CLAIMS

1. A nozzle (100) for distribution of a liquid having a speed into another substantially stagnant liquid volume,

the nozzle (100) defining a plurality of flow passages (150, 160, 170),

each of the plurality of flow passages (150, 160, 170) having an inlet (210, 220, 230) arranged to receive the liquid from a pipe and an outlet (152,162,172),

at least one of the plurality of flow passages (150, 160, 170) being a central flow passage (160) and at least a first and a second of the plurality of flow passages (150, 160, 170) being outer flow passages (150, 170), the outlets (152, 172) of the outer flow passages (150, 170) being arranged on either side of the outlet (162) of the central flow passage (160),

the inlet (210) of the first outer flow passage (150) enclosing the inlet (220) of the central passage (160) and the inlet (220) of the central passage (160) enclosing the inlet (230) of the second outer flow passage (170),

the second outer flow passage (170) having an inlet area (235) being smaller than an outlet area (a_3),

a central axis of the inlets (210, 220, 230) being substantially perpendicular to a central plane of the outlets (152, 162, 172).

2. The nozzle (100) according to claim 1, further comprising:

an outer cylindrical wall (110) extending along the central axis of the inlets (210, 220, 230),

an inner cylindrical partition wall (130) and an outer cylindrical partition wall (120), the walls (130, 120) extending along the central axis of the inlets (210, 220, 230), the inner cylindrical partition wall (130) being enclosed by the outer cylindrical partition wall (120), the outer cylindrical partition wall (120) being enclosed by the outer cylindrical wall (110),

the central passage (160) being formed between the outer partition wall (120) and the inner partition wall (130),

the first outer flow passage (150) being formed between the outer wall (110) and the outer partition wall (120), and
the second outer flow passage (170) being formed inside the inner partition wall (130).

3. The nozzle (100) according to claim 2, further comprising:
the inner partition wall (130) extending further along the central axis of the inlets (210, 220, 230) compared to the outer partition wall (120), the outer partition wall (120) extending further along the central axis of the inlets (210, 220, 230) compared to the outer wall (110).

4. The nozzle (100) according to claim 2 or 3, further comprising:
the outlet (152) of the first outer flow passage (150) being defined by an end (112) of the outer wall (110) and a first flange (122) extending from an end of the outer partition wall (120) in a direction substantially perpendicular to the outer partition wall (120),
the outlet (162) of the central flow passage (160) being defined by the first flange (122) and a second flange (132) extending from an end of the inner partition wall (130) in a direction substantially perpendicular to the inner partition wall (130),
the outlet (172) of the second outer flow passage (170) being defined by the second flange (132) and a bottom plate (140) positioned below the second flange (132) along the central axis of the inlets (210, 220, 230), the bottom plate (140) extending substantially perpendicular to the central axis of the inlets (210, 220, 230).

5. The nozzle (100) according to any of the previous claims, wherein the inlet areas (215, 225, 235) and the outlet areas (a1, a2, a3) are adapted to the speed of the liquid as it enters each inlet (210, 220, 230) such that the speed of the liquid as it flows out of each outlet (152, 172) of the first and second outer flow passages (150, 170) is substantially lower than the speed of the liquid flowing out of the outlet (162) of the central flow passage (160).

6. The nozzle (100) according to any of the previous claims, wherein the first outer flow passage (150) has an inlet area (215) that is smaller than an outlet area (a_1).

7. The nozzle (100) according to any of the previous claims, wherein the central flow passage (160) has an inlet area (225) that is smaller than an outlet area (a_2).

8. The nozzle (100) according to any of the previous claims, wherein the outlet area (a_1) of the first outer flow passage (150) is smaller than the outlet area (a_3) of the second outer flow passage (170).

9. The nozzle (100) according to any of the previous claims, further comprising at least one sub-partition wall (410, 420) extending along the central axis of the inlets (210, 220, 230), said sub-partition wall (410, 420) being configured to divide each of the plurality of flow passages (150, 160, 170) into at least two substantially equally sized sub-flow passages.

10. The nozzle (100) according to claim 9, comprising a first sub-partition wall (410) and a second sub-partition wall (420), being arranged perpendicularly to each other.

11. The nozzle (100) according to any of the previous claims, wherein the pipe is a telescopic pipe.

12. Use of a nozzle (100) according to any of the previous claims for distribution of a liquid having a speed into another substantially stagnant liquid volume.

13. Use according to claim 12, wherein the liquid has a first temperature, and wherein the liquid is distributed into a layer in the substantially stagnant liquid volume having the same first temperature.

CLAIMS

1. A nozzle for distribution of a liquid having a speed into another substantially stagnant liquid volume,

the nozzle defining a plurality of flow passages,

each of the plurality of flow passages having an inlet arranged to receive the liquid from a pipe and an outlet,

at least one of the plurality of flow passages being a central flow passage and at least a first and a second of the plurality of flow passages being outer flow passages, the outlets of the outer flow passages being arranged on either side of the outlet of the central flow passage,

the inlet of the first outer flow passage enclosing the inlet of the central passage and the inlet of the central passage enclosing the inlet of the second outer flow passage,

the second outer flow passage having an inlet area being smaller than an outlet area,

a central axis of the inlets being substantially perpendicular to a central plane of the outlets.

2. The nozzle according to claim 1, further comprising:

an outer cylindrical wall extending along the central axis of the inlets,

an inner cylindrical partition wall and an outer cylindrical partition wall, the walls extending along the central axis of the inlets, the inner cylindrical partition wall being enclosed by the outer cylindrical partition wall, the outer cylindrical partition wall being enclosed by the outer cylindrical wall,

the central passage being formed between the outer partition wall and the inner partition wall,

the first outer flow passage being formed between the outer wall and the outer partition wall, and

the second outer flow passage being formed inside the inner partition wall.

3. The nozzle according to claim 2, further comprising:

the inner partition wall extending further along the central axis of the inlets compared to the outer partition wall, the outer partition wall extending further along the central axis of the inlets compared to the outer wall.

4. The nozzle according to claim 2 or 3, further comprising:
the outlet of the first outer flow passage being defined by an end of the outer wall and a first flange extending from an end of the outer partition wall in a direction substantially perpendicular to the outer partition wall,
the outlet of the central flow passage being defined by the first flange and a second flange extending from an end of the inner partition wall in a direction substantially perpendicular to the inner partition wall,
the outlet of the second outer flow passage being defined by the second flange and a bottom plate positioned below the second flange along the central axis of the inlets, the bottom plate extending substantially perpendicular to the central axis of the inlets.

5. The nozzle according to any of the previous claims, wherein the inlet areas and the outlet areas are adapted to the speed of the liquid as it enters each inlet such that the speed of the liquid as it flows out of each outlet of the first and second outer flow passages is substantially lower than the speed of the liquid flowing out of the outlet of the central flow passage.

6. The nozzle according to any of the previous claims, wherein the first outer flow passage has an inlet area that is smaller than an outlet area.

7. The nozzle according to any of the previous claims, wherein the central flow passage has an inlet area that is smaller than an outlet area.

8. The nozzle according to any of the previous claims, wherein the outlet area of the first outer flow passage is smaller than the outlet area of the second outer flow passage.

9. The nozzle according to any of the previous claims, further comprising at least one sub-partition wall extending along the central axis of the inlets, said sub-partition wall being configured to divide each of the plurality of flow passages into at least two substantially equally sized sub-flow passages.

10. The nozzle according to claim 9, comprising a first sub-partition wall and a second sub-partition wall, being arranged perpendicularly to each other.

11. The nozzle according to any of the previous claims, wherein the pipe is a telescopic pipe.

12. Use of a nozzle according to any of the previous claims for distribution of a liquid having a speed into another substantially stagnant liquid volume.

13. Use according to claim 12, wherein the liquid has a first temperature, and wherein the liquid is distributed into a layer in the substantially stagnant liquid volume having the same first temperature.