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Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

Published:

— *with international search report (Art. 21(3))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

[Continued on next page]

(54) **Title**: DISPOSABLE DRUG CARTRIDGE

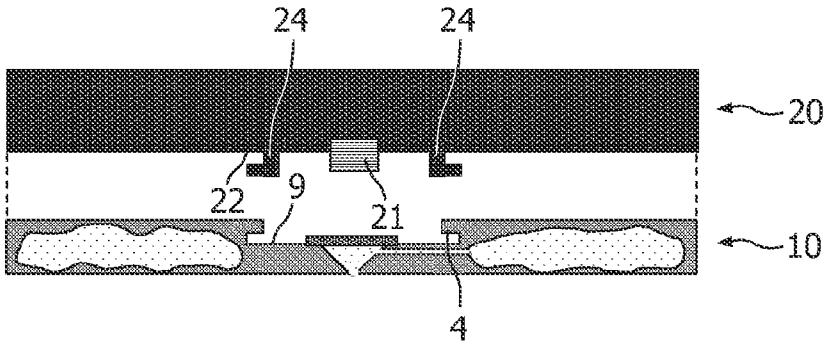


FIG. 3a

(57) **Abstract**: The present invention concerns a fully disposable medication cartridge concept for variable infusion systems based on needle-less, electrically activated jet-injection. The cartridge comprises medication reservoir (1), a micro jet pump cavity (2) being in fluid communication with the medication reservoir, a pump membrane (3) connected to the pump cavity, a nozzle (5) for injection of a medication being in fluid communication with the pump cavity, and a connecting element (4) for establishing mechanical contact with a power unit. The cartridge is designed in such a way that a sterile medication is never in contact with the reusable part of the delivery device. This fact ensures that the medication is not contaminated by the reusable part of the device. The pump mechanism of the device induces a pressure in the pump cavity through the membrane.

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11 March 2010

INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. A61M37/00
ADD. A61M5/30 A61M5/142

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)
A61M

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 practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2008/050287 A1 (KONINKL PHILIPS ELECTRONICS NV [NL]; NISATO GIOVANNI [NL]; ROOZEBOOM F) 2 May 2008 (2008-05-02) page 11, line 19 - page 13, line 31; figures 17-18	1,2,5,6
Y		3-4, 10-11
X	WO 2008/001268 A2 (KONINKL PHILIPS ELECTRONICS NV [NL]; PELZER HEIKO [NL]; REIMANN KLAUS) 3 January 2008 (2008-01-03) the whole document	1,2,5,6
Y	EP 1 177 802 A1 (BECTON DICKINSON CO [US]) 6 February 2002 (2002-02-06) paragraph [0028]; figures 1-9	3-4, 10-11

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"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)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"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

"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.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
11 September 2009	20/01/2010

Name and mailing address of the ISA/	Authorized officer
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INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DE 42 19 888 A1 (STORZ ENDOSKOP GMBH SCHAFFHAUS [CH]) 13 January 1994 (1994-01-13) the whole document -----	3-4
A	GB 2 085 603 A (BESSMAN SAMUEL P) 28 April 1982 (1982-04-28) the whole document -----	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2009/051684

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. [X] Claims Nos.: 12
because they relate to subject matter not required to be searched by this Authority, namely:

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy. Ejecting a drug from a reservoir implies injection into a patient, who is undergoing therapy.

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. [X] 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.:

1-6(completely); 10-11(partially)

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-6(completely); 10-11(partially)

Drug cartridge with a reservoir, a micro-jet pump cavity, a membrane connected to the pump cavity, a nozzle and a connecting element for a power unit.

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2. claims: 7-9(completely); 10-11(partially)

Power unit with an actuator and a connecting element for connection to a drug cartridge.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB2009/051684

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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