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(54) Title: MICROFLUIDIC VALVE FOR LIQUIDS

(57) Abstract: A microfluidic device for the splitting or sequencing of fluid flow includes a plurality of upstream and/or downstream chambers coupled via microfluidic channels. For splitting fluid, a substrate is provided that includes a main chamber and a plurality of downstream sub-chambers. Each sub-chamber is associated with a sealable vent hole. Fluid is selectively moved into the desired sub-chamber of interest by unsealing its associated vent hole. Fluid is then pumped into the sub-chamber, for example, by rotating the substrate. For flow sequencing, a substrate is provided that includes a plurality of upstream chambers coupled to at least one downstream chamber. Each upstream chamber has an associated vent hole that can be selectively opened. The substrate is then rotated and fluid contained in the upstream chamber with the valve in the unsealed state will then pass to the at least one downstream chamber.



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INTERNATIONAL SEARCH REPORT

International application No.
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A. CLASSIFICATION OF SUBJECT MATTER
IPC: F15C 1/04(2006.01)

USPC: 137/825,829,832,833
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)
U.S. : 137/825, 829, 832, 833, 883; 251/901

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	BRENNER, T. A Flow Switch Based On Coriolis Force. 7th International Conference on Miniaturized Chemical and Biochemical Analysis Systems. October 2003, pages 903-906, entire document.	1-40
Y	US 2002/0195579 A1 (JOHNSON) 26 December 2002 (26.12.2002), see column 1, lines 42-50.	3, 18
Y	US 3,931,833 A (DEGREGORY) 13 January 1976 (13.01.1976), see figure 2.	1-40
Y	US 2002/0143301 A1 (LOPEZ) 03 October 2002 (03.10.2002), see column 1 lines 27-32.	4,6-7,19,21-24,29-40
Y, P	US 2006/0073082 A1 (DUCREE et al) 06 April 2006 (06.04.2006), see entire document.	1-2,5,10-17,20,25-30,34-37,40

Further documents are listed in the continuation of Box C. See patent family annex.

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"O"	document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
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