

# VirTis 25L GPFD 36DX84

## General Purpose Freeze Dryer



(GPFD 36DX66 Shown)

### Key Features

- Compact, freestanding, mobile design.
- Clear acrylic product and condenser chamber doors.
- Optional programmable heat allows for chamber temperature control to 60 °C.
- Intellitronics™ controller with manual and automatic drying capabilities.
- Smooth-wall condenser.
- Stainless steel trays.

### Electrical Requirements

|                                        | ES            | XL            | EL            |
|----------------------------------------|---------------|---------------|---------------|
| Voltage                                | 208 - 240 VAC | 208 - 240 VAC | 208 - 240 VAC |
| Hertz                                  | 50 Hz, 60 Hz  | 50 Hz, 60 Hz  | 50 Hz, 60 Hz  |
| Phase                                  | 1 Φ           | 1 Φ           | 1 Φ           |
| Breaker Amperage                       | 30 A          | 30 A          | 40 A          |
| Plug Type (60 Hz Systems)              | NEMA L6-30-P  | NEMA L6-30-P  | NEMA 6-50-P   |
| Recommended Receptacle (60 Hz Systems) | NEMA L6-30-R  | NEMA L6-30-R  | NEMA 6-50-R   |

### Performance Specifications

|                                                              | ES                                          | XL                                          | EL                                          |
|--------------------------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| Chamber Temperature Control Range (Without Heat)             | -29 to 0 °C                                 | -29 to 0 °C                                 | -29 to 0 °C                                 |
| Chamber Temperature Control Range (With Heat)                | -29 to 60 °C                                | -29 to 60 °C                                | -29 to 60 °C                                |
| Lowest Condenser Temperature (50 Hz / 60 Hz)                 | -50 °C / -53 °C                             | -67 °C / -70 °C                             | -82 °C / -85 °C                             |
| Maximum Condenser Capacity                                   | 25 L                                        | 25 L                                        | 25 L                                        |
| Condenser Surface Area                                       | 506 in <sup>2</sup> (3264 cm <sup>2</sup> ) | 506 in <sup>2</sup> (3264 cm <sup>2</sup> ) | 506 in <sup>2</sup> (3264 cm <sup>2</sup> ) |
| Maximum Ice Condensing Capacity in 24 hours (L) <sup>†</sup> | 12 L                                        | 12 L                                        | 12 L                                        |
| Maximum Deposition Rate <sup>†</sup>                         | 0.50 L/hour                                 | 0.50 L/hour                                 | 0.50 L/hour                                 |
| Number of Compressors                                        | 2                                           | 2                                           | 3                                           |
| System Refrigerant (Product Chamber)                         | R-404A                                      | R-404A                                      | R-404A                                      |
| System Refrigerant (Condenser)                               | MO 89                                       | R245fa / R508B                              | R508B, R407C                                |
| Vacuum Time to 100 milliTor <sup>§</sup>                     | ≤ 30 minutes                                | ≤ 30 minutes                                | ≤ 30 minutes                                |
| Vacuum Rate of Rise <sup>§</sup>                             | ≤ 30 mT/hour                                | ≤ 30 mT/hour                                | ≤ 30 mT/hour                                |
| Lowest System Vacuum <sup>§</sup>                            | ≤ 50 mT                                     | ≤ 15 mT                                     | ≤ 15 mT                                     |

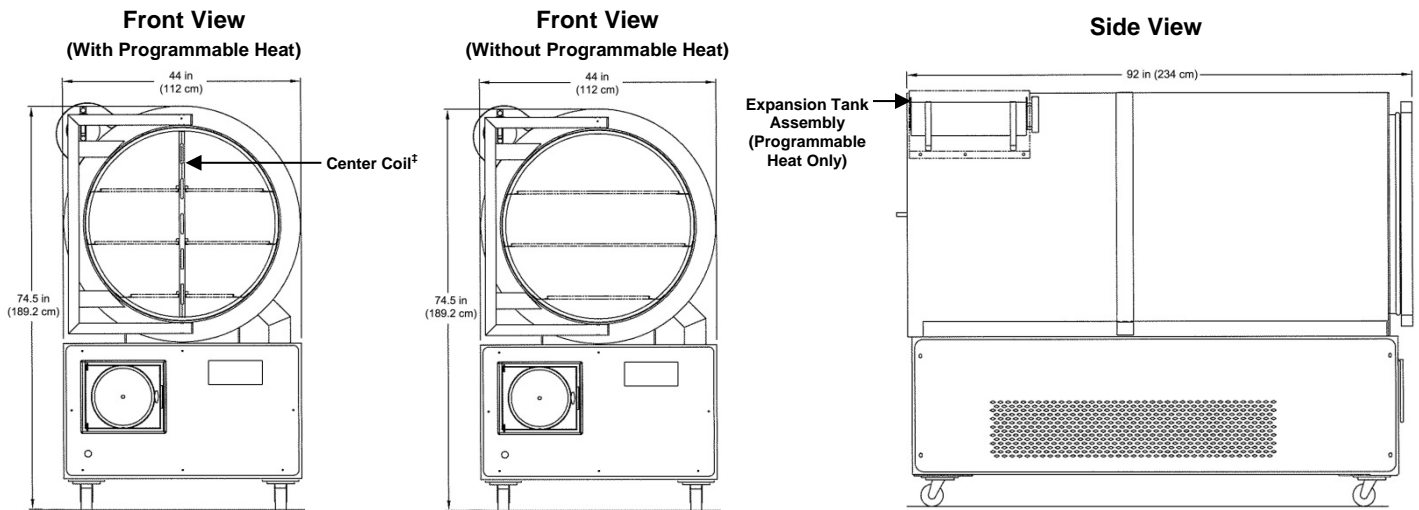
**Note:** Performance specifications are based on SP Scientific test data from units operating at an ambient room temperature of approximately 20 °C. SP Scientific recommends an operating range of 15-25 °C (59-77 °F).

### Utility Requirements

|                                            | ES           | XL           | EL           |
|--------------------------------------------|--------------|--------------|--------------|
| Ambient Room Temperature                   | 20 °C        | 20 °C        | 20 °C        |
| Approx. Peak Heat Generated (Without Heat) | 8,900 BTU/h  | 8,900 BTU/h  | 11,500 BTU/h |
| Approx. Peak Heat Generated (With Heat)    | 10,200 BTU/h | 10,200 BTU/h | 12,800 BTU/h |

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### Dimensional Data

#### Standard Configuration

|                                |                    |
|--------------------------------|--------------------|
| Width                          | 44 in (112 cm)     |
| Depth                          | 92 in (234 cm)     |
| Height                         | 74.5 in (189.2 cm) |
| Approximate Weight             | 2200 lbs (1000 kg) |
| Minimum Clearance on All Sides | 10 in (25.4 cm)    |

### Additional Information

|                                |                                                  |
|--------------------------------|--------------------------------------------------|
| Product Chamber Construction   | Treated Mild Steel<br>(Stainless Steel Optional) |
| Condenser Chamber Construction | 316L Stainless Steel                             |
| Vacuum Pump                    | Two-Stage Rotary Vane                            |
| Defrost Type                   | Hot Gas                                          |
| Refrigerant Type               | CFC-Free                                         |
| Vapor Port                     | Four (4) Inches                                  |

### Tray Configuration (Without Programmable Heat)

| Tray Levels | Area                                        | Spacing**        | Number of Trays |
|-------------|---------------------------------------------|------------------|-----------------|
| 6           | 78.9 ft <sup>2</sup> (7.38 m <sup>2</sup> ) | 4.68 in (117 mm) | 12              |
| 7           | 92.9 ft <sup>2</sup> (8.68 m <sup>2</sup> ) | 3.86 in (98 mm)  | 14              |
| 8           | 99.3 ft <sup>2</sup> (9.28 m <sup>2</sup> ) | 3.81 in (96 mm)  | 16              |

### Tray Configuration (With Programmable Heat)

| Tray Levels | Area                                        | Spacing**        | Number of Trays |
|-------------|---------------------------------------------|------------------|-----------------|
| 6           | 78.9 ft <sup>2</sup> (7.38 m <sup>2</sup> ) | 4.68 in (117 mm) | 24              |
| 7           | 92.9 ft <sup>2</sup> (8.68 m <sup>2</sup> ) | 3.86 in (98 mm)  | 28              |
| 8           | 99.3 ft <sup>2</sup> (9.28 m <sup>2</sup> ) | 3.81 in (96 mm)  | 32              |

\* VirTis units are highly customizable and SP Scientific can configure any unit to conform to the service requirements of a wide range of international voltage and phase configurations. Contact SP Scientific for more information.

† 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 is application dependent.

‡ The center coil is provided in the chamber of those units equipped with the programmable heat option. This coil is used to provide uniform heating and cooling of the product chamber and trays. The chamber temperature of units without the heat option is cooled and controlled by refrigeration coils wrapped around the chamber exterior.

§ Vacuum specifications are based on SP Scientific test data from similar units equipped with a two-stage rotary vane 590 LPM (liters per minute) vacuum pump.

\*\* Limited tray spacing available on the top tray.