

Model KBF 240 | Constant climate chambers with large temperature / humidity range

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
- Inner chamber made of stainless steel
- Controller with time-segment programming
- Tightly-sealed inner door made of tempered safety glass
- 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~ 50/60 Hz	Standard	KBF240-230V	9020-0269
	200...240 V 1~ 50/60 Hz	Standard	KBF240UL-240V	9020-0270

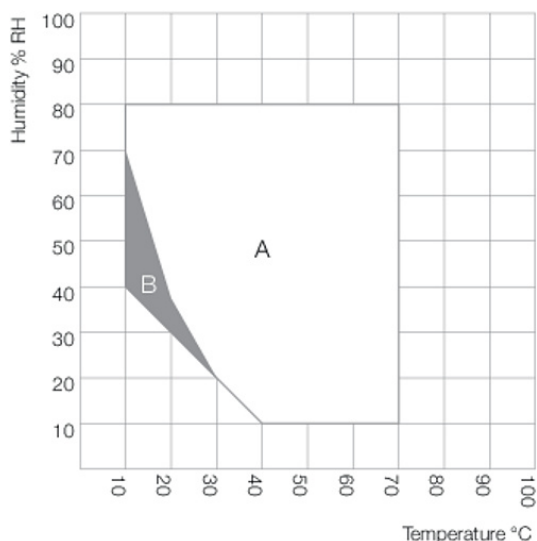
TECHNICAL DATA

Description	KBF240-230V	KBF240UL-240V
Article Number	9020-0269	9020-0270
Performance Data Temperature		
Temperature range [°C]	0...70	0...70
Temperature uniformity at 40 °C [± K]	0.3	0.3
Temperature fluctuation [± K]	0.1	0.1
Max. heat compensation at 40 °C [W]	300	300

Data Sheet Model KBF 240

Description	KBF240-230V	KBF240UL-240V
Article Number	9020-0269	9020-0270
Recovery time after 30 seconds door open at 25 °C and 60 % RH [min]	4	4
Recovery time after 30 seconds door open at 40 °C and 75 % RH [min]	5	5
Performance Data Climate		
Temperature range [°C]	10...70	10...70
Temperature uniformity at 25 °C and 60 % RH [± K]	0.3	0.3
Temperature uniformity 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
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~
Measures - Outer dimensions		
Width net [mm]	925	925
Height net [mm]	1460	1460
Depth net [mm]	800	800
Wall clearance back [mm]	100	100
Wall clearance sidewise [mm]	100	100
Measures - Doors		
Inner doors	1	1
Unit doors	1	1
Measures - Internal Dimensions		
Width [mm]	650	650
Height [mm]	785	785
Depth [mm]	485	485
Measures		
Interior volume [L]	247	247
Net weight of the unit (empty) [kg]	184	184
permitted load [kg]	100	100
Load per rack [kg]	30	30
Environment-specific data		
Energy consumption at 40 °C and 75 % RH	650 Wh/h	650 Wh/h
Sound-pressure level [dB(A)]	52	52
Fixtures		
Number of shelves (standard/maximum)	2/9	2/9

CHARTS



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

Climate chart

OPTIONS AND ACCESSORIES

Designation	Description	*	Art.-No.
Access port with silicone plug	30 mm, left	01	8012-0648
	30 mm, right	01	8012-0647
	30 mm, top	01	8012-0649
	50 mm, left	01	8012-0653
	50 mm, right	01	8012-0652
	50 mm, top	01	8012-0650
	100 mm, left	01	8012-0515
	100 mm, right	01	8012-0514
	100 mm, top	01	8012-0651
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	-	8012-0615
Analog output, 4 – 20 mA	for temperature and humidity values (output not adjustable)	-	8012-0614
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, each additional measurement at additional points or sets of values	-	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	for temperature and humidity, measurement in center of chamber at 25 °C / 60 % RH or at specified 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) 230 V option model	-	8012-0610

* Notes › See last page

Data Sheet Model KBF 240

Designation	Description	*	Art.-No.
Converter, voltage	to operate the device at a nominal voltage of 120 V 1 ph 60 Hz	-	8009-0821
Data Logger Kit	T 220: temperature logging from -90 °C to 220 °C	19	8012-0715
	TH 70/70: temperature and humidity logging from -40 °C to 70 °C and 0 % to 100 % RH and additional combination sensor for recording environmental conditions	19	8012-0717
	TH 70: temperature and humidity logging from -40 °C to 70 °C and 0 % to 100 % RH	19	8012-0716
Data Logger Kit, 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
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
Interior lighting	230 V, 15 W option model	02	8012-0116
Interior socket	coverable, with associated LEMO connector (nominal voltage, max. 500 W, max. 90 °C, protection class IP67)	07	8012-0640
Lockable controller keyboard	Lockable controller keyboard with key-operated switch	-	8012-0609
Magnetic Pouch (A4)	insert pouch with magnetic strip	-	1007-0065
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
Pt 100 temperature sensor	additional Pt 100, with flexible cable installed with external connection, incl. 6-pin DIN socket	-	8012-0637
Rack	stainless steel	-	6004-0101
Rack, accessories	set of 4 fasteners for additional security	-	8012-0620
Rack, reinforced	stainless steel, with 1 set of 4 fasteners, max. load 70 kg	-	8012-0638
RS 422 interface	in place of Ethernet, for communication software	-	8012-0641
	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, perforated	stainless steel	-	6004-0040
Shelf, reinforced	positioned at bottom level, max. load 67 kg, with additional attachment for operation of shaking device, stirring device or roller bottle system	-	8012-0639
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
Water supply set	external, consisting of fresh- and waste-water containers (20 liters each), cabling and pump	-	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	DL100300

* Notes › See last page

Data Sheet Model KBF 240

Designation	Description	*	Art.-No.
Instruction	unit function instructions for operation and programming of the controller	18	DL100700
Preventive maintenance			
Preventive maintenance	Execution of equipment inspection according to maintenance plan	14, 18	DL200400
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	DL300301
Temperature and humidity measurement according to DIN12880	including certificate (27 temperature measuring points and 1 humidity measuring point, at 25 °C / 60 % RH or at specified values)	14, 16, 17, 18	DL300427
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	DL300318
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	DL300327
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	DL300309
Validation services			
Execution of IQ/OQ	in accordance with qualification folder	15, 18, 20	DL420300
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL440500
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	-	DL014041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	-	DL014042

* 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 Heat resistant only to max. 200 °C.
- 04 Only available on units rated for 230 V.
- 05 Attention: The pump is delivered separately. The electric connection for the pump (230 V/1~/50 Hz) must be carried out by an authorized electrician.
- 06 Heating-up time may increase as a result of the lower heat conductivity.
- 07 The additional heat input may affect the temperature behavior.
- 08 The pump (packaged separately) is ready for connection.
- 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.
- 21 ATEX conformity:
Pumping chamber (pumped gases): II 2G IIC T3 X
Environment with inert purge gas: II 2G IIB T4 X
Environment without inert purge gas: II 3G IIB T4 X
Motor: II 2G Ex d IIB T4 Gb

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