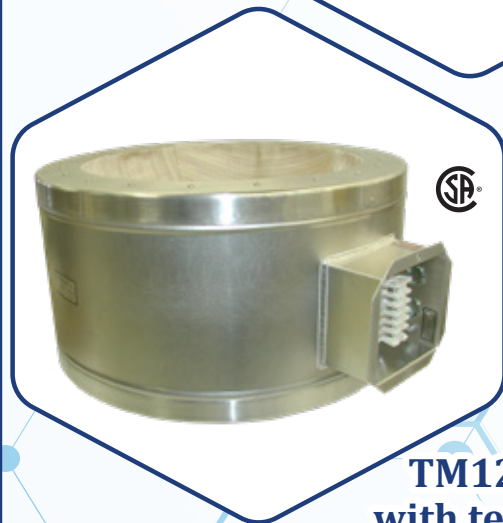
Heating mantles are preferred to Bunsen burners or hot plates for organic liquids. They provide even heating (no hot spots) and maximum surface coverage for better temperature uniformity.

The **Series "TM"** spherical flask mantle covers only the flask's bottom half, letting you see its full contents. Larger sizes have multiple circuits for ease of temperature control when a flask is less than half full.

## Aluminum Housed Mantles Feature:

• Rigid housing provides strength and durability while supporting the weight of the vessel

• Fabric interior to softly nest glass vessels to reduce the chance of thermal shock and damage to glassware

• Withstands 400°C internal operating temperature

• Feet on smaller sizes designed to provide stability and promote cooler exterior temperatures

• All 115 volt units are CSA certified

TM120 shown with terminal box

mantles have a silicone impregnated exterior for moisture resistance

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| Catalog Number | Flask Size (ml) | Bottom | Voltage | Watts/Position |
|---|---|---|---|---|
| 100D MX25212 | 250 | Round | 120 | 180 |
| 100D MX50212 | 500 | Round | 120 | 270 |

| Replacement Element | Flask Size (ml) | Bottom | Voltage | Watts |
|---|---|---|---|---|
| 100C M102E | 250 | Round | 120 | 180 |
| 100C M106E | 500 | Round | 120 | 270 |

# Combo Heating Mantles

Glas-Col has always been the source of mantles for repetitive extracting, refluxing, and distilling procedures in labs of food, textile fiber, water and waste-water, petroleum, and many other industries. Our latest Combo version offers safety and convenience in a multi-place heating mantle.

• Low profile for space-saving convenience

• Easy to replace heating element

• Element containers act as spill containment chambers to capture chemicals from spillage or boil-over

• Clear anodized aluminum cabinet with chemical resistance top

• Offered in two common 3 position configurations: 250ml and 500ml round bottom

• Max Temperature 400°C

• Housing Size: 27"W x 10-3/4"D x 6-1/4"H

• Built in cooling fan to keep housing cool to touch

• Over-temperature safety limit switch

• Lighted power switch for each position

Each Combo is furnished with grid support system and 3 glassware adjustable clamps. Proportional voltage controls are built into each position for constant, steady-state voltage.

**Glassware not included**

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## PowerTrol:

This control is small in size and can be used to regulate the input voltage of resistive devices by turning the dial knob. Just plug your resistive load into the receptacle on the back, turn on the switch and adjust the dial. The higher the number on the dial, the hotter your load will get. This unit comes with a 6' attached power cord and grid support bracket, which is ideal for fume hood mounting to maximize bench space.

### Control Features:

On/Off switch •
Non-Linear control •
(scale is for reference only)
Circuit protection •
Low profile housing •

| Catalog Number | Voltage | Description | Range | Product Weight (lbs) | Watt |
|---|---|---|---|---|---|
| 104A PL120 | 120 | 10A Proportional Voltage Control | from 5-100% of rated voltage | 1.5 | 1200 |

## DigiTrol II:

This temperature control displays both the setpoint and process temperature and uses the most modern control technology for the best temperature stability. The Auto-tune feature minimizes setpoint overshoot and learns your process. Changing your setpoint is easily done with the interface keys. The controller can also perform ramp rate operations to allow the user to slowly raise the process temperature. This unit comes with a 6' detachable power cord, grid support bracket, which is ideal for fume hood mounting to maximize bench space. This control is a microprocessor-based, digital indicating, automatic temperature control with a single input and a single output. It features an auto-tuning function that allows automatic setting of control parameters with a minimum of user input required. This controls accepts common thermocouples "J", "K", or "T" .

The control automatically sets the PID parameters through a "learning" sequence in the auto-tuning mode. PID parameters include proportional band, reset/integral and rate/derivative. User-friendly features include automatic LED indicators to aid in monitoring and setup, as well as dual LED displays for process temperature and set point indication. This control automatically stores all information in a non-volatile memory.

| Catalog Number | Voltage | Description | Thermocouple Type | Product Weight (lbs) | Watt |
|---|---|---|---|---|---|
| 104A PL612 | 120 | PID Control | Universal | 3 | 1800 |

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## RampTrol:

If your heating process requires several steps, this is the control for you. The Ramp/Soak feature of this control allows up to a 40-step profile, which can be configured from the provided software. You can profile Temperature, Time, Hold, Soak and End steps to create the ideal profile for your process. The built in adaptive control technology provides even tighter control for these demanding applications. Several input types are available. This unit comes with 6' detachable power cord, communication port, audible alarm function and grid support bracket, which is ideal for fume hood mounting to maximize bench space.



## RampTrol:

This control is a microprocessor-based, digital indicating, automatic temperature control with a single input and a single output. It features an auto-tuning function that allows automatic setting of control parameters with a minimum of user input required. This control accepts common thermocouples "J", "K", or "T".

The control automatically sets the PID parameters through a "learning" sequence in the auto-tuning mode. PID parameters include proportional band, reset/integral and rate/derivative. User-friendly features include automatic LED indicators to aid in monitoring and setup, as well as dual LED displays for process temperature and set point indication. This control automatically stores all information in a non-volatile memory.

| Catalog Number | Voltage | Description | Product Weight (lbs) | Watt |
|---|---|---|---|---|
| 104A PL912 | 120 | PID Control | 4 | 1800 |

## TwinTrol:

This control is ideal for 2 independent temperature processes. This space saving design combines 2 controls into one package to maximize bench space. This control displays both the setpoint and process temperature and uses the most modern control technology for the best temperature stability. The Auto-tune feature minimizes setpoint overshoot and learns your process. Changing your setpoint is easily done with the interface keys. Several input types are available. This unit comes with an audible alarm function, 6' detachable power cord and grid support bracket, which is ideal for fume hood mounting to maximize bench space. This controls accepts common thermocouples "J", "K", or "T".

The control automatically sets the PID parameters through a "learning" sequence in the auto-tuning mode. PID parameters include proportional band, reset/integral and rate/derivative. User-friendly features include automatic LED indicators to aid in monitoring and setup, as well as dual LED displays for process temperature and set point indication. This control automatically stores all information in a non-volatile memory.



| Catalog Number | Voltage | Description | Product Weight (lbs) | Watt |
|---|---|---|---|---|
| 104A TWIN-TROL | 120 | PID Control (2 Zones) | 7 | 900 per channel |

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# Specifications & Description

| | |
|---|---|
| Min Temperature | (°F)-328 |
| Max Temperature | (°F)3214 |
| Min Temperature | (°C)-200 |
| Max Temperature | (°C)1768 |
| Accuracy | 0.1% Span |
| Resolution | 0.1°C |
| Data Logging | Yes |
| Alarm | Visual/audible by pc |
| Display | Touchscreen LCD |
| Input Voltage | 100-250 VAC |
| Thermocouple Types | J, K, T, B, N, S, R & E |
| Description | 12 Channel Scanning Data Logging Benchtop Thermocouple Thermometer |



| Catalog Number | Voltage | Description | Product Weight (lbs) | Watt |
|---|---|---|---|---|
| 108A TOW-OTP1800 | 120 | PID Control with Limit | 7 | 900 per channel |

## Temperature/Limit Control

This control combines a Process control and a Limit control in a space saving design to maximize bench space. The Process control displays both the set-point and process temperature and uses the most modern control technology for the best temperature stability. The Limit control allows the user to input a value that once reached will turn off the power to the load receptacles. The Limit control also displays either a Safe or Fail condition and requires a manual reset. Both the Process and Limit control have audible alarms and separate sensors. A bracket on the back of the control allows for mounting the control on a grid structure. Each load receptacle is rated at 7.5 amps. This control accepts common thermocouples "J", "K", or "T".

## Data Logger

This 12-channel full touchscreen scanning thermometer simultaneously monitors different temperature processes and provides real-time data on your PC with the supplied data acquisition software. Channel configuration can be changed through the software. The thermometer also functions as a data logger, storing readings in internal nonvolatile memory for later download to PC in CSV format.

Visible alarms alert you when a channel logs a temperature exceeding the high/low set point or hysteresis. Thermocouple temperature probes are sold separately.



| Catalog Number | Sensor Type | Voltage |
|---|---|---|
| 108A DTM12 | Thermocouple | 120/240VAC |

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