

INNOVATIVE TECHNOLOGIES FOR RETORTS



**LAGARDE**<sup>®</sup>  
A U T O C L A V E S

**EXPERT IN STEAM & AIR PROCESS**

THE FIRST AND THE ORIGINAL



[www.lagarde-autoclaves.com](http://www.lagarde-autoclaves.com)

PRODUCE MORE WITH LESS ENVIRONMENTAL FOOTPRINT



- ▶ DECADES OF INNOVATION
- ▶ RESEARCH & IMPROVEMENTS
- ▶ CUSTOMER EXPERIENCE ENHANCEMENTS

**LAGARDE STEAM & AIR RETORTS ARE DESIGNED TO DELIVER:**

**SAVINGS:** VERY LOW ENERGY CONSUMPTIONS & FASTER CYCLES

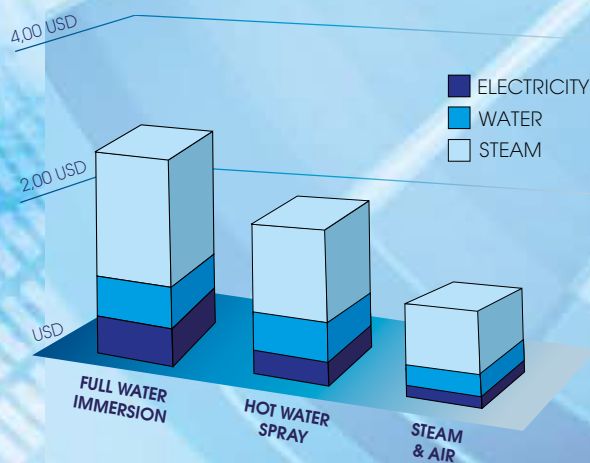
**PRODUCTIVITY:** THE BEST TOTAL COST OF OWNERSHIP

**EXCELLENCE:** HIGH QUALITY ENGINEERING & MANUFACTURING

**HOMOGENEITY:** TEMPERATURE ACCURACY & HEAT HOMOGENEITY

**THE LAGARDE STEAM & AIR PROCESS VS WATER-BASED PROCESSES:**

- ▶ Energies savings,
- ▶ Shorter come-up-time, giving greater productivity,
- ▶ Better homogeneity due to steam,
- ▶ Higher media contact area on packaging,
- ▶ Lower capacity boiler required,
- ▶ Reduced maintenance costs.



OPERATING COST PER PROCESS TYPE





# INNOVATIONS AND PATENTS

- 2019** • Release of the new **E-ASI control system**, performance and reliability dedicated to **Smart Technology**.



- 2018** • Opening of the platform **all-retorts.com**, the global **e-solution** for heat treatment by Lagarde.



- 2016** • The **exclusive technique: Rocking System®**  
A back and forth movement **to counter the Maillard effect** on milk and high viscosity products.



- 2016** • Launch of the **YPIO division**, Lagarde's innovative R&D center.

- 2012** • Lagarde Autoclaves **patented a new multifunctional handling** system.

- 2006** • Development and patent of **the first worldwide regulation system** for retort based on industrial PC named "**Samantha**".

- 2006** • **Patent of the soft cooling system "Radiaplaques"** to prevent thermal shock at the end of the heating step. Lagarde Autoclaves is the only manufacturer that holds this innovation.

- 2004** • Lagarde Autoclaves focused its production on the **Lagarde Steam & Air process**, dedicated to its sustainability undertaking.



- 1986** • **Creation of the vertical sliding door** (then called the «Lagarde door»).

- 1979** • **First automated 28 tunnel-type retorts installation worldwide**, at the Azov industrial complex in USSR.

- 1977** • **First F.D.A approval** for Lagarde Autoclaves: sterilization retorts.

- 1975** • First rotary retort.

- 1972** • **Patent for the very first Lagarde Steam & Air retort offering energy savings and stunningly efficient thermal treatment.**

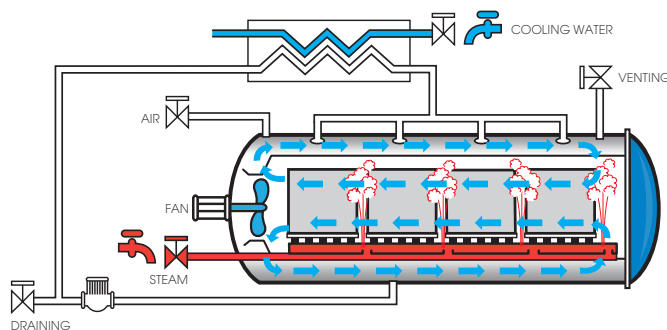
- 1921** • Lagarde Autoclaves was founded by Louis Lagarde in Montélimar, France.



## THE WORLD LEADER IN STEAM & AIR RETORTS

### WE CERTIFY

- ▶ **Lowest production cost and energy consumption** on the market,
- ▶ **Perfect homogeneity** of temperature distribution because of the direct steam injection,
- ▶ **High heat transfer** thanks to the forced circulation by fan,
- ▶ **Accuracy in the control** of counter-pressure and temperature,
- ▶ **Gradual and secure cooling**: no thermal shock between sterilization and cooling steps,
- ▶ **Packaging integrity** is respected, even for the most fragile.



### TO ALL OF YOUR PRODUCTS

- ▶ IV Solutions,
- ▶ Blood derivative in pouches or blood bags,
- ▶ Medical instruments,
- ▶ Sterile dressings,
- ▶ And more.

### FOR ALL OF YOUR PACKAGING

- ▶ IV bags,
- ▶ Pouches PP / PE / PVC,
- ▶ Glass and plastic bottles,
- ▶ Glass / PP / PE ampoules and phials,
- ▶ And more.

### OUR RANGE

Lagarde Autoclaves can supply standard equipment or made-to-measure complying with your specific URS and Good Manufacturing Practices, GAMP, qualifications IQ, OQ, PQ, in order to manufacture the most trustworthy equipment and completely meet all of your requirements:

#### PROCESSES

- ▶ Steam & Air,
- ▶ Saturated steam,
- ▶ Steam & Vacuum,
- ▶ Dry steam sterilization.

- ▶ Static or rotary,
- ▶ Ø900 mm to Ø2000 mm,
- ▶ 1 to 12 baskets,
- ▶ 1 door or tunnel,
- ▶ Manual and automatic, hinged or vertical sliding doors,
- ▶ Easy access to maintenance operations,
- ▶ And more.

#### Our latest innovations in option:

- The Radiaplaques®: patented indirect cooling technology,
- The Rocking System®: eliminates the Maillard effect for dairy and high viscosity products.





## OUR SERVICES FOR YOUR PROFITABILITY



### E-ASI CONTROL SYSTEM: Automation for Smart Industry

E-ASI is the control system developed by Lagarde, based on Wonderware and equipped with a Rockwell controller, ensuring robustness, stability and durability while giving a proximity technical support wherever you are.

This latest innovation brings Lagarde in the 4.0 Industry through a new generation of digital technologies integration for the enterprise of the future and your manufacturing process.



### LAGARDE AFTER

We are at your service to help you to increase your know-how on thermal treatment, save on production costs, train your teams, and much more !



### AUTOMATION & ROBOTIZATION

Our experts will help you to integrate our retorts into your production lines.



### LAGARDE AUTOCLAVES

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