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- (71) **Applicant (for all designated States except US):** SOLAR FLUIDICS PTE LTD [SG/SG]; 30 Cecil Street, #10-50 Prudential Tower, Singapore City 049712 (SG).
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- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

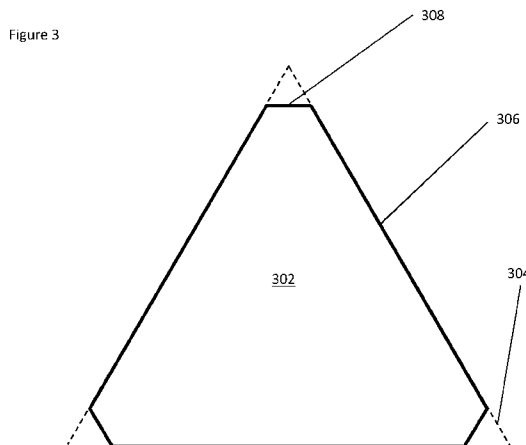
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Published:

- with international search report (Art. 21(3))
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- (88) **Date of publication of the international search report:**
17 November 2016

(54) **Title:** SOLAR ENERGY SYSTEM



(57) **Abstract:** A solar panel (302) for heating a target fluid using incident solar radiation is described, the solar panel (302) includes: three major edges (306) arranged so that the solar panel (302) can be inscribed in a triangle with each major edge (308) of the panel (302) lying along at least a portion of a side of the triangle; a cavity for retaining the target fluid; and an inlet and an outlet for the target fluid, for exchanging the target fluid with adjacent solar panels (302).



INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2016/050861

A. CLASSIFICATION OF SUBJECT MATTER
INV. F24J2/20
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
F24J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 42 19 909 A1 (MUELLER FRIEDRICH [DE]) 23 December 1993 (1993-12-23) column 2, line 66 - column 3, line 42; figures	1-4,7-9
X	DE 297 22 908 U1 (BAJOG GERD [DE]) 26 March 1998 (1998-03-26) page 11, line 4 - line 26; figures 8C,9B	1,2,7-9
X	EP 1 707 897 A1 (DYNAX CORP [JP]) 4 October 2006 (2006-10-04) paragraph [0015] - paragraph [0016]; figures	1,2,7
X	US 4 964 395 A (SALGADO ANGEL M [US] ET AL) 23 October 1990 (1990-10-23) column 3, line 41 - line 68; figure 3	1,2,5,6, 8,9
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Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search 28 June 2016	Date of mailing of the international search report 30/09/2016
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Mootz, Frank
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2016/050861

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-10

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2016/050861

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 7 870 691 B2 (WILLIAMS DAVID A [US] ET AL) 18 January 2011 (2011-01-18) column 9, line 13 - column 10, line 45; claim 2; figures 7,8 -----	1,10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2016/050861

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 4219909	A1	23-12-1993	NONE

DE 29722908	U1	26-03-1998	DE 19654762 A1 02-07-1998
			DE 29722908 U1 26-03-1998

EP 1707897	A1	04-10-2006	CN 1890511 A 03-01-2007
			EP 1707897 A1 04-10-2006
			JP 2005164132 A 23-06-2005
			KR 20060109917 A 23-10-2006
			WO 2005068918 A1 28-07-2005

US 4964395	A	23-10-1990	NONE

US 7870691	B2	18-01-2011	NONE

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-10

Solar panel

2. claims: 11-19

Network of solar panels

3. claims: 20-25

Diaphragm

4. claims: 26-45, 77

Solar energy system

5. claims: 46-48

High shear mixing system

6. claims: 49-52, 55-65

Method of manufacturing a working fluid

7. claims: 53-55, 78

Fluid

8. claims: 66-76, 79, 80

Impedance matching layer
