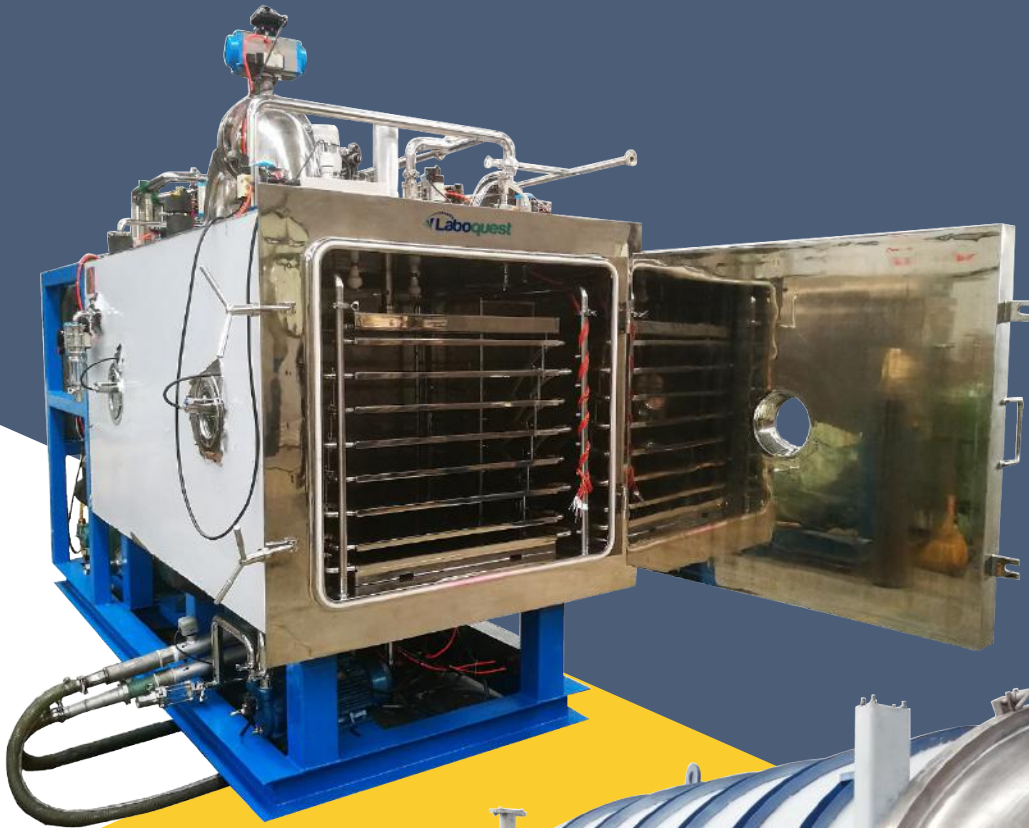


# Production Scale Freeze Dryer Series



## Production Scale Freeze Dryer Series

### Production scale freeze dryer PFQ 9100

Production scale freeze dryer PFQ 9100 is a production scale unit with a condensing capacity of 210 kg / batch at a temperature of -50 °C to 70 °C. Facilitated with a shelf area of 10.33 m<sup>2</sup> for freezing and drying processes. Equipped with easy to adjust shelf temperature and vacuum degree, silicon oil is used as in intermediate medium for heating to ensure drying material uniformity. Available in standard and top press type and is suitable for bulk and vial drying.

#### Features

- ✓ PLC controller system with built-in 32 programs ( 36 segments each )
  - ✓ Adjustable vacuum degree
  - ✓ Color LCD display panel ( freeze drying curve and data storage )
  - ✓ Login facility with multi-level password protection for sample security
  - ✓ SUS304 stainless steel composition ( optional SS316 material composition )
  - ✓ Integrated nitrogen inflation valve
  - ✓ Alarm system ( elevated temperature, vacuum degree error, operation completion )
  - ✓ USB interface to export data
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### Production scale freeze dryer PFQ 9101

Production scale freeze dryer PFQ 9101 is a production scale unit with a condensing capacity of 290 kg / batch at a temperature of -50 °C to 70 °C. Facilitated with a shelf area of 14.76 m<sup>2</sup> for freezing and drying processes. Equipped with easy to adjust shelf temperature and vacuum degree, silicon oil is used as in intermediate medium for heating to ensure drying material uniformity. Available in standard and top press type and is suitable for bulk and vial drying.

- ✓ PLC controller system with built-in 32 programs ( 36 segments each )
- ✓ Adjustable vacuum degree
- ✓ Color LCD display panel ( freeze drying curve and data storage )
- ✓ Login facility with multi-level password protection for sample security
- ✓ SUS304 stainless steel composition ( optional SS316 material composition )
- ✓ Integrated nitrogen inflation valve
- ✓ Alarm system ( elevated temperature, vacuum degree error, operation completion )
- ✓ USB interface to export data

### **Production scale freeze dryer PFQ 9102**

Production scale freeze dryer PFQ 9102 is a production scale unit with a condensing capacity of 410 kg / batch at a temperature of -50 °C to 70 °C. Facilitated with a shelf area of 20.63 m<sup>2</sup> for freezing and drying processes. Equipped with easy to adjust shelf temperature and vacuum degree, silicon oil is used as in intermediate medium for heating to ensure drying material uniformity. Available in standard and top press type and is suitable for bulk and vial drying.

#### **Features**

- ✓ PLC controller system with built-in 32 programs ( 36 segments each )
  - ✓ Adjustable vacuum degree
  - ✓ Color LCD display panel ( freeze drying curve and data storage )
  - ✓ Login facility with multi-level password protection for sample security
  - ✓ SUS304 stainless steel composition ( optional SS316 material composition )
  - ✓ Integrated nitrogen inflation valve
  - ✓ Alarm system ( elevated temperature, vacuum degree error, operation completion )
  - ✓ USB interface to export data
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### **Production scale freeze dryer PFQ 9103**

Production scale freeze dryer PFQ 9103 is a production scale unit with a condensing capacity of 480 kg / batch at a temperature of -50 °C to 70 °C. Facilitated with a shelf area of 24.38 m<sup>2</sup> for freezing and drying processes. Equipped with easy to adjust shelf temperature and vacuum degree, silicon oil is used as in intermediate medium for heating to ensure drying material uniformity. Available in standard and top press type and is suitable for bulk and vial drying.

- ✓ PLC controller system with built-in 32 programs ( 36 segments each )
- ✓ Adjustable vacuum degree
- ✓ Color LCD display panel ( freeze drying curve and data storage )
- ✓ Login facility with multi-level password protection for sample security
- ✓ SUS304 stainless steel composition ( optional SS316 material composition )
- ✓ Integrated nitrogen inflation valve
- ✓ Alarm system ( elevated temperature, vacuum degree error, operation completion )
- ✓ USB interface to export data

### **Production scale freeze dryer PFQ 9104**

Production scale freeze dryer PFQ 9104 is a production scale unit with a condensing capacity of 590 kg / batch at a temperature of -50 °C to 70 °C. Facilitated with a shelf area of 29.7 m<sup>2</sup> for freezing and drying processes. Equipped with easy to adjust shelf temperature and vacuum degree, silicon oil is used as in intermediate medium for heating to ensure drying material uniformity. Available in standard and top press type and is suitable for bulk and vial drying.

#### **Features**

- ✓ PLC controller system with built-in 32 programs ( 36 segments each )
  - ✓ Adjustable vacuum degree
  - ✓ Color LCD display panel ( freeze drying curve and data storage )
  - ✓ Login facility with multi-level password protection for sample security
  - ✓ SUS304 stainless steel composition ( optional SS316 material composition )
  - ✓ Integrated nitrogen inflation valve
  - ✓ Alarm system ( elevated temperature, vacuum degree error, operation completion )
  - ✓ USB interface to export data
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### **Production scale freeze dryer PFQ 9105**

Production scale freeze dryer PFQ 9105 is a production scale unit with a condensing capacity of 800 kg / batch at a temperature of -50 °C to 70 °C. Facilitated with a shelf area of 40.5 m<sup>2</sup> for freezing and drying processes. Equipped with easy to adjust shelf temperature and vacuum degree, silicon oil is used as in intermediate medium for heating to ensure drying material uniformity. Available in standard and top press type and is suitable for bulk and vial drying.

- ✓ PLC controller system with built-in 32 programs ( 36 segments each )
- ✓ Adjustable vacuum degree
- ✓ Color LCD display panel ( freeze drying curve and data storage )
- ✓ Login facility with multi-level password protection for sample security
- ✓ SUS304 stainless steel composition ( optional SS316 material composition )
- ✓ Integrated nitrogen inflation valve
- ✓ Alarm system ( elevated temperature, vacuum degree error, operation completion )
- ✓ USB interface to export data



Water capture capacity (< 30 °C)	20 m <sup>3</sup> / h	27 m <sup>3</sup> / h	30 m <sup>3</sup> / h	33 m <sup>3</sup> / h	36 m <sup>3</sup> / h	42 m <sup>3</sup> / h
Water capture pressure	0.15 Mpa to 0.2 Mpa	0.15 Mpa to 0.2 Mpa	0.15 Mpa to 0.2 Mpa	0.15 Mpa to 0.2 Mpa	0.15 Mpa to 0.2 Mpa	0.15 Mpa to 0.2 Mpa
Bulk loading capacity	210 L	300 L	450 L	500 L	600 L	850 L
Vacuum pump	0.1 m <sup>3</sup> / min	0.1 m <sup>3</sup> / min	0.1 m <sup>3</sup> / min	0.1 m <sup>3</sup> / min	0.1 m <sup>3</sup> / min	0.1 m <sup>3</sup> / min
Vial capacity (Φ 22 mm)	23700	33900	47400	56000	68300	93000
Vial capacity (Φ 16 mm)	46400	66400	92800	109700	133600	182200
Vial capacity (Φ 12 mm)	65300	95700	130400	154000	187700	256000
CIP-WIP (> 65 °C)	100 L/ min	100 L/ min	100 L/ min	100 L/ min	100 L/ min	100 L/ min
Power consumption	58 W	84 W	105 W	125 W	145 W	170 W
Product material	SUS304 Stainless steel	SUS304 Stainless steel	SUS304 Stainless steel	SUS304 Stainless steel	SUS304 Stainless steel	SUS304 Stainless steel
Shelf size (L x W)	1215 x 1215 mm	1215 x 1215 mm	1250 x 1500 mm	1250 x 1500 mm	1500 x 1800 mm	1500 x 1800 mm
Inter-shelf height	100 - 120 mm	100 - 120 mm	100 - 120 mm	100 - 120 mm	100 - 120 mm	100 - 120 mm
Product dimensions (W x D x H)	2300 x 6400 x 3200 mm	2300 x 6500 x 3400 mm	2300 x 7400 x 3800 mm	2300 x 8200 x 4000 mm	2400 x 9200 x 4000 mm	2400 x 9400 x 4500 mm
Weight	7000 kgs	9000 kgs	11000 kgs	12000 kgs	15000 kgs	20000 kgs

## Optional Accessories

Accessory No	Accessory
1	Eutectic point tester
2	CIP / SIP system
3	Exhaust pump filter
4	Computer software for data storage