

# Solar Heating System Factsheet

## Sammler A308



**System model** A308  
**System type** Thermosiphonsystem  
**Manufacturer** SAMMLER B. Michalopoulos sa  
**Address** 18, Chiou str.  
Aspropyrgos Industrial Zone  
GR-19300 Athens  
**Phone** +30 210 2382867  
**Fax** +30 210 2320337  
**E-mail** sammler@sammler.gr  
**Internet** www.sammler.gr  
**Date of test** 11.2016

- Performance test EN12976:2006
- Quality test EN12976:2006

- Solar Keymark



### System-Data

**No. of collector modules** 2  
**Gross collector area** 4.22 m<sup>2</sup>  
**Storage tank volume** 300 l  
**Design load<sup>\*)</sup>** 280 l/d

### Types of collector mounting

- Construction for sloping roof
- Integration into sloping roof
- On flat roof with stand
- Facade

**Gross dimension flat roof (DxWxH)**  
**Gross dimension sloping roof (LxW)**

1955 mm x 2110 mm x 2004 mm  
 2704 mm x 2110 mm

### Collector

**Model** ARIS2004  
**Type** Flat plate collector  
**Total length** 2037 mm

**Total width** 1036 mm  
**Gross area** 2.110 m<sup>2</sup>  
**Weight empty** 41 kg

### Storage tank

**Model** SV300  
**Type** Horizontal / Mantle HE  
**Insulation material** Polyurethane foam  
**Corrosion protection** Enameled,  
Mg sacrificial anode  
**Total length** 1762 mm

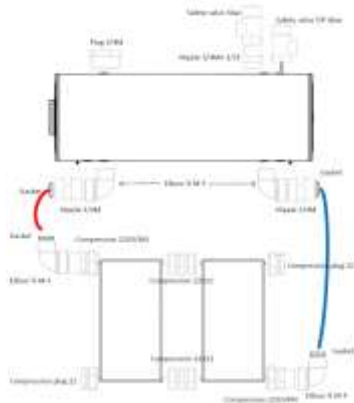
**Outside diameter** 580 mm  
**Weight empty** 110 kg  
**Electrical heater** optional kW  
**Max. operating pressure** 6 bar  
**Max. storage temperature** 95 °C

### Heat transfer medium solar loop

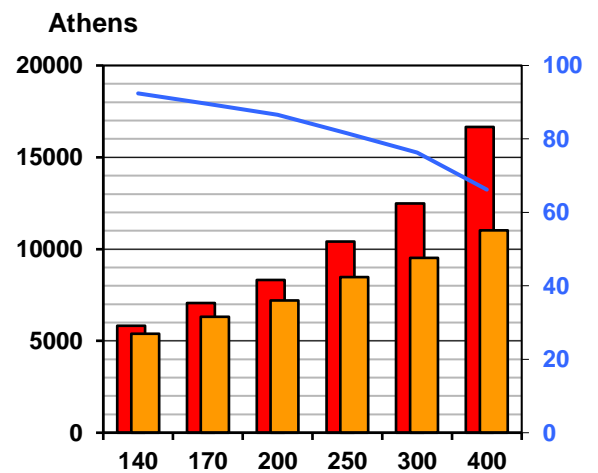
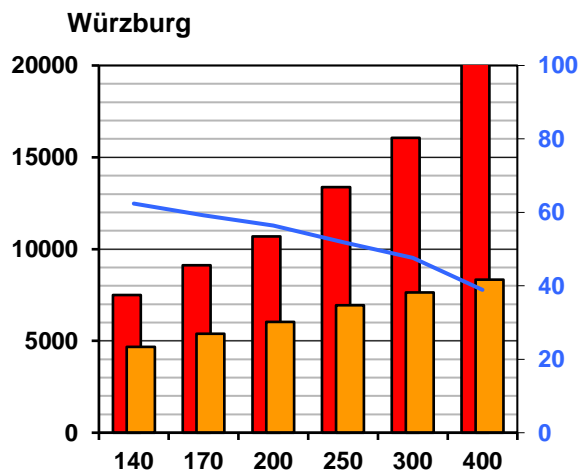
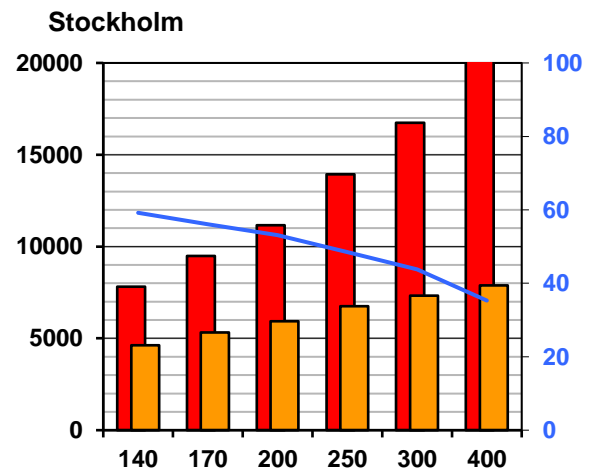
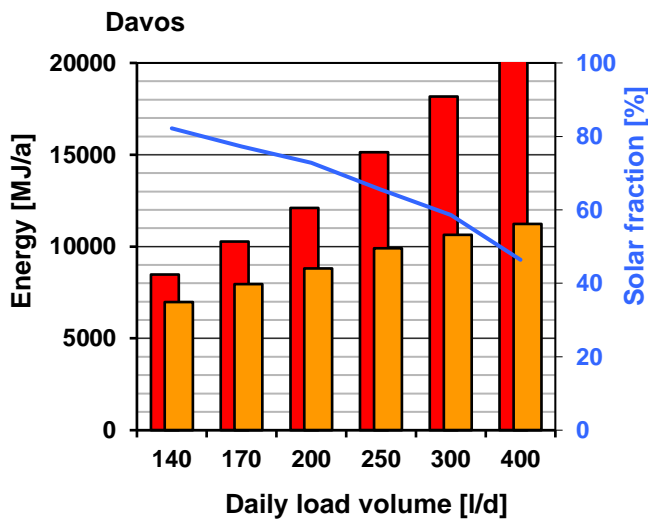
**Manufacturer** Various  
**Type** Water-Propyleneglycol

**Model name** --  
**Concentration/Freezing point** Various

Schematic of system



Annual performance prediction and solar fraction for the EN locations<sup>\*)</sup>



Reference conditions according to EN 12976

Collector alignment South, tilt angle 45°  
Hot water temperature 45°C  
Draw-off 6 h after solar noon; 100 %

Performance indicators

~  $f_{sol}$ : Solar fraction in % ( $f_{sol} = Q_L/Q_d$ )  
□  $Q_L$ : Heat delivered by the solar system (load)  
□  $Q_d$ : Heat demand

<sup>\*)</sup> The reference conditions for performance prediction in accordance with EN 12976:2006 is described in the accompanying document to the system factsheets.

# Solar Heating System Factsheet

## A168 – sub system

This system configuration was tested as part of a system family according to the CEN Keymark Scheme Rules for Solar Thermal Products<sup>1</sup>. The annual performance prediction for the system configuration has been determined using the results of the medium system of the system family. For more information about the medium system please check the factsheet of system **S212**.



### General

<b>System model</b>	<b>A168</b>	<b>Phone</b>	+30 210 2382867
<b>System type</b>	Thermosiphon system	<b>Fax</b>	+30 210 2320337
<b>Manufacturer</b>	SAMMLER B. Michalopoulos sa	<b>E-Mail</b>	sammler@sammler.gr
		<b>Internet</b>	www.sammler.gr
<b>Address</b>	18, Chiou str. Aspropyrgos Industrial Zone GR-19300 Athens	<b>Testdatum</b>	11.2016

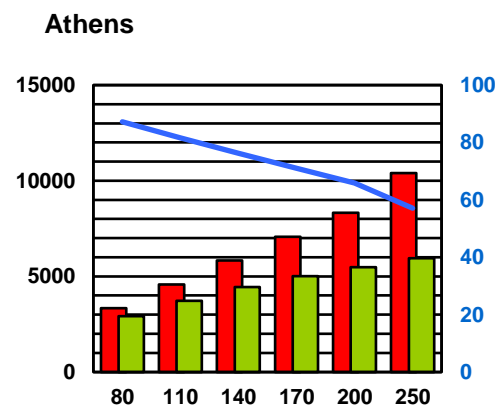
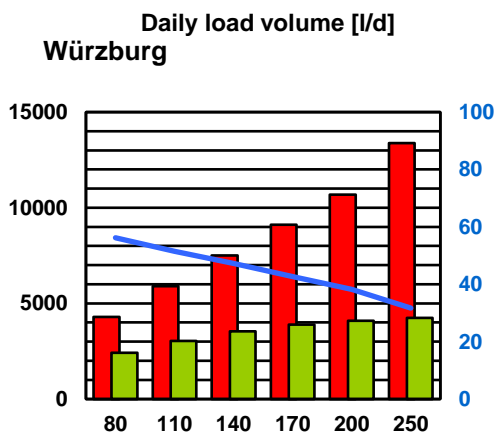
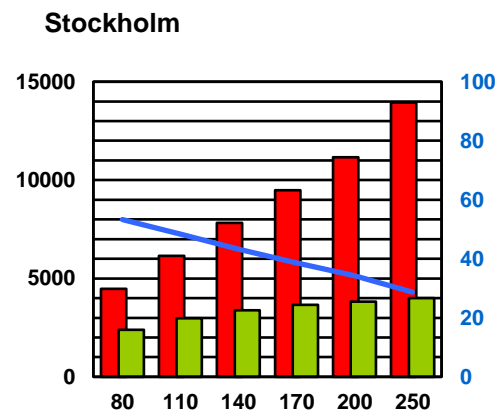
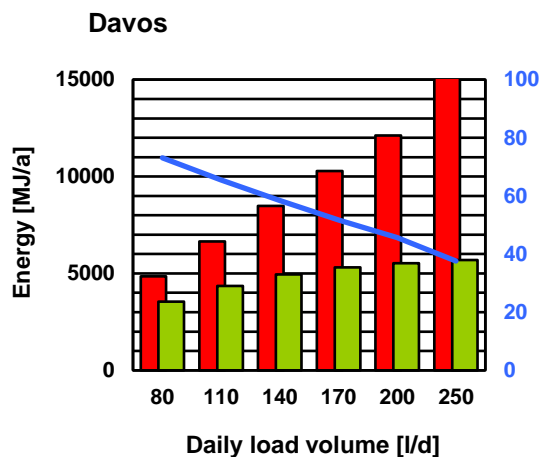
### System-Data

<b>No. of collector modules / pipes</b>	1
<b>Gross collector array area</b>	2.110 m <sup>2</sup>
<b>Storage tank volume</b>	160 l
<b>Design load</b>	150 l/d

### Types of collector mounting

- Construction for sloping roof
- Integration into sloping roof
- On flat roof with stand
- Facade

### Annual performance prediction and solar fraction for the EN locations



—  $f_{sol}$ : Solar fraction % ( $f_{sol} = Q_L/Q_d$ )    ■  $Q_L$ : Heat delivered by the solar system (load)    ■  $Q_d$ : Heat demand

<sup>1</sup> Homepage of Solar Keymark, URL: [www.solarkeymark.org](http://www.solarkeymark.org)

# Solar Heating System Factsheet

## A169 – sub system

This system configuration was tested as part of a system family according to the CEN Keymark Scheme Rules for Solar Thermal Products<sup>1</sup>. The annual performance prediction for the system configuration has been determined using the results of the medium system of the system family. For more information about the medium system please check the factsheet of system **S212**.



### General

<b>System model</b>	<b>A169</b>	<b>Phone</b>	+30 210 2382867
<b>System type</b>	Thermosiphon system	<b>Fax</b>	+30 210 2320337
<b>Manufacturer</b>	SAMMLER B. Michalopoulos sa	<b>E-Mail</b>	sammler@sammler.gr
		<b>Internet</b>	www.sammler.gr
<b>Address</b>	18, Chiou str. Aspropyrgos Industrial Zone GR-19300 Athens	<b>Testdatum</b>	11.2016

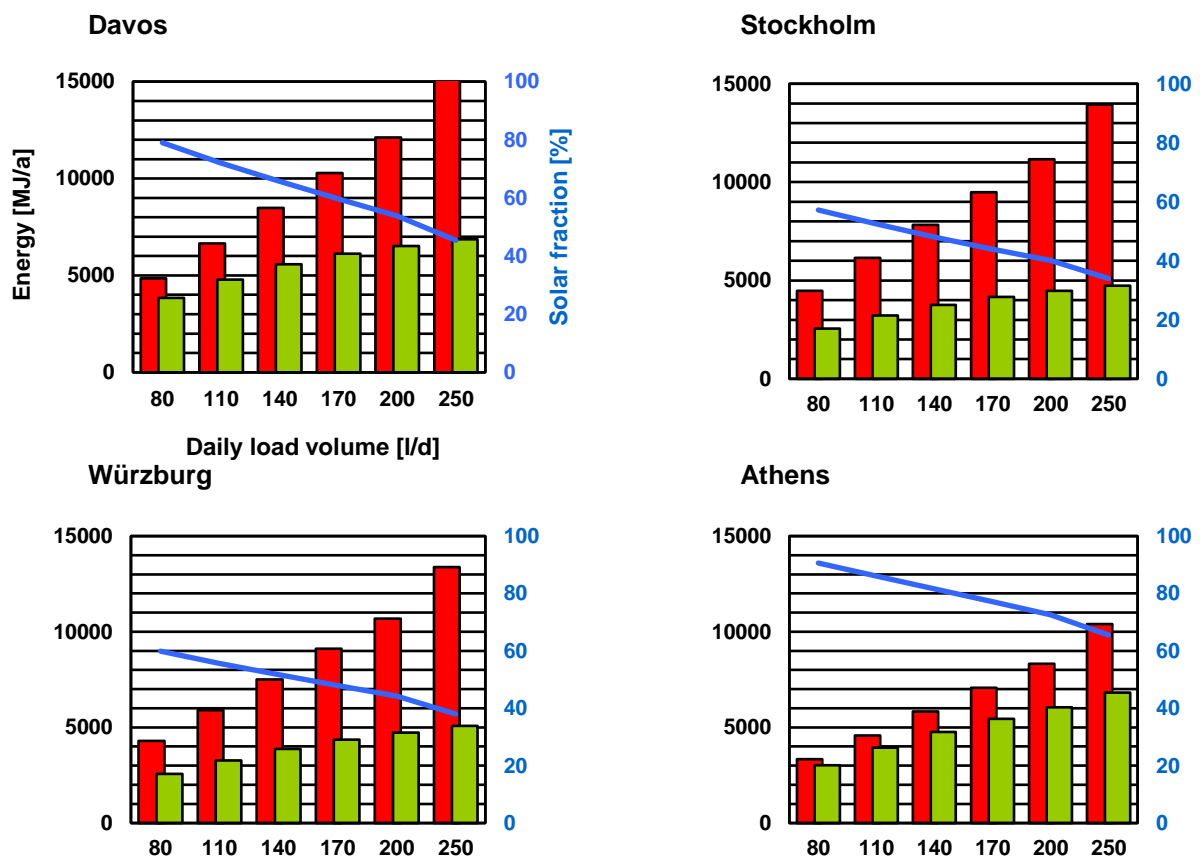
### System-Data

<b>No. of collector modules / pipes</b>	1
<b>Gross collector array area</b>	2.520 m <sup>2</sup>
<b>Storage tank volume</b>	160 l
<b>Design load</b>	150 l/d

### Types of collector mounting

- Construction for sloping roof
- Integration into sloping roof
- On flat roof with stand
- Facade

### Annual performance prediction and solar fraction for the EN locations



— f<sub>sol</sub>: Solar fraction % (f<sub>sol</sub> = Q<sub>L</sub>/Q<sub>d</sub>)    ■ Q<sub>L</sub>: Heat delivered by the solar system (load)    ■ Q<sub>d</sub>: Heat demand

<sup>1</sup> Homepage of Solar Keymark, URL: [www.solarkeymark.org](http://www.solarkeymark.org)

# Solar Heating System Factsheet

## A208 – sub system

This system configuration was tested as part of a system family according to the CEN Keymark Scheme Rules for Solar Thermal Products<sup>1</sup>. The annual performance prediction for the system configuration has been determined using the results of the medium system of the system family. For more information about the medium system please check the factsheet of system **S212**.



### General

<b>System model</b>	<b>A208</b>	<b>Phone</b>	+30 210 2382867
<b>System type</b>	Thermosiphon system	<b>Fax</b>	+30 210 2320337
<b>Manufacturer</b>	SAMMLER B. Michalopoulos sa	<b>E-Mail</b>	sammler@sammler.gr
		<b>Internet</b>	www.sammler.gr
<b>Address</b>	18, Chiou str. Aspropyrgos Industrial Zone GR-19300 Athens	<b>Testdatum</b>	11.2016

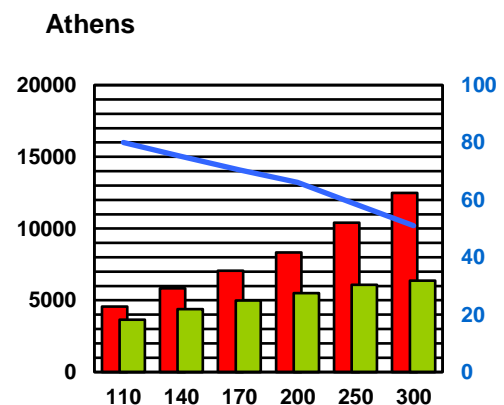
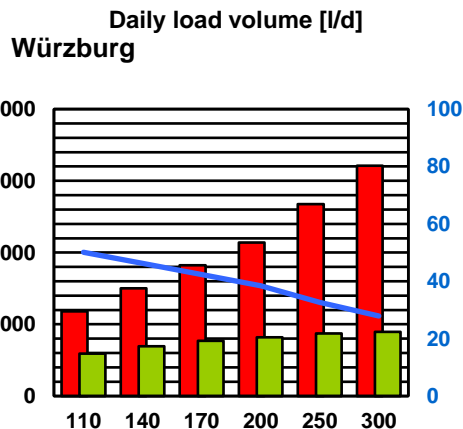
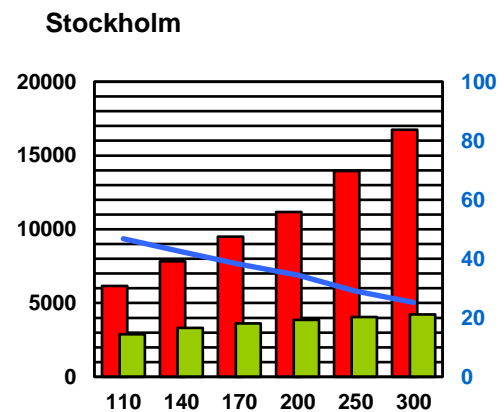
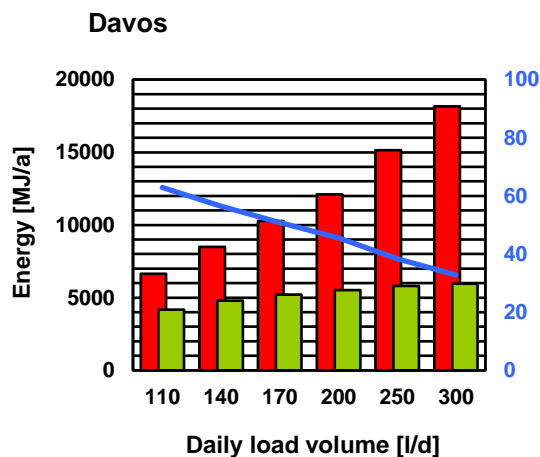
### System-Data

<b>No. of collector modules / pipes</b>	1
<b>Gross collector array area</b>	2.110 m <sup>2</sup>
<b>Storage tank volume</b>	200 l
<b>Design load</b>	200 l/d

### Types of collector mounting

- Construction for sloping roof
- Integration into sloping roof
- On flat roof with stand
- Facade

### Annual performance prediction and solar fraction for the EN locations



—  $f_{sol}$ : Solar fraction % ( $f_{sol} = Q_L/Q_d$ )    ■  $Q_L$ : Heat delivered by the solar system (load)    ■  $Q_d$ : Heat demand

<sup>1</sup> Homepage of Solar Keymark, URL: [www.solarkeymark.org](http://www.solarkeymark.org)

# Solar Heating System Factsheet

## A208 – sub system

This system configuration was tested as part of a system family according to the CEN Keymark Scheme Rules for Solar Thermal Products<sup>1</sup>. The annual performance prediction for the system configuration has been determined using the results of the medium system of the system family. For more information about the medium system please check the factsheet of system **S212**.



### General

<b>System model</b> A228	<b>Phone</b> +30 210 2382867
<b>System type</b> Thermosiphon system	<b>Fax</b> +30 210 2320337
<b>Manufacturer</b> SAMMLER B. Michalopoulos sa	<b>E-Mail</b> sammler@sammler.gr
	<b>Internet</b> www.sammler.gr
<b>Address</b> 18, Chiou str. Aspropyrgos Industrial Zone GR-19300 Athens	<b>Testdatum</b> 11.2016

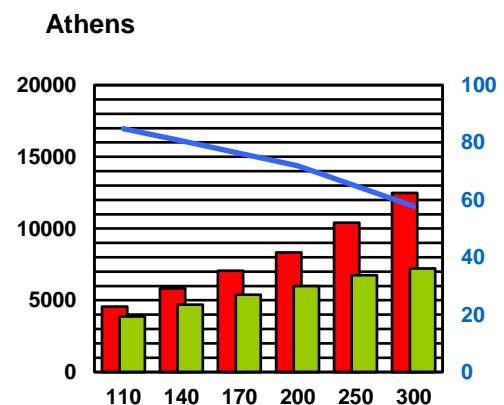
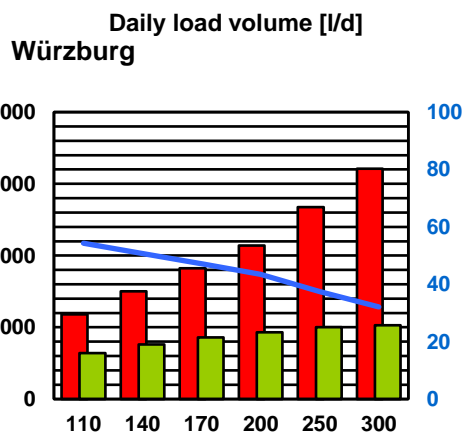
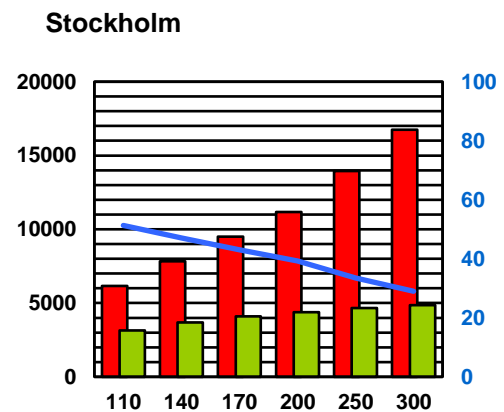
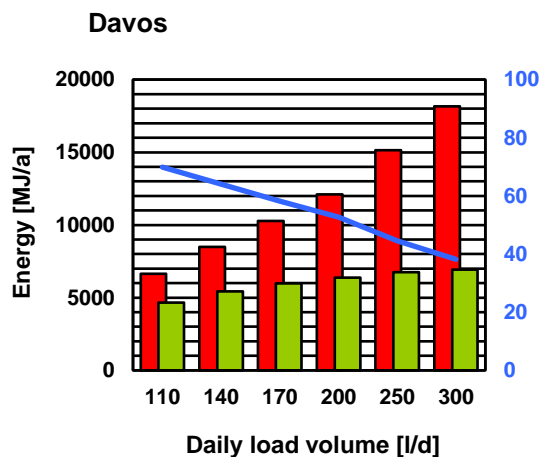
### System-Data

<b>No. of collector modules / pipes</b>	1
<b>Gross collector array area</b>	2.520 m <sup>2</sup>
<b>Storage tank volume</b>	200 l
<b>Design load</b>	200 l/d

### Types of collector mounting

- Construction for sloping roof
- Integration into sloping roof
- On flat roof with stand
- Facade

### Annual performance prediction and solar fraction for the EN locations



—  $f_{sol}$ : Solar fraction % ( $f_{sol} = Q_L/Q_d$ )    ■  $Q_L$ : Heat delivered by the solar system (load)    ■  $Q_d$ : Heat demand

<sup>1</sup> Homepage of Solar Keymark, URL: [www.solarkeymark.org](http://www.solarkeymark.org)

# Solar Heating System Factsheet

## A230 – sub system

This system configuration was tested as part of a system family according to the CEN Keymark Scheme Rules for Solar Thermal Products<sup>1</sup>. The annual performance prediction for the system configuration has been determined using the results of the medium system of the system family. For more information about the medium system please check the factsheet of system **S212**.



### General

<b>System model</b>	<b>A230</b>	<b>Phone</b>	+30 210 2382867
<b>System type</b>	Thermosiphon system	<b>Fax</b>	+30 210 2320337
<b>Manufacturer</b>	SAMMLER B. Michalopoulos sa	<b>E-Mail</b>	sammler@sammler.gr
		<b>Internet</b>	www.sammler.gr
<b>Address</b>	18, Chiou str. Aspropyrgos Industrial Zone GR-19300 Athens	<b>Testdatum</b>	11.2016

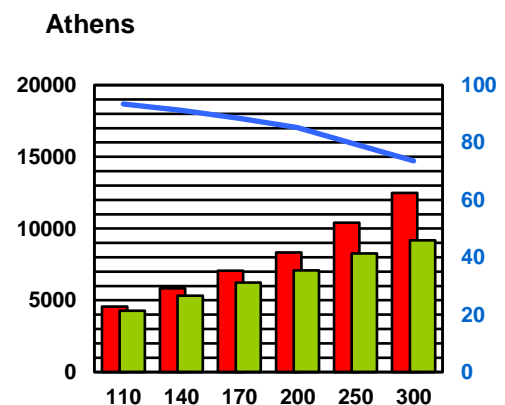
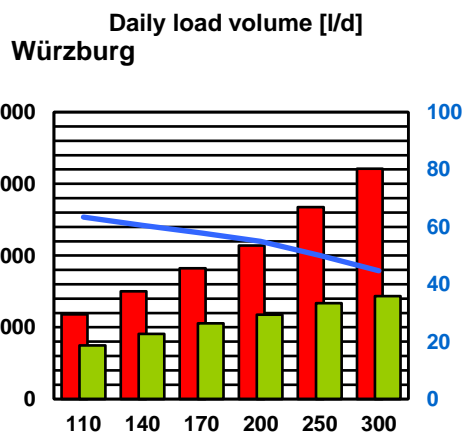
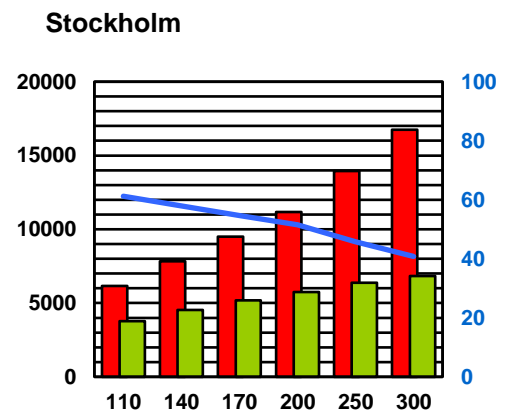
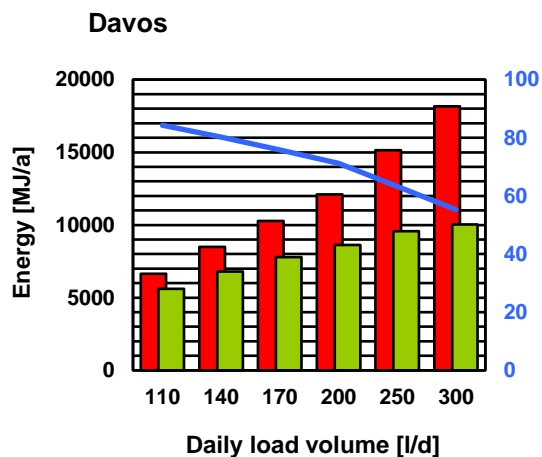
### System-Data

<b>No. of collector modules / pipes</b>	2
<b>Gross collector array area</b>	4.220 m <sup>2</sup>
<b>Storage tank volume</b>	200 l
<b>Design load</b>	200 l/d

### Types of collector mounting

- Construction for sloping roof
- Integration into sloping roof
- On flat roof with stand
- Facade

### Annual performance prediction and solar fraction for the EN locations



—  $f_{sol}$ : Solar fraction % ( $f_{sol} = Q_L/Q_d$ )    ■  $Q_L$ : Heat delivered by the solar system (load)    ■  $Q_d$ : Heat demand

<sup>1</sup> Homepage of Solar Keymark, URL: [www.solarkeymark.org](http://www.solarkeymark.org)