

F Freeze Dryer

- **Automatic Programmable Control System:** From drying to defrosting, user-friendly programmable controls enable you to start runs quickly & the microprocessor controls different ramping & holding segments to meet different temp. protocols.
- **Heated Drying system:** By programmable controlling temp. by forceful circulation of the heat medium of shelf inside, it obtain a further precise distribution of temperatures.
- **Pre-freeze system:** The chamber pre-freezes sample to save money and time, eliminating the need for a separate freezer and product transfer.
- **Defrosting system:** Automatically defrosting system is available for ice condenser when defrosting is necessary.
- **Vacuum Backfilling System:** As far as the permanent preservation of the sample desiccation is concerned it protects a sample by inserting sterile nitrogen gas with back filling system for preventing contamination of the sample.
- **Safety stoppering System:** For the purpose of permanent preservation of a sample after freeze of drying, the stopper system, which seals under a vacuum state, consists an option that installs moving guides shelves delicately & that has a function to seal safely & precisely using a rotating sealing device.
- **Automatic Purge System,** It is equipped with an automated purge system to protect samples by preventing of counter-flow of vacuum pump oil.
- **Compressor delayed start function** to minimize any damage to compressor.
- **1.5 km far remote control system**



Models: FD-Series, Freeze Dryer

Model	FD5-3 FD8-3	FD5-4 FD8-4	FD5-5 FD8-5	FD5-6 FD8-6	FD5-8 FD8-8	FD5-10 FD8-10	FD5-12 FD8-12	FD5-15 FD8-15	FD5-19 FD8-19	FD5-25 FD8-25
Compressor (-58°C)	7/8HP	7/8HP	1HP	1HP	1HP	1.5HP	1.5HP	2HP	2HP	3HP
Compressor (-86°C)	2x7/8HP	2x7/8HP	2x1HP	2x1HP	2x1HP	2x1.5HP	2x1.5HP	2x2HP	2x2HP	2x3HP
Max. Ice capacity	3L	4L	5L	6L	8L	10L	12L	15L	19L	25L
ice condenser performance	2L/24h	3L/24h	3.5L/24h	4.5L/24h	5.5L/24h	8L/24h	10L/24h	12L/24h	14L/24h	20L/24h
ice condenser Ult- temp	-58°C									
ice condenser Ult- temp	-86°C									
pump suction capacity	120L	120L	120L	120L	120L	200L	200L	200L	250L	340L
controller	B T P									
pump Ult-pressure	2x10 ⁻⁴ Torr									
defrosting system	hot gas solenoid system or heater deforsting system									
gross weight (kg)	70/123	70/123	70/123	123	123	123	123	150	150	150
bench-top/ vertical	bench-top/ vertical	bench-top/ vertical	bench-top/ vertical	vertical	vertical	vertical	vertical	vertical	vertical	vertical
electrical requirement	220V, 50/60Hz single phase							380V		

Models: PiloFD-Series, Plant Freeze Dryer

PiloFD series pilot plant freeze dryer, completely simulates the technology of industry freeze dryer, it is the best for the medium and small scale production. ARCS fully automatic control software from prefreezing to defrosting, digital signature encryption, preset shelf temperature, obtained the eutectic temperature, the triple point temperature, freeze-drying curve. Build-in computer and LCD touch screen program control, 5000 Memories, monitoring vacuum pressure, ice condenser temperature & sample temp. Documentation system, data saves per minute, continue 730 days and 5,260,000 memories, with a serial communication module, 1.5km far remote control system, easy to monitor & control.



Model	PiloFD5-511 PiloFD8-511	PiloFD5-611 PiloFD8-611	PiloFD5-811 PiloFD8-811	PiloFD5-1014 PiloFD8-1014	PiloFD5-1214 PiloFD8-1214	PiloFD5-1514 PiloFD8-1514	PiloFD5-1914 PiloFD8-1914
Max. Ice capacity	5L	6L	8L	10L	12L	15L	19L
ice condenser performance	3.5L/24H	4.5L/24H	5.5L/24H	8L/24H	10L/24H	12L/24H	14L/24H
vertical/bench-top	vertical/bench-top	vertical	vertical	vertical	vertical	vertical	vertical
power of compressor	1HP	1HP	1HP	1.5HP	1.5HP	2HP	2HP
power of compressor	2x1HP	2x1HP	2x1HP	2x1.5HP	2x1.5HP	2x2HP	2x2HP
area of stoppering shelf m ²	0.68	0.68	0.68	0.912	0.912	0.912	0.912
area of regular shelf m ²	1.14	1.14	1.14	1.368	1.368	1.368	1.368
deep of shelf	380	380	380	380	380	380	380
wide of shelf	600	600	600	600	600	600	600
gap of shelves	90	90	90	70	70	70	70
number of shelves with stoppering	3	3	3	4	4	4	4
number of shelves without stoppering	5	5	5	6	6	6	6
ult-temp. of ice condenser	-58°C or -86°C						
pump ult-preasur	2x10 ⁻⁴ Torr						
Prefreezing temp.	-30°C—55°C						
shelf temp.	-45°C—+40°C(max. 100°C)						
5ml serum bottle diameter 5mm number of bottles (with stoppering)	3400	3400	3400	4500	4500	4500	4500
5ml serum bottle diameter 5mm number of bottles (without stoppering)	5700	5700	5700	6800	6800	6800	6800