

# Model UF V 700 | Ultra low temperature freezers with climate-neutral refrigerants

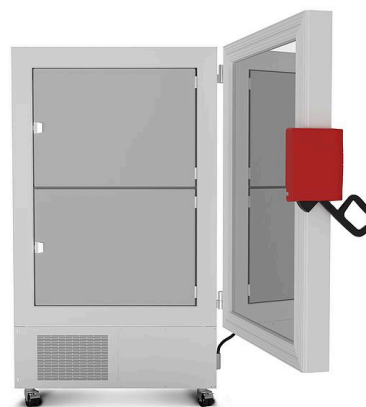
The BINDER ultra low temperature freezer ensures the safe storage of samples at -90 °C. It combines outstanding environmental friendliness with low energy consumption, convenient operation and an individual safety concept.

## BENEFITS

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



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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
- Internal data logger, measured values can be read out in open format via USB
- Ethernet interface
- Operating hours counter
- 2 access ports, Ø 28 mm, rear

## ORDERING INFORMATION

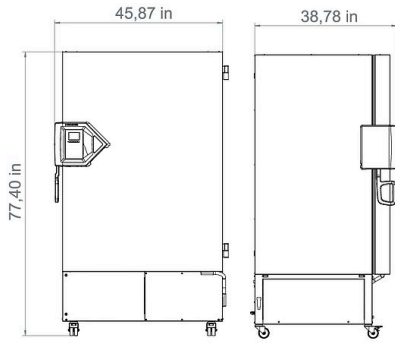
Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
24.7	230 V 1~ 50 Hz	Standard	UFV700-230V	9020-0348
			UFV700-230V-W	9020-0350
	120 V 1~ 60 Hz	Standard	UFV700UL-120V	9020-0352
			240 V 1~ 60 Hz	Standard

**TECHNICAL DATA**

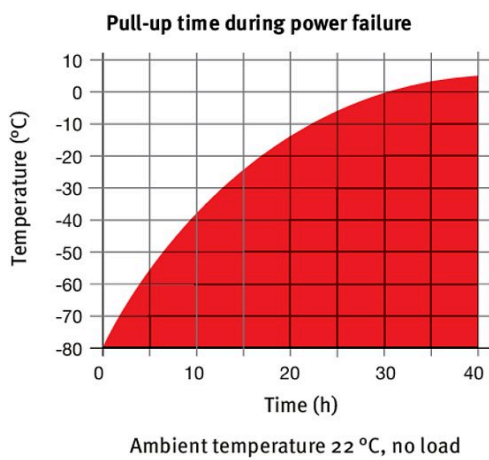
Description	UFV700-230V <sup>1</sup>	UFV700-230V-W <sup>1</sup>	UFV700UL-120V <sup>1</sup>	UFV700UL-240V <sup>1</sup>
Article Number	9020-0348	9020-0350	9020-0352	9020-0354
<b>Performance Data Temperature</b>				
Temperature range	-90...-40	-90...-40	-90...-40	-90...-40
Temperature variation at -80 °C [± 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]	450	450	450	450
Warm-up time during power failure from -80 °C / -122 °F to -60 °C / -76 °F [min]	250	250	250	250
<b>Electrical data</b>				
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~
<b>Measures</b>				
Interior volume [cu.ft.]	24.7	24.7	24.7	24.7
Net weight of the unit (empty) [lbs]	637	637	637	637
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
<b>Internal Dimensions</b>				
Width [in]	35.07	35.07	35.07	35.07
Height [in]	51.2	51.2	51.2	51.2
Depth [in]	23.84	23.84	23.84	23.84
<b>Doors</b>				
Unit doors	1	1	1	1
<b>Housing dimensions not incl. fittings and connections</b>				
Width net [in]	43.7	43.7	43.7	43.7
Height net [in]	77.5	77.5	77.5	77.5
Depth net [in]	36.96	36.96	36.96	36.96
<b>Environment-specific data</b>				
Energy consumption at set-point -80 °C and ambient temperature = 21 °C [kWh/d]	8.1	8.1	8.1	8.1
Average heat dissipation at set-point -80 °C and ambient temperature = 21 °C [W]	340	340	340	340
Sound-pressure level [dB(A)]	47	47	47	47
<b>Fixtures</b>				
Number of shelves (std./max.)	3/13	3/13	3/13	3/13
<b>Load-variants</b>				
Freezer racks per compartment	6	6	6	6
Cryoboxes, 50 mm	528	528	528	528

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.

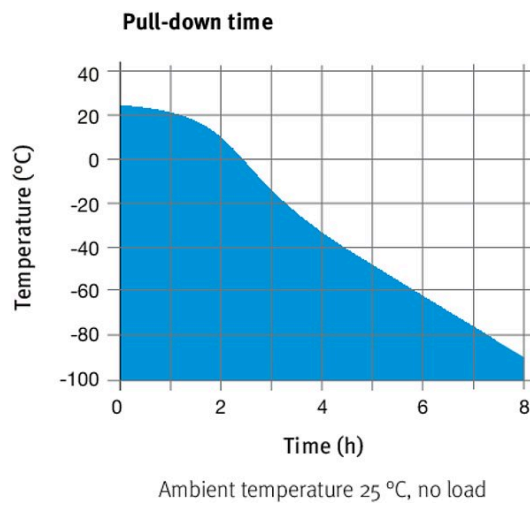
**DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]**



**CHARTS**



Heating up rate



Cooling down rate

**OPTIONS**

Designation	Description	*	Art.-No.
Options/Accessories	automatic voltage compensation	-	8012-1897
	consisting of electromechanical door locking mechanism and electronic access control via NumPad	-	8012-1899
	factory installed (allow for increased depth of UF V: 1085 mm), includes the option of a battery-backed alarm system	-	8012-1936
	Foam-filled compartment doors with gasket	-	8012-1894
	for maintaining temperature display, alarm messages, and communication	-	8012-1910
	for temperature values (output not adjustable)	-	8012-1898
	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	-	8012-1907

\* Notes › See last page

## ACCESSORIES

Designation	Description	*	Art.-No.	
<b>Multi Management Software</b>	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	
<b>Options/Accessories</b>	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	-	8012-1909	
	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	-	8012-1902	
	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 <sub>2</sub> , O <sub>2</sub> , 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 <sub>2</sub> , O <sub>2</sub> – 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.
<b>Installation services</b>			
<b>Services</b>	Installation of CO <sub>2</sub> backup cooling on unit	18	DL02-8002
	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
<b>Preventive maintenance</b>			
<b>Services</b>	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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- 02 Hinweise
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