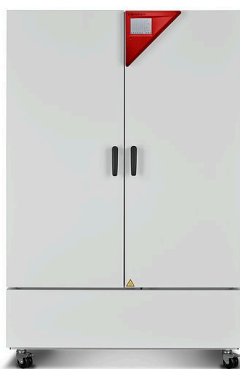


Model KBF 1020 | Humidity test chambers with large temperature / humidity range

The BINDER KBF is the specialist for unconditionally reliable stability testing and precise maintenance of constant climate conditions. From programming to documentation, this humidity test chamber meets all critical requirements.

BENEFITS

- Homogeneous climate conditions thanks to APT.line™ technology
- Automatic water and wastewater management
- Pressure humidification with fast response times



Model 1020



Model 1020

MAIN FEATURES

- Temperature range: 0 °C to +70 °C
- Humidity range: 10 % to 80 % RH
- APT.line™ preheating chamber technology
- Humidity regulation with capacitive humidity sensor and vapor humidification
- Intuitive touchscreen controller with time-segment and real-time programming
- BINDER Multi Management Software APT-COM™ Basic Edition
- Internal data logger, measured values can be read out in open format via USB
- Unit self-test for comprehensive status analysis
- Tight-sealing inner door made of safety glass (ESG)
- Avoidance of glass corrosion by special TIMELESS coating
- Inner chamber made of stainless steel
- 2 stainless steel racks
- Access port with silicone plug, 30 mm, left
- 4 stable castors, two with brakes, from 240 liters
- Class 3.1 independent temperature safety device (DIN 12880) with visual and audible temperature alarm
- Computer interface: Ethernet
- Door heating

ORDERING INFORMATION

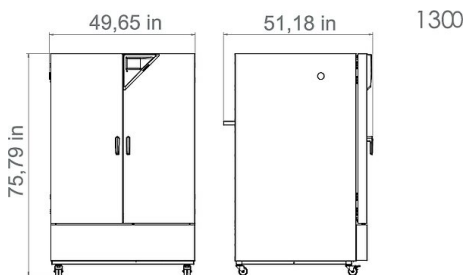
Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
36	200...230 V 1~ 50/60 Hz	Standard	KBF1020-230V	9020-0326
	200...240 V 1~ 50/60 Hz	Standard	KBF1020-240V	9020-0327

TECHNICAL DATA

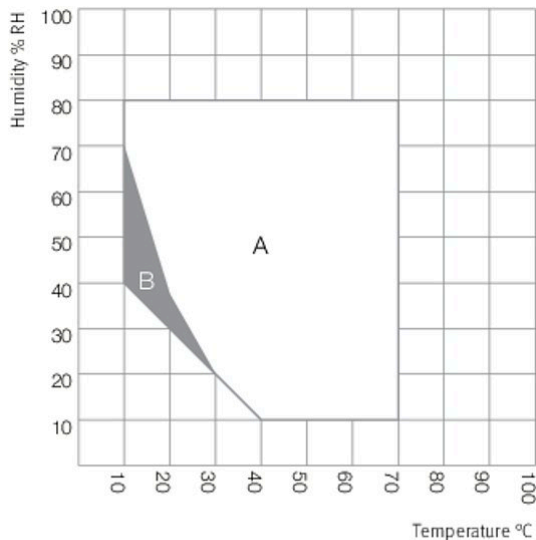
Description	KBF1020-230V ¹	KBF1020-240V ¹
Article Number	9020-0326	9020-0327
Performance Data Temperature		
Temperature range	0...70	0...70
Temperature variation at 40 °C [± K]	0.2	0.2
Temperature fluctuation [± K]	0.5	0.5
Max. heat compensation at 40 °C [W]	600	600
Performance Data Climate		
Temperature range [°C]	10...70	10...70
Temperature variation at 25 °C and 60 % RH [± K]	0.2	0.2
Temperature variation at 40 °C and 75 % RH [± K]	0.2	0.2
Temperature fluctuation at 25 °C and 60 % RH [± K]	0.1	0.1
Temperature fluctuation at 40 °C and 75 % RH [± K]	0.1	0.1
Humidity range [% RH]	10...80	10...80
Humidity fluctuation at 25 °C and 60 % RH	1,5 ± % RH	1,5 ± % RH
Humidity fluctuation at 40 °C and 75 % RH	1,5 ± % RH	1,5 ± % RH
Humidity recovery time after 30 s door open at 25 °C and 60 % RH [min]	11	11
Humidity recovery time after 30 s door open at 40 °C and 75 % RH [min]	12	12
Electrical data		
Rated Voltage [V]	200...230	200...240
Power frequency [Hz]	50/60	50/60
Nominal power [kW]	3.1	3.1
Unit fuse [A]	16	16
Phase (Nominal voltage)	1~	1~
Measures		
Interior volume [cu.ft.]	36	36
Net weight of the unit (empty) [lbs]	836	836
Permitted load [lbs]	331	331
Load per rack [lbs]	99	99
Wall clearance back [in]	3.94	3.94
Wall clearance sidewise [in]	3.94	3.94
Internal Dimensions		
Width [in]	38.34	38.34
Height [in]	49.3	49.3
Depth [in]	32.94	32.94
Doors		
Inner doors	2	2
Unit doors	2	2
Housing dimensions not incl. fittings and connections		
Width net [in]	49.3	49.3
Height net [in]	75.8	75.8
Depth net [in]	45.1	45.1
Environment-specific data		
Energy consumption at 40 °C and 75 % RH [Wh/h]	650	650
Sound-pressure level [dB(A)]	56	56
Fixtures		
Number of shelves (std./max.)	2/15	2/15

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. Technical data refers to 100 % fan speed. 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]

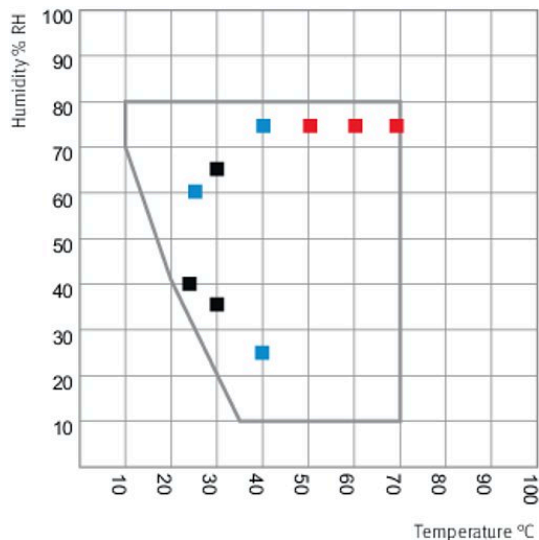


CHARTS



A: Guaranteed condensation-free range
 B: Time-limited operation (max. 24 hours)

Climate chart



■ ICH Q1A Long term stability testing
 ■ ICH Q1A Accelerated stability testing
 ■ ICH Stress testing

Temperature--humidity chart with ICH checkpoints

OPTIONS

Designation	Description	*	Art.-No.
	left		
	30 mm	01	8012-1442
	50 mm	01	8012-1472
	100 mm	01	8012-0515
	right		
Access port with silicone plug	30 mm	01	8012-1436
	50 mm	01	8012-1466
	100 mm	01	8012-0514
	top		
	30 mm	01	8012-1448
	50 mm	01	8012-1454
	100 mm	01	8012-1460
Alarm output, zero-voltage	for temperature (± 2 °C) and humidity (± 5 % RH), accessible via 6-pin DIN socket (max. 24 V - 2.5 A), with audible signal that can be switched off	-	8012-1810
Analog output 4-20 mA	for temperature and humidity values (output not adjustable)	-	8012-1811
Calibration certificate, expanded	for temperature and humidity; for extending the measurement in center of chamber to include another test value	-	8012-0155

* Notes > See last page

Designation	Description	*	Art.-No.
Calibration certificate, temperature	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-0923
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-0920
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-0917
Calibration certificate, temperature and humidity	Measurement in center of chamber at 25 °C / 60% RH or at specified test values	-	8012-0154
	temperature (according to DIN12880) and humidity measurement incl. certificate, 27 temperature measuring points and 1 humidity measuring point, at 25 °C / 60 % RH or at specified values	-	8012-0924
Class 3.3 independent temperature safety device	with visual alarm (DIN 12880)	-	8012-1034
Converter, voltage	to operate the device at a nominal voltage of 120 V 1 ph 60 Hz		
	240 V option model	-	8009-0821
Door lock	lockable door handle	-	8012-1024
Interior socket	Waterproof, switched flush-mounting box (CA3GD) for nominal voltage in unit interior, with cover and corresponding plug (nominal voltage; max. 500 W; max. 90 °C; protection class IP67)	-	8012-1043
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	-	8012-1042
RS 485 interface, 2-wire	Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™	-	8012-1066

* Notes › See last page

ACCESSORIES

Designation	Description	*	Art.-No.
BINDER PURE AQUA SERVICE	System for preparation or complete desalination of tap water, complete set containing PURE AQUA 300 single-use cartridge, measuring device, and all necessary connecting parts	-	8012-0759
BINDER PURE AQUA SERVICE, accessories	Single-use, replacement cartridge for BINDER PURE AQUA System	-	6011-0165
Data Logger Kit	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	-	8012-0715
	TH 70/70: For continuous temperature and humidity logging from -40 °C to 70 °C / 0% to 100% RH and additional logging of ambient conditions. Kit includes 1 data logger, 2 attachable combined humidity/temperature sensors, 2 m extension cable and 1 fixture for mounting to the BINDER unit	-	8012-0717
	TH 70: For continuous temperature and humidity logging from -40 °C to 70 °C; 0% to 100% RH. Kit includes 1 data logger, Pt 100 sensor with 2 m extension cable, and 1 magnetic fixture for mounting to the BINDER unit	-	8012-0716
Data Logger Software	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	-	8012-0821
LED light bars	Basic set consisting of 2 pieces, attachment material, control unit for max. 4 light strips, 100-240 V, 50/60 Hz		
	Basic set 300, length 30 cm	-	8012-1107
	Basic set 500, length 50 cm	-	8012-1108
	Basic set 900, length 90 cm	-	8012-1109
Multi Management Software	Expansion set consisting of 2 pieces, attachment material: clips. For expanding the basic set of light bars		
	Expansion set 300, length 30 cm	-	8012-1716
	Expansion set 500, length 50 cm	-	8012-1717
	Expansion set 900, length 90 cm	-	8012-1718
Multi Management Software	Multi Management Software APT-COM™		
	version 4, BASIC edition	-	9053-0039
	version 4, GLP edition	-	9053-0042
pH-neutral detergent	version 4, PROFESSIONAL edition	-	9053-0040
	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
	Qualification documents	IQ/OQ documents – supporting documents for validation performed by customers, consisting of: IQ/OQ checklists incl. calibration guide and comprehensive unit documentation; parameters: temperature and humidity values	
Digital in PDF format		-	7057-0002
Hard copy inside folder		-	7007-0002
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 and humidity values		Digital in PDF format	-
	Hard copy inside folder	-	7007-0006

* Notes › See last page

Designation	Description	*	Art.-No.
Rack	stainless steel	-	6004-0143
Rack accessories	fasteners (1 set of 4) for additional security of racks	-	8012-0620
Rack, reinforced	stainless steel, with fasteners (1 set of 4)	-	8012-0968
RS 485 / RS 422 interface converter	RS 422 cable set and RS 485 / RS 422 interface converter for connection to 10-way plug distributor		
	115 V option model	-	8012-0599
	230 V option model	-	8012-0589
Shelf, perforated	Stainless steel	-	8009-0792
Water supply set	consisting of fresh- and waste-water containers (20 liters each), cabling and pump		
	external, for hanging from the back of the device	-	8012-0643
	external, free-standing	-	8012-1846

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Installation services			
Unit installation	Connect the unit to the customer-side connections (electricity, water, wastewater, gas), basic functions check, brief operating instructions. (excl.: unpacking, setup, controller instructions, programming, installation work)	05	DL10-0300
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05	DL10-0700
Maintenance services			
Maintenance	Maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Calibration of a test temperature specified by the user in center of chamber without certificate	05	DL20-0400
Calibration services			
Temperature and humidity calibration	Expansion –Temperature and humidity calibration with 1 measuring point in center of chamber with 1 specified pair of values, including certificate	03, 04, 05	DL30-0302
	Temperature and humidity calibration with 1 measuring point in center of chamber with 1 specified pair of values, including certificate	03, 04, 05	DL30-0301
Temperature and humidity measurement according to DIN12880	Temperature measurement in accordance with DIN 12880 with 27 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate	03, 04, 05	DL30-0427
Temperature measurement, 18 temperature measuring points and 1 humidity measuring point	Temperature measurement with 18 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate	03, 04, 05	DL30-0318
Temperature measurement, 27 temperature measuring points and 1 humidity measuring point	Temperature measurement with 27 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate	03, 04, 05	DL30-0327
Temperature measurement, 9 temperature measuring points and 1 humidity measuring point	Temperature measurement with 9 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate	03, 04, 05	DL30-0309
Validation services			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	05	DL42-0300
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	05	DL44-0500
Warranty service			
Warranty extension from 2 to 3 years	The warranty is extended from 2 to 3 years from the delivery date, wear parts are excluded	-	DL01-4041
Warranty extension from 2 to 5 years	The warranty is extended from 2 to 5 years from the delivery date, wear parts are excluded	-	DL01-4042

* Notes › See last page

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 Sensor calibration is performed in an accredited calibration laboratory.
- 04 Calibration is performed according to the BINDER factory standard.
- 05 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).

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