CLAIMS

1. A tubing arrangement for use in a fluid management and/or processing system, said tubing arrangement comprising two or more flow cells, each flow cell comprising
a body having an inlet and an outlet and a fluid flow channel extending from the inlet to the outlet of the body, said body further comprising a receptacle comprising a chamber forming a part of the fluid flow channel of the body, said chamber comprising a first opening for connecting a functional element to the flow cell such that the functional element is in contact with or exposed to a fluid flow passing through the fluid flow channel;
a first tubular connector arranged adjacent to the inlet of the body;
a second tubular connector arranged adjacent to the outlet of the body;
the functional element; and
a fluid flow path extending from the first tubular connector through the inlet of the body, the body and its receptacle to the outlet of the body to the second tubular connector, wherein one of the two or more flow cells has a functional element that is different than the functional element of another of the two or more flow cells.

2. The tubing arrangement according to claim 1, wherein said functional elements are selected from a static mixer, a conductivity sensor, a pH sensor, a pressure sensor, an electrical grounding element, a redox sensing element, a temperature sensor, a capacitive sensor, an optical sensor, a flow sensor, and an element for taking liquid samples.

3. The tubing arrangement according to claim 1 or 2, wherein said fluid flow path in each of the two or more flow cells has a predetermined, essentially consistent cross-sectional area at least within and along the first and second tubular connectors, wherein preferably the cross-sectional area of the fluid flow path along the flow channel corresponds essentially to the cross-sectional area in the first and second tubular connectors.

4. The tubing arrangement according to claim 3, wherein the volume of the chamber of the body of each of the two or more flow cells is designed to provide a cross-sectional area of the fluid flow path equal to or larger than the cross-sectional area of the fluid flow path within and along the first and second tubular connectors, preferably also once

the functional element is mounted in the opening and optionally extends with a probe end into the chamber.

5. The tubing arrangement according to claim 4, wherein one functional element is a conductivity sensor, and another functional element is a pH sensor; wherein-a probe end of a functional element extending into the chamber is positioned such that it keeps a distance to wall parts of the chamber of 12 mm or more, preferably of 15 mm or more, and wherein all dimensions of the chamber perpendicular to the direction the sensor with its probe end extends into the chamber is 25 mm or more, more preferably 28 mm or more, and in particular 70 mm or less, preferably 50 mm or less.

6. The tubing arrangement according to any one of claims 1 to 5, wherein said tubular connectors are directly attached to the body of each of the two or more flow cells, preferably said tubular connectors are formed integrally with the body.

7. The tubing arrangement according to any one of claims 1 to 6, wherein said body and/or said tubular connectors of each of the two or more flow cells are made of metal, preferably stainless steel, or a plastics material, said plastics material being preferably selected from polycarbonate, polypropylene, polysulfone, polyethersulfone, polybutylene terephthalate, polyethylene terephthalate, polyetherether ketone, polyetherimide, low density polyethylene, high density polyethylene, and silicone.

8. The tubing arrangement according to any one of claims 1 to 7, wherein the fluid flow channel of each of the two or more flow cells has a straight configuration; or
wherein the fluid flow channel of each of the two or more flow cells is of an arcuate or curved configuration, an angled configuration, preferably a 90 degree angled configuration, or a T-shaped configuration.

9. The tubing arrangement according to any one of claims 1 to 8, wherein the chamber of the receptacle of each of the two or more flow cells has a second opening opposite to the first opening, said second opening optionally providing one of the inlet and outlet of the body.

10. The tubing arrangement according to any one of claims 1 to 9, wherein the chamber of the receptacle of each of the two or more flow cells has an essentially hollow cylindrical shape.

11. The tubing arrangement according to any one of claims 1 to 10, wherein the first opening of the chamber comprises a circular projection extending away from said body to receive said functional element.

12. The tubing arrangement according to any one of claims 1 to 11, wherein said first opening of the chamber accommodates an adapter for positioning one end of the functional element in a predefined position.

13. The tubing arrangement according to any one of claims 1 to 12, wherein each of said two or more flow cells is designed for single use and/or to be sterilized.

14. A fluid management and/or processing system comprising the tubing arrangement comprising two or more flow cells according to any one of claims 1 to 13.

15. The system of claim 14, wherein the system forms a part of a bioprocessing system, preferably a biocontainer assembly for a buffer management and/or identification system, a filtration system, in particular a depth filtration system, a sterile filtration system or a virus filtration system, a bulk fill manifold or a virus inactivation manifold.

16. The tubing arrangement according to any one of claims 1-13, including an inlet port and an inlet line incorporating one of the two or more flow cells.

17. The tubing arrangement according to claim 16, including a pump connected to the inlet line, arranged to provide flow from the inlet port to the tubing arrangement.

18. The fluid management and/or processing system of claim 14 or 15, wherein the tubing arrangement is arranged in a bulk fill manifold.