

HyperLoop is an innovative ground loop system comprised of a prefabricated flat array of reduced-diameter HDPE tubes oriented in parallel relation to one another and over-molded into supply and return headers using a unique over molding process that has proven to be extremely durable and reliable.

## High-Efficiency Loop

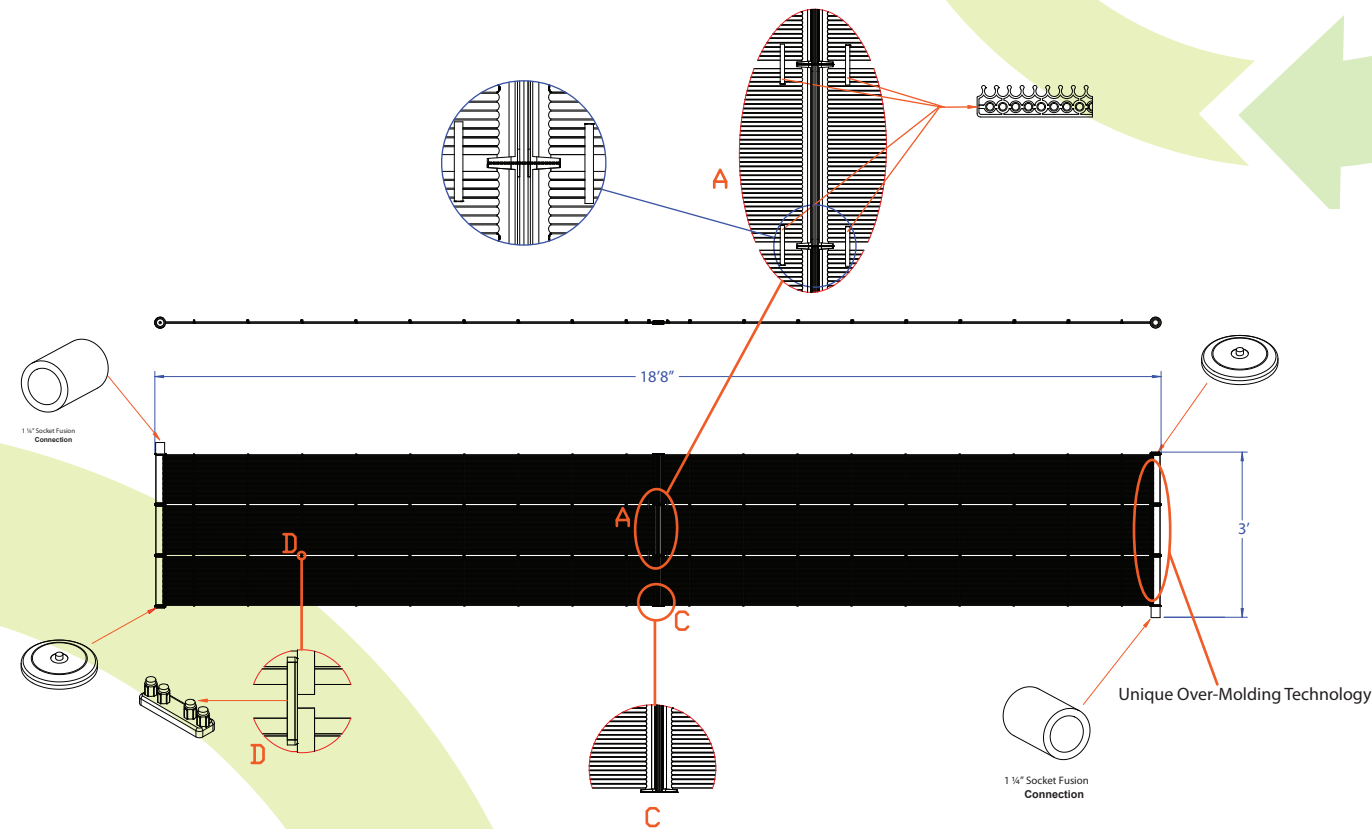
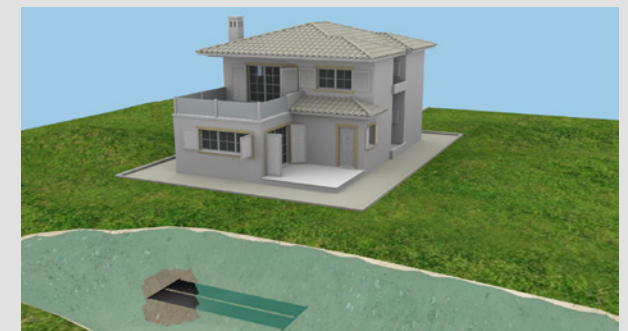
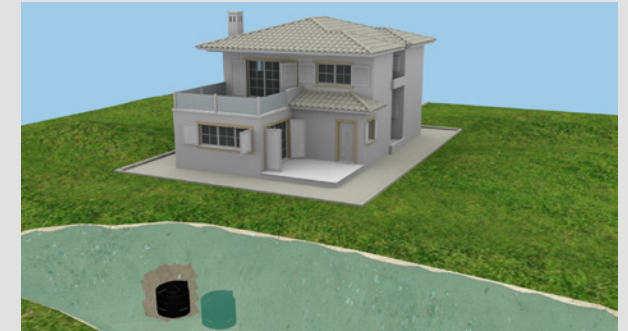
Fast & Simple Install

Space Saving

Cost Saving

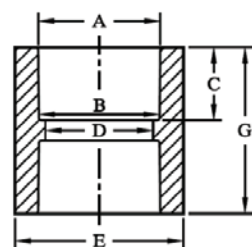
Corrosion Proof

Commercial & Residential



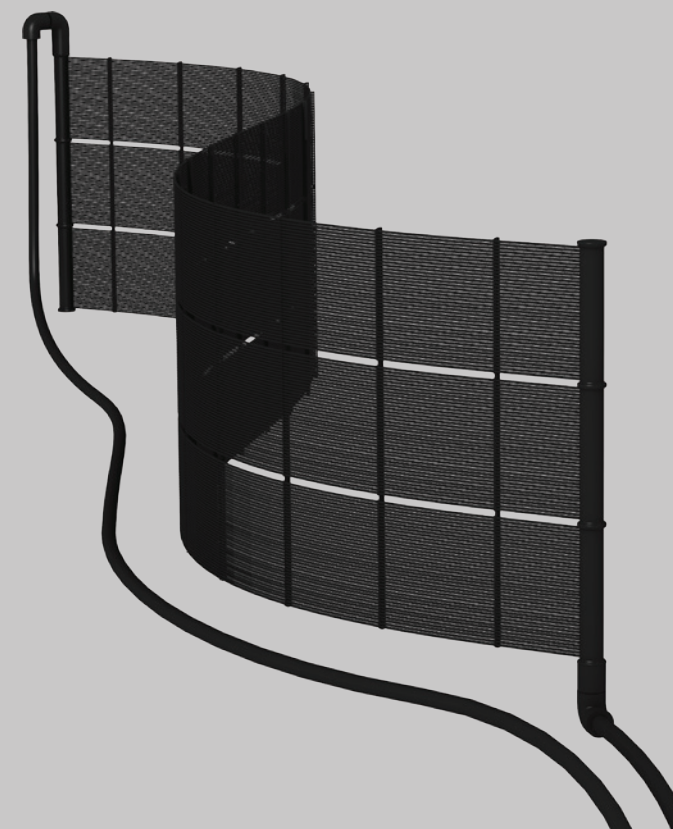
Dimensions	Tube DR	Header DR	Panel Volume	Panel Displacement	Flush Rate	Working Pressure	Working GPM (PSI DROP)	Sizing**
3' x 18'8"	8	10	4.1 G	7.5 Gallons	20 GPM	72 psi @ 104.F 48 psi @ 140.F	3.5gpm (1.5 psi)	2 Tons per unit

\*2-Tons per HyperLoop in pond/lake applications when 6gpm per HyperLoop is applied.

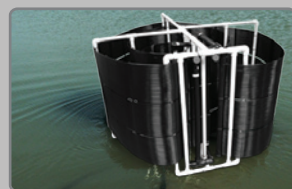


1 1/4" Socket Fusion Connection

A	B	C	D	E	G
1.620	1.612	.961	1.404	2.277	2.19
+/- .008	+/- .008	+/- .015	+/- .015	+/- .032	



## IN-WATER APPLICATIONS (HVAC & WATER HEATING)



**Fast & Simple Install:** Accomplished in minutes, not days.

**No Heavy Equipment:** After fusing the 1.25" inlet and outlet lines, racks may be floated to the chosen spot by hand or small boat. No lifts, no cranes, no problem.

**Commercial & Residential:** Larger racks are available for commercial projects of any size. All racks are designed for fast on-site assembly.

**Corrosion Proof:** 100% polymer construction eliminates the risk of corrosion, even in saltwater applications.

**Anti-Icing:** Balanced heat-transfer design engineered to avoid icing even in high-demand applications.

## CONVENTIONAL



## BREAKING THE GEO BARRIERS

Geothermal Heat Pump (GHP) technology has proven to be highly efficient, but widespread adoption has been hindered by two major barriers, loop costs and loop space requirements. Conventional ground-loop and pond-loop technologies are expensive and require vast yard or pond space. Both deep wells and traditional horizontal loops use large diameter piping that's cumbersome to ship and even more difficult to install. It demands the use of heavy machinery with many skilled-labor hours causing substantial damage to yard space. Many systems simply don't get installed because the installation cost is prohibitive or there is not enough space to install the loops.

HyperLoop was specifically designed to shrink installed costs and space requirements. HyperLoop's ship in compact boxes by common carriers, install with light equipment in a fraction of the time, and take 40% to 70% less space than conventional ground-loop and pond-loop technologies.

**High Efficiency:** HyperLoop's provide substantially higher heat exchange densities than conventional polymer loops, providing fast recovery times with shorter, shallower, and significantly less expensive trenches and pond-loops. The higher exchange density is achieved through increased surface area, thinner-walled yet higher-DR pipes, reduced flow rate through heat exchange pipes, and mitigated or eliminated laminar flow. These features, combined with its lowered backpressure, enable HyperLoop to transfer more energy in shorter trenches and smaller loops with less expense.

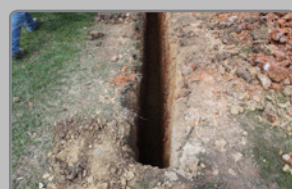
**Space Requirements:** Due to its slim profile and compact nature, the HyperLoop ground system can be installed in 4-inch wide horizontal trenches dug only deep enough to remain below the frost line. This may be achieved with miniature excavators or small extended-arm trenchers that are fast, easy to transport, gas-efficient, and cheap to rent or buy. The hyper-efficient HyperLoop's transfer more energy per foot of trench and significantly reduce trench lengths.

**Always Available / Fast Shipping:** Due to their flexibility, HyperLoop's are packaged in compact boxes that may be inexpensively shipped via common courier to a dealer or directly to a job site. Dealers can reduce pipe inventory, which reduces cash flow demands, warehouse demands, and related expenses.

**Exceptional Manufacturing Technology:** The HyperLoop factory is ISO certified and utilizes proprietary over-molding technology perfected over three decades of operations. Automated high-precision machines combine with redundant computerized and human quality controls to ensure that every unit is perfect. The proprietary over-molding process turns the HyperLoop components and headers into one solid unit. The headers don't exist until the heat exchange lines are inserted into the header mold. Molten polymer is then introduced into the proprietary mold, and the headers and exchange tubes become one solid unit without any fusion connections. The result is exceptional reliability and durability in a prefabricated and hyper-efficient loop.

- Cost Savings
- Space Savings
- Simple Sizing
- Increased Profits
- Compact & Prefabricated Modular Kits
- Fastest Loop Build & Installation Time
- Lowest Shipping Costs and Carbon Emissions
- Anti-Icing design

## IN-GROUND APPLICATIONS (WATER HEATING)



**Fast & Simple Install:** Most installations are accomplished in a few hours.

**No Heavy Equipment:** Trencher or miniature excavator; commonly available for rent or purchase from local equipment suppliers.

**Short Trenches:** 40 feet (or two 20-foot trenches) per house; minimal excavation costs. *\*Based on typical Indianapolis home with 4 occupants.*

**Minimal Yard Damage:** Narrow trenches (4"-12") using light gentle equipment.

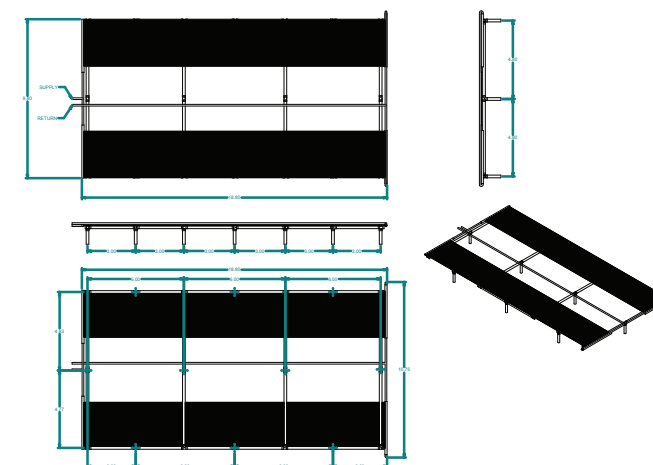
**Increased Market Base:** Installs on homes with small yards.



Ideal for Envision NDW  
2 Hyperloops per unit  
(1 per unit in water)



Small cardboard boxes can be easily thrown over one's shoulder and carried to the install location.



Sample Flat Pond-Loop Rack