

Model UF V 500 | Ultra low temperature freezers with climate-neutral refrigerants

The BINDER ultra low temperature freezer ensures the safe storage of samples at -90 °C. It combines outstanding environmental friendliness with low energy consumption, convenient operation and an individual safety concept.

BENEFITS

- Lowest energy consumption in its class
- Environmentally friendly refrigerant
- Multi-level safety concept
- 5-year warranty



Model UF V 500



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MAIN FEATURES

- Range of temperature controller: -90 °C to -40 °C
- Lowest energy consumption in its class
- Powerful cascade compressor cooling unit
- Environmentally friendly refrigerants R-290 and R-170
- Efficient thermal insulation with vacuum insulation panels
- Innovative door gasket concept reduces buildup of ice
- Ergonomic door handle
- Rust-proof interior made completely of stainless steel
- Detachable inner doors made of stainless steel
- 3 stainless-steel shelves providing flexible placement
- Water cooling (depending on version)
- Zero-voltage alarm contact for in-house alarm system
- Ethernet interface
- Elapsed time indicator
- 2 access ports, Ø 28 mm, rear

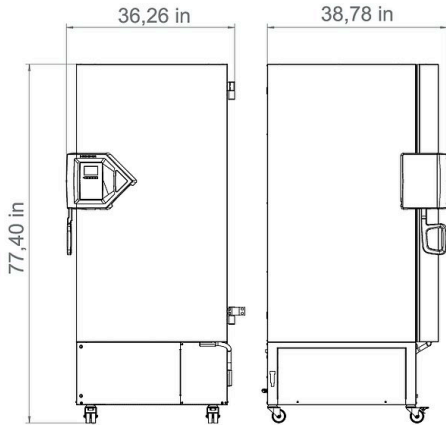
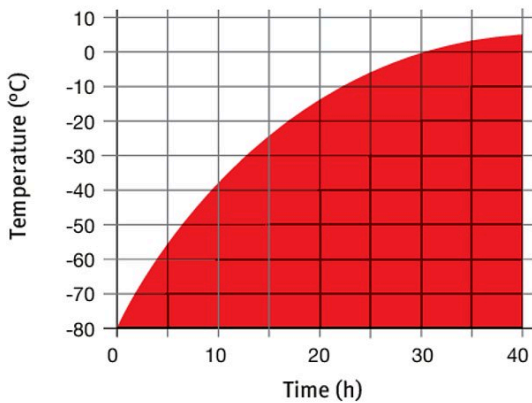
ORDERING INFORMATION

Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
16.8	230 V 1~ 50 Hz	Standard	UFV500-230V	9020-0347
			UFV500-230V-W	9020-0349
	120 V 1~ 60 Hz	Standard	UFV500UL-120V	9020-0351
			240 V 1~ 60 Hz	Standard

TECHNICAL DATA

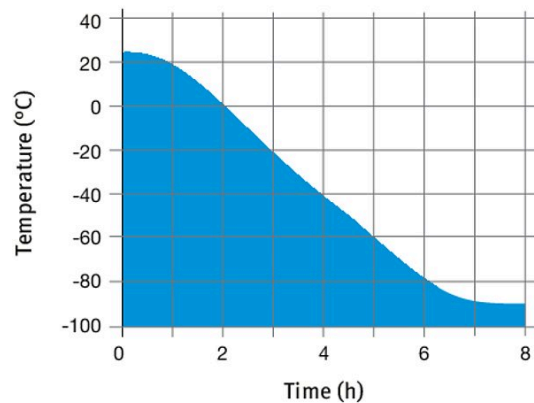
Description	UFV500-230V ¹	UFV500-230V-W ¹	UFV500UL-120V ¹	UFV500UL-240V ¹
Article Number	9020-0347	9020-0349	9020-0351	9020-0353
Performance Data Temperature				
Temperature range	-90...-40	-90...-40	-90...-40	-90...-40
Temperature variation at -80 °C [± K]	2.5	2.5	2.5	2.5
Temperature fluctuation at -80 °C [± K]	1.5	1.5	1.5	1.5
Cooling down time from 22 °C to -80 °C [min]	360	360	360	360
Warm-up time during power failure from -80 °C / -122 °F to -60 °C / -76 °F [min]	230	230	230	230
Electrical data				
Rated Voltage [V]	230	230	120	240
Power frequency [Hz]	50	50	60	60
Nominal power [kW]	1.6	1.6	1.4	1.6
Unit fuse [A]	10	10	13	10
Phase (Nominal voltage)	1~	1~	1~	1~
Measures				
Interior volume [cu.ft.]	16.8	16.8	16.8	16.8
Net weight of the unit (empty) [lbs]	545	545	545	545
Permitted load [lbs]	441	441	441	441
Permitted load of individual compartment [lbs]	110	110	110	110
Wall clearance back [in]	3.94	3.94	3.94	3.94
Wall clearance sidewise [in]	9.85	9.85	9.85	9.85
Internal Dimensions				
Width [in]	23.88	23.88	23.88	23.88
Height [in]	51.2	51.2	51.2	51.2
Depth [in]	23.84	23.84	23.84	23.84
Doors				
Unit doors	1	1	1	1
Housing dimensions not incl. fittings and connections				
Width net [in]	32.54	32.54	32.54	32.54
Height net [in]	77.5	77.5	77.5	77.5
Depth net [in]	36.96	36.96	36.96	36.96
Environment-specific data				
Energy consumption at set-point -80 °C and ambient temperature = 21 °C [kWh/d]	7.9	7.9	7.9	7.9
Sound-pressure level [dB(A)]	47	47	47	47
Fixtures				
Number of shelves (std./max.)	3/13	3/13	3/13	3/13
Load-variants				
Freezer racks per compartment	4	4	4	4
Cryoboxes, 50 mm	352	352	352	352

¹ All technical data is specified for unloaded units with standard equipment at an ambient temperature of +22 °C ±3 °C and a power supply voltage fluctuation of ±10%. The temperature data is determined in accordance to BINDER factory standard following DIN 12880, observing the recommended wall clearances of 10 % of the height, width, and depth of the inner chamber. All indications are average values, typical for units produced in series. We reserve the right to change technical specifications at any time.

DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

CHARTS
Pull-up time during power failure


Ambient temperature 22 °C, no load

Heating up rate

Pull-down time


Ambient temperature 25 °C, no load

Cooling down rate

OPTIONS

Designation	Description	*	Art.-No.
	automatic voltage compensation	-	8012-1897
	consisting of electromechanical door locking mechanism and electronic access control via NumPad	-	8012-1899
	Foam-filled compartment doors with gasket	-	8012-1893
	for maintaining temperature display, alarm messages, and communication	-	8012-1910
	for temperature values (output not adjustable)	-	8012-1898
Options/Accessories	for temperature; for extending the measurement in center of chamber to include another test temperature	-	8012-1126
	lockable door handle	-	8012-1911
	Lockable main switch cover	-	8012-1980
	Measurement in center of chamber at specified temperature	-	8012-0031
	temperature measurement incl. certificate, 20 measuring points at specified temperature	-	8012-0925
	with unloading ramp for installing unit without forklift	-	8012-1906

* Notes › See last page

ACCESSORIES

Designation	Description	*	Art.-No.	
Multi Management Software	Multi Management Software APT-COM™ version 4, BASIC edition	19	9053-0039	
	version 4, GLP edition	19	9053-0042	
	version 4, PROFESSIONAL edition	19	9053-0040	
Options/Accessories	C 13 refrigerator connection cable with BS 1363 British plug	-	5023-0285	
	C 13 refrigerator connection cable with CEE 7/7 European plug	-	5023-0283	
	C 13 refrigerator connection cable with type 13 Swiss plug	-	5023-0284	
	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016	
	consisting of de-icing tray, wiper and scraper	-	8012-1900	
	for 5x4 standard boxes (50 mm) incl. boxes, dimensions: H 276 x W 139 x D 558 mm	-	6017-0044	
	for 5x4 standard boxes (50 mm) incl. boxes, dimensions: H 285 x W 140 x D 560 mm	-	6017-0042	
	for 5x4 standard boxes (50 mm), dimensions: H 276 x W 139 x D 558 mm	-	6017-0043	
	for 5x4 standard boxes (50 mm), dimensions: H 285 x W 140 x D 560 mm	-	6017-0041	
	for 5x4 standard boxes (50 mm), dimensions: H 285 x W 140 x D 560 mm	-	6017-0045	
	for 6x4 standard boxes (50 mm) incl. boxes, dimensions: H 331 x W 139 x D 558 mm	-	6017-0050	
	for 6x4 standard boxes (50 mm) incl. boxes, dimensions: H 331 x W 139 x D 558 mm	-	6017-0048	
	for 6x4 standard boxes (50 mm) incl. boxes, dimensions: H 340 x W 140 x D 560 mm	-	6017-0052	
	for 6x4 standard boxes (50 mm), dimensions: H 331 x W 139 x D 558 mm	-	6017-0049	
	for 6x4 standard boxes (50 mm), dimensions: H 331 x W 139 x D 558 mm	-	6017-0047	
	for 6x4 standard boxes (50 mm), dimensions: H 340 x W 140 x D 560 mm	-	6017-0051	
	for low temperatures, covers forearms	-	1007-0141	
	Incl. shelf supports stainless steel	-	8012-1901	
	IQ/OQ documents – supporting documents for validation performed by customers, consisting of: IQ/OQ checklists incl. calibration guide and comprehensive unit documentation; parameters: temperature, CO ₂ , O ₂ , pressure, depending on unit			
	Digital in PDF format	-	7057-0001	
	Hard copy inside folder	-	7007-0001	
	IQ/OQ/PQ documents – supporting documents for validation performed by customers, according to customer requirements, PQ section added to qualification folder IQ/OQ; parameters: temperature, CO ₂ , O ₂ – or pressure, depending on unit			
	Digital in PDF format	-	7057-0005	
Hard copy inside folder	-	7007-0005		
set consisting of 36 cardboard boxes with sample dividers	-	6017-0053		
T 220: For continuous temperature logging from -90 °C to 220 °C. The kit includes 1 data logger, Pt 100 sensor with 2 m extension cable and 1 magnetic fixture for mounting to the BINDER unit	19	8012-0715		
upgrade kit, for on-site installation by our service technician, requires the option of a battery-backed alarm system	-	8012-1892		

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Installation services			
	Installation of CO ₂ backup cooling on unit	18	DL02-8002
Services	Unit function instructions for operation and programming of the controller	18	DL10-0700
	Unpacking and setting up of unit, connecting to existing connections, and checking function	13, 18	DL10-0300
Preventive maintenance			
Services	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0200

* Notes › See last page

Designation	Description	*	Art.-No.
Calibration services			
	Expansion – including certificate, each additional measuring point in center of chamber at specified test temperature	14, 16, 17, 18	DL30-0102
Services	Temperature calibration with 1 measuring point in center of chamber at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0101
	Temperature measurement with 20 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0620
Validation services			
Services	Execution of IQ/OQ in accordance with qualification folder	15, 18	DL41-0200
	Execution of IQ/OQ/PQ in accordance with qualification folder	15, 18	DL44-0500

* Notes › See last page

NOTES

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