

Planning Office

Address:

Contact Person:

Telephone:

Fax:

E-Mail:



Project Client

Address:

Contact Person:

Telephone:

Fax:

E-Mail:

Project

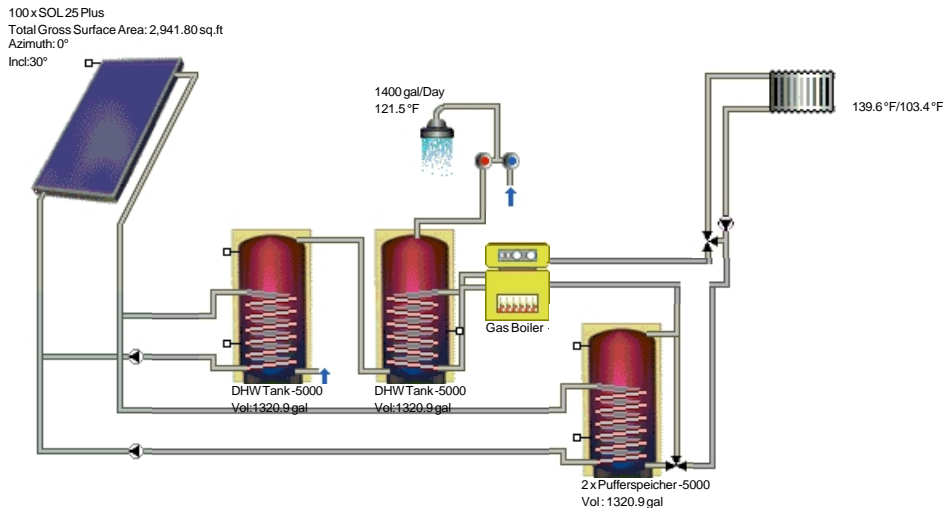
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Results of Annual Simulation

Installed Collector Power:	652.76 kBtu/hr	
Collector Surface Area Irradiation:	1,459.14 MBtu	546.62 kBtu/sq.ft
Energy Produced by Collectors:	500.37 MBtu	187.45 kBtu/sq.ft
Energy Produced by Collector Loop:	449.12 MBtu	168.25 kBtu/sq.ft
DHW Heating Energy Supply:	307.14 MBtu	
Space Heating Requirement:	5628.95 MBtu	
Space Heating Energy Supply:	1878.31 MBtu	
Solar Contribution to DHW:	292.16 MBtu	
Solar Contribution to Heating:	126.09 MBtu	
Energy from Auxiliary Heating:	1779.87 MBtu	

Natural Gas (H) Savings:	17,480.0 cu.yd
CO2 Emissions Avoided:	62,304.98 lbs
DHW Solar Fraction:	91.4 %
Total Solar Fraction:	19.0 %
Fractional Energy Savings (prEN 12976):	70.1 %
System Efficiency:	28.7 %



Basic Data

Climate File

Location:	Hendersonville, NC
Weather Data Record:	"Asheville NC"
Global Radiation Annual Total:	5.34 MBtu
Latitude:	35.43 °
Longitude:	82.55 °

Domestic Hot Water


Average Daily Consumption:	1400 gal
Desired Temperature:	121.5 °F
Load Profile:	Elementary School with canteen
Cold Water Temperature:	February:45.48 °F / August:52.72 °F

Space Heating

Standard Building Heat Flow Requirement:	4 MBtu/hr
Standard External Temperature:	0.95 °F
Design Temperatures :	139.6 °F/103.4 °F

System Components

Collector Loop


Manufacturer:	Stiebel Eltron GmbH & Co. KG
Type:	 SOL 25 Plus
Number:	100.00
Total Gross Surface Area:	2941.8 sq.ft
Total Active Solar Surface Area:	2669.5 sq.ft
Inclination (Tilt Angle):	30 °
Azimuth:	0 °

DHW Standby Tank


Manufacturer:	T*SOL Database
Type:	 DHW Tank -5000
Volume:	1320.9 gal

Buffer Tank (B)

Manufacturer:	T*SOL Database
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 Original T*SOL Database

 With Test Report

 Solar Keymark



System Components


Type:	 2 x Pufferspeicher -5000
Volume:	2 x 1320.9 gal

Solar Preheating Tank (S)


Manufacturer:	T*SOL Database
Type:	DHW Tank -5000
Volume:	1320.9 gal

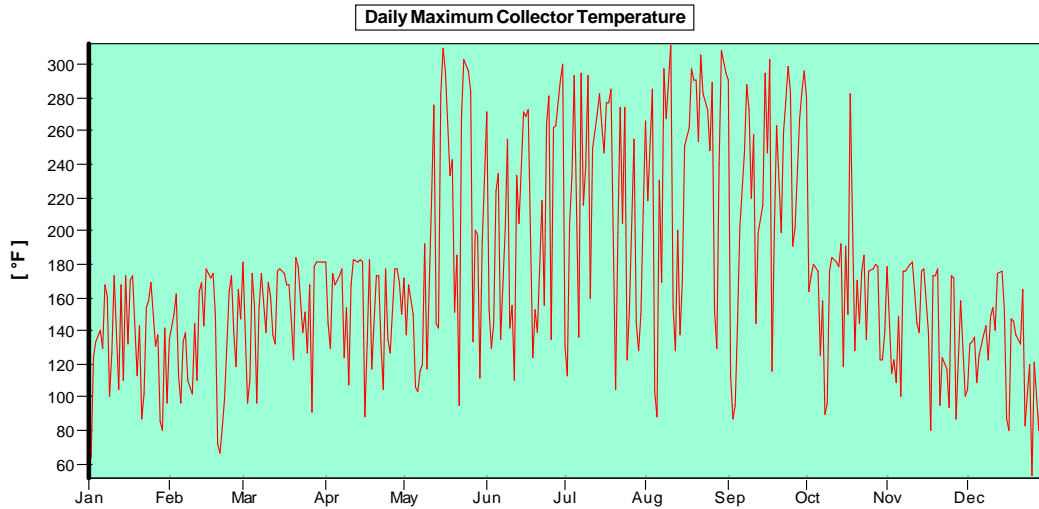
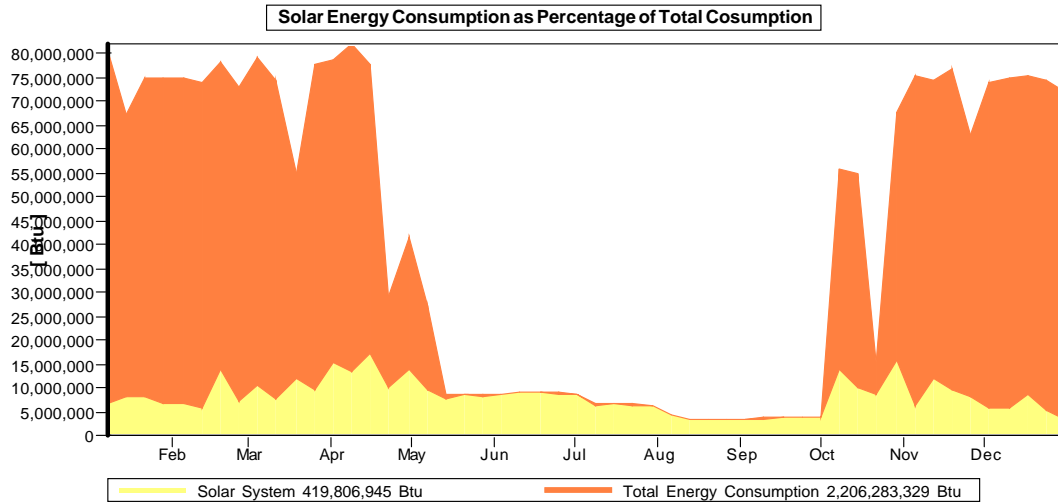
Auxiliary Heating

Manufacturer:	T*SOL Database
Type:	Gas Boiler -120
Nominal Output:	409.44 kBtu/hr

 Original T*SOL Database

 With Test Report

 Solar Keymark



These calculations were carried out by T*SOL Pro 4.4 - the Simulation Programme for Solar Thermal Heating Systems. The results are determined by a mathematical model calculation with variable time steps of up to 6 minutes. Actual yields can deviate from these values due to fluctuations in the weather, consumption and other factors. The Schematic System Diagram above does not represent and cannot replace a full technical drawing of the solar system.