



# Specialist in Small Scale Liquid Process Equipment

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# An introduction

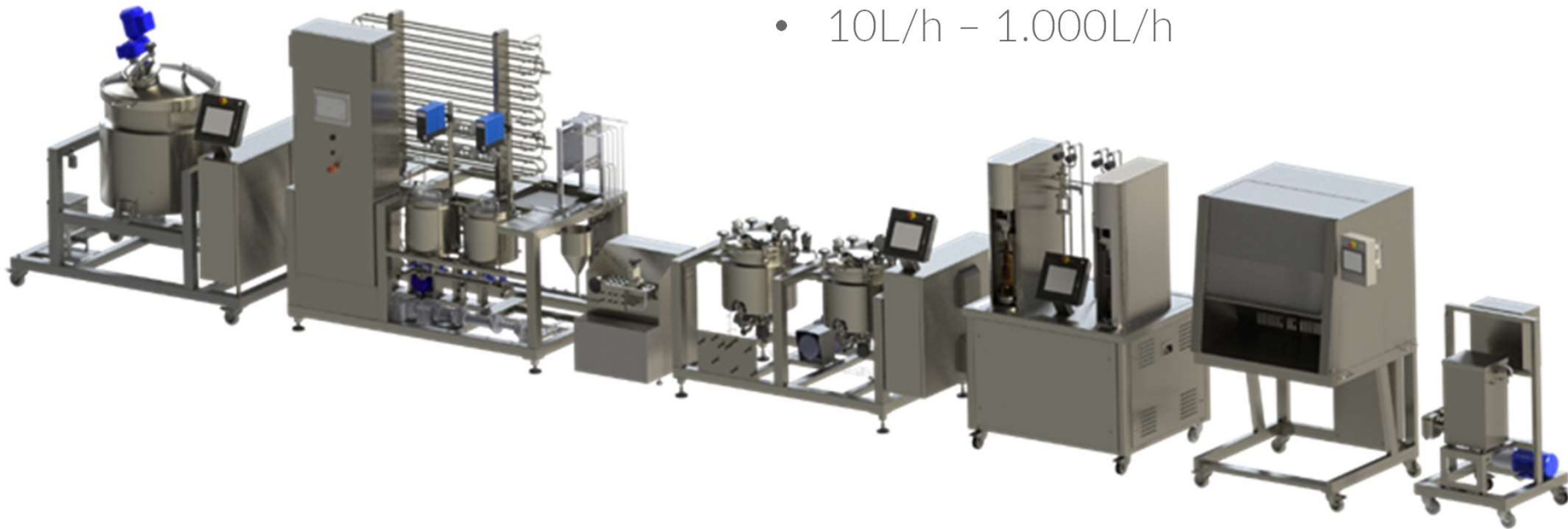


- Founded in 1993
- Based in The Netherlands
- 50 Employees... and growing
- 11 Technologies... and developing
- Local sourcing, European manufacturers
- Global presence
- Subsidiary in Canada



# Specialization

- Small scale liquid processing
- From benchtop to pilot plant
- 10L/h – 1.000L/h

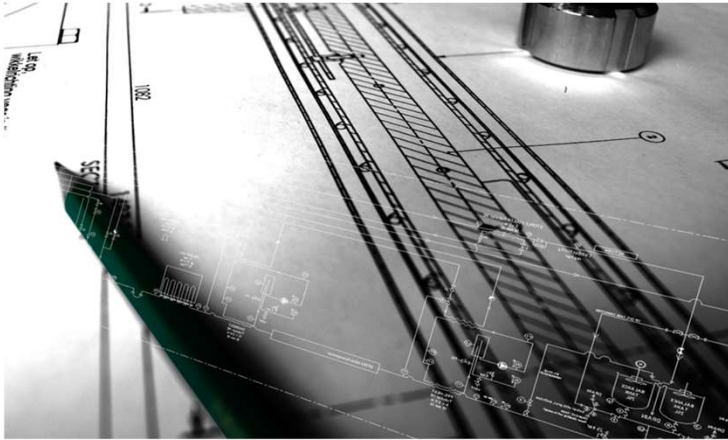


# Facilitating R&D



- Efficiency: more trails per day
- Quality: accuracy & reproducibility
- Flexibility: Hands-on development
- Operational costs: a leaner company
- Sustainability: sustainable development

# How we work

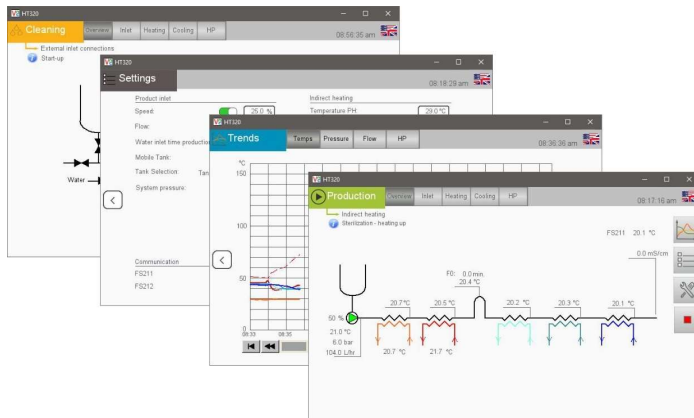


- Advising on applicable technologies
- Developing custom made machinery
- Validation: FAT & SAT
- Commissioning & Training
- Maintenance and assistance

# Our Core Values



- Development: continuous improvement
- Intuitiveness: easy operation
- Validation: FAT & SAT
- Good care: after sales, global presence, connectivity
- Upgrade it: easy extension of your product line



# World Leaders Prefer OMVE



# Our Technologies

Carbonation	CF		Alcoholic Drinks
Heat Treatment	HT		Beverages
Homogenizing	HP		Butter & Spreads
Deaeration	DEA		Dairy & Plant-Based Alternatives
Blending & Mixing	MPV		Ice Cream
Batch Cooking	MPV		Packaging
Fermentation	MPV		Medical & (Bio)pharma
Buffering	MPV		Research Institutes & Universities
Aeration & Crystallization	CRA		Soups & Sauces
Filling & Closing	FS		



# Carbonation

CF



	Table-Top Carbonator CF121 Carbo-Fill®	Lab Carbonator CF210 Carbo-Fill®	Lab Carbonator CF211 Carbo-Fill®	Lab Carbonator CF212 Carbo-Fill®	Lab Carbonator CF213 Can Seamer	Lab Carbonator CF214 Can Seamer
<b>Application</b>	Post-mix	Post-mix & Pre-mix	Post-mix & Pre-mix	Post-mix & Pre-mix	Post-mix & Pre-mix	Post-mix & Pre-mix
<b>Process</b>	Carbonates and fills <b>water</b>	Carbonates, fills and seals all kind of beverages 15 – 46L	Carbonates, fills and seals all kind of beverages 46L	Carbonates, fills and seals all kind of beverages 46L	Carbonates, fills and closing with can seamer and more 46L	Carbonates, fills and closing with can seamer and more 46L
<b>Benefit</b>	Size: Smallest Accuracy: High( $\pm 0.2$ CO <sub>2</sub> )	Flexible: multi packaging Accuracy: Highest ( $\pm 0.1$ CO <sub>2</sub> )	Flexible: Hygienic design Accuracy: Highest ( $\pm 0.1$ CO <sub>2</sub> )	Output: Highest bottles per hour	Specially designed for Cans	Specially designed for Cans

# Carbonation

CF



	Pilot Carbonator CF310 Batch carbonator	Pilot Carbonator CF310/2 Batch carbonator	Pilot Carbonator CF310/3 batch carbonator
<b>Application</b>	Post-mix & Pre-mix	Post-mix & Pre-mix	Post & Pre-mix
<b>Process</b>	Carbonates all kind of beverages 46L / 100L / 200L / 400L / 600L	Carbonates all kind of beverages 2x 46L	Carbonates all kind of beverages 3x 46L
<b>Benefit</b>	Very foamy products Products with particles Highest level of hygienic	Very foamy products Products with particles Highest level of hygienic	Highest output Cleaning / Carbonating / Filling at the same time

# Heat Treatment

HT



	Bench-Top HTST/UHT HT122 System	Lab HTST/UHT HT220-20 Basic System	Lab HTST/UHT HT220-50 Basic System	Lab HTST/UHT HT220-Pro/Expert Systems
<b>Application</b>	Inline Indirect Pasteurization/Sterilization	Inline indirect Pasteurization/Sterilization		Inline Indirect Pasteurization/Sterilization
<b>Process</b>	Preheat + Main heat + Cooling 10-30 L/h	Preheat + Main heat + Holding + Cool1 + Cool2 10-50L/h – 30-90L/h		All kind of heating/cooling configurations 10-50L/h – 30-90L/h
<b>Benefit</b>	Small but very Powerful No need for steam	Small, No need for steam <b>Integration</b> with other processes		Highest level of automation in the market

# Heat Treatment



	Lab HTST/UHT HT220-SSHE System	Lab HTST/UHT HT226- SSHE system
Application	Inline Indirect Pasteurization / Sterilization	Indirect Pasteurization / Sterilization
Process	Preheat + Main heat + Holding + Cool1 + Cool2 / SSHE1 +SSHE2 10-50L/h	Scraped surface heat exchanger – only 10-50L/h
Benefit	Flexible: Tailor-made solution	Application: high viscous products

# Heat Treatment

HT



	Lab HTST/UHT HT220DSI System	Lab HTST/UHT HT223- Add-on DSI
Application	Inline Indirect + Direct Pasteurization/Sterilization	Direct Steam Injection Pasteurization/Sterilization
Process	Preheat + DSI + FlashCool + Cool1 + Cool2 10-30L/h	DSI – only 10-60L/h
Benefit	Size: Small & Ergonomic Lowest dead volume in market, highest automation	Upgrade: Add-on for HT220

# Heat Treatment

HT



	Pilot HTST/UHT HT320	Pilot HTST/UHT HT326 - SSHE system	Pilot HTST/UHT HT323 - Add-on DSI
Application	Inline Indirect Pasteurization/Sterilization	Inline Indirect Pasteurization / Sterilisation	Inline Direct Sterilization
Process	All kind of heating/cooling configurations THE & PHE 20L/h - 50L/h - 100L/h - 200L/h - 500L/h - 1000L/h	Main heat + Cooling Scraped Surface Heat Exchanger 20L/h - 50L/h - 100L/h - 200L/h	Direct Steam injection DSI only 20L/h - 50L/h - 100L/h - 200L/h - 500L/h
Benefit	Flexible: Tailor-made solution,	Flexible: Highest viscosities Particles: Processing with pieces up to 7mm	Upgrade for HT320 or stand-alone Integration with other processes

# Heat Treatment

HT



## In Container Pasteurization HT205

- Application: Pasteurization of product in packaging
- Process: Spraying hot – cold water
- Benefit: Temperature control over time, high power to simulate industrial tunnel pasteurizer
- 18 – 30kW Power !!

# Homogenizers

HP



	Bench-Top Homogenizer HP102	Lab Homogenizer HP202	Pilot Homogenizer HP303 - HP304
Application	Inline Homogenization	Inline Homogenization	Inline Homogenization
Process	Upstream / Downstream (aseptic) Homogenizing with 2 stages, 2 pistons 20 - 30L/h	Upstream / Downstream (aseptic) Homogenizing with 2 stages, 2 pistons 20 - 30L/h	Upstream / Downstream (aseptic) Homogenizing with 2 stages, 3 pistons 30 - 50 - 100 - 200 - 500 - 1000L/h
Benefit	<b>Size:</b> Small size, works perfect with HT range <b>Control:</b> Protected against running dry	<b>Size:</b> Small size, works perfect with HT range <b>Control:</b> Protected against running dry	<b>Size:</b> Pilot size, works synchronized with HT range <b>Control:</b> Protected against running dry. 3A certified, automated hom. valves



# Deaeration

DEA



	Lab Deaerator DEA220	Inline Pilot Deaerator DEA320	Batch Pilot Deaerator DEA310
<b>Application</b>	Inline Deaeration of liquids	Inline Deaeration of liquids	Batch Deaeration of liquids
<b>Process</b>	Deaeration with 3 types: Spray nozzle, Static disc and Rotary Disc 10-30L/h	Deaeration with 3 types: Spray nozzle, Static disc and Rotary Disc 50 -100 200 – 500L/h	Deaeration Rotary Disc 20L – 50L
<b>Benefit</b>	Aroma recovery condenser Control: inline with other process equipment	Aroma recovery condenser Control: inline with other process equipment	Aroma recovery condenser Control: Batch, before further processing

# Preparation Tanks - Blending & Mixing

MPV



	MPV120 -BL Bench-Top Blending Tank	MPV206\6-BL	MPV230-BLMPV3100-BL	MPV3201-BL
Application	Product preparation	Preparing tanks	Batch preparation and feeding	Batch preparation and feeding
Process	Mixing & Heating 10 & 20L	Mixing & Heating 3 up to 8 bucket Size 6 & 10L	Mixing, Heating & cooling  30 – 50 – 100 -200 -400L	Mixing, Heating & cooling 30 – 50 – 100 -200 -400 – 600 -1000L
Benefit	<b>Size:</b> small size & batch size required	<b>Size:</b> small size & batch size required parallel tanks	mobile tank to prepare the batch, flexibility in application (different mixers available)	200L preparing at once High level of customization

# Batch Cooking & Emulsifying

MPV



	Batch Pasteurization MPV-BC	Batch Pasteurization MPV-EF	Batch Pasteurization MPV-EF
<b>Application</b>	Product preparation under pressure	Product preparation atmospheric	Product preparation under pressure
<b>Process</b>	Mixing, Heating & Cooling 30 - 50 - 100L	Mixing, Heating, Cooling & Emulsifying 30L	Mixing, Heating, Cooling & Emulsifying 30L
<b>Benefit</b>	Heating, cooling & vacuum in same vessel	Emulsifying by circulating over tank	Heating, cooling & vacuum in same vessel. Emulsifying in the tank

# Multipurpose Process - Aseptic Buffer

MPV



## MPV-AB

- Application: Sterile tank to store the product
- Process: Temperature control & Aseptic sterility
- Prevents wasting processed product in line
- Aseptic sterility
- 50 - 100 - 200 - 400 - 600 - 1000L

# Fermentation

MPV



	MPV206-FE Atmospheric Fermenter	MPV220-FE Atmospheric Fermenter	MPV351/2-FE Pressurized Fermenter
Application	Yogurt & other fermented products	Yogurt & other fermented products	Yogurt & other fermented products
Process	Mixing, Heating, Fermenting & Cooling 6 - 10L buckets 2-8 buckets	Mixing, Heating, Fermenting & Cooling 20 - 50 - 100 - 200 - 400 - 600L	Mixing, Heating, Fermenting & Cooling 20 - 50 - 100 - 200 - 400 - 600L
Benefit	parallel tanks	No steam is needed Inline cooling with structure sheaves and valves	Highest viscosities Fully sterile before processing

# Fermentation - Accessory

MPV



## Bench-Top Cooling Texturizer for yogurt products

- Application: homogenize, structure and cool curd after fermentation
- Different set-ups possible (cooling → structuring & structuring → cooling)
- 2-Stage cooling with temperature sensors
- Manual texturizer valve
- Manometer on inlet / outlet structure valve

# Crystallization & Aeration

CRA



	CRA121 Bench-top Aerator Lab CRA221 Inline Aerator	Lab CRA223 Inline Ice Cream Freezer	Lab CRA225 Inline Ice Cream Freezer & Margarine (medium pressure)	Lab CRA226 Inline Fats & Oils Crystallizer (high pressure)
Application	Inline Aerator (& Bench-top CRA121)	Ice Cream Crystallization	Ice Cream Crystallization	Fats & Oils Crystallization
Process	Aerating + CIP 10 - 50L/h	Cooling + Aerating 10 - 20L/h	Cooling + Aerating + Crystallizing 10 - 30L/h	Melting + Cooling + Kneading + Crystallizing 10 - 30L/h
Benefit	Size: compact Integrated CIP	Size: Small size Control: Overrun > 100%	Size: Small size Control: Overrun > 100%	High pressures: 25bar, 50bar Flexible: Ability to change flow process in Software



# Filling & Closing

FS



	Hygienic Filling FS211	Aseptic Filling FS212	Aseptic Filling FS214
Application	Filling sterilized product	Filling sterilized product	Filling sterilized product
Process	Hygienic + Filling + Closing Width: 1100mm – 1600mm – 2000mm	Sterilization + Filling + Closing	Sterilization + Filling + Closing
Benefit	Environment has filter efficiency 99.999% @ 0.3µm. Many sealers are available	Filter efficiency 99.999995% @ 0.12µm. Many sealers are available.	Fully automated sterilization, high out-put. With maximum flexibility



# Filling & Closing

FS



Manual  
Filling point



Pneumatic  
crown cork sealer



Manual  
crown cork sealer



Bench-Top Can Seamer



Can Seamer



Hot Sealer



Pneumatic  
Screw Capper

# Filling & Closing

FS



	<b>FS205</b> Counter pressure filling	<b>FS206</b> Counter pressure filling	<b>FS218</b> Aseptic bag-in-box filler
<b>Application</b>	Filling carbonated product in pressurized packaging	Filling carbonated product in pressurized packaging	Aseptic Bag-in-Box
<b>Process</b>	Hygienic, filling & closing	Hygienic, filling & closing	Sterile filling & closing
<b>Benefit</b>	Simulates industrial filling process. Accurate in filling level, CO2 levels and low oxygen	Simulates industrial filling process. Accurate in filling level, CO2 levels and low oxygen	Product filled in aseptic bags from 2L up to 10L sizes Highest guarantee of Aseptic

# CIP units

CIP



	CIP350 CIP unit	CIP351 CIP unit	CIP3101 CIP unit
<b>Application</b>	Basic CIP unit	CIP unit	Advanced CIP unit
<b>Process</b>	Cleaning the vessels inline 50L vessel	Cleaning the vessels inline 50L vessels	Cleaning the vessels inline 100L vessels
<b>Benefit</b>	Very compact Electrical or Steam heated 50L vessel	Inclusive dosing units, HMI controlled, conductivity meter Available in 50, 100 & 200L	2 separate tank for the cleaning agents Inclusive dosing units, HMI controlled, conductivity meter

# Steam generator – SG series



**SG18 / SG24**  
(Culinary) steam generator

- Application: UHT/HTST and Direct Steam Injection (DSI)
- High pressure (culinary) steam
- Starting at a small capacity for 20L/h systems
- Electrical heating
- Suitable for 20L/h up to 200L/h systems

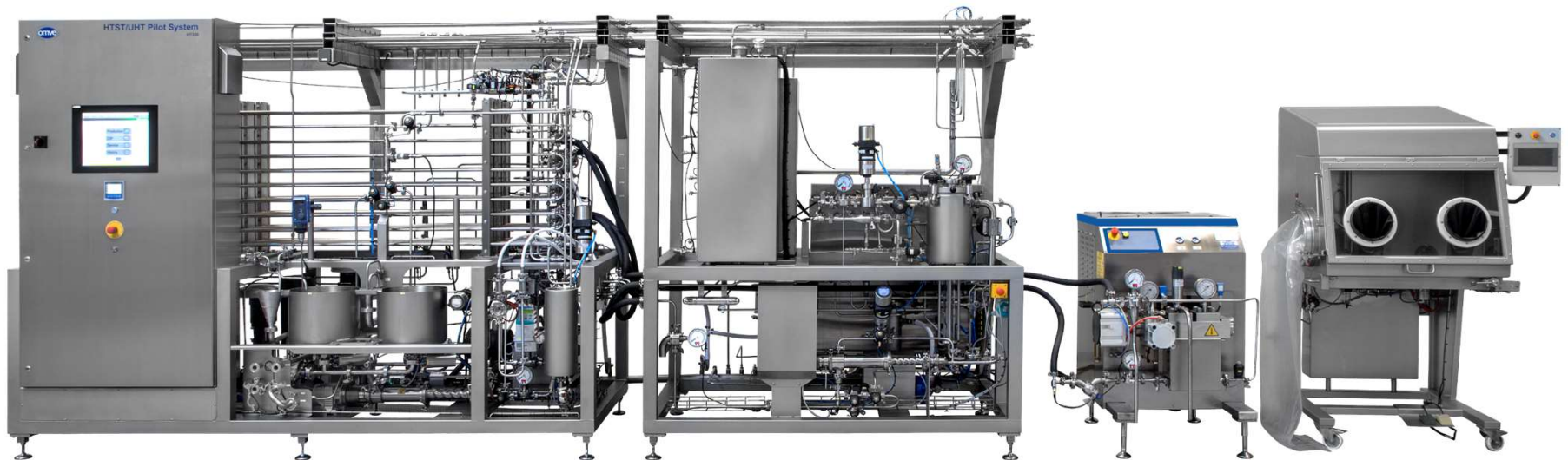
# Pilot plants

for carbonated soft drinks



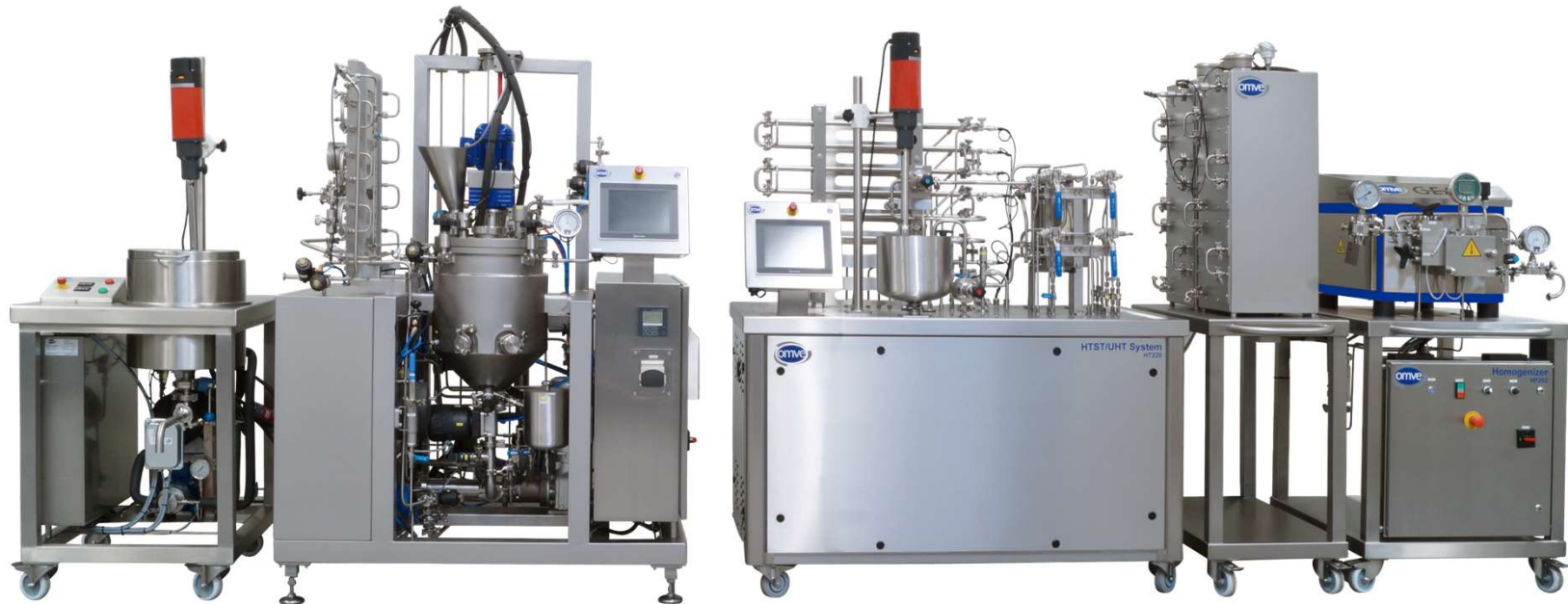
# Pilot plants

for dairy applications (e.g. baby food)



# Pilot plants

For dairy applications (e.g. fermented products)





# Pilot plants

for plant-based beverages





# Pilot plants

for plant-based applications



# Pilot plants

for margarines & spreads



# For more information

Visit [omve.com](http://omve.com)

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