

EXHIBIT 430

U.S. Patent No. 11,230,430 (“’430 Patent”)

Exemplary Accused Products

Defendants’ products, including at least each of the following products (and their submodels), infringe either literally or under the doctrine of equivalents at least Claims 1-10 of the ’430 Patent: Vertuo Next, VertuoPlus, Evoluo, and Vertuo beverage systems and capsules. The infringement chart below is based on the Vertuo beverage system and capsules, which is exemplary of the infringement of the ’430 Patent.

These infringement charts are provided based on information obtained to date and may not be exhaustive. K-fee’s investigation of Defendants’ infringement is ongoing. K-fee reserves the right to seek to supplement and/or amend these disclosures to identify additional asserted claims, accused instrumentalities, and/or to further identify where each element of each asserted claim is found in each accused instrumentality, including on the basis of discovery obtained from Defendants and from third parties during the course of this litigation.

The accused instrumentalities and associated documents discussed and/or cited herein are representative in all material aspects for all other accused instrumentalities identified in this chart. Based on information presently available to K-fee, each of the Defendants’ products is understood to operate in the same manner with respect to the contentions provided in this chart. Defendants have not yet produced discovery in this action, and K-fee reserves the right to amend its contentions as to these products should Defendants provide information showing any relevant differences among the products or any additional products containing the same functionality.

U.S. Patent No. 11,230,430	Representative Accused Product: Vertuo Beverage System and Capsules
[1pre] A beverage system for making a beverage, comprising:	The preamble is not a limitation. To the extent the preamble is construed as a limitation, the Vertuo beverage system, including a beverage machine and corresponding capsules, provides a beverage system for making a beverage. For example, the below image illustrates a beverage machine of a Vertuo system.



See https://www.youtube.com/watch?v=_KOHPZXzcs.

The Vertuo system uses the beverage machine and a capsule to produce a beverage. Nespresso's website states as follows: "Make your perfect coffee every time as the unique

barcode on each capsule adjusts the flow and volume of water, temperature, infusion time and capsule rotation precisely.”

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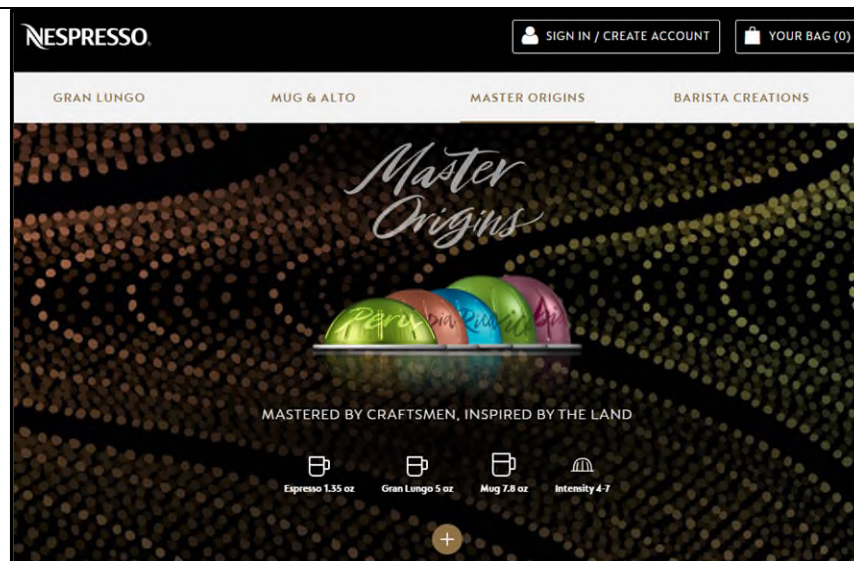
BARCODE RECOGNITION

Make your perfect coffee every time as the unique barcode on each capsule adjusts the flow and volume of water, temperature, infusion time and capsule rotation precisely.



See <https://www.nespresso.com/de/en/nespresso-vertuo-kapselmaschinen-technologie>.

The below images illustrate Vertuo capsules used in the Vertuo machines.

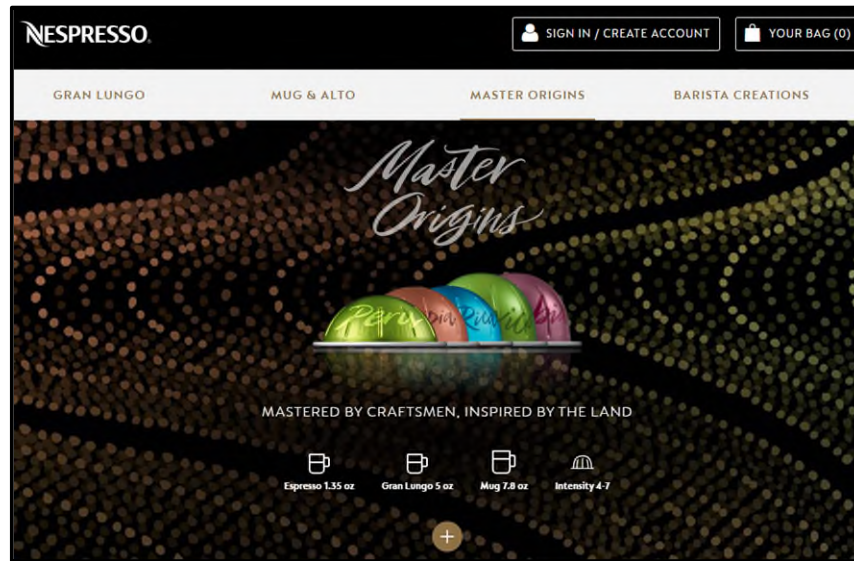




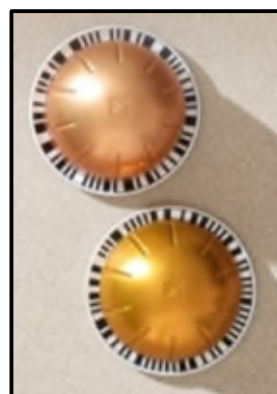
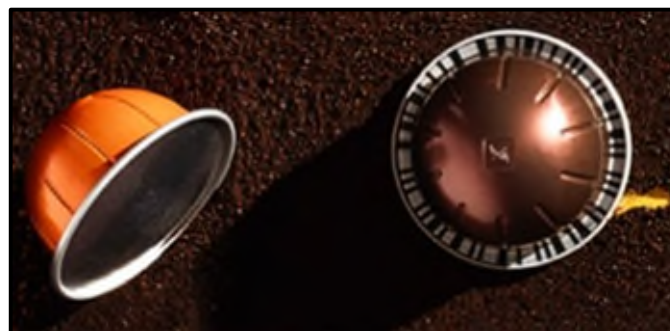
	See https://www.nespresso.com/us/en/vertuo-coffee-capsules.
[1a] a single-serve capsule comprising: a base element with a cavity, in which a raw beverage material is provided; a flange extending outwardly from the base element, the	The Vertuo system includes a single-serve capsule. The single-serve capsule comprises a base element with a cavity, in which a raw beverage material is provided. The single-serve capsule comprises a flange extending outwardly from the base element, the flange comprising a top side and an opposing bottom side. The single-serve capsule comprises a cover that is fastened to the top side of the flange to close the cavity. The single-serve capsule comprises a barcode provided on the bottom side of the flange. For example, the below images illustrate single-serve capsules of the Vertuo system. The images show single-serve capsules having a base element with a cavity, in which a raw

flange comprising a top side and an opposing bottom side; a cover that is fastened to the top side of the flange to close the cavity; and a barcode provided on the bottom side of the flange; and

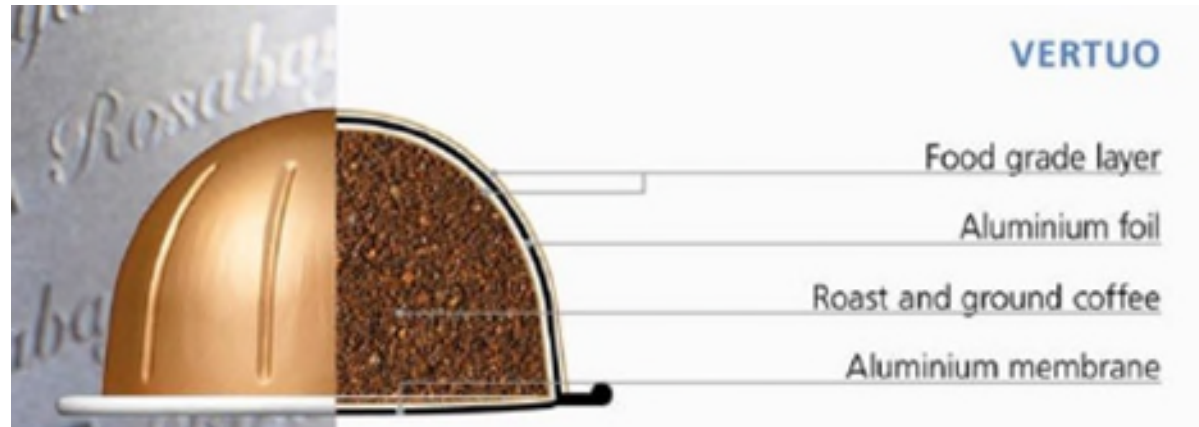
beverage material is provided. The capsules have a flange extending outwardly from the base element, the flange having a top side and an opposing bottom side. The capsules have a cover that is fastened to the top side of the flange to close the cavity. The capsules have a barcode provided on the bottom side of the flange.







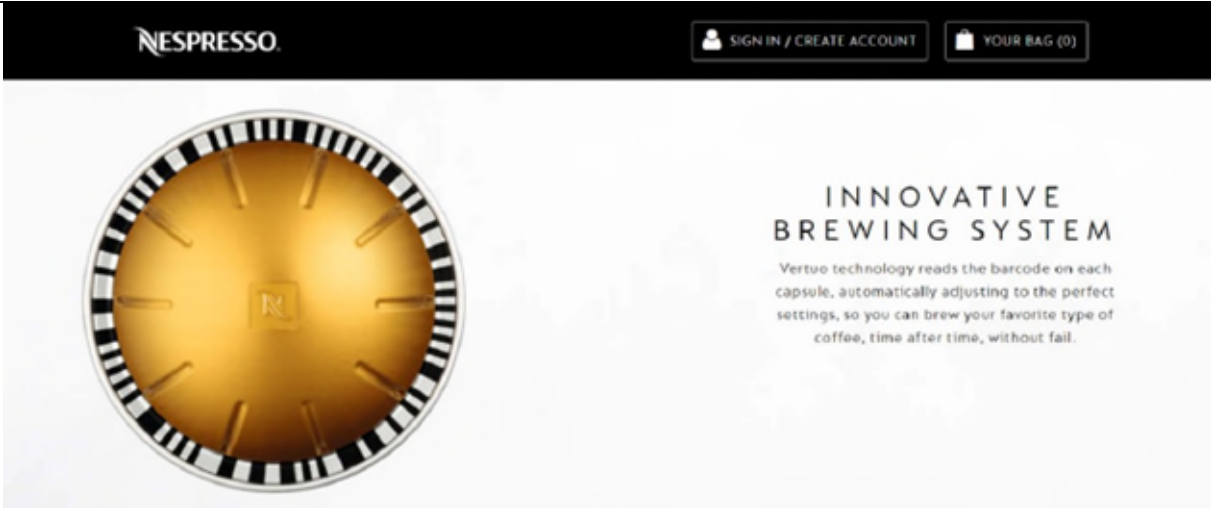
See <https://www.nespresso.com/us/en/vertuo-coffee-capsules>.



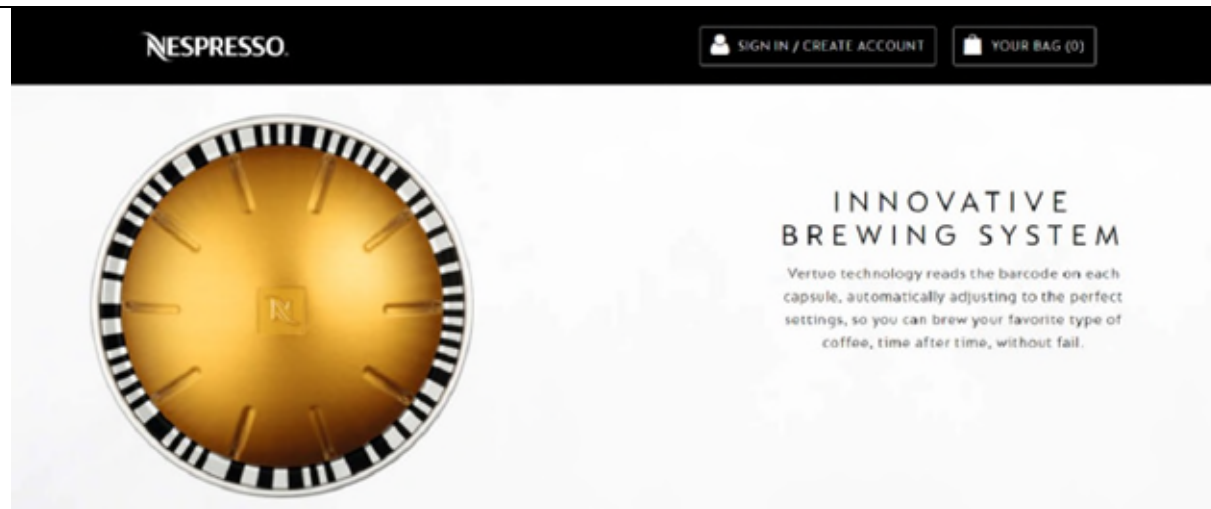
See <https://www.sustainability.nespresso.com/why-aluminium>.



See https://www.youtube.com/watch?v=__KOHPZXzcs.

	 See https://www.nespresso.com/us/en/choose-your-technology-vertuo.
[1b] a beverage machine comprising: a sensor/detector configured to read the barcode; a brewing chamber configured to receive the base element of the single-serve capsule and having an end portion that opposes the bottom side of the flange; and a pump controlled to supply	The Vertuo system includes a beverage machine. The beverage machine comprises a sensor/detector configured to read the barcode. The beverage machine further comprises a brewing chamber configured to receive the base element of the single-serve capsule and have an end portion that opposes the bottom side of the flange. The beverage machine further comprises a pump controlled to supply water into the single-serve capsule. The Vertuo system includes a beverage machine that includes a sensor/detector configured to read the barcode. For example, the Nespresso website indicates that the Vertuo system “reads the barcode on each capsule.”

water into the single-serve capsule;



See <https://www.nespresso.com/us/en/choose-your-technology-vertuo>.

The below image illustrates a beverage machine of the Vertuo system.



See https://www.youtube.com/watch?v=_KOHPZXzcs.

The below image illustrates the Vertuo beverage machine reading the barcode of the capsule.



The below image illustrates another example of a laser of the Vertuo beverage machine scanning the rim of a capsule to read the embedded barcode.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

The below screenshot is from the Vertuo User Manual and describes that the Vertuo system reads the barcode.



12. Push the button to start the coffee preparation. It will take some time before the coffee flow comes out (due to barcode reading and coffee pre-wetting).

12. Appuyer sur le bouton pour lancer la préparation du café. Un temps d'attente est nécessaire avant l'écoulement du café (due à la lecture du code barres et la mise en contact du café à de l'eau).

A variety of Nespresso videos explain how the apparatus reads the barcode on the capsule.



Experience the Revolution of Coffee: Introducing the Nespresso VertuoLine

See, e.g., Nespresso “Experience the Revolution of Coffee: Introducing the Nespresso VertuoLine,” video at

<https://www.youtube.com/watch?v=yo40pcEfbPE&list=PLQ2eIUaAVWUyFnlm-D0F60aAGaXl9Q&index=2>; Nespresso, “Nespresso Vertuo: How To – Coffee

Preparation,” video at https://www.youtube.com/watch?v=_KOHpZXzcs;

<https://www.youtube.com/watch?v=RTzUiX101C0>; Nespresso, “Nespresso VertuoLine: How To – Directions For Use,” video at <https://www.youtube.com/watch?v=9zya9IN3rEA>.

See also <https://www.nespresso.com/us/en/choose-your-technology#vertuo>.

The Vertuo beverage machine also includes a brewing chamber configured to receive the base element of the single-serve capsule and have an end portion that opposes the bottom side of the flange.

For example, the below image illustrates a brewing chamber of the Vertuo beverage machine configured to receive the base element of the capsule and have an end portion that opposes the bottom side of the flange.



The below image illustrates another example of a brewing chamber of the Vertuo beverage machine configured to receive the capsule.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

The below image illustrates a portion capsule being inserted into a brewing chamber of the Vertuo beverage machine. The brewing chamber receives the capsule.



See https://www.youtube.com/watch?v=_KOHPZXzcs.

The below image from the Vertuo User Manual illustrates and describes a capsule being inserted into the Vertuo beverage machine. The capsule is received by a brewing chamber.



10. Insert a *Nespresso Vertuo* capsule with the dome shape at the bottom. Be careful not to injure yourself on sharp points or trap your fingers when reaching inside the machine.

10. Insérer une capsule *Vertuo* en plaçant le côté arrondi vers le bas. Attention: risque de coupures et de coincer vos doigts en les introduisant à l'intérieur de la machine.

The Vertuo beverage machine also includes a pump controlled to supply water into the single-serve capsule.

For example, the below image illustrates the Vertuo beverage machine supplying water via a pump into a capsule. The pump controls the supplied water.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

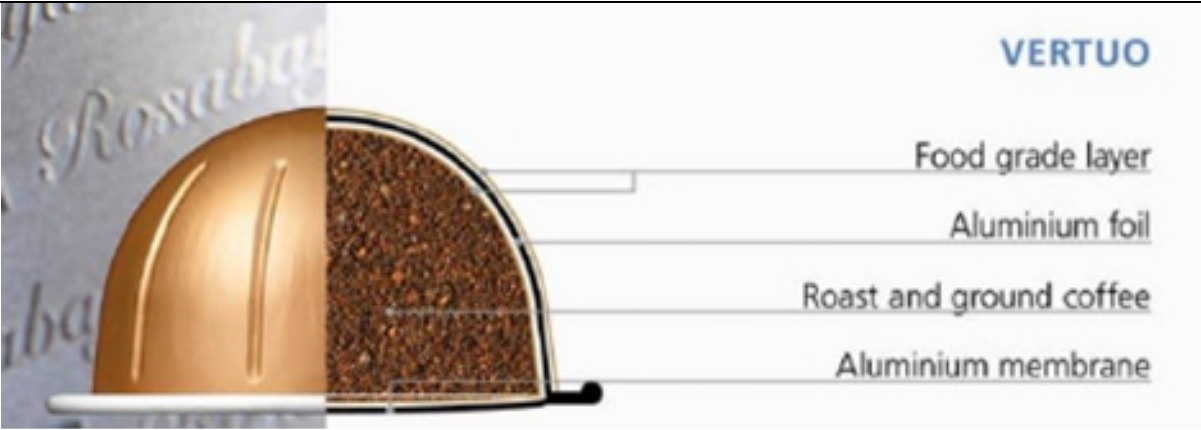
See also <https://www.youtube.com/watch?v=9zya9IN3rEA>;
<https://www.youtube.com/watch?v=T9nixM1467Y>.

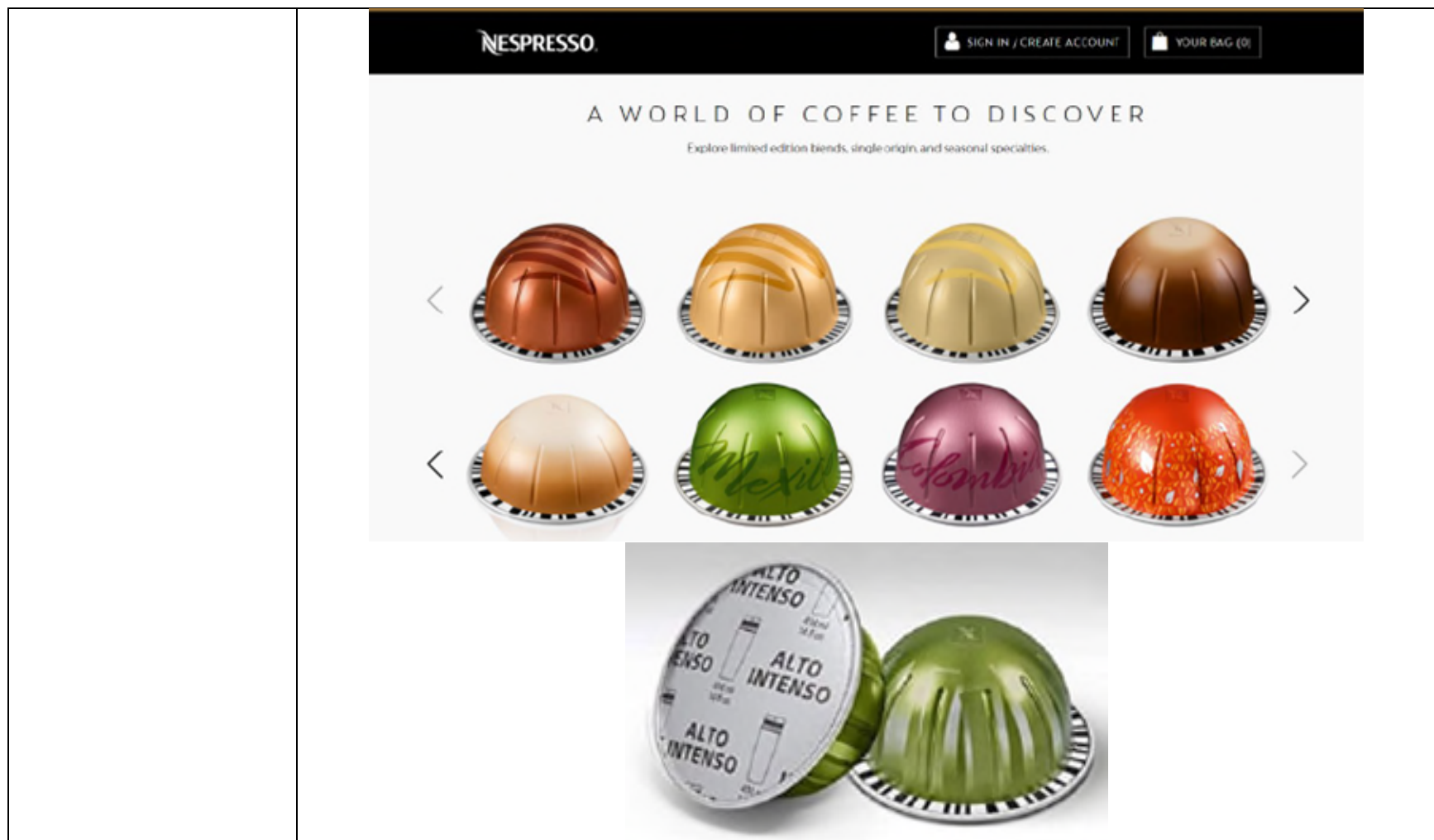
A Nespresso video from which the below images were captured shows and describes the Vertuo beverage system supplying water into the capsule.





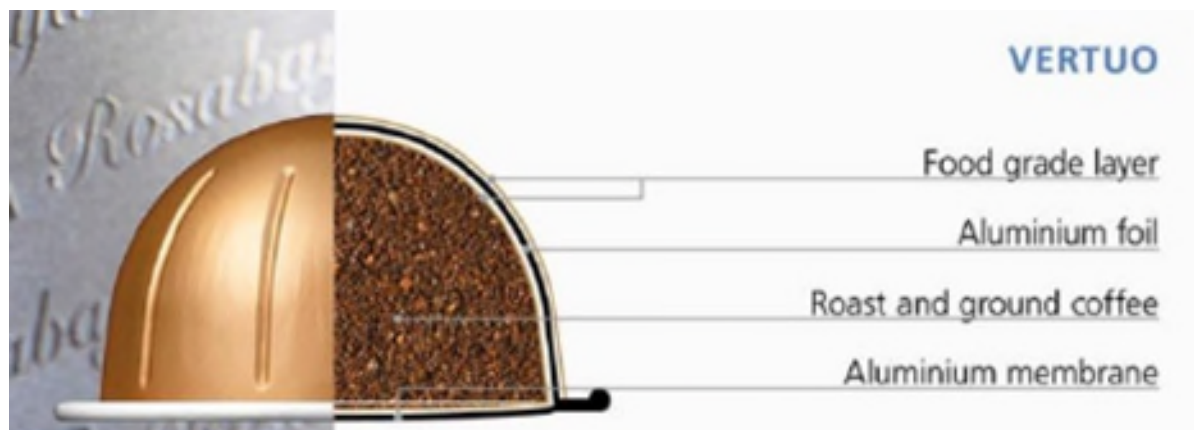
	 See https://www.youtube.com/watch?v=RTzUiX101C0.
[1c] wherein the single-serve capsule is free of a filter that is located inside of the cavity, the single-serve capsule also comprises:	The single-serve capsule of the Vertuo system is free of a filter that is located inside of the cavity. For example, the Vertuo capsule has a cavity that is free of a filter, as shown below.

	 See https://www.sustainability.nespresso.com/why-aluminium.
[1c-i] i. an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to a central axis of the base element; and	The single-serve capsule of the Vertuo system also includes an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to a central axis of the base element. For example, the Vertuo capsules shown below have an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to a central axis of the base element.





See <https://www.nespresso.com/us/en/vertuo-coffee-capsules>.

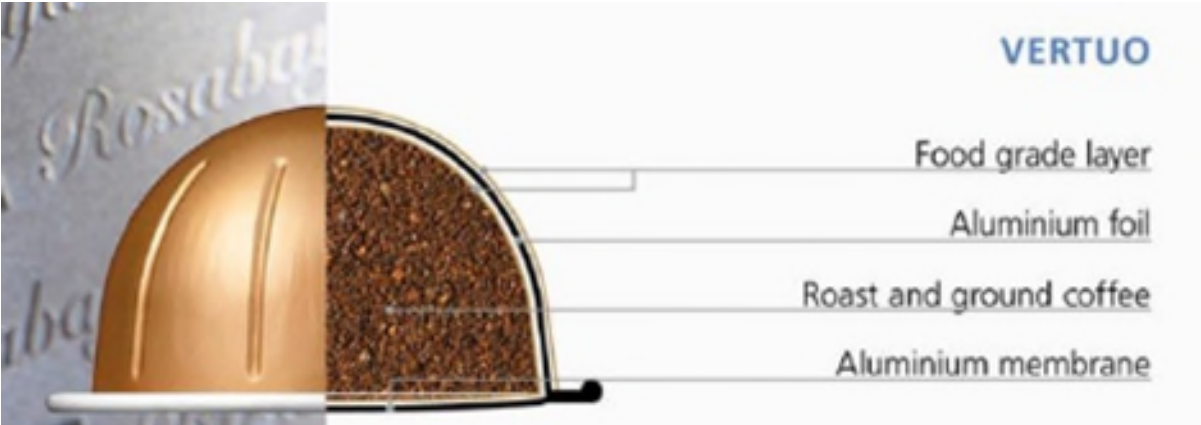


See <https://www.sustainability.nespresso.com/why-aluminium>.

[1c-ii] ii. a barrier layer to prevent moisture or aroma from escaping out of

The single-serve capsule of the Vertuo system also includes a barrier layer to prevent moisture or aroma from escaping out of the single-serve capsule.

For example, as illustrated below, the Vertuo capsule includes a barrier layer to prevent moisture or aroma from escaping out of the capsule.

the single-serve capsule;	 See https://www.sustainability.nespresso.com/why-aluminium.
[1d] wherein the beverage machine also comprises:	The beverage machine of the Vertuo system also includes the features shown and described below.
[1d-i] i. a mandrel that is configured to pierce the cover in a region that is offset from the central axis of the base element;	The beverage machine of the Vertuo system also includes a mandrel that is configured to pierce the cover in a region that is offset from the central axis of the base element. For example, the Vertuo beverage machine includes a mandrel that is configured to pierce the cover in a region that is offset from the central axis of the base element. The below image shows the cover punctured in a region offset from the central axis.



See

<https://www.youtube.com/watch?v=RTzUiX101C0>;

<https://www.nespresso.com/de/en/nespresso-vertuo-kapselmaschinen-technologie>.

	 See https://www.youtube.com/watch?v=RTzUiX101C0.
[1d-ii] ii. a seal that is configured to seal against the cover in a region between a peripheral edge of the flange and the region of the cover that is pierced by the mandrel;	The beverage machine of the Vertuo system also includes a seal that is configured to seal against the cover in a region between a peripheral edge of the flange and the region of the cover that is pierced by the mandrel. For example, the below image illustrates a seal of the Vertuo machine that is configured to seal against the cover in a region between a peripheral edge of the flange and the region of the cover that is pierced by the mandrel.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

See also <https://www.youtube.com/watch?v=9zya9IN3rEA>;
<https://www.youtube.com/watch?v=T9nixM1467Y>.

[1d-iii] iii. a pair of holding arms for

The beverage machine of the Vertuo system also includes a pair of holding arms for engaging the single-serve capsule.

engaging the single-serve capsule; and

For example, the below image illustrates the beverage machine of the Vertuo system that includes a pair of holding arms for engaging the single-serve capsule.



See https://www.youtube.com/watch?v=_KOHPZXzcs.

The below image illustrates an example of engaging the capsule with a pair of holding arms.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

[1d-iv] iv. a dropping box for the

The beverage machine of the Vertuo system also includes a dropping box for the single-serve capsule to fall into.

single-serve capsule
to fall into;

For example, the below image illustrates a dropping box for the capsules to fall into.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

The below image further illustrates a dropping box for the capsule to fall into.



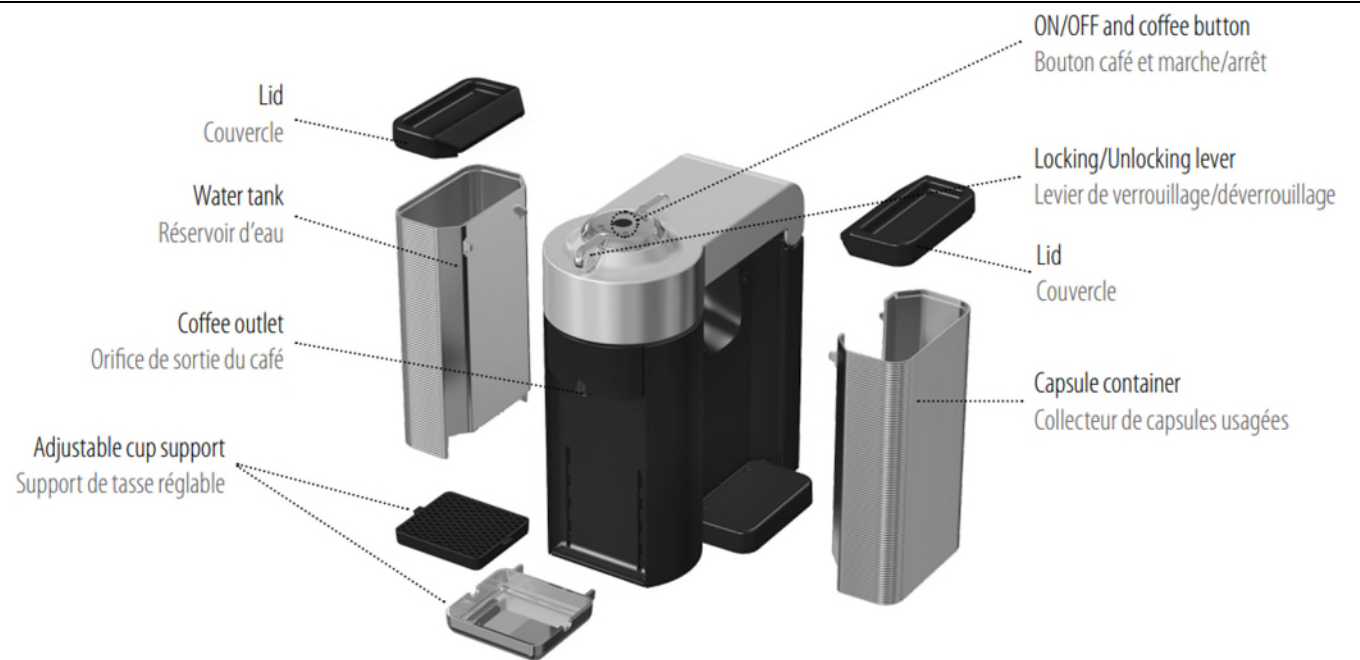
See <https://www.youtube.com/watch?v=RTzUiX101C0>.

The below image further illustrates a dropping box for the capsule to fall into.



See https://www.youtube.com/watch?v=__KOHPZXzcs.

The below image from the Vertuo User Manual illustrates and shows a dropping box (e.g., capsule container) that holds the dropped capsules.



The below image from the Vertuo User Manual illustrates and describes that the system “automatically eject[s] the capsule.” The capsule is ejected (*i.e.*, dropped) into a dropping box.

	15. Turn the lever to the right and open the head to automatically eject the capsule. 15. Tourner la poignée vers la droite et ouvrir la machine pour expulser automatiquement la capsule. See also https://www.youtube.com/watch?v=9zya9IN3rEA; https://www.youtube.com/watch?v=T9nixM1467Y.
[1e] wherein the pump is controlled to push the water into the single-serve capsule only upon a determination that the read barcode agrees with a stored reference.	The pump of the Vertuo system is controlled to push the water into the single-serve capsule only upon a determination that the read barcode agrees with a stored reference. For example, the below image illustrates the pump of the Vertuo system pushing water into the capsule only upon a determination that the read barcode agrees with a stored reference.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

See also <https://www.youtube.com/watch?v=9zya9IN3rEA>;
<https://www.youtube.com/watch?v=T9nixM1467Y>.

A Nespresso video from which the below images were captured shows and describes the Vertuo system pushing the water. The water is pushed only upon a determination that the read barcode agrees with a stored reference.



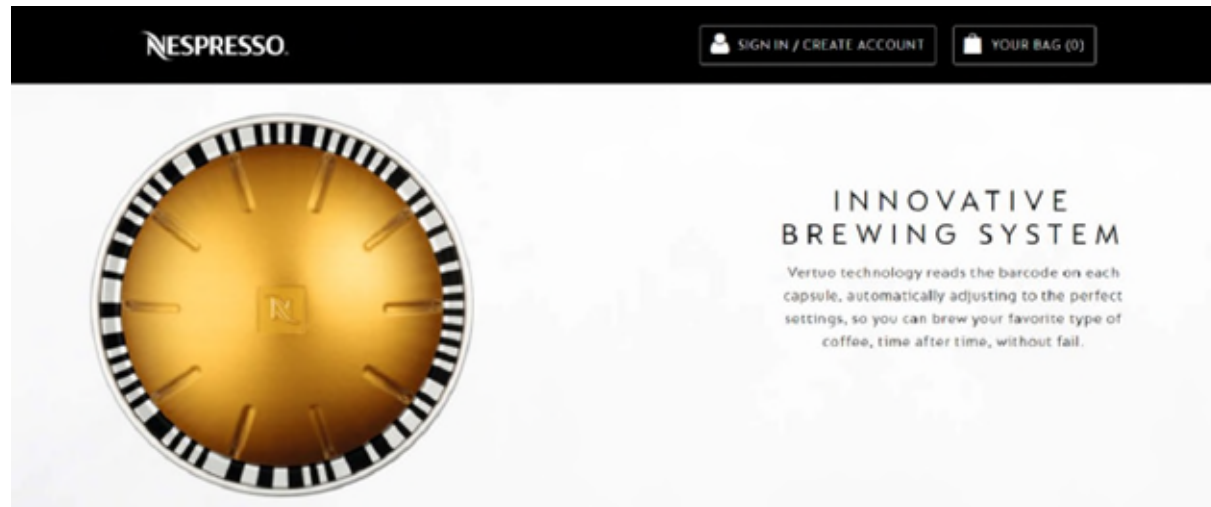


	 See https://www.youtube.com/watch?v=RTzUiX101C0.
2. The beverage system according to claim 1, wherein the pump is controlled to not push water into the single-serve capsule upon a determination that the read barcode does not agree with the stored reference.	The Vertuo beverage system according to claim 1, wherein the pump is controlled to not push water into the single-serve capsule upon a determination that the read barcode does not agree with the stored reference. The pump of the Vertuo beverage system is controlled to not push water into the capsule upon a determination that the read barcode does not agree with the stored reference. For example, the below screenshot from the Vertuo User Manual describes various troubleshooting instances, including where the Vertuo beverage machine does not start or run. This includes the method where a determination that the read barcode does not agree with the stored reference and therefore the Vertuo beverage system does not push water into the capsule.

	<table border="1"> <tr> <td data-bbox="562 240 800 293">1. No light on the button.</td><td data-bbox="800 240 1881 293"> → The machine has turned "OFF" automatically; push the button or "UNLOCK" the machine. → Check the mains, plug, voltage, and fuse. </td></tr> <tr> <td data-bbox="562 293 800 407">2. No coffee, no water.</td><td data-bbox="800 293 1881 407"> → Check that the water tank is filled. → Check that a fresh capsule is inserted in correct position, that the lever is properly locked and push the button to start. → Descale if necessary. → Open the machine head and let the capsule be ejected. Then perform a cleaning as per cleaning section. </td></tr> <tr> <td data-bbox="562 407 800 461">3. Coffee is not hot enough.</td><td data-bbox="800 407 1881 461"> → Preheat cup with hot drinking water from the tap. → Descale if necessary. </td></tr> <tr> <td data-bbox="562 461 800 548">4. The machine doesn't start and has light steady on. If blinking, see next points.</td><td data-bbox="800 461 1881 548"> → Check that lever is properly locked. → If you want to brew a Coffee or Espresso, check that a fresh capsule is inserted in correct position, that the lever is properly locked and push the button to start. → If you are cleaning, descaling or emptying the system, check that no capsule is inserted then close, lock the machine and push the button to start one of these operations. </td></tr> <tr> <td data-bbox="562 548 800 602">5. The machine doesn't start and light blinks alternately; 1 blink and 1 pause.</td><td data-bbox="800 548 1881 602"> → Fill the water tank and push button to start. → Check that lever is properly locked. </td></tr> <tr> <td data-bbox="562 602 800 732">6. Light blinks while machine is running.</td><td data-bbox="800 602 1881 732"> → If coffee is flowing normally, this indicates the machine is working properly. → If only water is flowing, the machine is executing a user request for either cleaning, descaling or emptying the system. Refer to the corresponding paragraph in this user manual. → If there is no intention to clean, descale, or empty the system, then push the button to stop the machine. If the machine is still blinking, exit descaling mode by holding the button for at least 7 seconds or refer to next section. If problem persists, call the <i>Nespresso Club</i>. </td></tr> <tr> <td data-bbox="562 732 800 889">7. Light blinks and machine is not running.</td><td data-bbox="800 732 1881 889"> → It will take some time before the coffee flow comes out (due to barcode reading and pre-wetting the coffee). → Check that a fresh capsule is inserted in correct position, that the lever is properly locked and push the button to start. → Fill the water tank and push button to start. → Turn the machine to "OFF mode" by pushing the button for 3 seconds and then push it again to turn the machine "ON". Now wait approximately 20 minutes to allow the machine to cool down after extensive use. → If the machine doesn't turn "OFF" then exit descaling mode by pushing the button for at least 7 seconds. </td></tr> <tr> <td data-bbox="562 889 800 1068">8. Light blinks alternately 2 blinks and 1 pause continuously. Machine is not running.</td><td data-bbox="800 889 1881 1068"> → During regular Coffee/ Espresso preparation : 1) Unlock the lever and open the machine head to check that a fresh undamaged capsule is inserted in the correct position; 2) Check that the lever is in "LOCKED" position 3) Check that the water tank is filled. → During Descaling, Emptying and Cleaning: 1) Check that capsule is ejected 2) Check that the lever is in "LOCKED" position. → During Programming Volume: 1) Check if a capsule has been well inserted 2) Please refer to the corresponding chapter. </td></tr> </table>	1. No light on the button.	→ The machine has turned "OFF" automatically; push the button or "UNLOCK" the machine. → Check the mains, plug, voltage, and fuse.	2. No coffee, no water.	→ Check that the water tank is filled. → Check that a fresh capsule is inserted in correct position, that the lever is properly locked and push the button to start. → Descale if necessary. → Open the machine head and let the capsule be ejected. Then perform a cleaning as per cleaning section.	3. Coffee is not hot enough.	→ Preheat cup with hot drinking water from the tap. → Descale if necessary.	4. The machine doesn't start and has light steady on. If blinking, see next points.	→ Check that lever is properly locked. → If you want to brew a Coffee or Espresso, check that a fresh capsule is inserted in correct position, that the lever is properly locked and push the button to start. → If you are cleaning, descaling or emptying the system, check that no capsule is inserted then close, lock the machine and push the button to start one of these operations.	5. 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Light blinks and machine is not running.	→ It will take some time before the coffee flow comes out (due to barcode reading and pre-wetting the coffee). → Check that a fresh capsule is inserted in correct position, that the lever is properly locked and push the button to start. → Fill the water tank and push button to start. → Turn the machine to "OFF mode" by pushing the button for 3 seconds and then push it again to turn the machine "ON". Now wait approximately 20 minutes to allow the machine to cool down after extensive use. → If the machine doesn't turn "OFF" then exit descaling mode by pushing the button for at least 7 seconds.	8. Light blinks alternately 2 blinks and 1 pause continuously. Machine is not running.	→ During regular Coffee/ Espresso preparation : 1) Unlock the lever and open the machine head to check that a fresh undamaged capsule is inserted in the correct position; 2) Check that the lever is in "LOCKED" position 3) Check that the water tank is filled. → During Descaling, Emptying and Cleaning: 1) Check that capsule is ejected 2) Check that the lever is in "LOCKED" position. → During Programming Volume: 1) Check if a capsule has been well inserted 2) Please refer to the corresponding chapter.
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8. Light blinks alternately 2 blinks and 1 pause continuously. Machine is not running.	→ During regular Coffee/ Espresso preparation : 1) Unlock the lever and open the machine head to check that a fresh undamaged capsule is inserted in the correct position; 2) Check that the lever is in "LOCKED" position 3) Check that the water tank is filled. → During Descaling, Emptying and Cleaning: 1) Check that capsule is ejected 2) Check that the lever is in "LOCKED" position. → During Programming Volume: 1) Check if a capsule has been well inserted 2) Please refer to the corresponding chapter.																
3. The beverage system according to claim 1, wherein the sensor/detector of the beverage machine is	The Vertuo beverage system according to claim 1, wherein the sensor/detector of the beverage machine is configured to compare the read barcode with the stored reference. The sensor/detector of the Vertuo beverage machine is configured to compare the read barcode with the stored reference.																

configured to compare the read barcode with the stored reference.

For example, the Nespresso website indicates that the Vertuo system “reads the barcode on each capsule.”



See <https://www.nespresso.com/us/en/choose-your-technology-vertuo>.

The below image illustrates a beverage machine of the Vertuo system.



See https://www.youtube.com/watch?v=_KOHPZXzcs.

The below image illustrates the Vertuo beverage machine reading the barcode of the capsule. The read barcode is compared with the stored reference.



The below image illustrates another example of a laser of the Vertuo beverage machine scanning the rim of a capsule to read the embedded barcode for comparison to the stored reference.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

The below screenshot is from the Vertuo User Manual and describes that the Vertuo system reads the barcode.



12. Push the button to start the coffee preparation. It will take some time before the coffee flow comes out (due to barcode reading and coffee pre-wetting).

12. Appuyer sur le bouton pour lancer la préparation du café. Un temps d'attente est nécessaire avant l'écoulement du café (due à la lecture du code barres et la mise en contact du café à de l'eau).

A variety of Nespresso videos explain how the apparatus reads the barcode on the capsule.



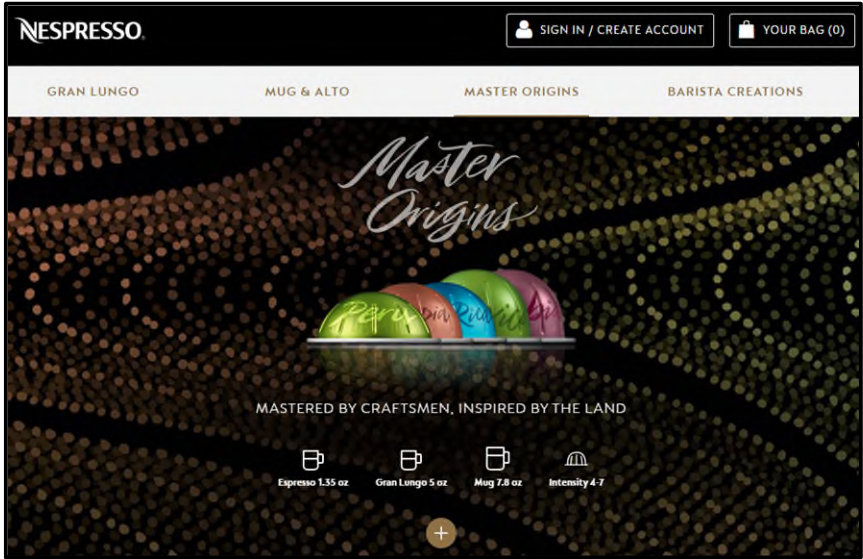
Experience the Revolution of Coffee: Introducing the Nespresso VertuoLine

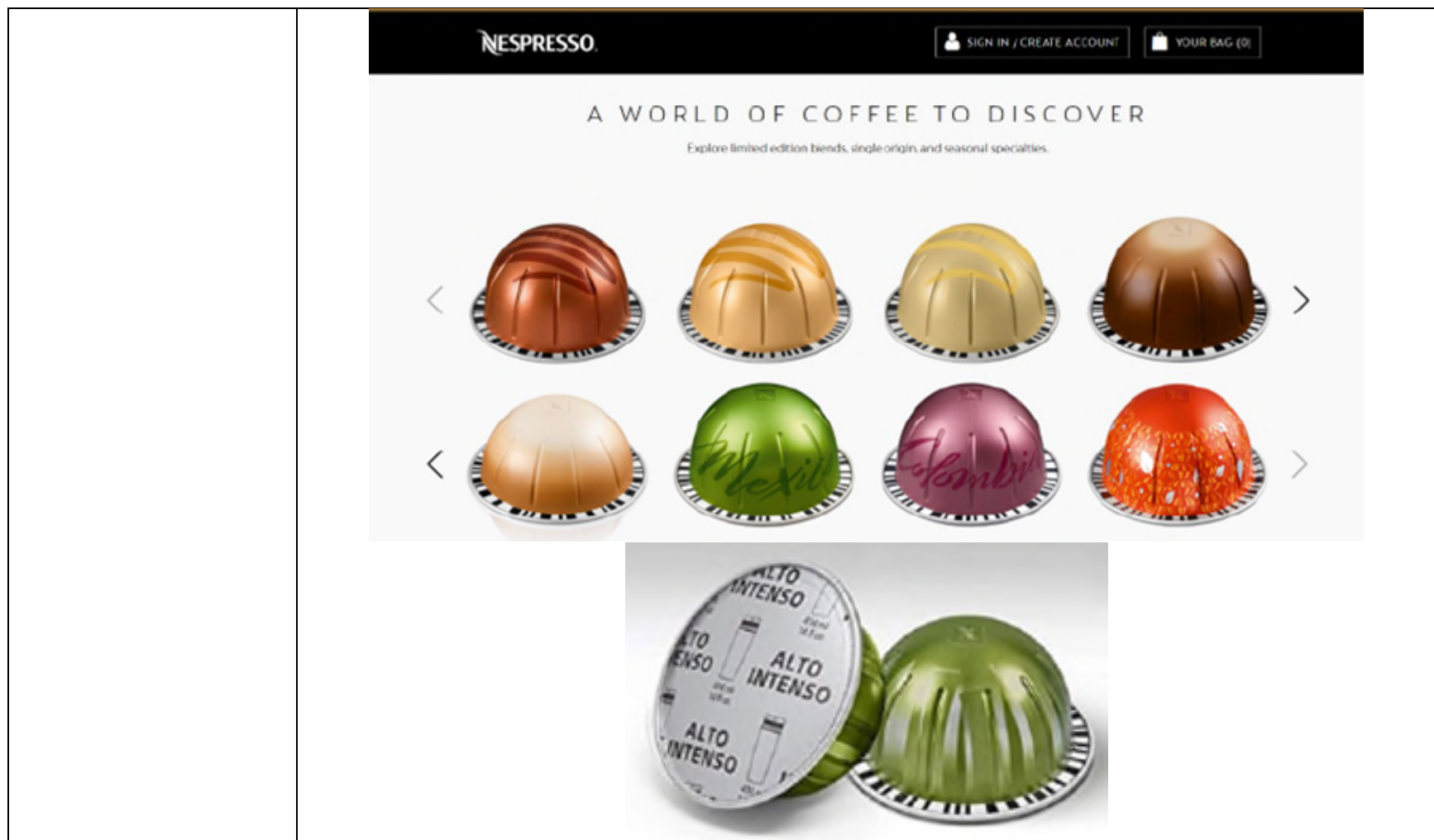
See, e.g., Nespresso “Experience the Revolution of Coffee: Introducing the Nespresso VertuoLine,” video at

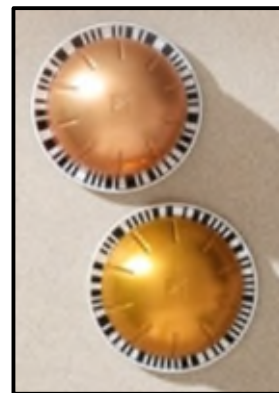
<https://www.youtube.com/watch?v=yo40pcEfbPE&list=PLQ2eIUaAVWUyFnlm-D0F60aAGaXl9Q&index=2>; Nespresso, “Nespresso Vertuo: How To – Coffee

Preparation,” video at https://www.youtube.com/watch?v=_KOHPZXzcs;

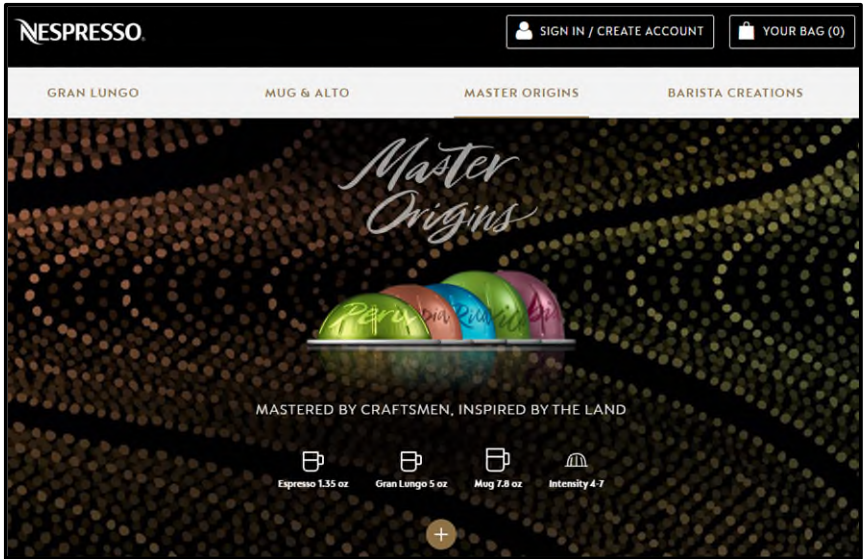
<https://www.youtube.com/watch?v=RTzUiX101C0>; Nespresso, “Nespresso VertuoLine: How To – Directions For Use,” video at <https://www.youtube.com/watch?v=9zya9IN3rEA>.

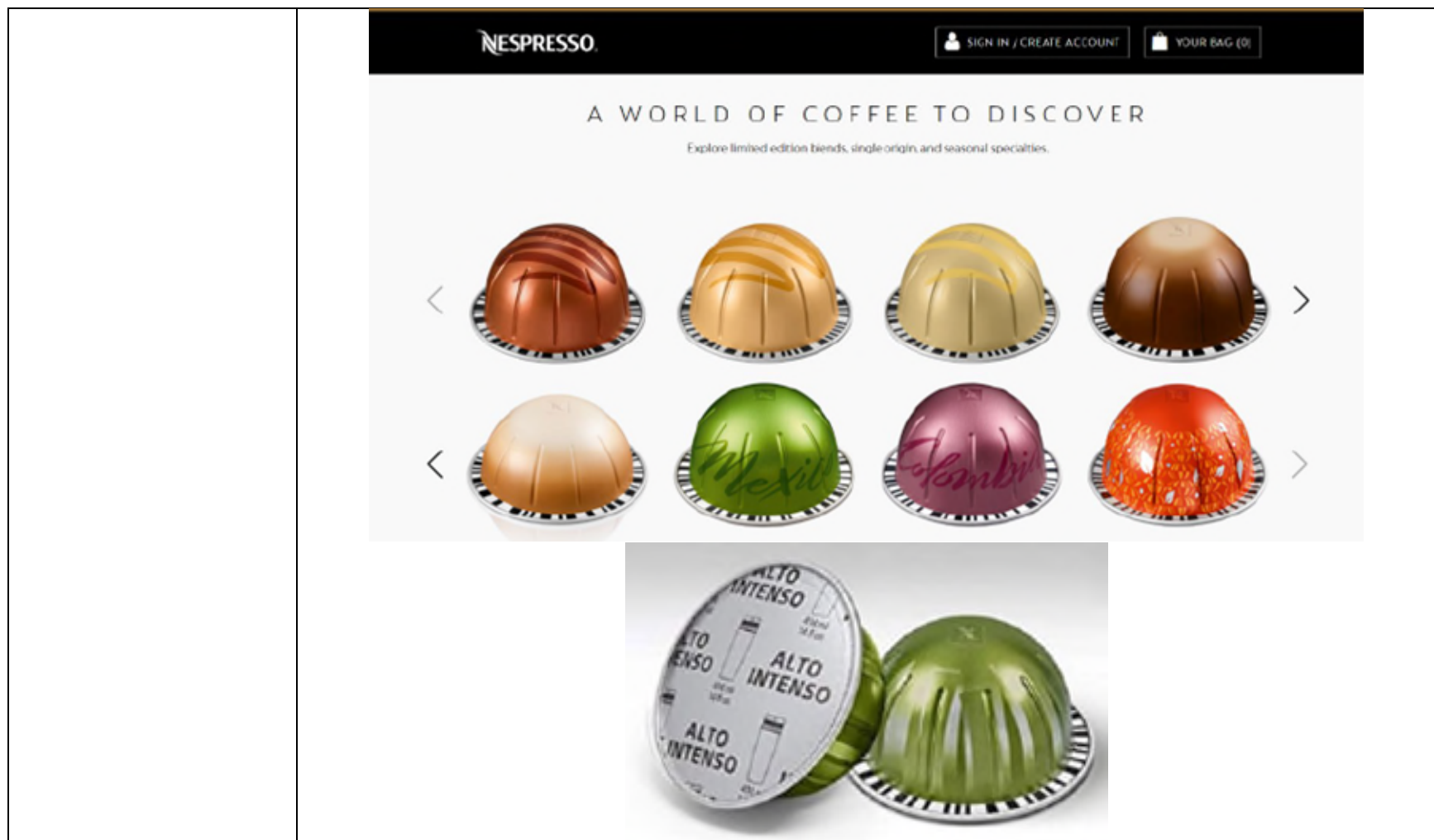
	See also https://www.nespresso.com/us/en/choose-your-technology#vertuo .
4. The beverage system according to claim 1, wherein the base element comprises a bottom having an indentation.	The Vertuo beverage system according to claim 1, wherein the base element comprises a bottom having an indentation. For example, the below images illustrate Vertuo capsules where the base element has a bottom having an indentation. 

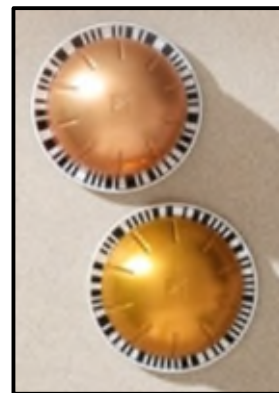




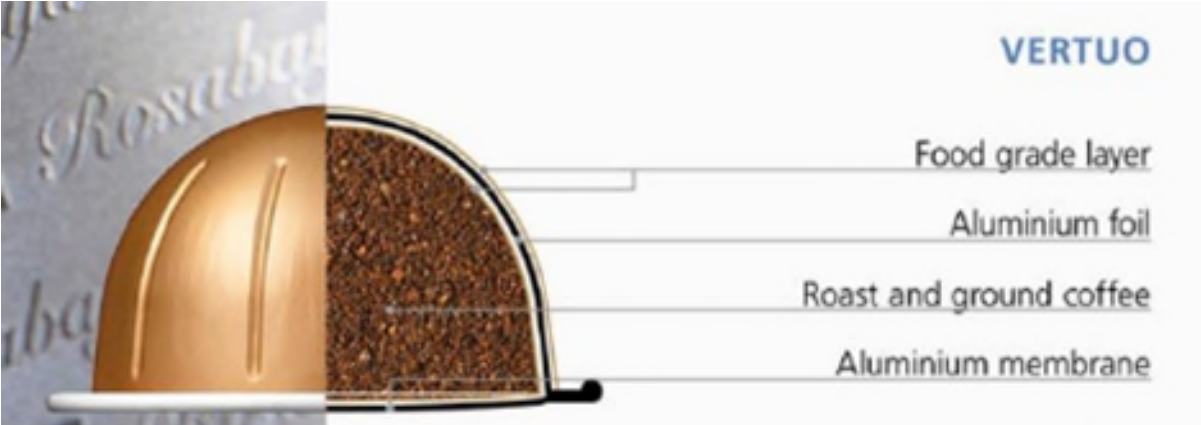
See <https://www.nespresso.com/us/en/vertuo-coffee-capsules>.

5. The beverage system according to claim 4, wherein a side wall of the base element includes indentations.	The Vertuo beverage system according to claim 4, wherein a side wall of the base element includes indentations. For example, the below images illustrate Vertuo capsules where a side wall of the base element has indentations.  The image is a screenshot of the Nespresso website. At the top, the Nespresso logo is on the left, and 'SIGN IN / CREATE ACCOUNT' and 'YOUR BAG (0)' are on the right. Below the navigation bar, there are four categories: 'GRAN LUNGO', 'MUG & ALTO', 'MASTER ORIGINS', and 'BARISTA CREATIONS'. The 'MASTER ORIGINS' category is selected and highlighted. The main visual is a collection of five colorful coffee capsules (green, orange, blue, purple, and pink) arranged in a row. Above them, the text 'Master Origins' is written in a cursive font. Below the capsules, it says 'MASTERED BY CRAFTSMEN, INSPIRED BY THE LAND'. At the bottom, there are four icons representing different coffee types: Espresso 1.35 oz, Gran Lungo 5 oz, Mug 7.8 oz, and Intensity 4-7. A plus sign icon is at the very bottom center.





See <https://www.nespresso.com/us/en/vertuo-coffee-capsules>.

6. The beverage system according to claim 1, wherein the base element is made of a biodegradable material.	The Vertuo beverage system according to claim 1, wherein the base element is made of a biodegradable material. For example, the below image illustrates the base element of the Vertuo capsule being made of a biodegradable material.  See https://www.sustainability.nespresso.com/why-aluminium.
[7pre] A beverage system for making a beverage, comprising:	The preamble is not a limitation. To the extent the preamble is construed as a limitation, the Vertuo beverage system, including a beverage machine and corresponding capsules, provides a beverage system for making a beverage. For example, the below image illustrates a beverage machine of a Vertuo system.



See https://www.youtube.com/watch?v=_KOHPZXzcs.

The Vertuo system uses the beverage machine and a capsule to produce a beverage. Nespresso's website states as follows: "Make your perfect coffee every time as the unique

barcode on each capsule adjusts the flow and volume of water, temperature, infusion time and capsule rotation precisely.”

0 2

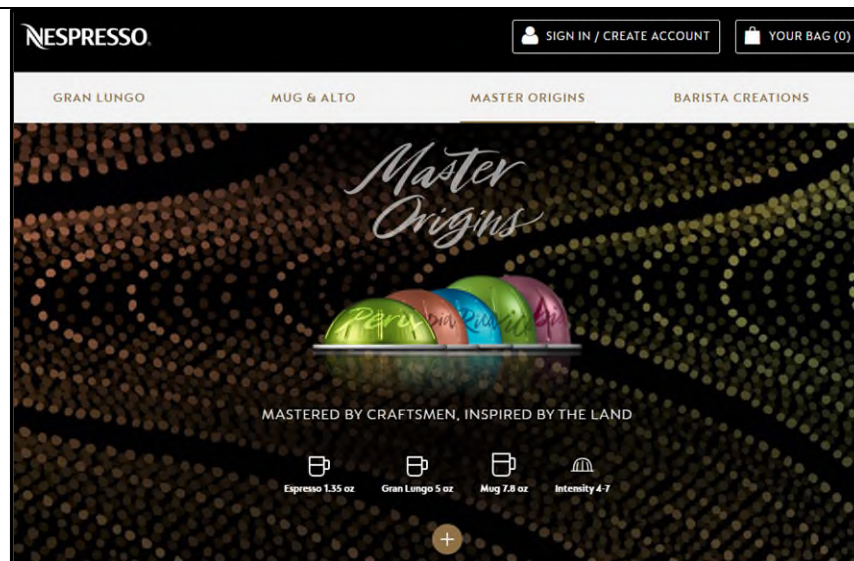
BARCODE RECOGNITION

Make your perfect coffee every time as the unique barcode on each capsule adjusts the flow and volume of water, temperature, infusion time and capsule rotation precisely.



See <https://www.nespresso.com/de/en/nespresso-vertuo-kapselmaschinen-technologie>.

The below images illustrate Vertuo capsules used in the Vertuo machines.

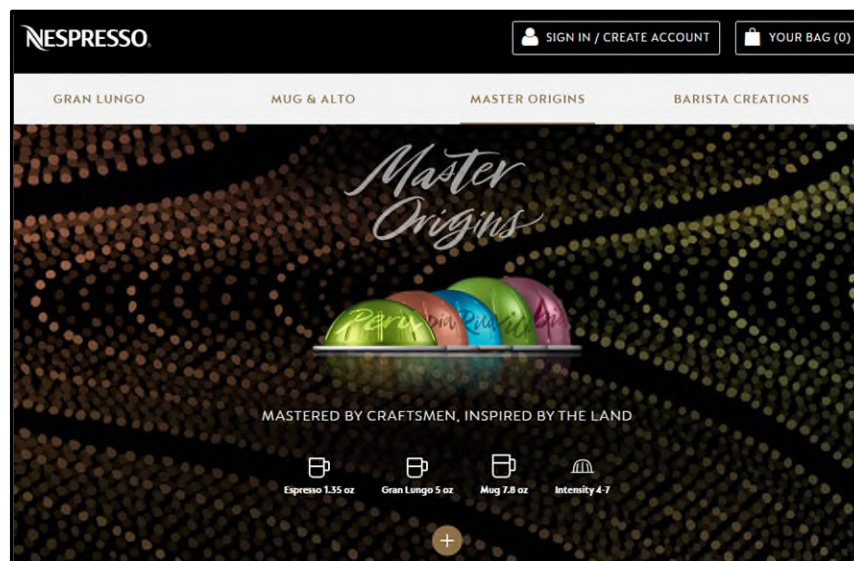


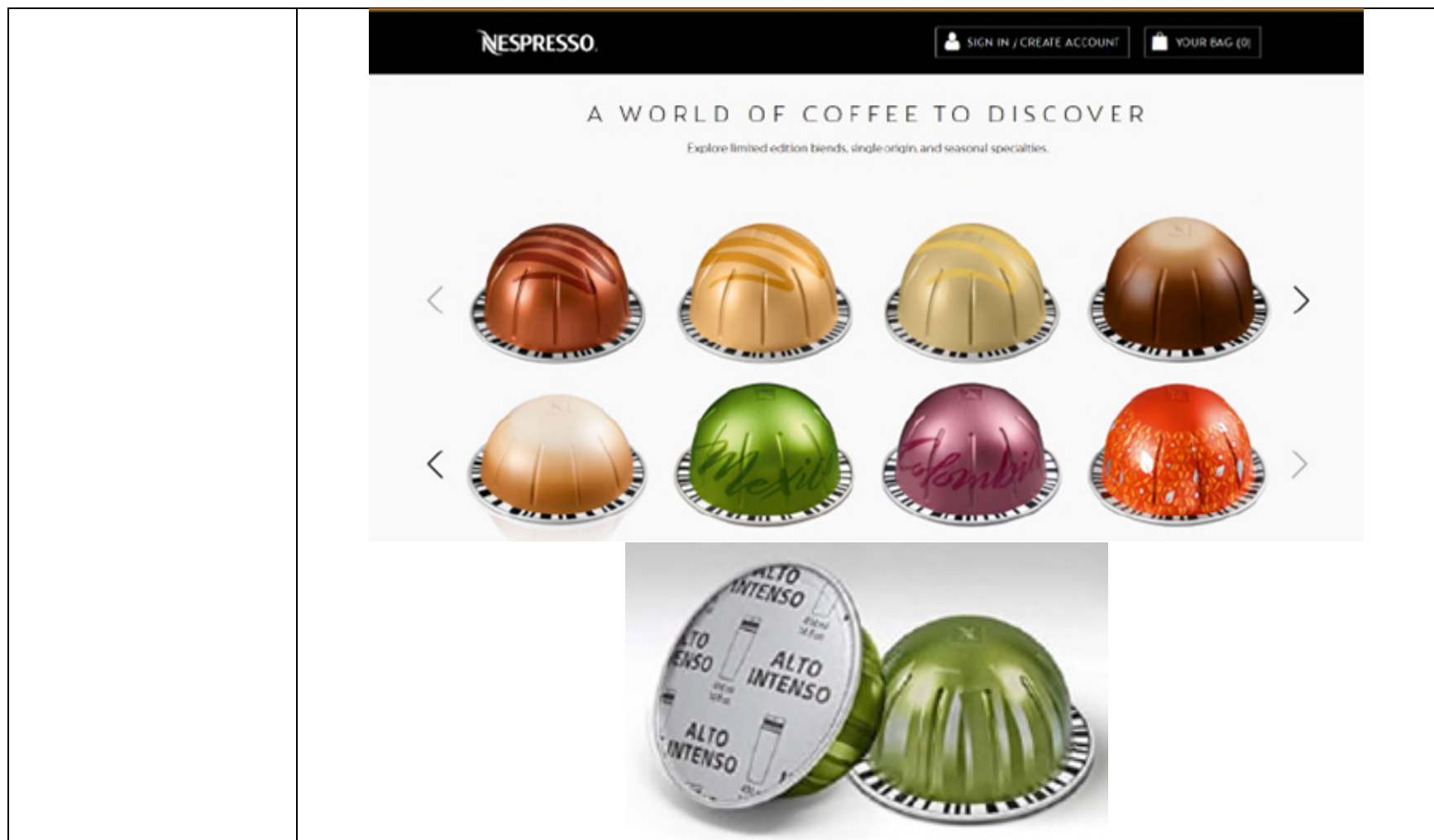


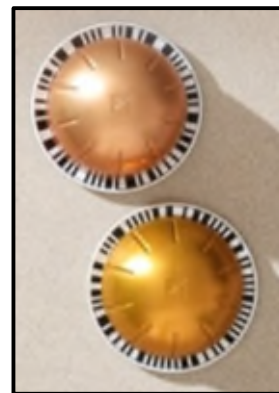
	See https://www.nespresso.com/us/en/vertuo-coffee-capsules.
[7a] a single-serve capsule comprising: a base element with a cavity, in which a raw beverage material is provided; a flange extending outwardly from the base element, the	The Vertuo system includes a single-serve capsule. The capsule comprises a base element with a cavity, in which a raw beverage material is provided. The capsule further comprises a flange extending outwardly from the base element, the flange comprising a top side and an opposing bottom side. The capsule further comprises a cover that is fastened to the top side of the flange to close the cavity. The capsule further comprises an identifier provided on the bottom side of the flange, the identifier being a barcode. For example, the below images illustrate single-serve capsules of the Vertuo system. The images show single-serve capsules having a base element with a cavity, in which a raw

flange comprising a top side and an opposing bottom side; a cover that is fastened to the top side of the flange to close the cavity; and an identifier provided on the bottom side of the flange, the identifier being a barcode; and

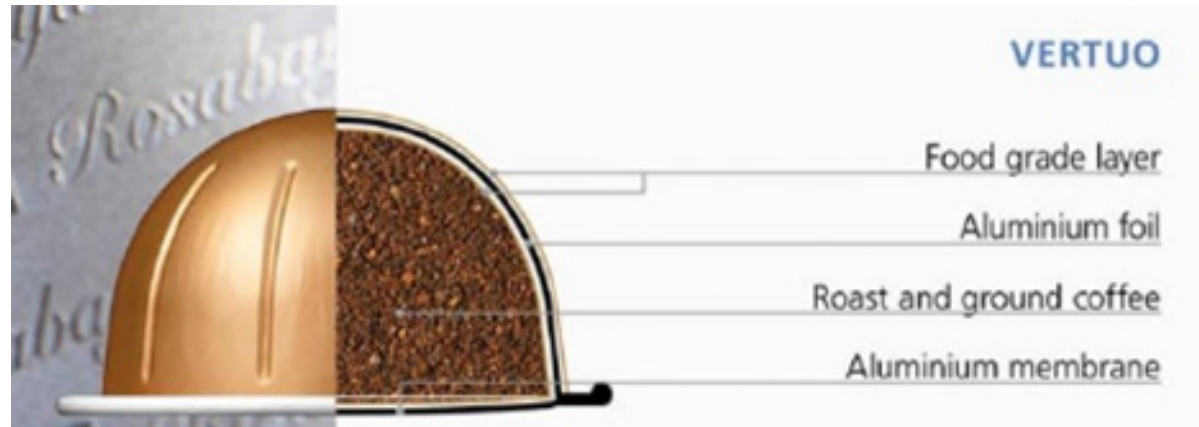
beverage material is provided. The capsules have a flange extending outwardly from the base element, the flange having a top side and an opposing bottom side. The capsules have a cover that is fastened to the top side of the flange to close the cavity. The capsules have an identifier on the bottom side of the flange. The identifier is a barcode.







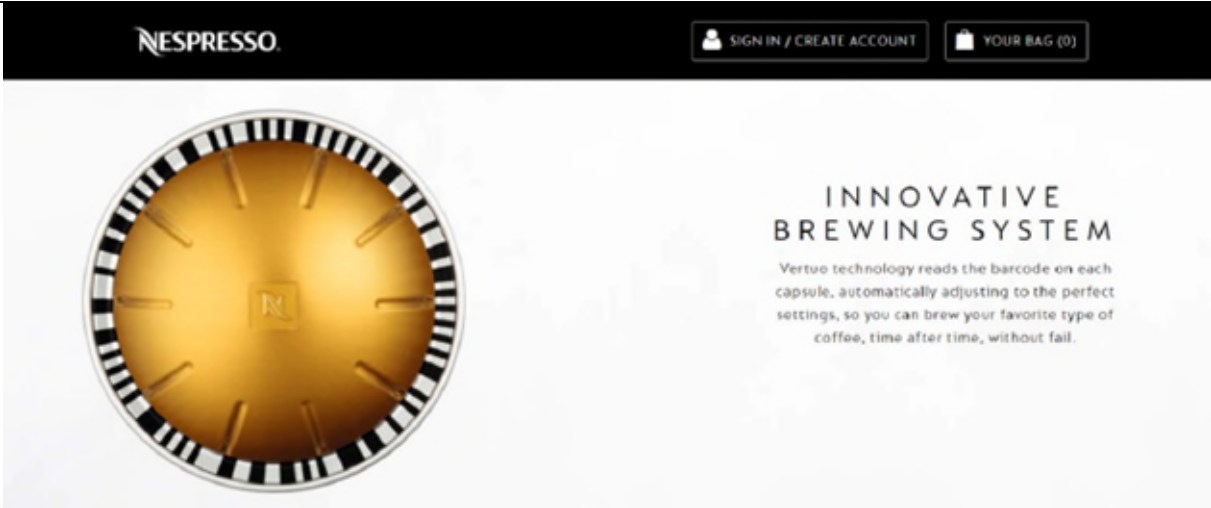
See <https://www.nespresso.com/us/en/vertuo-coffee-capsules>.

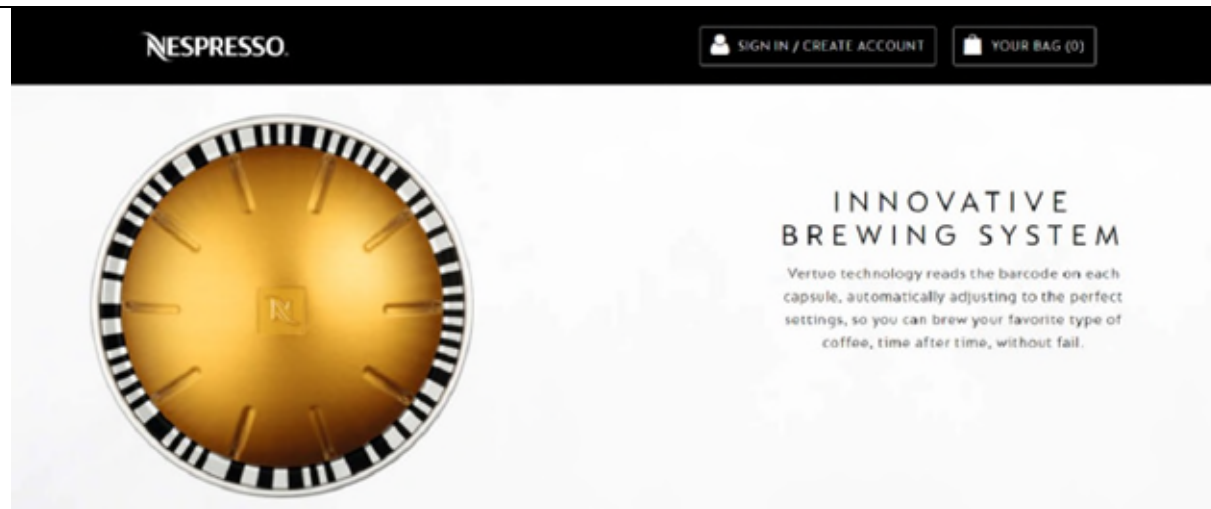


See <https://www.sustainability.nespresso.com/why-aluminium>.



See https://www.youtube.com/watch?v=__KOHPZXzcs.

	 See https://www.nespresso.com/us/en/choose-your-technology-vertuo.
[7b] a beverage machine comprising: a sensor/detector, a brewing chamber configured to receive the base element of the single-serve capsule and having an end portion that opposes the bottom side of the flange; and a pump controlled to supply water into the single-serve capsule;	The Vertuo system includes a beverage machine. The beverage machine comprises a sensor/detector. The beverage machine further comprises a brewing chamber configured to receive the base element of the single-serve capsule and have an end portion that opposes the bottom side of the flange. The beverage machine further comprises a pump controlled to supply water into the single-serve capsule. The Vertuo system includes a beverage machine that includes a sensor/detector. For example, the Nespresso website indicates that the Vertuo system “reads the barcode on each capsule,” which is done with a sensor/detector.



See <https://www.nespresso.com/us/en/choose-your-technology-vertuo>.

The below image illustrates a beverage machine of the Vertuo system.



See https://www.youtube.com/watch?v=_KOHPZXzcs.

The below image illustrates the Vertuo beverage machine using a sensor/detector.



The below image illustrates another example of a laser of the Vertuo beverage machine scanning the rim of a capsule.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

The below screenshot is from the Vertuo User Manual and describes that the Vertuo system reads the barcode, which is done by a sensor/detector.



12. Push the button to start the coffee preparation. It will take some time before the coffee flow comes out (due to barcode reading and coffee pre-wetting).

12. Appuyer sur le bouton pour lancer la préparation du café. Un temps d'attente est nécessaire avant l'écoulement du café (due à la lecture du code barres et la mise en contact du café à de l'eau).

A variety of Nespresso videos explain how the apparatus uses the sensor/detector.



Experience the Revolution of Coffee: Introducing the Nespresso VertuoLine

See, e.g., Nespresso “Experience the Revolution of Coffee: Introducing the Nespresso VertuoLine,” video at

<https://www.youtube.com/watch?v=yo40pcEfbPE&list=PLQ2eIUaAVWUyFnlm-D0F60aAGaXl9Q&index=2>; Nespresso, “Nespresso Vertuo: How To – Coffee

Preparation,” video at https://www.youtube.com/watch?v=_KOHpZXzcs;

<https://www.youtube.com/watch?v=RTzUiX101C0>; Nespresso, “Nespresso VertuoLine: How To – Directions For Use,” video at <https://www.youtube.com/watch?v=9zya9IN3rEA>.

See also <https://www.nespresso.com/us/en/choose-your-technology#vertuo>.

The Vertuo beverage machine also includes a brewing chamber configured to receive the base element of the single-serve capsule and have an end portion that opposes the bottom side of the flange.

For example, the below image illustrates a brewing chamber of the Vertuo beverage machine configured to receive the base element of the capsule and have an end portion that opposes the bottom side of the flange.



The below image illustrates another example of a brewing chamber of the Vertuo beverage machine configured to receive the capsule.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

The below image illustrates a portion capsule being inserted into a brewing chamber of the Vertuo beverage machine. The brewing chamber receives the capsule.



See https://www.youtube.com/watch?v=_KOHPZXzcs.

The below image from the Vertuo User Manual illustrates and describes a capsule being inserted into the Vertuo beverage machine. The capsule is received by a brewing chamber.



10. Insert a *Nespresso Vertuo* capsule with the dome shape at the bottom. Be careful not to injure yourself on sharp points or trap your fingers when reaching inside the machine.

10. Insérer une capsule *Vertuo* en plaçant le côté arrondi vers le bas. Attention: risque de coupures et de coincer vos doigts en les introduisant à l'intérieur de la machine.

The Vertuo beverage machine also includes a pump controlled to supply water into the single-serve capsule.

For example, the below image illustrates the Vertuo beverage machine supplying water via a pump into a capsule. The pump controls the supplied water.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

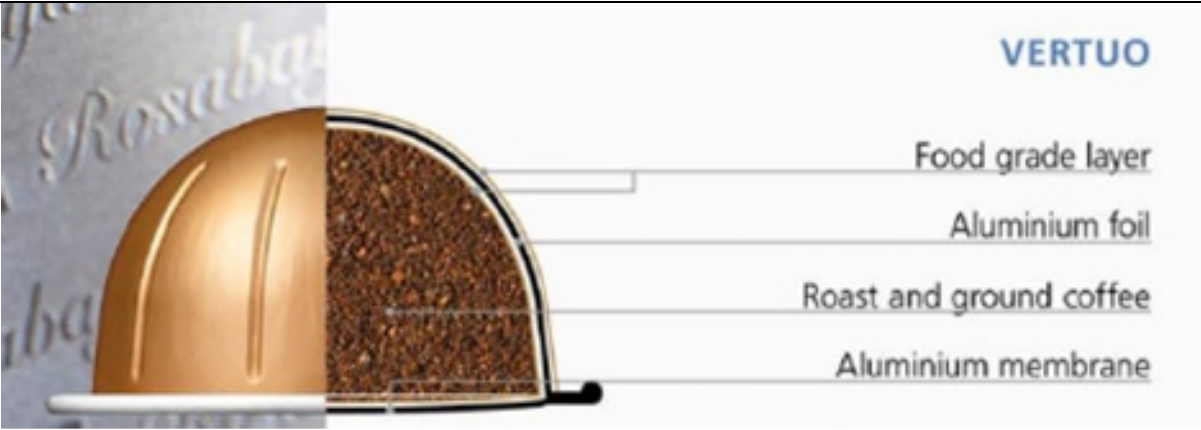
See also <https://www.youtube.com/watch?v=9zya9IN3rEA>;
<https://www.youtube.com/watch?v=T9nixM1467Y>.

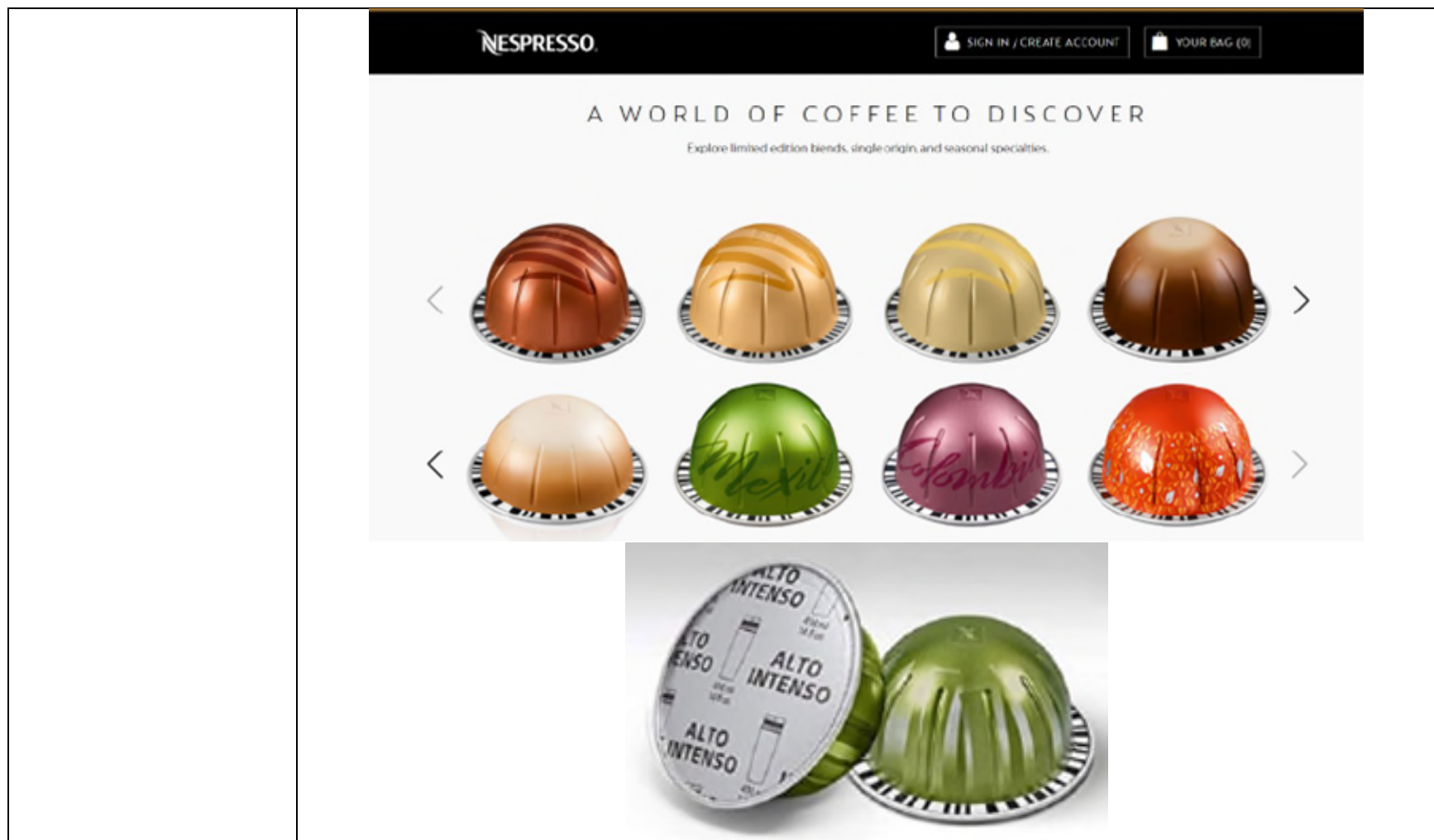
A Nespresso video from which the below images were captured shows and describes the Vertuo beverage system supplying water into the capsule.





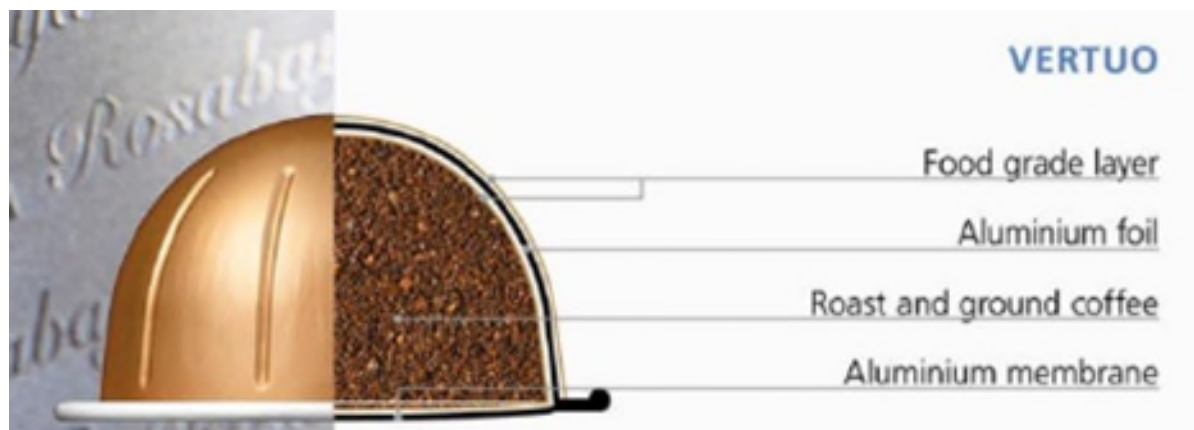
	 See https://www.youtube.com/watch?v=RTzUiX101C0.
[7c] wherein the single-serve capsule is free of a filter that is located inside of the cavity, the single-serve capsule also comprises:	The single-serve capsule of the Vertuo system is free of a filter that is located inside of the cavity. For example, the Vertuo capsule has a cavity that is free of a filter, as shown below.

	 See https://www.sustainability.nespresso.com/why-aluminium.
[7c-i] i. an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to a central axis of the base element;	The single-serve capsule of the Vertuo system also includes an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to a central axis of the base element. For example, the Vertuo capsules shown below have an upper end portion that has an annular convexity and a lower end portion that has an annular concavity relative to a central axis of the base element.





See <https://www.nespresso.com/us/en/vertuo-coffee-capsules>.

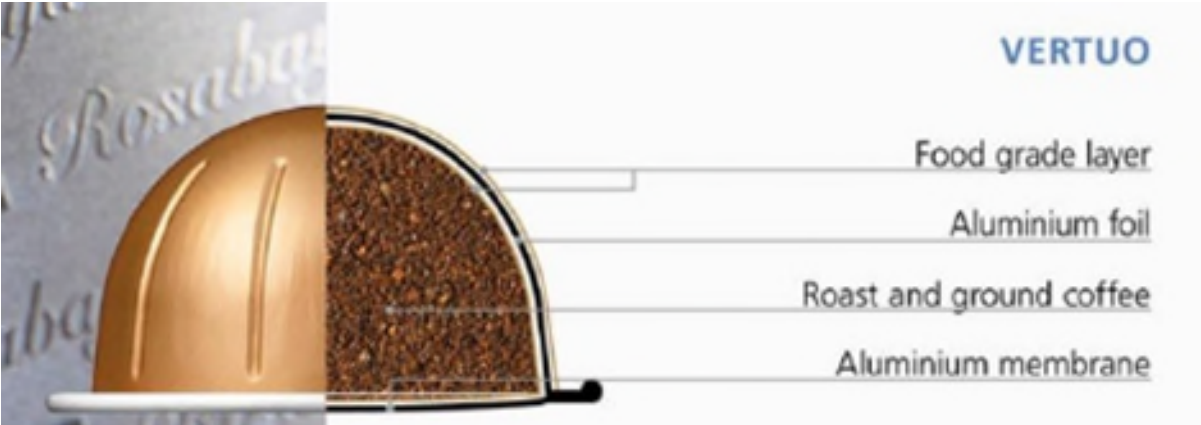


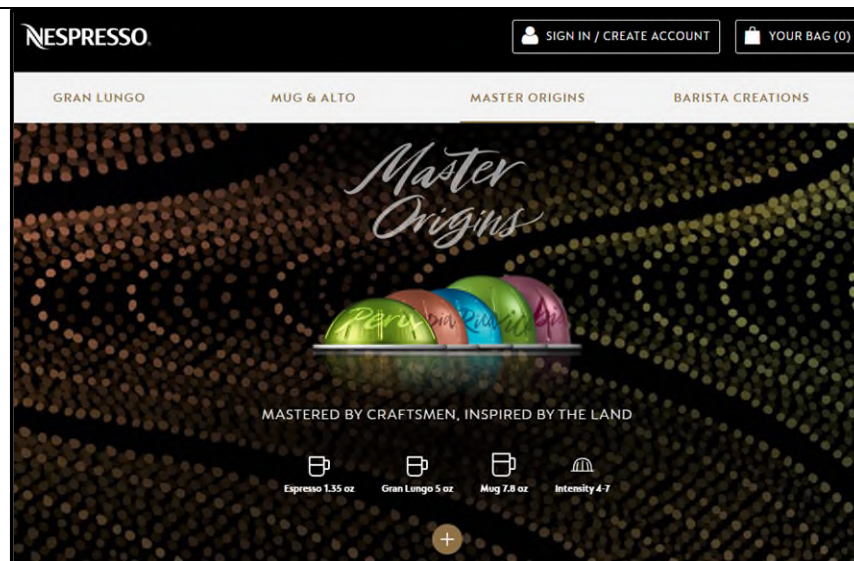
See <https://www.sustainability.nespresso.com/why-aluminium>.

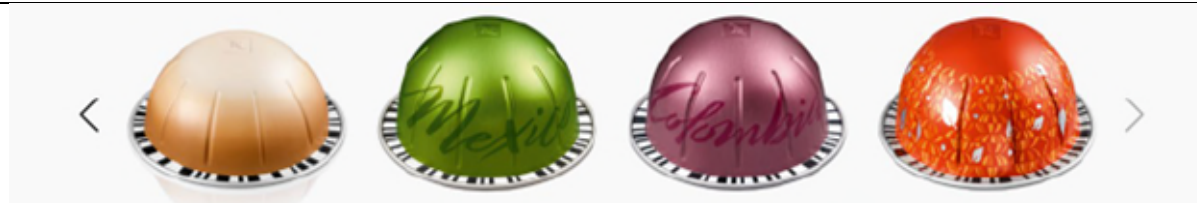
[7c-ii] ii. a barrier layer to prevent moisture or aroma from escaping out of

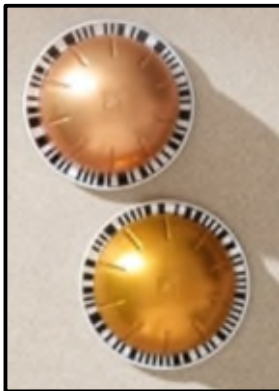
The single-serve capsule of the Vertuo system also includes a barrier layer to prevent moisture or aroma from escaping out of the single-serve capsule.

For example, as illustrated below, the Vertuo capsule includes a barrier layer to prevent moisture or aroma from escaping out of the capsule.

the single-serve capsule; and	 See https://www.sustainability.nespresso.com/why-aluminium.
[7c-iii] iii. a side wall having indentations;	The single-serve capsule of the Vertuo system also has a side wall having indentations. For example, the below images illustrate Vertuo capsules having a side wall having indentations.





	  See https://www.nespresso.com/us/en/vertuo-coffee-capsules.
[7d] wherein the beverage machine also comprises:	The beverage machine of the Vertuo system also includes the features shown and described below.
[7d-i] i. a mandrel that is configured to pierce the cover in a region that is offset	The beverage machine of the Vertuo system also includes a mandrel that is configured to pierce the cover in a region that is offset from the central axis of the base element.

from the central axis of the base element;

For example, the Vertuo beverage machine includes a mandrel that is configured to pierce the cover in a region that is offset from the central axis of the base element. The below image shows the cover punctured in a region offset from the central axis.



See

<https://www.youtube.com/watch?v=RTzUiX101C0>;

<https://www.nespresso.com/de/en/nespresso-vertuo-kapselmaschinen-technologie>.

	 See https://www.youtube.com/watch?v=RTzUiX101C0.
[7d-ii] ii. a seal that that is configured to seal against the cover in a region between a peripheral edge of the flange and the region of the cover that is pierced by the mandrel;	The beverage machine of the Vertuo system also includes a seal that is configured to seal against the cover in a region between a peripheral edge of the flange and the region of the cover that is pierced by the mandrel. For example, the below image illustrates a seal of the Vertuo machine that is configured to seal against the cover in a region between a peripheral edge of the flange and the region of the cover that is pierced by the mandrel.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

See also <https://www.youtube.com/watch?v=9zya9IN3rEA>;
<https://www.youtube.com/watch?v=T9nixM1467Y>.

[7d-iii] iii. a pair of holding arms for engaging opposite

The beverage machine of the Vertuo system also includes a pair of holding arms for engaging opposite sides of the single-serve capsule.

sides of the single-serve capsule; and

For example, the below image illustrates the beverage machine of the Vertuo system that includes a pair of holding arms for engaging opposite sides of the single-serve capsule.



See https://www.youtube.com/watch?v=_KOHPZXzcs.

The below image illustrates an example of engaging opposite sides of the capsule with a pair of holding arms.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

[7d-iv] iv. a dropping box for the

The beverage machine of the Vertuo system also includes a dropping box for the single-serve capsule to fall into.

single-serve capsule
to fall into;

For example, the below image illustrates a dropping box for the capsules to fall into.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

The below image further illustrates a dropping box for the capsule to fall into.



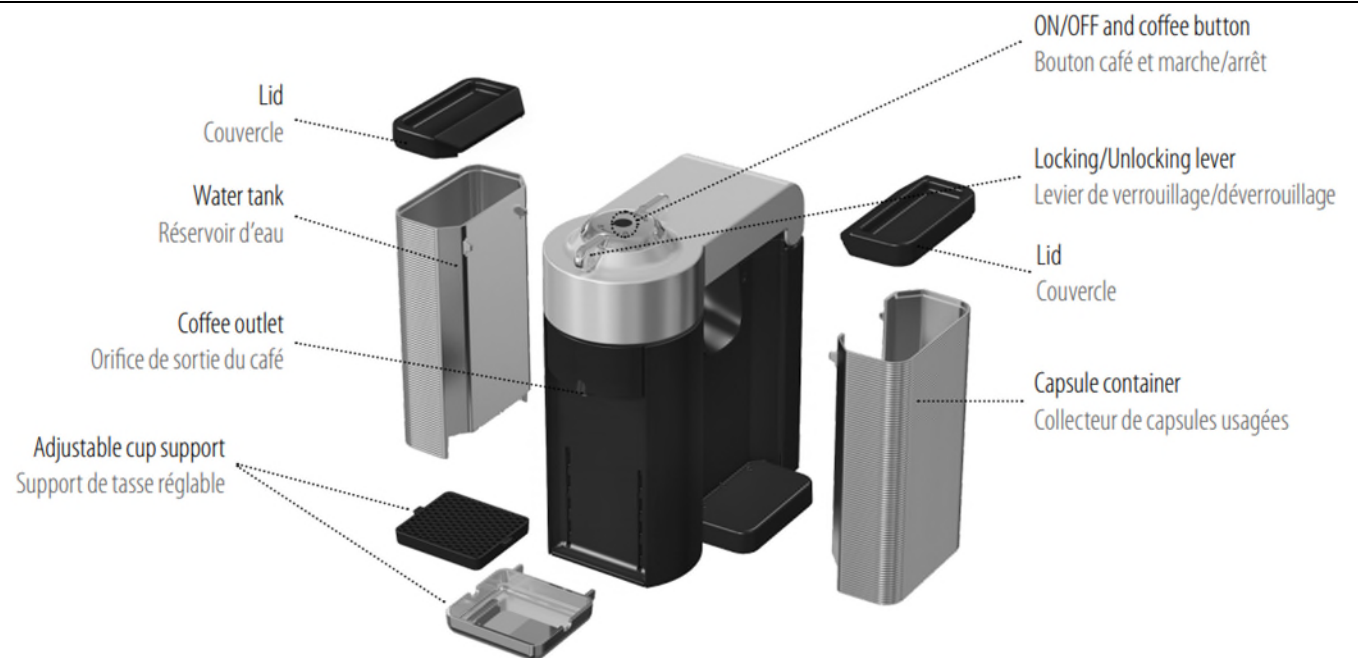
See <https://www.youtube.com/watch?v=RTzUiX101C0>.

The below image further illustrates a dropping box for the capsule to fall into.



See https://www.youtube.com/watch?v=__KOHPZXzcs.

The below image from the Vertuo User Manual illustrates and shows a dropping box (e.g., capsule container) that holds the dropped capsules.



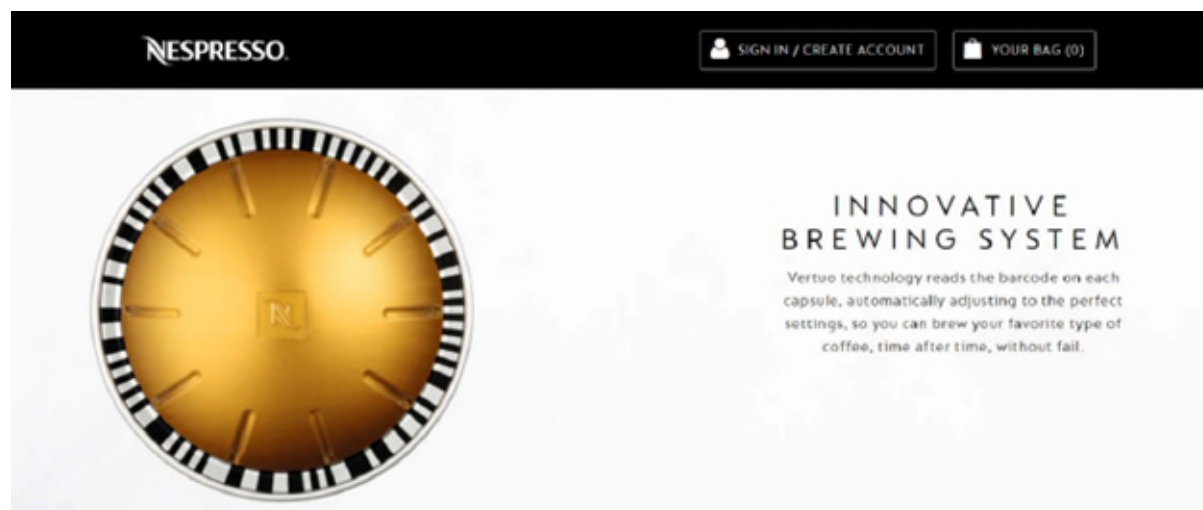
The below image from the Vertuo User Manual illustrates and describes that the system “automatically eject[s] the capsule.” The capsule is ejected (*i.e.*, dropped) into a dropping box.

	15. Turn the lever to the right and open the head to automatically eject the capsule. 15. Tourner la poignée vers la droite et ouvrir la machine pour expulser automatiquement la capsule. See also https://www.youtube.com/watch?v=9zya9IN3rEA; https://www.youtube.com/watch?v=T9nixM1467Y.
[7e] wherein the beverage machine, by reading or detecting the identifier with the sensor/detector, is configured to determine if the single-serve capsule belongs to a group of single serve capsules	The beverage machine of the Vertuo system, by reading or detecting the identifier with the sensor/detector, is configured to determine if the single-serve capsule belongs to a group of single serve capsules operable for use with the beverage machine, and only if the beverage machine determines that the single-serve capsule belongs to the group of single-serve capsules operable for use with the beverage machine is the pump controlled to push the water into the single-serve capsule. For example, the Vertuo beverage machine reads or detects the identifier with the sensor/detector. The Vertuo machine is configured to determine if the capsule belongs to a group of capsules operable for use with the beverage machine. If it is operable for use with the beverage machine, the pump of the machine is controlled to push the water into

operable for use with the beverage machine, and only if the beverage machine determines that the single-serve capsule belongs to the group of single-serve capsules operable for use with the beverage machine is the pump controlled to push the water into the single-serve capsule.

the capsule. The below images illustrate an example of reading or detecting the identifier and activating the pump to push water into the capsule.

The Nespresso website indicates that the Vertuo system “reads the barcode on each capsule.”



See <https://www.nespresso.com/us/en/choose-your-technology-vertuo>.

The below image illustrates a beverage machine of the Vertuo system.



See https://www.youtube.com/watch?v=_KOHPZXzcs.

The below image illustrates the Vertuo beverage reading or detecting an identifier on the capsule.



The below image illustrates another example of a laser of the Vertuo beverage machine scanning the rim of a capsule to read or detect the identifier.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

The below screenshot is from the Vertuo User Manual and describes that the Vertuo system reads or detects a barcode, which is an example of an identifier.



12. Push the button to start the coffee preparation. It will take some time before the coffee flow comes out (due to barcode reading and coffee pre-wetting).

12. Appuyer sur le bouton pour lancer la préparation du café. Un temps d'attente est nécessaire avant l'écoulement du café (due à la lecture du code barres et la mise en contact du café à de l'eau).

A variety of Nespresso videos explain how the apparatus reads or detects the barcode, which is an identifier, on the capsule.



Experience the Revolution of Coffee: Introducing the Nespresso VertuoLine

See, e.g., Nespresso “Experience the Revolution of Coffee: Introducing the Nespresso VertuoLine,” video at

<https://www.youtube.com/watch?v=yo40pcEfbPE&list=PLQ2eIUaAVWUyFvnlm-D0F60aAGaXl9Q&index=2>;

Nespresso, “Nespresso Vertuo: How To – Coffee Preparation,” video at https://www.youtube.com/watch?v=_KOHpZXzcs;

<https://www.youtube.com/watch?v=RTzUiX101C0>; Nespresso, “Nespresso VertuoLine: How To – Directions For Use,” video at <https://www.youtube.com/watch?v=9zya9IN3rEA>.

See also <https://www.nespresso.com/us/en/choose-your-technology#vertuo>.

Upon the Vertuo machine determining that the capsule belongs to a group of capsules operable for use with the beverage machine, the pump of the machine is controlled to push the water into the capsule.

For example, the below image illustrates the pump of the Vertuo system pushing water into the capsule after determining the capsule belongs to a group of capsules operable for use with the beverage machine.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

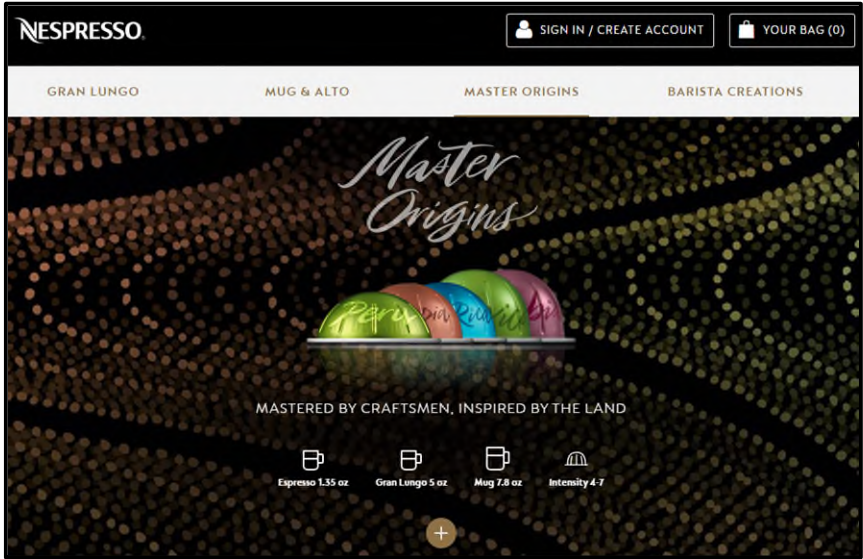
See also <https://www.youtube.com/watch?v=9zya9IN3rEA>;
<https://www.youtube.com/watch?v=T9nixM1467Y>.

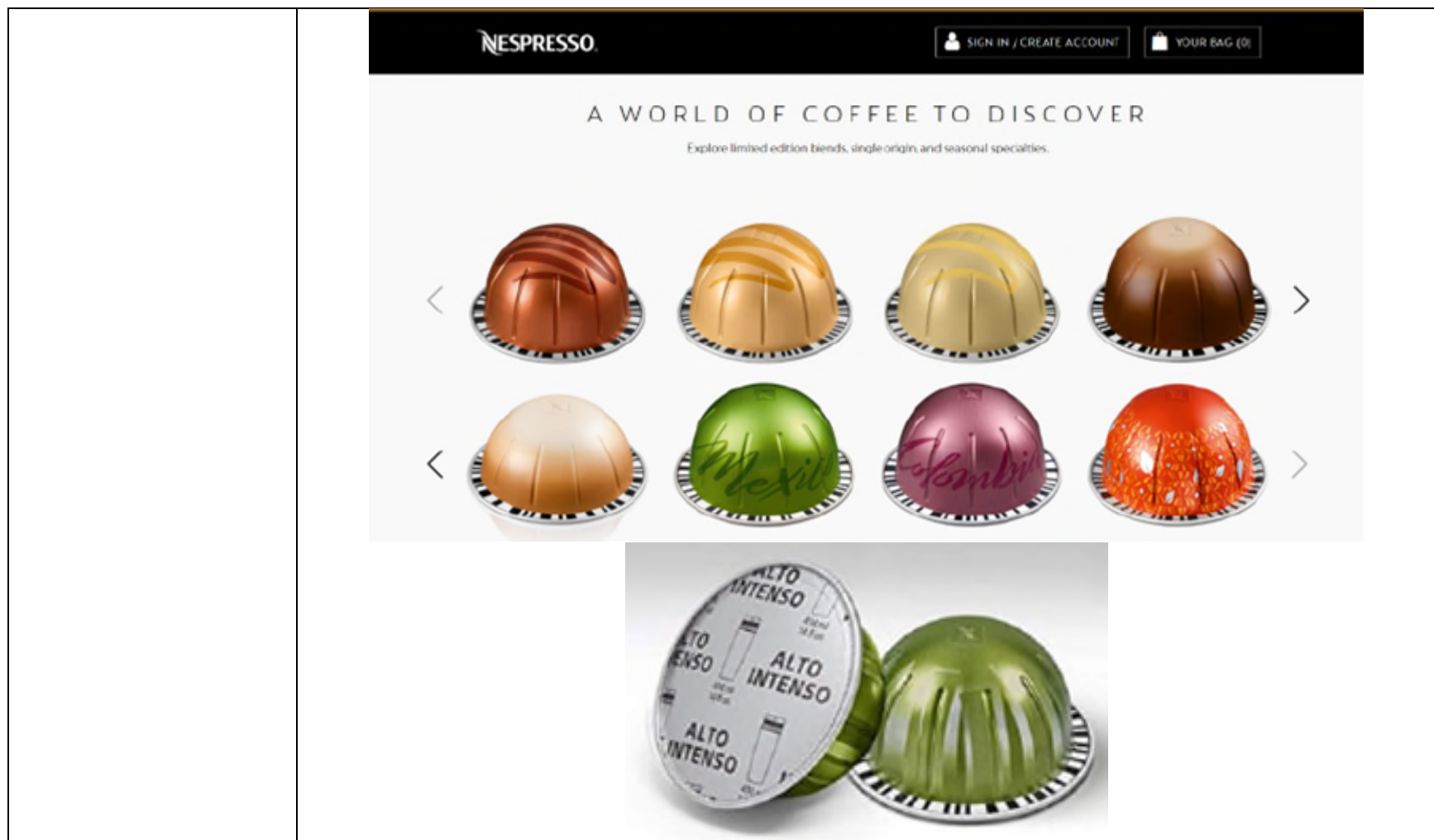
A Nespresso video from which the below images were captured shows and describes the Vertuo system pushing the water. The water is pushed only upon a determination that the capsule is operable with the machine.

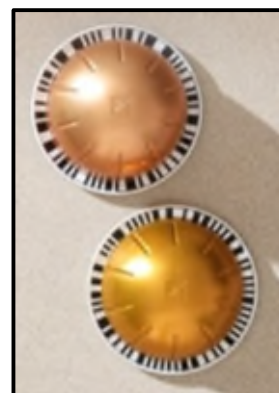
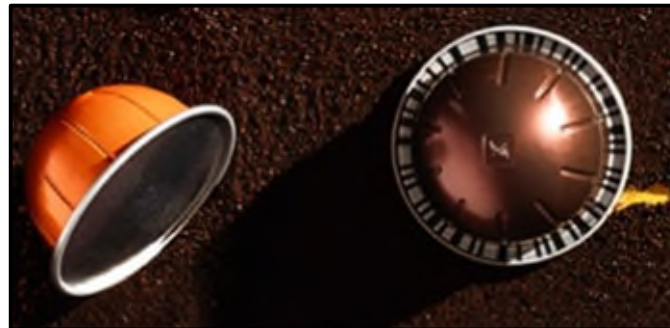




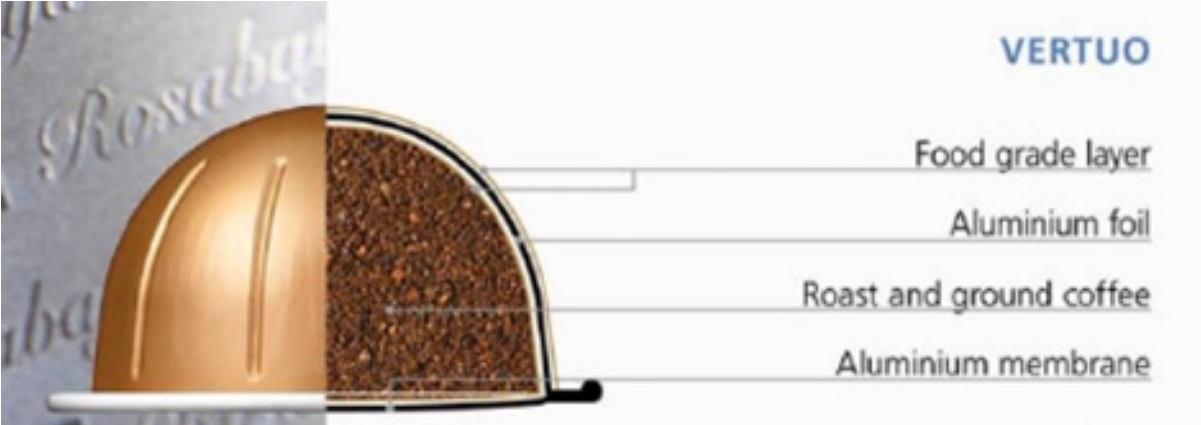


	See https://www.youtube.com/watch?v=RTzUiX101C0 .
8. The beverage system according to claim 7, wherein the base element comprises a bottom having an indentation.	The Vertuo beverage system according to claim 7, wherein the base element comprises a bottom having an indentation. For example, the below images illustrate Vertuo capsules where the base element has a bottom having an indentation. 



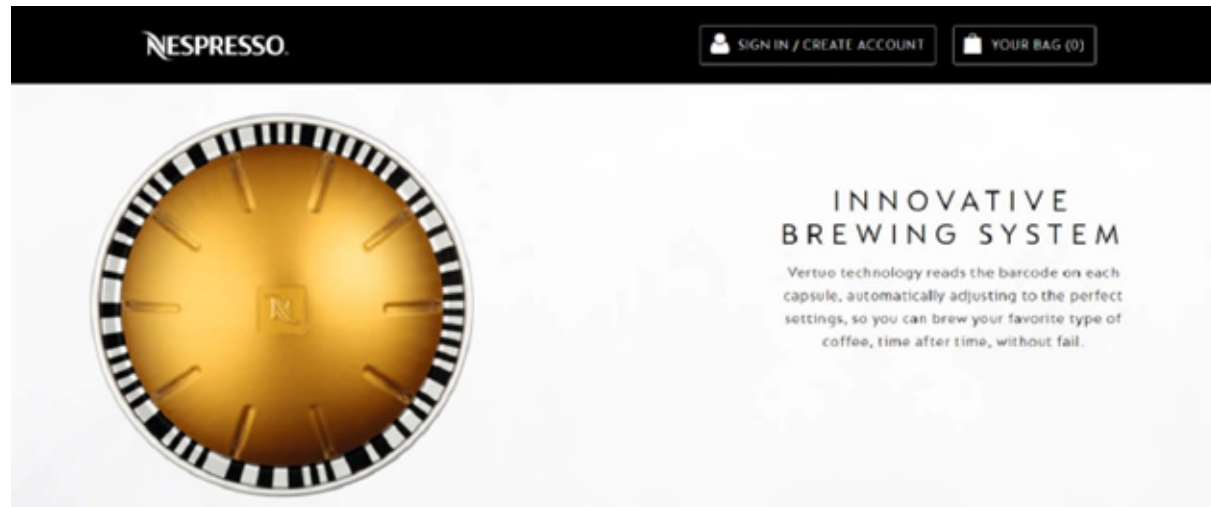


See <https://www.nespresso.com/us/en/vertuo-coffee-capsules>.

9. The beverage system according to claim 7, wherein the base element is made of a biodegradable material.	The Vertuo beverage system according to claim 7, wherein the base element is made of a biodegradable material. For example, the below image illustrates the base element of the Vertuo capsule being made of a biodegradable material.  See https://www.sustainability.nespresso.com/why-aluminium.
10. The beverage system according to claim 7, wherein the sensor/detector of the beverage machine is configured to read	The Vertuo beverage system according to claim 7, wherein the sensor/detector of the beverage machine is configured to read the barcode and compare the read barcode with a stored reference. The sensor/detector of the Vertuo beverage machine is configured to read the barcode and compare the read barcode with a stored reference.

the barcode and compare the read barcode with a stored reference.

For example, the Nespresso website indicates that the Vertuo system “reads the barcode on each capsule.”



See <https://www.nespresso.com/us/en/choose-your-technology-vertuo>.

The below image illustrates a beverage machine of the Vertuo system.



See https://www.youtube.com/watch?v=_KOHPZXzcs.

The below image illustrates the Vertuo beverage machine reading the barcode of the capsule. The read barcode is compared with the stored reference.



The below image illustrates another example of a laser of the Vertuo beverage machine scanning the rim of a capsule to read the embedded barcode for comparison to the stored reference.



See <https://www.youtube.com/watch?v=RTzUiX101C0>.

The below screenshot is from the Vertuo User Manual and describes that the Vertuo system reads the barcode.



12. Push the button to start the coffee preparation. It will take some time before the coffee flow comes out (due to barcode reading and coffee pre-wetting).

12. Appuyer sur le bouton pour lancer la préparation du café. Un temps d'attente est nécessaire avant l'écoulement du café (due à la lecture du code barres et la mise en contact du café à de l'eau).

A variety of Nespresso videos explain how the apparatus reads the barcode on the capsule.



Experience the Revolution of Coffee: Introducing the Nespresso VertuoLine

See, e.g., Nespresso “Experience the Revolution of Coffee: Introducing the Nespresso VertuoLine,” video at

<https://www.youtube.com/watch?v=yo40pcEfbPE&list=PLQ2eIUaAVWUyFvnlm-D0F60aAGaXl9Q&index=2>; Nespresso, “Nespresso Vertuo: How To – Coffee

Preparation,” video at https://www.youtube.com/watch?v=_KOHpZXzcs;

<https://www.youtube.com/watch?v=RTzUiX101C0>; Nespresso, “Nespresso VertuoLine: How To – Directions For Use,” video at <https://www.youtube.com/watch?v=9zya9IN3rEA>.

	<i>See also</i> https://www.nespresso.com/us/en/choose-your-technology#vertuo .
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