

## [ DHS ] DRY HEAT STERILIZERS



Advanced Solutions for Infection Control



### DESIGNED FOR

*LAST Technology's Dry Heat Sterilizers (DHS) are designed for sterilization and depyrogenation by means of hot air in Class 100 (ISO 5) conditions for empty glass containers such as vials, ampoules, bottles and stainless steel parts. The destruction of micro-organisms is achieved with HEPA filtered dry hot air (at ~260 °C) and maintained for a controlled period of time.*

### PROCESS FEATURES

Our systems are suitable for a variety of user customizable programs based on the specific needs of the components to be sterilized or depyrogenated. Our Dry Heat Systems are designed to be ISO 14664-1 compliant (formal Class 100 for US Federal Standard 209 E). The ISO 5 condition is guaranteed during the entire cycle (heating, sterilizing/ depyrogenation and cooling phases). LAST demonstrates this during the FAT by measuring the particles in the chamber during the entire cycle (especially during the cooling phase which is the most critical due to expansion and retraction of the frames and filters). The system also ensures excellent heat distribution during the sterilization/depyrogenation phase with temperature deviations below  $\pm 2$  °C.

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## TECHNICAL DATA FOR DHS SERIES, DRY HEAT STERILIZERS DOORS OF HINGE OR SIDE SLIDING TYPE

MODEL	CHAMBER DIMENSIONS			CAPACITY [LITERS / CU. FT]	OVERALL DIMENSIONS		
	WIDTH	HEIGHT	LENGTH		WIDTH	HEIGHT	LENGTH
DHS 250	600 / 23.5	600 / 23.5	700 / 27.5	250 / 9	1500 / 59	2700 / 106	1150 / 45
DHS 500	600 / 23.5	600 / 23.5	1400 / 55	500 / 17.5	1500 / 59	2700 / 106	1850 / 73
DHS 1000	1000 / 39.5	1000 / 39.5	1000 / 39.5	1000 / 35.5	2000 / 79	3000 / 118	1450 / 57
DHS 1500	1000 / 39.5	1000 / 39.5	1500 / 59	1500 / 53	2000 / 79	3000 / 118	1950 / 77
DHS 2000	1000 / 39.5	1000 / 39.5	2000 / 79	2000 / 70.5	2000 / 79	3000 / 118	2450 / 96.5
DHS 2500	1000 / 39.5	1500 / 59	1350 / 53	2500 / 88	2000 / 79	3500 / 138	1800 / 71
DHS 3000	1000 / 39.5	1500 / 59	2000 / 79	3000 / 106	2000 / 79	3500 / 138	2450 / 96.5
DHS 3500	1000 / 39.5	1500 / 59	2350 / 95.5	3500 / 123.5	2000 / 79	3500 / 138	2800 / 110
DHS 4000	1500 / 59	1500 / 59	1800 / 71	4000 / 141	2500 / 98.5	3500 / 138	2250 / 88.5

### CGMP PROCESS EQUIPMENT CONSTRUCTION

- *Single-wall construction of 316L or 316Ti S/S*
- *Chamber bottom-jacketed with 316L or 316Ti stainless steel plate*
- *All piping and air ducts are made of 316L stainless steel with sanitary fittings (tri-clamp ferrules and hygienic flanges)*
- *Product contact surfaces mechanically polished to a degree of roughness below 0.35 micron (15 micro inches)*
- *Chamber doors are manual hinge or automatic side sliding type*
- *Chamber-door sealing by double lip silicone gasket*
- *Components and instruments made of 316L/316Ti stainless steel and FDA approved elastomers*
- *Chamber, doors, piping, components and instruments are properly insulated*
- *HEPA 14 filtration utilized on air intake, air*
- *Recycled air, and exhaust air*
- *Bio-seal frame made of 304 or 316L/316Ti S/S*
- *Bio-seal flange for connection to an isolator or aseptic area*
- *Ergonomic product loading (manual or Automatic)*

### SUPERVISION, TRACEABILITY AND CONTROL SYSTEM

System automation by a Programmable Logic Controller (PLC) which guarantees a high level reliability. The Human System Interface (HMI) utilizes a touch screen Operating Panel (OP). The brand commonly used for hardware and software are Siemens, Allen Bradley and Mitsubishi with PID based control manages all system parameters, recipes, settings, sequence of operations, and storage.

***Last Technology systems offer innovative design, energy savings, reduced foot-print dimensions, environmental sustainability, user friendly solutions and easy validation***

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