

# BenchTop Pro 9L

## Benchtop Freeze Dryer with Omnitronics™



### Specifications

	SG	EG
Lowest condenser temperature (50 Hz / 60 Hz)	-52°C / -55°C	-82°C / -85°C
Maximum condenser capacity	9 L	9 L
Maximum ice condensing capacity in 24 hours†	5 L	5 L
Maximum deposition rate†	0.21 L/hr	0.21 L/hr
Number of compressors	1	2
Compressor horsepower	1/3	1/3, 3/8
Average vacuum time to 100 mTorr**	18 minutes	18 minutes
Lowest system vacuum**	≤ 30 mT	≤ 20 mT

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

### Utility Requirements

	SG	EG
With vacuum pump (Approx. peak heat generated)	3,500 BTU/h (1.0 kW)	4,500 BTU/h (1.3 kW)
Without vacuum pump (Approx. peak heat generated)	2,500 BTU/h (0.7 kW)	3,500 BTU/h (1.0 kW)

### Electrical Requirements

	SG			EG		
	100-120 88-108	208-230	200-240	100-120 88-98	208-230	200-240
Voltage† (VAC)	100-120 88-108	208-230	200-240	100-120 88-98	208-230	200-240
Hertz	50 60	60	50	50 60	60	50
Phase	1 Φ	1 Φ	1 Φ	1 Φ	1 Φ	1 Φ
Breaker amperage	15	10	10	20	15	15

### 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

Vertical acrylic drum manifold (8-or 12-port)

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



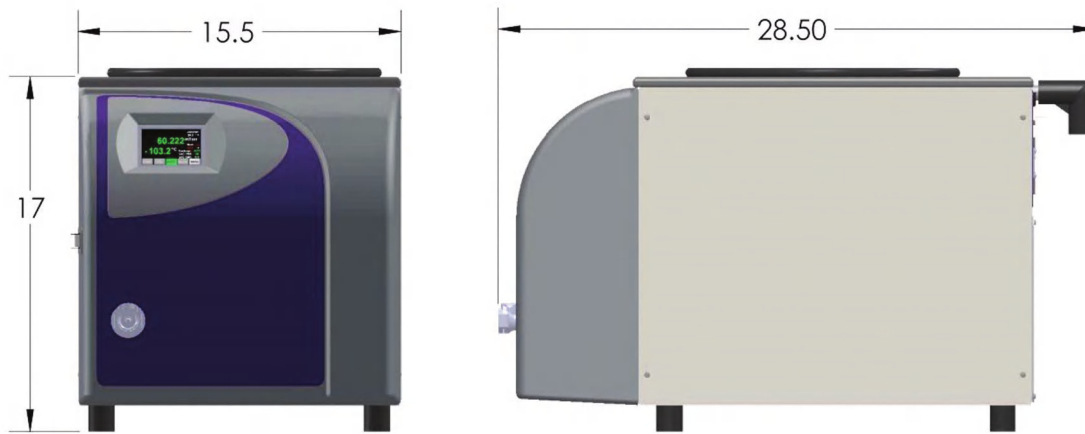
Shown with optional tree-type manifold and condensate pan kit.

### 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

### Refrigerant Information

	SG		EG	
	Gas 1	Gas 2	Gas 1	Gas 2
F gas	R1270	—	R449A	R170
Charge (Kg)	0.095	—	0.330	0.047
GWP	5	—	1400	6
EPA SNAP	IPR	—	IPR	VLTR
Safety Class	A3	—	A1	A3
Total CO2e (t)	—	—	0.462	



## Dimensional Data

Width	15.5 in (39.4 cm)
Depth	28.5 in (72.4 cm)
Height	17 in (43.2 cm)
Approximate weight	SG: 88 lb (40 kg); EG: 131 lb (59 kg)
Condenser inside diameter	12 in (30.5 cm)

## Materials Construction

Condenser chamber	304
Internal condenser coil	316L 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

## 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	Internal coil

## Optional Components



### Drum manifold

18-port stainless steel



### Tree-type manifold

8- or 12-port stainless steel manifold



### Horizontal manifold

Trays and ports



### Bulk shelf rack

3 shelves



### Drum manifold

8- or 12-port acrylic

† 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.

\*\* Vacuum specifications are based on SP 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.

‡ NEMA plug type is selected at time of sale.

Note: The refrigerants and insulating foam contain fluorinated greenhouse gases.