

HEAT SIPHON®

SWIMMING POOL HEAT PUMPS - WE PERFORM TO KEEP YOU WARM!!!

THE MOST EFFICIENT POOL HEATER MADE!!

Four Heat Siphons on Fort Lauderdale, FL Community Pool



Twelve Heat Siphons installed on Cranberry Twp, PA Community Pool



3.25HP HEAT SIPHON - FOR AVERAGE SIZE RESIDENTIAL POOLS

Digital Model

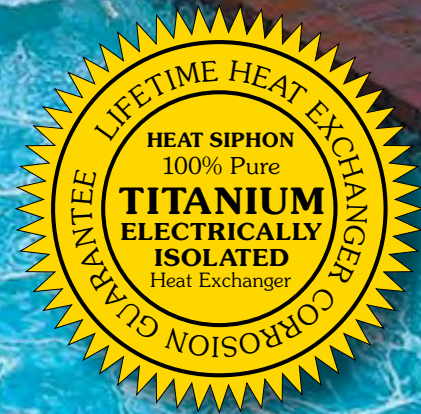


Analog Model



Installs in a few hours with just a 220 volt dedicated breaker and standard PVC piping.

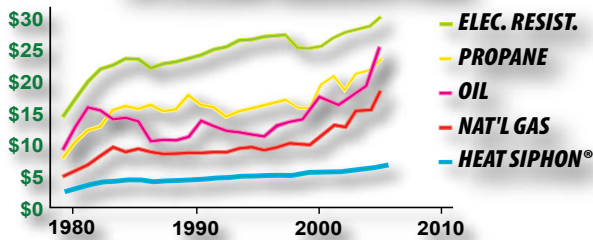
Your Pool will be Warm & Cozy in 48 hrs. at a cost you can live with every month!!



85°F - 24/7 for \$2.50/Day

WARM WATER at the Lowest Cost Possible : 85°F - 24/7 for \$2.50/Day

COST TO PRODUCE 5°F RISE IN 24,000 GALLON POOL



SOURCE: BUREAU LABOR STATISTICS

Based on US Dept of Labor Statistics for US City Average fuel costs

ONE 3.25HP HEAT SIPHON WILL MAINTAIN a 15' x 30' POOL at 85°F- 24 hours per day, 7 days per week for as low as \$2.50 per day in PORTLAND,MAINE or MIAMI,FLORIDA, based on US Dept of Energy Cost Data. For proof download a copy of our 4 page pool heating analysis from our website - www.HEATSIPHON.com.

Heat Siphon technology has always been the lowest cost method of heating swimming pools in the United States and eventually it will be virtually the only method used. Why? Heat Siphon produces heat at:



- 1/2 the cost of Natural Gas
- 1/3 the cost of Oil or Propane
- 1/5 the cost of Electric Resistance

Cheap Oil and Natural Gas are scarce and industry, Government and University studies have all projected steady price increases while the fuels used to generate 3/4 of the Nation's electricity (coal, nuclear & hydroelectric) are either ABUNDANT OR INEXHAUSTIBLE.

SAFE DEPENDABLE HEAT PUMP TECHNOLOGY - NOT MAGIC

Heat Siphon will always be 1/4 to 1/5 the cost of straight electric resistance heat. Why? For every unit of electricity Heat Siphon uses, it produces 4 to 5 units of heat. Sound like magic? Hardly. With the same technology a central air conditioner removes 2.5 to 3 units of heat from your house for every unit of electricity it consumes. Water coolers, refrigerators, dehumidifiers and freezers all use this established DEPENDABLE and SAFE Heat Siphon technology. Heat Siphon has been tested by an independent laboratory and approved as meeting nationally recognized UL and CSA safety standards. EVERY HEAT SIPHON® IS TESTED BEFORE, DURING AND AFTER FINAL ASSEMBLY FOR HEAT OUTPUT, WATER AND REFRIGERANT SEALS AS WELL AS SAFETY COMPLIANCE.



FREE Pool Heating Cost Analysis / Performance Certified

Available by EMAIL or FAX the same day. JUST ASK YOUR DEALER!! or Visit www.heatsiphon.com

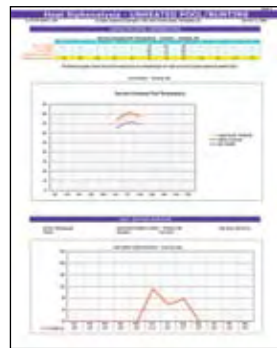


The cost of heating a swimming pool depends on a number of factors including climate, pool cover use, wind, shade, type of heater, fuel costs and more. Calculating this cost accurately is a complex task. That's why U. S. ThermoAmp, Inc. developed a computer program to calculate pool heating costs USING YOUR LOCAL FUEL COSTS and CLIMATE DATA to pick the proper size Heat Siphon for your pool. We certify our sizing with a money back guarantee.* This four page computer print out compares gas, oil, electric resistance and Heat Siphon operating costs. It shows you Heat Siphon runtime, unheated pool temperature, monthly heating cost for all types of heaters requested, and much more including a payback analysis to show you how quickly your HEAT SIPHON WILL PAY FOR ITSELF.

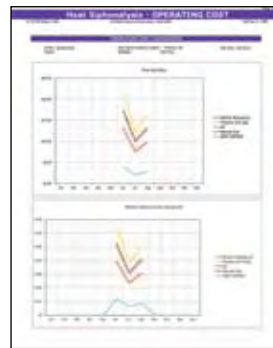
SAMPLE OF FREE HEATSIPHON ANALYSIS - 4 PAGE POOL HEATING COST ANALYSIS - SENT TO YOU BY EMAIL ,FAX OR POST MAIL



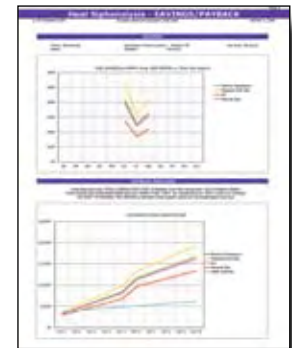
Input: Your Pool & Climate Data, Out: Heat Siphon Sizing & Cost Summary



Unheated Pool Temperature & Heat Siphon Runtime Hrs./Day



Fuel Cost per Day & per Month vs. Electric Resist., Oil, Gas & Propane



10 Year Cost Projections & Payback Analysis vs. Other Heater Types

*Accuracy of this analysis is based on the accuracy of the data input. Variations in weather and actual conditions (hours covered, pump hrs/day etc) will affect guaranteed performance.

HEAT SIPHON® Simply Adds Warmth

HEAT SIPHON® is a Wise Investment

POOLS AREN'T CHEAP, But . . . in a few hours and for a fraction of your original investment, you can install a Heat Siphon & enjoy your heated pool anytime rain or shine. While your neighbor's unheated pool goes unused, you and your family and friends swim in warm water for 3 to 5 months longer every year AT THE LOWEST COST POSSIBLE. No children with blue lips, no excuses for having a pool party, just warm water fun when you want it. Just think of the added family fun, the comfort of warm water for the youngest to the oldest, early morning laps or a late evening dip.

With HEAT SIPHON® on your pool - THE WATER'S ALWAYS FINE!! .. SO!! . . .

JUMP RIGHT IN ANYTIME!!



Warm!!

ONE KNOB or TWO BUTTONS . . . Just SET IT & FORGET IT.

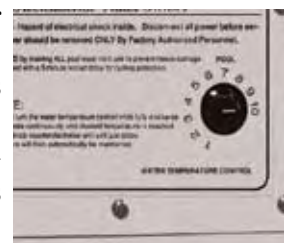
On Digital models just press the "UP" or "DOWN" key to set the desired pool temperature - 3 seconds after the last key press a beep confirms your setting. On Analog models just turn the dial all the way up and let your Heat Siphon run until your desired pool temperature is reached, then turn the knob slowly counterclockwise until your Heat Siphon shuts off. It's that simple. IT'S SET - TIME TO FORGET IT AND JUMP IN YOUR NICE WARM POOL!!!



DIGITAL MODEL 2-BUTTON INTERFACE

Heat Siphon will automatically maintain the pool temperature within 1.5 °F. The water thermostat and water flow switch constantly monitor pool temperature and pump operation, and turn on your Heat Siphon only when needed and only while your circulating pump is running. - It's that simple.

Heat Siphon uses a thermostatic expansion valve to operate the heat pump system at maximum efficiency regardless of air or water temperatures. It shuts down if your pool filter clogs or fresh air supply to the unit is stopped, or if in danger of icing (air temperatures below 42°F). When the icing threat is gone, your Heat Siphon automatically resumes heating your pool.



ANALOG MODEL THERMOSTAT KNOB

"WE PERFORM TO KEEP YOU WARM!!!"™

HEAT SIPHON® Lasts a Lifetime

HEAT SIPHON® Outlives Gas Heaters



HEAT SIPHON® Quality Features:

NO CORROSION

Almost all gas pool heaters have a sheet metal cabinet and a copper heat exchanger with cast iron water connections. Usually they are assembled with galvanized steel screws. Since gas heaters are so expensive to run, the gas heater manufacturers all try to keep the cost of the heater as low as possible. But metal cabinets rust and copper heat exchangers corrode.

Heat Siphon®'s electrically isolated Pure Titanium Heat Exchanger, PVC cabinet and stainless steel hardware, make it corrosion proof with typically two to three times the life of a gas heater. Its sealed refrigeration system, weather-proof PVC control box and totally enclosed fan motor are all designed for years of trouble free service.

NO FLAMES

Another shortcoming of gas heaters is heat exchanger scaling or soot deposits which drastically cut down heat transfer efficiency.

The pool water flows through small flow channels in a gas heater and the hot combustion gas heats the outer tube surface. The flow rate of the pool water is critical since too low water flow will cause boiling inside the tubes and eventually a hard scaling deposit will block the tube and overheat it. On the other hand, very high water flow can cause sweating or condensation on the outside of the tube which can lead to combustion chamber rusting or soot deposits.

Heat Siphon® uses no flame so heat transfer occurs almost 2000°F lower in temperature than combustion gas. Since the pool water flows on the OUTSIDE of the Titanium tubes, heat exchanger scaling and blockage are eliminated.

With Heat Siphon® there's no pilot light to blow out or soot up, no flue gases, no dangerous hot surfaces, no scaling, no gas piping to run, no unsightly gas tanks and no high fuel cost.

**ONE HEAT SIPHON® COULD EASILY
LAST LONGER THAN THREE
GAS POOL HEATERS!!**

SET IT & FORGET IT

SIMPLE USER FRIENDLY INTERFACE -

Digital Models: 2-Button "UP"/"DOWN"
Analog Models: ONE Knob

WEATHER-PROOF CONTROL BOX -

Keeps Electrical Controls Dry
Clean and Easily Accessible

ALL STAINLESS STEEL HARDWARE -

Cabinet Screws, Fan Acorn Nuts

LIFETIME SOLID PVC CABINET -

Weather Resistant UV Stable
Flame Retardant Plastic

BUILT-IN SUCTION & DISCHARGE GAGE PORTS -

Easy 2 screw service access door for
quick system refrigerant pressure check

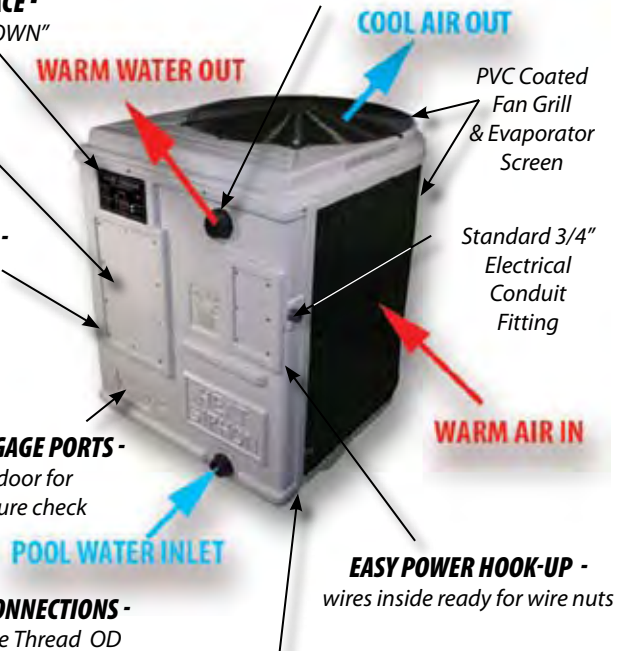
SIMPLE DUAL PVC POOL WATER CONNECTIONS -

1.5" Sch 40 Slip ID or 2" Male Pipe Thread OD

NO METAL HEAT SINKS

SAFE - LIFETIME TITANIUM HEAT EXCHANGER

Electrically Isolated from pool - **NO BYPASS** Req'd
Accepts **FULL PUMP FLOW** up to 80 GPM with only
1.5 psi pressure drop - **LOWEST PUMP WORK**



BUILT-IN HIGH HUMIDITY CONDENSATION DRAIN -

1/2" Nylon Barb Fitting in basepan accepts push-on
3/4" flexible clear vinyl tubing

HEAT SIPHON® Scroll Models Save Even More on Fuel Costs

SCROLL COMPRESSOR - All 3.25HP and 5HP Size Heat Siphons are available with the SCROLL compressor, manufactured by Copeland. Unlike all conventional heat pump compressors which use a piston and two check valves to compress refrigerant to make heat, the SCROLL compressor has two scrolls that rotate around each other to continuously compress refrigerant WITH NO VALVES.

Advantages: SCROLL Heat Siphons will have a higher heat output at low air temperatures, where piston compressors heat output falls off. **ABOUT 12% MORE HEAT FOR YOUR POOL WHEN YOU NEED IT!!**

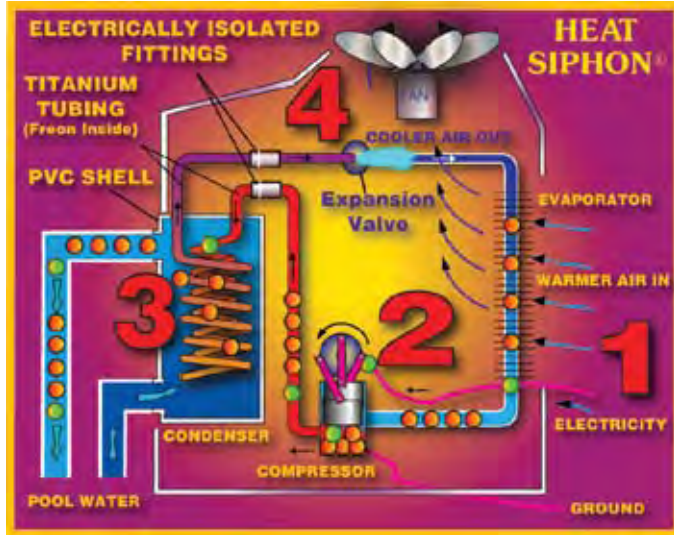
A Fixed Scroll and an Orbiting Scroll are all that's required to compress refrigerant gas. This replaces approximately 15 parts in a piston compressor. LESS WEAR PARTS MEANS MORE RELIABILITY. A continuous squeeze of gas by two scrolls replaces piston compression and valves opening and slamming shut. SCROLL COMPRESSORS ARE ACTUALLY QUIETER THAN THE FAN ON THE HEAT SIPHON!!



It's A HEAT PUMP for Swimming Pools!!

How HEAT SIPHON® Works: (Buy 1 BTU and Get 4 or 5 Free)

Heat Siphon is a heat pump designed specifically for recreational water heating. If you have an air conditioner, dehumidifier, water cooler or a refrigerator, you already own a heat pump. All these appliances use the same dependable refrigeration technology to move heat from one place to another by evaporating and condensing refrigerant in a sealed tubing system.



HERE'S HOW HEAT SIPHON WORKS:

At **1** a unit of electrical energy (●) (you pay for) goes into the compressor motor. The compressor turns this into mechanical energy and sucks cool gas from a gas-liquid refrigerant mixture in the evaporator tubes. The refrigerant evaporates & absorbs four units of "free" heat (●) from the warmer air the fan pulls over the outside of the tubes. At **2** the compressor squeezes this gas causing its temperature to climb above 200° F and adds the electrical/ mechanical energy as another unit of heat. This hot high pressure gas then enters the condenser coil **3** and passes this heat to the colder (80° F) pool water being circulated over the outside of the coils. The refrigerant gas condenses back to a liquid at high pressure and flows thru a valve at **4** back to the lower evaporating pressure. This rapid pressure drop super cools the liquid refrigerant which as it enters the evaporator at **1** where it repeats the cycle. SO YOU PAY FOR ONE UNIT OF HEAT AND GET FOUR FREE!! . . . And with the Scroll models you get FIVE units FREE!!

HEAT SIPHON® SPECIFICATIONS

There are three (3) basic sizes of Heat Siphon - All based on compressor horsepower - 2.25hp, 3.25hp and 5hp

Performance Specifications by Heat Siphon® Model

GENERAL - ALL MODELS

Air Flow 5000 CFM - Discharge Vertical Up
 Water Flow 25 GPM min. - 80 GPM max.
 Pressure Drop less than 2 psi
 Cabinet PVC - UV Stabilized Flame Retardant
 Hardware All 18-8 Stainless Steel
 Full Flow Condenser Grade 2 Pure Titanium Tube in PVC Housing
 Control Circuit 24 volt AC 40VA current limiting transformer
 Low Pressure Switch Auto-reset (CO 80/CI 40 psig)
 High Pressure Switch Auto-reset (CO 350/CI 250 psig)
 Expansion Device Thermostatic Expansion Valve

DIGITAL

Thermostat Electromechanical
 Accuracy 1.5°F Diff - 106°F Max
 Restart Time Delay Discrete Solid State

ANALOG

Digital - Thermistor
 1°F Diff - 106° Max
 Digital Software

Shipping Information

SIZE	BOXED DIMENSION	WEIGHT
2.25HP	34" W x 39" D x 36" H	190 Lbs
3.25HP	34" W x 39" D x 46" H	250 Lbs
5HP	34" W x 39" D x 46" H	300 Lbs

MODEL	TYPE	POWER REQ'D			BREAKER AMPS	@60 Hz		@50 Hz		
		VOLTAGE	HERTZ	PH		BTUH	COP	BTUH	COP	
220v SINGLE PHASE	2.25HP	Piston	208/230	60/50	1	30	60,000	6.4	52,000	6.8
	3.25HP	Piston	208/230	60/50	1	40	83,000	5.9	72,000	6.2
	5.0HP	Piston	208/230	60/50	1	50	122,000	6.2	104,000	6.6
	SX3.25HP	Scroll	208/230	60	1	40	80,000	7.0	N/A	N/A
	SX5.0HP	Scroll	208/230	60	1	50	109,000	7.6	N/A	N/A
	SX3.25HP50	Scroll	220/240	50	1	40	N/A	N/A	67,000	7.3
	SX5.0HP50	Scroll	220/240	50	1	50	N/A	N/A	103,000	6.9
440v THREE PHASE	3.25HP3	Piston	200/230	60/50	3	30	83,000	5.9	62,000	6.5
	5.0HP3	Piston	200/230	60/50	3	30	120,000	6.3	104,000	6.6
	SX3.25HP3	Scroll	200/230	60/50	3	30	80,000	7.0	62,500	6.5
	SX5.0HP3	Scroll	200/230	60/50	3	30	109,000	7.6	84,500	7.2
	2.25HPX	Piston	380/460	50/60	3	10	71,000	6.2	62,000	6.5
	3.25HPX	Piston	380/460	50/60	3	15	90,000	5.8	78,500	6.1
	5.0HPX	Piston	380/460	50/60	3	20	122,000	6.2	104,000	6.6
HEATING/ COOLING	SX3.25HPX	Scroll	380/460	50/60	3	15	80,000	7.0	67,000	7.3
	SX5.0HPX	Scroll	380/460	50/60	3	20	109,000	7.6	93,000	7.8
	SX3.25HC	Scroll	208/230	60/50	1	40	80,000	7.0	N/A	N/A
	SX3.25HCX	Scroll	380/460	50/60	3	15	80,000	7.0	67,000	7.3

NOTICE: THE FACTORY SIZING HSA COMPUTER PROGRAM USES ACTUAL PERFORMANCE DATA BASED ON YOUR LOCAL CLIMATE AND THE POOL CONDITIONS YOU SPECIFY. CONTACT THE FACTORY FOR A FREE ANALYSIS TO ENSURE PROPER SIZING.



For the Latest Heat Siphon® Technical Information and a FREE Pool Heating Analysis visit: www.HEATSIPHON.com

All specifications subject to change without notice.

No pH or Chlorine Limits - Lifetime Guaranteed

Titanium

Why Your Pool Heater Can't Live Without It:

HEAT SIPHON® Electrically Isolated
Titanium Heat Exchanger Guaranteed
Corrosion Free For LIFE!!



Heat Siphon®'s Exclusive
Pure Titanium Tube Coil

Today's gas & oil pool heaters still use copper heat exchangers. In pool water, copper slowly turns to powdery green copper chloride. Heat, chlorine and acid all make copper corrode faster. A number of pool dealers have reported that "normally" 10% of all fossil fuel heaters corrode and leak within 2-5 years, and a new heat exchanger costs about \$500.00.

Planned Obsolescence? - Maybe. GAMBLING? - Definitely.

Although Pool Heat Pump's offer up to 80% savings in fuel cost and are generally much more reliable and safer than gas pool heaters, if a water heat exchanger gets a hole in it (usually due to corrosion) and pool water enters the sealed refrigeration system, THE ENTIRE HEAT PUMP IS RUINED!!

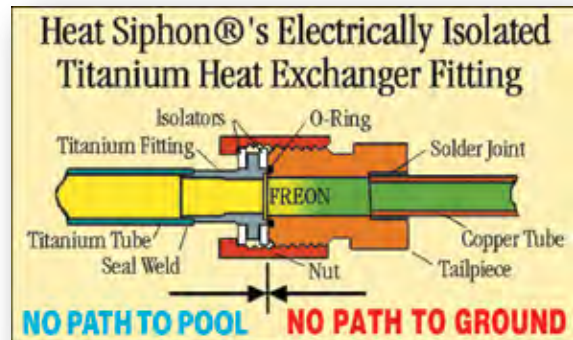
Heat Siphon is designed and built with a special heat exchanger to totally eliminate corrosion. The pure titanium heat exchanger tube material

was selected based on corrosion tests at 100 F with a pH of 4.75 and chlorine levels 5000 parts per million (1000 times greater than normal pool water) Although this is a severe test, it simulates realistic possible conditions such as chlorine tablets in skimmers and out of balance pool water. Cupronickel, 304 & 316 stainless steels. and other alloys were tested including Titanium. After 48 hours cupronickel lost 9% of its original weight and 304 & 316 stainless steels corroded even more severely. ONLY PURE TITANIUM SHOWED VIRTUALLY NO MEASURABLE CORROSION!!

What About Electrolytic Corrosion?

Although titanium eliminates chemical corrosion in even the harshest pool water, a small number of heat exchanger failures occur in pool heaters found to have stray low voltage traveling to or from the pool water through the heat exchanger, which would cause corrosion no matter what metal was used.

With the aid of sensitive digital volt meters, field servicemen can actually measure the stray voltage between the heat exchanger and the power supply



ground wire or local earth grounding rods required for pool equipment bonding. Floating grounds on power supplies, electronic chlorinators and even underwater pool lights can leak harmless low voltage electricity, less than 3 volts, into the pool which force electrolytic corrosion of the heat exchanger in a matter of weeks.

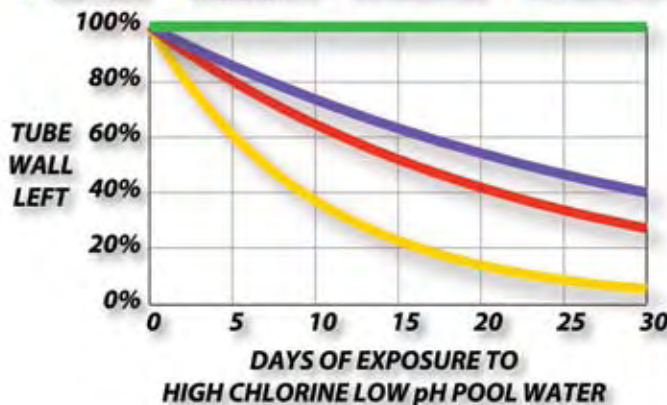
Heat Siphon's Solution: Still striving to eliminate ALL failures, in mid-1991 United States ThermoAmp Inc. developed the first electrically isolated heat exchanger for pool heat pumps by designing a special Titanium fitting that insulates the pure titanium heat exchanger from the rest of the Heat Siphon. By breaking the path of this stray voltage so no electrical current can travel to or from the heat exchanger, this voltage cannot force corrosion of the tube.

Since January 1, 1992, all HEAT SIPHON tube surfaces in contact with pool water have been made from commercially pure titanium & are electrically isolated. United States ThermoAmp Inc. Guarantees this Heat Exchanger Corrosion Free to the original owner for LIFE!!

HEAT EXCHANGER TUBE WALL THICKNESS LEFT

Extrapolated from 3-Day Nova Analytical test data- Water 100°F, pH 4.75, Chlorine 10,000 ppm

PURE TITANIUM CUPRONICKEL 90/10 304 STAINLESS STEEL 316 STAINLESS STEEL



Already **BUILT-IN** Every Digital Heat Siphon: the **DIGITAL WIRELESS FUTURE:**

HEAT SIPHON

SWIMMING POOL HEAT PUMPS - WE PERFORM TO KEEP YOU WARM!!!

NEW!! DIGITAL "D / DX" Series



DIGITAL PLAYER BUILT-IN FEATURES:

- **Simple 2 Button Interface** - press up or down to change set point - sets in 3 seconds. Press BOTH buttons, release, then "up" or "down" to select mode, °F/°C and other features
- **Digital Accuracy** Water & Air Temperature within 0.5°F
- **Water Flow Monitor** with 10 second start delay
- **Low Air Temperature Monitor** prevents Air Coil Frosting
- **Refrigerant Hi & Low Pressure Monitor** w/Leak Detector
- **Countdown Display** for All Flow, Event & Start Delay Timers
- **Wireless Auto-Pic™** selects Pool or Spa mode automatically

State-of-the Art Luxury WIRELESS Add-ons:

WIRELESS PassPort ADD-ON MODULE PROVIDES:

- Gateway to Wireless FOOTBALL Pool/Spa Controller Family
- Daisy-Chaining Control of Multiple Heat Siphons

Lower Cost Hardwired Alternatives:

J-POD POOL PUMP CONTROLLER PROVIDES:

- PumpJump™ - time clock override for off-cycle heating

EASY-CLOCK® PLUG-IN BOARD PROVIDES:

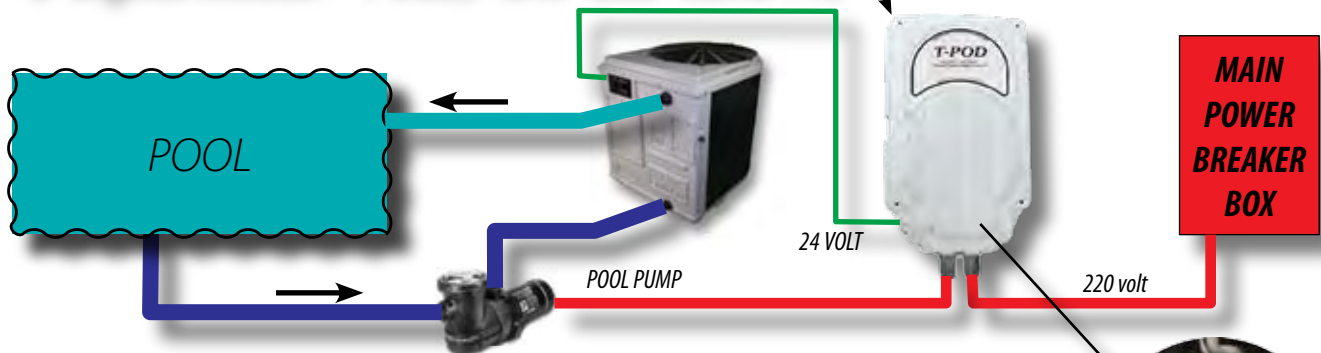
- Adds real-time clock for on/off Pump Scheduling
- Adds Easy-Pic™ simple 2-wire positive Pool/Spa set point selection for all motorized 3-way valves on spill over spas

T-POD POOL PUMP CONTROLLER PROVIDES:

- PumpJump™ - time clock override for off-cycle heating
- One Event per Day Pump Timer (EasyClock Board req'd.)

PLAYER™ Control Panel with Bright Daylight Readable LED's, and

- 1 User Friendly Interface: Set It & Forget It**
- 2 Buttons: "UP" & "DOWN"**
- 3 Digital Modes: "POOL", "SPA" and "AUTO-PIC®"**



D (piston) Series and DX (scroll) Series are available in all 3.25HP and 5HP Piston and Scroll Compressor Models with either R22 or Green Gas (R422B)

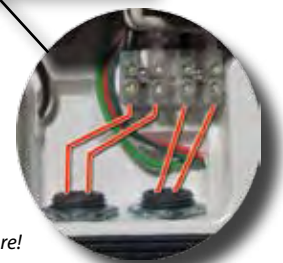
ALL D/DX Model Player Boards are READY for WIRELESS add-ons sold separate-

PASSPORT™ - Plugs into the Player Board and "PASSES" wireless control and data signals to the FOOTBALL™
 PASSPORT™ USB - Plugs into your computer's USB port to provide all "FOOTBALL™" functions on your PC

FOOTBALL™ - Indoor LCD Wireless Controller

- Control & Schedule up to 5 PODs (pumps, valves, lights etc)
- Displays STATUS including water temp & setpoint, mode

- Set Heat Siphon Pool/Spa Temperature and much more!
- PODs - Wireless Pool Operating Devices
- C-POD™ - Pool/Spa Combo 1 Pump /3 valve controller
- P-POD™ - Pump Controller



SIMPLE SCREW DOWN POWER WIRE CONNECTION ON ALL PODS



"WE PERFORM TO KEEP YOU WARM!!!"™

United States ThermoAmp Inc.

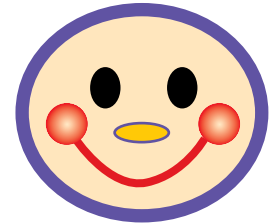
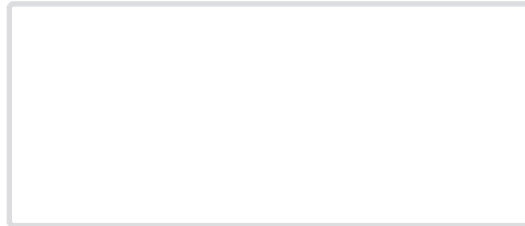
1223 Heat Siphon Lane

Latrobe, PA 15650



PRESORT STD
U.S. POSTAGE
PAID
United States
ThermoAmp Inc.

Get a HEAT SIPHON Pool Heater and...



VACATION AT HOME THIS YEAR

IN YOUR OWN HEATED POOL



85°F - 24/7 for \$2.50/Day