



Summary of EN 12976 Test Results, annex to Solar KEYMARK Certificate Kurzfassung EN 12976 Test Ergebnisse, Anlage zum Solar KEYMARK-Zertifikat Synthèse des résultats d'essais selon EN 12976, Annexe au certificat Solar KEYMARK	Registration No. Registernummer Num. d'enregistremen	011-7S2047 A
	Date / Datum / Date	07.12.2012

Company / Firma / Société Street / Straße / Rue Postal Code, Place / PLZ, Ort / Code postal, Place	Jiangsu Sunrain Solar Energy Co., Ltd 15F, West Tower, Xinyin Mansion, 1# 222000 Lianyungang City, Jiangsu	Country/Land/Pays Website E-mail Tel.	P.R. China www.sunrain.com certification@sunrain.com +86 518-8595-9889
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System classification / G / F	
Flow principle / G / F	Thermosyphon / G / F
Direct / indirect / G / F	Direct / G / F
Press. principle / G / F	Closed / G / F
Drain back/down / G / F	No drain (always filled) / G / F
Storage location / G / F	Outdoor / G / F
Storage position / G / F	Vertical / G / F
Int. back-up / G / F	None / G / F
If other: / G / F	English / Deutsch / Francais
EN12976 type / G / F	Solar only / G / F

Collector(s) / Kollektor(en) / Capteur(s)		Storage(s) / Akkumulator(en) / F	
Company / Hersteller / Manufactuer Keymark reg. no. (optional)	Sunrain 011-7S1942 R	Company / Hersteller / Manufactuer	Sunrain

Model Bezeichnung Modèle	Per module / G / F				No. modules G F min - max	Model Bezeichnung Modèle	Total volume G F litres	Gross diameter/width Diam. / Breite (Außenmaß) Diam. / Largeur hors Tout Höhe (Außenmaß) Höhe (Außenmaß) epaisseur hors tout	Back-up heated volume G F litres	El. back-up power G F kW		
	Aperture area (Aa) Aperturfläche (Aa) Superficie d'entrée (Aa)	Gross length Länge (Außenmaß) Longueur Hors tout	Gross width Breite (Außenmaß) Largeur hors Tout									
	m ²	m	m									
TZ58/1800-12G	1.08	2.033	1.072	1	-	1	TZ58/1800-12	120	1.322	2.543	0	0
TZ58/1800-14G	1.26	2.033	1.249	1	-	1	TZ58/1800-14	140	1.499	2.543	0	0
TZ58/1800-16G	1.44	2.032	1.432	1	-	1	TZ58/1800-16	160	1.682	2.542	0	0
TZ58/1800-18G	1.62	2.032	1.609	1	-	1	TZ58/1800-18	180	1.859	2.542	0	0
TZ58/1800-20G	1.80	2.032	1.786	1	-	1	TZ58/1800-20	200	2.036	2.542	0	0
TZ58/1800-24G	2.16	2.035	2.143	1	-	1	TZ58/1800-24	240	2.393	2.545	0	0
TZ58/1800-30G	2.70	2.035	2.678	1	-	1	TZ58/1800-30	300	2.928	2.545	0	0

Controller / G / F		Fluid / G / F	
Company/Hersteller/Manufacteur Model / Bezeichnung / Modèle Functions G F	-	Company/Hersteller/Manufacteur Model / Bezeichnung / Modèle Freezing point G F	- - °C

System family overview / G / F										
Collector G F	No. collectors / G / F									
	Storage / G / F									

Testing Laboratory / Prüflaboratorium / Laboratoire d'essais Website Test report id. number / Prüberichtsnummer / F Date of test report / Datum G / date F	TZS, ITW University of Stuttgart www.tzs.uni-stuttgart.de 11SYS93/1 07.12.2012
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Comments of test lab / Kommentare des Laboratoriums / Commentaires du laboratoire	Forschungs- und Testzentrum für Solaranlagen Institut für Thermodynamik und Wärmetechnik Universität Stuttgart Pfaffenwaldring 6, 70550 Stuttgart (Vaihingen)
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	Registernummer	011-7S2047 A
	Num. d'enregistrement	
	Date / Datum / Date	07.12.2012

Company / Firma / Société	Jiangsu Sunrain Solar Energy Co., Ltd	Country/Land/Pays	P.R. China
Street / Straße / Rue	15F, West Tower, Xinyin Mansion, 1#	Website	www.sunrain.com
Postal Code, Place / PLZ, Ort / Code postal, Place	222000 Lianyungang City, Jiangsu	E-mail	certification@sunrain.com
		Tel. / Fax	+86 518-8595-9889

System family overview / G / F

Collector type G F	Number of collectors / G / F				
	Storage type / G / F				
	TZ58/1800-12	TZ58/1800-14	TZ58/1800-16	TZ58/1800-18	TZ58/1800-20
TZ58/1800-12G	1				
TZ58/1800-14G		1			
TZ58/1800-16G			1		
TZ58/1800-18G				1	
TZ58/1800-20G					1

Name of system konfiguration / G / F

Collector type		No. collectors		Storage type	
G	TZ58/1800-12G	G	1	G	TZ58/1800-12
F		F		F	

Calculated annual results / G / F

Location G F	Daily draw-off litres/day / G / F /											
	110	140	200	110	140	200	110	140	200			
	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d			
	Q _d MJ/a			Q _L MJ/a			f _{sol}			Q _{par} MJ/a		
Stockholm, SE	6,107	7,772	11,103	3334	3816	4075	0.546	0.491	0.37	0.0	0.0	0.0
Würzburg, DE	5,854	7,450	10,643	3407	3963	4321	0.582	0.532	0.41	0.0	0.0	0.0
Davos, CH	6,628	8,435	12,050	4991	5618	5820	0.753	0.666	0.48	0.0	0.0	0.0
Athens, GR	4,545	5,784	8,263	3981	4714	5602	0.876	0.815	0.68	0.0	0.0	0.0

Perf. indicators G F	Q _d	Heat demand / G / F
	Q _L	System output / G / F
	f _{sol}	QL/Q_d; solar fraction / G / F
	Q _{par}	Elec. for pumps/controllers / G / F

Ref. conditions G F		Stockholm	Würzburg DE	Davos CH	Athens GR
	G	1,157	1,230	1,684	1,718
	T _a	7.5	9.0	3.2	18.5
	T _c	8.5	10.0	5.4	17.8
	ΔT _c	2.1 - 14.9	7.0 - 13.0	4.6 - 6.2	10.4 - 25.2

G	kWh/m ²	Annual irradiation South, 45° / G / F
T _a	°C	Annual mean air temp. / G / F
T _c	°C	Annual mean cold water temp. / G / F
ΔT _c	°C	Seasonal variation of T_c / G / F
T _h	45°C	Desired (mix. valve) temp. / G / F

Max. operating press. - collector side		Max. operating press. - tank side	
G	0 kPa	G	0 kPa
F		F	

Testing Laboratory / Prüflaboratorium / Laboratoire d'essais	TZS, ITW University of Stuttgart
Website	www.tzs.uni-stuttgart.de
Test report id. number / Prüberichtnummer / F	11SYS93/1
Date of test report / G / F	07.12.2012
Test method / G / F	ISO 9459-5 (DST)

Comments of test lab / Kommentare des laboratoriums / Commentaires du laboratoire	TZS Stuttgart Pfaffenwaldring 6 70550 Stuttgart
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Postal Code, Place / PLZ, Ort / Code postal, Place	222000 Lianyungang City, Jiangsu	E-mail	certification@sunrain.com
		Tel. / Fax	+86 518-8595-9889

System family overview / G / F

Collector type G F	Number of collectors / G / F				
	Storage type / G / F				
	TZ58/1800-12	TZ58/1800-14	TZ58/1800-16	TZ58/1800-18	TZ58/1800-20
TZ58/1800-12G	1				
TZ58/1800-14G		1			
TZ58/1800-16G			1		
TZ58/1800-18G				1	
TZ58/1800-20G					1

Name of system configuration / G / F

Collector type		No. collectors		Storage type	
G	TZ58/1800-14G	G	1	G	TZ58/1800-14
F		F		F	

Calculated annual results / G / F

Location G F	Daily draw-off litres/day / G / F /											
	140	170	200	140	170	200	140	170	200			
	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d			
	Q _d MJ/a			Q _L MJ/a			f _{sol}			Q _{par} MJ/a		
Stockholm, SE	7772	9438	11,103	4111	4558	4719	0.529	0.483	0.43	0.0	0.0	0.0
Würzburg, DE	7450	9047	10,643	4224	4740	4970	0.567	0.524	0.47	0.0	0.0	0.0
Davos, CH	8435	10243	12,050	6124	6688	6820	0.726	0.653	0.57	0.0	0.0	0.0
Athens, GR	5784	7024	8,263	4963	5661	6131	0.858	0.806	0.74	0.0	0.0	0.0

Perf. indicators G F	Q _d	Heat demand / G / F
	Q _L	System output / G / F
	f _{sol}	QL/Q_d; solar fraction / G / F
	Q _{par}	Elec. for pumps/controllers / G / F

Ref. conditions G F		Stockholm	Würzburg DE	Davos CH	Athens GR		
	G	1,157	1,230	1,684	1,718		
	T _a	7.5	9.0	3.2	18.5		
	T _c	8.5	10.0	5.4	17.8		
	ΔT _c	2.1 - 14.9	7.0 - 13.0	4.6 - 6.2	10.4 - 25.2		

G	kWh/m ²	Annual irradiation South, 45° / G / F
T _a	°C	Annual mean air temp. / G / F
T _c	°C	Annual mean cold water temp. / G / F
ΔT _c	°C	Seasonal variation of T_c / G / F
T _h	45°C	Desired (mix. valve) temp. / G / F

Max. operating press. - collector side			Max. operating press. - tank side		
G	0	kPa	G	0	kPa
F			F		

Testing Laboratory / Prüflaboratorium / Laboratoire d'essais	TZS, ITW University of Stuttgart
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Test report id. number / Prüberichtsnummer / F	11SYS93/1
Date of test report / G / F	07.12.2012
Test method / G / F	ISO 9459-5 (DST)

Comments of test lab / Kommentare des laboratoriums / Commentaires du laboratoire	TZS Stuttgart Pfaffenwaldring 6 70550 Stuttgart
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Postal Code, Place / PLZ, Ort / Code postal, Place	222000 Lianyungang City, Jiangsu	E-mail	certification@sunrain.com
		Tel. / Fax	+86 518-8595-9889

System family overview / G / F

Collector type G F	Number of collectors / G / F				
	Storage type / G / F				
	TZ58/1800-12	TZ58/1800-14	TZ58/1800-16	TZ58/1800-18	TZ58/1800-30
TZ58/1800-12G	1				
TZ58/1800-14G		1			
TZ58/1800-16G			1		
TZ58/1800-18G				1	
TZ58/1800-20G					1

Name of system konfiguration / G / F

Collector type	TZ58/1800-16G	No. collectors	1	Storage type	TZ58/1800-16
G		G		G	
F		F		F	

Calculated annual results / G / F

Location G F	Daily draw-off litres/day / G / F /											
	170	200	250	170	200	250	170	200	250			
	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d			
	Q _d MJ/a			Q _L MJ/a			f _{sol}			Q _{par} MJ/a		
Stockholm, SE	9438	11103	13879	4841	5218	5413	0.513	0.47	0.39	0.0	0.0	0.0
Würzburg, DE	9047	10643	13304	5003	5449	5734	0.553	0.512	0.43	0.0	0.0	0.0
Davos, CH	10243	12050	15063	7170	7640	7757	0.7	0.634	0.52	0.0	0.0	0.0
Athens, GR	7024	8263	10329	5900	6544	7261	0.84	0.792	0.70	0.0	0.0	0.0

Perf. indicators G F	Q _d	Heat demand / G / F
	Q _L	System output / G / F
	f _{sol}	QL/Q_d; solar fraction / G / F
	Q _{par}	Elec. for pumps/controllers / G / F

Ref. conditions G F		Stockholm	Würzburg DE	Davos CH	Athens GR
	G	1,157	1,230	1,684	1,718
	T _a	7.5	9.0	3.2	18.5
	T _c	8.5	10.0	5.4	17.8
	ΔT _c	2.1 - 14.9	7.0 - 13.0	4.6 - 6.2	10.4 - 25.2

G	kWh/m ²	Annual irradiation South, 45° / G / F
T _a	°C	Annual mean air temp. / G / F
T _c	°C	Annual mean cold water temp. / G / F
ΔT _c	°C	Seasonal variation of T_c / G / F
T _h	45°C	Desired (mix. valve) temp. / G / F

Max. operating press. - collector side	0	kPa	Max. operating press. - tank side	0	kPa
G			G		
F			F		

Testing Laboratory / Prüflaboratorium / Laboratoire d'essais	TZS, ITW University of Stuttgart
Website	www.tzs.uni-stuttgart.de
Test report id. number / Prüberichtnummer / F	11SYS93/1
Date of test report / G / F	07.12.2012
Test method / G / F	ISO 9459-5 (DST)

Comments of test lab / Kommentare des laboratoriums / Commentaires du laboratoire	TZS Stuttgart Pfaffenwaldring 6 70550 Stuttgart
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Summary of EN 12976 Test Results, annex to Solar KEYMARK Certificate						Registration									
Kurzfassung EN 12976 Test Ergebnisse, Anlage zum Solar KEYMARK-Zertifikat Synthèse des résultats d'essais selon EN 12976, Annexe au certificat Solar KEYMARK						Registernummer			011-7S2047 A						
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						Date / Datum / Date			07.12.2012						
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Street / Straße / Rue			15F,West Tower,Xinyin Mansion, 1#			Website			www.sunrain.com						
Postal Code, Place / PLZ, Ort / Code postal, Place			222000		Lianyungang City, Jiangsu		E-mail			certification@sunrain.com					
						Tel. / Fax			+86 518-8595-9889						
System family overview / G / F															
Collector type		Number of collectors / G / F													
G		Storage type / G / F													
F		TZ58/1800-12		TZ58/1800-14		TZ58/1800-16		TZ58/1800-18		TZ58/1800-30					
TZ58/1800-12G		1													
TZ58/1800-14G				1											
TZ58/1800-16G						1									
TZ58/1800-18G								1							
TZ58/1800-20G										1					
Name of system konfiguration / G / F															
Collector type		TZ58/1800-18G		No. collectors		1		Storage type		TZ58/1800-18					
G				G				G							
F				F				F							
Calculated annual results / G / F															
Location		Daily draw-off litres/day / G / F /													
G		170		200		250		170		200		250			
F		l/d		l/d		l/d		l/d		l/d		l/d			
		Q _d MJ/a			Q _L MJ/a			f _{sol}			Q _{par} MJ/a				
Stockholm, SE		9438		11103		13879		4898		5274		5607			
Würzburg, DE		9047		10643		13304		5129		5577		6027			
Davos, CH		10243		12050		15063		7385		7857		8224			
Athens, GR		7024		8263		10329		5963		6619		7478			
Perf. indicators															
G		Q _d		Heat demand / G / F											
F		Q _L		System output / G / F											
		f _{sol}		QL/Q_d; solar fraction / G / F											
		Q _{par}		Elec. for pumps/controllers / G / F											
Ref. conditions															
		Stockholm		Würzburg DE		Davos CH		Athens GR							
G		1,157		1,230		1,684		1,718							
G		Ta		7.5		9.0		3.2		18.5					
F		Tc		8.5		10.0		5.4		17.8					
		ΔTc		2.1 - 14.9		7.0 - 13.0		4.6 - 6.2		10.4 - 25.2					
G		kWh/m² Annual irradiation South, 45° / G / F													
Ta		°C Annual mean air temp. / G / F													
Tc		°C Annual mean cold water temp. / G / F													
ΔTc		°C Seasonal variation of Tc / G / F													
Th		45°C Desired (mix. valve) temp. / G / F													
Max. operating press. - collector side				0		kPa		Max. operating press. - tank side				0		kPa	
G								G							
F								F							
Testing Laboratory / Prüflaboratorium / Laboratoire d'essais						TZS, ITW University of Stuttgart									
Website						www.tzs.uni-stuttgart.de									
Test report id. number / Prüberichtsnummer / F						11SYS93/1									
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Test method / G / F						ISO 9459-5 (DST)									
Comments of test lab / Kommentare des laboratoriums / Commentaires du laboratoire															
TZS Stuttgart Pfaffenwaldring 6 70550 Stuttgart															



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		Tel. / Fax	+86 518-8595-9889

System family overview / G / F

Collector type G F	Number of collectors / G / F				
	Storage type / G / F				
	TZ58/1800-16	TZ58/1800-18	TZ58/1800-20	TZ58/1800-24	TZ58/1800-30
TZ58/1800-16G	1				
TZ58/1800-18G		1			
TZ58/1800-20G			1		
TZ58/1800-24G				1	
TZ58/1800-30G					1

Name of system konfiguration / G / F

Collector type	TZ58/1800-20G	No. collectors	1	Storage type	TZ58/1800-20
G		G		G	
F		F		F	

Calculated annual results / G / F

Location G F	Daily draw-off litres/day / G / F /																	
	200			250			300			200			250			300		
	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	
	Q _d MJ/a			QL MJ/a			f _{sol}			Q _{par} MJ/a								
Stockholm, SE	11,103	13,879	16,655	5862	6537	6762	0.528	0.471	0.41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Würzburg, DE	10,643	13,304	15,965	6024	6825	7136	0.566	0.513	0.45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Davos, CH	12,050	15,063	18,075	8724	9565	9706	0.724	0.635	0.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Athens, GR	8,263	10,329	12,395	7073	8191	8924	0.856	0.793	0.72	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Perf. indicators G F	Q _d	Heat demand / G / F
	Q _L	System output / G / F
	f _{sol}	QL/Q_d; solar fraction / G / F
	Q _{par}	Elec. for pumps/controllers / G / F

Ref. conditions G F		Stockholm	Würzburg DE	Davos CH	Athens GR		
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G	kWh/m ²	Annual irradiation South, 45° / G / F
T _a	°C	Annual mean air temp. / G / F
T _c	°C	Annual mean cold water temp. / G / F
ΔT _c	°C	Seasonal variation of T_c / G / F
T _h	45°C	Desired (mix. valve) temp. / G / F

Max. operating press. - collector side	0	kPa	Max. operating press. - tank side	0	kPa
G			G		
F			F		

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		Tel. / Fax	+86 518-8595-9889

System family overview / G / F

Collector type G F	Number of collectors / G / F				
	Storage type / G / F				
	TZ58/1800-16	TZ58/1800-18	TZ58/1800-20	TZ58/1800-24	TZ58/1800-30
TZ58/1800-16G	1				
TZ58/1800-18G		1			
TZ58/1800-20G			1		
TZ58/1800-24G				1	
TZ58/1800-30G					1

Name of system konfiguration / G / F

Collector type G F	TZ58/1800-24G	No. collectors G F	1	Storage type G F	TZ58/1800-24
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Calculated annual results / G / F

Location G F	Daily draw-off litres/day / G / F /											
	200	250	300	200	250	300	200	250	300	200	250	300
	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d
	Q _d MJ/a			Q _L MJ/a			f _{sol}			Q _{par} MJ/a		
Stockholm, SE	11,103	13,879	16,655	6284	7189	7844	0.57	0.518	0.47	0.0	0.0	0.0
Würzburg, DE	10,643	13,304	15,965	6396	7423	8174	0.60	0.558	0.51	0.0	0.0	0.0
Davos, CH	12,050	15,063	18,075	9447	10679	11478	0.78	0.709	0.64	0.0	0.0	0.0
Athens, GR	8,263	10,329	12,395	7395	8738	9829	0.90	0.846	0.79	0.0	0.0	0.0

Perf. indicators G F	Q _d	Heat demand / G / F
	Q _L	System output / G / F
	f _{sol}	QL/Q_d; solar fraction / G / F
	Q _{par}	Elec. for pumps/controllers / G / F

Ref. conditions G F		Stockholm	Würzburg DE	Davos CH	Athens GR
	G	1,157	1,230	1,684	1,718
	T _a	7.5	9.0	3.2	18.5
	T _c	8.5	10.0	5.4	17.8
	ΔT _c	2.1 - 14.9	7.0 - 13.0	4.6 - 6.2	10.4 - 25.2

G	kWh/m ²	Annual irradiation South, 45° / G / F
T _a	°C	Annual mean air temp. / G / F
T _c	°C	Annual mean cold water temp. / G / F
ΔT _c	°C	Seasonal variation of T_c / G / F
T _h	45°C	Desired (mix. valve) temp. / G / F

Max. operating press. - collector side G F	0	kPa	Max. operating press. - tank side G F	0	kPa
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Testing Laboratory / Prüflaboratorium / Laboratoire d'essais	TZS, ITW University of Stuttgart
Website	www.tzs.uni-stuttgart.de
Test report id. number / Prüberichtsnummer / F	11SYS93/1
Date of test report / G / F	07.12.2012
Test method / G / F	ISO 9459-5 (DST)

Comments of test lab / Kommentare des laboratoriums / Commentaires du laboratoire	TZS Stuttgart Pfaffenwaldring 6 70550 Stuttgart
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Summary of EN 12976 Test Results, annex to Solar KEYMARK Certificate						Registration									
Kurzfassung EN 12976 Test Ergebnisse, Anlage zum Solar KEYMARK-Zertifikat Synthèse des résultats d'essais selon EN 12976, Annexe au certificat Solar KEYMARK						Registernummer			011-7S2047 A						
						Num. d'enregistrement									
						Date / Datum / Date			07.12.2012						
Company / Firma / Société			Jiangsu Sunrain Solar Energy Co., Ltd			Country/Land/Pays			P.R. China						
Street / Straße / Rue			15F, West Tower, Xinyin Mansion, 1#			Website			www.sunrain.com						
Postal Code, Place / PLZ, Ort / Code postal, Place			222000 Lianyungang City, Jiangsu			E-mail			certification@sunrain.com						
						Tel. / Fax			+86 518-8595-9889						
System family overview / G / F															
Collector type		Number of collectors / G / F													
G		Storage type / G / F													
F		TZ58/1800-16		TZ58/1800-18		TZ58/1800-20		TZ58/1800-24		TZ58/1800-30					
TZ58/1800-16G		1													
TZ58/1800-18G				1											
TZ58/1800-20G						1									
TZ58/1800-24G								1							
TZ58/1800-30G										1					
Name of system konfiguration / G / F															
Collector type		TZ58/1800-30G		No. collectors		1		Storage type		TZ58/1800-30					
G				G				G							
F				F				F							
Calculated annual results / G / F															
Location		Daily draw-off litres/day / G / F /													
G		250		300		400		250		300		400			
F		l/d		l/d		l/d		l/d		l/d		l/d			
		Q _d MJ/a			Q _L MJ/a			f _{sol}			Q _{par} MJ/a				
Stockholm, SE		13,879		16,655		22,206		7855		8794		9948			
Würzburg, DE		13,304		15,965		21,286		7996		9036		10430			
Davos, CH		15,063		18,075		24,100		11809		13068		14460			
Athens, GR		10,329		12,395		16,526		9244		10610		12675			
Perf. indicators															
G		Q _d		Heat demand / G / F											
F		Q _L		System output / G / F											
		f _{sol}		QL/Q _d ; solar fraction / G / F											
		Q _{par}		Elec. for pumps/controllers / G / F											
Ref. conditions															
		Stockholm		Würzburg DE		Davos CH		Athens GR							
G		1,157		1,230		1,684		1,718							
G		Ta		7.5		9.0		3.2		18.5					
F		Tc		8.5		10.0		5.4		17.8					
		ΔTc		2.1 - 14.9		7.0 - 13.0		4.6 - 6.2		10.4 - 25.2					
G		kWh/m ² Annual irradiation South, 45° / G / F													
Ta		°C Annual mean air temp. / G / F													
Tc		°C Annual mean cold water temp. / G / F													
ΔTc		°C Seasonal variation of Tc / G / F													
Th		45°C Desired (mix. valve) temp. / G / F													
Max. operating press. - collector side				0		kPa		Max. operating press. - tank side				0		kPa	
G								G							
F								F							
Testing Laboratory / Prüflaboratorium / Laboratoire d'essais						TZS, ITW University of Stuttgart									
Website						www.tzs.uni-stuttgart.de									
Test report id. number / Prüberichtsnummer / F						11SYS93/1									
Date of test report / G / F						07.12.2012									
Test method / G / F						ISO 9459-5 (DST)									
Comments of test lab / Kommentare des laboratoriums / Commentaires du laboratoire															
TZS Stuttgart Pfaffenwaldring 6 70550 Stuttgart															