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- **Cheng, Chiang Ho**
Hsinchu (TW)
- **Yu, Rong Ho**
Hsinchu (TW)
- **Tsai, Jyh Horng**
Hsinchu (TW)
- **Chiu, Shih Che**
Hsinchu (TW)

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(71) Applicant: **Microjet Technology Co., Ltd**
Hsin Chu (TW)

(74) Representative: **UEXKÜLL & STOLBERG**
Patentanwälte
Beselerstrasse 4
22607 Hamburg (DE)

(72) Inventors:
• **Chen, Shih Chang**
Hsinchu (TW)

(54) **Fluid transportation device**

(57) A fluid transportation device (20) includes a valve seat (21), a valve cap (22), a valve membrane (23), multiple buffer chambers (223, 215), a vibration film (241) and an actuator (242). The valve membrane (23) is arranged between the valve seat (21) and the valve cap (22), and includes several hollow-types valve switches (231, 232), which includes at least a first valve switch (231) and a second valve switch (232). The multiple buffer chambers (223, 215) include a first buffer chamber (223) between the valve membrane (23) and the valve cap (22) and a second buffer chamber (215) between the valve membrane (23) and the valve seat (21). The vibration film (241) is separated from the valve cap (22) when the fluid transportation device (20) is in a non-actuation status, thereby defining a pressure cavity (226). The actuator (242) is connected to the vibration film (241). When the actuator (242) is driven to be subject to deformation, the vibration film (241) connected to the actuator (242) is transmitted to render a volume change of the pressure cavity (226) and result in a pressure difference for moving the fluid.

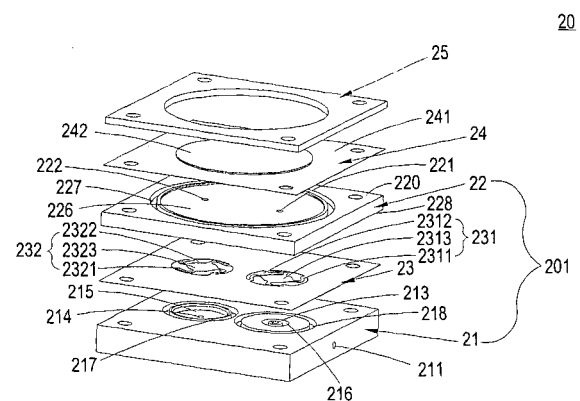


FIG. 3



EUROPEAN SEARCH REPORT

 Application Number
EP 08 01 5209

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 7 December 2009	Examiner Olona Laglera, C
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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