▶BINDER

Model UF V 700 | Ultralow temperature freezers with VIP insulation and electromechanical door lock

The BINDER ultralow temperature freezer ensures safe long-term storage of samples at a temperature of -86 °C. It is based on a multi-stage security concept, which offers everything from reliable operation to ease of use and system integration.

BENEFITS

- Unique "Press n' open" door mechanism for easy opening and closing at the push of a button
- Innovative RFID technology for personalized access with integrated log file storage
- DATA.SECURE alarm system and temperature logging with USB port
- 5-year warranty

Model 700

MAIN FEATURES

- Temperature range: -40 °C to -86 °C
- Cooling with cascade compressor cooling unit
- CFC-free safety refrigerants R-404A and R-508B
- Door hinged right or left
- RFID controlled Access (depending on version)
- Data Logger USB (depending on version)
- Water cooling (depending on version)
- Electromechanical door latch
- 4 compartment doors made of ABS plastic

- Inner chamber made of stainless steel
- Thermal insulation using vacuum insulating panels and PUR foam
- Battery-backed alarm system
- Computer interface: RS 422
- Analog output, 4 – 20 mA
- Zero-voltage alarm contact
- Elapsed time indicator
- 3 stainless steel shelves

ORDERING INFORMATION

Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
Model UF V 700				
25.1	230 V 1 ph 50 Hz	Door hinged right, RFID system	UFV700-230V-R	9020-0233
		Door hinged left, RFID system	UFV700-230V-L	9020-0237
		Door hinged right, Water cooling, RFID system	UFV700-230V-RW	9020-0261
		Door hinged left, Water cooling, RFID system	UFV700-230V-LW	9020-0262
	120 V 1 ph 60 Hz	Door hinged right, data logger USB	UFV700UL-120V-R	9020-0239
		Door hinged left, data logger USB	UFV700UL-120V-L	9020-0218
	208…240 V 1 ph 60 Hz	Door hinged right, data logger USB	UFV700UL-240V-R	9020-0238
		Door hinged left, data logger USB	UFV700UL-240V-L	9020-0216

BINDER Data Sheet | As of: 03.01.2017
Technical specifications are subject to change.

Page 1 / 7

BINDER

TECHNICAL DATA (Version 1-4 from 8)

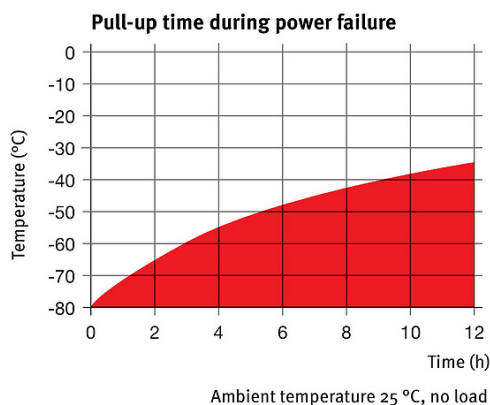| Description	UFV700-230V-R[1]	UFV700-230V-L[1]	UFV700-230V-RW[1]	UFV700-230V-LW[1]
Article Number	9020-0233	9020-0237	9020-0261	9020-0262
Performance Data Temperature				
Temperature range [°C]	-86…-40	-86…-40	-86…-40	-86…-40
Temperature variation at -80 °C [± K]	2.5	2.5	2.5	2.5
Cooling down time from 25 °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]	150	150	150	150
Electrical data				
Rated Voltage [V]	230	230	230	230
Power frequency [Hz]	50	50	50	50
Nominal power [kW]	1.1	1.1	1.1	1.1
Unit fuse [A]	10	10	10	10
Phase (Nominal voltage) [ph]	1	1	1	1
Measures - Outer dimensions				
Width net [mm]	1120	1120	1120	1120
Height net [mm]	1985	1985	1985	1985
Depth net [mm]	885	885	885	885
Wall clearance back [mm]	100	100	100	100
Wall clearance sidewise [mm]	175	175	175	175
Measures - Doors				
Unit doors	1	1	1	1
Measures - Internal Dimensions				
Width [mm]	911	911	911	911
Height [mm]	1300	1300	1300	1300
Depth [mm]	600	600	600	600
Measures				
Interior volume [L]	711	711	711	711
Net weight of the unit (empty) [kg]	360	360	360	360
permitted load [kg]	200	200	200	200
Permitted load of individual compartment [kg]	65	65	65	65
Load per rack [kg]	50	50	50	50
Environment-specific data				
Energy consumption at set-point -80 °C and ambient temperature = 25 °C (+/- 10 %)	13,9 kWh/d	13,9 kWh/d	13,9 kWh/d	13,9 kWh/d
Sound-pressure level [dB(A)]	49	49	49	49
Fixtures				
Number of shelves (std./max.)	3/7	3/7	3/7	3/7

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.
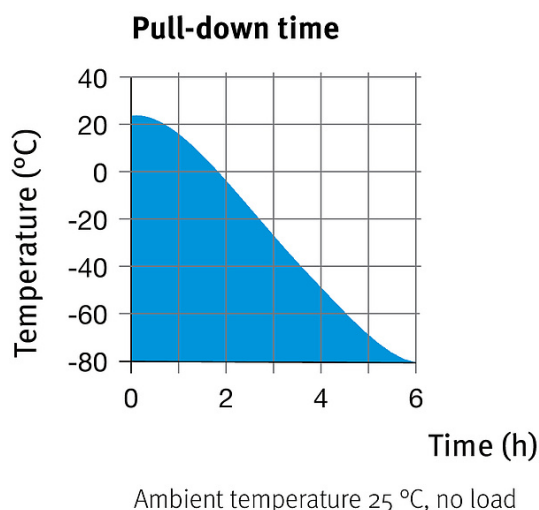
BINDER Data Sheet | As of: 03.01.2017
Technical specifications are subject to change.

Page 2 / 7

BINDER

TECHNICAL DATA (Version 5-8 from 8)

Description	UFV700UL-120V-R[1]	UFV700UL-120V-L[1]	UFV700UL-240V-R[1]	UFV700UL-240V-L[1]
Article Number	9020-0239	9020-0218	9020-0238	9020-0216
Performance Data Temperature				
Temperature range [°C]	-86…-40	-86…-40	-86…-40	-86…-40
Temperature variation at -80 °C [± K]	2.5	2.5	2.5	2.5
Cooling down time from 25 °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]	150	150	150	150
Electrical data				
Rated Voltage [V]	120	120	208…240	208…240
Power frequency [Hz]	60	60	60	60
Nominal power [kW]	1.1	1.1	1.1	1.1
Unit fuse [A]	16	16	10	10
Phase (Nominal voltage) [ph]	1	1	1	1
Measures - Outer dimensions				
Width net [mm]	1120	1120	1120	1120
Height net [mm]	1985	1985	1985	1985
Depth net [mm]	885	885	885	885
Wall clearance back [mm]	100	100	100	100
Wall clearance sidewise [mm]	175	175	175	175
Measures - Doors				
Unit doors	1	1	1	1
Measures - Internal Dimensions				
Width [mm]	911	911	911	911
Height [mm]	1300	1300	1300	1300
Depth [mm]	600	600	600	600
Measures				
Interior volume [L]	711	711	711	711
Net weight of the unit (empty) [kg]	360	360	360	360
permitted load [kg]	200	200	200	200
Permitted load of individual compartment [kg]	65	65	65	65
Load per rack [kg]	50	50	50	50
Environment-specific data				
Energy consumption at set-point -80 °C and ambient temperature = 25 °C (+/- 10 %)	12,5 kWh/d	12,5 kWh/d	14,9 kWh/d	14,9 kWh/d
Sound-pressure level [dB(A)]	49	49	49	49
Fixtures				
Number of shelves (std./max.)	3/7	3/7	3/7	3/7

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.

BINDER Data Sheet | As of: 03.01.2017
Technical specifications are subject to change.

Page 3 / 7

∙BINDER

CHARTS

Pull-up time during power failure

Ambient temperature 25 °C, no load

Heating up rate

Pull-down time

Ambient temperature 25 °C, no load

Cooling down rate

OPTIONS AND ACCESSORIES

Designation	Description	*	Art.-No.
Access port with silicone plug	back		
	30 mm	01	8012-0756
Access port with silicone plug, accessories	Sealing kit for 10 mm access port, back	–	8009-0815
Alarm function for cell phone	Remote notification of alarm unit via mobile network by SMS	–	8012-0775
Buck-boost converter	automatic voltage compensation	–	8012-0762
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	–	8012-1126
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	–	8012-0031
	temperature measurement incl. certificate, 20 measuring points at specified temperature	–	8012-0925
Chamber rack with drawer, stainless steel	for 5x4 standard boxes (50 mm) incl. boxes, dimensions: H 285 x W 140 x D 560 mm	–	6017-0046
	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 340 x W 140 x D 560 mm	–	6017-0052
	for 6x4 standard boxes (50 mm), dimensions: H 340 x W 140 x D 560 mm	–	6017-0051
Chamber rack, aluminum	for 5x4 standard boxes (50 mm) incl. boxes, dimensions: H 276 x W 139 x D 558 mm	–	6017-0042
	for 5x4 standard boxes (50 mm), dimensions: H 276 x W 139 x D 558 mm	–	6017-0041
	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), dimensions: H 331 x W 139 x D 558 mm	–	6017-0047
Chamber rack, stainless steel	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), dimensions: H 276 x W 139 x D 558 mm	–	6017-0043
	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), dimensions: H 331 x W 139 x D 558 mm	–	6017-0049
Circular chart recorder	integrated in base plate	–	8012-0712
Circular chart recorder, accessories	replacement set including paper and replacement pen	–	8012-0811
Cleaning kit	for equipment maintenance and disinfection, consisting of pH-neutral detergent (1000 g, concentrate), spray disinfectant (500 ml, ready-to-use solution), lint-free cleansing tissues, protective gloves, and protective glasses	–	8012-0837
CO_2 backup cooling	factory installed (allow for increased depth of UF V 700: 1033 mm)	–	8012-0845
	upgrade kit, for on-site installation by our service technician	–	8012-0846
Cryoboxes	set consisting of 36 cardboard boxes with sample dividers	–	6017-0053
Deicing kit	consisting of de-icing tray, wiper and scraper	–	8012-0747

* Notes › See last page

BINDER Data Sheet | As of: 03.01.2017
Technical specifications are subject to change.

Page 4 / 7

BINDER

Designation	Description	*	Art.-No.
Door lock	lockable door handle		
	120 V, 208...240 V option model	–	8012-0744
Ethernet interface	in place of RS 422, for communication software	–	8012-0711
Gloves	for low temperatures, covers forearms	–	1007-0141
Interface converter	RS 422 cable set and RS 232 / RS 422 interface converter for connection to 10-way plug distributor or for connection to a unit		
	120 V, 60 Hz option model	–	8012-0557
	230 V, 50/60 Hz option model	–	8012-0556
	RS 422 cable set and RS 422 / Ethernet interface converter for connection to 10-way plug distributor or for connection to a unit		
	120 V, 60 Hz option model	–	8012-0405
	230 V, 50/60 Hz option model	–	8012-0380
Interface converter, USB / RS422	RS 422 cable set and RS 422 / USB interface converter for connection to 10-way plug distributor or for connection to a unit (USB-powered converter)	–	8012-0665
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	–	1002-0016
Pt 100 temperature sensor	additional flexible Pt 100, interior, with external connection incl. LEMO connector (3-pin)	–	8012-0757
Rack, reinforced	for temperature range -40 °C to -60 °C, set of 3	–	8012-0707
RFID reader	for reading saved user logs wirelessly	–	8012-0789
RFID system	personalized access control using RFID technology		
	120 V, 208...240 V option model	–	8012-0776
RFID user card	Additional user card	–	8009-0738
RS 422 interface	modular plug distributor for 10 RS 422 interfaces	–	8012-0295
RS 422 interface, cable (15 m)	RS 422 connection cable (15 m) between plug distributor and RS 422 interface	–	5023-0036
RS 422 interface, cable (50 m)	RS 422 extension cable (50 m) between interface converter and unit or RS 232 / RS 422 plug distributor	–	5023-0117
Shelf	stainless steel	–	8012-0799
Software	APT-COM™ communications software		
	version 2 to 3, GLP edition	19	9053-0016
	version 3, BASIC edition	19	9053-0014
	version 3, GLP edition	19	9053-0015
	version 3, STANDARD edition	19	9053-0013
	APT-COM™ communications software, price: for free		
	version 3, GLP DEMO Edition	19	9053-0008

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Installation services			
Data Logger Kit installation service	and set up of unit at operating location, connect to existing connections	13, 18	DL100300
Installation of CO_2 backup cooling	installation on unpacked unit	18	DL028002
Preventive maintenance			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL200100
Calibration services			
Data Logger Kit calibration service	including certificate, one measuring point in center of chamber at specified temperature	14, 16, 17, 18	DL300201
Temperature measurement 20 measuring points	including certificate, 20 measuring points at specified temperature	14, 16, 17, 18	DL300620
Validation services			
Data Logger Kit validation service	in accordance with qualification folder	15, 18, 20	DL410200
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL440500

* Notes › See last page

BINDER Data Sheet | As of: 03.01.2017
Technical specifications are subject to change.

Page 5 / 7

Designation	Description	*	Art.-No.
Qualification folder IQ/OQ	supporting documents for validation performed by customer, consisting of: IQ/OQ checklists, unit schematics, QM certificate in accordance with ISO 9001	15, 18, 20	8012-0880
Qualification folder IQ/OQ/PQ	supporting documents for validation performed by customer, in accordance with customer's requirement, extension of Qualification folder IQ/OQ by chapter PQ	15, 18	8012-0967

* Notes › See last page

BINDER Data Sheet | As of: 03.01.2017
Technical specifications are subject to change.

Page 6 / 7

NOTES

01	Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.
02	UL mark is not granted when this option is used.
03	Heat resistant only to max. 200 °C.
04	Only available on units rated for 230 V.
06	Heating-up time may increase as a result of the lower heat conductivity.
09	Not in conjunction with the optional access port, door with window and interior lighting.
10	Not available on 23-liter units.
11	Not available on 23- or 53-liter units.
12	Only available on units rated for 230 V or 400 V.
13	Installation and connections take place at unit location; transport within the company only upon consultation.
14	We recommend a BINDER service contract (see the chapter on BINDER Service) to cover unit inspections, calibrations and validations.
15	OQ according to Yellow Paper = completed factory validation documentation of all OQ checklists.
16	Sensor calibration is performed in an accredited calibration laboratory.
17	Calibration is performed according to the BINDER factory standard.
18	Quoted prices do not include travel costs. Please refer to the chapter on BINDER Service for travel costs for your region. Quoted prices for services performed in Switzerland do not include a country-specific added fee (available on request).
19	For additional accessories, refer to the Process documentation chapter.
20	When ordering IQ/OQ qualification folders and associated IQ/OQ execution on one order, we offer a 15 % discount for both items.
	When ordering IQ/OQ/PQ qualification folders and associated IQ/OQ/PQ execution on one order, we offer a 15 % discount for the item of the IQ/OQ/PQ folder.

BINDER Data Sheet | As of: 03.01.2017
Technical specifications are subject to change.

Page 7 / 7