

high efficiency on-roof solar system



Mounting
Angle



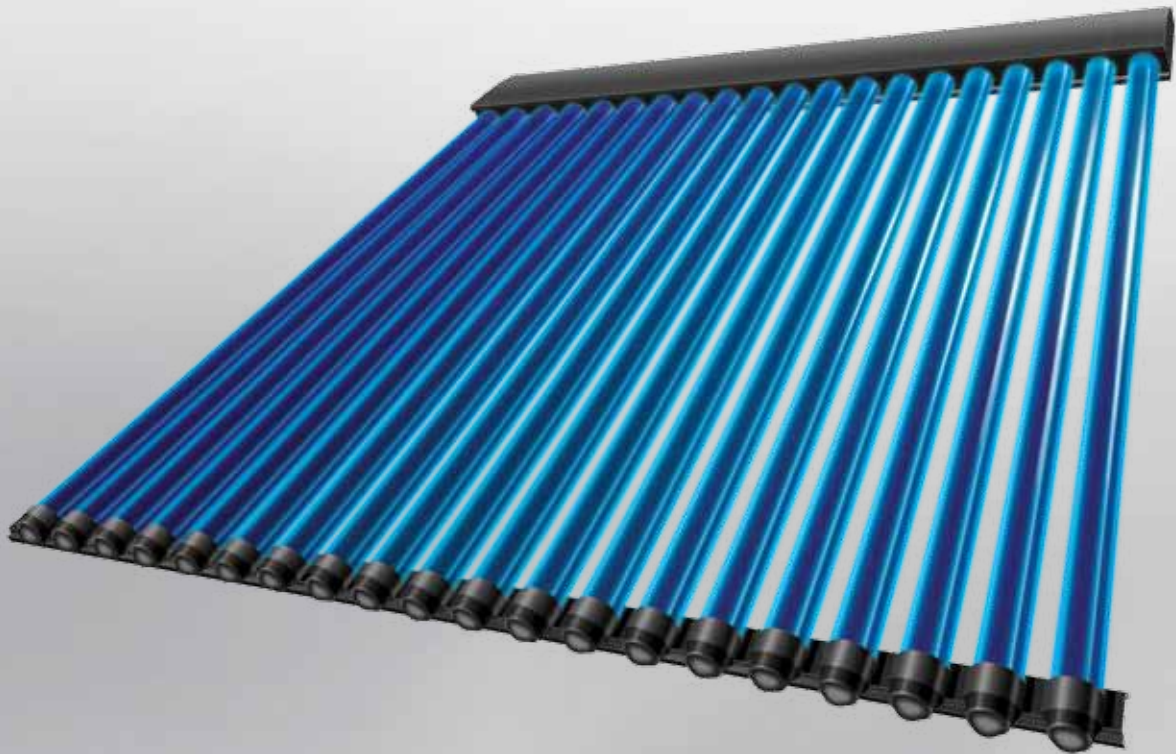
Flat Roof
Frame Opt.



Multiple
Mounting



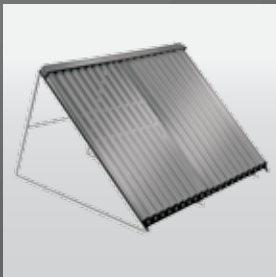
Remote
Controlling



The Joule Acapella Solar system's unique tube design ensures a very high zero-loss collector efficiency figure of 85% based on the absorber. The unique method of fixing the tubes into the collector results in a significantly lower heat loss coefficient of 1.529w/m²K. The collectors easy to install frame ensures that the collector is securely fixed and mounted onto the roof every time.

- We are so confident of the quality of our solar collectors that we have tested our collectors to double and sometimes four times the requirements of EN12975:1-2 and they are Solar Keymark.
- The high efficiency collectors are further tested to determine their maximum positive and negative loading force that the collectors can resist.
- The collectors have been tested to determine their impact resistance using a steel and ice ball method.

Flat Roof Mounting Bracket



Bolt Mounting Bracket



Slate Roof Mounting Bracket

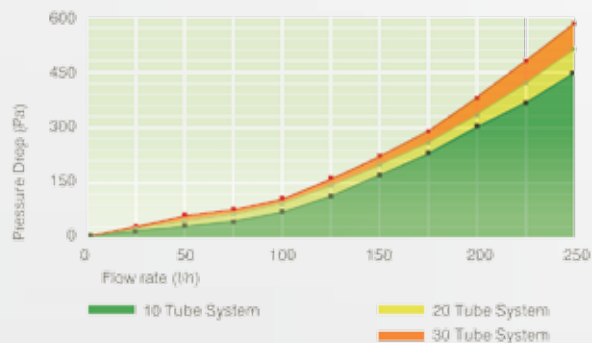


Tile Roof Mounting Bracket



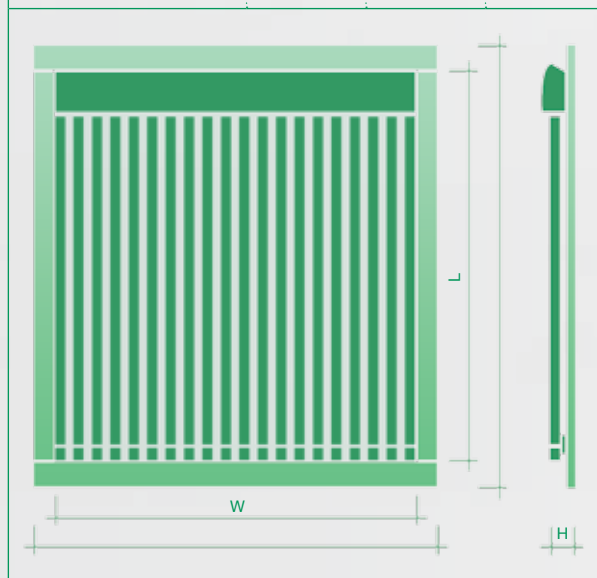


Acapella - Pressure Drop Graph



Technical Data			
System Size	10 Tube Collector	20 Tube Collector	30 Tube Collector
Dimensions			
Gross area (m ²)	1.72	3.38	4.901
Aperture area (m ²)	0.93	1.86	2.791
Absorber area (m ²)	0.80	1.61	2.411
Collector Height (m)	2.01	2.01	2.01
Manifold width (m)	1.2	1.8	2.42
Length of tube (m)	1.8	1.8	1.8
Distance between tubes/panels (m)	0.078	0.078	0.078
Weight empty (kg)	52	85	106
Max operating pressure (bar)	6	6	6
Recommended operating pressure (bar)	2-3	2-3	2-3
Recommended flow rate (l/min)	0.47	0.95	1.4
Fluid volume in collector (l)	0.81	1.65	2.3
Rated heat output (kW)	0.60	1.21	1.81
Materials			
Absorber (cylindrical shape)	Aluminium		
Coating	Aluminium Nitrite		
Absorbance	> 94%		
Emissivity	< 7%		
Mounting frame	Aluminium, Stainless Steel		
Glass	Borosilicate Glass		
Mounting inclination	15°-75°		
Inlet outlet dimensions (inch)	3 1/4 bracket male		
Stagnation temperature (°C)	200.3		
Insulation material	Mineral wool+Polyurethane		
Heat transfer fluid	Glycol mix		
Efficiency Constants for G=8000W/m ² (Aperture Area)	$\eta_0 = 0.734$ $a_1 = 1.529$ $a_2 = 0.0166$ (W/m ² K)		

Joule Acapella Dimensions (mm)			
	L	W	H
10 Tube Collector	2010	854	189
20 Tube Collector	2010	1680	189
30 Tube Collector	2010	2420	189



Mounting Options		
	1a	Sloped roof bolt kit
	1b	Sloped roof slate mounting bracket
	1c	Sloped roof tile mounting bracket
	2	25° increase roof inclined bracket
	3	45° flat roof inclined roof bracket

TEST RESULTS				
TYPE	TEST HOUSE	NO.	CERT. NUMBER	RESULT
Hail Impact	TUV Rheinland	EN 12975-1:2006 and EN 12975-2:2006	21215813_JL	✓
Keymark	Fraunhofer Institute	EN12975-1:2 2006	KTB Nr 2007-07-en	✓
MCS	Intertec	MCS 004 ISSUE 2.3	INT ST 21013	✓
NSAI	NSAI IRE	IBR 1997 2009	10/0353	✓

