

Advanced Heating
& Hot Water Systems



SOLAR

Solar Water Heating
Clean Green Energy

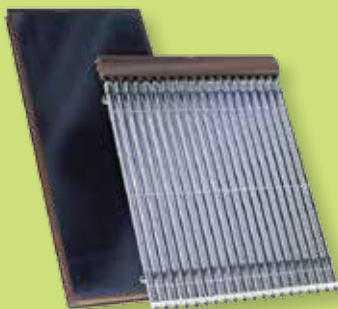
innovation

GREEN TECHNOLOGIES

HIGH EFFICIENCY, RENEWABLE ENERGY AND LOW EMISSIONS



Why Solar ?



Because We Care

Each solar panel eliminates tons of carbon dioxide from being released into the atmosphere. It would take the planting of 40 trees per year to recoup that much CO₂.

Because Solar Pays

Collecting and using solar energy reduces fuel consumption, be it electricity or natural gas, by 15,000 cubic feet of natural gas or 4,400 kwh, based on 40,000 BTU per day for each solar panel. (Consult local utility rates for your area.)



Helpful Rebate Links:

www.htproducts.com
(go to our web site for more info)

www.energystar.gov
www.dsireusa.org
www.aceee.org

Because Solar Heating Pays Off For You

- Saves you money by cutting your electricity or gas use
- Provides 50 to 75% of your home hot water needs
- Diminishes CO₂ gasses that pollute our air
- Adds resale value to your home or business
- Provides energy savings
- Provides radiant heating for your home or business

Because Rebates Lower the Costs

- \$ Federal Tax Incentives
- \$ State Rebates & Incentives
- \$ Utility Rebates & Incentives
- \$ Local City or Municipality Rebates & Incentives

Solar Accessories

Contact Your Local Wholesaler Or
HTP Representative For All Your Solar Needs

HTP Solar Accessories:

- Mounting Systems
- Pump Sets
- Controls
- Expansion Tanks
- Glycol
- Air Vents
- Line Sets
- Solar Flex Pipe
- Pumps
- Tank Sensors
- Mix Valves
- Sweat Fitting Kits



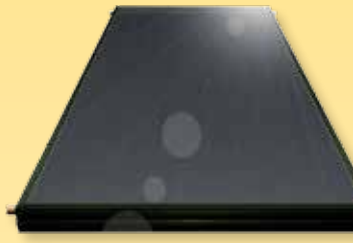
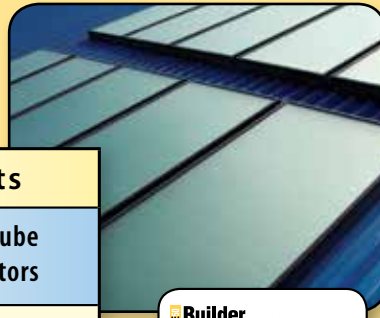
HTP Has Everything
You Need For A
Complete Solar System.
Keep Yourself In

Hot Water The GREEN Way



Flat Plate Panels

These collectors use economic, flat plates of copper (panels) to capture the sun's energy. A universal application for all climates.



Flat Plate Collectors	
FP-40SC	4' X 10' Flat plate collector / 120 4x10s collectors on a 53' trailer
FP-32SC	4' X 8' Flat plate collector / 144 4x8s on a 53' trailer
FP-26SC	4' X 6.5' Flat plate collector / 168 4x6.5s on a 53' trailer
Mounting Hardware for Flat Plate Panels	
FP-SM	Standard mount set per panel (often used with rear leg 1"x1" strut)
FP-FM	Flush mount set per panel
FP-RM	Rack mount set per panel
FP-ST	Rear leg strut 1" X 1" square tube per foot (use with standard mount kit)

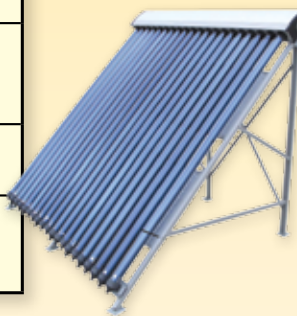
Solar Collectors - Comparison Charts		
Product	Flat Plate Panel Solar Collectors	Evacuated Tube Solar Collectors
Summary	Self-contained flat plate panel collector encased in an aluminum frame	30 individual vacuum tube collectors mounted in a sturdy frame
Efficiency	Varies by climate. Typically absorbs more energy than vacuum tube collectors in warm climates	Varies by climate. Typically absorbs more energy than flat plate collectors in cold climates
Serviceability	Damaged panels must be entirely removed for service or replacement	Damaged tubes can be removed individually, leaving the remainder of the system to continue functioning
Construction	Each panel is composed of a flat plate of copper, insulated and encased in an aluminum frame and topped with glass	Each tube is composed of a borosilicate glass shell surrounding a vacuum space within
Installation	Large panels may require a mechanical lift to mount on rooftops	Individual tubes can be lifted and mounted on rooftops by hand
Applications	Appropriate for residential and commercial applications, such as domestic water heating, radiant floor/space heating, pool and hot tub heating	
Tax Credit	Eligible for a federal tax credit. Also qualifies for many state and utility company incentives	
Warranty	10 year limited warranty	10 year limited warranty
Certification	SRCC and Solar Keymark certified	SRCC and Solar Keymark certified

Collector Thermal Performance Rating

FP-40SC			
Thousands of Btus per panel per day			
Weather-Category (Ti-Ta)*	Clear Day 2000 Btu/ft ² -d	Mildly Cloudy 1500 Btu/ft ² -d	Cloudy Day 1000 Btu/ft ² -d
A (-9°F)	46.1	34.8	23.5
B (9°F)	44.0	32.7	21.4
C (36°F)	40.6	29.3	18.0
D (90°F)	34.2	23.0	11.8
E (144°F)	27.1	16.8	6.2

Metric (SI) Units / English (Inch-Pound Units) - Information on Models: FP-26SC & FP-32SC is available on our website: www.htproducts.com

Vacuum Tube Collectors



Tube collector		
HP-30SC	30 Evacuated Tube Solar Collector With Mounting Hardware	101" x 79"

Collector Thermal Performance Rating for 30-tube Collectors

Thousands of Btu Per Panel Per Day			
Weather-Category (Ti-Ta)*	Clear Day 2000 Btu/ft ² -d	Mildly Cloudy 1500 Btu/ft ² -d	Cloudy Day 1000 Btu/ft ² -d
A (-9°F)	46.1	34.8	23.5
B (9°F)	44.0	32.7	21.4
C (36°F)	40.6	29.3	18.0
D (90°F)	34.2	23.0	11.8
E (144°F)	27.1	16.8	6.2

A-Pool Heating (Warm Climate) B-Pool Heating (Cool Climate)
C-Water Heating (Warm Climate) D-Water Heating (Cool Climate)
E-Air Conditioning

*Ti = Inlet temperature to the collector

*Ta = The ambient air temperature

(For the methodology of this thermal performance rating see www.solar-rating.org/standards/ogdocuments/RM-1_2002.PDF)

Freeze-protected heat pipes transfer heat energy from within the evacuated tubes up to an insulated copper "header" through which a heat transfer liquid is circulated. HTP Solar Tube Collectors maintain strong efficiency levels even at high temperature differences. For this reason, the collectors are ideal for installations in cold regions or for high temperature applications anywhere.



Phoenix Solar

Stainless Steel • Solar • Gas Fired Back-Up • Water Heater



- Up to 96% Thermal efficiency
- 5 to 1 turndown ratio
- The tank loses only ½° F per hour, due to 2" of environmentally safe foam insulation
- Virtually maintenance free
- System flexibility: built in auxiliary taps provide connections to air handlers or supplemental storage tanks
- Quality construction: an extremely durable cupronickel and stainless steel heat exchanger boasts excellent heat transfer properties and resists corrosion
- Robust 316L stainless steel tank eliminates the need for anode rods
- Vents in inexpensive, easy to install PVC or CPVC pipe, with combined vent lengths up to 200' in 3" pipe and combined vent lengths up to 85' in 2" for the 130 models
- Eligible for tax credits and utility company rebates
- 7 year limited warranty

Phoenix Model	Input Modulation	GAL.	First Hr. Rating	Height/ Diameter	Freight Weight
PH199-119S*	40,000-199,000	119	335 gal	74"/ 27"	405 lbs
PH130-119S*	35,000-130,000	119	257 gal	74"/ 27"	405 lbs
PH199-80S	40,000-199,000	80	314 gal	72"/ 23"	235 lbs
PH130-80S	35,000-130,000	80	227 gal	72"/ 23"	235 lbs

*SNHX (Solar No Heat Exchanger) Versions Available

Versa-Hydro Solar

Space Heating & Domestic Hot Water Combined • Solar with Gas Fired Back-Up

- The tank loses only ½° F per hour when the burner is off
- Virtually maintenance free operation
- The modulating burner operates at a 5 to 1 turndown ratio, while the space heating module operates at a 10 to 1 turndown ratio
- Low energy costs resulting from ultra high 96% thermal efficiency and 93% combustion efficiency ratings
- Incredible system flexibility: Built-in auxiliary taps provide connections to air handlers or supplemental storage tanks
- The Versa-Hydro saves space by combining the equivalent of a 135,000 BTU boiler, an indirect water heater, and a buffer tank into one small footprint
- An extremely durable cupronickel and stainless steel heat exchanger boasts excellent heat transfer properties and resists corrosion
- 12 year limited warranty

Versa-Hydro Model	GAL.	BTU'S	Space Heating Module BTU's	1st Hour Rating (Gal.)	Max. Space Heater Temp.	Height/ Diameter	Freight Weight
PHE130-80S	80	130,000	100,000	227	160°	72"/ 23"	275 lbs
PHE199-80S*		199,000	135,000	314			
PHE130-119S	119	130,000	100,000	257	160°	74"/ 27"	445 lbs
PHE199-119S*		199,000	135,000	335			

*SNHX (Solar No Heat Exchanger) Versions Available



SUPERstor

Stainless Steel

ULTRA

Long Lasting! Best Warranty!

SSU tanks with preheat, water heater backup				
Model	GAL.	Height/ Diameter	Freight Weight	Recomm. Flow Rate
SSU-20	20	27"/ 19.25"	60 lbs	8
SSU-20PH (pool)	20	27"/ 19.25"	60 lbs	8
SSU-30	30	39.5"/ 19.25"	72 lbs	8
SSU-45	45	52.5"/ 19.25"	88 lbs	10
SSU-60	60	52.5"/ 23.25"	110 lbs	10
SSU-80	80	72"/ 23.25"	139 lbs	12
SSU-119	119	74"/ 27"	206 lbs	14

SB tanks with boiler backup				
Model	GAL.	Height/ Diameter	Freight Weight	1st Draw 65° Rise
SSU-60SB	60	52.5"/ 23.25"	120 lbs	40 Gal.
SSU-80SB	80	72"/ 23.25"	151 lbs	60 Gal.
SSU-119SB	119	74"/ 27"	220 lbs	90 Gal.

SE tanks with electric backup				
Model	GAL.	Height/ Diameter	Freight Weight	1st Draw 65° Rise
SSU-60SE	60	52.5"/ 23.25"	115 lbs	40 Gal.
SSU-80SE	80	72"/ 23.25"	146 lbs	60 Gal.
SSU-119SE	119	74"/ 27"	215 lbs	90 Gal.

- Number one selling indirect water heater in the country
- Ultra high performance, can generate over 50% more hot water than many water heaters of similar size (offered in 7 sizes: 20 to 119 gallons)
- Minimal heat loss, due to thick, water blown, foam insulation
- Virtually maintenance free operation
- Extremely durable cupronickel heat exchanger boasts excellent heat transfer properties and resists corrosion
- Robust 316L stainless steel tank eliminates the need for anode rods
- Aesthetically pleasing: the attractive and durable silver plastic jacket ensures a rustproof finish, even in humid environments
- Low energy costs
- Limited lifetime residential warranty: The industry's strongest protection plan

Tank Key: Number = Gallon Capacity; SB = Solar Backup; DW = Double Wall; SE = Solar Electric; NHX = No Heat Exchanger; DB = Drain Back; DBX = Drain Back with Exchanger; S = Solar (most tanks are available in these variations)



For the ultimate in performance and longevity, choose a SuperStor Stainless Steel Solar Tank. Each SuperStor Solar Tank features the highest performance available. Its internal cupronickel finned heat exchanger is capable of quickly transferring energy from any solar collection system. Its tank is constructed of high quality 316L stainless steel for long service life and eliminates foul water caused by anode rods.

A limited **Lifetime Protection Plan** gives users peace of mind that their investment is backed by the industry's strongest warranty. Thick CFC-free foam insulation provides superior heat retention and durability. Encased in an attractive silver colored jacket, the SuperStor Solar Tank will look good while providing many years of worry-free performance.

HTP Pool Heater SSU-20PH

Robust 316L stainless steel tank eliminates the need for anode rods

Contender Solar Tanks

Fighting the High Cost of Water Heating

Contender SSC tanks with preheat, water heater backup				
Model	GAL.	Height/ Diameter	Freight Weight	115° F 65° F ΔT
SSC-35	35	36.25"/23"	141 lbs	152 GPH
SSC-50	50	46.5"/23"	170 lbs	258 GPH
SSC-80	80	71.25"/23"	232 lbs	270 GPH
SSC-119	119	64"/28"	331 lbs	364 GPH

Contender SE model tanks with electric backup				
Model	GAL.	Height/ Diameter	Freight Weight	1st Draw 65° Rise
SSC-50SE	50	46.5"/23"	172 lbs	20 Gal.
SSC-80SE	80	71.25"/23"	234 lbs	38 Gal.
SSC-119SE	119	64"/28"	333 lbs	70 Gal.

Contender SB model tanks with boiler backup				
Model	GAL.	Height/ Diameter	Freight Weight	1st Draw 65° Rise
SSC-80SB	80	71.25"/23"	286 lbs	38 Gal.
SSC-119SB	119	64"/28"	367 lbs	70 Gal.

- Available with electric or boiler back-up: When the sun is not shining, the back-up system takes over seamlessly
- The tank has minimal heat loss, due to thick, water blown, foam insulation
- Flexibility: can be linked to a boiler using either a zone valve or a circulator pump
- Quality construction: a specially formulated enamel heat exchanger resists lime build-up, while an oversized anode rod protects the glass-lined steel tank from corrosion
- Slush coat glass-lined, not sprayed
- High performance standards at a value price
- 7 year limited warranty



Drain Back Tank

Stainless Steel SSU Drainback series					
Model	Model with Heat Exchanger	GAL.	Height/ Diameter	Freight Weight (lbs)	
SSU-10DB	SSU-10DBX	10	20"/19.25"	31	39.7
SSU-15DB	SSU-15DBX	15	22"/19.25"	33	41.5
SSU-20DB	SSU-20DBX	20	27"/19.25"	37	54.1
SSU-30DB	SSU-30DBX	30	33.5"/19.25"	49	75
SSU-40DB	SSU-40DBX	40	51.875"/19.25"	61	84
SSU-60DB	SSU-60DBX	60	52.125"/23.25"	90	116
SSU-80DB	SSU-80DBX	80	71.5"/23.25"	125	151

Drain Back Tanks come in a 10 Gallon Tank size on up to an 80 Gallon Tank size, with or without a heat exchanger option (see Chart)



Drain Back systems are a smart choice. The Drain Back Tank allows the solar collectors to drain all the water from collectors and related pipe connections into a reservoir to protect the system from either freezing or overheating. HTP's Drain Back system also has fewer components, so maintenance is greatly reduced.



- Virtually maintenance free operation
- Quality construction: a highly efficient cupronickel heat exchanger boasts excellent heat transfer properties, while the robust stainless steel tank eliminates the need for anode rods
- Lightweight construction (easier installation)
- Effortless monitoring: sight glass makes it possible to visually monitor the tank's water level
- Aesthetically pleasing: the durable plastic jacket will not rust or dent
- 5 year limited warranty