

Solar Energy Systems

The Hybrid Structure series of solar domestic hot water systems are designed as a perfect way to offset your family's rising energy costs. Our CSA approved systems are designed for maximum performance even during our harsh Canadian winters, delivering solar hot water 12 months of the year.

Benefits at a Glance

CSA Canadian Standards Association certification
With the CSA seal of approval, you can be assured that our system has been tested to deliver the quality you expect and to withstand the extremes of our Canadian weather.

Complete system integration
All the components in the Hybrid Structure SDHW systems are chosen for their quality of workmanship, attention to detail and their seamless integration with one another. The pre-wired all-in-one solar pump station—including pump, controller, safety valve and air scoop—needs no other components between collector and tank. Plug-and-play installation saves installation time and cost.

SDHW system & Combi-system functions available
The all-in-one solar pump station and tank with internal heat exchanger make the SDHW simple, and it supports up to 8 system configurations including space heating and pool / spa heating.

Higher thermal efficiency year round
The NJ-R series of solar collectors provides you with the most stable and highest solar thermal performance summer and winter.

Low wind force on roof
Sufficient space between tubes means low wind loading on the roof and is excellent for shedding rain, snow and leaves off the collector.

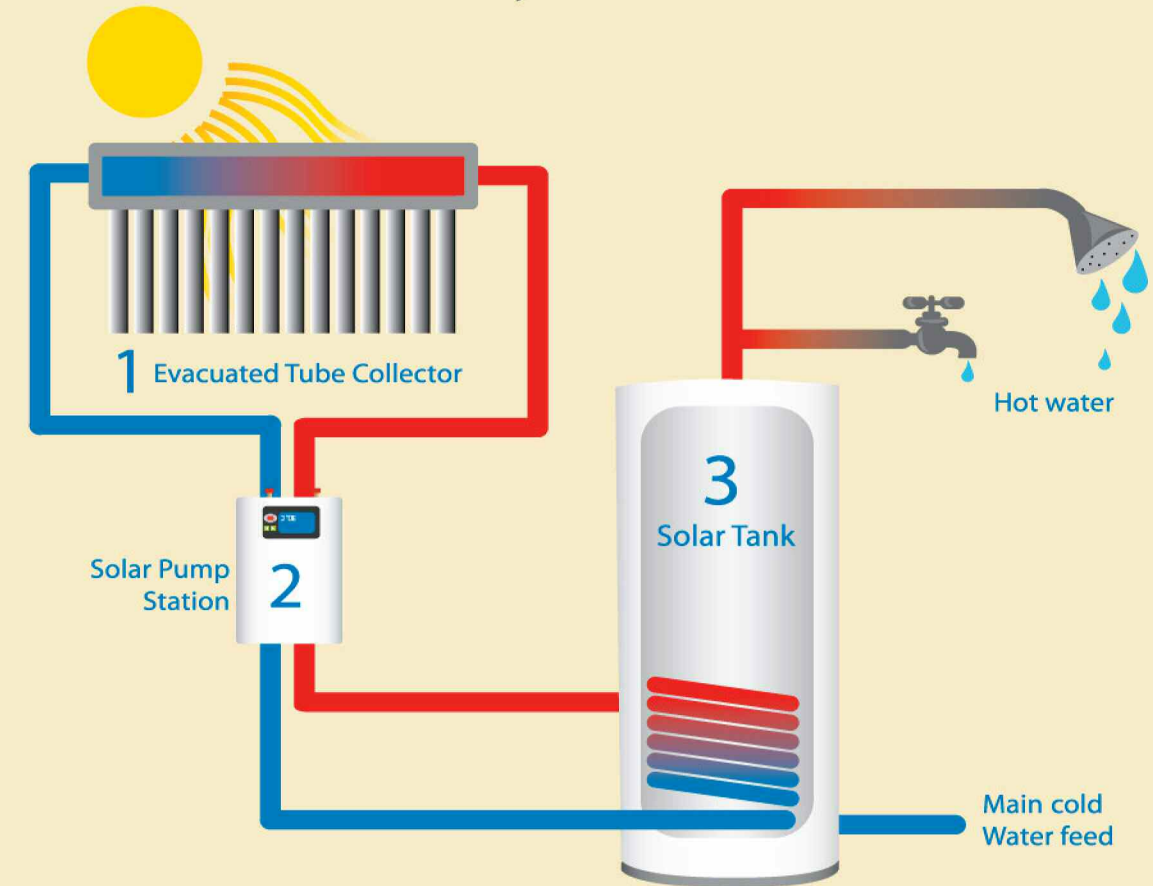
Easy installation & maintenance
Individual tubes have a dry fit connection to the collector header meaning there's no need for heavy lifting equipment, thus allowing pre-assembly of the solar loop and pressure testing before installing the tubes. Individual tubes can be replaced without draining the system.

High quality 316L Stainless steel tank
Besides the all-steel construction of our solar reservoirs, our internal coil type of heat exchange system means no fouling of plate exchangers, which means higher heat exchange performance.

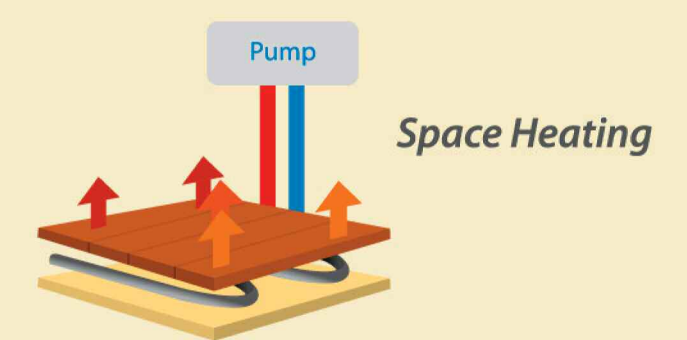
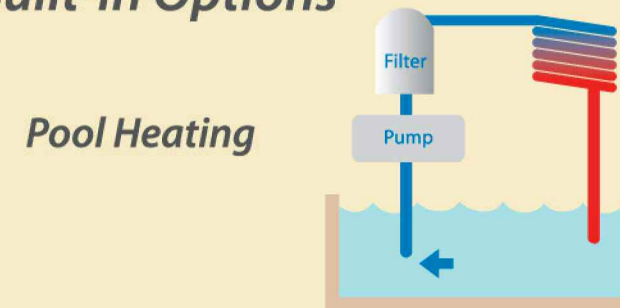


The Hybrid Structure series of solar domestic hot water systems (SDHW) are designed as a perfect way to offset your family's rising energy costs. Our CSA-approved systems are designed for maximum performance even during harsh Canadian winters, delivering solar hot water 12 months of the year. In addition, our system has the option of using the same free solar energy for space heating applications in the home and for heating your pool or spa.

Domestic Hot Water Basic System



Built-in Options

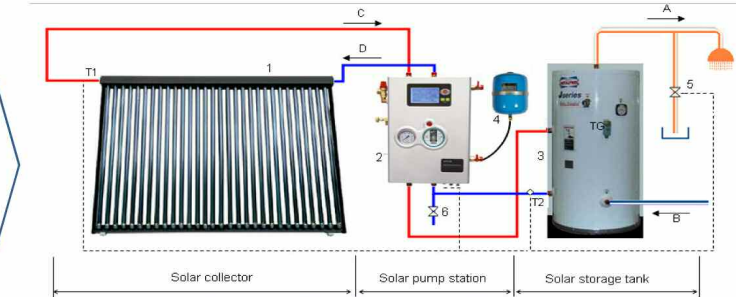


Solar Domestic Hot Water System

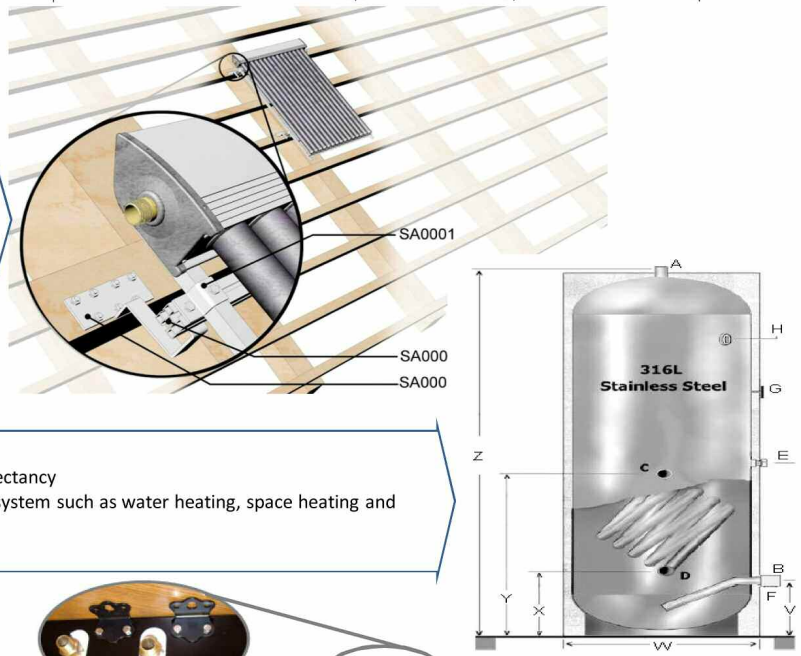


CSA tested, exceed 6GJ per year
 CSA certification pending
 Eligible to ecoENERGY Retrofit Grant

Designed with the highest quality components to ensure you receive many trouble free years of operation under most operating conditions
Collector with 58mmx1800mm heat pipe vacuum tube collector, high efficiency all over the year
High quality 316L Stainless steel tank with internal heat exchanger, simple system configuration
Pre-wired all-in-one solar pump station, including pump, controller, safety valve, air-scoop etc., needs no other components between collector and tank.
 Plug-and-play installation saves installation time and cost



Single and easy collector installation needs no lifting equipment
Collector gross area less than 5 m² needs no structural approval
Aluminum manifold & frame, Corrosion resistant
Dry connection between tubes and headers assures installation safety by testing the solar loop for leaks without the presence of heat generating evacuated tubes
Easy maintenance by individually replacing the tube
Sufficient space between tubes, low wind loading onto the roof, excellent for shedding rain, snow and leaves off the collector



High quality 316L Stainless steel tank with built in coil/heat exchanger, long-life expectancy
Double coil/heat exchanger available for simple configuration of solar combination system such as water heating, space heating and pool/spa heating

3-speed pump for flow rate adjustment
Programmable functions supporting up to 8 system configurations for different applications, such as water heating, space heating, pool/spa heating
Time controlled auxiliary heating available
Real time digital display of flow rate and temperatures, easy for monitoring
Wall mount for easy installation
Plug-in connectors for sensor input cables and power output cables, no case opening required for electrical wiring, designed to save installation time

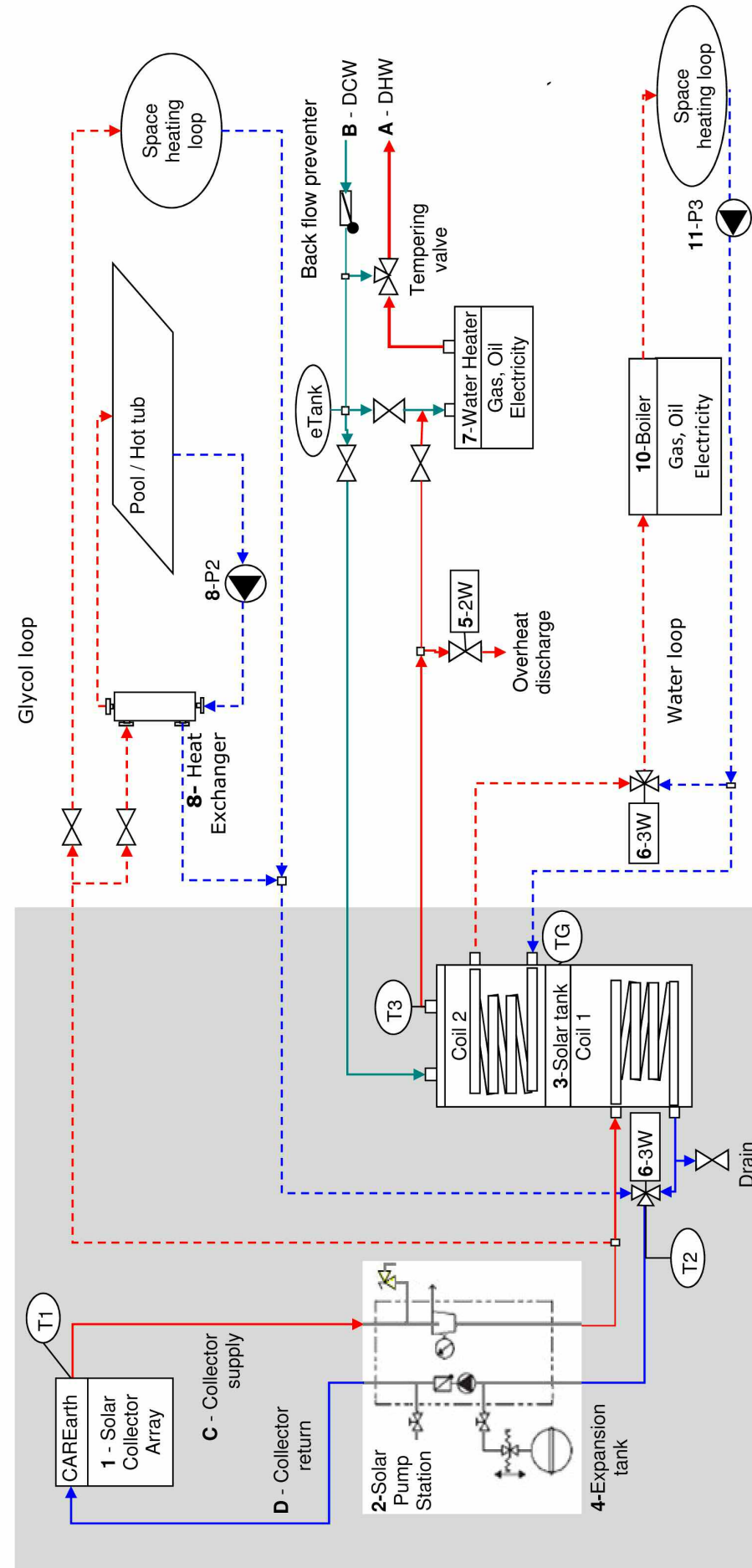


Table 2 Solar Domestic Hot Water Systems Undergoing Certification (modified 2009-11-03)

Make	Model	Annual Performance Rating	Collectors Number & Size	Collector Type	Tank Volume	System Type	Retrofit Eligible ²
CAREarth Inc.	NJ-1800-25R-227	5.40 GJ/y ¹	1 x 4.10 m ²	ETC NJ-1800-25R	227 L	Solar Preheat	Yes before April 01,
	NJ-1800-30R-227	6.27 GJ/y ¹	1 x 4.90 m ²	ETC NJ-1800-30R	227 L	Solar Preheat	Yes
	NJ-1800-30R-300	6.36 GJ/y	1 x 4.90 m ²	ETC NJ-1800-30R	302 L	Solar Preheat	Yes

Note1: http://canmetenergy-canmetenergie.nrcan-rncan.gc.ca/eng/renewables/solar_thermal/sdhw_directory.html
 Note2: Grant amount is \$2500 per packaged system in ON, SK. Additional grant might be available in other prov. and cities
 Note3: One packaged NJ-1800-30R-227 system consists of 1xNJ-1800-30R, 1xSPS228, 1xJ-60, 1xEXT-15, 1x8210G95HW

Schematic for general solar heating applications



Item	Description
A	Domestic hot water
B	Domestic cold water
C	Collector supply
D	Collector return
Description	
T1	Collector supply temperature
T2	Collector return temperature
T3	Tank temperature
TG	Tank thermostat

Item	Description
1	Collector
2	Solar Pump Station
3	Storage Tank
4	Expansion tank
5	Solenoid valve
6	3 way valve
7	Water heater
8	Pool heat exchanger
9	Pool circulator
10	Boiler
11	Space heating circulator

HYBRID STRUCTURES INTERNATIONAL
 101-6 Bexley Place, Ottawa
 ON Canada K2H 8W2
 T: +1.613.726.6673
 F: +1.613.726.6671
www.hsil.ca