


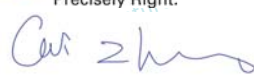




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|--|--|----------------------------------|------------------------------|--|--|--------------|-------------|-------------|-------------------------|-------------------------------|
| Summary of | EN12976-2 | SOLAR SYSTEM test results | Licence Number | 011-7S2887 A | | | | | | |
| Annex to Solar KEYMARK Certificate | | | Issued | 2018-09-21 | | | | | | |
| Company | Jiaxing JinYi Solar Energy Technology Co.,Ltd. | | Country | China | | | | | | |
| Brand (optional) | JinYi | | Website | www.jinyi-solar.com | | | | | | |
| Street | Caozhuang Industrial Park, Yuxin Town, | | E-mail | info@jinyi-solar.com | | | | | | |
| Postal Code | 314022 | Jiaxing City, Zhejiang Province | Tel. / Fax | +86 (0)573 82848871 / 83226818 | | | | | | |
| 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 specify: | | | | | | | | | | |
| Solar+supplementary OR Solar-only / Solar pre-heat | Solar only / Solar preheat | | | | | | | | | |
| Collector(s) | | | Heat store(s) | | | | | | | |
| Company | Jiaxing JinYi Solar Energy | | Company | Jiaxing JinYi Solar Energy | | | | | | |
| Keymark lic.no. if available | 011-7S2857 F | | Keymark lic.no. if available | NA | | | | | | |
| 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 | | | | | | | |
| | m ² | mm | mm | | | | | | | |
| JFC-2/2 | 2.00 | 2000 | 1000 | JFP-160/E | 160 | 1080 | 570 | 570 | - | - |
| JFC-2/2.5 | 2.50 | 2000 | 1250 | JFP-200/E | 200 | 1310 | 570 | 570 | - | - |
| | | | | JFP-250/E | 250 | 1570 | 570 | 570 | - | - |
| | | | | JFP-300/E | 300 | 1870 | 570 | 570 | - | - |
| | | | | JFP-300/E/A | 300 | 1870 | 570 | 570 | - | - |
| Solar loop controller | | | Solar loop fluid | | | | | | | |
| Keymark lic.no. if available | NA | | Recommended/required | Recommended | | | | | | |
| Company | NA | | Company | NA | | | | | | |
| Name | NA | | Name | Water glycol mixture | | | | | | |
| Solar loop pump - power range | - W to - W | | Freezing point | -30 °C | | | | | | |
| System family overview | | | | | | | | | | |
| Collector name | Number of collectors in each configuration for each store | | | | | | | | | |
| | Store name | | | | | | | | | |
| | JFP-160/E | JFP-200/E | JFP-250/E | JFP-300/E | JFP-300/E/A | | | | | |
| JFC-2/2 | 1 | 1 | | 2 | | | | | | |
| JFC-2/2.5 | | | 1 | | 2 | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Testing Laboratory | TÜV Rheinland (Shanghai) Co., Ltd. | | | | | | | | | |
| Website | www.tuv.com | | | | | | | | | |
| Test report id. number | 50181767-001 | | | | | | | | | |
| Date of test report | 2018-09-21 | | | | | | | | | |
| Comments of test lab | No comments. | | | | | | | | | |
| | | | | |  Precisely Right.  | | | | | |





| Summary of | EN12976-2 | test results | Certification No. | 011-7S2887 A | | | | |
|--|--|--|------------------------------|--------------------------------|--|-----------|-----------|---------------|
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| Company | Jiaxing JinYi Solar Energy Technology Co.,Ltd. | | Country | China | | | | |
| Brand (optional) | JinYi | | Website | www.jinyi-solar.com | | | | |
| Street | Caozhuang Industrial Park, Yuxin Town, | | E-mail | info@jinyi-solar.com | | | | |
| Postal Code | 314022 | Jiaxing City, Zhejiang Province | Tel. / Fax | +86 (0)573 82848871 / 83226818 | | | | |
| Parameters for systems extrapolation (Annex D) | | | | | | | | |
| Collector of measured system | | Storage tank of measured system | | | | | | |
| A_{ref} [m ²] | 1.72 | Volume [l] | 156 | | | | | |
| η_0 | 0.772 | A_{hx} [m ²] | 1.04 | | | | | |
| a_1 [W/Km ²] | 3.914 | Piping | | | | | | |
| a_2 [W/Km ²] | 0.013 | $U_{loop,p}$ | | | | | | |
| IAM (50°) | 0.910 | 1.14 | | | | | | |
| System parameters | | | | | | | | |
| Name of System Configuration | Tested/Extrapol | A_c^* [m ²] | u_c^* [W/Km ²] | U_s [W/K] | C_s [MJ/K] | S_c [-] | D_L [-] | f_{aux} [-] |
| JFP-160E | Tested | 1.23 | 7.51 | 1.62 | 0.52 | 0.003 | 0.37 | 0.00 |
| JFP-200E | Extrapol | 1.24 | 7.62 | 1.49 | 0.51 | 0.003 | 0.37 | 0.00 |
| JFP-250E | Extrapol | 1.58 | 7.44 | 2.53 | 0.58 | 0.082 | 0.37 | 0.00 |
| JFP-300E | Extrapol | 2.48 | 6.81 | 2.00 | 1.22 | 0.948 | 0.37 | 0.00 |
| JFP-300E/A | Extrapol | 3.12 | 6.70 | 2.88 | 1.22 | 0.970 | 0.37 | 0.00 |
| Testing Laboratory | | TÜV Rheinland (Shanghai) Co., Ltd. | | | | | | |
| Website | | www.tuv.com | | | | | | |
| Test report id. number | | 50181767-001 | | | | | | |
| Date of test report | | 2018-09-21 | | | | | | |
| Test method | | ISO 9459-5 (DST) | | | | | | |
| Comments of test lab | | The system configuration JFP-160E was used for testing and as basis for scaling. | | |  Precisely Right.  | | | |
| | | | | | | | | |

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

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| | | | | | | | | | | | | | |
|---|--|--|--------------------------|--|-----------|---------------------|------|------|------|---------------------|------|------|------|
| Summary of | EN12976-2 | test results | Certification No. | 011-7S2887 A | | | | | | | | | |
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| Brand (optional) | JinYi | | Website | www.jinyi-solar.com | | | | | | | | | |
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| Postal Code | 314022 | Jiaxing City, Zhejiang Province | Tel. / Fax | +86 (0)573 82848871 / 83226818 | | | | | | | | | |
| System family overview | | | | | | | | | | | | | |
| For each storage and collector size, give number of collectors | | | | | | | | | | | | | |
| Collector name | JFP-160/E | JFP-200/E | JFP-250/E | JFP-300/E | | | | | | | | | |
| JFC-2/2 | 1 | 1 | | 2 | | | | | | | | | |
| JFC-2/2.5 | | | 1 | 2 | | | | | | | | | |
| Name of system configuration | | | | | | | | | | | | | |
| | | | JFP-160E | | | | | | | | | | |
| Collector name | JFC-2/2 | No. Collectors | 1 | Storage name | | | | | | | | | |
| JFP-160/E | | | | | | | | | | | | | |
| 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 | - | 6150 | 2854 | - | 46.5 | 7821 | 3091 | - | 39.5 | 9294 | 3217 | - | 33.9 |
| WürzburgDE | - | 5897 | 2955 | - | 50.2 | 7506 | 3280 | - | 43.7 | 9114 | 3437 | - | 37.7 |
| Davos CH | - | 6654 | 4194 | - | 62.9 | 8483 | - | - | - | 10281 | 4667 | - | 45.4 |
| Athens GR | - | 4573 | - | - | - | 5834 | 4163 | - | 71.7 | 7064 | 4604 | - | 62.2 |
| 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 | | | | | | | | |
| | T _{a,ave} | 7.5 | 9.0 | 3.2 | 18.5 | | | | | | | | |
| | T _{c,ave} | 8.5 | 10.0 | 5.4 | 17.8 | | | | | | | | |
| | ± ΔT _c | 6.4 | 3.0 | 0.8 | 7.4 | | | | | | | | |
| G | kWh/m ² | Annual irradiation South, 45° | | | | | | | | | | | |
| T _{a,ave} | °C | Annual average outdoor air temperature | | | | | | | | | | | |
| T _{c,ave} | °C | Annual average mains cold water temp. | | | | | | | | | | | |
| ΔT _c | K | Seasonal variation of T _c | | | | | | | | | | | |
| Th | 45 °C | Desired hot water temperature (mixing valve temperature). | | | | | | | | | | | |
| Max. operating press. - collector side | | 200 | kPa | Max. operating press. - tank side | | 1 000 | kPa | | | | | | |
| Testing Laboratory | | TÜV Rheinland (Shanghai) Co., Ltd. | | | | | | | | | | | |
| Website | | www.tuv.com | | | | | | | | | | | |
| Test report id. number | | 50181767-001 | | | | | | | | | | | |
| Date of test report | | 2018-09-21 | | | | | | | | | | | |
| Test method | | ISO 9459-5 (DST) | | | | | | | | | | | |
| Comments of test lab | | No comments | | | | | | | | | | | |
| | |  Precisely Right.  | | | | | | | | | | | |

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 | EN12976-2 | test results | Certification No. | 011-7S2887 A | | | | | | | | | |
| Annex to Solar KEYMARK Certificate | | | Issued | 2018-09-21 | | | | | | | | | |
| Company | Jiaxing JinYi Solar Energy Technology Co.,Ltd. | | Country | China | | | | | | | | | |
| Brand (optional) | JinYi | | Website | www.jinyi-solar.com | | | | | | | | | |
| Street | Caozhuang Industrial Park, Yuxin Town, | | E-mail | info@jinyi-solar.com | | | | | | | | | |
| Postal Code | 314022 | Jiaxing City, Zhejiang Province | Tel. / Fax | +86 (0)573 82848871 / 83226818 | | | | | | | | | |
| System family overview | | | | | | | | | | | | | |
| For each storage and collector size, give number of collectors | | | | | | | | | | | | | |
| Collector name | JFP-160/E | JFP-200/E | JFP-250/E | JFP-300/E | | | | | | | | | |
| JFC-2/2 | 1 | 1 | | 2 | | | | | | | | | |
| JFC-2/2.5 | | | 1 | 2 | | | | | | | | | |
| Name of system configuration | | | | | | | | | | | | | |
| | | | JFP-200E | | | | | | | | | | |
| Collector name | JFC-2/2 | No. Collectors | 1 | Storage name | | | | | | | | | |
| JFP-200/E | | | | | | | | | | | | | |
| 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 | - | 7821 | 3154 | - | 40.4 | 9492 | 3343 | - | 35.2 | 11164 | 3437 | - | 30.9 |
| WürzburgDE | - | 7506 | 3343 | - | 44.5 | 9114 | 3595 | - | 39.5 | 10691 | 3658 | - | 34.2 |
| Davos CH | - | 8483 | 4636 | - | 54.8 | 10281 | 4920 | - | 47.9 | 12110 | 4983 | - | 41.3 |
| Athens GR | - | 5834 | 4257 | - | 73.2 | 7064 | 4762 | - | 67.5 | 8326 | 5046 | - | 60.8 |
| 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 | | | | | | | | |
| | T _{a,ave} | 7.5 | 9.0 | 3.2 | 18.5 | | | | | | | | |
| | T _{c,ave} | 8.5 | 10.0 | 5.4 | 17.8 | | | | | | | | |
| | ± ΔT _c | 6.4 | 3.0 | 0.8 | 7.4 | | | | | | | | |
| G | kWh/m ² | Annual irradiation South, 45° | | | | | | | | | | | |
| T _{a,ave} | °C | Annual average outdoor air temperature | | | | | | | | | | | |
| T _{c,ave} | °C | Annual average mains cold water temp. | | | | | | | | | | | |
| ΔT _c | K | Seasonal variation of T _c | | | | | | | | | | | |
| Th | 45 °C | Desired hot water temperature (mixing valve temperature). | | | | | | | | | | | |
| Max. operating press. - collector side | | 200 | kPa | Max. operating press. - tank side | | 1 000 | kPa | | | | | | |
| Testing Laboratory | | TÜV Rheinland (Shanghai) Co., Ltd. | | | | | | | | | | | |
| Website | | www.tuv.com | | | | | | | | | | | |
| Test report id. number | | 50181767-001 | | | | | | | | | | | |
| Date of test report | | 2018-09-21 | | | | | | | | | | | |
| Test method | | ISO 9459-5 (DST) | | | | | | | | | | | |
| Comments of test lab | | | | | | | | | | | | | |
| No comments | | | | | | | | | | | | | |
|  Precisely Right. <i>Cao zhuo</i> | | | | | | | | | | | | | |



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


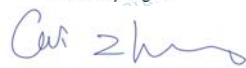


| | | | | | | | | | | | | | |
|--|--|---|--------------------------|--|-----------|----------------------|------|------|-------|----------------------|------|------|------|
| Summary of | EN12976-2 | test results | Certification No. | 011-7S2887 A | | | | | | | | | |
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| System family overview | | | | | | | | | | | | | |
| For each storage and collector size, give number of collectors | | | | | | | | | | | | | |
| Collector name | JFP-160/E | JFP-200/E | JFP-250/E | JFP-300/E | | | | | | | | | |
| JFC-2/2 | 1 | 1 | | 2 | | | | | | | | | |
| JFC-2/2.5 | | | 1 | 2 | | | | | | | | | |
| Name of system configuration | | | | | | | | | | | | | |
| | | | JFP-250E | | | | | | | | | | |
| Collector name | JFC-2/2.5 | No. Collectors | 1 | Storage name | | | | | | | | | |
| | | | | | | | | | | | | | |
| Calculated annual results for "solar-only / preheat system" | | | | | | | | | | | | | |
| Location | Qd,sh | Daily drawoff | | | | Daily drawoff | | | | Daily drawoff | | | |
| | | 170 | | 200 | | 250 | | | | | | | |
| | 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 | % | |
| Stockholm SE | - | 9492 | 3658 | - | 38.6 | 11164 | 3847 | - | 34.3 | 13939 | 4100 | - | 29.4 |
| WürzburgDE | - | 9114 | 3974 | - | 43.6 | 10691 | 4163 | - | 39.0 | 13371 | 4384 | - | 32.8 |
| Davos CH | - | 10281 | 5519 | - | 53.5 | 12110 | 5771 | - | 47.6 | 15137 | 5960 | - | 39.5 |
| Athens GR | - | 7064 | 5109 | - | 72.3 | 8326 | 5613 | - | 67.5 | 10407 | 6118 | - | 58.8 |
| 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 | | | | | | | | |
| | T _{a,ave} | 7.5 | 9.0 | 3.2 | 18.5 | | | | | | | | |
| | T _{c,ave} | 8.5 | 10.0 | 5.4 | 17.8 | | | | | | | | |
| | ± ΔT _c | 6.4 | 3.0 | 0.8 | 7.4 | | | | | | | | |
| G | kWh/m ² | Annual irradiation South, 45° | | | | | | | | | | | |
| T _{a,ave} | °C | Annual average outdoor air temperature | | | | | | | | | | | |
| T _{c,ave} | °C | Annual average mains cold water temp. | | | | | | | | | | | |
| ΔT _c | K | Seasonal variation of T_c | | | | | | | | | | | |
| Th | 45 °C | Desired hot water temperature (mixing valve temperature). | | | | | | | | | | | |
| Max. operating press. - collector side | | 200 | kPa | Max. operating press. - tank side | | 1 000 | kPa | | | | | | |
| Testing Laboratory | | TÜV Rheinland (Shanghai) Co., Ltd. | | | | | | | | | | | |
| Website | | www.tuv.com | | | | | | | | | | | |
| Test report id. number | | 50181767-001 | | | | | | | | | | | |
| Date of test report | | 2018-09-21 | | | | | | | | | | | |
| Test method | | ISO 9459-5 (DST) | | | | | | | | | | | |
| Comments of test lab | | | | | | | | | | | | | |
| No comments | | | | | | | | | | | | | |
|  Precisely Right.  | | | | | | | | | | | | | |



| | | | | | | | | | | | | | |
|---|--|--|--------------------------|--|-----------|----------------------|------|------|------|----------------------|------|------|------|
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| Postal Code | 314022 | Jiaxing City, Zhejiang Province | Tel. / Fax | +86 (0)573 82848871 / 83226818 | | | | | | | | | |
| System family overview | | | | | | | | | | | | | |
| For each storage and collector size, give number of collectors | | | | | | | | | | | | | |
| Collector name | JFP-160/E | JFP-200/E | JFP-250/E | JFP-300/E | | | | | | | | | |
| JFC-2/2 | 1 | 1 | | 2 | | | | | | | | | |
| JFC-2/2.5 | | | 1 | 2 | | | | | | | | | |
| Name of system configuration | | | | | | | | | | | | | |
| | | | JFP-300E | | | | | | | | | | |
| Collector name | JFC-2/2 | No. Collectors | 2 | Storage name | | | | | | | | | |
| JFP-300/E | | | | | | | | | | | | | |
| Calculated annual results for "solar-only / preheat system" | | | | | | | | | | | | | |
| Location | Qd,sh | Daily drawoff | | | | Daily drawoff | | | | Daily drawoff | | | |
| | | 200 | | l | | 250 | | l | | 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 | - | 11164 | 4920 | - | 44.2 | 13939 | 5582 | - | 40.1 | 16746 | 6150 | - | 36.7 |
| WürzburgDE | - | 10691 | 5235 | - | 48.8 | 13371 | 5992 | - | 44.7 | 16052 | 6559 | - | 40.9 |
| Davos CH | - | 12110 | 7348 | - | 60.6 | 15137 | 8105 | - | 53.5 | 18165 | 8578 | - | 47.3 |
| Athens GR | - | 8326 | 6780 | - | 81.4 | 10407 | 7947 | - | 76.4 | 12488 | 8862 | - | 71.0 |
| 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 | | | | | | | | |
| | T _{a,ave} | 7.5 | 9.0 | 3.2 | 18.5 | | | | | | | | |
| | T _{c,ave} | 8.5 | 10.0 | 5.4 | 17.8 | | | | | | | | |
| | ± ΔT _c | 6.4 | 3.0 | 0.8 | 7.4 | | | | | | | | |
| G | kWh/m ² | Annual irradiation South, 45° | | | | | | | | | | | |
| T _{a,ave} | °C | Annual average outdoor air temperature | | | | | | | | | | | |
| T _{c,ave} | °C | Annual average mains cold water temp. | | | | | | | | | | | |
| ΔT _c | K | Seasonal variation of T _c | | | | | | | | | | | |
| Th | 45 °C | Desired hot water temperature (mixing valve temperature). | | | | | | | | | | | |
| Max. operating press. - collector side | | 200 | kPa | Max. operating press. - tank side | | 1 000 | kPa | | | | | | |
| Testing Laboratory | | TÜV Rheinland (Shanghai) Co., Ltd. | | | | | | | | | | | |
| Website | | www.tuv.com | | | | | | | | | | | |
| Test report id. number | | 50181767-001 | | | | | | | | | | | |
| Date of test report | | 2018-09-21 | | | | | | | | | | | |
| Test method | | ISO 9459-5 (DST) | | | | | | | | | | | |
| Comments of test lab | | No comments | | | | | | | | | | | |
| | |  Precisely Right.  | | | | | | | | | | | |



| | | | | | | | | | | | | | |
|--|--|---|--------------------------|--|-------------|----------------------------|-------------|-------------|-------------|----------------------------|-------------|-------------|-------------|
| Summary of | EN12976-2 | test results | Certification No. | 011-7S2887 A | | | | | | | | | |
| Annex to Solar KEYMARK Certificate | | | Issued | 2018-09-21 | | | | | | | | | |
| Company | Jiaxing JinYi Solar Energy Technology Co.,Ltd. | | Country | China | | | | | | | | | |
| Brand (optional) | JinYi | | Website | www.jinyi-solar.com | | | | | | | | | |
| Street | Caozhuang Industrial Park, Yuxin Town, | | E-mail | info@jinyi-solar.com | | | | | | | | | |
| Postal Code | 314022 | Jiaxing City, Zhejiang Province | Tel. / Fax | +86 (0)573 82848871 / 83226818 | | | | | | | | | |
| System family overview | | | | | | | | | | | | | |
| For each storage and collector size, give number of collectors | | | | | | | | | | | | | |
| Collector name | JFP-160/E | JFP-200/E | JFP-250/E | JFP-300/E | | | | | | | | | |
| JFC-2/2 | 1 | 1 | | 2 | | | | | | | | | |
| JFC-2/2.5 | | | 1 | 2 | | | | | | | | | |
| Name of system configuration | | | | | | | | | | | | | |
| | | | JFP-300E/A | | | | | | | | | | |
| Collector name | JFC-2/2.5 | No. Collectors | 2 | Storage name | | | | | | | | | |
| | | | | | | | | | | | | | |
| 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 | - | 11164 | 5046 | - | 45.3 | 13939 | 5771 | - | 41.4 | 16746 | 6402 | - | 38.1 |
| WürzburgDE | - | 10691 | 5298 | - | 49.6 | 13371 | 6118 | - | 45.7 | 16052 | 6717 | - | 41.9 |
| Davos CH | - | 12110 | 7506 | - | 61.9 | 15137 | 8357 | - | 55.1 | 18165 | 8956 | - | 49.3 |
| Athens GR | - | 8326 | 6906 | - | 83.1 | 10407 | 8168 | - | 78.5 | 12488 | 9177 | - | 73.6 |
| 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 | | | | | | | | |
| | T_{a,ave} | 7.5 | 9.0 | 3.2 | 18.5 | | | | | | | | |
| | T_{c,ave} | 8.5 | 10.0 | 5.4 | 17.8 | | | | | | | | |
| | ± ΔT_c | 6.4 | 3.0 | 0.8 | 7.4 | | | | | | | | |
| G | kWh/m² | Annual irradiation South, 45° | | | | | | | | | | | |
| T_{a,ave} | °C | Annual average outdoor air temperature | | | | | | | | | | | |
| T_{c,ave} | °C | Annual average mains cold water temp. | | | | | | | | | | | |
| ΔT_c | K | Seasonal variation of T_c | | | | | | | | | | | |
| Th | 45 °C | Desired hot water temperature (mixing valve temperature). | | | | | | | | | | | |
| Max. operating press. - collector side | | 200 | kPa | Max. operating press. - tank side | | 1 000 | kPa | | | | | | |
| Testing Laboratory | | TÜV Rheinland (Shanghai) Co., Ltd. | | | | | | | | | | | |
| Website | | www.tuv.com | | | | | | | | | | | |
| Test report id. number | | 50181767-001 | | | | | | | | | | | |
| Date of test report | | 2018-09-21 | | | | | | | | | | | |
| Test method | | ISO 9459-5 (DST) | | | | | | | | | | | |
| Comments of test lab | | | | | | | | | | | | | |
| No comments | | | | | | | | | | | | | |
|  Precisely Right.  | | | | | | | | | | | | | |