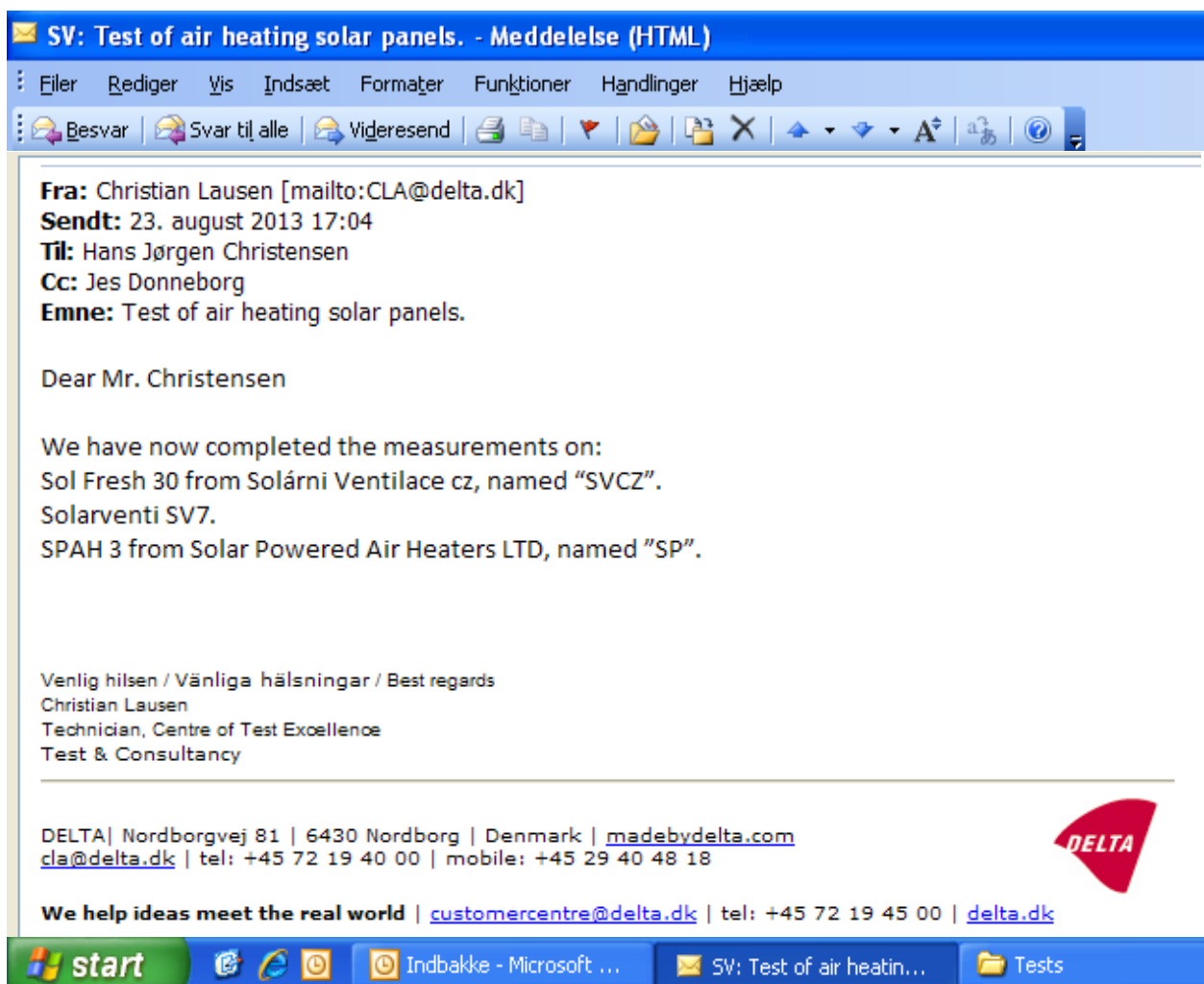


The logo for SolarVenti, featuring the brand name in a bold, blue, sans-serif font with a registered trademark symbol. The text is set against a yellow background with a pattern of thin, parallel diagonal lines.

## About the Delta Test T205234-3

### Mail from Christian Lausen (Delta Test Laboratory)

A screenshot of an email client window. The title bar reads "SV: Test of air heating solar panels. - Meddelelse (HTML)". The menu bar includes "Filer", "Rediger", "Vis", "Indsæt", "Formater", "Funktioner", "Handlinger", and "Hjælp". The toolbar contains icons for "Besvar", "Svar til alle", "Videresend", and other standard email actions. The main content area shows the email header and body text. The footer contains contact information for Delta and a logo.

**Fra:** Christian Lausen [mailto:CLA@delta.dk]  
**Sendt:** 23. august 2013 17:04  
**Til:** Hans Jørgen Christensen  
**Cc:** Jes Donneborg  
**Emne:** Test of air heating solar panels.

Dear Mr. Christensen

We have now completed the measurements on:  
Sol Fresh 30 from Solárni Ventilace cz, named "SVCZ".  
Solarventi SV7.  
SPA3 from Solar Powered Air Heaters LTD, named "SP".

Venlig hilsen / Vänliga hälsningar / Best regards  
Christian Lausen  
Technician, Centre of Test Excellence  
Test & Consultancy

DELTA | Nordborgvej 81 | 6430 Nordborg | Denmark | [madebydelta.com](http://madebydelta.com)  
[cla@delta.dk](mailto:cla@delta.dk) | tel: +45 72 19 40 00 | mobile: +45 29 40 48 18

**We help ideas meet the real world** | [customercentre@delta.dk](mailto:customercentre@delta.dk) | tel: +45 72 19 45 00 | [delta.dk](http://delta.dk)

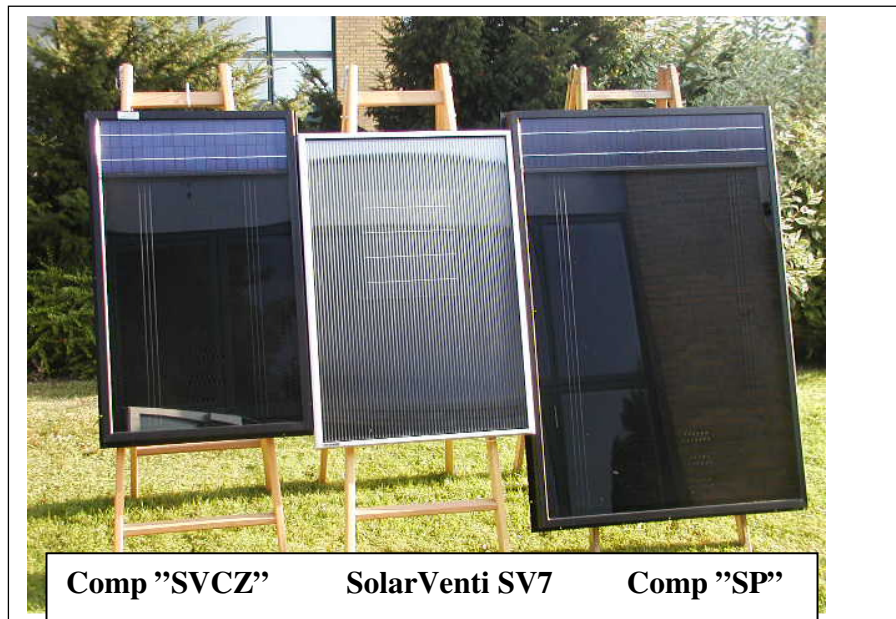


We help ideas meet the real world

## Test of air heating solar panels.

Task reference: T205234-3

Solarventi A/S  
**Hans Jørgen Christensen**  
Fabriksvej 8  
8881 Thorsø



**Report by:** Christian Lausen, Tel.: +45 2940 4818  
Test engineer, Centre of Test Excellence

**Report date:** 2013-08-21

**Number of pages:** 5

**Report no.:** 205234-3

### **DELTA**

L7-S14, Nordborgvej 81, 6430 Nordborg, Denmark  
Telephone: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)

This report may not be reproduced other than in full, except with prior permission.



## About Delta

DELTA is an independent technology company based in Denmark

We pride ourselves of being at the forefront of innovation of advanced technologies. And we serve as a strategic partner to our clients and society.

We are the technology pathfinder within our cores technology domains and specialise in

- electronics
- information technology
- micro and nano technology
- sensor systems
- acoustic and vibration technology
- light technology and optics

The company was established in 1941 and employs 270 highly skilled people located in Denmark, Sweden, and England. Our annual turnover in 2011 was DKK 327 million.

With more than 70 years of experience we have extensive expertise in development of technology driven products within sectors such as health and welfare technology, climate, energy and the environment. Every year we help more than 2,000 customers worldwide with their product development process from product idea, product extreme testing to product launch.

DELTA is a highly reputable international company and part of GTS – Advanced Technology Group approved by the Danish Ministry of Science, Innovation and Higher Education.

We help ideas meet the real world /madebydelta.com

### DELTA

L7-S14, Nordborgvej 81, 6430 Nordborg, Denmark  
Telephone: +45 72 19 40 00, Fax: +45 72 19 40 00  
[www.madebydelta.com](http://www.madebydelta.com)



## Products Tested

Panel	Width	Height	Thick	Area	Weight	Fan	Solar cell
	cm	cm	cm	m <sup>2</sup>	Kg		Wp
"SVCZ"	65	105	7,5	0,68	14	ADDA 3,6 Watt	14
Solarventi SV7	70	100	5,5	0,70	7	Sunon 3,4 Watt	12
"SP"	95	140	7,5	1,33	29	ADDA 6,6 Watt	20

## Test set up

The solar panels are mounted according to manufacturer specifications and set 70° upright, facing south.

The panels are set to produce the highest possible ventilation from fresh air.

The measurements were performed Friday 23 of august.

## Measuring

The measurements are simple relative measurements that only speak of how the panels perform relative to each other, under the specific conditions of the day.

The strength of the solar radiation, sun azimuth and height, amount of clouds and air temperature makes it impossible to make absolute measurements with the real sun.

On the other hand absolute measurements, made in a weathering chamber, would lack the changing reality of nature.

The temperature difference produced by the solar panel, and the airflow produced by the fan, is measured by an anemometer tube equipped with a temperature gauge.

The three sets of anemometer tubes (one for each solar panel) have been internally calibrated. As well have the temperature gauges.

The uncertainty of the measurements are as follows.

Temperature  $\pm 0,1^{\circ}\text{C}$

Air flow  $\pm 2\text{m}^3/\text{h}$

Power  $\pm 20\text{W}$

## DELTA

L7-S14, Nordborgvej 81, 6430 Nordborg, Denmark

Telephone: +45 72 19 40 00, Fax: +45 72 19 40 00

[www.madebydelta.com](http://www.madebydelta.com)



We help ideas meet the real world

T205234-3

	Temp.			Relative Efficiency	Power (1m <sup>2</sup> ) w/m <sup>2</sup>	Power (unit) w/unit	Air flow /Unit m <sup>3</sup> /h
	Out °C	In °C	Difference °C				
Measurement 1. 08.30							
Comp "SVCZ"	22,1	19,2	2,9	0	0	0	0,0
Solarventi	22,2	19,2	3	100	35	24	22,6
Comp "SP"	22,5	19,2	3,3	27	9	12	10,4

Measurement 2. 08.45

Comp "SVCZ"	24,7	20	4,7	4	2	2	0,9
Solarventi	23,6	20	3,6	100	54	38	29,2
Comp "SP"	25,7	20	5,7	94	51	68	32,9

Measurement 3. 09.30

Comp "SVCZ"	26,6	20,6	6	6	8	5	2,4
Solarventi	26,2	20,6	5,6	100	132	92	45,7
Comp "SP"	28,6	20,6	8	67	88	117	40,6

Measurement 4. 09.50

Comp "SVCZ"	29,5	20,8	8,7	48	74	50	16,0
Solarventi	26,3	20,8	5,5	100	154	108	54,4
Comp "SP"	31	20,8	10,2	84	129	171	46,6

Measurement 5. 10.50

Comp "SVCZ"	33,3	22,3	11	37	110	75	18,9
Solarventi	31	22,3	8,7	100	298	208	66,5
Comp "SP"	34,8	22,3	12,5	56	167	221	49,2

Measurement 6. 12.00

Comp "SVCZ"	34,5	22	12,5	30	138	94	20,8
Solarventi	32,6	22	10,6	100	458	320	83,9
Comp "SP"	37,6	22	15,6	46	211	281	50,0

Measurement 7. 13.00

Comp "SVCZ"	39,4	23,5	15,9	35	181	123	21,5
Solarventi	35,3	23,5	11,8	100	511	357	84,1
Comp "SP"	43,6	23,5	20,1	56	288	384	53,0

## DELTA

L7-S14, Nordborgvej 81, 6430 Nordborg, Denmark

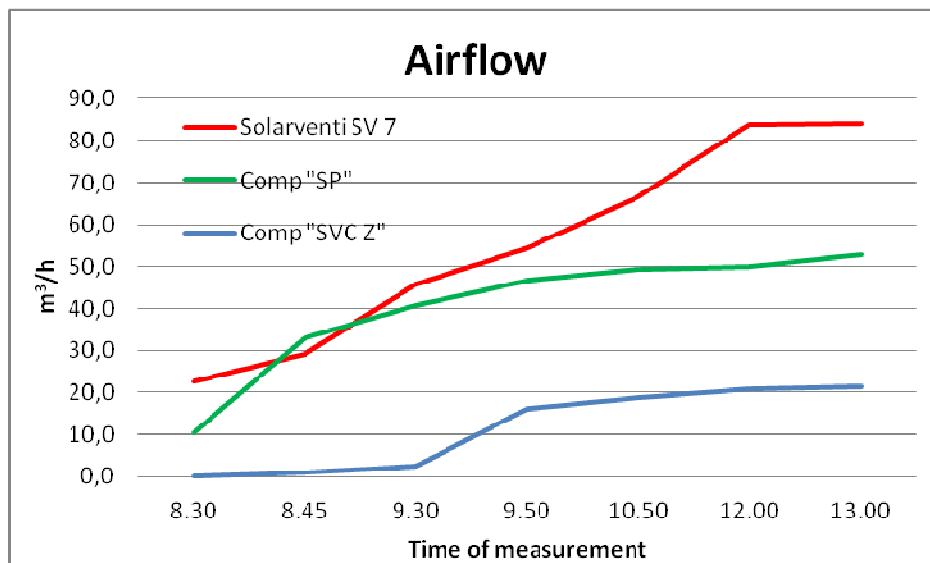
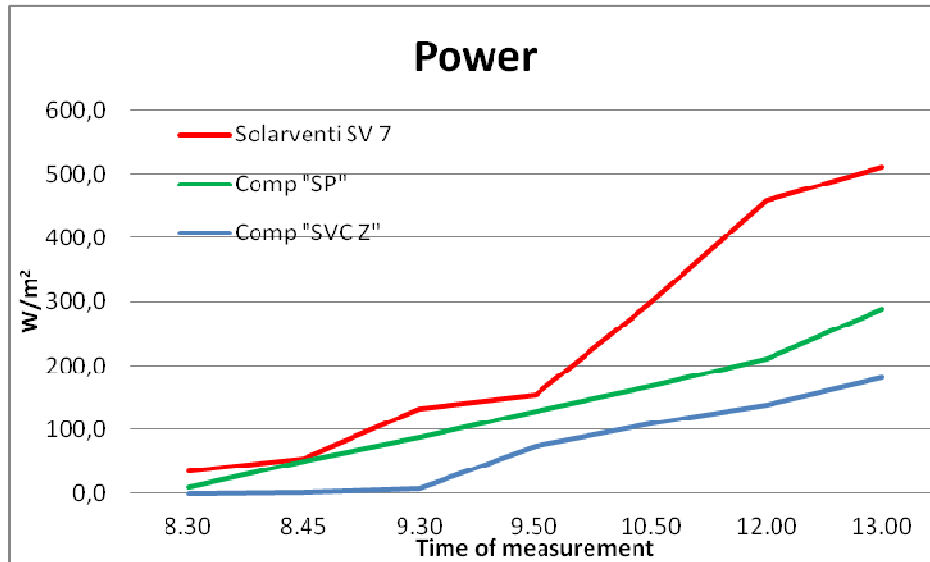
Telephone: +45 72 19 40 00, Fax: +45 72 19 40 00

www.madebydelta.com



We help ideas meet the real world

T205234-3



## DELTA

L7-S14, Nordborgvej 81, 6430 Nordborg, Denmark

Telephone: +45 72 19 40 00, Fax: +45 72 19 40 00

[www.madebydelta.com](http://www.madebydelta.com)