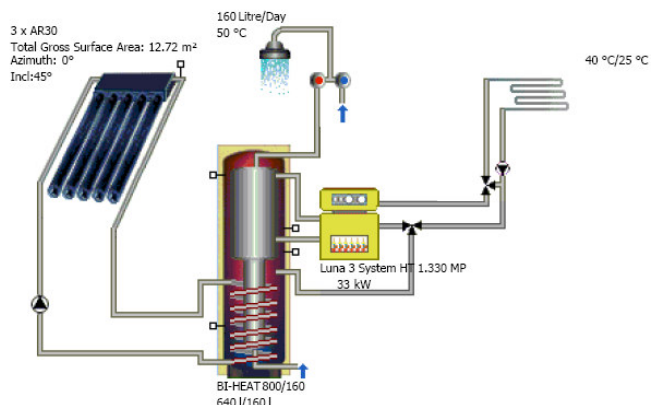


## RAPORT EFICIENTA SOLARA

### **SOLAR VID BI-HEAT HT 33-800/160 SELECTIVE SYSTEM VID BI-HEAT 800/160 + LUNA 3 SYSTEM HT 1.330 MP SOLAR VID 90 + BI-HEAT 800/160 + LUNA 3 SYSTEM HT 1.330 MP**



#### System Components

<b>Collector Loop</b>	
Manufacturer:	Baxi
Type:	AR30
Number:	3.00
Total Gross Surface Area:	12.72 m <sup>2</sup>
Total Active Solar Surface Area:	9.06 m <sup>2</sup>
Tilt Angle:	45 °
Azimuth:	0 °
<b>Combination Tank (Tank)</b>	
Manufacturer:	BAXI
Type:	BI-HEAT 800/160
Volume:	800 l
<b>Auxiliary Heating</b>	
Manufacturer:	Baxi
Type:	Luna 3 System HT 1.330 MP
Nominal Output:	33 kW

#### Basic Data

##### Climate File

Location:	Bucuresti
Climate Data Record:	BUCHAREST
Total Annual Global Radiation:	1412.52 kWh
Latitude:	44.5 °
Longitude:	-26.22 °

##### Domestic Hot Water

Average Daily Consumption:	160 l
Desired Temperature:	50 °C
Load Profile:	Detached House (evening max)
Cold Water Temperature:	February: 8 °C / August: 12 °C

##### Space Heating

Standard Building Heat Flow Requirement:	25 kW
Standard External Temperature:	-18.65 °C
Design Temperatures :	40 °C/25 °C

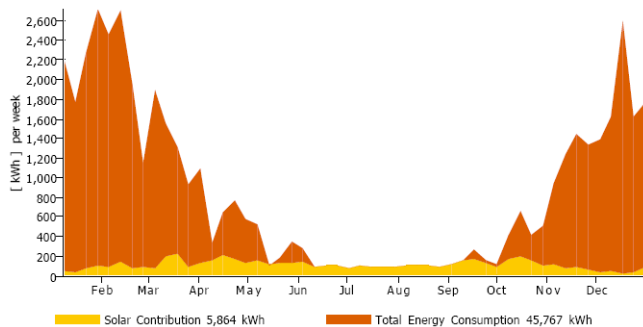
#### Results of Annual Simulation

Installed Collector Power:	8.90 kW	
Installed Gross Solar Surface Area:	12.72 m <sup>2</sup>	
Collector Surface Area Irradiation:	14.04 MWh	1,550.02 kWh/m <sup>2</sup>
Energy Produced by Collectors:	6.76 MWh	746.51 kWh/m <sup>2</sup>
Energy Produced by Collector Loop:	5.86 MWh	647.24 kWh/m <sup>2</sup>

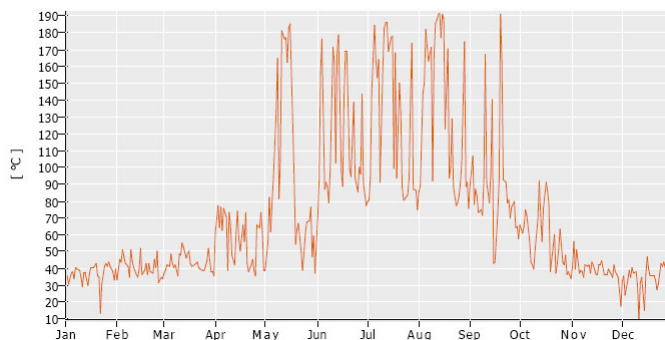
DHW Heating Energy Supply:	2719.95 kWh
Space Heating Energy Supply:	41.39 MWh
Solar Contribution to DHW:	2894.59 kWh
Solar Contribution to Heating:	2969.36 kWh
Energy from Auxiliary Heating:	39.9 MWh

<b>Natural Gas (H) Savings:</b>	<b>675.4 m<sup>3</sup></b>
<b>CO2 Emissions Avoided:</b>	<b>1,428.91 kg</b>
<b>DHW Solar Fraction:</b>	<b>66.2 %</b>
<b>Total Solar Fraction:</b>	<b>12.8 %</b>
<b>Fractional Energy Saving (EN 12976):</b>	<b>10.5 %</b>
<b>System Efficiency:</b>	<b>41.8 %</b>

#### Solar Energy Consumption as Percentage of Total Consumption



#### Daily Maximum Collector Temperature



Aceste calcule au fost efectuate cu ajutorul programului T-SOL Pro 4.5 - software de simulare pentru sisteme termice de încălzire ce folosesc energia solara. Rezultatele sunt determinate in baza unui model matematic de calcul. Randamentul real se poate abate de la aceste valori, datorita fluctuatilor climatice, modului de exploatare sau altori factori externi. Schema de mai sus nu reprezinta si nu poate înlocui un proiect tehnic de executie al sistemului solar.