



# STANDARD PILOT FREEZE DRYER

## PSFQ Series

## Standard Pilot Freeze Dryer PSFQ Series

### Standard Pilot Freeze Dryer PSFQ 1300

Standard Pilot Freeze Dryer PSFQ 1300 is a standard type unit with a condensing capacity of 5 kg / 24 h at a temperature of -55 °C. Sensor calibration function and electrical shelf heating facilitates rapid high accuracy testing. Equipped with a flexible manual and automated control mode for easy operations.

### Features

- LCD touch screen panel ( shelf temperature control, freeze drying curves )
- Built-in control system with 32 programs ( 36 segments each )
- Pre freezing and drying on same shelf to speed up process
- Optimum ice capture condenser function
- Login facility with multi-level password protection for sample security
- Transparent acrylic door for easy process observation
- Integrated inert gas inflation valve
- Checking, storage and modification of historical curves and records in real time
- Over-heating safety control system
- Alarm system ( elevated temperature, vacuum degree error, operation completion )
- USB interface to export data

## Standard Pilot Freeze Dryer PSFQ Series

### Standard Pilot Freeze Dryer PSFQ 1301

Standard Pilot Freeze Dryer PSFQ 1301 is a standard type unit with a condensing capacity of 5 kg / 24 h at a temperature of -80 °C. Sensor calibration function and electrical shelf heating facilitates rapid high accuracy testing. Equipped with a flexible manual and automated control mode for easy operations.

### Features

- LCD touch screen panel ( shelf temperature control, freeze drying curves )
- Built-in control system with 32 programs ( 36 segments each )
- Pre freezing and drying on same shelf to speed up process
- Optimum ice capture condenser function
- Login facility with multi-level password protection for sample security
- Transparent acrylic door for easy process observation
- Integrated inert gas inflation valve
- Checking, storage and modification of historical curves and records in real time
- Over-heating safety control system
- Alarm system ( elevated temperature, vacuum degree error, operation completion )
- USB interface to export data

### Applications

Used in pharmaceutical, biotechnology, bacteriology, ceramics, microbiology, biochemistry, food and agriculture based industries for drying processes of large-scale production units

## Standard Pilot Freeze Dryer PSFQ Series

### Specifications

Model No	PSFQ 1300	PSFQ 1301
Freeze drying area	0.2 m <sup>2</sup>	0.2 m <sup>2</sup>
Shelf temperature	- 50 °C to 80 °C	-70 °C to 80 °C
Condenser capacity	5 kg / 24 h	5 kg / 24 h
Condenser temperature	≤ -55 °C	≤ -80 °C
Shelves	2	2
Vacuum degree	≤ 10 Pa	≤ 10 Pa
Vacuum pump flow rate	4 L / S	4 L / S
Cooling mode	Air cooling	Air cooling
Refrigerant	CFC free refrigerant	CFC free refrigerant
Bulk loading capacity ( 10 mm thickness )	2 L	2 L
Vial capacity (Φ 22 mm)	440	440
Vial capacity (Φ 16 mm)	868	868
Vial capacity (Φ 12 mm)	1554	1554
Power consumption	1.7kW	2.1 kW
Power supply	220 V / 50 Hz , 110 V / 120 V / 60 Hz	220 V / 50 Hz , 110 V / 120 V / 60 Hz
Product material	SUS304 Stainless steel	SUS304 Stainless steel
Shelf size	265 x 400 x 25 mm	265 x 400 x 25 mm
Inter-shelf height	70 mm	70 mm
Tray size	260 x 395 x 25 mm	260 x 395 x 25 mm
Product dimensions	605 x 610 x 1200 mm	605 x 610 x 1200 mm
Weight	240 kgs	270 kgs

## Standard Pilot Freeze Dryer PSFQ Series

### Optional Accessories

Accessory No	Accessory
1	Vacuum control valve
2	Intake backfilling filter
3	Air inlet filter pump
4	Eutectic point tester
5	Electrical heating – defrosting mode
6	Cascade refrigeration mode
7	Exhaust / oil mist pump filter
8	Automated backfilling / drainage system
9	Manifold external ports
10	RS232 software

## Standard Pilot Freeze Dryer PSFQ Series

### Standard Pilot Freeze Dryer PSFQ 2100

Standard Pilot Freeze Dryer PSFQ 2100 is a standard type unit with a condensing capacity of 6 kg / 24 h at a temperature of -70 °C. Sensor calibration function and fuzzy control system facilitates high accuracy slop control of shelf heating and cooling temperature. Low viscosity medium circulation provides uniform, high precision temperature control and drying effect. Equipped with a flexible manual and automated control mode for easy operations.

### Features

- LCD touch screen panel ( shelf temperature control, freeze drying curves )
- PLC controller with multiple built-in programs ( 36 segments each )
- Pre freezing and drying on same shelf to speed up process
- Optimum ice capture condenser function
- Login facility with multi-level password protection for sample security
- Transparent acrylic door for easy process observation
- Integrated inert gas inflation valve
- SUS304 stainless steel composition ( optional SS316 material composition )
- Checking, storage and modification of historical curves and records in real time
- Alarm system ( elevated temperature, vacuum degree error, operation completion )
- USB interface to export data

### Applications

Used in medicine, pharmacy, biology, pharmaceutical and food industry, research institutes, archaeological conservators, food and beverage industries

## Standard Pilot Freeze Dryer PSFQ Series

### Specifications

Model No	PSFQ 2100
Freeze drying area	0.3 m <sup>2</sup>
Shelf temperature	-50 °C to 70 °C
Condenser capacity	6 kg / 24 h
Condenser temperature	-70 °C
Trays	3
Shelves( top shelf for heat radiation )	3 + 1
Shelf temperature accuracy	± 1 °C
Vacuum degree	≤ 10 Pa
Vacuum pump flow rate	4 L / S
Defrosting mode	Electrical defrosting
Cooling mode	Air cooling
Refrigerant	CFC free refrigerant
Bulk loading capacity (10 mm thickness)	3 L
Vial capacity (Φ 22 mm)	654
Vial capacity (Φ 16 mm)	1200
Vial capacity (Φ 12 mm)	2187
Power consumption	3.0kW
Power supply	220 V / 50 Hz, 110 V / 60 Hz, 120 V / 60 Hz
Product material	SUS304 Stainless steel
Shelf size	400 x 270 mm
Inter-shelf height	70 mm
Tray size	395 x 265 mm
Product dimensions	770 x 750 x 1520 mm
Weight	330 kgs

## Standard Pilot Freeze Dryer PSFQ Series

### Optional Accessories

Accessory No	Accessory
1	Data recorder
2	Vacuum control valve
3	Intake backfilling filter
4	Air inlet filter pump
5	Eutectic point tester
6	Electrical heating – defrosting mode
7	Water cooling refrigeration mode
8	Exhaust / oil mist pump filter
9	Automated backfilling / drainage system
10	Process end point recognition
11	Isolation valve between chamber and condenser
12	Manifold external ports
13	PC and storage software



## Standard Pilot Freeze Dryer PSFQ Series

### Standard Pilot Freeze Dryer PSFQ 3700

Standard Pilot Freeze Dryer PSFQ 3700 is a standard type unit with a condensing capacity of 6 kg / 24 h at a temperature of -70 °C. Sensor calibration function and fuzzy control system facilitates high accuracy slop control of shelf heating and cooling temperature. Low viscosity medium circulation provides uniform, high precision temperature control and drying effect. Equipped with a flexible manual and automated control mode for easy operations.

### Features

- LCD touch screen panel ( shelf temperature control, freeze drying curves )
- PLC controller with multiple built-in programs ( 36 segments each )
- Pre freezing and drying on same shelf to speed up process
- Optimum ice capture condenser function
- Login facility with multi-level password protection for sample security
- Transparent acrylic door for easy process observation
- Integrated inert gas inflation valve
- SUS304 stainless steel composition( optional SS316 material composition )
- Checking, storage and modification of historical curves and records in real time
- Alarm system ( elevated temperature, vacuum degree error, operation completion )
- USB interface to export data

### Applications

Used in pharmaceutical, biotechnology, bacteriology, ceramics, microbiology, biochemistry, food and agriculture based industries for drying processes of large-scale production units

## Standard Pilot Freeze Dryer PSFQ Series

### Specifications

Model No	PSFQ 3700
Freeze drying area	0.4 m <sup>2</sup>
Shelf temperature	- 50 °C to 70 °C
Condenser capacity	6 kg / 24 h
Condenser temperature	≤ -70 °C
Shelves ( top shelf for heat radiation )	4 + 1
Shelf temperature accuracy	± 1 °C
Vacuum degree	≤ 10 Pa
Cooling mode	Air cooling
Refrigerant	CFC free refrigerant
Bulk loading capacity ( 10 mm thickness )	4 L
Vial capacity (Φ 22 mm)	872
Vial capacity (Φ 16 mm)	1600
Vial capacity (Φ 12 mm)	2916
Power supply	220 V / 50 Hz, ( single phase )
Product material	SUS304 Stainless steel
Shelf size	300 x 340 x 15 mm
Inter-shelf height	50 mm
Product dimensions	880 x 735 x 1310 mm
Weight	360 kgs

## Standard Pilot Freeze Dryer PSFQ Series

### Optional Accessories

Accessory No	Accessory
1	Data recorder
2	Vacuum control valve
3	Intake backfilling filter
4	Air inlet filter pump
5	Eutectic point tester
6	Electrical heating - defrosting mode
7	Water cooling refrigeration mode
8	Exhaust / oil mist pump filter
9	Automated backfilling / drainage system
10	Process end point recognition
11	Isolation valve between chamber and condenser
12	Manifold external ports
13	PC and storage software

## Standard Pilot Freeze Dryer PSFQ Series

### Standard Pilot Freeze Dryer PSFQ 4320

Standard Pilot Freeze Dryer PSFQ 4320 is a standard type unit with a condensing capacity of 10 kg / 24 h at a temperature of -70 °C. Sensor calibration function and fuzzy control system facilitates high accuracy slop control of shelf heating and cooling temperature. Low viscosity medium circulation provides uniform, high precision temperature control and drying effect. Equipped with a flexible manual and automated control mode for easy operations.

### Features

- LCD touch screen panel ( shelf temperature control, freeze drying curves )
- PLC controller with multiple built-in programs ( 36 segments each )
- Pre freezing and drying on same shelf to speed up process
- Optimum ice capture condenser function
- Login facility with multi-level password protection for sample security
- Transparent acrylic door for easy process observation
- Integrated inert gas inflation valve
- SUS304 stainless steel composition( optional SS316 material composition )
- Checking, storage and modification of historical curves and records in real time
- Alarm system ( elevated temperature, vacuum degree error, operation completion )
- USB interface to export data

### Applications

Used in pharmaceutical, biotechnology, bacteriology, ceramics, microbiology, biochemistry, food and agriculture based industries for drying processes of large-scale production units

## Standard Pilot Freeze Dryer PSFQ Series

### Specifications

Model No	PSFQ 4320
Freeze drying area	0.7 m <sup>2</sup>
Shelf temperature	- 50 °C to 70 °C
Condenser capacity	10 kg / 24 h
Condenser temperature	≤ -70 °C
Shelves ( top shelf for heat radiation )	4 + 1
Shelf temperature accuracy	± 1 °C
Vacuum degree	≤ 10 Pa
Cooling mode	Air cooling
Refrigerant	CFC free refrigerant
Bulk loading capacity ( 10 mm thickness )	7 L
Vial capacity (Φ 22 mm)	1440
Vial capacity (Φ 16 mm)	2772
Vial capacity (Φ 12 mm)	4676
Power supply	380 V / 50 Hz ,( three phase )
Product material	SUS304 Stainless steel
Shelf size	360 x 480 x 15 mm
Inter-shelf height	50 mm
Product dimensions	960 x 785 x 1450 mm
Weight	500 kgs

## Standard Pilot Freeze Dryer PSFQ Series

### Optional Accessories

Accessory No	Accessory
1	Data recorder
2	Vacuum control valve
3	Intake backfilling filter
4	Air inlet filter pump
5	Eutectic point tester
6	Electrical heating - defrosting mode
7	Water cooling refrigeration mode
8	Exhaust / oil mist pump filter
9	Automated backfilling / drainage system
10	Process end point recognition
11	Isolation valve between chamber and condenser
12	Manifold external ports
13	PC and storage software

## Standard Pilot Freeze Dryer PSFQ Series

### Standard Pilot Freeze Dryer PSFQ 5720

Standard Pilot Freeze Dryer PSFQ 5720 is a standard type small scale production unit with a condensing capacity of 15 kg/batch at a temperature of -70 °C. Sensor calibration function and fuzzy control system facilitates high accuracy slop control of shelf heating and cooling temperature. Low viscosity medium circulation provides uniform, high precision temperature control and drying effect. Equipped with a flexible manual and automated control mode for easy operations.

### Features

- Color LCD touch screen panel ( shelf temperature control, freeze drying curve, data saving )
- PLC controller with multiple built-in programs ( 36 segments each )
- Pre freezing and drying on same shelf to speed up process
- Transparent acrylic door for easy process observation
- Checking, storage and modification of historical curves and records in real time
- Login facility with multi-level password protection for sample security
- Adjustable user level
- Inert gas inflation valve for product durability
- Real time alarm display (error diagnosis and maintenance )
- USB interface to export data

### Applications

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

## Standard Pilot Freeze Dryer PSFQ Series

### Specifications

Model No	PSFQ 5720
Freeze drying area	1.0 m <sup>2</sup>
Shelf temperature	-50 °C to 70 °C
Condenser capacity	15 kg / batch
Condenser temperature	≤ -70 °C
Shelves( top shelf for heat radiation )	6 + 1
Shelf temperature accuracy	± 1 °C
Vacuum degree	≤ 10 Pa
Defrosting mode ( optional )	Electrical
Cooling mode	Air cooling
Refrigerant	CFC free refrigerant
Bulk loading capacity	10 L ( 10 mm thickness )
Vial capacity (Φ 22 mm)	2160
Vial capacity (Φ 16 mm)	4158
Vial capacity (Φ 12 mm)	7014
Power supply	380 V / 50 Hz
Product material	SUS304 Stainless steel
Shelf size	360 x 480 x 15 mm
Inter-shelf height	70 mm
Product dimensions	1020 x 750 x 1700 mm
Weight	700 kgs



## Standard Pilot Freeze Dryer PSFQ Series

### Optional Accessories

Accessory No	Accessory
1	Data recorder
2	Vacuum control valve
3	Intake backfilling filter
4	Air inlet filter pump
5	Eutectic point tester
6	Electrical heating – defrosting mode
7	Water cooling refrigeration mode
8	Exhaust / oil mist pump filter
9	Automated backfilling / drainage system
10	Process end point recognition
11	Isolation valve between chamber and condenser
12	Manifold external ports
13	PC and storage software

## Standard Pilot Freeze Dryer PSFQ Series

### Standard Pilot Freeze Dryer PSFQ 6480

Standard Pilot Freeze Dryer PSFQ 6480 is a standard type unit with a condensing capacity of 6 kg / 24 h at a temperature of -55 °C. Sensor calibration function and electrical shelf heating facilitates rapid high accuracy testing. Equipped with a flexible manual and automated control mode for easy operations.

### Features

- LCD touch screen panel ( shelf temperature control, freeze drying curves )
- Built-in control system with 32 programs ( 36 segments each )
- Pre freezing and drying on same shelf to speed up process
- Optimum ice capture condenser function
- Login facility with multi-level password protection for sample security
- Transparent acrylic door for easy process observation
- Integrated inert gas inflation valve
- Checking, storage and modification of historical curves and records in real time
- Over-heating safety control system
- Alarm system ( elevated temperature, vacuum degree error, operation completion )
- USB interface to export data

## Standard Pilot Freeze Dryer PSFQ Series

### Standard Pilot Freeze Dryer PSFQ 6481

Standard Pilot Freeze Dryer PSFQ 6481 is a standard type unit with a condensing capacity of 6 kg / 24 h at a temperature of -80 °C. Sensor calibration function and electrical shelf heating facilitates rapid high accuracy testing. Equipped with a flexible manual and automated control mode for easy operations.

### Features

- LCD touch screen panel ( shelf temperature control, freeze drying curves )
- Built-in control system with 32 programs ( 36 segments each )
- Pre freezing and drying on same shelf to speed up process
- Optimum ice capture condenser function
- Login facility with multi-level password protection for sample security
- Transparent acrylic door for easy process observation
- Integrated inert gas inflation valve
- Checking, storage and modification of historical curves and records in real time
- Over-heating safety control system
- Alarm system ( elevated temperature, vacuum degree error, operation completion )
- USB interface to export data

### Applications

Used in pharmaceutical, biotechnology, bacteriology, ceramics, microbiology, biochemistry, food and agriculture based industries for drying processes of large-scale production units

## Standard Pilot Freeze Dryer PSFQ Series

### Specifications

Model No	PSFQ 6480	PSFQ 6481
Freeze drying area	0.4 m <sup>2</sup>	0.4 m <sup>2</sup>
Shelf temperature	- 50 °C to 80 °C	- 70 °C to 80 °C
Condenser capacity	6 kg / 24 h	6 kg / 24 h
Condenser temperature	-55 °C	-80 °C
Shelves	4	4
Vacuum degree	≤ 10 Pa	≤ 10 Pa
Defrosting mode ( optional )	Off cycle defrosting	Off cycle defrosting
Cooling mode	Air cooling	Air cooling
Refrigerant	CFC free refrigerant	CFC free refrigerant
Bulk loading capacity ( 10 mm thickness )	4 L	4 L
Vial capacity (Φ 22 mm)	872	872
Vial capacity (Φ 16 mm)	1600	1600
Vial capacity (Φ 12 mm)	2916	2916
Power consumption	2.8 kW	2.8 kW
Power supply	220V, 50 Hz	220V, 50 Hz
Product material	SUS304 Stainless steel	SUS304 Stainless steel
Shelf size	300 x 340 x 15 mm	300 x 340 x 15 mm
Inter-shelf height	50 mm	50 mm
Product dimensions	700 x 850 x 1230 mm	700 x 850 x 1230 mm
Weight	300 kgs	300 kgs

## Standard Pilot Freeze Dryer PSFQ Series

### Optional Accessories

Accessory No	Accessory
1	Vacuum control valve
2	Intake backfilling filter
3	Air inlet filter pump
4	Eutectic point tester
5	Electrical heating – defrosting mode
6	Cascade refrigeration mode
7	Exhaust / oil mist pump filter
8	Automated backfilling / drainage system
9	Manifold external ports
10	RS232 software

## Standard Pilot Freeze Dryer PSFQ Series

### Standard Pilot Freeze Dryer PSFQ 7640

Standard Pilot Freeze Dryer PSFQ 7640 is a standard type unit with a condensing capacity of 10 kg / 24 h at a temperature of -55 °C. Sensor calibration function and electrical shelf heating facilitates rapid high accuracy testing. Equipped with a flexible manual and automated control mode for easy operations.

### Features

- LCD touch screen panel ( shelf temperature control, freeze drying curves )
- Built-in control system with 32 programs ( 36 segments each )
- Pre freezing and drying on same shelf to speed up process
- Optimum ice capture condenser function
- Login facility with multi-level password protection for sample security
- Transparent acrylic door for easy process observation
- Integrated inert gas inflation valve
- Checking, storage and modification of historical curves and records in real time
- Over-heating safety control system
- Alarm system ( elevated temperature, vacuum degree error, operation completion )
- USB interface to export data

## Standard Pilot Freeze Dryer PSFQ Series

### Standard Pilot Freeze Dryer PSFQ 7641

Standard Pilot Freeze Dryer PSFQ 7641 is a standard type unit with a condensing capacity of 10 kg / 24 h at a temperature of -80 °C. Sensor calibration function and electrical shelf heating facilitates rapid high accuracy testing. Equipped with a flexible manual and automated control mode for easy operations.

### Features

- LCD touch screen panel ( shelf temperature control, freeze drying curves )
- Built-in control system with 32 programs ( 36 segments each )
- Pre freezing and drying on same shelf to speed up process
- Optimum ice capture condenser function
- Login facility with multi-level password protection for sample security
- Transparent acrylic door for easy process observation
- Integrated inert gas inflation valve
- Checking, storage and modification of historical curves and records in real time
- Over-heating safety control system
- Alarm system ( elevated temperature, vacuum degree error, operation completion )
- USB interface to export data

### Applications

Used in pharmaceutical, biotechnology, bacteriology, ceramics, microbiology, biochemistry, food and agriculture based industries for drying processes of large-scale production units

## Standard Pilot Freeze Dryer PSFQ Series

### Specifications

Model No	PSFQ 7640	PSFQ 7641
Freeze drying area	0.6 m <sup>2</sup>	0.6 m <sup>2</sup>
Shelf temperature	- 50 °C to 80 °C	-70 °C to 80 °C
Condenser capacity	10 kg / 24 h	10 kg / 24 h
Condenser temperature	-55 °C	-80 °C
Shelves	6	6
Vacuum degree	≤ 10 Pa	≤ 10 Pa
Defrosting mode ( optional )	Off cycle defrosting	Off cycle defrosting
Cooling mode	Air cooling	Air cooling
Refrigerant	CFC free refrigerant	CFC free refrigerant
Bulk loading capacity ( 10 mm thickness )	6 L	6 L
Vial capacity (Φ 22 mm)	1308	1308
Vial capacity (Φ 16 mm)	2400	2400
Vial capacity (Φ 12 mm)	4374	4374
Power consumption	3.0 kW	3.0 kW
Power supply	380V, 50Hz	380V, 50Hz
Product material	SUS304 Stainless steel	SUS304 Stainless steel
Shelf size	300 x 340 x 15 mm	300 x 340 x 15 mm
Inter-shelf height	50 mm	50 mm
Product dimensions	700 x 850 x 1400 mm	700 x 850 x 1400 mm
Weight	400 kgs	400 kgs



## Standard Pilot Freeze Dryer PSFQ Series

### Optional Accessories

Accessory No	Accessory
1	Vacuum control valve
2	Intake backfilling filter
3	Air inlet filter pump
4	Eutectic point tester
5	Electrical heating – defrosting mode
6	Cascade refrigeration mode
7	Exhaust / oil mist pump filter
8	Automated backfilling / drainage system
9	Manifold external ports
10	RS232 software