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Model KBF 240 | Constant climate 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 constant climate 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 240

Model 240

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
- 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
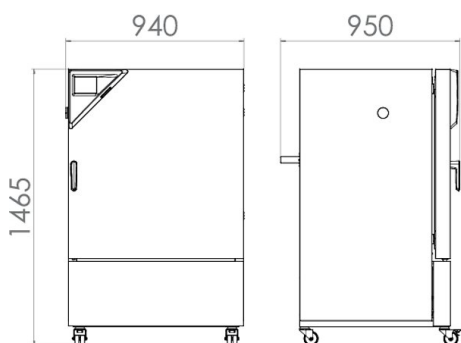- Door heating

ORDERING INFORMATION

Interior volume [L]	Voltage	Option model	Version	Art.-No.
Model KBF 240				
247	200…230 V 1~ ph 50/60 Hz	Standard	KBF240-230V	9020-0322
	200…240 V 1~ ph 50/60 Hz	Standard	KBF240UL-240V	9020-0323

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Technical specifications are subject to change.
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TECHNICAL DATA

Description	KBF240-230V[1]	KBF240UL-240V[1]
Article Number	9020-0322	9020-0323
Performance Data Temperature		
Temperature range [°C]	0…70	0…70
Temperature variation at 40 °C [± K]	0.3	0.3
Temperature fluctuation [± K]	0.1	0.1
Max. heat compensation at 40 °C [W]	300	300
Performance Data Climate		
Temperature range [°C]	10…70	10…70
Temperature variation at 25 °C and 60 % RH [± K]	0.3	0.3
Temperature variation at 40 °C and 75 % RH [± K]	0.3	0.3
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
Humidty recovery time after 30 s door open at 25 °C and 60 % RH [min]	5	5
Humidty recovery time after 30 s door open at 40 °C and 75 % RH [min]	11	11
Electrical data		
Rated Voltage [V]	200…230	200…240
Power frequency [Hz]	50/60	50/60
Nominal power [kW]	2.1	2.1
Unit fuse [A]	16	16
Phase (Nominal voltage)	1~	1~
Internal Dimensions		
Depth [mm]	485	485
Height [mm]	785	785
Width [mm]	650	650
Housing dimensions not incl. fittings and connections		
Width net [mm]	925	925
Height net [mm]	1460	1460
Depth net [mm]	800	800
Measures		
Wall clearance back [mm]	100	100
Wall clearance sidewise [mm]	100	100
Interior volume [L]	247	247
Net weight of the unit (empty) [kg]	189	189
permitted load [kg]	100	100
Load per rack [kg]	30	30
Doors		
Inner doors	1	1
Unit doors	1	1
Environment-specific data		
Energy consumption at 40 °C and 75 % RH [Wh/h]	650	650
Sound-pressure level [dB(A)]	52	52
Fixtures		
Number of shelves (std./max.)	2/9	2/9

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.

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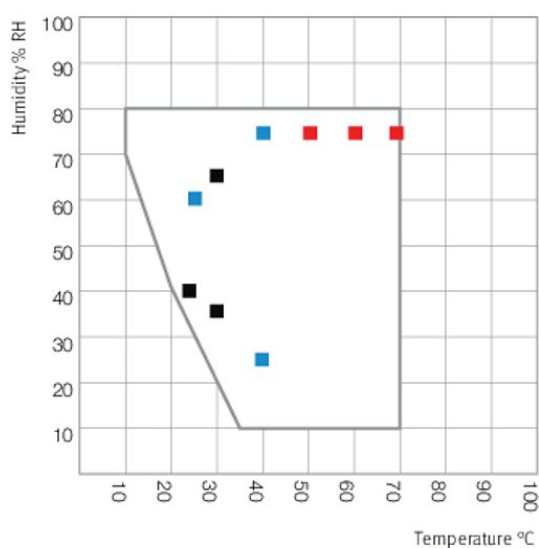## DIMENSIONS incl. fittings and connections [mm]

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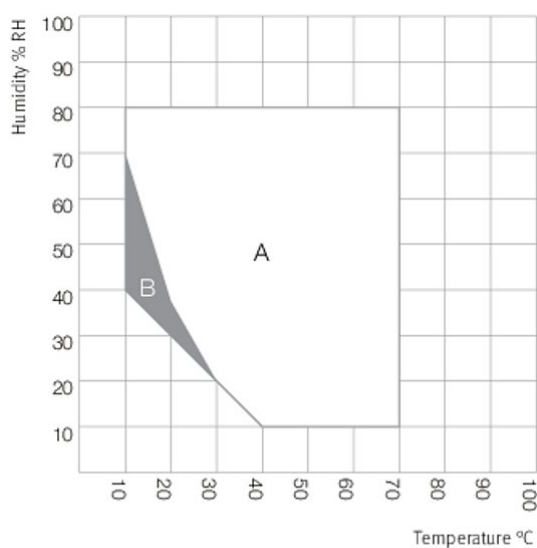
A: Guaranteed condensation-free range
B: Time-limited operation (max. 24 hours)

Climate chart

■ Long term testing (ICH Q1A)
■ Accelerated testing (ICH Q1A)
■ Stress testing (ICH Q1A)

Temperature-humidity chart with ICH checkpoints

OPTIONS AND ACCESSORIES

Designation	Description	*	Art.-No.
Access port with silicone plug	left		
	30 mm	01	8012-1442
	50 mm	01	8012-1472
	100 mm	01	8012-0515
	right		
	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	–	8012-1037
Analog output 4-20 mA	for temperature and humidity values (output not adjustable)	–	8012-1040

* Notes › See last page

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Designation	Description	*	Art.-No.
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units.		
	version 4, BASIC edition	19	9053-0039
APT-COM™ 4 GLP-Edition	for working under GLP-compliant conditions. Measured values are documented in a tamper-proof way in line with the requirements of FDA Regulation 21 CFR 11.		
	version 4, GLP edition	19	9053-0042
APT-COM™ 4 PROFESSIONAL-Edition	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.		
	version 4, PROFESSIONAL edition	19	9053-0040
BINDER PURE AQUA SERVICE	system for preparation or complete desalination of tap water, containing single-use cartridge, hoses and measuring device	–	8012-0759
BINDER PURE AQUA SERVICE, accessories	Single-use, replacement cartridge for BINDER PURE AQUA System	–	6011-0165
Calibration certificate, expanded	for temperature and humidity; for extending the measurement in center of chamber to include another test value	–	8012-0155
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)	–	8012-1033
Converter, voltage	to operate the device at a nominal voltage of 120 V 1 ph 60 Hz		
	240 V option model	–	8009-0821
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	19	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	19	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	19	8012-0716
Data Logger Software	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	19	8012-0821
Door lock	lockable door handle	–	8012-1023
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)	07	8012-1043
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
	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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	–	1002-0016
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	–	8012-1042
Rack	stainless steel	–	6004-0101
Rack accessories	fasteners (1 set of 4) for additional security of racks	–	8012-0620
Rack, reinforced	stainless steel, with fasteners (1 set of 4)	–	8012-0638
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
RS 485 interface, 2-wire	Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™	–	8012-1066
Shelf, perforated	Stainless steel	–	6004-0040

* Notes › See last page

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Designation	Description	*	Art.-No.
Water supply set	consisting of fresh- and waste-water containers (20 liters each), cabling and pump		
	external, free-standing	–	8012-1846
	external, consisting of fresh- and waste-water containers (20 liters each), cabling and pump		
	external, for hanging from the back of the device	–	8012-0643

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Installation services			
Installation	and set up of unit at operating location, connect to existing connections	13, 18	DL10-0300
Instruction	unit function instructions for operation and programming of the controller	18	DL10-0700
Preventive maintenance			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0400
Calibration services			
Calibration temperature and humidity	including certificate, one measuring point in center of chamber at 25 °C / 60 % RH or at specified values	14, 16, 17, 18	DL30-0301
Temperature and humidity measurement according to DIN12880	including certificate (27 temperature measuring points and one humidity measuring point, at 25 °C / 60 % RH or at specified values)	14, 16, 17, 18	DL30-0427
Temperature measurement 18 temperature measuring points and 1 humidity measuring point	including certificate, 18 temperature measuring points and 1 humidity measuring point in center of chamber, at 25 °C / 60 % RH or at specified values	14, 16, 17, 18	DL30-0318
Temperature measurement 27 temperature measuring points and 1 humidity measuring point	including certificate, 27 temperature measuring points and 1 humidity measuring point in center of chamber, at 25 °C / 60 % RH or at specified values	14, 16, 17, 18	DL30-0327
Temperature measurement 9 temperature measuring points and 1 humidity measuring point	including certificate, 9 temperature measuring points and 1 humidity measuring point in center of chamber, at 25 °C / 60 % RH or at specified values	14, 16, 17, 18	DL30-0309
Validation services			
Execution of IQ/OQ	in accordance with qualification folder	15, 18, 20	DL42-0300
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL44-0500
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	8012-0867
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	8012-0955
Warranty service			
Extension of the warranty from 2 to 3 years	beginning with the date of delivery, wearing parts are not included	–	DL01-4041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	–	DL01-4042

* Notes › See last page

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