

LS Series

Dewar for LN₂ Storage

LS Series dewars provide a convenient and economical way to store and dispense liquid nitrogen. 50mm narrow neck reduces liquid nitrogen consumption.

KF NW50 is supplied as standard, for convenient connection with other devices, such as Antech manual dispense CryoPump1000M or automatic LN2 dispenser CryoPump2000A.



Features

- Efficient storage of liquid nitrogen
- Ultra-low liquid nitrogen consumption
- KF NW50 for fast connection with Antech LN₂ pump
- Space-saving and light in weight
- TWO Year Parts Warranty, FIVE Year Vacuum Warranty

Specification

Model	LS 3	LS 6	LS 10	LS 16	LS 20	LS 30	LS 35	LS 35P	LS 50
Performance									
LN ₂ capacity (L)	3	6	10	16	20	30	35	35	50
Neck diameter (mm)	50	50	50	50	50	50	50	50	50
Static evaporation rate (L/day)	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.15	0.23
Dimensions									
Overall height (mm)	441	468	546	618	668	661	760	580	757
Outer diameter (mm)	224	300	300	396	396	451	451	508	508
Weight empty (KG)	3.5	4.8	6.5	11	12	16	16.4	18	21
Weight full (KG)	6	10	15	22	28	40	45	46	62
Accessories									
KF 50 connection	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Roller base (Optional)	—	—	—	—	—	RB-30	RB-30	RB-30	RB-47
LN ₂ dispenser (Optional)	—	—	CryoPump 1000M (manual)					CryoPump 1000M (manual); CryoPump 2000A (auto)	
LN ₂ dipper	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional

CryoPump 1000M

Manual LN₂ Dispenser

CryoPump 1000M is a manual pump to discharge liquid nitrogen from liquid nitrogen dewar.



Features

- Foot pressing for fast creation of initial pressure.
- Liquid nitrogen vaporization chamber, made in aluminum alloy for high efficiency heat exchange, to build inner pressure in short time.
- Continuous liquid nitrogen flow once starting discharging, no need pressing the pump all the time.
- Unique design to avoid risk of explosion caused by inner pressure built.

Specification

Model	CryoPump 1000M
Connection port	KF NW50
Type	Foot press
Material	SUS304 & aluminum
Dewar applicable	LS 35 (standard), LS 50 (upon request)
Weight empty (kg)	7.9

CryoPump 2000A

Automatic LN₂ Dispenser

CryoPump 2000A is an automatic liquid nitrogen discharging system, to discharge liquid nitrogen from dewar to the application.

CryoPump 2000A is an ideal device to cool detectors of Bruker or Shimadzu Fourier Transform Infrared Spectrometer (FTIR), and compatible with most FTIR detectors.



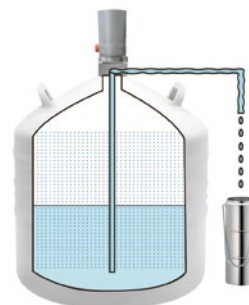
Features

- Time interval can be preset for automatic fill
- Gentle liquid nitrogen flow, free of splashing or vibration
- No direct contact with liquid nitrogen for safety
- Full automatic control for easy operation
- Low evaporation rate during standby
- Can be connected to a computer for monitoring and data record
- Compatible with BioMatrix LS 35P (standard) or LS 50 (customized) liquid nitrogen dewar

Working principle

By heating liquid nitrogen in bottom of the dewar, an overpressure is built inside of dewar, to allow liquid nitrogen rise out of the pipeline and create a gentle liquid flow.

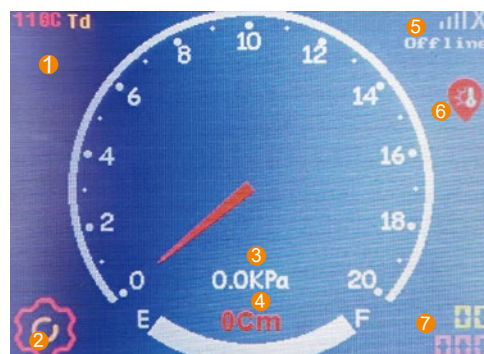
Filling time interval is adjustable, to match holdover time of detector. The filling flow is stable and gentle. As soon as the detector is full, the filling stops.



Controlling System

Touch screen controller on top of pump, displaying running status. All parameters can be set on touch screen, which is convenient to use.

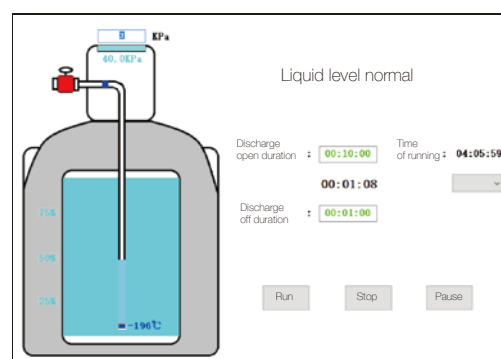
- 1. Temperature at bottom of container
- 2. Inner pressure
- 3. Time of discharging
- 4. Liquid nitrogen level
- 5. Number of circles
- 6. Setting
- 7. Power button



Control on PC:

CryoPump 2000A is also supplied with controlling program for computer, to monitor its working status and make settings according to the demand.

Therefore, CryoPump 2000A offers the remote control without operator on site.



Specification

Model	CryoPump 2000A
Static evaporation rate	< 0,5 liters per day
Flow rate	Pre-set on 4KPa (adjustable)
Maximum working pressure	< 300 KPa
Reaction time	+/- 1 minutes for cooling down the fill line (with 1.6 meters fill line)
Power connection	100-240V AC with supplied power supply, the operating voltage is 24V
Power consumption	average 10W, during pumping 50W
Standard fill line	6.25 mm OD, 4 mm ID PTFE tube, with 32mm foam insulation
System includes	Dewar, pump, fill line 1.6 m, phase separator, power supply, cables, 1 level sensor 1 temperature sensor, PC software.
Working modes	Automatic fill control with timer (1 sensor)
External control	5 volt signals for ON, OFF and RS232 signals for ON, OFF
PC software	Monitor software, to monitor pump and data logging
Alarms/warning acoustical/ visual / mechanical	Dewar empty, Dewar 5 liters LN ₂ left, broken sensor(s), frozen alarm, mechanical overpressure protection valve.
Options	Adaptor with sensor for Bruker detectors Adaptor for Shimadzu AIM8800 or similar Custom built adaptor to fixate sensor(s) on application Transport trolley 5 wheels (10 cm height) Stand for pump (when Dewar is refilled)
Net weight(kg)	3.5
Dimensions(mm)	210*240*750