Summary of EN 12975 Test Results, annex to Solar KEYMARK Certificate	**Licence Number**	011-7S2449 F
	Issued	2014-12-16

Company holding the	SolarVenti A/S		**Country**	Dänemark	
Brand (optional)			**Website**	http://www.solarventi.com/	
Street, street number	Fabriksvej 8		**E-mail**	hjc@solarventi.dk	
Postal Code / City, province	8881	Thorsoe	**Tel/Fax**	+45	8696 6700

Collector Type (flat plate glazed/un-glazed; evacuate tubular)	Flat plate collector (air heating) - glazed
Thermal / photo voltaic hybid collector? (PVT collector)	No
Integration in the roof possible ? (manufacturers declaration)	No

	Aperture area (Aa)	Gross length	Gross width	Gross height	Gross area (AG)	Power output per collector module G = 1000 W/m²			
						Tm - Ta [K] =	5,1	7,5	11,3
Collector name	m²	mm	mm	mm	**m²**	ṁ [kg/h] =	476	301	171
SV Professional	1,84	1.974	1.004	305	**1,98**	Power output [W] =	1.296	1.207	1.049

Performance test method	Glazed air heating collector - steady state - outdoor									
Mass flow rate depending performance parameters related to aperture area	η (476 kg/h)		η (301 kg/h)			η (171 kg/h)				
Units	-		-			-				
Test results - *Flow rate and fluid see note 1*	0,704[1]		0,656[1]			0,570[1]				
Bi-directional incidence angle modifiers?	No	Kθ *values are obligatory for 50°.*								
Incidence angle modifiers Kθ(θ)	Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
	Kθ(θ)					0,77[2]				0,00
Incidence angle modifier not bi-directional - leave fields blank										

Stagnation temperature - *Weather conditions see note 2*	T_{stg}	100 °C
Effective thermal capacity	$c_{eff} = C/A_g$	8,42 kJ/(m²K)
Max. intende operation temperature - *see note 3*	$T_{max,op}$	90 °C
Max. operation pressure - *see note 3*	$p_{max,op}$	- kPa

Pressure drop table - for a collector family, the values shall be for the module with highest ΔP per m² aperture area

Flow rate	kg/(h)	0	0,8	9,9	26,4	51,2	84,0	103,9			
Pressure drop, ΔP	Pa	0	44	200	365	534	702	786			

Optional weather data	Location		Link	
Testing Laboratory	Fraunhofer Institute for Solar Energy Systems ISE, TestLab Solar Thermal Systems			
Website	www.collectortest.com			
Test report id. number	ktb-2014-21-k	**Date of test report**	2014.11.24	
During the test G_{DIF}/G_{TOT} was always between	0,1	and	0,2	

Comments of testing laboratory:

1 For open to ambient solar air heaters, sucking in ambient air, it is only possible to determine the instantaneous efficiency at certain mass flow rates and ambient temperatures. More information are given within test report ktb-2014-21-k.
2 IAM estimated based on the IAM of the glass cover and geometrical calculations of the shadow effect.

Note 1	**Flow rate**	see above	kg/(s m²)	**Fluid**	Air
Note 2	**Irradiance, G = 1000 W/m²; Ambient temperature , T_a=30 °C**				
Note 3	**Given by manufacturer**				

TestLab
Solar Thermal Systems
Heidenhofstraße 2
D-79110 Freiburg
Tel: +49 (0)761 4588 5354

Datasheet version: 4.05, 2013-11-07

Annual collector output based on EN 12975 Test Results, annex to Solar KEYMARK Certificate	Licence Number	011-7S2449 F
	Issued	16.12.2014

Annual collector output kWh/module

Collector name	Location and collector temperature (Tm)														
	Athens			Davos			Stockholm			Würzburg					
	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C			
SV Professional	-	-	-	-	-	-	-	-	-	-	-	-			
S															

Collector mounting: Fixed or tracking	Fixed; slope = latitude - 15° (rounded to nearest 5°)

Overview of locations

Location	Latitude °	Gtot kWh/m²	Ta °C	Collector orientation or tracking mode
Athens	38	1.765	18,5	South, 25°
Davos	47	1.714	3,2	South, 30°
Stockholm	59	1.166	7,5	South, 45°
Würzburg	50	1.244	9,0	South, 35°

Gtot	Annual total irradiation on collector plane	kWh/m²
Ta	Mean annual ambient air temperature	°C
Tm	Constant collector operating temperature (mean of in- and outlet temperatures)	°C

The calculation of the annual collector performance with the official Solar Keymark spreadsheet tool ScenoCalc is not possible for open to ambient solar air heating collectors yet.

DIN CERTCO ● Alboinstraße 56 ● 12103 Berlin, Germany
Tel: +49 30 7562-1131 ● Fax: +49 30 7562-1141 ● E-Mail: info@dincertco.de ● www.dincertco.de

Datasheet version: 4.05, 2013-11-07
ScenoCalc version: Ver. 4.05 (Nov, 2013)