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| 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 Registernummer Num. d'enregistrement Date / Datum / Date | | 011-7S1479 A 31/10/2017 | | | |
| Company / Firma / Société | | | ORKLI S. Coop. | | | Country/Land/Pays | | Spain | | | |
| Street / Straße / Rue | | | C. Zaldibia s/n | | | Website | | www.orkli.com | | | |
| Postal Code, Place / PLZ, Ort / Code postal, Place | | | 20240 | Ordizia (Gipuzkoa) | | E-mail | | home@orkli.es | | | |
| | | | | | | Tel. / Fax | | 34 943.80.50.30 | | | |
| System classification / G / F | | | | | | | | | | | |
| Flow principle / G / F | | | | | Forced / G / F | | | | | | |
| Direct / indirect / G / F | | | | | Indirect / 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 | | | | | Horizontal / G / F | | | | | | |
| Int. back-up / G / F | | | | | None / G / F | | | | | | |
| If other: / G / F | | | | | - | | | | | | |
| EN12976 type / G / F | | | | | Solar only / G / F | | | | | | |
| Collector(s) / Kollektor(en) / Capteur(s) | | | | | Storage(s) / Akkumulator(en) / F | | | | | | |
| Company / Hersteller / Manufactuer | | | ORKLI S. Coop. | | | Company / Hersteller / Manufactuer | | | ORKLI S. Coop. | | |
| Keymark reg. no. (optional) | | | - | | | | | | | | |
| 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 | Gross length Länge (Außenmaß) longueur 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) m ² | Gross length Länge (Außenmaß) Longueur Hors tout m | Gross width Breite (Außenmaß) Largeur hors Tout m | | | | | | | | |
| OKSOL-150 | 2,00 | 2,03 | 1,06 | 1 | 1 | OKSOL-150 | 150 | - | - | - | - |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Controller / G / F | | | | | Fluid / G / F | | | | | | |
| Company/Hersteller/Manufacteur | | | -- | | | Company/Hersteller/Manufacteur | | | -- | | |
| Model / Bezeichnung / Modèle | | | -- | | | Model / Bezeichnung / Modèle | | | water-propylene glycol mixture | | |
| Functions | | | -- | | | Freezing point | | | -35 °C | | |
| G | | | | | | G | | | | | |
| F | | | | | | F | | | | | |
| System family overview / G / F | | | | | | | | | | | |
| Collector G F | | | | | No. collectors / G / F | | | | | | |
| | | | | | Storage / G / F | | | | | | |
| OKSOL-150 | 1 | | | | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
| Testing Laboratory / Prüflaboratorium / Laboratoire d'essais | | | | | | Fundación CENER-CIEMAT | | | | | |
| Website | | | | | | www.cener.com | | | | | |
| Test report id. number / Prüberichtsnummer / F. | | | | | | 30.3110.0-1 Anexo 4 and 30.3110.1-1R Anexo 4 | | | | | |
| Date of test report / Datum G / date F | | | | | | 27/07/2017 and 04/10/2017 | | | | | |
| Comments of test lab / Kommentare des laboratoriums / Commentaires du laboratoire | | | | | | | | | | | |
| The system has installed a heat sink device. | | | | | |  CENER NATIONAL RENEWABLE ENERGY CENTRE ADitech | | | | | |



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|--|--|--|--|---------------------------------------|----------------------|---|--|--------------------|--|-------------|------------------|--|--|-------|--|--|-------|--|--|------|--|--|------|--|--|------|--|--|----|--|--|----|--|--|----|--|--|
| Summary of EN 12976 Test Results, annex to Solar KEYMARK Certificate | | | | Registration No. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kurzfassung EN 12976 Test Ergebnisse, Anlage zum Solar KEYMARK-Zertifikat Synthèse des résultats d'essais selon EN 12976, Annexe au certificat Solar KEYMARK | | | | Registernummer 011-7S1479 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Num. d'enregistrement | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Date / Datum / Date 31/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Company / Firma / Société | | ORKLI S. Coop. | | Country/Land/Pays Spain | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Street / Straße / Rue | | C. Zaldibia s/n | | Website www.orkli.com | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Postal Code, Place / PLZ, Ort / Code postal, Place | | 20240 Ordizia (Gipuzkoa) | | E-mail home@orkli.es | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Tel. / Fax 943.80.50.30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System family overview / G / F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Collector type | | Number of collectors / G / F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | | Storage type / G / F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OKSOL-150 | | OKSOL-150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OKSOL-150 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Name of system konfiguration / G / F OKSOL-150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Collector type | | No. collectors | | Storage type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G OKSOL-150 | | G 1 | | G OKSOL-150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | | F | | F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Calculated annual results / G / F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Location | | Daily draw-off litres/day / G / F / | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G | | 110 | | | 140 | | | 170 | | | 110 | | | 140 | | | 170 | | | | | | | | | | | | | | | | | | | | |
| F | | l/d | | | l/d | | | l/d | | | l/d | | | l/d | | | l/d | | | | | | | | | | | | | | | | | | | | |
| | | Q _d kWh/y | | | Q _L kWh/y | | | f _{sol} % | | | Q _{par} | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stockholm, SE | | 1.706 | | | 2.171 | | | 2.636 | | | 760 | | | 866 | | | 936 | | | 44,6 | | | 39,9 | | | 35,5 | | | -- | | | -- | | | -- | | |
| Würzburg, DE | | 1.635 | | | 2.082 | | | 2.528 | | | 780 | | | 911 | | | 999 | | | 47,7 | | | 43,8 | | | 39,5 | | | -- | | | -- | | | -- | | |
| Davos, CH | | 1.850 | | | 2.355 | | | 2.860 | | | 1.093 | | | 1.245 | | | 1.339 | | | 59,1 | | | 52,8 | | | 46,8 | | | -- | | | -- | | | -- | | |
| Athens, GR | | 1.271 | | | 1.617 | | | 1.964 | | | 985 | | | 1.172 | | | 1.324 | | | 77,5 | | | 72,5 | | | 67,4 | | | -- | | | -- | | | -- | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Perf. indicators | | Q _d Heat demand / G / F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G | | Q _L System output / G / F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | | f _{sol} Q _L /Q _d ; solar fraction / G / F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Q _{par} Elec. for pumps/controllers / G / F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ref. conditions | | Stockholm | | Würzburg DE | | Davos CH | | Athens GR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G | | 1.113 | | 1.230 | | 1.684 | | 1.718 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G | | Ta | | 6,9 | | 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 | | | | 300 kPa | | Max. operating press. - tank side | | | | 500 kPa | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G | | | | | | G | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | | | | | | F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Testing Laboratory / Prüflaboratorium / Laboratoire d'essais | | | | | | Fundación CENER-CIEMAT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Website | | | | | | www.cener.com | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test report id. number / Prüberichtsnummer / F | | | | | | 30.3110.1-1R Anexo 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date of test report / G / F | | | | | | 04/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test method / G / F | | | | | | ISO 9459-5 (DST) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Comments of test lab / Kommentare des laboratoriums / Commentaires du laboratoire | | | | | |  CENER NATIONAL RENEWABLE ENERGY CENTRE ADItch | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No comments | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |