WHAT IS CLAIMED IS:

1. An integrated fluidic module connected with a sample reaction unit having multiple chambers to regulate fluid operations in a multi-fluid-system, the integrated fluidic module comprising:

a fluid manifold comprising a main body, plural microchannels and plural fluid input channels, wherein each of the plural microchannels penetrates through the main body and is connected with a corresponding chamber of the sample reaction unit, and the plural fluid input channels are connected with plural fluid sources;

a valve stator attached to the fluid manifold and comprising at least one first groove, at least one second groove and plural through holes, wherein the at least one first groove is disposed on a top surface of the valve stator, the at least one second groove is disposed on a bottom surface of the valve stator, each of the first and second grooves is directly connected with at least one of the plural through holes, and at least parts of the first groove and the through holes are communicated with the plural microchannels and plural fluid input channels of the fluid manifold;

a valve rotor attached to the valve stator and comprising at least one groove disposed on a top surface of the valve rotor; and

a valve housing comprising a receiving chamber for accommodating the valve rotor and the valve stator and fixed and assembled with the fluid manifold to form a modular structure,

wherein when the valve rotor is rotated to different positions, the at least one groove of the valve rotor is connected with at least one of the plural through holes or the at least one second groove of the valve stator to provide at least one fluid path and enable fluids provided by the fluid sources to be directed to the

corresponding chambers of the sample reaction unit through the fluid path and thus regulate the fluid operations of the corresponding chambers.

2. The integrated fluidic module according to claim 1 wherein the valve stator and the valve rotor respectively includes plural regions corresponding to the plural fluid sources for regulating fluid path switching of the corresponding fluid sources.

3. The integrated fluidic module according to claim 1 wherein the plural fluid sources includes a fluid source with positive pressure and a fluid source with negative pressure.

4. The integrated fluidic module according to claim 1 wherein the at least one first groove of the valve stator includes plural first grooves, and the plural first grooves are extended along concentric circles with different radiuses.

5. The integrated fluidic module according to claim 1 wherein the plural through holes of the valve stator includes plural first through holes and plural second through holes, the plural first through holes are directly connected with the at least one first groove, the plural second through holes are not directly connected with the at least one first groove, and each of the at least one first groove is directly connected with at least two of the plural first through holes.

6. The integrated fluidic module according to claim 5 wherein each of the at least one second groove of the valve stator is directly connected with at least one of the plural second through holes.

7. The integrated fluidic module according to claim 1 further comprising a driving unit, wherein the driving unit includes a shaft and a motor, and the shaft is connected with the valve rotor.

8. The integrated fluidic module according to claim 7, wherein a blind hole is disposed at a bottom surface of the valve rotor, and the shaft is inserted into the blind hole.

9. The integrated fluidic module according to claim 1 wherein the valve rotor is manually operated.

10. The integrated fluidic module according to claim 1 further comprising at least one sensor connected to the fluid manifold for detecting internal signals of the fluid manifold.

11. The integrated fluidic module according to claim 1 further comprising a circuit board and a microcontroller for controlling the integrated fluidic module to be programmed with predefined schemes for fluid path switching.

12. The integrated fluidic module according to claim 1 wherein the fluid manifold includes an installation chamber and a receiving chamber, the installation chamber installs the sample reaction unit thereon, and the receiving chamber accommodates the valve stator therein.

13. The integrated fluidic module according to claim 1 wherein each of the plural microchannels of the fluid manifold has an opening, and two or more of the plural microchannels have the same opening.

14. The integrated fluidic module according to claim 1 further comprising a gasket sandwiched between the fluid manifold and the valve stator.

15. The integrated fluidic module according to claim 14 wherein the gasket includes plural through holes, which are connected with the plural microchannels and the plural fluid input channels of the fluid manifold.

16. The integrated fluidic module according to claim 14 further comprising plural first fixing elements for penetrating through corresponding holes of the fluid manifold, the gasket and the valve stator.

17. The integrated fluidic module according to claim 1 further comprising a spacer which is sandwiched between the fluid manifold and the valve housing and has a central through hole corresponding to the valve stator and the valve rotor.

18. The integrated fluidic module according to claim 17 further comprising plural second fixing elements for penetrating through corresponding holes of the fluid manifold, the spacer and the valve housing.

19. The integrated fluidic module according to claim 1 wherein the fluid manifold includes a rubber seal disposed on a top surface of the fluid manifold.

20. The integrated fluidic module according to claim 1 wherein the fluid manifold includes two slots so that the sample reaction unit is able to be inserted into the slots.

21. The integrated fluidic module according to claim 1 wherein the sample reaction unit is a sample cartridge or a microfluidic chip.