

## CLAIMS

1. Mixing nozzle for mixing a beverage concentrate and a diluent and dispensing the beverage mixture comprising :

5 - a mixing chamber comprising an input end with an inlet opening for the concentrate and a discharge opening at an output end thereof, said mixing chamber having an axial bore extending from the input end to the discharge opening,

- a diluent inlet conduit configured to introduce diluent through the lateral wall of the mixing chamber,

10 wherein :

- the lateral wall of the mixing chamber where the diluent inlet conduit introduces diluent is pierced by multiple openings,

- the mixing chamber inlet opening is opened so that a flow of concentrate can be freely directed through the input end along the mixing chamber axial bore and collide with the diluent emerging

15 from the multiple openings pierced through the lateral wall of the mixing chamber, and

- the mixing chamber section surface narrows at its output end.

2. Mixing nozzle according to Claim 1 wherein the input end of the diluent inlet conduit is parallel to the axial bore of the mixing chamber.

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3. Mixing nozzle according to any one of the precedent claims wherein the mixing chamber section narrows between the opened input end and the discharge opening.

4. Mixing nozzle according to any one of the precedent claims wherein the multiple openings in

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5. Mixing nozzle according to any one of the precedent claims wherein the surface of the lateral wall of the mixing chamber being pierced by multiple openings corresponds to the surface of the section of the diluent inlet conduit.

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6. Package assembly comprising a concentrate container, a flexible tube and a mixing nozzle according to any one of Claims 1 to 5.

7. Package assembly according to the precedent claim wherein the flexible tube is positioned relatively to the mixing nozzle so that the outlet end of the flexible tube is positioned at the inlet opening of the mixing chamber and is centred on the axis XX' of the axial bore.

5 8. Method of making a beverage, the method comprising :

- providing a mixing nozzle according to any one of Claims 1 to 5,
- dispensing a flow of concentrate through the opened input end of the mixing chamber and a diluent through the diluent inlet conduit of the mixing chamber, the concentrate and the diluent being mixed and dispensed through the mixing chamber to form the beverage.

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9. Method according the precedent claim wherein the flow of concentrate is dispensed through the opened input end of the mixing chamber in a state of free fall along the mixing chamber axial bore.

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10. Method according Claim 8 or 9 wherein the diluent is introduced with a flow configured for creating jets of diluent emerging out of the multiple openings at the outlet of the diluent inlet conduit, said jets being able to hit the flow of concentrate flowing through the opened input end of the mixing chamber.

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11. Method according to any one of Claims 8 to 10 wherein the concentrate is stored in a bag-in-box container having a flexible tube connected to a container outlet and pumped by a peristaltic pump cooperating with the flexible tube.

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12. Method according the precedent claim, wherein the output end of the flexible tube emerges at the opened input end of the mixing chamber so that a flow of concentrate freely flows in the mixing chamber.

13. Method according to any one of claims 8 to 12, wherein the diluent is water ~~and the concentrate presents a viscosity of at least ...~~.

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14. Beverage preparation machine comprising :

- a source of concentrate, said source of concentrate comprising a container and a flexible tube, said tube being configured for dispensing the concentrate from the container,
- a source of diluent,