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1. Sous Vide - Facts

- Cooking at high temperatures compromises food quality.
- Volatile Organic Compound (VOC's) dissipate at higher temperatures.
- By contrast the low temperature used in sous vide cooking protects the food: thanks to vacuum packaging the loss of liquid is minimal and any liquid is quickly reabsorbed.



1. Sous Vide - Nomenclature

Sous Vide (FR) ~ “under vacuum“

- Fresh food (fish, meat, vegetables, custards) is vacuum-sealed
 - Cooked in precisely temperature-controlled water
 - Developed in the 70's by Bruno Goussault and George Pralus in France
 - Goal: To minimize shrinkage of a foie gras
- Result: Reduction of shrinkage from **40% to 5%**



1. Sous Vide - Benefits

Quality benefits:

- Retains all nutrients and vitamins
- Preservation of natural flavor and color
- Minimal moisture loss
- Consistent results → no overcooking due to ± 0.01 °C (± 0.02 °F) temperature stability
- Pasteurization → extended shelf life, Safer food product



1. Sous Vide - Benefits

Economic benefits:

- Low shrinkage (5% - 10%)
- Extended shelf life without quality loss (e.g. vegetables up to 21 days)
- Energy efficiency
- Time saving → Frees up chef's time
- Quick return on investment due to lowered food and labor cost



1. Sous Vide

Circulator / Water Bath vs. Combi Oven

- Temperature consistency (± 0.01 °C, ± 0.02 °F)
- Mobile usage
- Less energy and water consumption
- No high-voltage current
- Better heat transfer (water vs steam)
- No drying-out on outside of the food



1. Sous Vide

Cook & Serve/Hold

- Food is vacuum-packed cold
- Food is cooked for minimum time
- Food is held at desired temperature
- Serve

Cook & Chill

- Food is vacuum-packed cold
 - Food is precooked until approx. 80% - 100% done
 - Core temperature has to be reduced to +2 °C (35.6 °F) within 90 min. (ice water/blast chiller)
- The shelf life is extended without quality loss (eg. vegetables up to 21 days)



1. Sous Vide - Equipment

Vacuum Sealing Machine

Cook-in Bags

fusionchef by Julabo

Chiller or Chrushed Ice





1. Sous Vide - Bags

Cook-in bags

Have to be resistant to temperatures of -40 °C (-40 °F) to 115 °C (239 °F).
(Cooking & Freezing)

- Channel Bags
- Smooth Bags
- Combo Bags





1. Sous Vide – Step by Step

Step 1: Preparation

Use only fresh & best ingredients
Adhere to HACCP guidelines

Step 2: Vacuuming

Vacuum seal raw & chilled ingredients

Step 3: Cooking

Place packed food in preheated bath

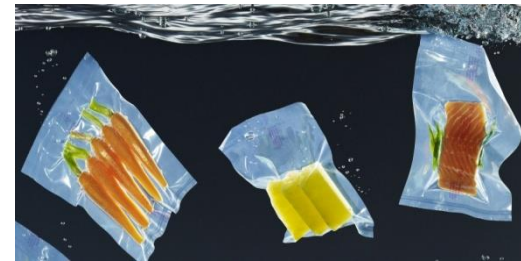




1. Sous Vide – Step by Step

Step 3: Cooking

Cook for minimum period of time
Based on Thickness



Step 4: Cool *Optional*
Cook & Chill



Step 5: Chilled storage

Store product at maximum of 3 °C
(37.4 °F)
NO More than 7days (with variance)
48 hours without Variance





1. Sous Vide – Step by Step

Step 6: Regenerate

Heat cooled bag just before serving.

Heat to original cooking temp



Step 7: Sear

Intensifies fresh flavor



Step 8: Serve & Enjoy





1. Sous Vide - HACCP

- Only use the best fresh & chilled food
- Seal the chilled food @ 2 °C (35.6 °F) quickly
- Train and qualify staff on PRP's and CCP's
- Follow safety and hygiene regulations
- Label products (sealing date; name of product, shelf-life, cooking temperature and time)
- Store in refrigerators below 3 °C (37.4 °F)
- Storage time must never exceed 7 days for fresh product



1. Sous Vide - HACCP

HACCP SOLUTIONS PACKAGE

USE THESE TOOLS TO MAKE
OBTAINING A VARIANCE EFFORTLESS!

Included
on USB

Plug & play flowcharts
Data logs
CCP explanation (w/examples)
Easy fusionchefTM software
Reference material/links





2. fusionchef by Julabo





2. fusionchef by Julabo





2. fusionchef by Julabo

	Pearl	Diamond
Temperature consistency	±0.03 °C (±0.05 °F)	±0.01 °C (±0.02 °F)
Heating capacity	1.2 kW (2 kW, 50Hz)	1.2 kW (2 kW, 50Hz)
Pump flow rate	3.7 gpm (14 l/min)	3.7 gpm (14 l/min)
Operating temperature	20–95 °C (68-203 °F)	20-95 °C (68-203 °F)
Low-level water alarm	✓	✓
Timer	1	3
Hygienic anti-fingerprint stainless hood	✓	✓
Display	LED	VFD
Temperature display in °C and °F	✓	✓
Vapor barrier protection	✓	✓
Protection grid	✓	✓



2. fusionchef by Julabo

	Pearl	Diamond
Core temperature sensor connection		Pt100
Core temperature alarm		✓
HACCP-compliant data storage		✓
PC control and recording		✓
Pre-programmed temperature memory keys		✓
Simultaneous display of target and actual temperatures, core temperature, and timer		✓
Guided-user auto calibration		✓



2. fusionchef by Julabo

Pearl

- Easy Mounting:
With attachment clamp
- Mobile:
Fits on any vessel or cooking pot





2. fusionchef by Julabo

Pearl XS (3.4 gal / 13 L) 18 lbs

Pearl S (5 gal / 20 L) 26 lbs

Pearl M (7.1 gal / 27 L) 35 lbs

Pearl L (11.6 gal / 44 L) 55 lbs

Pearl XL (15.3 gal / 58 L) 77 lbs



Including: Pearl on a bridge, Protection grid, Bath lid, Drain tap



2. fusionchef by Julabo

Diamond

- Easy Mounting:
With attachment clamp
- Mobile:
Fits on any vessel or cooking pot





2. fusionchef by Julabo

Diamond XS (3.4 gal / 13 L) 18 lbs

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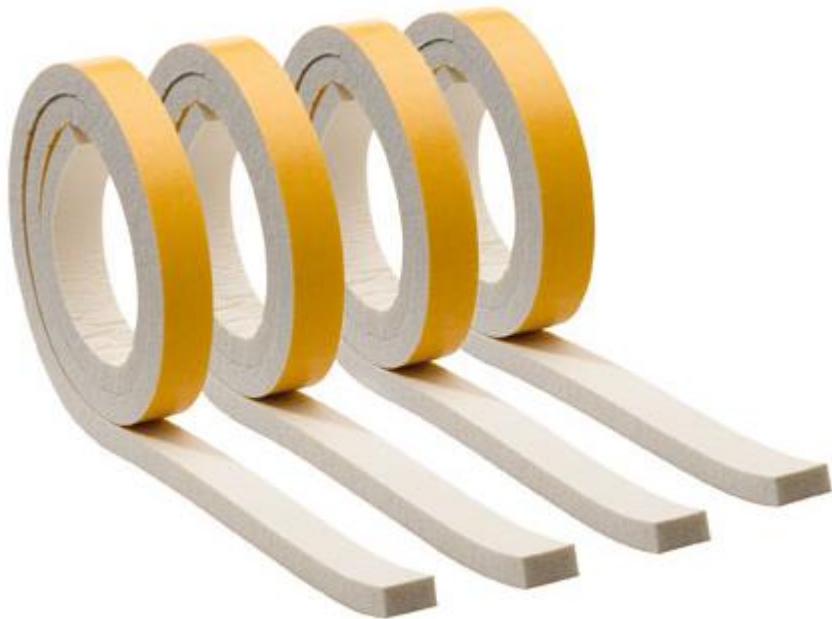
Including: Diamond on a bridge, Protection grid, Bath lid, Drain tap



2. fusionchef by Julabo

Adhesive Sealing Tape (13 ft. / 396 cm)

Food safe & FDA conform





2. fusionchef by Julabo

Core Temperature Sensor (Pt100) for Diamond

To measure the core temperature inside the medium

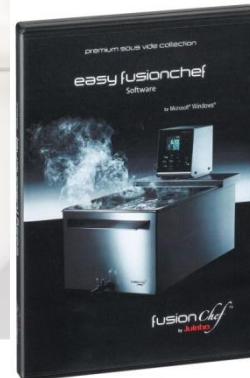




2. fusionchef by Julabo

Software Easy fusionchef

To document the cooking process



easy fusionchef
Software
for Microsoft® Windows®

Visualization of Sous Vide application
Graphic display of temperature in main window

Sous Vide Temperatureanwendung visualisieren
Grafische Darstellung der Temperaturen im Hauptfenster

Device	Temperature
Fusionchef Diamond 1	60.30 °C
Control	60.00 °C
Waterbath	57.03 °C
Power	36 %

Every instrument on one screen
Each Model has its own control window

Jedes Gerät im Blick
Jedes Modell verfügt über ein eigenes Kontrollfenster

fusion Chef™
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3. References



Eleven Madison Park / Daniel Humm

"Julabo is a company whose commitment to quality and precision has made them the leader in temperature control and an essential mainstay in my kitchens."



5. Worldwide

Worldwide Experience

fusionchef units were developed with renowned chefs worldwide

fusionchef by *Julabo* keeps in close touch with professional cooks worldwide



fusion ChefTM
by **Julabo**

premium
sous vide collection



Any questions ?