

Laboratory Freezers up to –40°C

Zenith Lake Biotech

The Biomedical Series from Zenith Lake Biotech was developed for the safe storage of temperature-sensitive samples, reagents, and biological materials. Microprocessor-controlled temperature regulation, high-performance cooling systems, and comprehensive alarm functions ensure reliable storage conditions ranging from -20°C to -40°C. The combination units also allow for refrigerated storage at temperatures ranging from +2°C to +8°C. Natural refrigerants and effective insulation combine high cooling capacity with environmentally conscious operation.

From compact under-counter units to large-volume dual-chamber models and combined refrigeration and freezing solutions, the series offers the right configuration for a variety of requirements. Integrated data logging, remote alarm contacts, and lockable doors support safe and traceable storage in daily operations.

Product Features

- ✓ Flexible range of models, from a 106-liter under-counter unit to a 518-liter combination solution
- ✓ Precise temperature control with high cooling capacity for reliable cooling down to -40°C
- ✓ Comprehensive safety through audible and visual alarms for relevant malfunctions
- ✓ Complete documentation with temperature logging, USB export, and remote alarm contacts
- ✓ Natural refrigerants for high efficiency and low environmental impact
- ✓ Practical features including well-designed storage, lockable doors, and sensor feed-throughs

Your benefits with CryoSolutions AG

- ✓ Everything from a single source: consulting, sales, service
- ✓ Many years of experience and a high level of specialization
- ✓ Fast and competent on-site service
- ✓ Backup units of various sizes available
- ✓ Complete spare parts inventory and service center in Switzerland



Features

High cooling capacity

High-performance cooling systems ensure reliable and rapid cooling down to -40°C. The compact ZD-40L106 model reaches its storage temperature in just 90 minutes.

Low-maintenance, corrosion-resistant interior

The rugged PCM-coated steel interior and the multi-layered HIPS drawers are corrosion-resistant, easy to clean, and designed for flexible, convenient use in everyday laboratory work.

Precise temperature control and comprehensive alarm functions

The microprocessor-controlled system enables precise temperature adjustment from -20°C to -40°C with a display resolution of 0.1°C. Audible and visual alarms reliably alert users to temperature deviations, sensor errors, and other malfunctions.

Natural refrigerants

Environmentally friendly, natural refrigerants provide efficient cooling while minimizing environmental impact – for sustainable operation without compromising performance.

CFC-free foaming technology

The CFC-free, high-performance insulation ensures excellent thermal efficiency and a reliable seal. The reduced heat gain helps maintain stable indoor temperatures, improves energy efficiency, and contributes to more environmentally friendly operation.



Specifications



Models

ZD-40L106

ZD-40L308

ZCD-40L350

ZCD-40L506

ZD-40L518

Storage

Application	Laboratory Freezer	Laboratory Freezer	Laboratory Refrigerator/Freezer Combination	Laboratory Refrigerator/Freezer Combination	Laboratory Freezer
Storage Volume	106 L	308 L	206 L / 144 L	247 L / 259 L	518 L (2x 209 L)
Temperature Range	-20°C to -40°C	-20°C to -40°C	+2°C to +8°C / -10°C to -40°C	+2°C to +8°C / -10°C to -40°C	-20°C to -40°C
Temperature Uniformity	≤ 3°C	≤ 4°C	±1,5°C / ≤ 3°C	±1,5°C / ≤ 3°C	≤ 3°C
Number of Compartments	3	7	3 / 3	3 / 6	6 / 6
Load Capacity per Shelf	24 kg	18 kg	18 kg	18 kg	18 kg

Technical Specifications

Cooling System	Direct Cooling	Direct Cooling	Active Air Cooling / Direct Cooling	Active Air Cooling / Direct Cooling	Direct cooling, two separate cooling circuits (top/bottom)
Refrigerant	R290	R290	R600a / R290	R600a / R290	R290
Cooling Time to -40°C	1.5 h	3 h	3 h	3 h	3 h
Power supply	230 V / 2.2 A / 50 Hz	230 V / 1.3 A / 50 Hz	230 V / 3.2 A / 50 Hz	230 V / 3 A / 50 Hz	230 V / 5 A / 50 Hz
Energy consumption	2 kWh/day	2.7 kWh/day	3 kWh/day	2.4 kWh/day	4.2 kWh/day
Noise level	51 dB	52 dB	50 dB	50 dB	54 dB
Display	LCD	LCD	LED	LED	LED
Alarm output, data export	Remote alarm contacts, USB	Remote alarm contacts, USB	Remote alarm contacts, USB	Remote alarm contacts, USB	Remote alarm contacts, USB
Interior material	Coated Steel	Coated Steel	Coated Steel	Coated Steel	Coated Steel
Feed-throughs for external probes	1x 25 mm	1x 25 mm	2x 25 mm	2x 25 mm	1x 25 mm
Interior dimensions mm (W x D x H)	455 x 460 x 595	540 x 450 x 1,277	600 x 505 x 690 / 540 x 480 x 560	680 x 596 x 630 / 680 x 620 x 650	680 x 620 x 650 top 680 x 620 x 650 bottom
External dimensions mm (W x D x H)	600 x 610 x 815	700 x 690 x 1,920	695 x 655 x 1,920	866 x 811 x 1,920	866 x 811 x 1,920
Certification	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL