CULINARY GUIDE FOR:

CentriCook
Culinary Centrifuge

100%Lab 100%Chef

www.100x100chef.com

Centrifugation in modern cuisine

Initially used in scientific and industrial fields, centrifugation has emerged as a transformative process in contemporary gastronomy and mixology.

By harnessing centrifugal force, ingredients can be separated, clarified and texturised with unparalleled precision.

So, what is CentriCook's role in all this?
It is a **compact, high-performance tabletop centrifuge** designed specifically for **high-precision culinary** and **cocktail applications**. Unlike continuous flow systems, its **batch operation** provides **complete control** over the clarification cycle.

CentriCook is equipped with a **swinging-arm rotor system**, meaning the sample containers rotate on a mobile axis that aligns horizontally during rotation. This configuration significantly **improves phase-separation efficiency**, **reduces layer disturbance** and **maximises clarity of the supernatant**.

It offers new possibilities to:

- **Concentrate flavours without heat**.
- **Clarify liquids to exceptional transparency**.
- **Produce gastronomic components with distinct textures and applications**, such as concentrated pomades that retain a high fidelity to the original flavour.

It is an indispensable tool for chefs, mixologists, and food technicians seeking to explore the physical potential of ingredients through advanced separation techniques.

This file includes links (internal to the file, and external URLs). These are ***highlighted in different colours*** to distinguish them for easier reading and interaction with the guide. The product codes mentioned at the end of the file are also linked to make them easier to find.

1. FUNDAMENTAL PRINCIPLES AND OPERATION

1.1. Understanding phase separation

During **centrifugation**, the **different components of a liquid separate into layers according to their density**. In most cases, **three main phases** can be observed:

Top layer (supernatant):

A clear liquid phase, rich in water and soluble compounds.

Middle phase:

A more turbid or emulsified layer that may contain suspended particles, colloids or partially soluble proteins.

Bottom layer (sediment or pellet):

Formed by dense solids, fibres, starches or insoluble residues.

In preparations with **high fat content** (such as stock, fish soups, cream or emulsified sauces), a **fourth visible layer of floating fat may form**, which should be separated before or after the process depending on the objective.

Understanding these layers and their properties allows the operator to use each one independently to create products with differentiated sensory profiles, textures and functions.

1.2. Technical operation of CentriCook

CentriCook operates via a high-speed rotation system that generates centrifugal force capable of separating liquid components according to density. The central rotor hosts four compartments (250 ml bottles) where liquids to be processed are placed.

Key operational characteristics

3 different sizes:

Choose between 1 liter, 3 liters, or 1 liter with cooling (down to -20 °C).

Rapid acceleration:

The machine reaches up to 4000 RPM in under 15 seconds. Which is equivalent to 67 revolutions per second.

Safety system:

Equipped with a safety interlock that prevents opening the lid during the cycle.

Swinging-arm action:

Containers tilt progressively until they are horizontal, allowing centrifugal force to act perpendicular to the axis.

Efficient cycles:

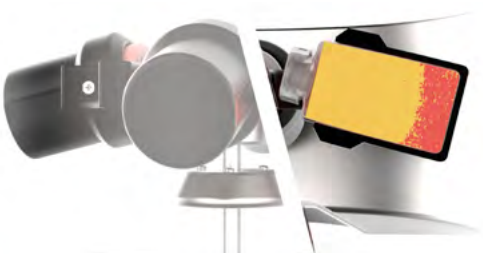
A complete clarification cycle for 1 litre (4 x 250 ml) takes approximately 10 minutes.

Interfaz de usuario:

El panel frontal permite ajustar la velocidad (RPM/RCF) y el tiempo.

Design:

Quiet and stable build for professional use.



Discover how it works

YouCook

1.3. Preparing liquid for centrifugation

Proper preparation of the liquid prior to loading it into the CentriCook is essential for optimal performance, maximum centrifugation efficiency and high-quality results.

The process phases are detailed below:

Step 1: Selection and initial preparation of the liquid

The liquid to be centrifuged may come from various sources: fresh juices, stocks, extracts or liquid blends.

To achieve a uniform texture and facilitate subsequent separation, it is recommended to process the liquid with an appropriate blending device. Different technologies can be used depending on the type of ingredient and the desired result:

- Traditional blender: produces a homogeneous liquid but may increase solids in suspension.
- Cold press: preserves nutrients and reduces oxidation, ideal for delicate juices.
- Immersion blender or food processor: offers fine chopping and controlled mixing, providing process versatility.

Step 2: Coarse filtration and sieving

After blending, it is essential to remove large particles and solids that could hinder centrifugation and decrease efficiency.

Pass the liquid through a *Claribag de 100 µm*. This first filter acts as a coarse sieve to remove pulp residue, fibers, or large particles that we initially want to discard.

This process reduces the solids load while increasing the productivity of the clarified product. Additionally, the ointment will have a finer texture.

Step 3: Fine filtration and sieving

Next, to further optimize the purity of the liquid, the previously filtered liquid is passed through a *Claribag de 50 µm*.

This fine filtration removes smaller particles, sediments and fine solids, ensuring a smoother texture and fewer impurities. This step is crucial to improve CentriCook efficacy, as introducing a cleaner liquid maximises separation and clarification, yielding better sensory and technical results.

Step 4: Centrifugation

With the liquid thoroughly clarified and filtered, load it into the CentriCook for centrifugation.

The purity and fineness of the liquid enable the machine to operate at maximum efficiency, achieving greater throughput and optimal phase separation.

Additionally, interruptions due to blockages or cleaning needs are minimised, increasing productivity and final product quality.

Important!

Opposite containers must be of equal weight to prevent imbalance during the cycle.

1.4. Handling liquid post-centrifugation

Once the centrifugation cycle is complete, extracting the clarified liquid is critical to maximise purity and yield. Several techniques exist to separate the obtained phases:

Careful decanting

For liquids with a well-defined phase separation, the supernatant can be carefully decanted, pouring it slowly to avoid mixing with the sediment or the middle phase.

It is important that this decanting is done over a *Claribag* to remove small floating foam residues that have trapped certain impurities, thus ensuring complete clarification.

The paste, which is almost solidified, remains at the bottom and will be removed later with a spatula.

Use of pipette or syringe

For greater precision, especially with small volumes or when layers are delicate, a transfer pipette or syringe can be used to extract the desired liquid with greater control.

Cooling or freezing

For preparations with a floating fat phase or to solidify sediment, cooling or freezing the bottles after centrifugation can facilitate cleaner physical separation. Once the unwanted layer has solidified, the remaining liquid can be poured or scraped off more easily.

2. APPLICATIONS & CULINARY TECHNIQUES

2.1. Técnicas culinarias fundamentales

Centricook allows separation of liquid components by centrifugal decantation. This enables **clarification without heat**, **manual filtration**, **thickeners or enzymes** such as pectinases, although these can be useful in some cases (*see section 3*).
It is especially useful for obtaining clean and concentrated liquids, or for controlled separation of fats, solids and dense phases.

Applicable techniques:

- Centrifugation
- Clarification of liquids with suspended particles
- Decantation
- Concentration of solids
- Phase separation
- Impregnation (by prior phase separation)
- Whey removal from dairy products
- Heat-free concentration of purées or vegetable juices
- Improvement of texture, clarity and stability of liquid preparations.

2.2. Specific culinary uses

KITCHEN & PASTRY →
- Clarification of stocks, broths and vegetable juices.
- Concentration of purées into pomades.
- Separation of clarified fats and aromatic fats.
- Whey-derived products: butter, buttermilk, Greek yoghurt, *labneh* and *ŷamid*.
- Extraction of aromatic phases for sauces.

COCKTAIL MAKING →
- Clarification of citrus and tropical juices.
- Removal of solids from alcohol macerations.
- Creation of clarified cocktails with high visual impact.
- Infusion of alcohols with fats without microbiological risk (fat washing).

COFFEE AND BEVERAGES →
- Clarification and filtration of cold brews, plant milks and fermented drinks.
- Removal of turbidity in beverages macerated with fruit, cacao or spices.

2.3. Creative uses for sediment and pellet

In addition to clarified juice, **CentriCook enables you to recover a fibre-rich pomade containing pulp, aromas and concentrated colours**.

Rather than being waste, this by-product becomes a valuable raw material for new recipes. Sometimes, this sediment has an extremely silky, paste- or pomade-like texture with a very pleasant taste and feel, making it ideal for delicate dishes. It can be served as it is, dehydrated, fried, pulverised, or used as a base for crackers, batters, pastes, doughs or fermentations.

Thanks to its incredible density and concentrated flavour, the pellet enables the creation of products with their own identity that differ from the original liquid, promoting highly expressive, zero-waste cuisine.

3. ADVANCED CULINARY TECHNIQUES

3.1. Enzyme-assisted centrifugation

Combining enzymes with centrifugation **improves the extraction yield of juices and liquids**, **reduces turbidity** and produces **more defined phases**. In some fruit juices, such as peach, pear or banana, enzymes should be used to improve the effectiveness of clarification. In other cases, enzymes can improve the result slightly; in some cases, however, there is no difference because the product is clarified by centrifugal force alone.

Enzymes **can be applied in two ways: directly to the product before pressing** or blending to facilitate juice release; **or to the extracted juice before centrifugation** to break down the compounds that cause turbidity and improve phase separation. They do not require heat to activate, although an adequate temperature can accelerate their action.

They work according to the following principles:

3.1.1. Factors affecting enzymatic activity

Temperature:

Optimal activity between 30–50°C. High temperatures (>60°C) denature them.

Time:

The lower the temperature, the longer the time required. They act slowly in cold conditions.

pH:

Each enzyme has a specific pH range in which it is most efficient.

Humidity:

They require an aqueous medium. They do not work in dry conditions.

Concentration:

More enzyme means faster reaction speed, up to a certain limit.

Oxygen:

Some enzymes require oxygen for their activity; others can function without it.

3.1.2. Recommended enzymes and applications with CentriCook

		Optimal conditions	Applications with CentriCook
CELLULASE ↳ Cellulose (plant cell wall)	→ Breaks down plant structures	40–50°C pH 4–5.5 30–60 min	Clarification of vegetable juices; chlorophyll extraction
PECTINASE ↳ Pectins (fruits, vegetables)	→ Liquefies pulp and reduces viscosity	30–50°C pH 3.5–5 15–60 min	Clean, bright juice; reduced turbidity
AMYLASE ↳ Starches (vegetables, cereals)	→ Converts starch to sugars	55–65°C pH 5–6 10–30 min	Clarification of starchy purées; extraction of sweet juices
PROTEASE ↳ Dairy and plant proteins	→ Breaks down protein structures	30–60°C pH 5–7 15–45 min	Reduce viscosity in yoghurt; whey separation
LIPASE ↳ Fats and triglycerides	→ Breaks lipid structures	30–40°C pH 6–8 30–60 min	Improve separation of fat phases in emulsions

3.1.3. General procedure for enzyme-assisted centrifugation

1. Prepare the sample: chop or blend the ingredient as required.
Clarification of liquids containing suspended particles.

2. Add the enzyme: Incorporate the appropriate enzyme.
Typical dosage ranges from 0.01% to 5% of the total product weight, adjustable according to product type, purity, pectin concentration and desired effect.

Enzymes can be applied in two ways:

- Directly onto the product before pressing or blending to facilitate juice release.
- Or, add to the juice already extracted, before centrifugation, to improve clarification and phase separation.

3. Incubate: Maintain the mixture at the enzyme's recommended temperature and pH. Reaction time varies from 30 minutes to several hours depending on temperature and matrix.

4. Centrifuge: Process with **CentriCook**.
(recommended: 2–4000 RPM for 2–10 minutes).

4. Separate phases: Carefully collect the clarified liquid, fibre, fat or other solids obtained.

¡Additional considerations!

- **Enzymes can be used cold** with prolonged incubation times (4–24 hours), although controlled temperature incubation is recommended to optimise performance.
- The **correct use** of enzymes significantly **reduces the amount of suspended solids**, **improves extraction yield** and allows **clean phases** to be obtained for culinary or technical use.
- For raw preparations or no-heat cooking, **working at ambient temperature** with extended reaction time is possible.
- Pomades made with enzymes are not recommended for use. Firstly, they have a **more acidic taste**, which can distort the flavour. Secondly, the enzyme particles remain concentrated and **must be deactivated** by heating before consumption.

3.1.4. Effect of enzymes on juice extraction

The table below shows examples of products that have been prepared for juice extraction.
A uniform layer of enzymes has been applied to the products by sieving or sprinkling.
The products are then mixed and left to rest for approximately one hour at room temperature.
This **pre-treatment with enzymes improves the efficiency and quality of juice extraction**.

Product	Original weight (g)	Liquid extracted (g)	Solids (g)	% Juice extraction
Carrot	200	135	65	67,3 %
Carrot pectinase	200	180	20	90.2 %
Kiwi (2% pectinase)	200	112	88	55.9 %
Kiwi (5% pectinase)	200	111	89	55.6 %
Apple	200	178	22	89.1 %
Apple pectinase	200	191	9	95.3 %
Apple cellulose	200	192	8	96.0 %
Apple cellulose + pectinase	200	186	14	93.0 %

Kiwi test with (+) and without pectins.

The other method of application, which consists of adding enzymes directly to the juice already extracted to improve clarification and phase separation, will be analysed in detail in *section 4*, along with other related experiments.

3.2. Milk washing and clarification: optimising phase separation

Clarification via **milk washing** is based on **controlled coagulation of milk proteins**, primarily casein, which occurs when the system pH approaches its isoelectric point, around 4.6. At this point, proteins lose surface charge and aggregate, forming a coagulate network that traps suspended particles, tannins, polyphenols and other colloidal solids present in the liquid to be clarified.

Subjecting this mixture to centrifugation with **CentriCook** achieves **efficient phase separation**: a clean, transparent supernatant and a compact solid sediment.

However, pH is only the starting point. The **chemical composition and matrix of the liquid play a determining role in process efficacy**.

- **Liquids rich in tannins and organic polyphenols**, such as some bitters or citrus juices, favour **stronger coagulation and superior clarification**.
- Whereas beverages with **high concentrations of sugars**, **synthetic colourants** and **inorganic acids** (such as Coca-Cola) tend to produce **weak curds and cloudy supernatants** even at the same pH.

Other factors such as temperature, the amount and type of available proteins (preferably skimmed milk to avoid fatty emulsions) and resting time prior to centrifugation also significantly **influence clarification quality**.

To achieve a more aggressive separation and clarification in complex liquids like *Coca-Cola*, it is recommended to adjust the pH to more acidic values, for example around 3.7. Lowering the pH below the traditional isoelectric point forces a more intense and rapid coagulation of milk proteins, including denaturing proteins other than casein. This overcomes interference caused by sugars and phosphoric acid in the drink, allowing proteins to form firmer curds that better trap colourants and suspended particles.

As a result, centrifugation with **CentriCook** yields a much clearer supernatant and a **more defined phase separation** while better preserving flavour intensity without dilution.

Therefore, to improve separation and clarity with **CentriCook**, it is essential to adjust the pH of the liquid-milk mixture to values close to or below 4.6, and for complex matrices consider descending to 3.7 to maximise protein coagulation.

Understanding the chemical nature of the base liquid and controlling these variables allows optimisation of the process and consistent, crystalline liquid phases.

In particularly difficult liquids, supplementing the process with pre-treatments such as enzymes, proportion adjustments or other clarifiers may be useful.

3.2.1. Example proportions for milk wash with CentriCook

Base Liquid	Liquid (g)	Milk (g)	% milk (of total)	Notes
Red Wine	210	40	16%	Wine coagulates easily
Bitter Kas	215	35	14%	High in citric acid
Cold Brew Coffee	200	50	20%	May need an acidity boost
Horchata	190	60	24%	Often requires acid (citric acid / vinegar)
Coca-Cola	190	60	24%	Phosphoric acid; coagulates if mixed slowly. Use citric acid to assist
Orange juice	210	40	16%	Acidic; coagulates easily
Pineapple juice	210	40	16%	Acidic; may benefit from slightly warmer milk
Black vermouth	215	35	14%	Moderate acidity, similar to wine

The following page shows the samples obtained from the *Bitter Kas* tests, followed by the various tests conducted to achieve the best possible result when preparing black vermouth.

Bitter Kas milk wash.

Tests with black vermouth varying centrifugation times and the percentage of used milk.

3.3. Fat Washing: Extraction of Fatty Aromas and Phase Separation

Fat washing is a technique that **infuses aromas from a fat into a liquid phase**, usually a distilled spirit, and then removes the residual fat completely by chilling and centrifugation.
Thanks to **CentriCook's** precision, this technique becomes faster, more controlled and more efficient, yielding **clean, bright flavoured liquids without visible fatty residues or greasy textures**.

THE PRINCIPLE:

It relies on migration of lipophilic aromatic compounds (fat-soluble) from the fat phase into the alcohol.

Once transfer has occurred, cool the mixture to solidify the fat and then centrifuge at 4000 RPM for 5–10 minutes at low temperature. The result is a clear phase separation: the flavoured liquid at the bottom, and the fat (solid, semi-fluid or liquid) at the top or compacted as a disc.

Sample with walnut oil.

RESULT:

On top:

Solidified or semi-liquid fat, which may appear as a layer or a compact disc.

At the bottom:

The aromatised liquid.

Extracting the aromatic liquid:

Not all fats solidify completely; semi-liquid layers may remain, as seen in the walnut oil sample. In such instances, **we recommend using a syringe to penetrate the layer of solid fat and ensure clean extraction of the liquid**.

Key factors affecting process efficacy

Type of fat

Fats **with a high solids content**, such as butter, bacon, marrow and mature cheeses, provide **greater aromatic intensity** but also have a greater t**endency to emulsify**. In contrast, **clarified fats and neutral oils** produce less residue and achieve **cleaner separation** after centrifugation.

Alcohol strength

Spirits between 35% and 50% ABV are ideal for capturing lipophilic compounds.

Ratios and times

The **fat/liquid ratio** and maceration time (from 1 to 12 hours) **determine the intensity of the extracted flavour**.

Cooling temperature

Cooling the mixture to 0–4 °C before centrifuging improves fat solidification. Partial freezing can help prevent unwanted emulsions.

Type of liquid matrix

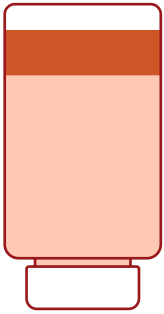
Liqueurs with **high sugar**, **pectin** or **protein** content (such as creams or thick juices) **tend to emulsify easily**. In these cases, it is recommended to use de-pectinising enzymes or to clarify the liquid beforehand.

TIP: TURN THE BOTTLES UPSIDE DOWN BEFORE CENTRIFUGATION

We recommend **inverting the bottles** just before placing them in the centrifuge when working with **fats that solidify when cooled**, such as butter, duck fat and marrow. This makes it easier to collect the clarified liquid:

- The solidified fat will accumulate at the bottom of the bottle while the liquid fat remains on the surface.
- The clarified liquid remains at the mouth of the bottle, ready to be poured without passing through the fat layer.

Do not invert the bottle if working with fats that remain liquid or semi-liquid when cooled.



3.4. Clarification assisted by gelling agents

Centrifugal clarification is optimised by **using gelling agents** that form a network to trap and compact suspended particles for **easy separation**. Gelatine, a thermo-reversible agent, forms a protein network that coagulates on cooling. This coagulation encapsulates solids, which are then concentrated into a dense sediment by centrifugal force. Its thermo-reversible nature allows the clarified liquid to regain fluidity when heated.

Other gelling agents provide different clarification mechanisms:

- **Agar-agar** features marked thermal hysteresis; it gels on cooling but requires a considerably higher melting temperature, making it suitable where **stability at room temperature** is desired.
- **Gellan gum** can form a 'fluid gel' that acts as an ultra-fine filter, effectively **retaining particles** without the liquid losing flow.
- Hydrocolloids such as **xanthan gum modify liquid viscosity** to stabilise particle suspension, making it easier for centrifugal force to separate them. Choice of gelling agent is therefore fundamental to **control clarification and the final textural properties**.

Tests with different gelling agents.

3.5. Preservation and shelf-life improvement

Centrifugation offers key advantages for preservation in culinary contexts, especially when preparing liquids like juices, stocks or infusions. By **applying centrifugal force**, solids and liquids can be separated precisely, **removing** suspended particles, **oxidative enzymes and other compounds that accelerate degradation**. This process not only produces clearer, more visually appealing liquids but also significantly reduces microbial load and the risk of premature fermentation or spoilage.

By removing solids and enzymes responsible for oxidation, centrifuge-clarified liquids show **extended stability over time**, **retaining organoleptic characteristics** for several days **without preservatives or heat treatments**. This technique is especially useful in cocktail bars, kitchen mise en place or large-scale production where preservation of flavour, colour and freshness is essential.

HOW CENTRIFUGATION HELPS SHELF-LIFE:

- Removal of enzymes — Eliminates oxidative enzymes (PPOs, peroxidases).
- Particle reduction — Removes solids that may degrade or ferment.
- Microbial load — Reducing suspended matter can inhibit microbial growth.
- Oxidation risk — Clarified liquids oxidise more slowly.

APPLICATIONS:

- Clarified citrus juices for high-volume cocktail bars.
- Clarified tomato, cucumber or pepper water as savoury bases.
- Clarified pineapple or apple juice for long-term batch preparation.

4. TECHNICAL CASES & ANNEXES

4.1. Examples of processing and visualization of phase separations

This section provides specific examples and parameters for various ingredients processed with CentriCook. Unless otherwise stated, tests were performed using the following parameters: 4000 RPM for 8 minutes.

For enzymes, 5% of each enzyme was used per trial, with an incubation time of at least 1 hour at 40 °C.

Sediment Middle phase Top layer

Boiron bergamot (250 g):

Boiron raspberry (250 g):

Boiron pumpkin (250 g):

Boiron coconut (250 g):

Juiced orange (250 g):

Juiced orange (5% pectinase) (250 g):

Juiced lime (250 g):

Juiced lime (5% pectinase) (250 g):

Juiced pear (250 g):

Juiced pear (5% pectinase) (250 g):

Pear test with and without pectinase (+).

Juiced apple (250 g):

Juiced apple (5% pectinase) (250 g):

Juiced peach (250 g):

Juiced peach (5% pectinase) (250 g):

Juiced kiwi (250 g):

Juiced kiwi (5% pectinase) (250 g):

Juiced watermelon (250 g):

Juiced watermelon (5% pectinase) (250 g):

Juiced corn (250 g):

Juiced corn (5% amylase) (250 g):

Juiced potato (250 g):

Juiced potato (5% amylase) (250 g):

Corn and potato tests with (+) and without amylase.

Juiced beetroot (50 g gelatine) (250 g):

Juiced arugula (250 g):

Juiced spinach (250 g):

Juiced pumpkin (gelatine 10%) (250 g):

Juiced cucumber (gelatine 10%) (250 g):

Juiced pineapple (gelatine 10%) (250 g):

Juiced oats (250 g):

We achieve a strong layered phase separation.

Coconut milk (250 g):

Dairy milk (250 g):

Dairy milk with 2% vinegar (250 g):

A type of fresh, unripened cheese (Paneer) is formed.

Cream 35% fat (210 g):

Produces butter and buttermilk.

Goat milk (210 g):

Test with coconut milk before and after centrifugation.

Horchata (250 g):

We obtain a slight phase separation.

Plain yogurt (250 g):

Produces Greek yogurt or *labneh*.

Greek yogurt (250 g):

It produces a goat cheese log type of texture (more crumbly, due to whey separation).

Broth Milk wash (250 g):

Clarified with 4% of vinegar.

Black vermouth milk wash (25% of milk) (250 g):

No acid added.

Black vermouth milk wash (14% of milk) (250 g):

No acid added.

Orange juice concentrate milk wash 1:5 (250 ml):

No acid added.

Bitter Kas milk wash (250 g):

A pH <4 is recommended.

Coca-Cola milk wash (250 g):

A pH between 3.7 and 3.9 is recommended.

Dill oil (250 g):

We obtain a marked phase separation.

Parsley oil (250 g):

We obtained clarified oil with a marked phase separation.

Tests with equal amounts of oil from different herbs (left: basil / right: parsley).

Mint oil (250 g):

We obtained clarified oil.

Herbal oil (250 g):

We obtained clarified oil.

Gochujang (250 g):

We get an umami broth.

Beef broth with pineapple (250 g):

Broth with 3% pineapple.

Orange juice fat wash with butter (250 g):

It produces a flavoured liquid with a lot of taste.

Orange juice fat wash with shea butter (250 g):

It produces a flavoured liquid with a lot of taste.

Orange juice fat wash with coconut oil (250 g):

It produces a flavoured liquid with a lot of taste.

Orange juice fat wash with beef fat (250 g)

It produces a flavoured liquid with a lot of taste.

Pure almond paste (250 g)

Conseguimos aceite puro.

Pure hazelnut paste (250 g)

Conseguimos aceite puro.

Pure pistachio paste (250 g):

Conseguimos aceite puro.

Fat wash made from orange juice with coconut, beef fat, shea butter, and butter.

Beef fat (125 g)

We observe a separation of impurities.

Ground coffee (250 g)

We get cold brew.

Nespresso coffee (250 g)

Conseguimos cold brew.

Granini juice (250 g):

We observe limited clarification.

Juiced carrot (250 g):

Juiced carrot (5% pectinase) (250 g):

Juiced kiwi (2% pectinase) (250 g):

Juiced kiwi (5% pectinase) (250 g):

Juiced apple with 5g of cellulose (250 g):

On one side, we see juiced berries before it is centrifuged, and on the other, the same juice, but this time centrifuged and separated into phases.

Deconstructed Black Trumpet à la Crème

Ingredients

400 g black trumpet mushrooms
160 g butter
6 u garlic cloves
70 g Cabernet Balsamic vinegar
600 g heavy cream (35% fat)
200 g whole milk
600 ml veal stock
pinch of salt

Approximate yield

160 g pomade
140 g butter
400 g concentrated stock

Method

1. Clean the black trumpets carefully and dry thoroughly.
2. Add the mushrooms to a hot pan and evaporate the excess water.
3. Sweat lightly with a pinch of salt.
4. Incorporate the Cabernet Balsamic vinegar and reduce briefly.
5. Add the butter and toast until nutty notes appear.
6. Add the milk and cream (35% fat) and reduce by half.
7. Pour in the veal stock and reduce again by half.
8. Cover and cook gently over very low heat for 30 minutes.
9. Pass the entire mixture through an *Omega Juicer*, then a fine sieve, and finally a *Claribag 50 µm*.
10. Collect the liquid obtained (approx. 1 L) and fill four *250 ml CentriCook bottles*.
11. Place the bottles upside down in the CentriCook and centrifuge at 4000 rpm for 10 minutes.
12. Chill until the fat has fully solidified.
13. Keeping the bottles inverted, carefully remove each phase in the following order:
    - Stock (lower liquid phase): reserve for later use.
    - Dark, light floatant layer: discard.
    - Pomade (intermediate phase): extract gently with a small silicone spatula and reserve.
    - Solidified fat: break into small pieces and wash in ice water; treat as traditional butter (wash, knead, and reserve).

Applications:

Trumpet Pomade

Technical process

1. Mold into 5 g portions using silicone molds.
2. Store refrigerated at 4 °C until service.
3. Unmold and temper on the plate at 20–22 °C before serving.

Trumpet Butter

Technical process

1. Place the butter in the bowl of a *KitchenAid* fitted with the paddle attachment.
2. Add flake sea salt, freshly ground black pepper, and Arbequina first-press olive oil, mixing until fully incorporated and homogeneous.
3. Portion into 5 g silicone molds.
4. Refrigerate at 4 °C until service.
5. Unmold and temper on the plate at 20–22 °C before serving.

Trumpet Stock Fluid Gel

Ingredients

400 g concentrated trumpet stock

2 g *Agar* (agar-agar equivalent to 5 g/L)

0,16 g *Xtan* (Xanthan gum equivalent to 0.4 g/L)

Final texture

Smooth, elastic, and stable at room temperature

Method

1. Heat the concentrated stock to 40 °C.
2. Add the *Xtan* and blend with an immersion blender until fully dispersed.
3. Add the *Agar* while mixing continuously.
4. Raise the temperature to 85 °C and hold for 2 minutes.
5. Filter through a *Claribag 50 µm*.
6. Pour into a container to cool.
7. Cool until fully gelled.
8. Blend at high speed until a smooth, glossy fluid gel is obtained, without incorporating air.
9. (If necessary, remove trapped air using a *Tekvac iSensor* vacuum machine).
10. Portion into 5 g silicone molds and store at 4 °C until plating.
11. Unmold and allow to temper on the plate at 20–22 °C before service.

Crispy Chicken Skin

Technical Process

1. Preheat the *Slimmer* to 180 °C.
2. Lay the chicken skins skin-side down and scrape off any excess fat or remaining meat.
3. Freeze, then cut into the desired shape using a cutter.
4. Arrange the skins flat between *teflon sheets*.
5. Season lightly with flake sea salt.
6. Place in the *Slimmer* and allow the heat and pressure to gradually render the fat and press the skin into an ultrathin, crisp snack.
7. Store in a *dehydrator* or *airtight box* with *silica gel* until service

PLATING

Unmold the three preparations and plate at room temperature:

- The pomade as a rich, spreadable element.
- The butter as a seasoned aromatic fat.
- The fluid gel as a glossy, umami-rich component.

Serve with the *Slimmer* chicken skin crisp as a tactile and visual contrast.

Shiitake & Nori Essence Veil

Ingredients

50 g dehidrated Shiitake mushrooms

20 g Nori sheets (lightly torched with a *blowtorch*)

1 L water

Method

1. Place the shiitake and toasted nori into a *vacuum bag*.
2. Add 1 L of water and seal at maximum vacuum using a *Tekvac iSensor* vacuum machine.
3. Cook sous-vide at 85 °C in a *Noon circulator* for 2 hours.
4. Strain the infusion through a fine sieve.
5. Pass the solids through an *Omega cold press juicer*.
6. Combine the expressed liquid with the initial filtrate and pass through a *100 µm Claribag*.
7. Fill four *250 ml CentriCook bottles* and centrifuge at 4000 rpm for 6 minutes.
8. Decant the clarified liquid carefully, aided by a *50 µm Claribag*.
9. Add Giota® (iota carrageenan) (0.5%), allow to fully hydrate, then dissolve by heating to 85 °C and maintain for 1 minute.
10. Pour into a gastro tray to a depth of 2 mm.
11. Chill until fully set.
12. Using a spatula, remove only the required amount for service. To create specific shapes, freeze the veil and cut directly from frozen.

Final texture

Translucent, flexible veil with a clean marine–umami profile and delicate aroma.

Clarified Bloody Mary

The quantities are calculated to obtain approximately 1 litre of clarified liquid after filtering in *50 µm ClariBag*. The liquid will be distributed in four 250 g containers for the small CentriCook.

Ingredients

460 g vodka
250 g Barbastro pink tomatoes
70 g celery
40 g onion
360 g Clamato
40 g lemon juice
2 g Tabasco
2 g Worcestershire sauce
5 g sugar
6 g salt
4 g ground black pepper

Method

1. Blend the Barbastro pink tomatoes, onion and celery until smooth.
2. Add the vodka, Clamato, lemon juice, Tabasco, Worcester sauce, sugar, salt and black pepper to the blended mixture.
3. Blend everything together until completely smooth.
4. Strain the mixture through a *50 µm ClariBag* to remove large solids.
5. Divide the clarified liquid into four *250 ml Centricook bottles*, ready for centrifuging.
6. Place each jar in the CentriCook and centrifuge at 4000 rpm for 8 minutes to clarify.
7. Serve the Clarified Bloody Mary over ice, ready to enjoy.

5. SYNERGIES AND COMPLEMENTARY TOOLS

The performance of a **CentriCook** system can be greatly enhanced by integrating tools and methods that optimise the preparation, clarification and handling of processed liquids.

The following describes the recommended equipment, utensils and techniques that work together with the **CentriCook** system.

5.1. Recommended equipment and utensils

Omega slow juicer / Cold press juicer

Cold press extractors that generate juices with minimal oxidation, ideal for subsequent clarification in **CentriCook**. The gentle pressing preserve aromas, flavours and nutrients, delivering high-quality liquids for processing.

50/0010
Omega juicer VSJ843RS

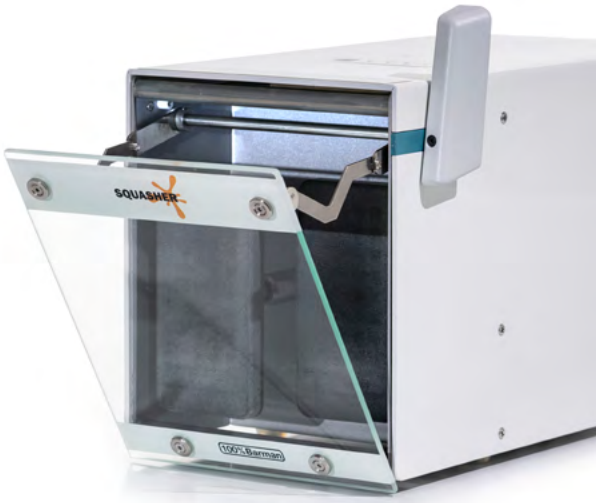
50/0035
Omega 8228 juice extractor

P/64503
Dosing spatula

Spatulas and special spoons

Designed to manipulate solid or semi-solid phases without losses or cross-contamination, enabling efficient bottle emptying.

P/64504
Straight spatula



Squasher

Manual press for fruits, vegetables or other ingredients. Enables quick, controlled extractions, useful in preliminary tests or when automated machinery is not required.

SQUASHER	
100/0200 230V · 50Hz	100/0201 110V · 60Hz

Pipettes, syringes and gastro pipettes

Key instruments for extracting clarified liquid phases without disturbing separations; essential for precise handling during production, analysis or packaging.

500 pcs

100/0013	Gastro pipettes
100/0015	Mini pipettes

Claribags

Special filtration bags for complementary filtration and clarification:

- **Pre-centrifugation:** remove coarse solids to reduce load on CentriCook (**100 µm** recommended).
- **Post-centrifugation:** refine clarity using **50 µm Claribags** to remove fine residues or floating pellets.

30/2004
Claribag mini 100 µm
Ø 10 x 23 cm

30/2008
Claribag mini 50 µm
Ø 10 x 23 cm

Precision scales

Essential tools to balance containers prior to centrifugation, ensuring safe and stable operation.

130/0001
Precision scale 0,01 g

130/0002
High precision balance 0,005 g

5.2. Expanded culinary techniques and applications

- **Clarification of infused oils** to obtain clear, non-turbid liquids.
- **Phase separation** in nut or fruit pastes to isolate pure oils or **concentrate solids** for new textures.
- Use in **liquid bases for confectionery and ice cream preparations**, such as mousses, creams or ice cream bases, improving texture and flavour concentration.
- Application in **fermentations, artisanal vinegars and heat-sensitive preparations**.
- **Clarification and reduction of solids** in fatty emulsions and complex stocks.
- Use of **gelling techniques** (e.g. agar) for indirect clarification and creation of crystalline consommés combined with **CentriCook**.

CentriCook
Culinary Centrifuge

PRIVACY POLICY

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