

# *Large Scale* **Freeze Dryer**



## Large Scale Freeze Dryer LFQ Series

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### Large scale freeze dryer LFQ 8100

Large scale freeze dryer LFQ 8100 is a production scale unit with a condensing capacity of 25 kg/batch at a temperature of -50 °C to 70 °C. Facilitated with a shelf area of 1.98 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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### Large scale freeze dryer LFQ 8101

Large scale freeze dryer LFQ 8101 is a production scale unit with a condensing capacity of 40 kg/batch at a temperature of -50 °C to 70 °C. Facilitated with a shelf area of 2.96 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

# Large Scale Freeze Dryer LFQ Series

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## Large scale freeze dryer LFQ 8102

Large scale freeze dryer LFQ 8102 is a production scale unit with a condensing capacity of 60 kg/batch at a temperature of -50 °C to 70 °C. Facilitated with a shelf area of 4.4 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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## Large scale freeze dryer LFQ 8103

Large scale freeze dryer LFQ 8103 is a production scale unit with a condensing capacity of 80 kg/batch at a temperature of -50 °C to 70 °C. Facilitated with a shelf area of 5.5 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

# Large Scale Freeze Dryer LFQ Series

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## Large scale freeze dryer LFQ 8104

Large scale freeze dryer LFQ 8104 is a production scale unit with a condensing capacity of 120 kg/batch at a temperature of -50 °C to 70 °C. Facilitated with a shelf area 7.75 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

## Applications

Used in pharmaceutical, research institutes, archaeological conservators, food and beverage industries

# Large Scale Freeze Dryer LFQ Series

## Specifications

Model No	LFQ 8100	LFQ 8101	LFQ 8102	LFQ 8103	LFQ 8104
Freeze drying area	1.98 m <sup>2</sup>	2.96 m <sup>2</sup>	4.4 m <sup>2</sup>	5.5 m <sup>2</sup>	7.75 m <sup>2</sup>
Condenser capacity	25 kg / batch	40 kg / batch	60 kg / batch	80 kg / batch	120 kg / batch
Condenser temperature	< -70 °C	< -70 °C	< -70 °C	< -70 °C	< -70 °C
Shelves	4 + 1	6 + 1	4 + 1	5 + 1	7 + 1
Shelf temperature	( -50 °C to 70 °C )	( -50 °C to 70 °C )	( -50 °C to 70 °C )	( -50 °C to 70 °C )	( -50 °C to 70 °C )
Shelf temperature accuracy	± 1 °C	± 1 °C	± 1 °C	± 1 °C	± 1 °C
Vacuum degree	< 10 Pa	< 10 Pa	< 10 Pa	< 10 Pa	< 10 Pa
Defrosting mode	Water soaking	Water soaking	Water soaking	Water soaking	Water soaking
Water defrosting capacity	270 kg/batch	300 kg/batch	350 kg/batch	400 kg/batch	1200 kg/batch
Water defrosting 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
Cooling mode	Water cooling	Water cooling	Water cooling	Water cooling	Water cooling
Refrigerant	CFC free refrigerant	CFC free refrigerant	CFC free refrigerant	CFC free refrigerant	CFC free refrigerant
Water capture capacity (< 30 °C )	4.2 m <sup>3</sup> / h	4.5 m <sup>3</sup> / h	6 m <sup>3</sup> / h	11 m <sup>3</sup> / h	16 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
Bulk loading capacity	20 L	40 L	60 L	80 L	120 L

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Vacuum pump (0.7 - 1.0 Mpa)	0.1 m <sup>3</sup> / min				
Vial capacity (Φ 22 mm)	3600	5300	8000	12700	17800
Vial capacity (Φ 16 mm)	9800	10000	15000	24800	34800
Vial capacity (Φ 12 mm)	12600	16000	28000	35000	49000
CIP-WIP (< 65 °C)	100 L/ min				
Power consumption	-	16 W	18 W	20 W	30 W
Product material	SUS304 Stainless steel				
Shelf size (L x W)	610 x 810 mm	610 x 810 mm	915 x 1210 mm	915 x 1210 mm	915 x 1210 mm
Inter-shelf height	100 mm				
Product dimensions (W x D x H)	1210 x 2500 x 2700 mm	1200 x 3000 x 2700 mm	1300 x 3600 x 2800 mm	1500 x 3800 x 2900 mm	1500 x 5000 x 2800 mm
Weight	2600 kgs	2800 kgs	3500 kgs	4200 kgs	6000 kgs

### Optional Accessories

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