



**MICROTHERM
CIRCULATING WATER
TEMPERATURE CONTROLLER**

THE ANSWER TO YOUR CIRCULATING WATER TEMPERATURE CONTROL CHALLENGES

Chromalox, a world leader in thermal technology

For over 100 years, Chromalox has been providing industrial electric heating solutions to users worldwide. Today, Chromalox combines those decades of experience with the latest in mechanical design and electronic control technology to bring you microTHERM, the answer to your circulating water temperature control challenges. Your manufacturing process demands a circulating water temperature controller that provides precise control and operating

efficiency. microTHERM responds with many innovative design features. The three main components of the microTHERM system – the heat/cool assembly, customized pump and touch panel controls – all ensure unsurpassed operation reliability, durability and serviceability. Eliminating your downtime and minimizing your manufacturing expenses are microTHERM's goals.

MicroTherm

Accurate, Efficient Control

Powerful control of both water flow and temperature is delivered by microTHERM's custom cast heater assembly and pump, designed to work together for cost effective, maximum heat transfer and long, minimum maintenance life. The touchpad controller incorporates high-accuracy, fast-responding, microprocessor-based temperature control technology. Digital display of water temperature and setpoint, plus visual indication of heating and cooling outputs and system diagnostics give you quick, easy to understand process information.

Compact, Rugged Design

microTHERM's compact design packs all of its high-performance design features into a portable, rugged cabinet for years of reliable service. With user-positioned controls, rolling casters and a powder coated sheet metal cabinet, microTHERM works anywhere you need powerful control.

Heating Assembly

MicroTHERM's custom-cast twin tank and pump assembly eliminates traditional threaded pipe parts, reducing leakage and ensuring operation reliability. The high performance centrifugal pump delivers flow rates from 30 to 80 gpm, depending on your application needs. Corrosion resistant INCOLOY® sheath Chromalox heating elements are integral to microTHERM's efficient heating assembly design.

Two cooling options, open and closed loop cooling, optimize microTHERM's versatility in any environment. Open loop cooling is used when water contaminant presence is low and fouling presents little problem. Closed loop cooling is required where direct injection of supply water can cause fouling in the system, or when recirculated cooling water is available.

Chromalox's limited warranty validates the reliability and serviceability built into every microTHERM unit.



UNSURPASSED OPERATION RELIABILITY, DURABILITY AND SERVICEABILITY

Operating temperatures of 50° to 250°F for a wide variety of applications.

ASME pressure relief valve opens if system pressure exceeds 125 psi, ensuring safe operation.

High watt density, INCOLOY® sheath Chromalox® heating elements.

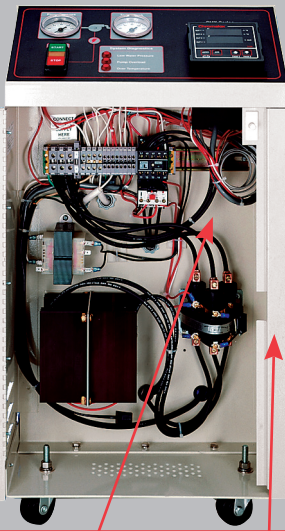
Integral solenoid valve for precise temperature control and optimum flow.

Automatic air purge cycle removes accumulated air from water lines.

Standard 3.8 sq. ft. heat exchanger (closed loop cooling)

Cabinet design allows access to all components without removing a single fastener.

Internal system configuration separates electronics from mechanical systems, reducing heat buildup and providing a safer operating system.



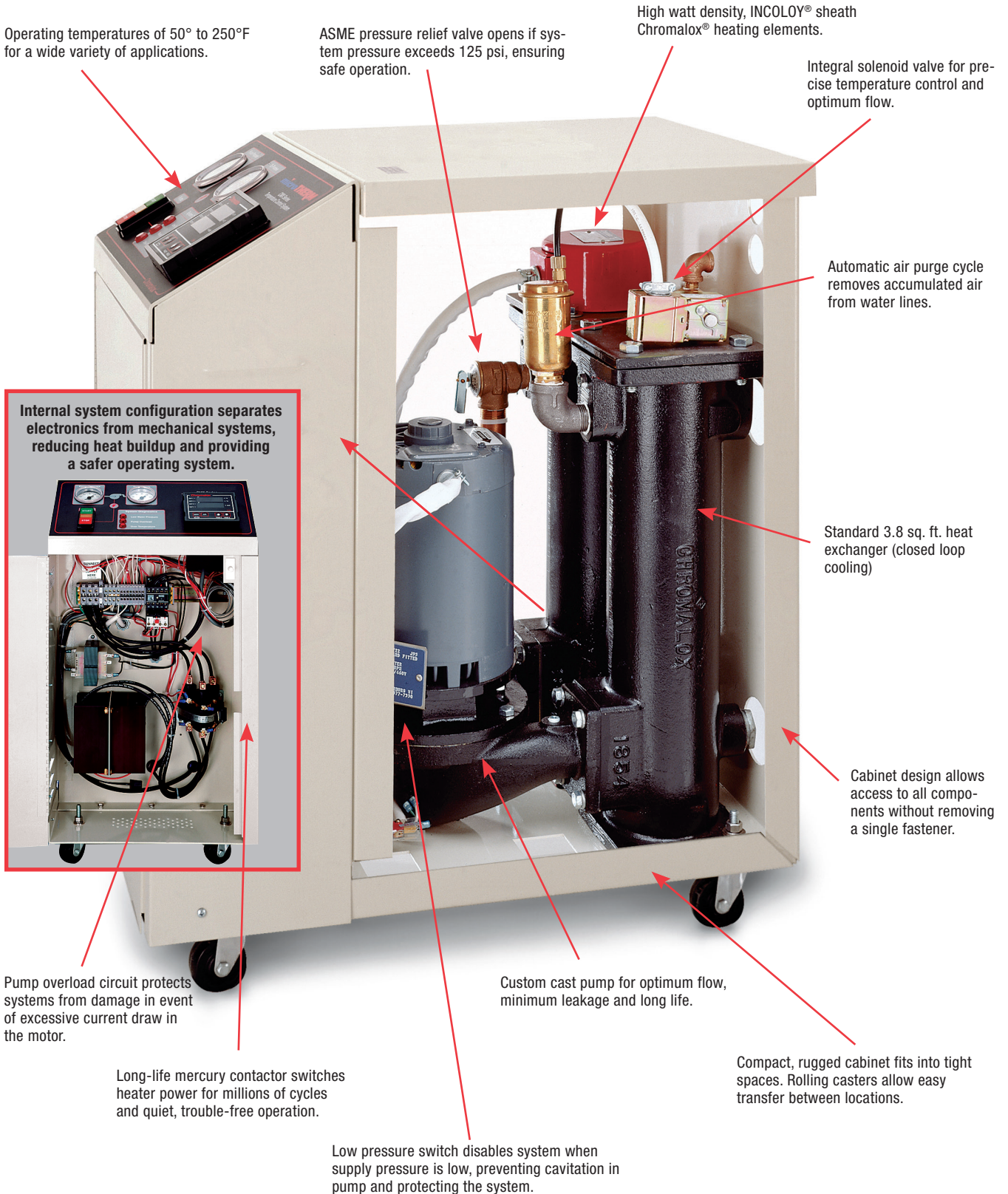
Pump overload circuit protects systems from damage in event of excessive current draw in the motor.

Long-life mercury contactor switches heater power for millions of cycles and quiet, trouble-free operation.

Low pressure switch disables system when supply pressure is low, preventing cavitation in pump and protecting the system.

Custom cast pump for optimum flow, minimum leakage and long life.

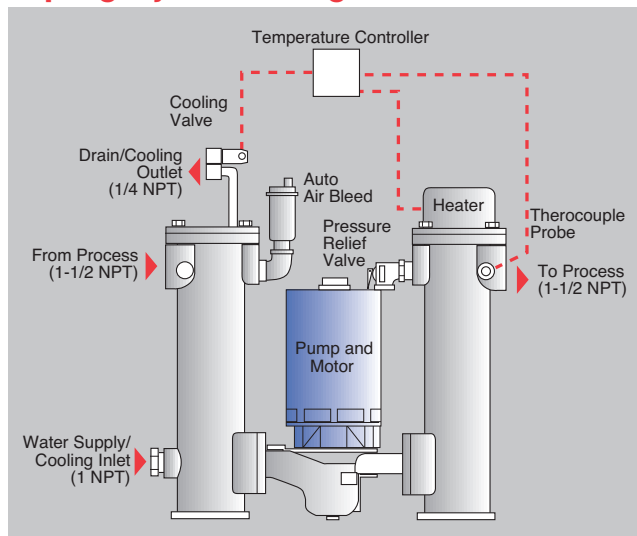
Compact, rugged cabinet fits into tight spaces. Rolling casters allow easy transfer between locations.



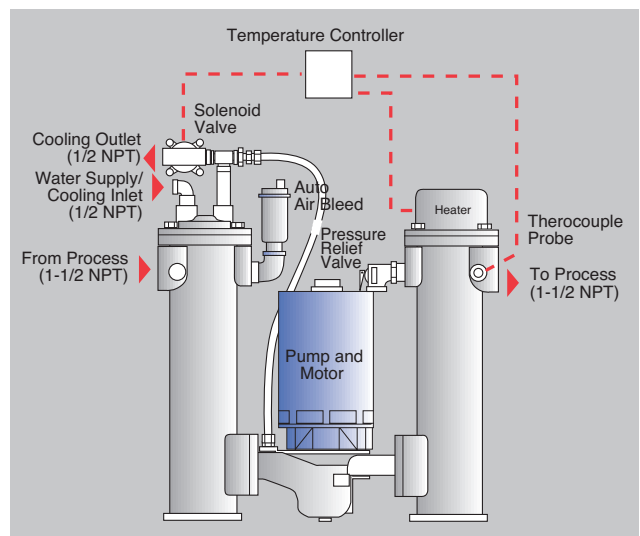
Specifications and Ordering Information

| kW | Volts | Ph. | Pump Motor HP | Dimensions (In.) | | | Cooling Type | Model | Stock | Part Number | Wt. (Lbs) |
|-----|-------|-----|---------------|------------------|----|----|--------------|-------------|-------|-------------|-----------|
| | | | | H | W | D | | | | | |
| 4.5 | 240 | 3 | 3/4 | 29 | 15 | 25 | Open Loop | CMX-250-4 | NS | 307418-032 | 200 |
| 4.5 | 480 | 3 | 3/4 | 29 | 15 | 25 | Open Loop | CMX-250-4 | NS | 307418-033 | 200 |
| 4.5 | 240 | 3 | 3/4 | 29 | 15 | 25 | Closed Loop | CMX-250-4C | NS | 307418-042 | 215 |
| 4.5 | 480 | 3 | 3/4 | 29 | 15 | 25 | Closed Loop | CMX-250-4C | NS | 307418-043 | 215 |
| 9 | 240 | 3 | 3/4 | 29 | 15 | 25 | Open Loop | CMX-250-9 | NS | 307418-034 | 200 |
| 9 | 480 | 3 | 3/4 | 29 | 15 | 25 | Open Loop | CMX-250-9 | S | 307418-035 | 200 |
| 9 | 240 | 3 | 3/4 | 29 | 15 | 25 | Closed Loop | CMX-250-9C | NS | 307418-044 | 215 |
| 9 | 480 | 3 | 3/4 | 29 | 15 | 25 | Closed Loop | CMX-250-9C | S | 307418-045 | 215 |
| 12 | 240 | 3 | 3/4 | 29 | 15 | 25 | Open Loop | CMX-250-12 | NS | 307418-036 | 200 |
| 12 | 480 | 3 | 3/4 | 29 | 15 | 25 | Open Loop | CMX-250-12 | S | 307418-037 | 200 |
| 12 | 240 | 3 | 3/4 | 29 | 15 | 25 | Closed Loop | CMX-250-12C | NS | 307418-046 | 215 |
| 12 | 480 | 3 | 3/4 | 29 | 15 | 25 | Closed Loop | CMX-250-12C | S | 307418-047 | 215 |
| 18 | 240 | 3 | 3/4 | 29 | 15 | 25 | Open Loop | CMX-250-18 | NS | 307418-038 | 200 |
| 18 | 480 | 3 | 3/4 | 29 | 15 | 25 | Open Loop | CMX-250-18 | S | 307418-039 | 200 |
| 18 | 240 | 3 | 3/4 | 29 | 15 | 25 | Closed Loop | CMX-250-18C | NS | 307418-048 | 215 |
| 18 | 480 | 3 | 3/4 | 29 | 15 | 25 | Closed Loop | CMX-250-18C | S | 307418-049 | 215 |
| 24 | 240 | 3 | 3/4 | 29 | 15 | 25 | Open Loop | CMX-250-24 | NS | 307418-040 | 200 |
| 24 | 480 | 3 | 3/4 | 29 | 15 | 25 | Open Loop | CMX-250-24 | S | 307418-041 | 200 |
| 24 | 240 | 3 | 3/4 | 29 | 15 | 25 | Closed Loop | CMX-250-24C | NS | 307418-050 | 215 |
| 24 | 480 | 3 | 3/4 | 29 | 15 | 25 | Closed Loop | CMX-250-24C | S | 307418-051 | 215 |
| 36 | 480 | 3 | 3/4 | 29 | 15 | 25 | N/A | CMX-250-36H | NS | 307418-052 | 215 |
| 48 | 480 | 3 | 3/4 | 29 | 15 | 25 | N/A | CMX-250-48H | S | 307418-053 | 215 |

Piping System Diagrams

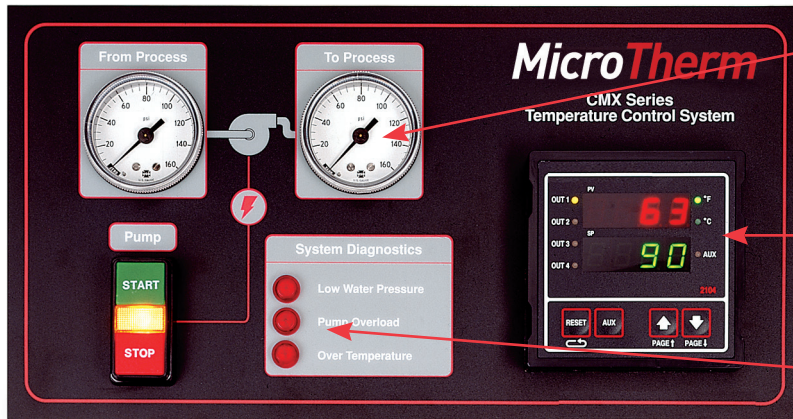


Open Loop Cooling



Closed Loop Cooling

HIGH ACCURACY, FAST-RESPONDING, MICROPROCESSOR-BASED TEMPERATURE CONTROL TECHNOLOGY...



Dual pressure gauges simplify monitoring of both to process and from process pressures.

Chromalox's Temperature and Process Controller features separate PID algorithms for heat and cool control modes, dual display of setpoint and process temperatures, and simple configuration parameters with alphanumeric cues. Optional digital communications expand microTHERM's application flexibility.

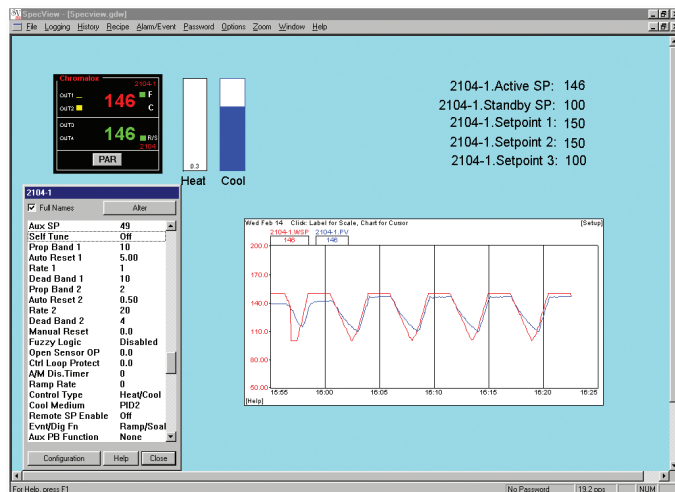
Diagnostic Indicators allow you to constantly monitor microTHERM's performance, giving you early detection of potential problems before they occur and simplifying maintenance.

microTHERM's easy-to-use temperature control system incorporates the temperature controller, gauges, pump switch and diagnostic indicators in a rugged control console, specially designed for harsh industrial environments. The entire control console is designed for easy access and maximum serviceability.

REMOTE OPERATION AND NETWORKING THROUGH POWERFUL SOFTWARE

SpecView Plus®, our Windows®-based Remote Operator Interface Software, allows you to easily configure and monitor up to 255 different microTHERM control systems on one multi-drop loop. From a single, remote location personal computer, you can access all control parameters, save particular process settings, and load them whenever and wherever needed.

Windows® is a registered trademark of Microsoft Corporation.



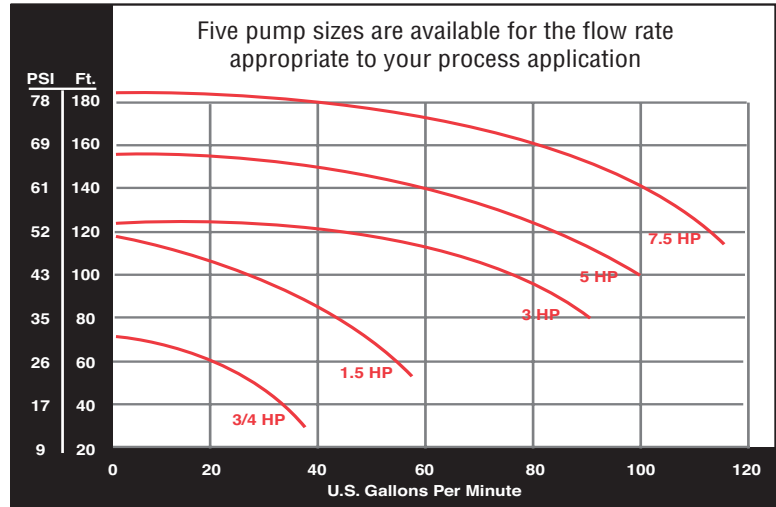
Pump Specifications

| Optional Pump Sizes (HP) | Nominal Flow (gpm) |
|--------------------------|--------------------|
| 1.5 | 40 |
| 3 | 50 |
| 5 | 60 |
| 7.5 | 60 |

Other Options

- Alternate Voltages: 208, 380, 575 VAC, 3 phase
- Expanded Open Loop Cooling: increased cooling water flow
- Expanded Closed Loop Cooling: 6.3 sq.ft. heat exchanger
- Solid State Power Control: SCR heater switching
- Surge Reduction Valve: reduces water pressure spikes
- Door Interlock: prevents operation with service door open
- Digital Communications: for interface with ChromaSoft or remote PC/PLC systems
- IEC Style Contactor: for dry contact power switching
- Isolation Valve Kit: 1" ball valves for system isolation

Pump Capacity



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