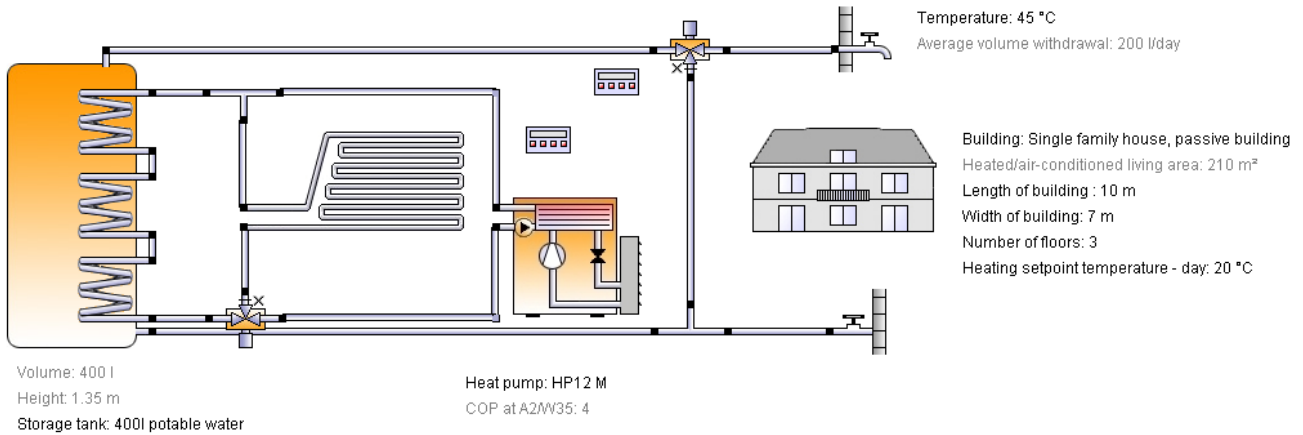


# Professional Report

Project

COMPACT 1.8



## Location of the system

Rapperswil SG  
Longitude: 8.82°  
Latitude: 47.23°  
Elevation: 417 m

## Map section

"Current report item is not supported in this report format."

## This report has been created by:

Vela Solaris AG

## System overview (annual values)

Total fuel and/or electrical energy consumption of the system [Etot]	2,212.8 kWh
Total energy consumption [Quse]	7,899.1 kWh
System performance (Quse / Etot)	3.57
Comfort demand	Energy demand covered

## Overview heat pump (annual values)

Seasonal performance factor for air-to-water heat pump	3.9
Total electrical energy consumption when heating [Eaux]	2,212.8 kWh
Total energy savings	6,421.5 kWh
Total reduction in CO2 emissions	3,444.5 kg

# Professional Report

## Meteorological data-Overview

Average outdoor temperature	10.1 °C
Global irradiation, annual sum	1,103.5 kWh/m <sup>2</sup>
Diffuse irradiation, annual sum	578 kWh/m <sup>2</sup>

## Component overview (annual values)

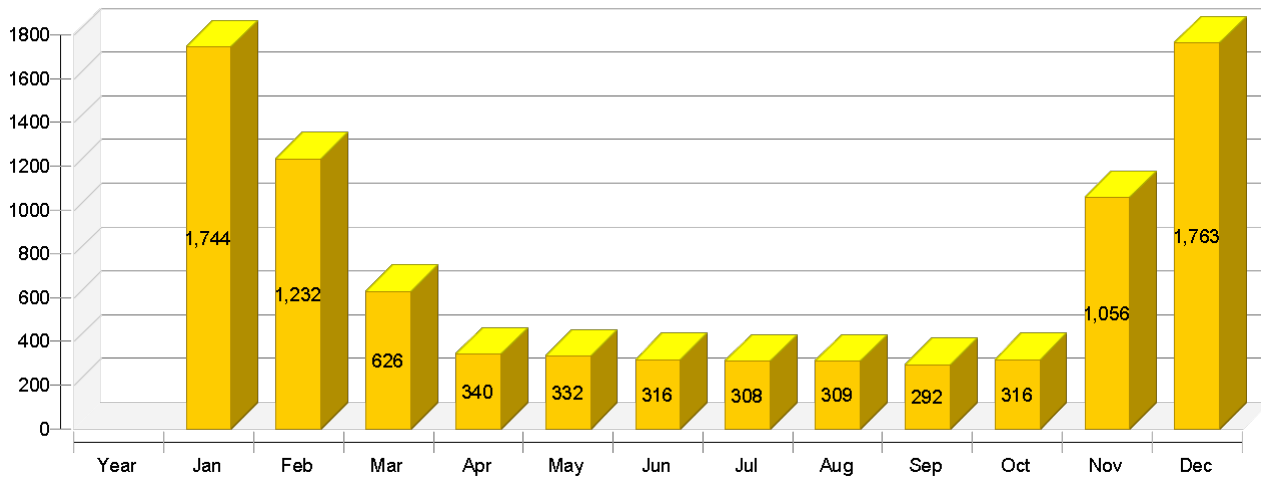
Heat pump 1	HP12 M	
Heating power at A2/W35	kW	8
Electrical power at A2/W35	kW	2
COP at A2/W35		4
DeltaT at A7/W35	K	5
Performance factor		3.9
Energy from/to the system [Qaux]	kWh	8,634.2
Fuel and electrical energy consumption [Eaux]	kWh	2,212.8
Energy savings heat pump	kWh	6,421.5
CO2 savings heat pump	kg	3,444.5
Building	Single family house, passive building	
Heated/air-conditioned living area	m <sup>2</sup>	210
Heating setpoint temperature	°C	19.7
Heating energy demand excluding DHW [Qdem]	kWh	4,736.4
Specific heating energy demand excluding DHW [Qdem]	kWh/m <sup>2</sup>	22.6
Solar gain through windows	kWh	14,250.8
Total energy losses	kWh	28,963.3
Heating element	Floor heating	
Number of heating/cooling modules	-	10
Power per heating element under standard conditions	W	1,000
Nominal inlet temperature	°C	35
Nominal return temperature	°C	30
Net energy from/to heating/cooling modules	kWh	4,725.5
Hot water demand	Constant	
Volume withdrawal/daily consumption	l/d	202.1
Temperature setting	°C	45
Energy demand [Qdem]	kWh	2,994.1

# Professional Report

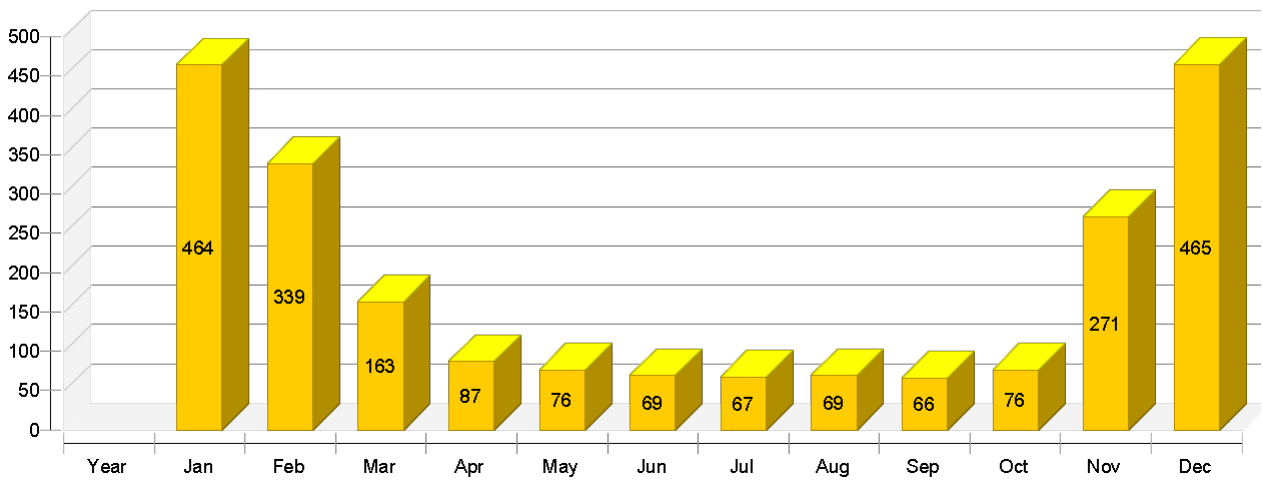
Storage tank	400l potable water	
Volume	l	400
Height	m	1.35
Material		Stainless steel
Insulation		Rigid PU foam
Thickness of insulation	mm	80
Heat loss	kWh	240.3
Connection losses	kWh	330.1

Demo Version

Heat generator energy to the system (solar thermal energy not included) [Qaux] kWh



Total fuel and/or electrical energy consumption of the system [Etot] kWh



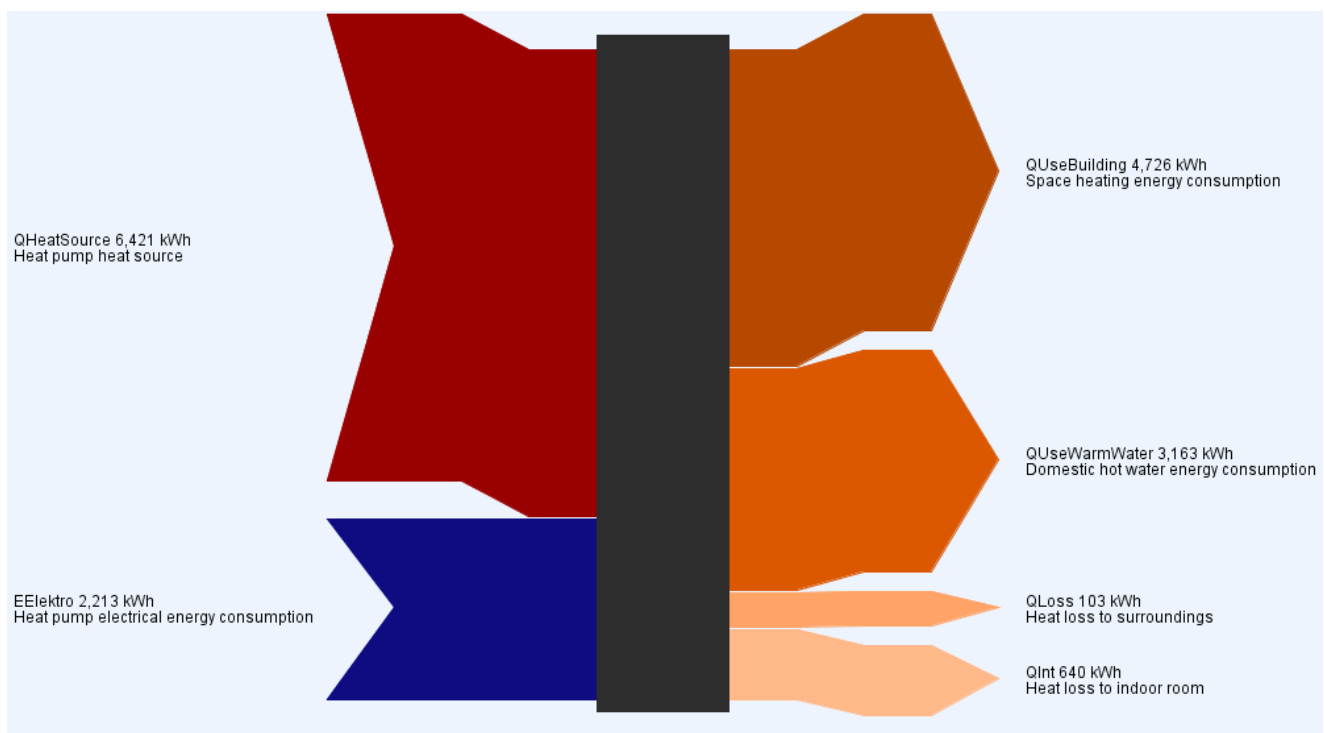
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Heat generator energy to the system (solar thermal energy not included) [Qaux]	1744	1232	626	340	332	316	308	309	292	316	1056	1763	
kWh	8634	1744	1232	626	340	332	316	308	309	292	316	1056	1763

# Professional Report

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
<b>Heat generator fuel and electrical energy consumption [Eaux]</b>													
kWh	2213	464	339	163	87	76	69	67	69	66	76	271	465
<b>Total fuel and/or electrical energy consumption of the system [Etot]</b>													
kWh	2213	464	339	163	87	76	69	67	69	66	76	271	465
<b>Total energy consumption [Quse]</b>													
kWh	7899	1679	1177	566	278	275	253	251	244	236	251	991	1697
<b>Heat loss to indoor room (including heat generator losses) [Qint]</b>													
kWh	640	55	49	51	50	53	52	54	56	54	54	55	57
<b>Heat loss to surroundings (without collector losses) [Qext]</b>													
kWh	103	8	8	10	10	9	8	8	8	8	9	9	7

Demo Version

## Energy flow diagram (annual balance)



Demo Version