

STELLAR[®] Laboratory Freeze Dryer

An economical freeze dryer that combines many of the features of larger lyophilizers in a small floor model console system. The **STELLAR[®] Laboratory Freeze Dryer** provides control versatility with the most advanced PC/PLC system and MCS software.

The **STELLAR[®] Laboratory Freeze Dryer** fits a wide array of freeze drying applications. From investigational laboratory work to small diagnostics production.

Configured to meet your requirements. A shelf temperature choice of -45C or -70C to +65C coupled with a condenser that cools to -53C or -85C ensures that you can configure a system to meet your demanding needs.

The **STELLAR[®] Lyophilizer** provides more performance and capacity than any other freeze dryer in its class. It offers up to 6.25 sq ft (0.580 sq M) of shelf area and a 12 Liter condensing capacity. With shelf-to-shelf spacing of up to 4.5 inches (114mm).

SYSTEM PERFORMANCE

5 shelf pull down from +20 to -40C in less than 30 mins

Vacuum pull down to 100 mT in less than 20 mins

Vacuum leak rate less than 30 mT per hour

Vacuum level 10 mT in clean dry (-85C system)

STELLAR Features

CONTROL SYSTEM

- PC/PLC with ethernet and remote internet connectivity
- Manual and automatic operating modes
- Graphic and numeric data collection
- Automatic system and leak rate testing
- Options for Protocol Optimization & Controlled Nucleation

SHELF SYSTEM

- Up to 6.25 sq ft (.581 sq M) of shelf area
- Larger shelves - 10" x 18" (254 mm x 457 mm)
- Increased stoppering pressure for hard to stopper systems
- 316 L stainless steel on all wetted parts

CONDENSER

- Internal condenser
- Exposed coil configurations for maximum efficiency

STELLAR[®] Laboratory Freeze Dryer

APPLICATIONS

Diagnostics
Small Production
Investigational Lab
R&D
Vials
Bulk
Well Plates



REFRIGERATION

- Hermetic compressors
- Oversized compressors for high performance
- CFC Free non-proprietary refrigerants

VACUUM

- Pirani vacuum sensor
- Vacuum control
- Gas backfill
- 195 LPM corrosion resistant vacuum pump

ADDITIONAL

- Sanitary style fittings on all sensor and vacuum ports
- Built in validation port

STELLAR[®] Laboratory Freeze Dryer

MILLROCK
TECHNOLOGY



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SPECIFICATIONS

STELLAR™ STANDARD SPECIFICATIONS

SHELF AREA	3.75 to 6.25 sq ft (0348 to .581 sqM)
SHELF ASSEMBLY	Bulk or Pneumatic Stoppering
SHELF TEMPERATURE RANGE	-45C or -70C to +65C
SHELF HEAT TRANSFER	Hollow Fluid Filled
SHELF SIZE/FINISH	10"x 18", 316 LSS, 20 Ra or better
CONDENSER TEMPERATURE	-53C or -85C
CONDENSER CAPACITY	12 L
CONDENSING RATE	12 L in 24 hours
CONDENSER STYLE	Exposed Coil
DEFROST	Hot Gas
COMPRESSORS (HERMETIC)	2 HP (-53C) 2HP & 2 HP (-85C)
PRODUCT SENSORS	4, Type T Thermocouples
VACUUM PUMP	195 LPM, Corrosion Resistant
VACUUM CONTROL	Pirani w/ Solenoid & Needle Valve
GAS BACKFILL	Included
CONTROL SYSTEM	PC/PLC with Opti-Dry Software
TRAYS	One per shelf included
CABINET	35" w x 42"d x 64"h
ELECTRICAL FOR -53C & -85C UNITS	230V/60Hz, 1 ph, 30A 220V/50Hz, 1 ph, 30 A

PLEASE NOTE THAT WHEN USING 50HZ HEAT REMOVAL IS REDUCED BY 17%

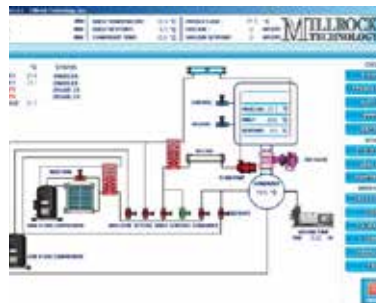
STELLAR® Laboratory Freeze Dryer

AVAILABLE OPTIONS

- FreezeBooster® Controlled Nucleation (Portable)*
- LyoPAT® Heat Flow Measurement and Control
- Up to 18 Product Probes
- Capacitance Manometer (Control Only)
- Proportional Vacuum Control
- Dry Vacuum Pump
- Stainless Steel Door
- Shelf Latching Kit
- LN2 Trap
- Water Cooled Condenser
- Hydraulic Stoppering (2 ml vials)
- Resistivity Probe
- Clean Room Configuration
- Isolator Interface
- 12 or 24 port Manifold
- H2O2 Integration Kit
- 21 CFR Part 11 Software
- Validation Documentation
- IQ/OQ Workbook
- FAT/SAT

OPTI DRY - PC/PLC CONTROL

THE **STELLAR®** Laboratory Freeze Dryer comes complete with PLC controls and a PC for programming and data collection. Our easy-to-use software provides automatic freeze-drying, defrost, and system test. Data can be printed either numerically or graphically. This same control system can be used on industrial dryers, allowing scaling to production. An interactive maintenance screen simplifies component servicing.



SHELF CONFIGURATION

SHELVES	SPACING (in/mm)	AREA (sq ft/sq M)
3	4.5/114	3.75/0.348
4	3.25/82	5.0/0.464
5	2.5/63	6.25/0.580

BULK FILL (LITERS)

#trays	1	2	3	4	5
Depth					
10mm	1.0	2.3	3.5	4.6	5.8
15mm	1.7	3.5	5.2	6.9	8.7
20mm	2.3	4.7	7.0	9.2	11.6

VIAL CAPACITY

VIAL ml	DIA (mm)	HEIGHT (mm)	NUMBER OF SHELVES				
			1	2	3	4	5
2	16	41	480	960	1440	1920	2400
5	22	48	241	482	723	964	1205
10	24	58	199	398	597	796	
20	29	71	136	272	408	544	
50	43	81	55	110	165		

OPTI DRY uses an ethernet platform for hardware connectivity making data transmission extremely fast. It also provides web connectivity for those who want remote access to their systems.

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Specifications subject to change without notification. All specifications based on 20C ambient and 60 Hz

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