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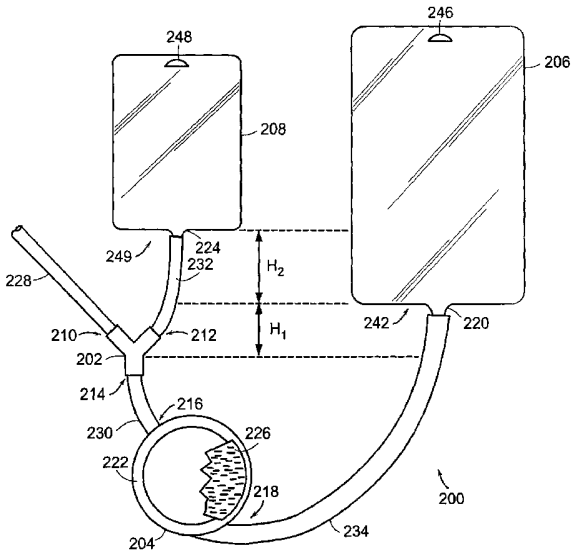
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[Continued on next page]

(54) Title: CONTINUOUS BLOOD FILTRATION SYSTEM AND METHOD OF USE



(57) Abstract: The invention is directed to a system for continuously filtering a blood product including whole blood or any of its component(s), erythrocytes, leukocytes, platelets and plasma either alone or in combination. The system includes a connector for receiving the blood product, a filter coupled to the connector for filtering the received blood product, a collection bag coupled to the filter for collecting the filtered blood product, and a reservoir bag connected to the connector for temporarily storing received blood product, and providing received blood product through the connector to the filter to maintain continuity in filtration. The reservoir bag and the collection bag are suspended, the connector near or below the bottom of the collection bag, and the bottom of the reservoir bag is above the bottom of the collection bag. Also provided is a method of filtering a blood product using the continuous blood filtration system.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/012911

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61M1/02 A61M1/36

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)
IPC 7 A61M A61J

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, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 771 569 A (HAEMONETICS CORP) 7 May 1997 (1997-05-07) page 5, line 35 - line 56; figure 4	1-29
X	EP 0 958 838 A (TERUMO CORP) 24 November 1999 (1999-11-24) paragraph [0066] - paragraph [0077]; figure 12	1-29
A	EP 0 791 367 A (HAEMONETICS CORP) 27 August 1997 (1997-08-27) column 7, line 14 - line 36; figure 1	1-29

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in 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
20 September 2004	14. 12. 2004

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Böttcher, S

Form PCT/ISA/210 (second sheet) (January 2004)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/012911

Box 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 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 fee, this Authority did not invite payment of any additional fee.

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.:

see annex

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ 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: 1-29

A system for filtering a blood product comprising a filter and a conduit in fluid communication with a vessel.
Problem to be solved: Preventing an air-blood mix from entering into the filter.

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2. claims: 61, 62, 30-60

A system for filtering a blood product comprising a connector, a filter, a collection bag and a reservoir bag.
Problem to be solved: Maintaining continuity in filtration.

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3. claims: 63-72

A system for filtering a blood product comprising a filter and a conduit, a portion of the conduit having a variable cross-section.
Problem to be solved: Accommodating blood product flow rate variation.

INTERNATIONAL SEARCH REPORT

mation on patent family members

International Application No
PCT/US2004/012911

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