

The application possibilities of these approaches are restricted to corresponding specific solutions. It would be desirable to provide approaches which improve the operating comfort as well as the safety.

It is therefore an object of the invention to provide a drinks preparation machine which overcomes the disadvantages of the state of the art.

A further object is to provide a drinks preparation machine which further increases the user friendliness of drinks preparation machines for preparing a drink from a portion capsule. In particular, an object of the invention is to ensure that a user obtains a drink which he wishes, and only this drink, with a minimum of manipulation and with a high reproducibility.

These and further objects are achieved by the drinks preparation machine which is defined in the patent claims.

A drinks preparation machine of the type according to the invention is designed as a drinks preparation machine for preparing a drink, in particular a hot drink such as coffee or tea, from a portion capsule. The drinks preparation machine can be used for preparing a drink from a portion capsule by way of introducing an extraction fluid into the portion capsule. The drinks preparation machine comprises a housing which comprises a capsule insert opening, a closure unit with a closure element and a capsule recognition module.

The capsule insert opening is designed as an opening in the housing, through which opening the portion capsule can be inserted into the drinks preparation machine.

The closure element is a manually movable part of the closure unit which is movable between an open and a closed position.

In the closed position, the closure element closes the capsule insert opening. In particular, the closure element is designed such that in the closed position, no object gets into the inside of the drinks preparation machine and/or that no light gets into the inside of the drinks preparation machine. For this reason, at least the part of the closure element can be manufactured of a non-transparent material. This is particularly advantageous with a capsule recognition which is based on optical features.

The capsule insert opening is accessible in the open position. In particular, the closure element leaves the capsule insert opening uncovered to such an extent that the portion capsule can be inserted through the capsule insert opening.

The capsule recognition module is configured to carry out a capsule recognition on a portion capsule which is inserted through the capsule insert opening and is located at a capsule recognition position, on the basis of predefined features, wherein the drinks preparation machine is configured to automatically activate the capsule recognition after assumption of the closed position by the closure element.

With the drinks recognition module, in particular one can firstly determine whether the inserted capsule is suitable for use in the drinks preparation machine in the first place, or not - and this is known per se. Secondly, there exists the possibility of outputting corresponding information to the user, for example via a display, on the basis of the recognised capsule characteristics. For example, the drink type (coffee, tea, etc.), the sort (e.g. "100% Arabica"), the recommended preparation manner (e.g. "espresso", "ristretto" or "lungo" etc.) and/or other information can be displayed. Thirdly, the program which is implemented by the coffee machine for the brewing can be selected on the basis of the recognised capsule sort; for example the brewing pressure, the brewing duration as well as possibly also the temperature and/or other characteristics can be set depending on whether the inserted capsule is envisaged for the preparation of e.g. ristretto, espresso or lungo.

In particular, the predefined features are optically readable features. The capsule recognition module then comprises an optical sensor, for example a camera, for reading out the predefined features. However, other features such as for example magnetic characteristics or an RFID-chip which can be read out in a contact-free manner are also conceivable.

According to the invention, the drinks preparation machine is now configured such that the capsule recognition takes place automatically after the assumption of the closed position by the closure element. In comparison to procedures which are activated by the user, this procedure on the one hand has the advantage that in the case of capsule recognition modules with an optical sensor, one prevents scatter light from getting through the capsule insert opening into the capsule recognition module - the capsule recognition is coupled to a closure and therefore also to the darkening of the capsule recognition module. The capsule recognition module can comprise its own light source for the reading-out, said light source producing a defined light distribution on the portion capsule. A further advantage results from the intuitive operation: the user does not necessarily notice at all that he activates a capsule recognition procedure.

The portion capsule is located in the capsule recognition position during the capsule recognition, wherein in an embodiment, the portion capsule and the components for reading out predefined features do not carry out a relative movement to one another. In other words: the portion capsule and the components which are essential for reading out the predefined features, for example the optical sensor and/or the light source do not move relative to one another during the capsule recognition.

CLAIMS

1. A drinks preparation machine for preparing a drink from a portion capsule by way of introducing an extraction fluid into the portion capsule, comprising:
 - a housing which comprises a capsule insert opening, through which the portion capsule can be inserted into the drinks preparation machine;
 - a closure unit with a closure element which is movable manually between an open position, in which the capsule insert opening is accessible, and a closed position, in which the closure element closes the capsule insert opening,including a capsule recognition module which is configured to carry out a capsule recognition on a portion capsule which is inserted through the capsule insert opening and is located at a capsule recognition position, on the basis of predefined features, wherein the drinks preparation machine is configured to automatically activate the capsule recognition after assumption of the closed position by the closure element.
2. A drinks preparation machine according to claim 1, comprising a sensor which is configured to determine the assumption of the closed position by the closure element.
3. A drinks preparation machine according to claim 1 or 2, further comprising a display device and an operating element, wherein the drinks preparation machine is configured, via the display device, to display a number of brewing programs which can be selected via the operating element, in a manner depending on the result of the capsule recognition.
4. A drinks preparation machine according to claim 3, further comprising a milk module, wherein the drinks preparation machine is configured to adapt the selectable brewing programs to the presence or absence of the milk module and/or to a milk module filling level.
5. A drinks preparation machine according to any one of the preceding claims, wherein the closure element is movable out of the closed position during a brewing process which serves for preparing the drink, wherein this movement of the closure element stops the brewing procedure.
6. A drinks preparation machine according to any one of the preceding claims, comprising a brewing module with a first brewing module part and a second brewing module part which is movable relative to this, wherein a brewing chamber can be formed by the first and the second brewing module part, and wherein the movement of the second brewing module part relative to

the first brewing module part and the movement of the closure element are mechanically decoupled from one another.

7. A drinks preparation machine according to claim 6, which is configured, after the capsule recognition has been effected, to permit a removal of the portion capsule through the capsule insert opening before the brewing chamber is closed.

8. A drinks preparation machine according to claim 7, comprising a grip recess which is accessible from the capsule insert opening, for removing the portion capsule which is located at the capsule recognition position.

9. A drinks preparation machine according to any one of the claims 6-8, wherein the capsule recognition position and a brewing position, in which the portion capsule is located given a closed brewing chamber, are different from one another and wherein a transfer of the portion capsule from the capsule recognition position into the brewing position requires an activation by the user.

10. A drinks preparation machine according to any one of the preceding claims, wherein the predefined features, by way of which the capsule recognition is carried out, comprises a coding which contains details on one or more capsule characteristics.

11. A drinks preparation machine according to any one of the preceding claims, wherein the predefined features, by way of which the capsule recognition is carried out, are optically readable features and the capsule recognition module comprises an optical sensor for reading out the predefined features.

12. A drinks preparation machine according to any one of the preceding claims, wherein the closure element is an operating lever which is pivotable about a rotation axis.

13. A drinks preparation machine according to any one of the preceding claims, wherein the closure element is movable by way of applying a force and wherein the closure element further comprises a resistance element which opposes a movement of the closure element with a resistance which is dependent on a position of the closure element.

14. A drinks preparation machine according to claim 13, wherein the resistance is based on friction and/or an elastic deformation.

15. A drinks preparation machine according to any one of the preceding claims, wherein the brewing module comprises a first brewing module part and a second brewing module part which is movable relative to this, wherein a brewing chamber can be formed by the first and the second brewing module part, and wherein the drinks preparation machine is further configured to eject a spent portion capsule out of the brewing module without actuating the closure element.