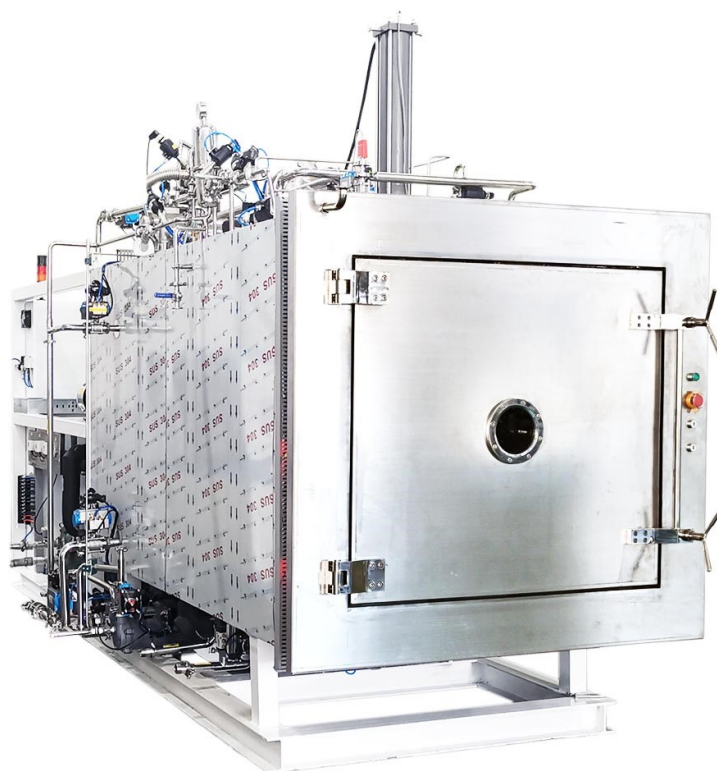


FDL-TP PHARMACEUTICAL FREEZE DRYER



Vikumer's FDL-TP series pharmaceutical freeze dryers are designed to perform industrial freeze drying processes of bio and pharma products. Drying examples include medical vaccines, antibiotics, serum, penicillin, hormones, reagents and bulk active ingredients etc. The FDL-TP freeze drying units are complete with a hydraulic stoppering system capable of drying materials in vials and seal them after drying. And this range lyophilizers can integrate CIP and SIP system to satisfy aseptic production.

Technical Parameters

		FD-1L-TP			FD-2L-TP			FD-3L-TP		
Shelf Area		1.08m2	1.35m2	1.62m2	1.8m2	2.16m2	2.52m2	2.7m2	3.24m2	3.78m2
No. of Shelves		4+1	5+1	6+1	5+1	6+1	7+1	5+1	6+1	7+1
Shelf Spacing		120mm	100mm	80mm	120mm	100mm	80mm	120mm	100mm	80mm
Shelf Size		450*600mm			600*600mm			600*900mm		
Shelf Temp.		-55C ~ +70C			-55C ~ +70C			-55C ~ +70C		
Condenser Capacity		20Kgs			40Kgs			60Kgs		
Condenser Temp.		-80C			-80C			-80C		
Power		13.5Kwh			18Kwh			21Kwh		
Size		W/1200*L/2200*H/2300mm			W/1500*L/2350*H/2500mm			W/1500*L/2800*H/2500mm		
Vials Capacity	2R	4464	5580	6696	7560	9072	10584	11160	13392	15624
	6R	2288	2860	3432	3900	4680	5460	5720	6864	8008
	10R	1920	2400	2880	3360	4032	4704	4800	5760	6720
	20R	1216	1520	1824	2090	2508	2926	3040	3648	4256

		FD-5L-TP			FD-10L-TP			FD-20L-TP		
Shelf Area		5.4m2	6.48m2	7.56m2	9.72m2	10.8m2	11.88m2	19.8m2	21.6m2	23.4m2
No. of Shelves		5+1	6+1	7+1	9+1	10+1	11+1	11+1	12+1	13+1
Shelf Spacing		120mm	100mm	80mm	120mm	100mm	80mm	120mm	100mm	80mm
Shelf Size		900*1200mm			900*1200mm			1200*1500mm		
Shelf Temp.		-55C ~ +70C			-55C ~ +70C			-55C ~ +70C		
Condenser Capacity		100Kgs			200Kgs			400Kgs		
Condenser Temp.		-80C			-80C			-80C		
Power		28Kwh			60Kwh			85Kwh		
Size		W/1600*L/4000*H/2800mm			W/1900*L/6000*H/3200mm			W/2200*L/7500*H/3600mm		
Vial Capacity	2R	22320	26784	31248	40176	44640	49104	81477	88884	96291
	6R	11440	13728	16016	20592	22880	25080	42075	45900	49725
	10R	9600	11520	13440	17280	19200	21120	35343	38556	41769
	20R	6080	7296	8512	10944	12160	13376	21384	23328	25272

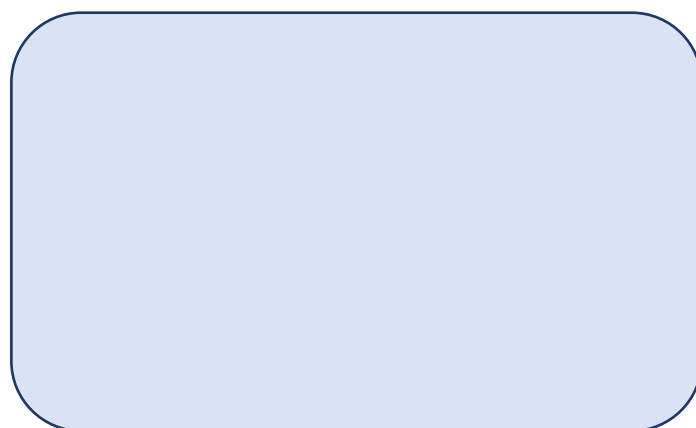
		FD-30L-TP			FD-40L-TP			FD-50L-TP		
Shelf Area		29.7m2	32.4m2	35.1m2	40.5m2	43.2m2	45.9m2			
No. of Shelves		11+1	12+1	13+1	15+1	16+1	17+1			
Shelf Spacing		120mm	100mm	80mm	120mm	100mm	80mm			
Shelf Size		1500*1800mm			1500*1800mm					
Shelf Temp.		-55C ~ +70C			-55C ~ +70C					
Condenser Capacity		600Kgs			800Kgs					
Condenser Temp.		-80C			-80C					
Power		98Kwh			125Kwh					
Size		W/2500*L/9000*H/3800mm			W/2500*L/9000*H/4000mm					
Vial Capacity	2R	124740	136080	147420	170100	181440	192780			
	6R	63855	69660	75465	87075	92880	98685			
	10R	54054	58968	63882	73710	78624	83538			
	20R	33759	36828	39897	46035	49104	52173			

Standard Features:

Structure	All-in-one design. All components are mounted on a steel skid.
Drying Chamber	Rectangular shape; Rounded Corners; S/S304 fabricated; Validation port; Viewing port.
Door	Double hinged; S/S304 made; Lubricate-free silicone rubber gasket; DN100 viewing port.
Shelves	S/S304 made; Heat transfer fluid based.
Stoppering	Hydraulic, top to bottom stoppering.
Ice Condenser	Coils type cooled by refrigerant direct expansion; Sloped bottom towards to drain; Validation port; Viewing port.
Refrigeration	Semi-hermetic compressor, water-cooled.
Shelves Heat Transfer	Shelves are cooled and heated with the heat transfer fluid which is force-circulated by a centrifugal pump; Fluid heating by electric heater; Fluid chilling through a heat exchanger; PID control.
Vacuum	2-stage oil sealed vacuum pump, roots pump for larger models; Chamber pressure regulate kit.
Controller	PLC and user-friendly touch screen HMI based; FD-MEGA interface.
Temperature Sensors	PT-100 for shelf, product, fluid and condenser.
Pressure Sensors	Pirani vacuum gauge.
Valves	Pneumatic valves for air and water isolate.

Optional Features:

- S/S316L material
- Split structure
- Capacitive vacuum gauge
- Eutectic point detector
- PC control
- SCADA
- Redundant vacuum pump, compressor and fluid pump
- CIP
- SIP



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