THE LAB 5 SERIES combines many of the features of larger systems in a small console. Using the best components and design techniques combined with the most advanced PC/PLC control system, THE LAB 5 SERIES is the perfect solution for both your protocol development and small scale production needs.

The system comes complete with Opti-Dry PC/PLC freeze drying control system and offers all the necessary options to meet your most demanding needs.

THE LAB 5 SERIES offers up to 6.25 sq ft of shelf area and 16L of condensing capacity with 63mm of shelf-to-shelf spacing, providing more performance and capacity than any system in its class.

SYSTEM PERFORMANCE

- Shelf pull down from +20 to –40C in less than 30 minutes
- Vacuum pull down to 100 mT in less than 20 minutes
- Vacuum leak rate less than 30 mT per hour
- Vacuum level 10 mT in clean dry system (-85C)
- Shelf heating rate: 1C/min with 1 Kw heater
- Stainless steel high performance heat exchanger

LAB 5 HIGHLIGHTS

CONTROL SYSTEM

- PC/PLC with ethernet and remote Internet connectivity
- Manual and automatic operating modes
- Graphic and numeric data collection

SHELF SYSTEM

- 3.75 to 6.25 sf of shelf area
- Large shelves for more product capacity – 10" x 18" each
- Pneumatic stoppering—From bottom to top
- 316L on all wetted parts

CONDENSER

- Internal with baffle
- Exposed coil condenser area: 3.0 sq. ft
- Hot gas defrost

REFRIGERATION

- Oversized refrigeration components for high reliability
- CFC-Free, non-proprietary refrigerants

VACUUM

- Pirani vacuum sensor standard
- Vacuum control standard
- Gas backfill standard
- 195LPM corrosion resistant vacuum pump with easy access (option)

OTHER

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

LAB 5 SERIES
Tray Style Freeze Dryer/ Lyophilizer

APPLICATIONS

- R&D
- Diagnostics
- Well Plates
- Vials
- Bulk Applications / Trays

LAB 5 FEATURES & SPECIFICATIONS

STANDARD FEATURES	
SHELF AREA	3.75 to 6.25 sq ft
SHELF ASSEMBLY	Bulk or Pneumatic Stoppering
SHELF TEMPERATURE RANGE	-45C or -70C to +65C
SHELF HEAT TRANSFER	Hollow Follow Fluid Filled
SHELF SIZE/FINISH	10" x 18", 316L, 20 Ra or better
CONDENSER TEMPERATURE	-53C or -85C
CONDENSER CAPACITY	16L
CONDENSING RATE	12L in 24 hours
CONDENSER STYLE	Exposed Coli
DEFROST	Hot Gas
COMPRESSORS (HERMETIC)	2hp (-53C), 2hp & 2hp (-85C)
PRODUCT SENSORS	4, Type T
VACUUM PUMP	200 LPM, (option)
VACUUM CONTROL	Pirani w/ Solenoid & Neddle Valve 0-1000 +/- 10 mt
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	230v/1 ph/60Hz/30A

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

VIAL CAPACITY

VIAL ml	DIA (mm)	HT (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		

AVAILABLE OPTIONS

- **FreezeBooster®** Controlled Nucleation (Portable)*
- **LyoPAT®** Determines vial heat transfer coefficient(Kv), defines process design space in a single run & develops transferrable protocols*
- 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
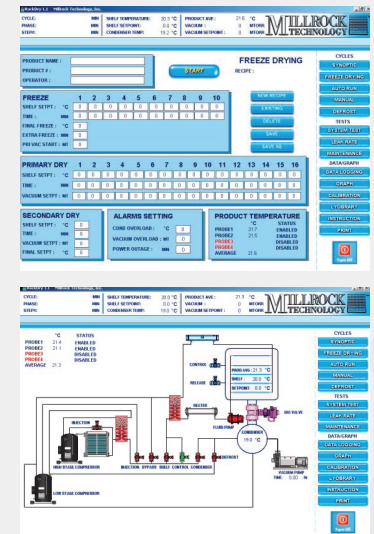- Validation Documentation
- IQ/OQ Workbook
- FAT/SAT

OPTI-DRY® PC/PLC CONTROL

LAB 5 Series 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.

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.

BULK FILL (LITERS)

DEPTH	1	2	3	4	5
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

* Patented and Patent Pending technology.
Note: Specifications subject to change without notice. All specifications based on 20C ambient on 60Hz.