

# VirTis BenchTop Pro with Omnitronics™ - 3L

## Benchtop Freeze Dryer



(BenchTop Pro 3L with optional tree-type manifold and condensate pan kit shown).

### Key Features

- Direct chamber, flask and/or rack drying capabilities.
- PLC-based Omnitronics™ controller.
- Choice of refrigeration system to meet various process requirements.
- Optional manifolds, racks and accessories available.

### Optional Components

- Stoppering-Tainer (SC-1 Stainless Steel).
- Stainless Steel Drum Manifold (18-Port).
- Tree-Type Stainless Steel Manifold (8- or 12-Port).
- Stainless Steel Vertical Manifold (12-Port).
- Bulk Shelf Rack (Unheated or 35 °C Heated).<sup>11</sup>
- Vertical Acrylic Drum Manifold (8- or 12-Port).

**Note:** Additional accessories, as well as flask adapters, glassware and other components are available. Contact SP Scientific for more information.

### Performance Specifications

	ES	XL
Lowest Condenser Temperature (°C) (50 Hz / 60 Hz)	-52 / -55	-72 / -75
Maximum Condenser Capacity (L)	3	3
Maximum Ice Condensing Capacity in 24 hours (L) <sup>†</sup>	2	2
Maximum Deposition Rate (L/hour) <sup>†</sup>	0.08	0.08
Number of Compressors	1	1
Compressor Horsepower	1/3	1/3
System Refrigerant	MO89	R245fa/R508B
Average Vacuum Time to 100 Millitorr (minutes)**	15	15
Lowest System Vacuum (mT)**	≤ 20	≤ 20

**Note:** Performance specifications are based on SP Scientific test data from units operating at an ambient room temperature of approximately 20 °C. SP Scientific recommends an operating range of 15-25 °C (59-77 °F).

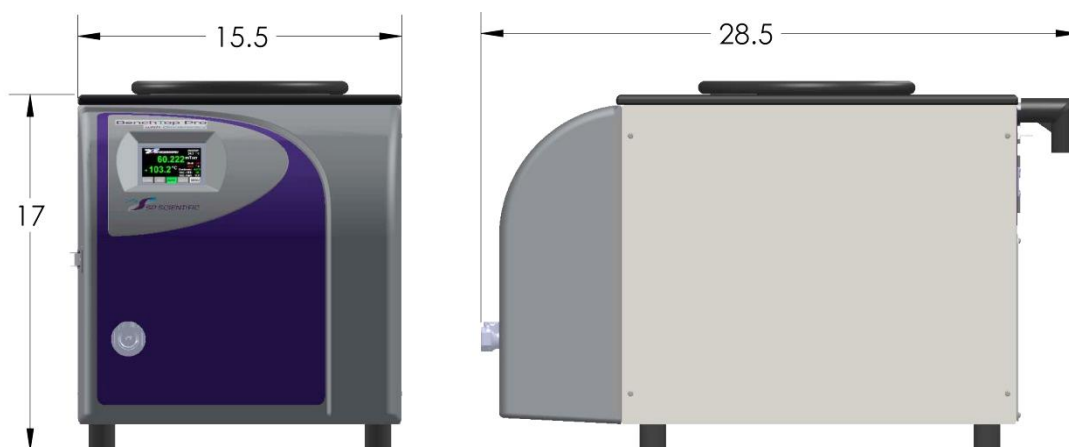
### Utility Requirements

	ES	XL
<b>With Vacuum Pump</b>		
Approx. Peak Heat Generated (BTU/h)	3,000	3,000
<b>Without Vacuum Pump</b>		
Approx. Peak Heat Generated (BTU/h)	2,000	2,000

### Electrical Requirements

	ES	XL
Voltage (VAC) <sup>‡</sup>	100-120	208-230
Hertz	50, 60	60
Phase	1	1
Breaker Amperage	15	10

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## Dimensional Data

Width (in / cm)	15.5 / 39.4
Depth (in / cm)	28.5 / 72.4
Height (in / cm)	17 / 43.2
Approximate Weight (lb / kg)	60 / 27.3
Condenser Inside Diameter (in / cm)	9 / 22.9

## Additional Information

Construction	Stainless Steel Condenser
Vacuum Pump (required, not included)	Two-Stage Rotary Vane
Defrost Type	Hot Gas
Refrigerant Type	CFC Free
Condenser Type	Bottom External Coil

## Materials of Construction

Condenser Chamber	304 Stainless Steel
Condenser Chamber Cover / Adapter Plate	Acrylic
Condenser Chamber Gasket	Neoprene Split-ring
Bulk Rack Shelves	304 Stainless Steel
Drum Manifold	Acrylic or 304 Stainless Steel
Vertical and Tree-Type Manifolds	316L Stainless Steel
Drum Manifold Gasket	Neoprene Split-ring
Quickseal Body	Neoprene
Quickseal Knob	Polypropylene



**Stoppering-Tainer**

SC-1 Stainless Steel



**Drum Manifold**

18-Port Stainless Steel Drum Manifold



**Tree-Type Manifold**

8-or 12-Port Stainless Steel Manifold



**Vertical Manifold**

12-Port Stainless Steel Vertical Manifold



**Bulk Shelf Rack**

3 Shelves; Unheated or 35 °C Heated



**Vertical Drum Manifold**

8- or 12-Port Acrylic Drum Manifold

<sup>†</sup> The specified Maximum Ice Condensing Capacity in 24 Hours and Maximum Deposition Rate are based on the process of freeze-drying water as aggressively as possible. The freeze dryer's ability to collect ice at an hourly rate or over a specified period will always be application dependent.

<sup>\*\*</sup> Vacuum specifications are based on SP Scientific test data from similar units equipped with an Leybold D2,5E two-stage rotary vane vacuum pump. Units equipped with other vacuum pumps may yield different results.

<sup>‡</sup> NEMA plug type is selected at time of sale.

<sup>§</sup> 35 °C heated bulk shelf rack is available with a 12-port acrylic drum manifold only.