

# SolarCon solar water heater tank

series NAS200

**CALEFFI**  
**SOLAR**



Meets and exceeds CSA  
C309 requirements

## Function

The solar water heater has either one or two internal coils and a backup electric heating element in the single coil units. A heating medium is passed through the solar panels and internal coil as long as there is an adequate temperature difference between the heating medium and stored water in the tank. The internal coil is located as close to the bottom to facilitate the transfer of heat even at lower solar panel temperatures.

During periods of water flow through the water heater, hot water is drawn from the top of the heater and cold water comes into the bottom of the tank (by a dip tube or bottom inlet). On single coil tanks, if the hot water demand should exceed the solar heat input or there is an insufficient temperature difference between the heating medium and stored water, the heating element thermostat will activate the electrical heating element for backup heat. On double coil tanks, the upper tank is connected to the boiler for backup heat.

Solar heat output from the internal coil will vary depending on outside conditions and the temperature of the stored water.

## Product range

NAS20053	Storage tank with lower coil and back up electric element	50 gallon
NAS20083	Storage tank with lower coil and back up electric element	80 gallon
NAS20123	Storage tank with lower coil and back up electric element	119 gallon
NAS20082	Storage tank with lower coil and top coil for boiler back up	80 gallon
NAS20122	Storage tank with lower coil and top coil for boiler back up	119 gallon
NAS20124	Storage tank with lower coil and top coil heat exchanger with back up electric element	119 gallon

## Technical specifications

Tank materials:	porcelain coated steel
Tank insulation:	2" non-CFC foam
Tank external cover:	powder-coated steel (20-24 ga.)
Insulation thermal conductivity:	R16
Anode rods:	2 each magnesium
Internal heat exchanger coil (lower):	1-1/2" x 30' (50 gallon)
	1-1/2" x 36' (80, 119 gallon)
Internal heat exchanger coil (top):	1-1/2" x 24' (80, 119 gallon)

Connections:	3/4" NPT (50 gal.), 1" NPT (80, 119 gal.)
Maximum working pressure:	150 psi
Testing pressure:	300 psi
Temperature and pressure relief valve:	210°F/150 psi max
Maximum tank temperature:	180°F
Recommended maximum delivery hot water temperature:	120°F
Power requirements (electric element):	240 VAC
Power consumption (electric element):	4.5 KW
Agency approval:	UL listed

## Capacity and performance

Model	Actual Tank Volume (gal)	Coil Volume Solar/Boiler (gal)	Coil Surface Area Solar/Boiler (ft <sup>2</sup> )	Coil Friction Loss* Solar/Boiler (ft. of head)	First Hour Rating (gal)	Recovery Rate Solar & Backup <sup>#</sup> (gal/hr)	Standby Loss Rating (°F/hr)
NAS20053	45	2.30/ -	11.78/ -	0.50/ -	91	51	1.1
NAS20083	75	2.76/ -	14.14/ -	0.60/ -	126	56	0.8
NAS20123	110	2.76/ -	14.14/ -	0.60/ -	158	56	1.2
NAS20082	73	2.76/1.84	14.14/9.42	0.60/0.40	226	158	0.8
NAS20122	108	2.76/1.84	14.14/9.42	0.60/0.40	258	158	1.2
NAS20124	108	2.76/1.84	14.14/9.42	0.60/0.40	282	182	1.2

NOTES: \* Based on 5 GPM flow rate.

# Based on solar input of 140°F @ 2 GPM. Depending on model, backup heat recovery is calculated with either a 4500W heating element or a boiler with output of 180°F at 14 GPM. Potable water temperature rise is 77°F.

## Dimensions

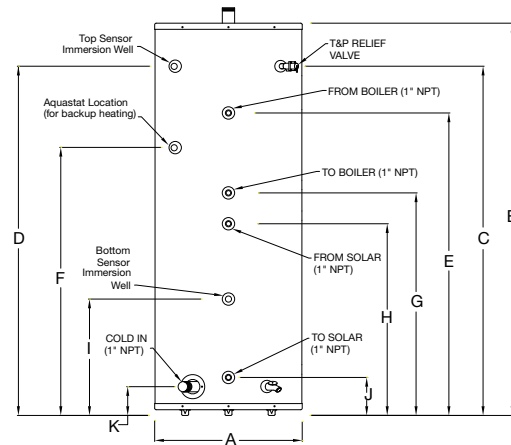
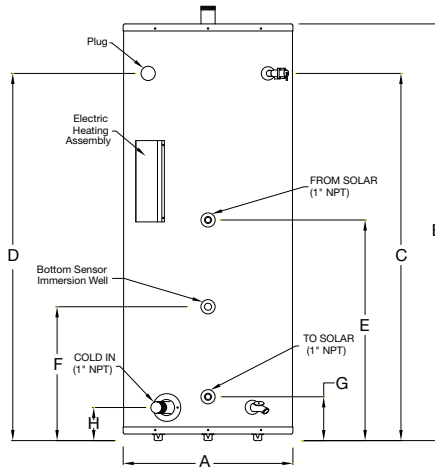
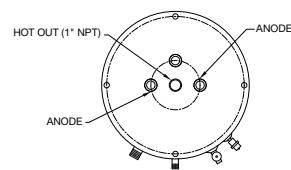
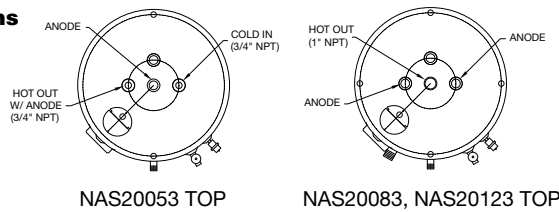


Figure 1: NAS20053, NAS20083, NAS20123

Figure 2: NAS20082, NAS20122, NAS20124

Model	A	B	C	D	E	F	G	H	I	J	K
NAS20053	22"	48¼"	39¾"	39¾"	31½"	16¾"	6½"	n/a	n/a	n/a	n/a
NAS20083	24"	64"	57⅞"	57⅞"	31½"	19¼"	6½"	5"	n/a	n/a	n/a
NAS20123	28"	65"	57¾"	57¾"	33¾"	16¼"	8¾"	6½"	n/a	n/a	n/a
NAS20082	24"	64"	57⅞"	57⅞"	49½"	46⅞"	36½"	31½"	19¼"	6½"	5"
NAS20122	28"	65"	57¾"	57¾"	51¾"	49⅞"	38¾"	33¾"	16¼"	8¾"	6½"
NAS20124	28"	65"	57¾"	57¾"	51¾"	49⅞"	38¾"	33¾"	16¼"	8¾"	6½"

## Application diagrams

