

Inline Pasteurization and Sterilization

HT220DSI Integrated Direct & Indirect System

Automated Steam Injection Technology

The HT220DSI system integrates both indirect & direct heating processes, with or without a homogenizer, in one system. The automation technology facilitates the operation to control three pumps (product pump, homogenizer and DSi outlet-pump) with a single click using the touch screen.



The HT220DSI provides unparalleled flexibility. Equipped with multiple operating programs, it accommodates both direct and indirect processing options, with or without homogenization (upstream or downstream). These capabilities are intuitively guided step-by-step through user-friendly software accessed via the touch screen (HMI). The inclusion of two independent boilers for indirect processing—one for preheating and another for final heating—enhances the system's versatility and precision.

OMVE design guarantees the smallest dead volume, requiring a smaller amount of product to run a test, but also minimizes the space required to install the equipment in the application lab. The HT220DSI was designed with safety & ergonomics in mind and is easy to clean with the built-in CIP process.

Features & Benefits

- User-friendly
- Low maintenance cost
- Sanitary & aseptic design
- Easy access for maintenance
- Automatic CIP/ SIP
- High level of automation

Applications

- Dairy products
- Plant-based products
- Functional beverages
- Other applications

Working Principle

Three stages can be distinguished during the system's operation: sterilization, production and cleaning (CIP).

The sterilization (SIP) cycle involves heating the system to a specific temperature (typically 121°C) for a set duration (usually 20 minutes) to effectively eradicate microorganisms.

After the SIP cycle the system is ready for processing. The system will stabilise at the set temperature profile with running water, after which production can be started. Following production, the system should be cleaned (CIP) by using the cleaning program.

Heat Treatment

HT

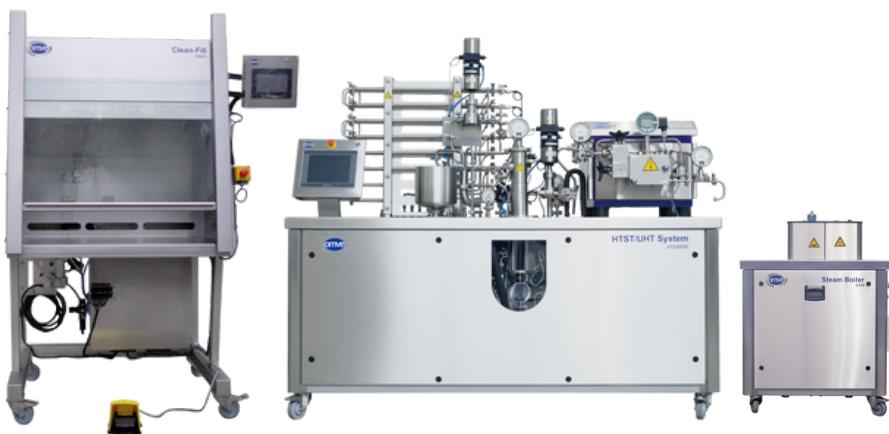


Optional Accessories

- Mixer in feed hopper
- Variable holding tubes
- Data logging
- Automatic vacuum pump & backpressure valve
- Sterilization link (start-up booster)

Specifications

Product Code	HT220DSI-20	HT220DSI-50
Vessel size	5 or 10L	10L
Nominal/ process flow rate	20L/hr / 10-50L/hr	50L/hr / 30-90L/hr
CIP flow rate product pump	Up to 160L/hr	Up to 160L/hr
CIP pump	Up to 600L/hr	Up to 600L/hr
Max. temperature boiler (medium size)	160°C [320°F]	160°C [320°F]
Hot water (electrical heated)	6kW, 2x6kW (50Hz) or 4 + 6kW (60Hz)	6kW + 8kW
Tube-in-Tube Heat Exchanger		
Internal diameter	8mm or 10mm [0,3" / 0,4"]	8mm or 10mm [0,3" / 0,4"]
Viscosity	2500cPs	2000cPs
Direct Steam Injection		
Max. particle size (soft particles)	0,5mm [0,02"]	0,5mm [0,02"]
Min. pressure flash tank	0,3bar(g) ~70°C [4psi~158°F]	0,3bar(g) ~70°C [4psi~158°F]
Pressure outlet pump flash tank	10bar(g) [145psi]	10bar(g) [145psi]
Max. viscosity (in flash tank)	500cPs	500cPs
Homogenizer		
Adjustable flow rate	12-30L/hr	40-60L/hr
Homogenization pressure	600bar [8700psi]	400bar [5800psi]
Weights & Dimensions		
Weight	490kg [1080lbs]	580kg [1279lbs]
L x W x H	2050 x 950 x 1670mm [80,7 x 37,4 x 65,7"]	2050 x 950 x 1850mm [80,7 x 37,4 x 72,8"]
Required utilities		
Electrical	370-400Vac/ 3ph+N+E/ 50Hz/ 32A 200-240Vac/ 3ph+E/ 60Hz/ 32A	370-400Vac/ 3ph+N+E/ 50Hz/ 32A 200-240Vac/ 3ph+E/ 60Hz/ 63A
Water	2,5bar(g) 0°C - 20°C [36psi 32°F - 68°F]	
Steam low pressure	2,5bar(g) [43,5psi] for sterilization	
Steam for DSI	8bar(g) [116psi]	
Compressed air	6bar(g) [87psi]	



20L/hr HTST/UHT + Homogenizing + Steam Generator + Filling

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Lab & Pilot Equipment

