



# **Raypak**

## **Heat Pump**

### Pool and Spa Heater

## High efficiency never felt so good...

Whoever thought doing something good for the environment would also save you money? It's true! A Raypak heat pump is built with the latest eco-friendly R410A refrigerant. But the most amazing aspect of a heat pump pool heater is its operating efficiency compared to gas heaters. A heat pump operates at **5 to 6** times the efficiency of a standard gas, oil or electric pool heater. If you live in an area where your natural or propane gas costs have outpaced your electricity costs, the savings can be big. The chart below illustrates just how much money can be saved using average energy cost data.

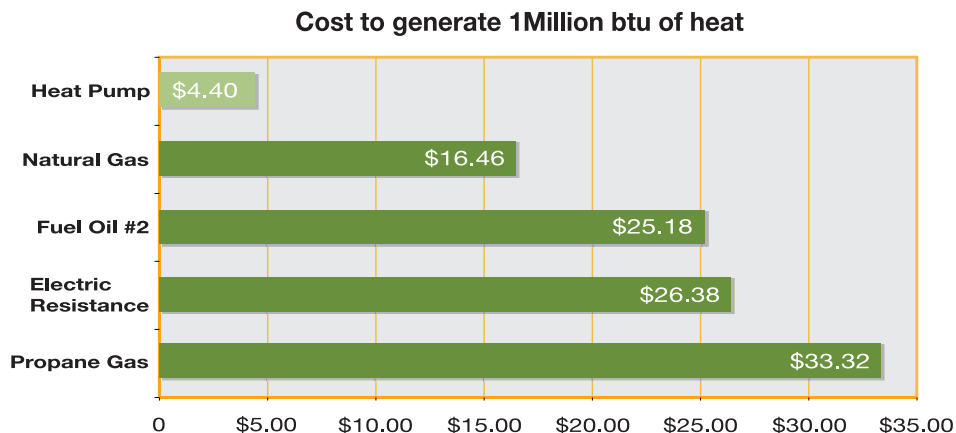


Chart based on \$1.35/Therm natural gas, \$2.50/gallon propane gas, \$2.75/gallon heating oil, 9 cents/kilowatt

## Now you can afford to heat your pool more often...

While it's true that nothing beats a gas heater for bringing your pool or spa up to temperature rapidly, it can be expensive to operate. Keep in mind that with a gas heater, you also need to run expensive gas lines or install an unsightly propane storage tank. Raypak units operate quietly, cleanly and most of all efficiently. Installation is no harder than installing a pool pump. Now you can trust your backyard investment to the same people who have been in homes across America for over 70 years. Your Raypak heat pump is designed to provide years of safe, reliable service, and can save you money over time compared to other heating methods. Ask your Raypak heat pump dealer for more details!



## Reliability...

Raypak pool heater heat pumps are the **only** heat pumps manufactured by a **major air conditioning company**, Raypak's parent company Rheem. Rheem's HVAC product lines have successfully utilized heat pump technology for over 30 years. By taking our field proven technology and combining it with our industry leading pool heating products, we have developed a heat pump pool heater that is second to none. In the unlikely event that you have a service problem, one toll-free call will have your heater up and running again. It's that simple. Raypak heat pumps are truly hassle-free.

## DuraSteel™ Powder-Coated Cabinet

Our exclusive DuraSteel Cabinet is zinc chromate plated and polyester powder coated, making it non-corrosive and much more durable than a plastic cabinet. It's the same rugged construction used by all the major air conditioner manufacturers.

# More Choices



## Raypak Compact Series

The Raypak Compact Series heat pump pool heater is the perfect solution for above-ground pools and smaller in-ground pools. With its smaller footprint and robust construction, no other manufacturer delivers a competitive product with full featured design elements. The same components that are used in all of our larger heat pumps are used in the Compact Series. Raypak has not cut any corners or sacrificed performance in this smaller collection of high performance heat pumps. The Compact Series has an all metal cabinet construction and the same warranty its bigger brothers share. Take a really close look at the Raypak Compact Series and you will truly see that there is no comparison.

**Models:** R2350ti, R3350ti, R4350ti, R4350ti-PD



## Raypak Classic Series

The Raypak Classic Series heat pump pool heater is the first choice of builders and service companies for in-ground pools of all sizes. With its all-metal cabinet construction and industry-leading component parts, the Raypak heat pump really has no equal in the industry. Raypak heat pumps are competitively priced with all other brands in the marketplace. This represents even more value to an already great product. You can now own top of the line, name brand equipment at the same price the competition is selling lesser recognized brands. Step up to a new degree of comfort with a Raypak heat pump, and be assured your backyard investment will be there when you need it, year after year. At Raypak, we stand behind our products and have for over 70 years.

**Models:** R5350ti, R6350ti, R8350ti



## Raypak Quiet Technology Series Stainless Steel

The Raypak Quiet Technology Series stainless steel heat pump is our premium series heat pump. It's specifically designed to take a beating in rough coastal climates where salt air can shorten the life of most outdoor appliances, with sleek, appliance grade 304 brushed stainless steel that is so attractive, you won't want to hide it behind your equipment wall. The unit also provides exceptional heating performance while operating at only 59dB sound level. For only a slight premium over a standard unit, you can have whisper quiet operation, outstanding weather protection and performance in a premium pool heater by Raypak. And because it's a Raypak, you can rest assured that you made the right choice.

**Models:** RS5350ti-QT, RS6350ti-QT, RS8350ti-QT *(Quiet Technology unit with Stainless Steel Cabinet)*  
**RS5350ti, RS6350ti, RS8350ti** *(Classic unit with Stainless Steel cabinet)*

Model	R2350ti	R3350ti	R4350ti R4350ti-PD	R5350ti RS5350ti-QT	R6350ti RS6350ti-QT R6350ti-PD	R6350ti-HC	R8350ti RS8350ti-QT R8350ti-HC
BTUH output @ 80,80,80*	50,000	68,000	85,000	95,000	117,000	110,000	133,000
BTUH output @ 80,63,80**	48,000	63,000	80,000	92,000	113,000	104,000	125,000
C.O.P High Ambient @ 80,80,80*	5.5	5.9	6.4	6.2	6.2	6.0	5.5
C.O.P High Ambient @ 80,63,80**	5.3	5.5	6.0	6.0	6.0	5.7	5.2
C.O.P Low Ambient @ 50,63,80**	3.5	4.0	4.0	4.0	4.0	4.1	4.0

\*Tested outside the scope of AHRI 1160 \*\*Tested to AHRI 1160

# Raypak Titanium Heat Pumps

## Digital or Analog

Raypak is the only heat pump manufacturer that offers either a digital or analog control for its heat pump line. We have you covered with the best of both worlds. Our digital control is easy to use, has a pool and spa temperature setting as well as full diagnostics. For those that prefer analog, Raypak offers our direct set thermostat. The easy-to-read, easy-to-use dials allow you to set your water temperature just the way you like it. Gone are the days of the guesswork involved with having to choose between the 'blue & red swoosh', like on your car's A/C...now you have the temperature targets displayed right on the dial!



## Spiral "Rifled" Titanium Tube Heat Exchanger



And they said it couldn't be done...Titanium has gained world recognition in just about every industry for its "nearly unbreakable" qualities. In the past, titanium's rigidity made it nearly impossible to use in an ultra-efficient heat exchanger design. The spiral rifled tube increases the surface area where super-heated gases can transfer heat efficiently to water. A titanium tube heat exchanger provides a truly efficient waterway that withstands the abuses of harsh pool chemistry and corrosion. The spiral "rifled" exchanger also helps reduce deposit build-up, and increases efficiency by performing a "scoop-and-lift" action. While neither titanium nor rifling is new to the heat pump industry, leave it to Raypak to bring the best of both worlds together to maximize your backyard investment!

## Copeland Scroll™ Compressor – Quiet & Reliable Operation

The Copeland Scroll compressor in your Raypak heat pump is the same workhorse that is used in millions of air conditioners all around the world! The simple design of the Copeland Scroll compressor builds in reliability and allows it to operate at lower sound and vibration levels than reciprocating compressors. In fact, tests have shown that Scroll compressors are up to three times quieter than reciprocating models. Durability is based on a very robust design and contains only a few moving parts. Because the Copeland Scroll compressor starts unloaded, strain on the motor is considerably reduced. During rough operating conditions, spiral components within the unit reposition themselves to protect the compressor from damage. Millions of air conditioners can't be wrong...the performance of a Copeland Scroll compressor gets better with time: it "wears in," not out.



## Acoustically Engineered Fan

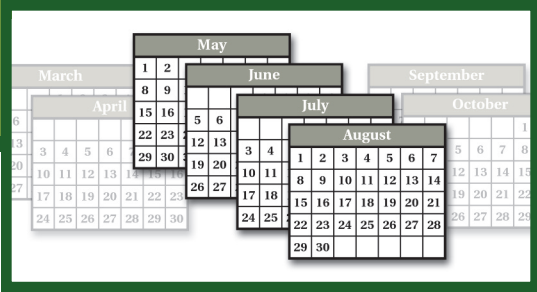
Custom designed fan operates more efficiently and produce minimal sound. Raypak heat pumps are packed full of premium quality components.



## Fan Motor

The Premium Emerson® permanent-split capacitor (PSC), sealed ball bearing motor is matched specifically to the fan blade assembly, which allows optimum efficiency with extended motor life. The slow RPM motor is matched to the fan blade which provides the lowest sound possible while still maintaining maximum heating performance.

**Quality • Reliability • Comfort**



## Extend Your Swim Season in Comfort...

A Raypak heat pump can turn your backyard pool investment into resort-style living almost year round. Get the most out of your pool by keeping it comfortable and open longer. Raypak heat pumps give you the flexibility of warming your pool water in the months before and after your normal swim season. Your backyard evening events are rarely slowed down by cool weather when you have a Raypak heat pump on duty.

## How does a heat pump work? And skip the black magic part...

Raypak air-source heat pump pool heaters work much like a refrigerator in reverse. The heat pump extracts the heat from the warm air, intensifies the heat with a compressor, delivers the heat to the water, and exhausts the cooler air out the top of the unit. Because it uses the warm ambient air temperature to do the work, it is a very efficient way to heat water. One of the biggest misconceptions about a heat pump's operation is what happens to the energy used to run the heat pump. For the most part, this energy does not go into the water. The electricity powering the unit operates the compressor and fan, along with the other controls and electronics. The electrical input energy if converted to btu's only amounts to roughly 14,000btu. The bulk of the btu output comes from the heat energy extracted from the air. That's why they operate so efficiently and the energy savings are so significant.

## What is C.O.P. and what does it mean to me, in simple terms?

C.O.P. stands for Coefficient Of Performance. It's the way efficiency is measured for heat pump pool heaters. Believe it or not, it's a very simple calculation. **BTU Output ÷ BTU Input = C.O.P.** Below is an example of the C.O.P. calculation for the Raypak model 5350ti:

$$\frac{\text{Output} = 92,000\text{btu}}{\text{Input} = 4.49\text{kW} = 14,106\text{btu}} = \frac{92,000}{14,106} = 6.0 \text{ C.O.P.}$$

So based on the calculation above, a Raypak heat pump delivers efficiencies in excess of 600%! The highest efficiency a gas pool heater can possibly obtain is 99%. The mystery is solved!

## This sounds too good to be true, prove it!

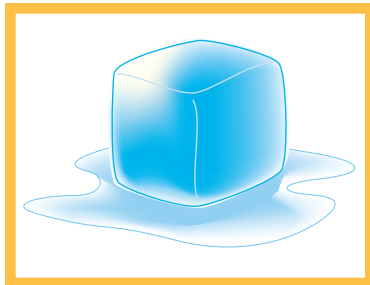
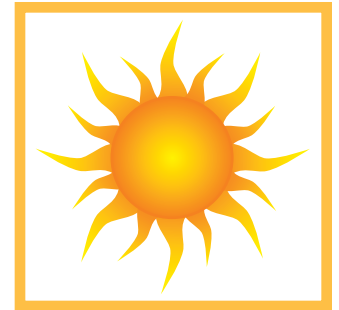
We thought you would never ask! Raypak is a proud member of AHRI. Our heat pump pool heaters are third party tested and certified under the AHRI 1160 standard. All performance numbers are listed on the AHRI website directory. The units are tested at a high ambient temperature condition and a low ambient temperature condition. Furthermore, most Raypak units meet or exceed the Florida 4.0 minimum C.O.P. requirement and are listed with the California Energy Commission. Unfortunately, not all manufacturers belong to AHRI and their published test data is questionable at best. When shopping for a pool heat pump, look for the **AHRI Certified logo**. This ensures that you are getting what you pay for, without the smoke and mirrors. Raypak heat pumps are also safety tested and **certified by Intertek**, another third party testing agency. This ensures that all components and electrical design meet or exceed the UL-1995 standard.



# Heat-Cool and Power Defrost

## Heat-Cool Models

Raypak Heat-Cool units extend your swim season even longer! Just the right heat pump for climates that have cooler-than-comfortable temperatures, but also have extremely hot summer months. With a Raypak Heat-Cool heat pump, your water temperature will always be comfortable. Just as households around the world have trusted us to heat their water during the colder months, Raypak will have you relaxing in your pool during the hot days of summer with cool, refreshing, chilled pool water. Having the ability to pull out the extra degrees Mother Nature puts in will make your pool the envy of the neighborhood. No matter what time of year, a Raypak Heat-Cool will have you swimming when others won't venture outside.



## How Does it Work?

Raypak Heat-Cool units have a unique reversing valve which enables the heat pump not only to take the chill out of the water, but also to put it back in, cooling your pool water during the hot summer months! Normally, a heat pump will gather heat energy from the air with its evaporator coil. Using refrigerant and several other components, the heat is transferred over to your pool water. By reversing this process, the heat pump can actually take heat out of the water, transfer it to the Freon, and run it through the evaporator coil. The coil dissipates the heat into the air, much like a car's radiator. This is also the method of defrost for the heat-cool model. In cold ambient conditions, a heat pump may ice-up when the ambient air drops below approximately 45 degrees. With a heat-cool unit, the ice will melt off in a matter of minutes when in defrost mode. Standard heat pumps rely on the ambient air being drawn across the coil, which could take hours to defrost, depending on the outside air temperature.

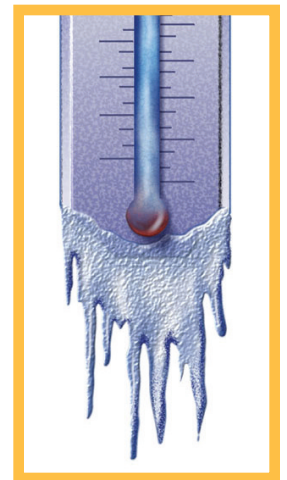
**Models: R6350ti-HC, R8350ti-HC**

## Power Defrost Models

There are some climates that can challenge a heat pump's performance. Areas that are subject to lower ambient temperatures have a tendency to cause ice to build up on a heat pump's condensing coil. This ice could damage a heat pump's internal components while starving the unit of the air flow it needs to work properly. To combat this, most manufacturers build their heat pumps with a "Defrost Mode." What most manufacturers don't tell you is that their units cannot heat your pool water while defrosting the coil!

With a Raypak Power Defrost heat pump, you can have your cake and eat it, too! How is this possible? ...simple! The more time your heat pump can spend heating the water, the quicker you will achieve your desired swim temperature. While heating your pool, if the Raypak Power Defrost Heat Pump senses damaging ice buildup, the Power Defrost feature redirects a small amount of the hot refrigerant gas back through the condensing coil. This removes any ice that may be forming on the coil without stopping the heating process! This means that a Raypak Power Defrost heat pump gives you the freedom to continue to heat your pool water even when the unit is defrosting itself. So while your neighbor's "other brand" of heat pump has stopped heating the water and is still trying to "break the ice," you and your family will be swimming!

**Model: R4350ti-PD, R6350ti-PD**



**For dimensions and technical specifications, see catalog numbers:**

**6000.18.5 Compact Series, 6000.18.2 Classic Series and 6000.18.4 Specialty Series, 6000.18.6 Quiet Technology Series.**

In keeping with its policy of continuous progress and product improvement, Raypak reserves the right to make changes without notice.