

# F-SERIES

Food & Industrial Production

Our dedicated food and industrial freeze drying range, the F series are ideal for large scale operations where the entire freeze drying process is completed in a single machine from freezing to final product. All units can be configured to suit your site, production requirements and budget.



**F25****AUTOMATED**

**Fast Drying  
Capability**



**Fast Product  
Freezing**



**Moveable**



## Key Features

F-Series driers are designed for food & industrial processes. The entire process from initial freezing to final drying can be done in a single pre-programmed cycle.

The F-Series can perform initial freezing of the product quickly via conduction & blast freezing. This ensures the machines can slot into a fast paced production environment with ease.

The F-25 is ideal for medium scale product development and small-scale production activities. The machine is designed to freeze dry 25kg\* of product over a 16-24 hour period.

\*dependant on product



**Food**



**Lab**



**Pharma**

## Technical Data

## F-25

Ice Condenser Capacity	40kg
Ice Condenser Performance	30kg /24h
Ice Condenser Temperature	-55°C
Defrost	Hot Gas
Number of Shelves	6+1
Shelf Area	2.6m²
Shelf Spacing	60mm
Chamber Temperature	-45°C to +80°C
Cooling systems	Air cooled
Refrigeration	46m³/h Compressor
Unit Dimensions (H x W x L)	2m x 1.4m x 2.1m
Refrigerant	R404A
Vacuum	Kurt J Lesker RV224
Chamber Dimensions	750mm id x 1250mm
Power Supply	380-415v 20a 3~
Control System	Automatic or Manual Controls

**FROZEN IN TIME**  
Manufacturers of freeze driers and vacuum cold traps



**F50****AUTOMATED****High Capacity****Fast Drying  
Capability****Fast Product  
Freezing**

## Key Features

F-Series driers are designed for food & industrial processes. The entire process from initial freezing to final drying can be done in a single pre-programmed cycle.

The F-Series can perform initial freezing of the product quickly via conduction & blast freezing. This ensures the machines can slot into a fast paced production environment with ease.

The F-50 is ideal for medium scale product development and small-scale production activities. The machine is designed to freeze dry 50kg\* of product over a 16-24 hour period.

\*dependant on product

**Food****Lab****Pharma**

## Technical Data

## F-50

Ice Condenser Capacity	75kg
Ice Condenser Performance	60kg /24h
Ice Condenser Temperature	-60°C
Defrost	Hot Gas
Number of Shelves	9+1
Shelf Area	5.2m²
Shelf Spacing	37mm
Chamber Temperature	-50°C to +90°C
Cooling systems	Water or Air cooled
Refrigeration	88m³/h Compressor
Unit Dimensions (H x W x L)	2.1m x 1.7m x 3m
Refrigerant	R404A
Vacuum	Pfeiffer Duo 35
Chamber Dimensions	850mm id x 1500mm
Power Supply	380-415v 20a 3~
Control System	Automatic Control

**FROZEN IN TIME**  
Manufacturers of freeze driers and vacuum cold traps

# F100

AUTOMATED



High Capacity



Fast Drying  
Capability



Fast Product  
Freezing



## Key Features

F-Series driers are designed for food & industrial processes. The entire process from initial freezing to final drying can be done in a single pre-programmed cycle.

The F-Series can perform initial freezing of the product quickly via conduction & blast freezing. This ensures the machines can slot into a fast paced production environment with ease.

The F-100 is ideal for medium scale product development and medium-scale production activities. The machine is designed to freeze dry 100kg\* of product over a 16-24 hour period.

\*dependant on product



Food



Lab



Pharma

## Technical Data

## F-100

Ice Condenser Capacity	150kg
Ice Condenser Performance	130kg /24h
Ice Condenser Temperature	-60°C
Defrost	Hot Gas
Number of Shelves	13+1
Shelf Area	10.4m²
Shelf Spacing	30mm
Chamber Temperature	-50°C to +90°C
Cooling systems	Water or Air Cooled
Refrigeration	155m³/h Compressor
Unit Dimensions (H x W x L)	2.1m x 1.8m x 3.6m
Refrigerant	R404A
Vacuum	Pfeiffer Duo 65
Chamber Dimensions	1268mm id x 2000mm
Power Supply	380-415v 63a 3~
Control System	Automatic Control



# F250

## AUTOMATED



**Fast Product  
Freezing**



**High Capacity**



**Fast Drying  
Capability**



### Key Features

F-Series driers are designed for food & industrial processes. The entire process from initial freezing to final drying can be done in a single pre-programmed cycle.

The F-Series can perform initial freezing of the product quickly via conduction & blast freezing. This ensures the machines can slot into a fast paced production environment with ease.

The F-250 is ideal for large scale product development and medium scale production activities. The machine is designed to freeze dry 250kg\* of product over a 16-24 hour period.

\*dependant on product



**Food**



**Lab**



**Pharma**

### Technical Data

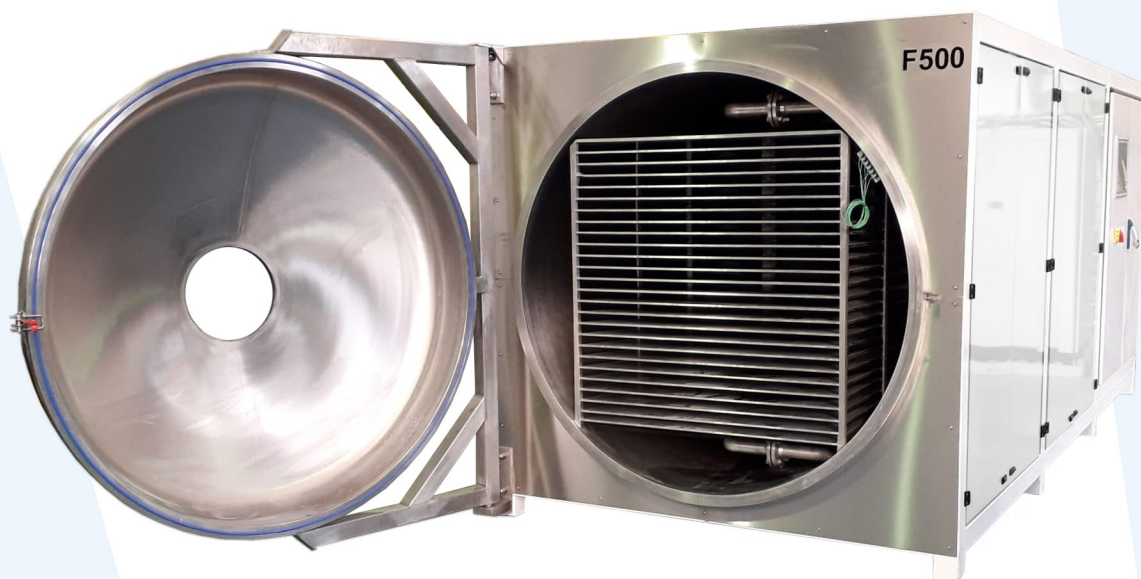
### F-250

Ice Condenser Capacity	Continuous Defrost
Ice Condenser Temperature	-60°C
Defrost	Cold Steam
Number of Shelves	19+1
Shelf Area	25m²
Shelf Spacing	36mm
Chamber Temperature	-50°C to +90°C
Cooling systems	Water or Air Cooled
Refrigeration	403m³/h Compressor
Unit Dimensions (H x W x L)	2.1m x 2.2m x 5m
Refrigerant	R404A
Vacuum	Henna 301R (P3) Okta 300
Chamber Dimensions	1500mm id x 1500mm
Power Supply	380-415v 125a 3~
Control System	Automatic Control





## F500



**Fast Drying  
Capability**



**Fast Product  
Freezing**



**High Capacity**

## Key Features

F-Series driers are designed for food & industrial processes. The entire process from initial freezing to final drying can be done in a single pre-programmed cycle.

The F-Series can perform initial freezing of the product quickly via conduction. This ensures the machines can slot into a fast paced production environment with ease.

The F-500 is ideal for large scale product development and large scale production activities. The machine is designed to freeze dry 500kg\* of product over a 16–24 hour period.

\*dependant on product



**Food**



**Lab**



**Pharma**

## Technical Data

## F-500

Defrost System	Continuous Defrost
Ice Condenser Temperature	-55°C
Defrost	Cold Steam
Number of Shelves	25+1
Shelf Area	50.4m²
Shelf Spacing	38mm
Chamber Temperature	-50°C to +80°C
Refrigeration Cooling	Water Cooled
Refrigeration	Frascold Screw Compressor
Unit Dimensions (H x W x L)	2.4m x 2.4m x 7m
Refrigerant	R404A
Vacuum	Henna 401 & Okta 500
Chamber Dimensions	2000mm id x 2000mm
Power Supply	380–415v 250a 3~
Control System	Automatic Control
Circulation Pump	2 x Magdrive 401PW

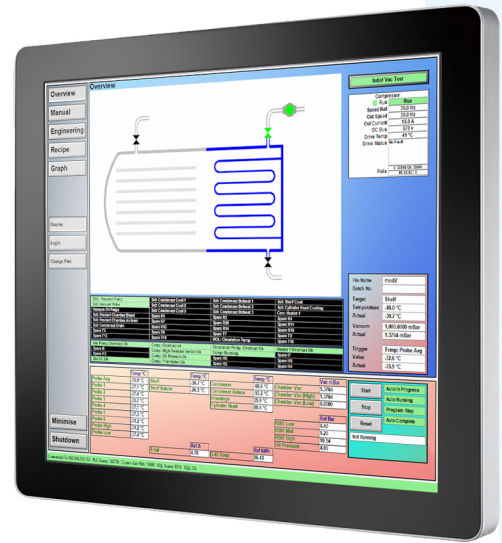
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## AUTOMATED SCADA SYSTEM

High performance touch screen Scada system combined with an Omron PLC. This enables advanced recipes to be written and implemented into an Automatic Freeze Drying cycle, ensuring consistency & user error avoidance.

The system also provides the operator with detailed information on pressures, temperatures & valve positions, as well as advanced options & graph output.

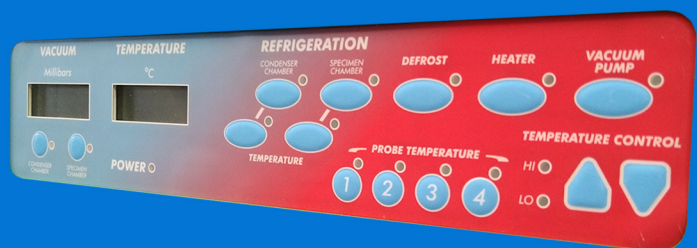
Our automated systems have on-going technical support, as well as remote operation & troubleshooting via a stable internet connection.



- 17" & 19" Screens available ●
- Anti-scratch, 10 point Multi-touch surface ●
- Fanless Intel Core i7 CPU ●
- Mini PCIe expansion slots for WiFi/4G ●
- 250gb SSD & USB 3.0 ●
- IP65 Front Panel Protection ●

## MANUAL LCD DISPLAY

- LCD Display ●
- RS232 Application for Data Logging ●
- Manually operated valve controls ●
- Step change controls ●



Manual touch keypad with LCD vacuum & temperature displays as well as manually operated valves. This system is supplied with a RS232 computer application that can log data and control step changes giving it a simplified computer led programmed profile to follow.

The manual system is ideal for slow process freeze-drying, and processes where less user input & information tracking is required. The operating system is updateable with a removable PIC chip, and Frozen in Time provides on-going technical support as required.