

CLAIMS

1. A continuous-flow electromagnetic-induction fluid heater (1, 1', 1'') in a vending machine for preparing beverages;

5 the continuous-flow electromagnetic-induction fluid heater (1, 1', 1'') comprises:

- at least one tubular body (7) having a longitudinal axis (A), internally defining at least one channel (7a) for a fluid, and including at least one inlet opening (8) through which the fluid to be heated is fed, in use, to said channel (7a), and one outlet opening (10) through which the heated fluid flows out, in use, from said channel (7a);

10 - a heating element (13, 13', 13'') arranged, at least partially, inside said channel (7a) so as to be lapped, in use, by the fluid; and

- an electric winding (11) wound directly in contact around an external surface (12) of said tubular body (7) and which can be electrically powered to generate an electromagnetic induction field and heat, in this manner, the heating element (13, 13', 15 13'') due to the effect of said electromagnetic induction field;

said inlet and outlet openings (8, 10) are arranged at respective opposite axial ends of said tubular body (7) in eccentric positions with respect to said longitudinal axis (A).

2. The continuous-flow electromagnetic-induction fluid heater (1, 1', 1'') as
20 claimed in Claim 1, wherein said inlet and said outlet openings (8, 10) are arranged in respective diametrically opposite positions with respect to said axis (A).

3. The continuous-flow electromagnetic-induction fluid heater (1, 1', 1'') as
25 claimed in Claim 1 or 2, wherein said heating element (13, 13', 13'') is radially spaced from an internal surface (19) of said channel (7a) through a gap (20) inside of which said fluid, in use, flows.

4. The continuous-flow electromagnetic-induction fluid heater (1, 1', 1'') as
30 claimed in any one of the preceding claims, wherein said heating element (13, 13', 13'') is arranged coaxially to said axis (A).

5. The continuous-flow electromagnetic-induction fluid heater (1, 1', 1'') as
claimed in any one of the preceding claims, wherein said tubular body (7) is made of a material having zero magnetic susceptibility.

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6. The continuous-flow electromagnetic-induction fluid heater (1, 1', 1'') as claimed in any one of the preceding claims, wherein said channel (7a) has a substantially circular cross-section.

5 7. The continuous-flow electromagnetic-induction fluid heater (1, 1') as claimed in any one of the preceding claims, wherein said heating element (13, 13') comprises one or more bar elements or one or more thin wall sheets apt to be lapped, in use, by said fluid.

10 8. The continuous-flow electromagnetic-induction fluid heater (1, 1', 1'') as claimed in Claim 7, wherein a bar element has a cross-section having a substantially circular shape.

9. A vending machine for producing and dispensing beverages comprising:
15 - a continuous-flow electromagnetic-induction fluid heater (1, 1', 1'') as claimed in any one of the preceding claims;
- a fluid supply circuit (3) fluidically connected to said continuous-flow electromagnetic-induction fluid heater (1, 1', 1'') for supplying it with a fluid; and
- an electric power supply circuit (6) electrically connected to said electrical
20 winding (11) to electrically power it.