BioSpectrix™
PRECISION SCIENTIFIC INSTRUMENTS

INNOVATION FOR A HEALTHIER TOMORROW

LIFE SCIENCES | RESEARCH | DIAGNOSTICS | A CLEANER TOMORROW

Model

ZLGJ-20F VACUUM FREEZE DRYER

Preserve What Matters.
Enable What's Next.

- **0.3 m²** Freeze-drying area
- **≤ −85°C** Condenser temperature (no-load)
- **≤ 5 Pa** Final vacuum degree
- **3 + 1** Shelves
- **> 4 kg** Water capture capacity

A HIGH-PERFORMANCE SOLUTION FOR RESEARCH, PHARMACEUTICAL, BIOTECHNOLOGY, FOOD AND MORE.



STABLE SAMPLES
BRIGHTER TOMORROWS

Engineered for Reliable Lyophilization

High Performance. Versatile Applications.

The BioSpectrix ZLGJ-20F vacuum freeze dryer offers precise temperature control, deep condenser cooling and high vacuum performance in a compact, reliable design. It is an ideal solution for laboratories in pharmaceutical, biotechnology, food, academic and research environments.



From Samples to Breakthroughs

0.3 m² Freeze-drying area	**3 + 1** Shelf layers	**-50°C ~ +70°C** Shelf temperature range (no-load)
≤ −85°C Condenser temperature (no-load)	**≤ 5 Pa** Final vacuum degree	**> 4 kg** Water capture capability

PHARMACEUTICAL | BIOTECHNOLOGY | FOOD SCIENCE | ACADEMIC RESEARCH | LABORATORY USE

02 Drying Chamber & Shelves

Precision design for uniform and reliable drying.

- **AISI 316 stainless steel** chamber material
- **3 + 1 shelves** (Top shelf as temperature compensating plate)
- **270 × 400 mm** Effective shelf size
- **70 mm** Shelf spacing
- **-50°C ~ +70°C** Shelf temperature range (no-load)
- **±1°C** Shelf temperature error (in balance)
- **Ra ≤ 0.6 μm** Inner wall roughness



03 Condenser & Refrigeration System

Deep cooling. High efficiency. Reliable performance.

- **≤ -85°C** Minimum condenser temperature (no-load)
- **> 4 kg** Water capture capability
- **Vertical cylindrical condenser** Compact design, easy to clean and defrost
- **Fan cooling** Efficient and stable operation
- **High pressure defrosting** (Gas defrosting system available)
- **+20°C to -40°C (within 30 min)** Condenser cooling performance
- **Dual compressor system** > 1500 W or better



POWERFUL COOLING FOR DEMANDING APPLICATIONS

04 Vacuum System

High vacuum. Stable performance.



- **Ultimate vacuum** ≤ 2 × 10^{-1} mbar (or better)
- **Displacement capacity** ≥ 90 L/min (two stages)
- **System final vacuum degree** ≤ 5 Pa
- **Chamber pumping rate** Atmosphere to 10 Pa ≤ 30 min (in dry condition)
- **System leakage rate** ≤ 10 Pa · L / sec

05 Control, Monitoring & Safety

Intelligent control for a safe and efficient process.



- **7" LCD touch screen**
  800 × 480, user-friendly interface
- Manual + Auto control mode
- Sensor calibration function
- Intelligent temperature control
- Freeze-drying termination reminder
- Real-time display of temperature, vacuum and system status
- Power failure protection with automatic program recovery
- Hot lid auto-off function (if module temperature < 30°C)

SMART CONTROL GREATER SECURITY

06 Accessories & Utilities

Complete support for your freeze-drying workflow.





Vial Loading Capacity

Vial size	Quantity (per run)
Ø 12 mm (2 mL)	≥ 2123 vials
Ø 16 mm (5 mL)	≥ 1194 vials
Ø 22 mm (10 mL)	≥ 631 vials

Utilities

Liquid material capacity	4 L (10 mm thickness)
Pre-freezing capability	≤ −50°C

Compatible Consumables


PCR tubes


8-well PCR strips


96-well plates

07 Technical Specifications

Parameter	ZLGJ-20F
Freeze-drying area	0.3 m²
Shelf configuration	3 + 1
Shelf size	270 × 400 mm
Shelf spacing	70 mm
Shelf temperature range	-50°C ~ +70°C (no-load)
Shelf temperature error	± 1°C (in balance)
Condenser mininum temp.	≤ -85°C (no-load)
Water capture capability	> 4 kg
Liquid material capacity	4 L (10 mm thickness)
Final vacuum degree	≤ 5 Pa
Cooling method	Fan cooling
Installation power	3.5 kW (not actual running power)
Dimensions (W × D × H)	800 × 800 × 1550 mm (approx.)
Weight	315 kg (approx.)
Noise	≤ 80 dB
Power supply	100-120V / 200-240V, 50/60Hz

BioSpectrix™
PRECISION SCIENTIFIC INSTRUMENTS

www.biospectrix.co

sales@biospectrix.co

BioSpectrix

**INNOVATE.
COLLABORATE.
ELEVATE SCIENCE.**