



# GEOTHERMAL HEAT PUMPS

# AFFINITY™ AND LX™ SERIES

## RESIDENTIAL PRODUCT LINE





### **Geothermal Earth Loops**

A geothermal system uses a series of underground pipes called a "loop." A loop is the secret behind a geothermal system's amazing efficiencies and the biggest difference from ordinary heating and cooling technologies.



#### Horizontal Loop

A typical home needs  $\frac{1}{4}$  to  $\frac{3}{4}$ of an acre to utilize a horizontal loop, and trenches are dug using a backhoe or chain trencher. High density polyethylene pipes are inserted, and the trenches are backfilled.



Vertical Loop

A typical home requires three to five bore holes, dug with a drilling rig. A pair of pipes with special u-bend fittings is inserted into the holes.



Pond Loop

A  $\frac{1}{2}$  acre, 8-foot-deep pond is usually sufficient for the average home. A series of coiled, closed loops are sunk to the bottom of the body of water and are used for heat transfer.



**Open Loop** 

An open loop utilizes a well that has an adequate capacity to provide water flow for both domestic use and the geothermal unit. Most units require 3-10 GPM, depending on size and model.

## **Respected Name**

For over 135 years, homeowners have been trusting York® to keep their homes and families comfortable year round. And by constantly leading the industry through our design and our technology, we've been doing just that.



Efficiency

Geothermal heat pumps are much more efficient than traditional heating and cooling systems. They can reach efficiencies as high as 30 EER and 5.0 COP, which is twice as efficient as any normal air conditioner or heat pump and a third higher than the most efficient dual stage geothermal heat pump. Efficiency translates into savings.



#### **Cost effective**

Geothermal heat pumps are so efficient that any added cost over traditional equipment is usually recovered in just a few years. And because they have a lifespan of 20-25 years, your investment will last longer and your return on investment will grow year by year.

#### Safe



No combustion or flames are used to operate a geothermal heat pump, making it a safe choice for your home and family. Our systems merely move heat to and from the ground rather than by burning natural gas, propane, or oil.

#### Reliable



York uses only the highest-quality components, design, and workmanship. Computer run-testing after assembly ensures that your equipment performs flawlessly at startup.







#### All-in-One

One York<sup>®</sup> geothermal heat pump will provide heating, cooling, and supplemental hot water for your home. A variety of sizes and configurations are available, so no matter your home or climate, a geothermal heat pump will work for you.



#### **Environmentally responsible**

Since our units don't burn expensive, polluting fossil fuels, they're the most environmentally responsible options available today. Replacing a furnace and/or air conditioner with geothermal can minimize acid rain threats, air pollution, and the greenhouse effect.



### Affordable peace of mind

York<sup>®</sup> geothermal units come with warranties up to 10 years for parts and labor allowances. Other options are available, so see your York<sup>®</sup> Contractor for details.



#### Affinity<sup>™</sup> Y5A Series - 1.5 to 6 tons Overall efficiency, performance & features: \*\*\*\*

30.0 EER 5.0 COP

The York® Affinity™ Y5A utilizes eco-friendly R-454B refrigerant and includes scroll compressors—the most durable and efficient compressor technology. Dual capacity operation provides the finest in comfort and energy savings. And with the Aurora family of controls, you'll have two-way communication, energy, performance and refrigeration monitoring and one of the most efficient dual stage geothermal heating and cooling units to date.





#### LX<sup>™</sup> Y3A Series - 2 to 6 tons Overall efficiency, performance & features: \*\*\*

22.4 EER 4.3 COP

The York<sup>®</sup> LX<sup>™</sup> benefits from technology that's been refined through 30 years of research, engineering advancements, and manufacturing experience. The LX utilizes two-stage scroll compressors and 5-speed ECM blowers to provide high efficiency performance and quiet operation-all at a great price point. The Y3A model utilizes our more eco-friendly refrigerant.





Affinity<sup>™</sup> Y5SZ Series - 2 to 5 tons Overall efficiency, performance & features: \*\*\*\*

27.8 EER 4.6 COP

The York® Affinity™ Y5SZ is a split configuration geothermal heat pump that's perfect for homes where package units are difficult to install. When used with a remote air handler or existing fossil fuel furnace, you can enjoy the many benefits of geothermal heating and cooling without the space requirements of normal systems.





Affinity<sup>™</sup> Y5SS Series - 2 to 6 tons

Overall efficiency, performance & features: \*\*\*\*

27.8 EER | 4.6 COP

The York® Affinity™ Y5SS is an outdoor split geothermal heat pump that's perfect for homes with no interior storage space. Install the Y5SS outside and connect it to a remote interior air handler or existing fossil fuel furnace for top-notch comfort and savings in any application.















Overall efficiency, performance & features: \*\*\*\*

radiant applications, and fan coils.



## The most efficient way

All of our York units are Energy Star Most Efficient rated for 2025, representing cutting edge efficiency and the latest in technological innovation.

#### Affinity<sup>™</sup> Y5WZ(T) Series - 8 to 15 tons

18.1 EER 3.3 COP

Overall efficiency, performance & features: \*\*\*

The York® Affinity™ Y5WZ(T) is a water to water hydronic system that can handle the high volume domestic hot water demands of today's larger homes. Also perfect for radiant floor and pool & spa heating, the Y5WZ(T) is the right choice for your high capacity hot water needs.

### Affinity<sup>™</sup> Y5WZ(S) Series - 1.5 to 6 tons

16.1 EER 3.1 COP

16.1 EER 3.3 COP

Overall efficiency, performance & features: \*\*\*\*

The York® Affinity™ Y5WZ(S) is a water to water hydronic system that's perfect as an add-on to handle 100% of your domestic hot water. Also great for radiant floor and pool & spa heating,

### Affinity<sup>™</sup> Y5WZE Series with OptiHeat - 4 to 5 tons

The York® Affinity™ Y5WZE high temperature hydronic heat pump with OptiHeat technology is our geothermal solution for boiler replacement. It can deliver up to 145°F leaving hot water and is perfect for baseboard radiator systems, underfloor radiant applications, overfloor





Product Specifications	VERTICAL AND HORIZONTAL MODELS AVAILABLE	VERTICAL AND HORIZONTAL MODELS AVAILABLE			LOW GWP		LOW GWP
	Affinity™ Y5A Series	LX™ Y3A Series	Affinity™ Y5SZ Series	Affinity™ Y5SS Series	Affinity™ Y5WZE Series with OptiHeat	Affinity™ Y5W(S) Series	Affinity™ Y5W(T) Series
Style	Water to air	Water to air	Indoor split	Outdoor split	High temperature water to water	Water to water	High volume water to water
Capacity Range (Tons)	1.5 - 6 ton dual capacity	2 - 6 ton	2 - 6 ton	2 - 6 ton	4 - 5 ton	2 - 5 tons	10, 15 ton
Efficiency: Part Load (GLHP) Closed Loop	4.2 - 5.0 COP 24.8 - 30.0 EER	3.9 - 4.3 COP 20.4 - 22.4 EER	4.0 - 4.6 COP 23.5 - 27.8 EER	4.0 - 4.6 COP 23.5 - 27.8 EER	N/A - Single speed units only	N/A - Single speed units only	3.2 - 3.3 COP 16.0 - 18.1 EER
Efficiency: Full Load (GLHP) Closed Loop	4.0 - 4.5 COP 18.3 - 20.8 EER	3.4 - 4.0 COP 15.2 - 16.4 EER	3.7 - 4.2 COP 16.9 - 19.8 EER	3.7 - 4.2 COP 16.9 - 19.8 EER	3.2 - 3.3 COP 16.1 EER	3.1 COP 16.1 EER	2.7 - 2.9 COP 14.2 - 15.4 EER
Refrigerant	R-454B	R-454B	R-454B	R-454B	R-454B	R-454B	R-454B
Compressor	Dual capacity	Scroll (dual capacity)	Scroll (single speed & dual capacity)	Scroll (dual capacity)	Vapor injected scroll (single speed)	Scroll (single speed)	Dual single speed scrolls
Blower	ECM variable speed	5-Speed ECM	Variable speed ECM when mated to the Y5B air handler.	Variable speed ECM when mated to the Y5B air handler.	N/A	N/A	N/A
Cabinet Configuration	Vertical top flow Vertical bottom flow Horizontal end or side discharge All left or right return	Vertical top flow Horizontal end or side discharge All left or right return	Compact cube	Compact outdoor unit	Compact unit	Compact unit	Compact unit
Stages (*with aux)	3 heat*, 2 cool	3 heat*, 2 cool	3 heat*, 2 cool	3 heat*, 2 cool	1 heat, 1 cool	1 heat, 1 cool	2 heat, 2 cool
Control Type	Aurora Advanced Controller with energy, performance, and refrigeration monitoring. Aurora Interface onboard diagnostics	Aurora Interface Diagnostics	Aurora Interface Diagnostics	Aurora Interface Diagnostics	Aurora Advanced Controller with energy, performance, and refrigeration monitoring Aurora Interface Diagnostics	Aurora Advanced Controller	Aurora Advanced Controller with energy, performance, and refrigeration monitoring
Air Coil	All-aluminum	All-aluminum	Coated with YAH air handler	Coated with YAH air handler	N/A	N/A	N/A
Hot Water Generator (Optional)	Internal mount pump	N/A	Internal mount pump	N/A	N/A	External mount pump. (Option not available on 1 <sup>1/2</sup> & 2 <sup>1/2</sup> ton)	N/A
<b>Auxiliary Heat</b> (Optional)	Internal mount on vertical	Internal mount on vertical	Depends on air handler Dual fuel option	Depends on air handler Dual fuel option	N/A	N/A	N/A
Zone Control	IntelliZone2 (up to 4 zones)	IntelliZone2 (up to 4 zones)	IntelliZone2 (up to 4 zones)	IntelliZone2 (up to 4 zones)	Optional	Optional	Optional
ENERGY STAR® Rated Most Efficient 2025	Yes—All models	Yes—All sizes	Yes—Most sizes (If installed with YAH air handler or A-coil)	Yes—Most sizes (If installed with YAH air handler or A-coil)	Yes—All Sizes	Yes—Most Models	Yes—Most Models



### Make a smart choice: York<sup>®</sup>

Choosing the right contractor is the first step in selecting the best system for your home. Your York® Contractor is trained to give you professional home comfort services, including:



- An evaluation of factors such as your home's size, age, number of rooms, climate characteristics and utility costs
- A system recommendation that fits your family's comfort needs, your home, your lifestyle and your budget
- The assurance of proper installation and customer care, including warranties and maintenance options

### Stay comfortable for years to come.

York® is proud to offer the YorkCare™ Comfort Plan. It's designed to maintain your system as well as your peace of mind. With YorkCare<sup>™</sup> you get total protection that ensures your unit is effective and efficient for years to come.

What's more, your York® Contractor offers maintenance agreements that provide upkeep while maximizing the warranty provisions. Ask about the YorkCare™ Comfort Plan. A little extra coverage is always a comforting idea.

### Long story short – our history.



You've probably enjoyed York® engineering for years without even knowing it. We have, after all, designed and implemented heating and cooling systems in some of the world's most famous structures, including the U.S. Capitol building, the Sydney Opera House, the entire U.S. Navy nuclear submarine fleet, and even venues such as your local mall and corner bank.

There's a reason people trust us with the big jobs. We've been doing this a long time. Over 135 years, in fact. In that time, we developed the first successful room air conditioner and cooled the world's first theater, hotel and office building. We're constantly leading the industry in our design and our technology. And our

commitment has earned our products the

Good Housekeeping Seal of Approval. No matter what the scale, chances are we've developed an efficient, durable and effective solution for it.







Homeowners who install an ENERGY STAR® rated geothermal system in the U.S. are eligible for a 30% federal tax credit. The 30% credit will last through 2032 and can be claimed on equipment and installation costs with no upper limit. The credit is scheduled to decrease to 26% in 2033 then to 22% in 2034, so act now for the most savings!



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