Vacuum Freeze Dryer

The LGJ-18/18T series freeze dryer is a basic model designed for a wide range of applications in fields including medicine, pharmaceuticals, biological research, chemistry, and the food industry. With an expandable freeze-drying area of up to 0.27 square meters, this equipment is floor-standing and equipped with caster wheels for easy mobility. It is ideal for laboratory use and can meet the freeze-drying requirements of most routine laboratory processes. This user-friendly unit offers essential capabilities for preserving samples and products efficiently in various laboratory settings



LGJ-18



LGJ-18T

Product Advantage

- Cryogenic cold traps are used to capture volatile organic solvents, preventing the solvents from corroding the freeze dryer. It is effective for freeze-drying products containing large amounts of high-concentration organic solvents and can handle organic solvent solutions with a concentration of less than 95%
- The drying chamber is integrally formed, featuring no bonding, high strength, and no leakage
- The integrated structural design ensures a small volume, no external flanges, convenient use, and no leakage
- All materials in contact with the product are inert materials, meeting the requirements of GLP (Good Laboratory Practice)
- The cold trap and operating table are made of stainless steel, which is corrosion-resistant and easy to clean. The fully stainless steel gas charging (water discharging) valve is safe, corrosion-resistant, and leak-free
- The cold trap has a large opening, no internal coils, and is equipped with a sample pre-freezing function, eliminating the need for a low-temperature refrigerator
- The patented gas diversion technology ensures uniform ice capture in the cold trap and strong ice-capturing capacity
- Equipped with a SECOP compressor, it boasts high efficiency, energy saving, long service life, and low noise
- Equipped with an industrial-grade SH-HPSC-I controller, a dedicated control system for Songyuan Huaxing FD-LAB freeze dryer. It can intelligently record data and generate curves, allowing queries of cold trap temperature, sample temperature, and vacuum degree curves (either individually or as a whole). Additionally, data records can be exported via a USB flash drive
- It is equipped with a liquid crystal display that records the cold trap temperature curve, sample temperature curve, and vacuum degree curve. Data export enables browsing, printing, and various operations via a computer
- Comprehensive maintenance and protection functions: Delay protection, vacuum out-of-control protection, short-circuit and overload protection, maintenance reminders, fault display, etc., ensuring safer operation of the equipment

Product Parameters

Model	LGJ-18-110
Freeze-drying Area	0.18 m²
Material Tray Size	Φ240mm
Number of Material Trays	4
Spacing Between Material Trays	70mm
Cold Trap Temperature	≤-110°C (no-load)
Pre-freezing Function	Available
Cold Trap Depth	400mm
Cold Trap Diameter	Φ270mm
Water Trapping Capacity	6kg
Ultimate Vacuum Degree	≤5pa (no-load)
Installed Power	1700W
Main Unit Weight	160kg
Main Unit Dimension (L×W×H)	685×550×970mm
Drying Chamber Size	Φ300×445mm
Cooling Method	Air cooling
Defrosting Mode	Electric defrosting
Tray-loaded Material Volume	1.8L (material thickness: 10mm)
Optional Configuration	Main unit + corrosion-resistant silent vacuum pump (with anti-corrosion coating) + drying device + CE certification + ISO-9001 certification + spare parts

Model	LGJ-18T-110
External Hanging Bottles	12 pieces
Material Tray Size	Φ240mm
Cold Trap Temperature	≤-110℃ (No Load)
Pre-freezing Function	Available
Cold Trap Depth	400mm
Cold Trap Diameter	Φ270mm
Water Trapping Capacity	6kg
Ultimate Vacuum Degree	≤1pa (No Load)
Installed Power	1700w
Main Unit Weight	160kg
Main Unit Overall Dimensions	685×550×970mm
Drying Chamber Size	Φ300×445mm
Cooling Method	Air Cooling
Defrosting Mode	Electric Defrosting
Optional Configuration	Main Unit + Anti-oil-return Vacuum Pump + Drying Device + CE Certificate + ISO-9001:2015 Certificate + Spare Parts

LGJ-12/LGJ-18T
Optional Pump
T Series Rotary Vane Vacuum Pump



Product Feature

- Optimizing and upgrading from t series
- Separated rotors, for easy maintenance
- With 2 kinds of gas ballast to meet with different needs
- Corrosion resistance of the internal structure
- With magnetic shaft sleeve, more stable and reliable

Technical Parameters

Model	T8D	T16D	T24D	T30D	T40D	T60D
50Hz Nominal pumping speed M^3/h (L/s)	10/2	17/4	24/6	31/8	42/11	63/17
50Hz Pumping speed M^3/h (L/s)	8/2	15/4.3	23/6	29/8	40/11	60/16
Partial ultimate pressure without gas ballast (Pa)	$5x10^2$	$5x10^2$	$5x10^2$	$5x10^2$	$4x10^2$	$4x10^2$
Total ultimate pressure without gas ballast (Pa)	1	1	1	1	1	1
Total ultimate pressure with gas ballast (Pa)	6	6	6	6	6	6
Vapour allow pressure (Pa)	20	20	20	25	25	25
Vapour pumping ability (g/h)	230	230	300	300	1000	1100
Oil capacity (min/max) L	1/1.4	1.4/1.8	1.45/1.9	1.5/2	3/4	4/5
Noise level (gas ballast/open) (db)	58/60	60/62	60/62	60/62	60/62	60/62
Ambient temperature (°C)	5-45	5-45	5-45	5-45	5-45	5-45
Connect	KF25	KF25	KF25	KF25	KF40	KF40
Power supply	Single/Three-Phase Power	Single/Three-Phase Power	Single/Three-Phase Power	Single/Three-Phase Power	Three-Phase Power	Three-Phase Power
Power rating (kw)	0.37	0.55	0.75	0.75	1.1	1.5
Dimens (mm)	520x175x285	540x175x285	564x175x285	584x175x285	660x234x350	720x234x350
Weight (without oil) (kg)	33	36	38	40	68	75

Application

- Semiconductor
- Spatial simulation
- Vacuum coating
- Metallurgy
- Analysis of the engineering
- Chemical engineering
- Vacuum furnace
- The pharmaceutical R&D
- Lamp and lamp tube manufacturing

LGJ-12/LGJ-18
Optional Pump
CRVpro Vacuum Pump



Cool Running

Enhanced air flow allows the pump to run 10°C cooler than standard rotary vane pumps. The lower temperature leads to reduced chemical activity within the pump and slows down rates of oil consumption

Internal Surface Protection

Inside surface of the oil case has a PTFE coating and the outer surface of the pumping module has a black oxide coating. Both coatings act to slow metal corrosion and, when coupled with foreline traps, extend service interval

Large Oil Capacity

Chemical vapors that sublime from the foreline cold trap into the pump oil are more diluted due to the larger oil capacity. This minimizes the rates of oil breakdown and reduce chemical attacks within the pump

LGJ-12/LGJ-18
Optional Pump
CRVpro Vacuum Pump

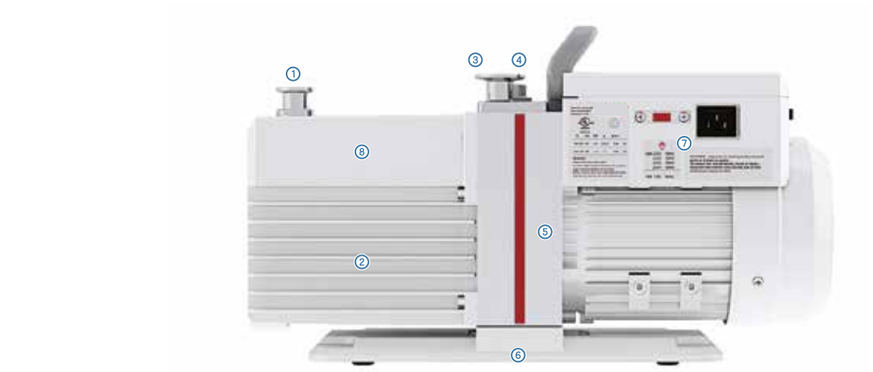
Product Advantage

Highest reliability for stable operation and long product lifespan

- Reduced risk of chemical attacks and oil breakdown by diluting chemical vapors with a larger oil chamber
- Slowing down corrosion by cool running operation
- Provides a measure of protection from sublimed chemical vapors with coating on pump module and oil case

Extended oil change intervals for less maintenance costs

- Less oil consumption by cool running operation
- Extended usability of oil due to high dilution effect by a larger oil chamber



① **Low noise level**
Exceptionally quiet for undisturbed work

② **Forced oil lubrication**
Ensures moving parts are bathed in fresh oil. Equilibrates temperature, minimizes oil breakdown, and prolongs mechanical life

③ **Anti-suck back valve**
Prevents oil from being sucked into application in the event of a power failure

④ **Gas ballast with inert gas option**
Minimizes entrained chemicals in pump oil.
Protects pump from condensable liquids from application such as water, acetyl nitrile, etc

⑤ **Cul and ce certification**
Compliance with local regulations and safety directives for safety operation

⑥ **Sized to fit your application**
Modern and compact design to fit different applications and performance requirements

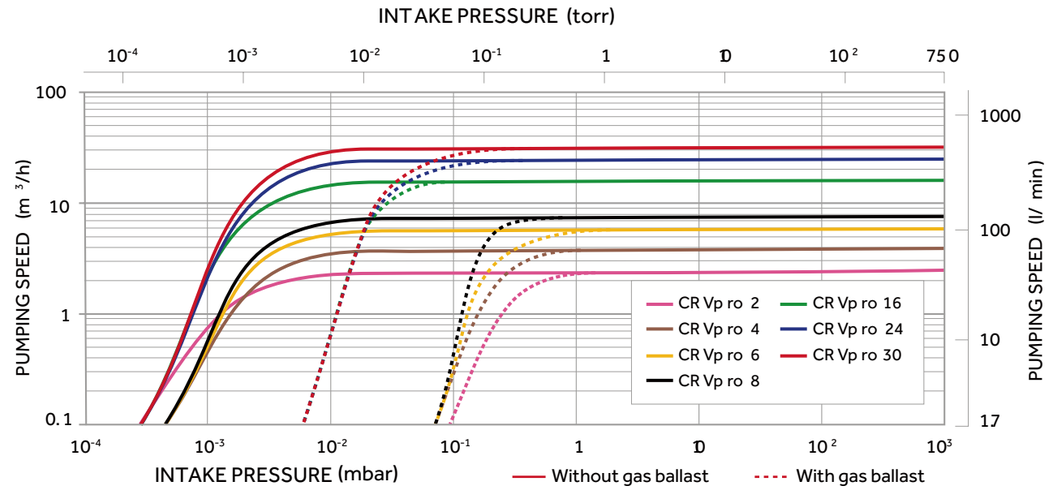
⑦ **Dual voltage motor**
Dual voltage motors meet IP54 standard. Motors of CRVpro 2,4,6,8 are switchable from 115V to 240V for global use excluding 100V and 200V pump versions.
Each pump includes power cord suitable for country use

⑧ **Labyrinth exhaust baffling system**
To reduce oil mist emission and dampen noise level (excluding CRVpro2)

Application

- Schlenk line
- Freeze dryer
- Vacuum oven
- Glove box
- Vacuum concentrator

Performance



Technical Parameters

Model		CRVPro 2	CRVPro 4	CRVPro 6	CRVPro 8	CRVPro 16	CRVPro 24	CRVPro 30
Free Air Displacement	@ 50 Hz (m3/h (l/min))	2.5 (42)	4 (67)	6 (100)	8 (133)	18.3 (305)	26.2 (436)	33.1 (551)
	@ 60 Hz (CFM (l/min))	1.8 (50)	2.8 (78)	4.2 (118)	5.6 (158)	12.8 (363)	18.3 (519)	22.1 (627)
Pumping Speed	@ 50 Hz (m3/h (l/min))	2.3 (38)	3.8 (63)	5.1 (85)	7.3 (122)	16.8 (280)	24 (400)	29 (483)
	@ 60 Hz (CFM (l/min))	1.6 (47)	2.7 (77)	3.7 (105)	5.1 (143)	11.9 (336)	17 (480)	20.5 (580)
Ultimate Pressure	Without gas ballast partial (mbar (Torr))	$3x10^{-4}$ ($2x10^{-4}$)	$5x10^{-4}$ ($4x10^{-4}$)			$3x10^{-4}$ ($2x10^{-4}$)		
	Without gas ballast total (mbar (Torr))	$3x10^{-3}$ ($2x10^{-3}$)	$2x10^{-3}$ ($1.5x10^{-3}$)			$3x10^{-3}$ ($2x10^{-3}$)		
	With gas ballast total (mbar (Torr))	$9x10^{-2}$ ($7x10^{-2}$)	$7x10^{-2}$ ($5x10^{-2}$)			$6x10^{-3}$ ($5x10^{-3}$)		
	Connection flanges (DN)	16 KF				25 KF		
	Ambient temperature (°C)	10-40						
	Noise level (50 Hz) (dB (A)	≤50				≤55		
	Oil capacity (ml)	450	1150		1000	2400	2200	2100
	Motor speed (rpm 50/60 Hz)	1440/1720	1450/1740			1450/1750		
	Motor power (kW 50/60 Hz)	0.29/0.3	0.37/0.4			0.7/0.85		
	Weight (kg)	15	21	22	22.5	37	38.5	39.5
	Dimensions (L x W x H (mm)	384/138/211*	463/157/230*			569/206/289		

* Without handle