Claims

1. A beverage preparation device (100) for preparing a beverage upon interaction of ingredients provided in a capsule (5) with liquid supplied thereto, the device comprising:

an injection module (10) comprising a first (1) and

a cooperating second enclosing member (2) designed for being moved relatively to each other, the first enclosing member being equipped with capsule opening and injection means (3) for opening a first inlet face (5a) of a capsule (5) and inject liquid into the capsule,

the first and second enclosing member (1,2) being designed for being brought into at least a first capsule insertion position for inserting a capsule between the enclosing members (1,2) and a second capsule enclosing position in which the opening and injection means (3) engage the liquid inlet face (5a) of the capsule (5),

characterized in that the device (100) further comprises control means (13) designed for adapting the capsule enclosing position adjusting a distance between the respective first and second enclosing members (1,2) to the capsule (5) inserted to the device (100) based on information read from the capsule and/or based on information provided by a user input.

2. The device according to claim 1,

wherein the control means (13) are designed for adapting the enclosing position during a beverage preparation process with the capsule (5) in the device (100) based on information read from the capsule and/or based on information provided by a user input.

3. The device according to claim 1 or 2,

wherein the control means (13) are designed for

a penetration depth of the opening and injection means (3) into the capsule (5) at least in the capsule enclosing position.

4. The device according to any of the preceding claims,

wherein the first and second enclosing member (1,2) are designed for being brought into at least a third capsule injection position dependent on information read from the capsule and/or based on information provided by a user input.

5. The device according to claim 4 or 5,

wherein a distance between the first and second capsule enclosing member (1,2) in the capsule injection position is greater than the distance (d) between the first and second capsule enclosing members (1,2) in the capsule enclosing position.

6. The device according to any of the preceding claims,

wherein the device comprises recognitions means (14) connected to the control means (13) that are designed to read information from the capsule (5) inserted into the device.

7. The device according to claim 6,

wherein the recognition means (14) comprise an optical sensor, an RFID sensor, a magnetic sensor, an electric sensor, an inductive sensor, a mechanic sensor and/or a CCD sensor suitable for interacting with identification means (5d) provided on the capsule (5) and/or for sensing a characterization of the capsule such as a shape and/or size of the capsule (5) or of one of its constituting parts.

8. The device according to any of the preceding claims,

wherein the device comprises a user interface for providing information as to the particular capsule type(5,5',5'') inserted into the device.

9. The device according to any of the preceding claims,

wherein the first enclosing member (1) comprises a shower plate (1a) comprising a plurality of protruding hollow piercing elements such as needles as opening and injection means (3) and/or wherein the second enclosing member (2) comprises a support plate (2a) with a plurality of protruding structures such as pyramids designed to open an outlet face (5b) of the capsule (5) upon pressure increase with the capsule.

10. A system for preparing a beverage comprising a beverage preparation device (100) according to any of claim 1 to 9 and a capsule (5) containing a predefined amount of beverage ingredients.

11. The system according to claim 10,

wherein the capsule (5) comprises identification means (5d) and/or a characteristic designed to be read respectively recognized by a sensor (14) of the device (100).

12. The system according to claim 10 or 11,

wherein the system comprises different types of capsules (5,5'5'') which differ in their respective shape and/or sizes, filling degrees, ingredient compaction degree and/or ingredient granulometry, and which comprise different information, e.g. on dedicated identification means (5d), and/or comprise different characteristics designed to be read respectively recognized by the beverage preparation device (100).

13. A method for preparing a beverage by means of capsule (5) comprising beverage ingredients in a beverage preparation device (100), the method comprises the steps of:

- inserting a capsule (5) containing a predefined amount of beverage ingredients into the device (100),
- reading information from the capsule (5) and/or recognizing a characteristic of the capsule,
- bringing a first (1) and a cooperating second enclosing member (2) of an injection module (10) of the device (100) from a first capsule insertion position into a second capsule enclosing position, in which opening and injection means (3) of the first enclosing member (1) engage and open a liquid inlet face (5a) of the capsule (5), wherein the enclosing position is adapted by adjusting a distance between the respective first and second enclosing members (1,2) to the capsule (5) inserted to the device (100) based on information read from the capsule and/or based on information provided by a user input, and
- injecting liquid into the capsule by means of the opening and injection means (3).

14. The method of claim 13,

wherein the method further comprises the step of further adapting the enclosing position after an initial opening of the inlet face (5a) of the capsule (5) and before injection of liquid into the capsule, and/or further adapting the enclosing position during the injection of liquid into the capsule.

15. The method of claim 13 or 14,

wherein the method further comprises the step of increasing a distance (d) between the first and second enclosing members (1,2) after the initial opening of the inlet face (5a) of the capsule (5)