

Sheath fluid Supply System, Flow cytometer, and Method for Supplying Sheath fluid

Abstract

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A sheath fluid supply system (200), a flow cytometer (1000), and a method for supplying a sheath fluid to a flow cell (110) of a flow cytometer (1000). The sheath fluid supply system (200) is applied to the flow cytometer (1000), and comprises a first container (210), a supply pipeline, a peristaltic pump (240), and a cushioning module; the supply pipeline comprises a first pipeline (252) and a second pipeline (254); the cushioning module comprises a second container (220) and an outflow pipeline (230); a predetermined volume of gas is sealed within the second container (220); the first pipeline (252) is configured such that the first container (210) is in fluid communication with the second container (220); the second pipeline (254) is configured such that the second container (220) is in fluid communication with the flow cell (110); the peristaltic pump (240) is provided on the first pipeline (252); a first part of sheath fluid in the second container (220) flows to the flow cell (110) by means of the second pipeline (254); one end of the outflow pipeline (230) is connected to the second container (220); while the first part of sheath fluid in the second container (220) flows to the flow cell (110), a second part of sheath fluid in the second container (220) can flow out of the second container (220); during pumping of the peristaltic pump (240), the flow rate of the second part of sheath fluid is greater than that of the first part of sheath fluid. Thus, the use of the peristaltic pump (240) can greatly reduce the flow fluctuation of the sheath fluid flowing to the flow cell (110).

Fig. 2