



# Temperature Controllers

# Temperature Controllers



**N**o one can provide more affordable, more dependable or more accurate temperature control equipment than Thermal Care.® Every temperature control unit is designed and built to meet or exceed the exacting performance standards demanded by today's manufacturing environment.

### Choose from several models

Our complete line of temperature control equipment includes several types of controllers for use in manufacturing applications. The well-known Aquatherm RA Series, RD Series, and RE Series come in several different configurations and are possibly the best units available today—at the lowest possible prices.

Our popular Oiltherm RO Series hot oil temperature controllers are designed for a range of high temperature applications, and the economical Vactherm RV Series positive/negative pressure temperature controllers provide better temperature control than competitive designs when a process leak develops.

### Affordable, compact designs

With several different configurations and model designations to choose from, it's likely that Thermal Care can match your specification with a unit directly from stock. All units are pre-wired, pre-piped and ready to install.

### Backed by experience

You benefit from our many years of experience with process cooling and temperature control. Our experienced staff also provides a full range of customer support services to assure maximum product performance now and for years to come. When Thermal Care offers so much, why consider any other temperature controller source. The choice is obvious—it's Thermal Care for quality temperature control equipment.

Aquatherm controllers come with a 5-year controller warranty and lifetime exchange price of \$175 (RE Series units come with 2-year warranty)



Temperature Controllers from Thermal Care—possibly the best available anywhere, at the best possible price



# Control Panel

## State-of-the-art microprocessor control

The temperature accuracy of every unit depends on its control system and Aquatherm Series temperature controllers come standard with a microprocessor-based control system designed exclusively for Thermal Care. The panel's two large digital displays make it easy to set or read system temperatures. The entire control panel is simple to understand and operate without confusing codes or useless buttons.

## New feature extends seal life

Most everyone knows that sustained and excessive heat can reduce the life of the seals on your equipment. Aquatherm RA Series and RD Series units now come standard with "Seal-Saver" control software built into the microprocessor that automatically cools the process water to 90°F. This also helps to lower hose temperatures and to prevent potential burns to the equipment operator.

After activation, Aquatherm units will automatically shut down as soon as the process water reaches the pre-determined temperature level (90°F)

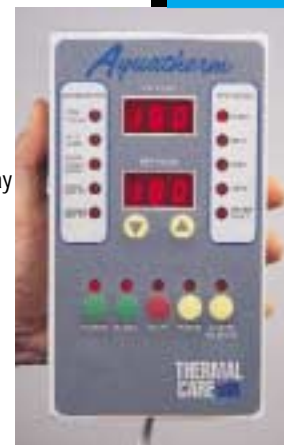
so your equipment can run longer with fewer seal failures. It's standard and very simple to activate with no difficult controller programming to master.

## Convenient controller features

The unique four-plug wiring design found on Aquatherm controllers allows the entire control board to be quickly and easily replaced if necessary. To protect the controls from dirt or water, the panel overlay is sealed against contamination. A basic, less expensive, off-the-shelf 1/16 DIN "plug-in" type controller with on/off/vent switch comes standard on Aquatherm RE Series units.

## Remote control option

A hand-held remote control panel is optional and includes all the lights, switches and display functions found on the machine mounted controller. The remote control panel connects using a small 8-wire phone line and will operate a unit from a distance of up to 50 feet. The remote control panel option is available for both Aquatherm RA Series and RD Series units.



## STANDARD AQUATHERM CONTROLLER FEATURES

- 15 lights and 7 snap action switches
- Two easy-to-read LED digital displays showing "To Process" and "Set Point" temperatures
- Entire panel is sealed protecting controller against contamination from dirt or water
- Panel viewing angle is easy-to-read
- Switch between °F/°C temperature readout easily from front panel
- PID control for  $\pm 1^\circ\text{F}$  accuracy
- Automatic fine tuning of PID parameters
- Self-adjusting high/low temperature alarm deviation
- Power failure indicator signals brown out
- Automatic air purge cycle
- "Auto vent" cancel prevents venting above 150°F
- Thirty-minute deviation delay stops nuisance alarms during start-up and set point change
- 260°F high temperature safety

## OPTIONAL AQUATHERM CONTROLLER FEATURES

- Hand-held, remote control operator panel
- SPI communications
- Audible horn
- "From Process" temperature readout
- Remote alarm contacts
- Remote on/off contacts
- Remote thermocouple/RTD input

# Aquatherm

## RA Series Units

No other water temperature controller on the market today provides more value than the Aquatherm RA Series from Thermal Care. Units are made with the best available components like premium-quality solenoid valves, high flow pumps with leak-resistant carbon Ni-Resist seals and rugged incoloy heaters. The cast, twin tank/pump assembly is so tough it comes with an exclusive lifetime warranty.

### Dependable and accurate control

The microprocessor-based controller is easy to operate and two digital displays assure accurate temperature settings and readouts. The sturdy cabinet takes up less than two square feet of floor space and units can be stacked when floor space is at a premium. The angled control panel is easy to read and operate. Or, an optional remote control panel allows operation from a distance of up to 50 feet.

### Many sizes to choose from

Standard models come in a complete range of sizes from 3/4 to 7-1/2 hp, 9 to 24kw in either single or dual-zone designs. Check out our big selection of pre-engineered options that allow us to customize an Aquatherm temperature controller for your exact application. Options include:

- Hand-held remote control panel
- SPI Communications
- Motorized, modulating ball valve
- Process water air purge
- Closed-circuit design with heat exchanger
- Dual zone configuration
- 36kw, 48kw and 60kw units
- Nonferrous coatings on castings
- Pressure gauges

### EXCLUSIVE WARRANTIES

Thermal Care is so certain the Aquatherm RA Series temperature control units you purchase will provide years of maintenance-free operation that we offer the following warranties at no extra cost!

#### RA Series Units

- 2-year warranty on parts
- 2-year warranty on labor
- Lifetime warranty on complete twin tank/pump volute casing assembly
- Lifetime warranty on pump seal
- 5-year warranty on controller
- Lifetime controller exchange price of \$175



Aquatherm RA Series units are widely accepted and provide unequalled value

**THERMAL CARE**

Removable side, top and front panels provides easy access to entire interior

Bypass line protects heater and pump if process flow is shut off

Long-life, low-watt density incoloy heaters (9-24kw) resist corrosion better than copper or stainless steel

High capacity pump (3/4 to 7-1/2 hp) comes with bronze or stainless steel impellers for turbulent flow

Seal flush line assures continuous flow across seal to remove contaminants and extend seal life (not visible)

Leak-proof, cast twin tank/pump assembly eliminates pipe fittings and flow restrictions, comes with lifetime warranty

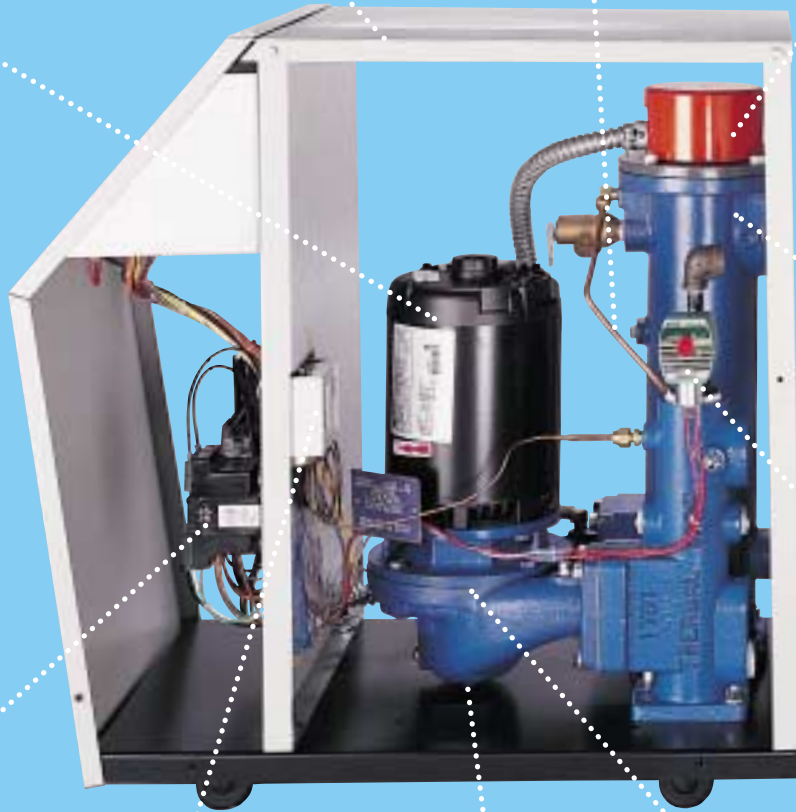
Electrical components mounted in front are easily accessible and isolated from water.

Premium quality solenoid valve assures precise temperatures

Adjustable water supply pressure switch prevents operation at low supply pressure

Built-in sediment trap settles contaminants away from pump seal

Pump seal made of leak-resistant carbon Ni-Resist, comes with lifetime warranty



# RA Series

# Aquatherm RD & RE Series Units

Aquatherm RD Series temperature controllers offer all the features of our full-sized unit in a smaller design

Aquatherm RE Series temperature controllers comes with fewer standard features and a lower price



## EXCLUSIVE WARRANTIES

Thermal Care builds Aquatherm RD Series and RE Series temperature control units with quality components for years of maintenance-free operation and offers the following warranties at no extra cost!

### RD Series Units

- 2-year warranty on parts
- 2-year warranty on labor
- Lifetime warranty on complete twin tank/pump volute casing assembly
- Lifetime warranty on pump seal
- 5-year warranty on controller
- Lifetime controller exchange price of \$175

### RE Series Units

- 1-year warranty on parts
- 2-year warranty on controller



**D**on't let the smaller size fool you. Aquatherm RD Series and RE Series units provide the same accurate and reliable temperature control as our full-sized units in a smaller cabinet. Built with rugged components for years of worry-free operation, no other controller on the market today comes with more standard features at this price.

### Easily accessible interior

Both RD Series and RE Series units come with permanently attached, "tools-free" cabinet locking hardware so users can easily access interior components. The control panel opens by loosening a thumbscrew and simply flipping the hinged panel forward. Eight unique re-locking clips keep the exterior cabinet securely in place during use. Inside are high capacity pumps, leak-proof, cast twin tank/pump assemblies and premium quality solenoid valves.

### Fits most applications

Standard models are available for applications requiring between 3/4 and 2 hp. The RD Series units come with the same microprocessor-based control panel found on our RA Series units. For a less expensive alternative, our RE Series units come with an off-the-shelf 1/16 DIN "plug-in" type controller and on/off/vent switch.



Aquatherm RE Series temperature controllers provide a less expensive control option

**Bypass line**  
protects heater  
and pump  
if process flow  
is shut off

**Leak-proof,  
cast twin tank/  
pump assembly**  
eliminates pipe  
fittings and flow  
restrictions, comes  
with lifetime  
warranty

**Two pressure  
gauges**  
show supply  
and return  
water pressure  
(optional)

**"Tools-free"  
hardware**  
allows easy  
access to interior  
components

**Long-life,  
low-watt density  
Incoloy heater**  
resists corrosion  
better than copper  
or stainless steel

**Seal flush line**  
assures  
continuous flow  
across seal  
to remove  
contaminants  
and extend  
seal life

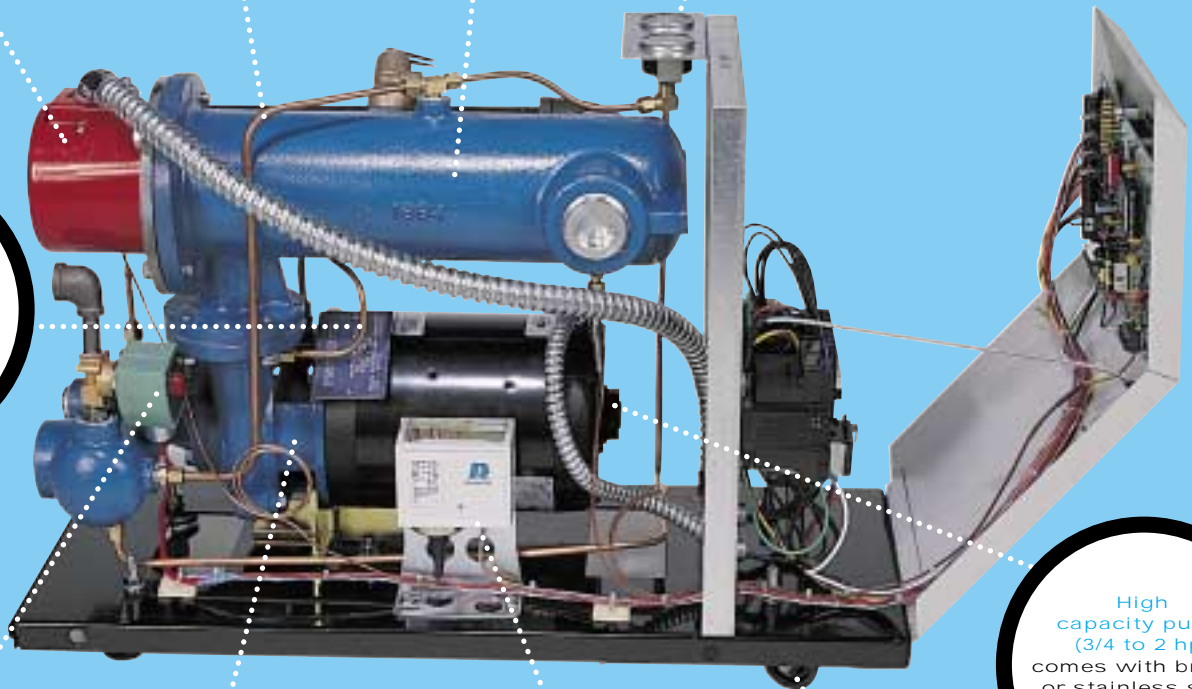
**Premium quality  
solenoid valve**  
assures precise  
temperatures

**Pump seal**  
made of  
leak-resistant  
carbon Ni-Resist,  
comes with  
lifetime warranty

**Adjustable  
water supply  
pressure switch**  
prevents operation  
at low supply  
pressure

**Four swivel casters**  
make the unit  
easy to move

**High  
capacity pump  
(3/4 to 2 hp)**  
comes with bronze  
or stainless steel  
impellers for  
turbulent flow



# RD & RE Series

# Oiltherm RO Series Units

Oiltherm RO Series units come in sizes from 6 to 36kw and are designed for operation to 575°F



#### STANDARD WARRANTY

Oiltherm RO Series units are manufactured with high quality components and will provide years of accurate, on-the-job performance. Oiltherm RO Series units come with the following standard warranty.

#### RO Series Units

- 1-year warranty on parts

**D**esigned and constructed for many years of dependable operation, the Oiltherm RO Series hot oil temperature controllers come standard with features like automatic oil preheat and fan cooled controls. The multistage centrifugal pump, located in the reservoir, eliminates leaks associated with positive displacement pumps.

#### More features, more performance

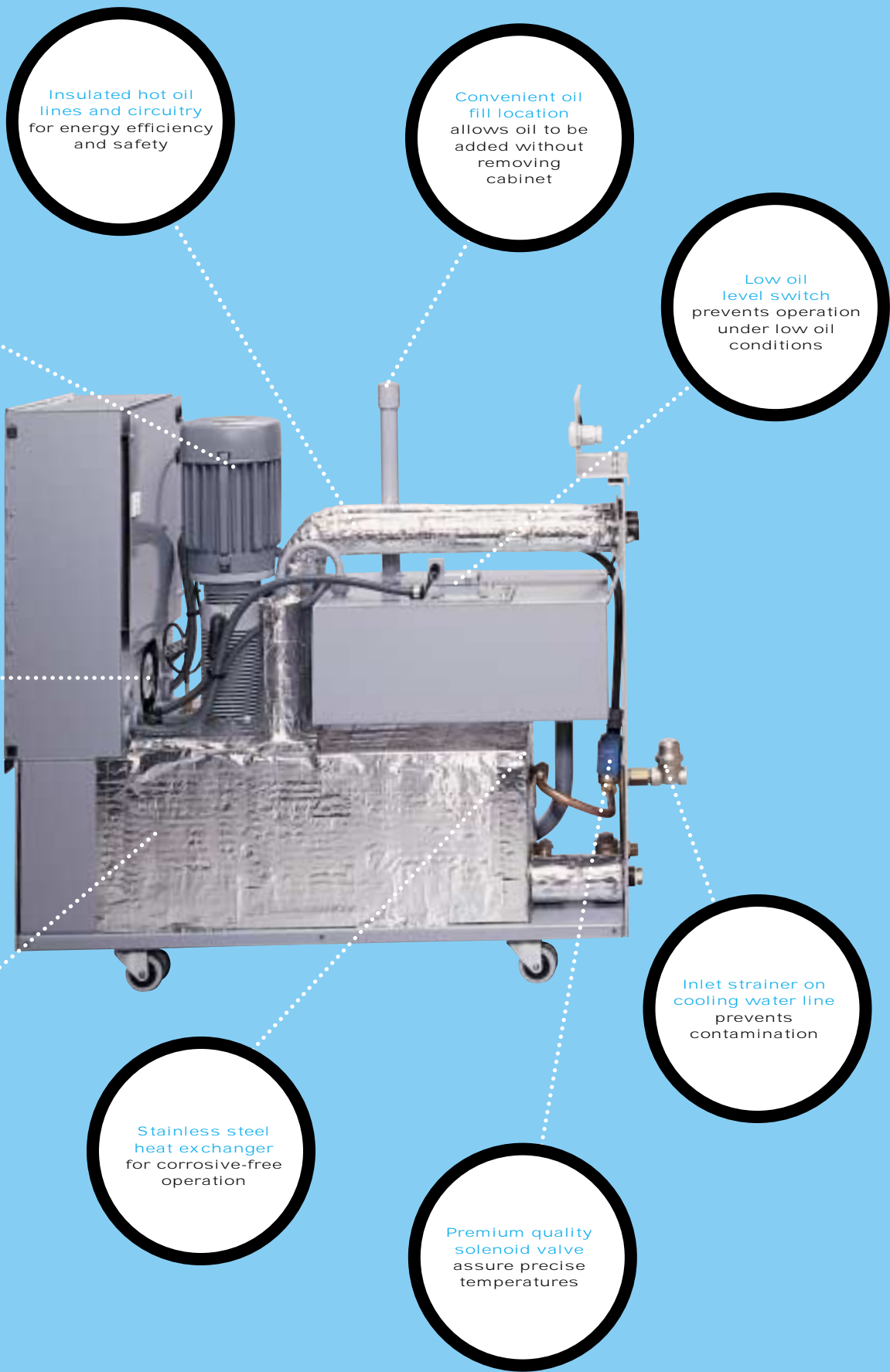
Oiltherm RO Series units come with important features not found on competitive units like insulated oil lines and a built-in full-week timer. By having a timer heat the process oil for several hours prior to starting production, a smaller heater can be used. Multiple 3kw low-watt density heaters provide a built-in standby. Heaters operate in two banks for better temperature control.

#### Wide range of temperatures

Compact Oiltherm RO Series units come in sturdy cabinets and are built for a wide range of high temperature applications in the 125°F to 575°F range. The unique design assures high velocity oil flow across heater elements for optimum heat transfer and longer heater and fluid life. A password lockout protects temperature set points and the microprocessor-based control systems allows customized settings for daily start/stop times and a temperature deviation alarm.

#### Built-in heat exchanger

Every unit comes standard with a cooling circuit where plant water is introduced into a stainless steel heat exchanger in the oil tank. The free-floating heat exchanger coil permits expansion that occurs with thermal shock. Oiltherm RO Series units are also available with a negative pressure option that reduces the possibility of operator injury due to small leaks and allows the process oil to be drained.



# RO Series

# Vactherm RV Series Units

**V**actherm RV Series positive/negative pressure temperature controllers eliminate downtime caused by coolant leaks in a mold or process water circuit. The unique design of Vactherm RV Series units allows the vacuum level to be adjusted to exactly the amount necessary to stop the leak, without drawing air into the water circuit. This provides better temperature control at a lower flow rate than competitive designs. And, Vactherm RV Series units can be run as nonferrous temperature controllers even when no leak is present.

### Change molds fast

Leave it to Thermal Care to design a unit with an automatic mold drain that permits users to change molds quickly without a hassle. Only Vactherm RV Series units come with this exclusive quick-change feature. Process water always stays isolated from cooling water thanks to a special stainless steel water circuit with automatic water makeup feature and nonferrous components in water path to assure only clean water in the mold.

### Extremely easy to operate

Temperatures and set points are easy to read on the simple-to-operate control panel. A built-in, full-week timer lets users automatically start or stop operation and adjustable temperature deviation indicator (with audible alarm and silencer) permits users to set and customize operating parameters. Keep production moving despite mold leaks with a dependable, accurate microprocessor-based Vactherm RV Series temperature controller.

Vactherm RV Series units are easy to operate and can help eliminate costly downtime

### STANDARD WARRANTY

Vactherm RV Series units are compact, built for years of dependable operation and come with the following standard warranty.

#### RV Series Units

- 1-year warranty on parts



Vactherm RV Series units eliminate mold leaks while minimizing the amount of air drawn into process water

**Inlet strainer**  
protects against  
debris in water

**Stainless steel  
centrifugal pump**  
protects against  
corrosion

**Solenoid valve**  
automatically  
fills tank

**Dual, stainless  
steel, low-watt  
density heater  
elements**  
provide long life  
and built-in  
standby

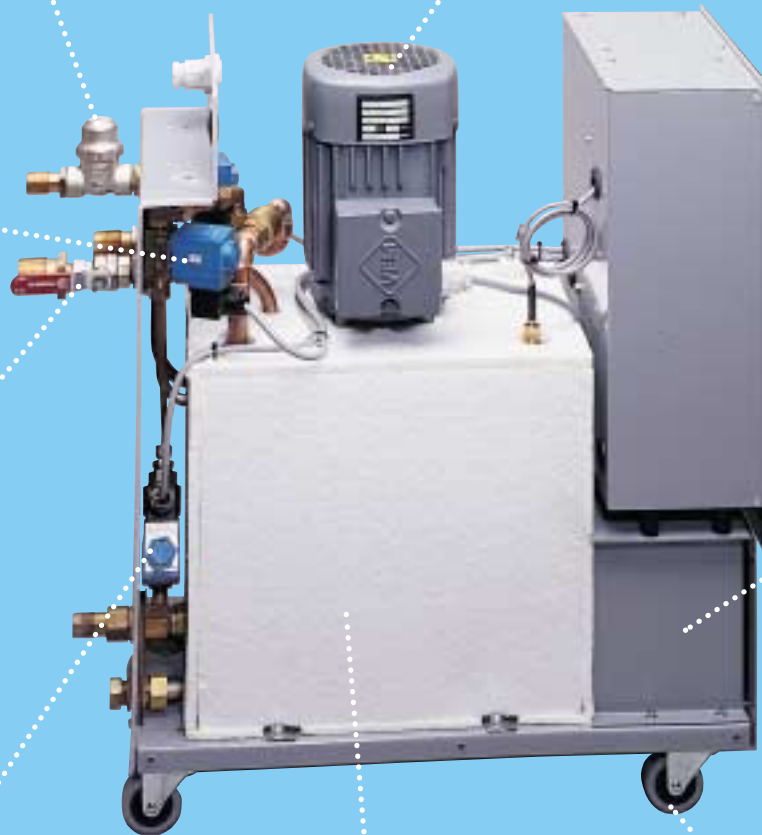
**Vacuum  
adjusting valve**  
eliminates leak  
without pulling  
air into mold

**Four swivel casters**  
make unit easy  
to move

**Solenoid valve**  
regulates cooling  
in stainless steel  
heat exchanger

**Insulated  
stainless steel  
reservoir**  
holds 4.5 gallons,  
assures temperature  
stability and air  
separation

# RV Series



# Aquatherm

configuration Options



For dual-zone applications, or if floor space is at a premium, stack RA Series units two-high without expensive racks.

RD Series and RE Series units can be stacked on our optional, inexpensive rack

RAD Series units are perfect for dual-zone applications and house two units in one sturdy cabinet

Thermal Care is a leading manufacturer of a complete line of heat transfer equipment and related services that includes:

#### Portable Chillers

Available in air and water-cooled models from 1/2 to 40 tons; every portable chiller comes with our unique, easy-to-operate microprocessor-based controller with dual, digital displays and 19 diagnostic indicators. Chiller components are easily accessible and controller comes with 5-year warranty.

#### Central Chillers

Designed to meet most application needs in a wide variety of sizes from 20 tons. Our designs include air-cooled, water-cooled or remote condenser models. Modular, belt-drive, direct-drive and multiple circuit (with scroll or discus compressors).

#### Cooling Towers

Built of 100% nonferrous materials, our cooling towers are ruggedly designed and manufactured to exacting specifications. All towers come with a full 5-year warranty on the complete tower, including the motor.

#### Pump/Reservoir Systems

Every pump/reservoir is custom engineered for its application and includes a solid deck, Victaulic (grooved pipe connecting system) trim, mounted control panel and non-overloading pumps. Reservoirs are available in fiberglass, steel or stainless steel in sizes to 6000 gallons.

#### Water Treatment Equipment

Our computer-controlled treatment systems incorporate all necessary facets of a cooling tower or central chiller treatment system on a single, space-saving panel. System information is displayed on a LCD screen in one of four languages. Units come with lifetime warranty.

#### Water Filters

Sand media filters, strainer filters and full flow bag filters remove heavy-duty suspended solids from both cooling tower and chilled water systems.



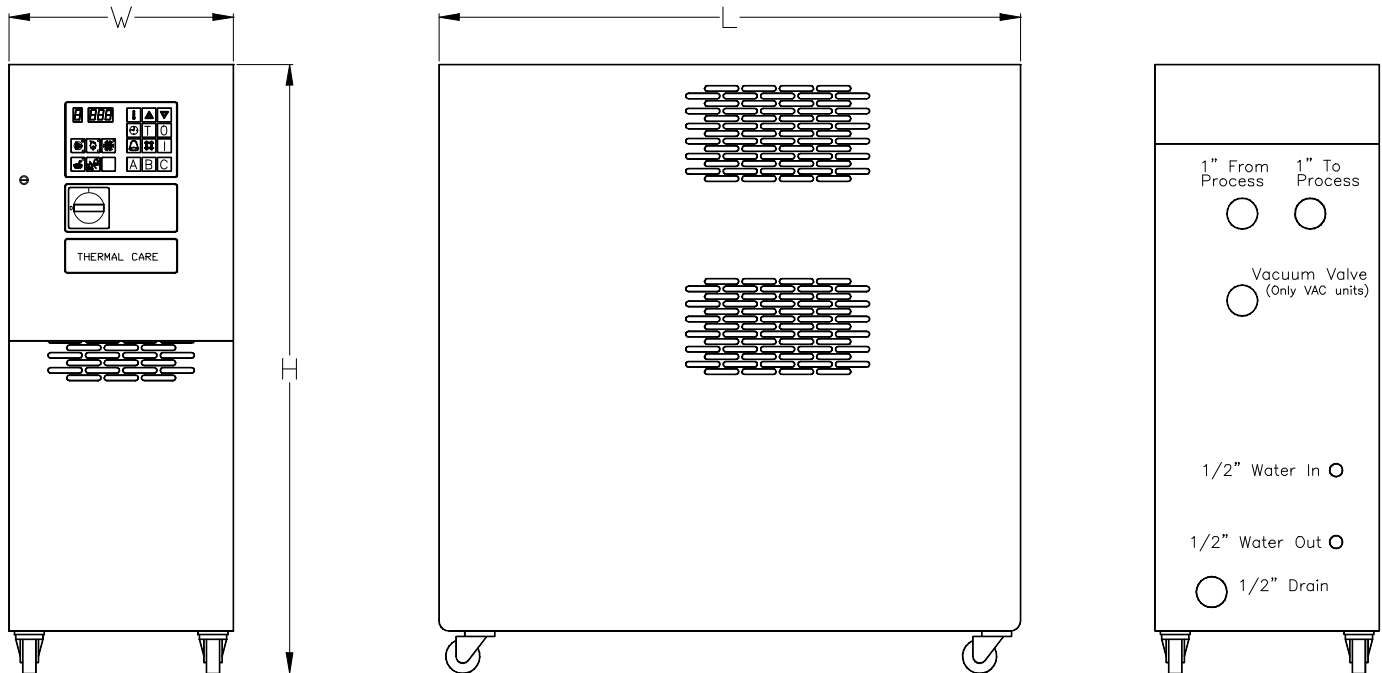
7720 N. Lehigh Avenue  
Niles, Illinois 60714-3491  
tel (847) 966-2260 Ext.2900  
fax (847) 966-9358

e-mail  
info@thermalcare.com  
www.thermalcare.com

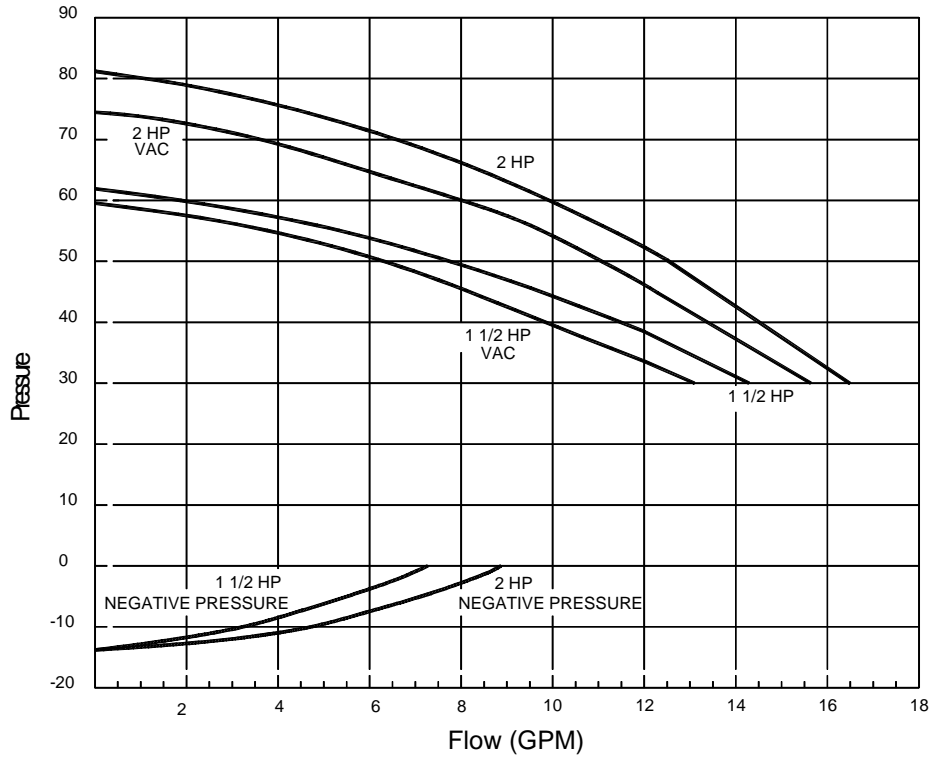
Manufacturer reserves the right to change specifications or design without notice or obligation.

Thermal Care is a registered trademark of MFRI, Inc.  
Printed in U.S.A. Form 7-260.1

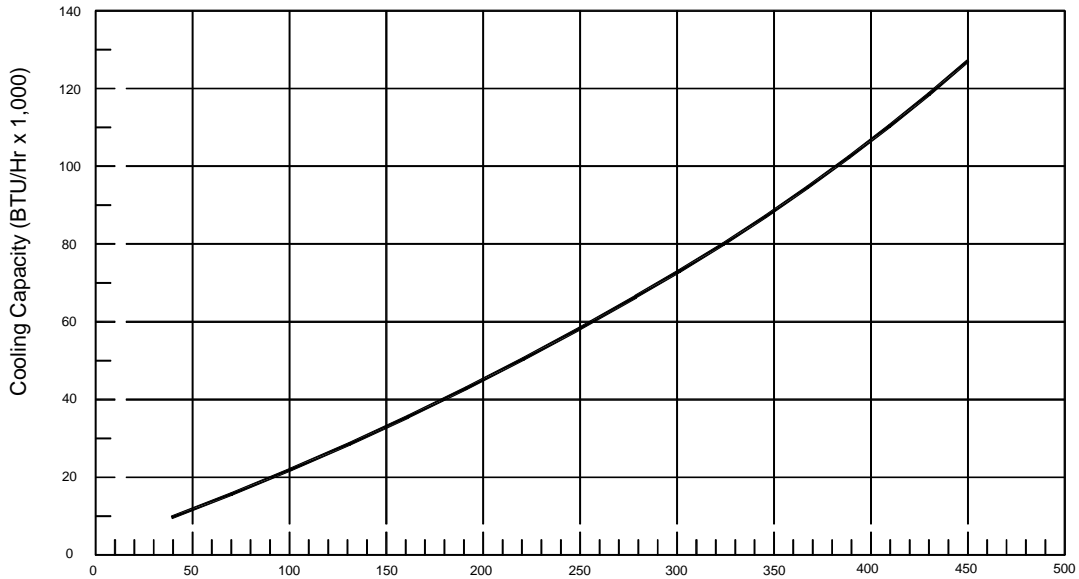
Model	Pump (HP)	Heater (KW)	Pump		Max Vacuum (PSI)	Oil Reservoir Size		Nameplate Amps (460V)	Dimensions L x W x H (Inches)	Weight (Lbs.)
			(GPM)	(PSI)		Holding (Gal)	Expansion (Gal)			
RO0615	1½	6	14	32	Na	3.5	4	10	34 x 13 x 31	275
RO0615V	1½	6	14	32	-13	3.5	4	10	34 x 13 x 31	275
RO1220	2	12	14	44	Na	7	4	19	34 x 13 x 35	290
RO1220V	2	12	14	44	-13	7	4	19	34 x 13 x 35	290
RO1820	2	18	14	44	Na	13	6	26	34 x 20 x 36	300
RO1820V	2	18	14	44	-13	13	6	26	34 x 20 x 36	300
RO2420	2	24	14	44	Na	13	6	34	34 x 20 x 36	305
RO2420V	2	24	14	44	-13	13	6	34	34 x 20 x 36	305
RO3620	2	36	14	44	Na	13	6	49	34 x 20 x 39	325
RO3620V	2	36	14	44	-13	13	6	49	34 x 20 x 39	325



### 60 Cycle Pump Curve for Oiltherms



### Oiltherm Cooling Capacity Curve



$\Delta T$  (°F) = Outlet Oil Temperature Less Cooling Water Inlet Temperature



7720 North Lehigh Avenue  
 Niles, Illinois 60714-3491  
 Tel: (847) 966-2260  
 Toll Free: (888) 828-7387  
 Fax: (847) 966-9358

Email: info@thermalcare.com  
 Website: www.thermalcare.com

Thermal Care is an ISO 9001:2000 certified company

Manufacturer reserves the right to change specifications or design without notice or obligation. Thermal Care is a registered trademark of MFRI, Inc.