Summary of annex to Solar KEYMARK Certificate	EN12976-2	SOLAR SYSTEM test results	Licence Number	011-7S3028 A
Annex to Solar KEYMARK Certificate			**Issued**	2021-08-03

Company	Zhejiang Jiadele Technology Co.,Ltd		**Country**	China	
Brand (optional)	Jiadele		**Website**	www.sh-jiadele.com	
Street	NO.12 Fenghuang Road, Dingqiao Town		**E-mail**	webmaster@sh-jiadele.com	
Postal Code	314413	Haining City, Zhejiang Province	**Tel. / Fax**	+86	573-87797662

System classification	
Application(s)	Hot water
Solar loop, circulation principle	Thermosyphon
Direct solar loop / heat exchanger	Heat exchanger
Open, vented or closed solar loop	Closed
Drain back/down	Always filled (no drain)
Store location	Outdoor
Store orientation (of main axis)	Horizontal
Type of auxiliary heating (internal back-up heat)	None
If other auxiliary/internal back-up heating, please specifiy:	None
Solar+supplementary OR Solar-only / Solar pre-heat	Solar only / Solar preheat

Collector(s)				**Heat store(s)**						
Company	Zhejiang Jiadele Technology Co.,Ltd			**Company**	Zhejiang Jiadele Technology Co.,Ltd					
Keymark lic.no. if available	*011-7S3027 F*			*Keymark lic.no. if available*	*None*					
Collector name	**Per module**			**Store name**	**Total nominal volume**	**Gross height**	**Gross width**	**Gross depth**	**Auxiliary heated volume**	**Electrical aux. heating power**
	Gross Area (Ag)	**Gross length**	**Gross width**							
	m²	mm	mm		litres	mm	mm	mm	litres	kW
JDL-PG2.0-80	2.00	2000	1000	120L	120	520	1080	520	0	0.0
JDL-PG2.5-80	2.50	2000	1250	140L	140	520	1180	520	0	0.0
				150L	150	520	1230	520	0	0.0
				160L	160	520	1300	520	0	0.0
				180L	180	520	1460	520	0	0.0
				200L	200	520	1580	520	0	0.0
				250L	250	520	1950	520	0	0.0
				300L	300	580	1890	580	0	0.0

Solar loop controller		**Solar loop fluid**	
Keymark lic.no. if available	*None*	**Recommended/required**	No recommend./requirements
Company	NA	**Company**	NA
Name	NA	**Name**	NA
Solar loop pump - power range	-- W to -- W	**Freezing point**	-- °C

System family overview

Collector name	**Number of collectors in each configuration for each store**																			
	Store name																			
	120L				140L				150L				160L				180L				200L				250L				300L			
JDL-PG2.0-80	1				1				1				1												2				2			
JDL-PG2.5-80																	1				1											

Testing Laboratory	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Website	http://www.intertek.com.cn
Test report id. number	200427029GZU-001/002
Date of test report	2020-12-09

Comments of test lab	
No comments	intertek Steve Zhu

Version 4.5, 2017-10-24

Summary of annex to Solar KEYMARK Certificate	EN12976-2	test results	Certification No.	011-7S3028 A
Annex to Solar KEYMARK Certificate			**Issued**	2021-08-03

Company	Zhejiang Jiadele Technology Co.,Ltd		**Country**	China	
Brand (optional)	Jiadele		**Website**	www.sh-jiadele.com	
Street	NO.12 Fenghuang Road, Dingqiao Town		**E-mail**	webmaster@sh-jiadele.com	
Postal Code	314413	Haining City, Zhejiang Province	**Tel. / Fax**	+86	573-87797662

Parameters for systems extrapolation (Annex D)

Collector of measured system		Storage tank of measured system	
A_{ref} [m^2]	2.31	Volume [l]	180
h_0	0.705	A_{hx} [m^2]	1.45
a_1 [W/Km^2]	3.420	Piping	
a_2 [W/Km^2]	0.025		
IAM (50º)	0.960	$U_{loop,p}$	0.19

Parameters of system tested (ISO 9459-2)

Name of System Configuration Tested	I-O Diagram Parameters and Tank heat loss coeficient			
	a_1 [$1/m^2$]	a_2 [MJ/K]	a_3 [MJ]	U_s [W/K]
JDL-FPS-J/HP 180L	1.09	0.13	1.51	2.84

Draw-off profiles

	H<16 MJ/m^2	H≥16 MJ/m^2	Mixing Draw-off		H<16 MJ/m^2	H≥16 MJ/m^2	Mixing Draw-off
V/V_{dep}	$f(V/V_{dep})$	$f(V/V_{dep})$	$g(V/V_{dep})$	V/V_{dep}	$f(V/V_{dep})$	$f(V/V_{dep})$	$g(V/V_{dep})$
0.1	11.61	11.58	11.25	1.6	1.77	1.29	1.26
0.2	11.32	10.67	11.29	1.7	1.66	1.24	1.18
0.3	10.72	10.56	11.08	1.8	1.62	1.19	1.10
0.4	9.55	10.09	10.43	1.9	1.55	1.12	1.02
0.5	7.06	9.68	9.02	2.0	1.47	1.06	0.99
0.6	5.38	8.32	6.69	2.1	1.40	1.00	0.94
0.7	4.26	6.33	4.65	2.2	1.33	0.94	0.88
0.8	3.62	4.26	3.22	2.3	1.25	0.92	0.81
0.9	3.08	3.10	2.74	2.4	1.20	0.88	0.81
1.0	2.72	2.55	2.19	2.5	1.17	0.83	0.80
1.1	2.35	2.06	1.88	2.6	1.10	0.78	0.75
1.2	2.16	1.80	1.61	2.7	1.01	0.72	0.70
1.3	2.07	1.65	1.49	2.8	0.95	0.71	0.66
1.4	1.97	1.49	1.38	2.9	0.89	0.70	0.62
1.5	1.85	1.37	1.32	3.0	0.86	0.60	0.58

Testing Laboratory	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Website	http://www.intertek.com.cn
Test report id. number	200427029GZU-001/002
Date of test report	2020-12-09
Test method	ISO 9459-2 (CSTG)

Comments of test lab

No comments

intertek

All values are subject to some uncertainty; e.g. the uncertainty on system output is typically in the range of ± 5 % to ± 15 %

Version 4.5, 2017-10-24

Summary of annex to Solar KEYMARK Certificate	EN12976-2	test results	Certification No.	011-7S3028 A
Annex to Solar KEYMARK Certificate			**Issued**	2021-08-03

Company	Zhejiang Jiadele Technology Co.,Ltd		**Country**	China	
Brand (optional)	Jiadele		**Website**	www.sh-jiadele.com	
Street	NO.12 Fenghuang Road, Dingqiao Town		**E-mail**	webmaster@sh-jiadele.com	
Postal Code	314413	Haining City, Zhejiang Province	**Tel. / Fax**	+86	573-87797662

System family overview

Collector name	For each storage and collector size, give number of collectors																							
	120L				140L				150L				160L				180L				200L				250L				300L			
JDL-PG2.0-80	1				1				1				1												2				2			
JDL-PG2.5-80																	1				1											

Name of system configuration					JDL-FPS-J/HP 120L		
Collector name	JDL-PG2.0-80	**No. Collectors**	1		**Storage name**	120L	

Calculated annual results for "solar-only / preheat system"

Location	Qd,sh	Daily drawoff 110 l				Daily drawoff 140 l				Daily drawoff 170 l			
		Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol
	MJ/y	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%
Stockholm SE	-	6142	1793	0	29.2	7798	1901	0	24.4	9457	1973	0	20.9
WürzburgDE	-	5882	2218	0	37.7	7470	2383	0	31.9	9072	2498	0	27.5
Davos CH	-	6656	3640	0	54.7	8467	3899	0	46.0	10256	4075	0	39.7
Athens GR	-	4568	2981	0	65.3	5814	3298	0	56.7	7042	3521	0	50.0

Perf. indicators for the table above

Qd,sh	MJ/y	**Not relevant for solar domestic hot water system**
Qd	MJ/y	**Annual heat demand for domestic hot water**
QL	MJ/y	**Annual heat energy delivered by the solar system**
Qpar	MJ/y	**Annual parasitic energy: (electricity for pumps/controllers)**
$f_{sol}=Q_L/Q_d$	-	**Solar fraction**

Ref. conditions		Stockholm SE	Würzburg DE	Davos CH	Athens GR			
	G	1,157	1,230	1,684	1,736			
	Ta,ave	7.5	9.0	3.2	18.5			
	Tc,ave	8.5	10.0	5.4	17.8			
	± ΔTc	6.4	3.0	0.8	7.4			

G	kWh/m²	**Annual irradiation South, 45°**
Ta,ave	°C	**Annual average outdoor air temperature**
Tc,ave	°C	**Annual average mains cold water temp.**
ΔTc	K	**Seasonal variation of Tc**
Th	45 °C	**Desired hot water temperature (mixing valve temperature).**

Max. operating press. - collector side	1,000	kPa	Max. operating press. - tank side	1,000	kPa

Testing Laboratory	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Website	http://www.intertek.com.cn
Test report id. number	200427029GZU-001/002
Date of test report	2020-12-09
Test method	ISO 9459-2 (CSTG)

Comments of test lab	
No comments	intertek

All values are subject to some uncertainty; e.g. the uncertainty on system output is typically in the range of ± 5 % to ± 15 %

Version 4.5, 2017-10-24

Summary of annex to Solar KEYMARK Certificate	EN12976-2	test results	Certification No.	011-7S3028 A
Annex to Solar KEYMARK Certificate			**Issued**	2021-08-03

Company	Zhejiang Jiadele Technology Co.,Ltd		**Country**	China	
Brand (optional)	Jiadele		**Website**	www.sh-jiadele.com	
Street	NO.12 Fenghuang Road, Dingqiao Town		**E-mail**	webmaster@sh-jiadele.com	
Postal Code	314413	Haining City, Zhejiang Province	**Tel. / Fax**	+86	573-87797662

System family overview

Collector name	For each storage and collector size, give number of collectors																							
	120L				140L				150L				160L				180L				200L				250L				300L			
JDL-PG2.0-80	1				1				1				1												2				2			
JDL-PG2.5-80																	1				1											

Name of system configuration											JDL-FPS-J/HP 140L					
Collector name	JDL-PG2.0-80				**No. Collectors**				1				**Storage name**			140L

Calculated annual results for "solar-only / preheat system"

Location	Qd,sh	Daily drawoff			110 l		Daily drawoff			140 l		Daily drawoff			170 l	
		Qd,hw	QL	Qpar	fsol		Qd,hw	QL	Qpar	fsol		Qd,hw	QL	Qpar	fsol	
	MJ/y	MJ/y	MJ/y	MJ/y	%		MJ/y	MJ/y	MJ/y	%		MJ/y	MJ/y	MJ/y	%	
Stockholm SE	'-	6142	1832	0	29.8		7798	1940	0	24.9		9457	2012	0	21.3	
WürzburgDE	'-	5882	2264	0	38.5		7470	2430	0	32.5		9072	2545	0	28.1	
Davos CH	'-	6656	3697	0	55.5		8467	3964	0	46.8		10256	4140	0	40.4	
Athens GR	'-	4568	3031	0	66.3		5814	3355	0	57.7		7042	3586	0	50.9	

Perf. indicators for the table above

Qd,sh	MJ/y	**Not relevant for solar domestic hot water system**
Qd	MJ/y	**Annual heat demand for domestic hot water**
QL	MJ/y	**Annual heat energy delivered by the solar system**
Qpar	MJ/y	**Annual parasitic energy: (electricity for pumps/controllers)**
$f_{sol}=Q_L/Q_d$	-	**Solar fraction**

Ref. conditions		Stockholm SE	Würzburg DE	Davos CH	Athens GR			
	G	1,157	1,230	1,684	1,736			
	Ta,ave	7.5	9.0	3.2	18.5			
	Tc,ave	8.5	10.0	5.4	17.8			
	± ΔTc	6.4	3.0	0.8	7.4			

G	kWh/m²	**Annual irradiation South, 45°**
Ta,ave	°C	**Annual average outdoor air temperature**
Tc,ave	°C	**Annual average mains cold water temp.**
ΔTc	K	**Seasonal variation of Tc**
Th	45 °C	**Desired hot water temperature (mixing valve temperature).**

Max. operating press. - collector side	1,000	kPa	**Max. operating press. - tank side**	1,000	kPa

Testing Laboratory	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Website	http://www.intertek.com.cn
Test report id. number	200427029GZU-001/002
Date of test report	2020-12-09
Test method	ISO 9459-2 (CSTG)

Comments of test lab

No comments

intertek

All values are subject to some uncertainty; e.g. the uncertainty on system output is typically in the range of ± 5 % to ± 15 %

Version 4.5, 2017-10-24

Summary of annex to Solar KEYMARK Certificate	EN12976-2	test results	Certification No.	011-7S3028 A
Annex to Solar KEYMARK Certificate			**Issued**	2021-08-03

Company	Zhejiang Jiadele Technology Co.,Ltd		**Country**	China	
Brand (optional)	Jiadele		**Website**	www.sh-jiadele.com	
Street	NO.12 Fenghuang Road, Dingqiao Town		**E-mail**	webmaster@sh-jiadele.com	
Postal Code	314413	Haining City, Zhejiang Province	**Tel. / Fax**	+86	573-87797662

System family overview

Collector name	For each storage and collector size, give number of collectors																							
	120L				140L				150L				160L				180L				200L				250L				300L			
JDL-PG2.0-80	1				1				1				1												2				2			
JDL-PG2.5-80																	1				1											

Name of system configuration				JDL-FPS-J/HP 150L	
Collector name	JDL-PG2.0-80	**No. Collectors**	1	**Storage name**	150L

Calculated annual results for "solar-only / preheat system"

Location	Qd,sh	Daily drawoff 110 l				Daily drawoff 140 l				Daily drawoff 170 l			
		Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol
	MJ/y	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%
Stockholm SE	'-	6142	1847	0	30.1	7798	1958	0	25.1	9457	2030	0	21.5
WürzburgDE	'-	5882	2282	0	38.8	7470	2452	0	32.8	9072	2567	0	28.3
Davos CH	'-	6656	3722	0	55.9	8467	3989	0	47.1	10256	4172	0	40.7
Athens GR	'-	4568	3053	0	66.8	5814	3384	0	58.2	7042	3614	0	51.3

Perf. indicators for the table above

Qd,sh	MJ/y	**Not relevant for solar domestic hot water system**
Qd	MJ/y	**Annual heat demand for domestic hot water**
QL	MJ/y	**Annual heat energy delivered by the solar system**
Qpar	MJ/y	**Annual parasitic energy: (electricity for pumps/controllers)**
$f_{sol}=Q_L/Q_d$	-	**Solar fraction**

Ref. conditions		Stockholm SE	Würzburg DE	Davos CH	Athens GR			
	G	1,157	1,230	1,684	1,736			
	Ta,ave	7.5	9.0	3.2	18.5			
	Tc,ave	8.5	10.0	5.4	17.8			
	± ΔTc	6.4	3.0	0.8	7.4			

G	kWh/m²	**Annual irradiation South, 45°**
Ta,ave	°C	**Annual average outdoor air temperature**
Tc,ave	°C	**Annual average mains cold water temp.**
ΔTc	K	**Seasonal variation of Tc**
Th	45 °C	**Desired hot water temperature (mixing valve temperature).**

Max. operating press. - collector side	1,000	kPa	Max. operating press. - tank side	1,000	kPa

Testing Laboratory	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Website	http://www.intertek.com.cn
Test report id. number	200427029GZU-001/002
Date of test report	2020-12-09
Test method	ISO 9459-2 (CSTG)

Comments of test lab

No comments

intertek

All values are subject to some uncertainty; e.g. the uncertainty on system output is typically in the range of ± 5 % to ± 15 %

Version 4.5, 2017-10-24

Summary of annex to Solar KEYMARK Certificate	EN12976-2	test results	Certification No.	011-7S3028 A
Annex to Solar KEYMARK Certificate			**Issued**	2021-08-03

Company	Zhejiang Jiadele Technology Co.,Ltd		**Country**	China	
Brand (optional)	Jiadele		**Website**	www.sh-jiadele.com	
Street	NO.12 Fenghuang Road, Dingqiao Town		**E-mail**	webmaster@sh-jiadele.com	
Postal Code	314413	Haining City, Zhejiang Province	**Tel. / Fax**	+86	573-87797662

System family overview

Collector name	For each storage and collector size, give number of collectors																							
	120L				140L				150L				160L				180L				200L				250L				300L			
JDL-PG2.0-80	1				1				1				1												2				2			
JDL-PG2.5-80																	1				1											

Name of system configuration				JDL-FPS-J/HP 160L	
Collector name	JDL-PG2.0-80	**No. Collectors**	1	**Storage name**	160L

Calculated annual results for "solar-only / preheat system"

Location	Qd,sh	Daily drawoff 140 l				Daily drawoff 170 l				Daily drawoff 200 l			
		Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol
	MJ/y	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%
Stockholm SE	'-	7798	1973	0	25.3	9457	2048	0	21.7	11138	2102	0	18.9
WürzburgDE	'-	7470	2473	0	33.1	9072	2588	0	28.5	10685	2675	0	25.0
Davos CH	'-	8467	4014	0	47.4	10256	4198	0	40.9	12082	4331	0	35.8
Athens GR	'-	5814	3409	0	58.6	7042	3643	0	51.7	8298	3820	0	46.0

Perf. indicators for the table above

Qd,sh	MJ/y	**Not relevant for solar domestic hot water system**
Qd	MJ/y	**Annual heat demand for domestic hot water**
QL	MJ/y	**Annual heat energy delivered by the solar system**
Qpar	MJ/y	**Annual parasitic energy: (electricity for pumps/controllers)**
$f_{sol}=Q_L/Q_d$	-	**Solar fraction**

Ref. conditions		Stockholm SE	Würzburg DE	Davos CH	Athens GR			
	G	1,157	1,230	1,684	1,736			
	Ta,ave	7.5	9.0	3.2	18.5			
	Tc,ave	8.5	10.0	5.4	17.8			
	± ΔTc	6.4	3.0	0.8	7.4			

G	kWh/m²	**Annual irradiation South, 45°**
Ta,ave	°C	**Annual average outdoor air temperature**
Tc,ave	°C	**Annual average mains cold water temp.**
ΔTc	K	**Seasonal variation of Tc**
Th	45 °C	**Desired hot water temperature (mixing valve temperature).**

Max. operating press. - collector side	1,000	kPa	Max. operating press. - tank side	1,000	kPa

Testing Laboratory	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Website	http://www.intertek.com.cn
Test report id. number	200427029GZU-001/002
Date of test report	2020-12-09
Test method	ISO 9459-2 (CSTG)

Comments of test lab

No comments

intertek

All values are subject to some uncertainty; e.g. the uncertainty on system output is typically in the range of ± 5 % to ± 15 %

Version 4.5, 2017-10-24

Summary of annex to Solar KEYMARK Certificate	EN12976-2	test results	Certification No.	011-7S3028 A
Annex to Solar KEYMARK Certificate			**Issued**	2021-08-03

Company	Zhejiang Jiadele Technology Co.,Ltd		**Country**	China	
Brand (optional)	Jiadele		**Website**	www.sh-jiadele.com	
Street	NO.12 Fenghuang Road, Dingqiao Town		**E-mail**	webmaster@sh-jiadele.com	
Postal Code	314413	Haining City, Zhejiang Province	**Tel. / Fax**	+86	573-87797662

System family overview

Collector name	For each storage and collector size, give number of collectors																			
	120L				140L				150L				160L				180L				200L				250L				300L			
JDL-PG2.0-80	1				1				1				1												2				2			
JDL-PG2.5-80																	1				1											

Name of system configuration				JDL-FPS-J/HP 180L	
Collector name	JDL-PG2.5-80	**No. Collectors**	1	**Storage name**	180L

Calculated annual results for "solar-only / preheat system"

Location	Qd,sh	Daily drawoff 170 l				Daily drawoff 200 l				Daily drawoff 250 l			
		Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol
	MJ/y	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%
Stockholm SE	'-	9457	4289	0	45.4	11138	4529	0	40.7	13914	4640	0	33.3
WürzburgDE	'-	9072	4521	0	49.8	10685	4805	0	45.0	13356	4916	0	36.8
Davos CH	'-	10256	6200	0	60.5	12082	6384	0	52.8	15098	6491	0	43.0
Athens GR	'-	7042	4992	0	70.9	8298	5664	0	68.3	10382	6375	0	61.4

Perf. indicators for the table above

Qd,sh	MJ/y	**Not relevant for solar domestic hot water system**
Qd	MJ/y	**Annual heat demand for domestic hot water**
QL	MJ/y	**Annual heat energy delivered by the solar system**
Qpar	MJ/y	**Annual parasitic energy: (electricity for pumps/controllers)**
$f_{sol}=Q_L/Q_d$	-	**Solar fraction**

Ref. conditions		Stockholm SE	Würzburg DE	Davos CH	Athens GR			
	G	1,157	1,230	1,684	1,736			
	Ta,ave	7.5	9.0	3.2	18.5			
	Tc,ave	8.5	10.0	5.4	17.8			
	± ΔTc	6.4	3.0	0.8	7.4			

G	kWh/m²	**Annual irradiation South, 45°**
Ta,ave	°C	**Annual average outdoor air temperature**
Tc,ave	°C	**Annual average mains cold water temp.**
ΔTc	K	**Seasonal variation of Tc**
Th	45 °C	**Desired hot water temperature (mixing valve temperature).**

Max. operating press. - collector side	1,000	kPa	Max. operating press. - tank side	1,000	kPa

Testing Laboratory	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Website	http://www.intertek.com.cn
Test report id. number	200427029GZU-001/002
Date of test report	2020-12-09
Test method	ISO 9459-2 (CSTG)

Comments of test lab

No comments

intertek

All values are subject to some uncertainty; e.g. the uncertainty on system output is typically in the range of ± 5 % to ± 15 %

Version 4.5, 2017-10-24

Summary of annex to Solar KEYMARK Certificate	EN12976-2	test results	Certification No.	011-7S3028 A
Annex to Solar KEYMARK Certificate			**Issued**	2021-08-03

Company	Zhejiang Jiadele Technology Co.,Ltd	**Country**	China
Brand (optional)	Jiadele	**Website**	www.sh-jiadele.com
Street	NO.12 Fenghuang Road, Dingqiao Town	**E-mail**	webmaster@sh-jiadele.com
Postal Code	314413 Haining City, Zhejiang Province	**Tel. / Fax**	+86 573-87797662

System family overview

Collector name	For each storage and collector size, give number of collectors																							
	120L				140L				150L				160L				180L			200L				250L				300L			
JDL-PG2.0-80	1				1				1				1											2				2			
JDL-PG2.5-80																	1			1											

Name of system configuration			JDL-FPS-J/HP 200L
Collector name	JDL-PG2.5-80	**No. Collectors**	1	**Storage name**	200L

Calculated annual results for "solar-only / preheat system"

Location	Qd,sh	Daily drawoff 170 l				Daily drawoff 200 l				Daily drawoff 250 l			
		Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol
	MJ/y	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%
Stockholm SE	'-	9457	2542	0	26.9	11138	2628	0	23.6	13914	2725	0	19.6
WürzburgDE	'-	9072	3172	0	35.0	10685	3305	0	30.9	13356	3460	0	25.9
Davos CH	'-	10256	5108	0	49.8	12082	5314	0	44.0	15098	5555	0	36.8
Athens GR	'-	7042	4331	0	61.5	8298	4601	0	55.4	10382	4921	0	47.4

Perf. indicators for the table above

Qd,sh	MJ/y	**Not relevant for solar domestic hot water system**
Qd	MJ/y	**Annual heat demand for domestic hot water**
QL	MJ/y	**Annual heat energy delivered by the solar system**
Qpar	MJ/y	**Annual parasitic energy: (electricity for pumps/controllers)**
$f_{sol}=Q_L/Q_d$	-	**Solar fraction**

Ref. conditions		Stockholm SE	Würzburg DE	Davos CH	Athens GR			
	G	1,157	1,230	1,684	1,736			
	Ta,ave	7.5	9.0	3.2	18.5			
	Tc,ave	8.5	10.0	5.4	17.8			
	± ΔTc	6.4	3.0	0.8	7.4			

G	kWh/m²	**Annual irradiation South, 45°**
Ta,ave	°C	**Annual average outdoor air temperature**
Tc,ave	°C	**Annual average mains cold water temp.**
ΔTc	K	**Seasonal variation of Tc**
Th	45 °C	**Desired hot water temperature (mixing valve temperature).**

Max. operating press. - collector side	1,000	kPa	**Max. operating press. - tank side**	1,000	kPa

Testing Laboratory	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Website	http://www.intertek.com.cn
Test report id. number	200427029GZU-001/002
Date of test report	2020-12-09
Test method	ISO 9459-2 (CSTG)

Comments of test lab

No comments

intertek

All values are subject to some uncertainty; e.g. the uncertainty on system output is typically in the range of ± 5 % to ± 15 %

Version 4.5, 2017-10-24

Summary of annex to Solar KEYMARK Certificate	EN12976-2	test results	Certification No.	011-7S3028 A
Annex to Solar KEYMARK Certificate			**Issued**	2021-08-03

Company	Zhejiang Jiadele Technology Co.,Ltd		**Country**	China	
Brand (optional)	Jiadele		**Website**	www.sh-jiadele.com	
Street	NO.12 Fenghuang Road, Dingqiao Town		**E-mail**	webmaster@sh-jiadele.com	
Postal Code	314413	Haining City, Zhejiang Province	**Tel. / Fax**	+86	573-87797662

System family overview

Collector name	For each storage and collector size, give number of collectors																							
	120L				140L				150L				160L				180L				200L				250L				300L			
JDL-PG2.0-80	1				1				1				1												2				2			
JDL-PG2.5-80																	1				1											

Name of system configuration				JDL-FPS-J/HP 250L	
Collector name	JDL-PG2.0-80	**No. Collectors**	2	**Storage name**	250L

Calculated annual results for "solar-only / preheat system"

Location	Qd,sh	Daily drawoff 200 l				Daily drawoff 250 l				Daily drawoff 300 l			
		Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol
	MJ/y	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%
Stockholm SE	'-	11138	3863	0	34.7	13914	4097	0	29.4	16697	4259	0	25.5
WürzburgDE	'-	10685	4734	0	44.3	13356	5087	0	38.1	16027	5339	0	33.3
Davos CH	'-	12082	7567	0	62.6	15098	8132	0	53.9	18137	8532	0	47.0
Athens GR	'-	8298	6127	0	73.8	10382	6840	0	65.9	12452	7348	0	59.0

Perf. indicators for the table above

Qd,sh	MJ/y	**Not relevant for solar domestic hot water system**
Qd	MJ/y	**Annual heat demand for domestic hot water**
QL	MJ/y	**Annual heat energy delivered by the solar system**
Qpar	MJ/y	**Annual parasitic energy: (electricity for pumps/controllers)**
$f_{sol}=Q_L/Q_d$	-	**Solar fraction**

Ref. conditions		Stockholm SE	Würzburg DE	Davos CH	Athens GR			
	G	1,157	1,230	1,684	1,736			
	Ta,ave	7.5	9.0	3.2	18.5			
	Tc,ave	8.5	10.0	5.4	17.8			
	± ΔTc	6.4	3.0	0.8	7.4			

G	kWh/m²	**Annual irradiation South, 45°**
Ta,ave	°C	**Annual average outdoor air temperature**
Tc,ave	°C	**Annual average mains cold water temp.**
ΔTc	K	**Seasonal variation of Tc**
Th	45 °C	**Desired hot water temperature (mixing valve temperature).**

Max. operating press. - collector side	1,000	kPa	**Max. operating press. - tank side**	1,000	kPa

Testing Laboratory	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Website	http://www.intertek.com.cn
Test report id. number	200427029GZU-001/002
Date of test report	2020-12-09
Test method	ISO 9459-2 (CSTG)

Comments of test lab	
No comments	intertek Steve Zhu

All values are subject to some uncertainty; e.g. the uncertainty on system output is typically in the range of ± 5 % to ± 15 %

Version 4.5, 2017-10-24

Summary of annex to Solar KEYMARK Certificate	EN12976-2	test results	Certification No.	011-7S3028 A
Annex to Solar KEYMARK Certificate			**Issued**	2021-08-03

Company	Zhejiang Jiadele Technology Co.,Ltd		**Country**	China	
Brand (optional)	Jiadele		**Website**	www.sh-jiadele.com	
Street	NO.12 Fenghuang Road, Dingqiao Town		**E-mail**	webmaster@sh-jiadele.com	
Postal Code	314413	Haining City, Zhejiang Province	**Tel. / Fax**	+86	573-87797662

System family overview

Collector name	For each storage and collector size, give number of collectors																							
	120L				140L				150L				160L				180L				200L				250L				300L			
JDL-PG2.0-80	1				1				1				1												2				2			
JDL-PG2.5-80																	1				1											

Name of system configuration				JDL-FPS-J/HP 300L	
Collector name	JDL-PG2.0-80	**No. Collectors**	2	**Storage name**	300L

Calculated annual results for "solar-only / preheat system"

Location	Qd,sh	Daily drawoff 250 l				Daily drawoff 300 l				Daily drawoff 400 l			
		Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol
	MJ/y	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%
Stockholm SE	-	13914	4187	0	30.1	16697	4352	0	26.1	22295	4572	0	20.5
WürzburgDE	-	13356	5202	0	38.9	16027	5458	0	34.1	21366	5796	0	27.1
Davos CH	-	15098	8258	0	54.7	18137	8662	0	47.8	24167	9184	0	38.0
Athens GR	-	10382	6959	0	67.0	12452	7481	0	60.1	16610	8186	0	49.3

Perf. indicators for the table above

Qd,sh	MJ/y	**Not relevant for solar domestic hot water system**
Qd	MJ/y	**Annual heat demand for domestic hot water**
QL	MJ/y	**Annual heat energy delivered by the solar system**
Qpar	MJ/y	**Annual parasitic energy: (electricity for pumps/controllers)**
$f_{sol}=Q_L/Q_d$	-	**Solar fraction**

Ref. conditions		Stockholm SE	Würzburg DE	Davos CH	Athens GR			
	G	1,157	1,230	1,684	1,736			
	Ta,ave	7.5	9.0	3.2	18.5			
	Tc,ave	8.5	10.0	5.4	17.8			
	± ΔTc	6.4	3.0	0.8	7.4			

G	kWh/m²	**Annual irradiation South, 45°**
Ta,ave	°C	**Annual average outdoor air temperature**
Tc,ave	°C	**Annual average mains cold water temp.**
ΔTc	K	**Seasonal variation of Tc**
Th	45 °C	**Desired hot water temperature (mixing valve temperature).**

Max. operating press. - collector side	1,000	kPa	**Max. operating press. - tank side**	1,000	kPa

Testing Laboratory	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Website	http://www.intertek.com.cn
Test report id. number	200427029GZU-001/002
Date of test report	2020-12-09
Test method	ISO 9459-2 (CSTG)

Comments of test lab

No comments

intertek
Steve Zhu

All values are subject to some uncertainty; e.g. the uncertainty on system output is typically in the range of ± 5 % to ± 15 %

Version 4.5, 2017-10-24