



一种微流体驱动泵及其应用

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中文摘要 The invention relates to a totally integrated micro-fluidic chip and provides a micro-fluidic driving pump and application thereof, particularly the micro-fluidic driving pump for micro-fluidic driving and control. The micro-fluidic driving pump comprises a cover plate and a glass substrate, wherein the cover plate is bucked on the glass substrate; a pump cavity is arranged on the glass substrate; liquid passageways are arranged at the two sides of the pump cavity; the pump cavity is communicated with the passageways at the two sides through a liquid inlet and a liquid outlet at the two sides; the liquid inlet and the liquid outlet are conical frustum-shaped; a piezoelectric ceramic piece is arranged in a position of the cover plate opposite to the pump cavity; the projection of the piezoelectric ceramic piece on the glass substrate is positioned in the pump cavity; the liquid inlet is conical frustum-shaped, the lower bottom surface with a large conical frustum area of the liquid inlet is positioned at one side of the pump cavity, and the upper bottom surface with a small conical frustum area of the liquid inlet is positioned at one side of the first passageway; the liquid outlet is conical frustum-shaped, the lower bottom surface with the large conical frustum area of the liquid outlet is positioned at one side of a second passageway, and the lower bottom surface with the large conical frustum area of the liquid outlet is positioned at one side of the pump cavity. | 一种微流体驱动泵及其应用涉及全集成微流控芯片, 特别提供了一种专门用于微流体驱动和控制的微量泵。本发明提供了一种微流体驱动泵及其应用。包括盖板和玻璃基板, 盖板扣合在玻璃基板上, 玻璃基板上设置有泵腔, 泵腔两侧设有液体通道, 泵腔通过其两侧的进液口和出液口与两侧的通道相通, 进液口和出液口为锥台形; 盖板上与泵腔相对的位置包埋有压电陶瓷片, 压电陶瓷片在玻璃基板上的投影处于泵腔内; 进液口为锥台形, 锥台面积大的下底面处于泵腔一侧, 锥台面积小的上底面处于第一通道一侧; 出液口为锥台形, 锥台面积大的下底面处于第二通道一侧, 锥台面积大的下底面处于泵腔一侧。

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