

Frozen in Time Ltd.

Manufacturers of Freeze Drying Machines
and Vacuum Cold traps

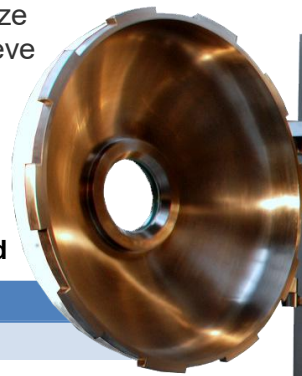
HSL-4 SIP Freeze drier

The **HSL-4** freeze drier is a steam sterilisable, high-performance production freeze drier. The chamber and shelves are made from polished 316L stainless steel. Temperature control is achieved by circulating thermal fluid that can be cooled or heated as required. The **HSL-4** freeze drier meets the stringent demands of the pharmaceutical and biotechnology industries. The key features of this unit are its drying options using up to eight shelves with a total area of 3.8m² and shelf spacing of 60 mm combined with the hydraulic vial stoppering device. The freeze drier uses 2.5bar steam pressure to achieve 135°C on all internal surfaces.

The **HSL-4** is designed for small-scale production activities where sterilisation between processes is essential.

UK Manufactured

Technical Data	HSL-4
Ice condenser capacity	45 kg
Ice condenser performance:	30 kg / 24 h
Ice condenser temperature:	-85 °C
Defrost:	Hot gas & electric
Shelf dimensions:	60 × 80cm
Number of shelves:	8 +1
Shelf area:	3.8 m2
Shelf spacing:	min. 6 cm
Shelf temperature:	-70 °C to +60 °C
Clean Steam Pressure:	2.5bar
Sterilisation Temperature:	135°C
Door locking Mechanism:	Automatic
Shelf temperature accuracy:	max. ±1 °C
Cooling systems:	Water
Refrigeration:	Cascade
Isolation Valve:	Ø25cm
Unit dimensions:	200 × 200 × 150cm (H × W × D)
Refrigerant:	R449A & R23



Part No
HSL-4

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