

FLUID CONTROL DEVICE

ABSTRACT OF THE DISCLOSURE

A fluid control device includes a fluid manifold, a valve stator, a valve rotor and dual driving units. The fluid manifold includes microchannels connected with a sample reaction unit and fluid input channels connected with fluid sources. When the valve rotor is rotated to different positions, the fluid input channel is connected with at least one microchannel via through holes of the valve stator and a groove of the valve rotor. The first driving unit drives a rotation of the valve rotor. The second driving unit drives a motion of the valve rotor or the valve stator to adjust a distance between the valve rotor and the valve stator, so that when the valve rotor is rotating, the valve rotor and the valve stator are separated by a gap, and after the valve rotor is rotated to a predetermined position, the valve rotor is tightly contacted the valve stator.

Fig. 2A