

ABSTRACT

The micropump includes two glass plates (2, 8) between which is sandwiched sealingly a plate (6) of machined silicon. An inlet valve (12), a pumping chamber (50) and an outlet valve (28) are arranged between an inflow conduit (10) and an outflow conduit (4). A pumping membrane (56) forming a wall of the pumping chamber includes a thicker central part (58) designed for cooperating with the upper plate (8) to form a stopper member limiting the movement of the membrane (50) during suction and with lower stopper members (60) limiting the movement of the membrane during the expelling of the fluid. A piezoelectric chip (72) acts by means of an intermediate part (84) on the membrane in such a manner that during pumping, the movement of the membrane be defined precisely upwards and downwards by the stopper members. One thus obtains a flow which is precisely defined, constant and independent of the variations in the performance of the piezoelectric chip.

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