

DHW SYSTEMS AND SOLAR KITS

DHW systems, solar kits with high efficiency panels and vacuum solar manifolds

- Solar systems complete with storage tank for combination with a heat pump
- Solar kits without storage tank for combination with third-party storage tanks
- Ultra-high efficiency vacuum solar manifolds
- Optional anti-stagnation shading device



DESCRIPTION

Aermec solar systems are an efficient and reliable solution for the production of solar thermal energy, suitable for both residential and commercial applications.

The range has been developed to meet different plant needs and includes:

- **Complete solar system with domestic hot water storage tank (GSA).**
- **Solar system without domestic hot water storage tank (KSA).**
- **Single solar manifolds for creating custom configurations (CXs).**

To complete the offer, Aermec provides a full range of dedicated accessories, designed to ensure a simple, safe, and perfectly integrated installation.

SOLAR SYSTEM COMPLETE WITH DOMESTIC HOT WATER STORAGE TANK (GSA)

Four complete GSA solar system configurations are available, differentiated by the capacity of the domestic hot water storage tank (300 or 500 litres) and the type of solar manifold selected.

Each system is composed of two kits that must be ordered separately: a storage tank kit and a solar kit.

Systems with a 300-litre domestic hot water storage tank GSA300A 300-litre domestic hot water storage tank with integrated solar station.

To be completed by choosing one of the following solar kits:

GSA300° Solar kit consisting of:

- 1 vacuum solar manifold with 21 tubes;
- connection fittings;
- 24-litre expansion tank with interception fitting;
- glycol canister.

GSA300E Solar kit consisting of:

- 1 vacuum solar manifold with 21 tubes and anti-stagnation shading device;
- connection fittings;
- 24-litre expansion tank with interception fitting;
- glycol canister.

Systems with a 500-litre domestic hot water storage tank

GSA500A 500-litre domestic hot water storage tank with integrated solar station.

To be completed by choosing one of the following solar kits:

GSA500° Solar kit consisting of:

- 2 vacuum solar manifolds with 15 tubes;
- connection fittings;
- 40-litre expansion tank with interception fitting;
- glycol canisters.

GSA500E Solar kit consisting of:

- 2 vacuum solar manifolds with 15 tubes and anti-stagnation shading device;
- connection fittings;
- 40-litre expansion tank with interception fitting;
- glycol canisters.

To complete the order of a GSA system, it is necessary to select a storage tank kit (GSA300A or GSA500A) and the corresponding solar kit (version ° or E).

SOLAR SYSTEM WITHOUT DOMESTIC HOT WATER STORAGE TANK (KSA)

Four solar system configurations KSA are available, with sizing equivalent to complete GSA systems but without a domestic hot water storage tank, to allow combination with third-party storage tanks.

the compatibility and suitability of the combined storage tank must be verified by the designer according to the characteristics of the system.

KSA21° Solar kit consisting of:

- 1 vacuum solar manifold with 21 tubes;
- connection fittings;
- solar station;
- solar control unit;
- 24-litre expansion tank with interception fitting;
- glycol canister.

KSA21E Solar kit consisting of:

- **1 vacuum solar manifold with 21 tubes and anti-stagnation shading device;**
- connection fittings;
- solar station;
- solar control unit;
- 24-litre expansion tank with interception fitting;
- glycol canister.

KSA30° Solar kit consisting of:

- **2 vacuum solar manifolds with 15 tubes;**
- connection fittings;
- solar station;
- solar control unit;
- 24-litre expansion tank with interception fitting;
- glycol canisters.

KSA30E Solar kit consisting of:

- **2 vacuum solar manifolds with 15 tubes and anti-stagnation shading device;**
- connection fittings;
- solar station;
- solar control unit;
- 24-litre expansion tank with interception fitting;
- glycol canisters.

The GSA and KSA solar systems must be completed with the appropriate clamping systems for the installation of the solar manifolds, available as accessories.

The accessory range includes various fixing solutions, to be selected according to the type of installation and the characteristics of the cover.

VACUUM SOLAR MANIFOLDS

The vacuum solar manifolds are also available individually, in two sizes with 15 pipes and 21 pipes. Each size is available in the standard ° version and in the E version with the anti-stagnation shading device.

ACCESSORIES

CSB: Basic set + cover.

CSP: Basic set + cover.

KSB: Basic set (for panel string termination; already included in the systems and kits).

KSP: Plus set (for panel connection; already included in the systems and kits).

MIX10: 10 liter tank of pre-mixed antifreeze solution for topping up and/or filling solar systems with vacuum collectors

MIX20: 20 liter tank of pre-mixed antifreeze solution for topping up and/or filling solar systems with vacuum collectors

STC (x1): Clamping for vacuum manifold (with or without Eclipse) on a pitched roof with tiles.

STC21: Clamping for 1 vacuum manifold with 21 pipes (with or without Eclipse) on a pitched roof with tiles.

STC30: Clamping for 2 vacuum manifold with 15 pipes each (with or without Eclipse) on a pitched roof with tiles.

STP (x1): Clamping for vacuum manifold (with or without Eclipse) on a flat roof.

STP21: Clamping for 1 vacuum manifold with 21 pipes (with or without Eclipse) on a flat roof.

STP30: Clamping for 2 vacuum manifold with 15 pipes (with or without Eclipse) on a flat roof.

STT (x1): Clamping for vacuum manifold (with or without Eclipse) on a pitched roof with shingles.

STT21: Clamping for 1 vacuum manifold with 21 pipes (with or without Eclipse) on a pitched roof with shingles.

STT30: Clamping for 12 vacuum manifolds with 15 pipes each (with or without Eclipse) on a pitched roof with shingles.

STV15: Clamping for 1 vacuum manifold with 15 pipes (with or without Eclipse) on a pitched roof with screw connection.

STV21: Clamping for 1 vacuum manifold with 21 pipes (with or without Eclipse) on a pitched roof with screw connection.

STV30: Clamping for vacuum manifold (with or without Eclipse) on a pitched roof with screw connection.

ACCESSORIES COMPATIBILITY

Clamping for a manifold on a pitched roof with shingles

Accessory	GSA300E	GSA300°	GSA500E	GSA500°
STT (x1)	•	•		
STT (x2)			•	•
Accessory	KSA21E	KSA21°	KSA30E	KSA30°
STT (x1)	•	•		
STT (x2)			•	•

Clamping for a manifold on a pitched roof with tiles

Accessory	GSA300E	GSA300°	GSA500E	GSA500°
STC (x1)	•	•		
STC (x2)			•	•
Accessory	KSA21E	KSA21°	KSA30E	KSA30°
STC (x1)	•	•		
STC (x2)			•	•

Clamping for a manifold on a pitched roof with screw connection

Accessory	GSA300E	GSA300°	GSA500E	GSA500°
STV (x1)	•	•		
STV (x2)			•	•
Accessory	KSA21E	KSA21°	KSA30E	KSA30°
STV (x1)	•	•		
STV (x2)			•	•

Clamping for a manifold on a flat roof

Accessory	GSA300E	GSA300°	GSA500E	GSA500°
STP (x1)	•	•		
STP (x2)			•	•
Accessory	KSA21E	KSA21°	KSA30E	KSA30°
STP (x1)	•	•		
STP (x2)			•	•

Basic set (for panel string termination) and plus set (for the connection of two solar panels)

Accessory	CXS15E	CXS15°	CXS21E	CXS21°
CSB	•	•	•	•
CSP	•	•	•	•
KSB	•	•	•	•
KSP	•	•	•	•

The accessories are compatible with the solar manifolds, but are not compatible with the GSA solar systems or with the KSA solar kits because they are already included.

PERFORMANCE SPECIFICATIONS**GSA complete solar system**

		GSA300°	GSA300E	GSA500°	GSA500E
Technical features					
Solar manifolds	no./type	1 x CXS21°	1 x CXS21E	2 x CXS15°	2 x CXS15E
Gross surface	m²	4,45	4,45	6,36	6,36
Opening surface	m²	4,02	4,02	5,74	5,74
Input current surface	m²	5,39	5,39	7,70	7,70
Hydraulic components					
Expansion vessel number	no.	1	1	1	1
Expansion vessel capacity	l	24	24	40	40
Recommended dimension based on the number of people	no.	3-5	3-5	5-7	5-7
		GSA300A		GSA500A	
Hydraulic components					
Storage tank (DHW)	l	300		500	

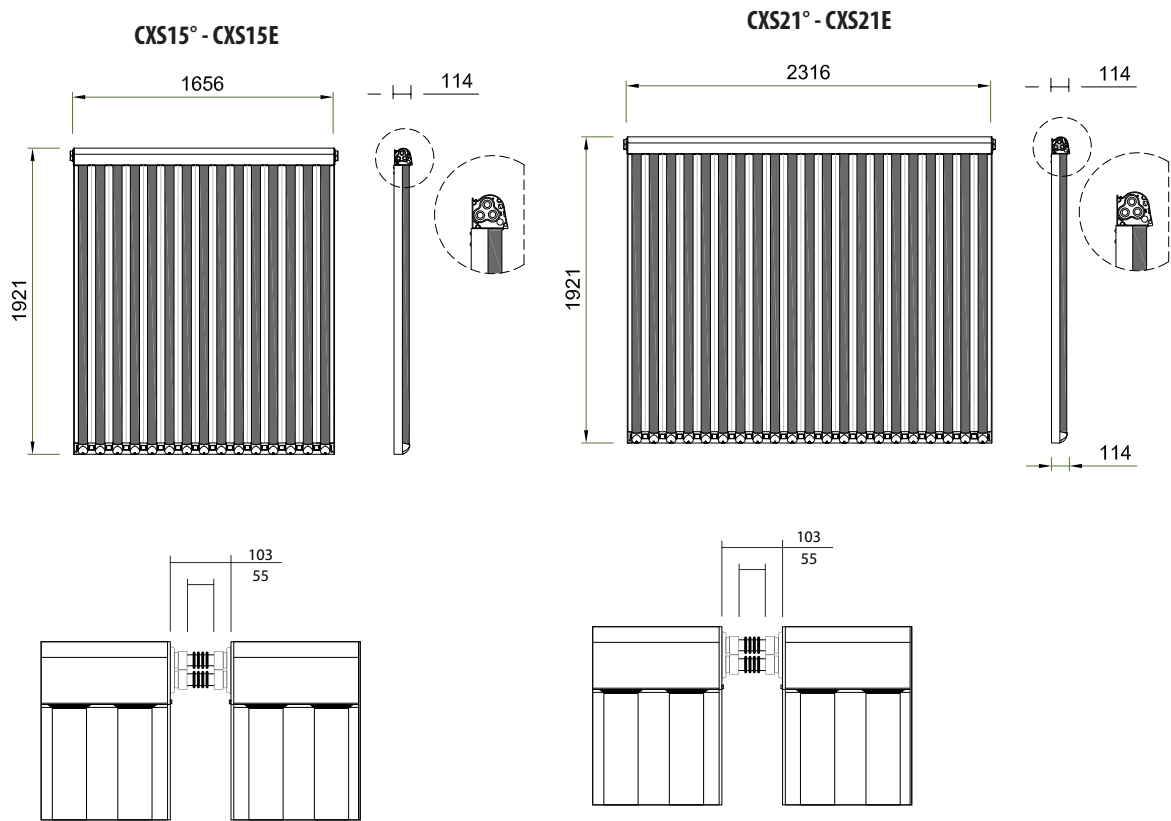
KSA solar system

		KSA21°	KSA21E	KSA30°	KSA30E
Technical features					
Solar manifolds	no./type	1 x CXS21°	1 x CXS21E	2 x CXS15°	2 x CXS15E
Gross surface	m ²	4,45	4,45	6,36	6,36
Opening surface	m ²	4,02	4,02	5,74	5,74
Input current surface	m ²	5,39	5,39	7,70	7,70
Hydraulic components					
Expansion vessel number	no.	1	1	1	1
Expansion vessel capacity	l	24	24	40	40

Only the solar panel

		CXS15°	CXS15E	CXS21°	CXS21E
Technical features					
Vacuum pipes	no.	15	15	21	21
Maximum number of coil manifolds	no.	6	6	6	6
Connections	no.	6	6	6	6
Connection dimensions	Ø inch	3/4"M	3/4"M	3/4"M	3/4"M
Opening surface	m ²	2,87	2,87	4,02	4,02
Input current surface	m ²	3,85	3,85	5,39	5,39
Gross surface	m ²	3,18	3,18	4,45	4,45
Head insulation thickness, aluminised glass wool covering	mm	47	47	30	30
Diameter - Vacuum pipe length	mm	58/47 - 1800	58/47 - 1800	58/47 - 1800	58/47 - 1800
Recommended tilt	°	15 - 75°	15 - 75°	15 - 75°	15 - 75°
Conductor radiator fluid content	l	3,28	3,28	3,75	3,75
Performances					
η ₀ rendimento ottico (riferimento area lorda)		0,615	0,615	0,609	0,609
K1 transmission coefficient (gross area reference)	W/m ² K	0,850	0,850	0,690	0,690
K2 transmission coefficient (gross area reference)	W/m ² K	0,009	0,009	0,005	0,005
Nominal Power	W	1956	1956	2710	2710
Angle of incidence correction factor	K ₅₀ °	1.14T/0.9L	1.14T/0.9L	1.14T/0.9L	1.14T/0.9L
Heating capacity (opening ref.)	kJ/m ² K	50,9	50,9	34,0	34,0
Energy produced annually ISO 9806:2013 – Würzburg – Temperature 50°C	kWh	2371	2371	2884	2884
Energy produced annually ISO 9806:2013 – Würzburg – Temperature 75°C	kWh	1929	1929	2499	2499
Test Report ISO 9806:2013		Kiwa	Kiwa	Kiwa	Kiwa
DIN CERTCO Registration number		16083 Rev.0	16083 Rev.0	16082 Rev.0	16082 Rev.0
Flow Rate	l/h	127	127	200	200
Stagnation temperature	°C	279	279	176	176
Maximum pressure	bar	10	10	10	10

DIMENSIONS



		CXS15°	CXS15E	CXS21°	CXS21E
Dimensions and weights					
A	mm	1656	1656	2316	2316
B	mm	1921	1921	1921	1921
C	mm	114	114	114	114
Empty weight	kg	72	72	80	80

Aermec reserves the right to make any modifications deemed necessary. All data is subject to change without notice. Aermec does not assume responsibility or liability for errors or omissions.

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