

- an aluminium membrane disposed at the bottom end of the capsule, closing the capsule, for retaining the internal pressure in the chamber.

5 The aluminium membrane is designed for being pierced with piercing means that are either integral with the capsule, or located outside of said capsule, for example within a capsule holder of the machine.

The piercing means are adapted for piercing dispensing holes in the aluminium membrane when the internal pressure inside the chamber reaches a certain pre-determined value.

10 Also, optionally, the capsule can further comprise means configured to break the jet of fluid so as to reduce the speed of the jet of fluid injected into the capsule and distribute the fluid across the bed of substance at a reduced speed.

Capsules of the prior art feature an injection wall or membrane
15 (referred to as top membrane) which is to be pierced by a fluid injection element (e.g. needle) of a beverage preparation machine being part of a fluid system. When fluid is injected in the capsule compartment, a pressure is built up, which serves as an extraction means for extracting and/or dissolving ingredients contained inside the capsule, as described above. Such ingredients can be for instance a bed of roast and
20 ground coffee. Alternatively or in combination with roast and ground coffee, the ingredients can comprise soluble ingredients, such as for instance beverage premixes.

[International application publication no. WO/2011/069830 disclosed a capsule system for preparing beverages by centrifugation of a capsule in a centrifuging brewing device comprising a set of different capsules, each of the capsules for selectively delivering a beverage. The capsule is designed to form, alone or in cooperation with the centrifuging brewing device, a restriction or restriction valve of the centrifuged liquid, wherein the back pressure of the restriction or restriction valve differs for at least two capsules of the set.](#)

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disclosed a beverage production system comprising beverage ingredient containing capsules comprising an identification member and a beverage production machine comprising contact means for physically contacting the capsule identification member
5 in order to read information thereof and control means connected to the contact means. The contact means comprises at least one displaceable probe which mechanically contacts the capsule identification member, a resilient support member in contact with the probe on one side and associated to a circuitry on its other side, wherein the part of the resilient support member in contact with the probe presents
10 such a shape that it is able to deform itself when the probe applies a force on it, the deformation being partially transversal to the direction applied by the force.

Several systems are currently used for capsule identification by the machine, but the main drawback of existing solutions is the relatively high cost of
15 identification systems and/or complexity and cost of a capsule adapted for such an identification. Such identification systems include but are not limited to: colour recognition, barcodes, recognition of protrusions, grooves, or other artifacts located at the surface of the capsule, conductivity, resistivity and generally all means known for detection or identification of the capsule by means of an electric current or magnetic
20 field. No reliable and cost-effective systems have been proposed so far that would obviate the disadvantages mentioned above, while being applicable to the use of