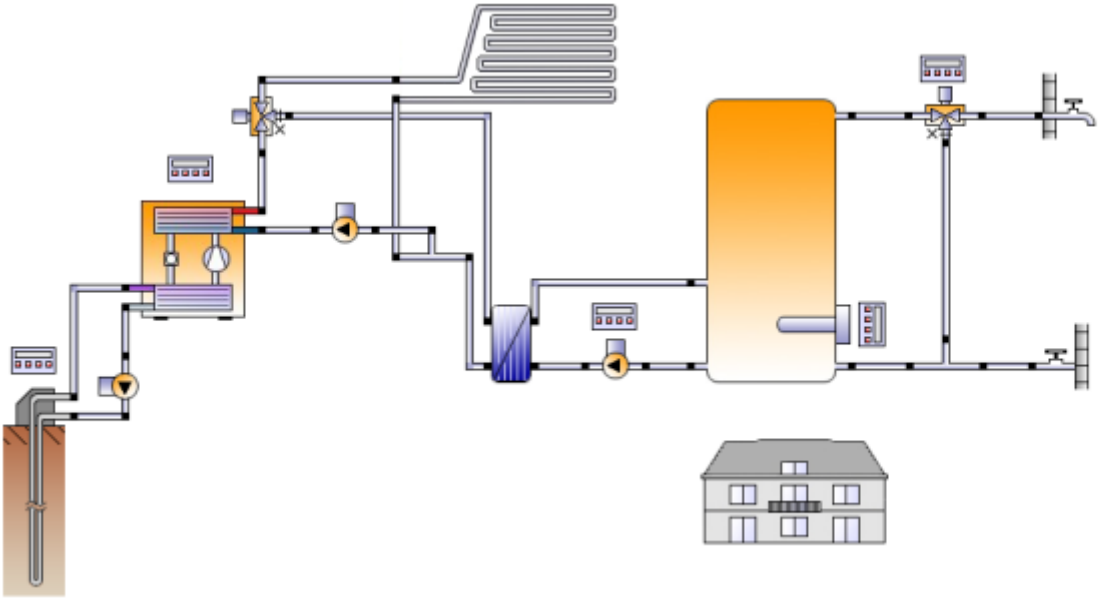


Name of the company	Location
Example	USA
simon geisshuesler	NY Albany
Stadthausstrasse 115	Longitude: -73.8°
8640 winterthur	Latitude: 42.75°
001 (697) 346 23 46	Elevation: 200 ft

Overview

End energy to the system (fuel and electricity)	11473.4 kBtu
Energy consumption (Quse)	34115.4 kBtu
Syst. efficiency (End energy / Energy consumption)	2.97
Comfort demand	Energy demand covered

Overview heat pump

Seasonal performance factor	3.8
Ground loop length (Total)	393.7 ft
Energy withdrawal	26784.2 kBtu

Meteorological data

Outdoor temperature	48.8 °F
Global irradiance	435.6 kBtu/ft²
Diffuse irradiance	199.9 kBtu/ft²

System overview

B/W or W/W heat pump 2	Water-water heat pump 10 kW	
Seasonal performance factor		3.8
CO_2 emissions	pound	3544.5
End energy	kBtu	10227.2

Ground-source loop 3	25 mm double U ground loop	
Ground loop length	ft	394
Number of ground-source loops		1
Earth layer 1		Dry gravel
Inflow temperature	°F	39.6
EWT Outflow temperature	°F	48.2
Energy withdrawal	kBtu	26784.2

Building	Single family house, low-energy building	
Heated living area	ft²	1612
Heating setpoint temperature	°F	66.2
Heating energy demand	kBtu	23147.3
Specific heating energy demand	kBtu/ft²	14.4
Solar gain through windows	kBtu	59076.6
Total energy losses	kBtu	105459.4

Convector	Floor heating 1000W	
Number of modules	-	8
Power per heating module under standard conditions	kBtu/hr	3.41
Nominal inlet temperature	°F	104
Energy from/to the system	kBtu	23076

Hot water demand	Constant	
Withdraw volume	gal/d	53.4
Temperature setting	°F	122
Energy demand	kBtu	10509.1

External heat exchanger	Plate heat exchanger, medium size	
Transfer capacity	W/K	10000

Pump 4	Pump, medium	
Circuit pressure drop	psi	0.386

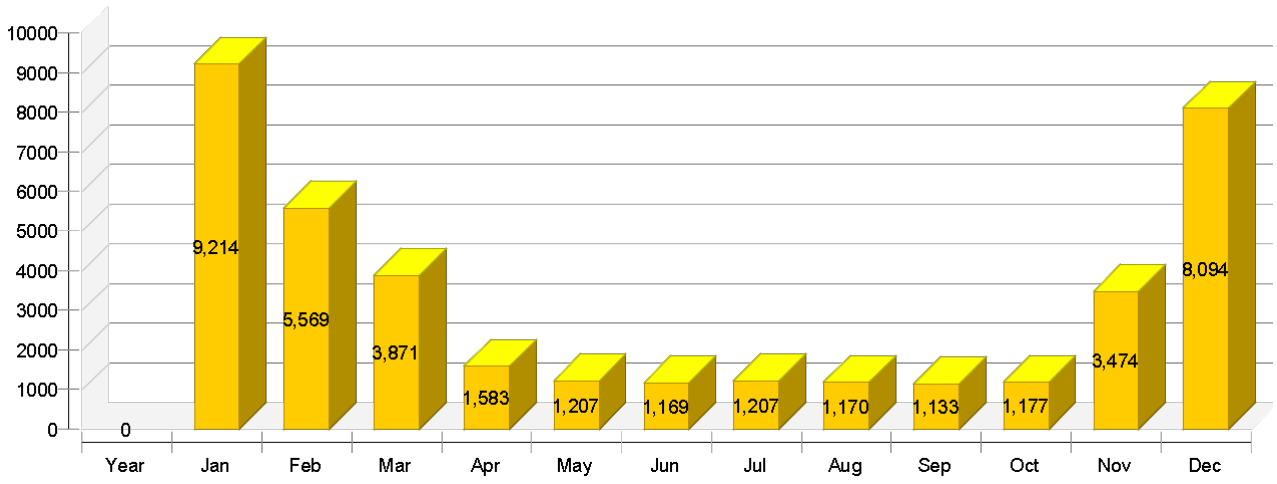
Flow rate	gal/h	211.3
End energy	kBtu	200.7

Pump 5	**Pump, medium**	
Circuit pressure drop	psi	0.409
Flow rate	gal/h	211.3
End energy	kBtu	519

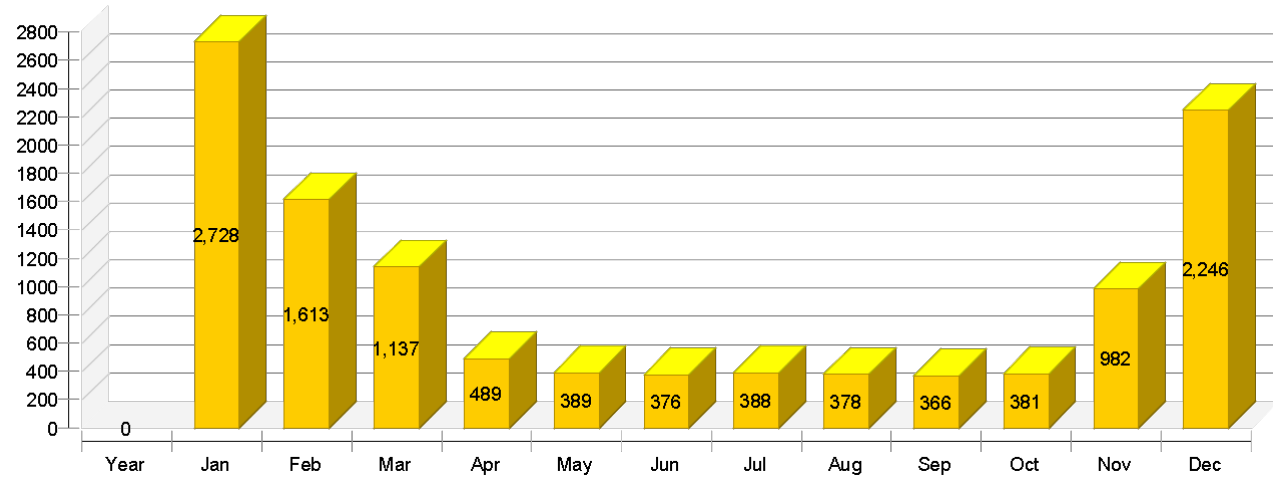
Pump 7	**Pump, medium**	
Circuit pressure drop	psi	9.912
Flow rate	gal/h	528.3
End energy	kBtu	526.5

Storage tank 5	**300l potable water tank**	
Volume	gal	79.3
Height	ft	3.94
Material		Stainless steel
Insulation		Rigid PU foam
Thickness of insulation	in	3.15
Heat loss	kBtu	881
Connection losses	kBtu	631

Auxiliary energy to the system [Qaux] kBtu



End energy to the system (fuel and electricity) [Etot] kBtu



	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Auxiliary energy to the system [Qaux]													
kBtu	38867	9214	5569	3871	1583	1207	1169	1207	1170	1133	1177	3474	8094
Auxiliary energy (end energy) [Eaux]													
kBtu	10227	2453	1444	1014	431	341	330	341	332	322	334	874	2011
End energy to the system (fuel and electricity) [Etot]													
kBtu	11473	2728	1613	1137	489	389	376	388	378	366	381	982	2246
Parasitic energy (end energy) [Epar]													
kBtu	1246	275	169	123	58	48	46	47	46	45	47	107	235
Energy consumption [Quse]													
kBtu	34115	8591	5058	3434	1301	963	920	936	921	879	904	2985	7222

	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Heat loss to indoor room [Qint]													
kBtu	3307	425	314	294	231	227	221	230	230	224	233	282	396