CONTINUOUS-FLOW ELECTROMAGNETIC-INDUCTION FLUID HEATER IN A BEVERAGE VENDING MACHINE

ABSTRACT

A continuous-flow electromagnetic-induction fluid heater (1, 1', 1'') in a beverage vending machine. The continuous-flow electromagnetic-induction fluid heater (1, 1', 1'') comprises a tubular body (7) 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 the channel (7a) and one outlet opening (10) through which the heated fluid flows out, in use, from the channel (7a); a heating element (13, 13', 13'') arranged, at least partially, inside the channel (7a) so as to be lapped, in use, by a water flow; and an electric winding (11) wound directly in contact around an external surface (12) of the 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', 13'') by the effect of the electromagnetic induction field. The continuous-flow electromagnetic-induction fluid heater (1, 1', 1'') further comprises an upstream fluid baffle (25), which is housed within the channel (7a) in a position fluidically downstream of the inlet opening (8) and fluidically upstream of the heating element (13, 13', 13"), with respect to the direction of the fluid flow from the inlet opening (8) to the outlet opening (10), and is shaped so as to reduce the hydrodynamic drag on said fluid between the inlet opening (8) and the heating element (13, 13', 13").

Figure 1