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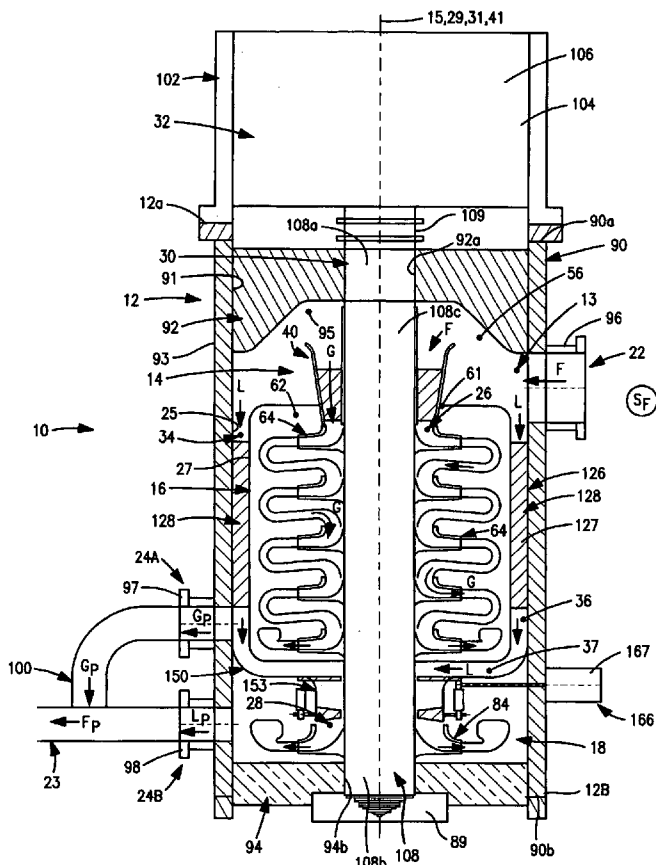
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[Continued on next page]

(54) Title: MULTIPHASE FLUID PROCESSING DEVICE



(57) Abstract: A fluid processing machine processes multiphase fluid streams including gas and liquid. A housing has an interior chamber, an inlet fluidly connected with the interior chamber and with a stream source, and first and second outlets. A separator disposed within the housing chamber is fluidly coupled with the inlet such that the stream flows thereto and separates the stream into gaseous and liquid portions. A compressor disposed within the chamber receives and compresses the gaseous portions from the separator for discharge through the housing first outlet, the compressor having an outer surface spaced from the housing inner surface to define a flow passage. A pump disposed within the chamber has an inlet fluidly coupled with the separator through the passage, is spaced vertically from the separator so that liquid flows by gravity from the separator to the pump, and pressurizes the liquid for discharge through the housing second outlet.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 07/05489

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - B01D 19/00 (2007.10)

USPC - 96/216

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(8) - B01D 19/00 (2007.10)

USPC - 96/216

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

IPC(8) - B01D 19/00 (2007.10) (see keyword below)

USPC - 96/216, 208, 214, 155, 167, 171, 177, 195, 196, 197, 217, 220; 137/171; 415/169.1, 169.2, 88 (see keyword below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWEST(USPT,PGPB,EPAB,JPAB); DialogPRO(Engineering); Google Scholar

Search Terms: gas, liquid, separator, compressor, pump, inlet, outlet, rotate, motor, shaft, multiphase, fluid, plenum, concave, vane, blade, hub, center, centrifugal, impeller, support, strut, bar, channel, diffuser, return, bend, baffle, adjust, flow, st

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,171,074 B1 (CHARRON) 9 January 2001 (09.01.2001) entire document especially fig 1, 3-4, 6, col 3 in 31-67, col 4 in 29-31, col 6 in 57-62, col 7 in 27-39, 47-66, col 8 in 9-19, 23-28, 56-65, col 9 in 4-12	27
Y		1-26, 28-29
Y	US 2004/0168572 A1 (HOPPER) 2 September 2004 (02.09.2004) entire document especially fig 3, 6-15, para [0043], [0045], [0048]-[0049], [0052]-[0053], [0055]-[0057]	1-26, 28-29
Y	US 5,599,164 A (MURRAY) 4 February 1997 (04.02.1997) entire document especially fig 1-2, col 5 in 54-67, col 6 in 1-11	9
Y	US 6,019,825 A (GREENE et al.) 1 February 2000 (01.02.2000) fig 10-11b, col 6 in 37-67, col 7 in 1-2	12
Y	US 4,437,984 A (KING et al.) 20 March 1984 (20.03.1984) fig 1 col 6 in 5-7, 21-23	15
Y	US 3,398,535 A (CAMPBELL et al.) 27 August 1968 (27.08.1968) fig 1, 3, col 2 in 11-30, 65-72, col 3 in 53-71, col 4 in 15-20	18, 24
Y	US 4,764,088 A (KAPICH) 16 August 1988 (16.08.1988) entire document especially fig 1-5 col 2 in 51-55, 64-67, col 3 in 1-3, 42-51, 59-67, col 4 in 1-3	21
Y	US 4,978,373 A (EDACOTT) 18 December 1990 (18.12.1990) fig 3, col 2 in 56-67, col 3 in 9-17	26
Y	US 4,724,679 A (RADERMACHER) 16 February 1988 (16.02.1988) fig 5, col 16 in 15-53 col 17 in 26-32	2, 5
	----- See Continuation Sheet -----	

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent but published on or after the international filing date	"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
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"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	

Date of the actual completion of the international search 21 November 2007 (21.11.2007)	Date of mailing of the international search report <b>20 DEC 2007</b>
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774
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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 07/05489

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,761,914 A (CAREY et al.) 9 June 1998 (09.06.1998) fig 3-4, col 6 ln 19-30, col 10 ln 32-45	22-25