

Freeze dryer-FDUT (Compact Dryer)

Cooled & Heated Compact type (Combination type/all-in-one type)

When purchasing freeze dryer for production, FDUT combination type (COMBI) model is appropriate if the amount of samples to be dried once is below 6L, if the budget is limited or if the user has the cooling equipment like the cold trap or freeze dryer for experiment.

FDUT products are embedded with heated & cooled shelf in the dryer chamber like freeze dryer for production, and dry program is used with automatic/manual settings, and it is connected with the cold trap or freeze dryer which the user already has with vacuum line to capture vapor or moisture from the dryer chamber.

The user can choose the dry chamber capacity from 3L to 6L, and all-in-one FDUT which is embedded with the dry chamber and the cold trap is from 2 to 4L.

Features and advantages

- Square-shaped dry chamber can reduce the installment area about over 30% by maximizing the effective area for drying more compared to other company's circular chamber with the same capacity.
- -156°C cryogenic cooling system registered to the international patent and Operon Auto Cascade System, the original technology for -203°C cryogenic cooling system are combined to realize quick freezing and quick defrosting functions.
- The user can choose automatic or manual function for the dry program, and when choosing automatic function, the user can program by choosing the temperature of the heat place or drying time.



Combination type(FDUT-8606)



All-in-one type(FDUT-6002)

All-in-one type : Freeze dryer (Cooled & Heated - All-in-one type) - Pilot scale

Specification	FDUT-6002	FDUT-8602	FDUT-12002
Dimension(Overall)		W500 x D646 x H1468	
Chamber size		W300 x D360 x H352	
Shelf temp.		-47°C~+40°C	
Shelf Quantity		Standard-(W240 x D240) x 3EA	
Door		Tempered Glass door	
Controller(Drying Chamber)		LCD programmable & Manual drying controller	
Medium		Silicone oil(Dow corning 10cst)	
Circulation		Circulation pump(March pump)	
Cold trap temp	-60°C	-86°C	-120°C
Cold trap capacity(total)		2L ~ 4L	
Controller(Cold trap)	Microprocessor controlled LED digital 0.1°C increment display Cold trap./Vacuum pressure(2000mTorr~0mTorr)/Printer set/Auto&manual selection)		
Defrost		Manual	

Combination type : Freeze dryer (Cooled & Heated - Combination type) - Pilot scale

Part	Specification	FDUT-12012	FDUT-12006	FDUT-12003	FDUT-8612	FDUT-7012	FDUT-8606	FDUT-7006	FDUT-8603	FDUT-7003
Cooled & Heated Drying chamber	Dimension	(Overall) W500 x D646 x H1468 / (chamber) W300 x D360 x H352								
	Shelf Temp	-47°C~+40°C								
	Shelf Quantity	Standard-(W240 x D240) x 3EA								
	Door	Tempered Glass Door								
	Controller	Manual & Programmable drying controller(LCD)								
	Medium	Silicon oil(Dow Corning 10cst)								
	Circulation	Circulation Pump(March Pump)								
	Recorder	Square type Temperature recorder (Archived or Real time print)								
Cold Trap	Dimension	W850 x D800 x H1000				W850 x D650 x H980				
	Temp	-120°C			-90°C	-70°C	-90°C	-70°C	-90°C	-70°C
	Capacity(total)	12L ~ 15L	6L ~ 8L	3L ~ 4.5L	12L ~ 15L	12L ~ 15L	6L ~ 8L	6L ~ 8L	3L ~ 4.5L	3L ~ 4.5L
	Controller	Microprocessor controlled LED digital 0.1°C increment display Cold trap./Vacuum pressure(2000mTorr~0mTorr)/Printer set/Auto&manual selection)								
Defrost	Auto(Hot gas by pass-12L이상) & Manual defrost-12L이하									
Chamber option	Stoppering system	Top to bottom								
Weight		350kg	340kg	330kg	320kg	310kg	295 kg	290kg	285 kg	280kg

Options RVacuum pump (range): 100LPM ~ 1600LPM / Option for the temperature change of the heat plate (for FDT) / Option for the additional shelves / Chemical trap / Oil mist strap / Stoppering system