

Model KBF LQC 240 | Constant climate chambers with ICH-compliant light source and light dose control

The main advantage of the BINDER KBF LQC series is the patented light photometry for photostability tests. Two 3D spherical sensors control the light dosage of UV-A and visible light. Once the desired light dosage is achieved, the chamber switches off automatically.

BENEFITS

- Safe thanks to climatic homogeneity that far exceeds the accuracy required by ICH guidelines, even with a fully loaded unit. The light spectrum is 100% compliant with ICH requirements.
- Reliable thanks to failsafe operation without compromise. The interior and Longlife evaporator plate are made entirely from stainless steel.
- Smart, as a wide range of accessories makes it highly compatible for adaptation to specific customer requirements.
- Economical thanks to maximum effective volume which allows for 30% larger load compared to the competition.



Model 240



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IMPORTANT FEATURES

- Temperature range: 0 °C to +70 °C
- Temperature range with light: +10 °C to +60 °C
- Humidity range: 10 % to 80 % RH
- 2 positionable illumination cassettes with ICH-compliant UV/Vis light source
- Independent light-dose control of UV-A and visible light with spherical sensors
- APT.line™ preheating chamber technology
- Humidity regulation with capacitive humidity sensor and vapor humidification
- Inner chamber made of stainless steel
- BINDER Multi Management Software APT-COM™ Basic Edition
- 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
- 2 stainless steel racks
- Access port with silicone plug, 30 mm, left
- 4 stable castors, two with brakes
- 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]	Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
Model KBF LQC 240					
247	200...230 V 1~ 50/60 Hz -16,0 A	CEE 7/7	Standard	KBFLQC240-230V	9020-0332
	200...240 V 1~ 50/60 Hz -16,0 A	NEMA 6-20	Standard	KBFLQC240UL-240V	9020-0333

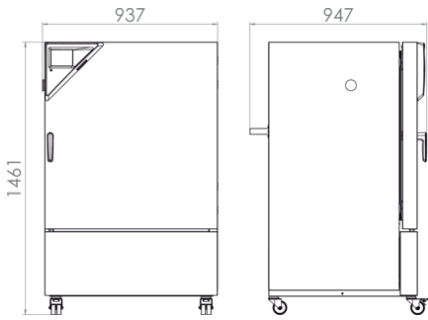
TECHNICAL DATA

Data		
Designation	KBFLQC240-230V	KBFLQC240UL-240V
Article Number	9020-0332	9020-0333
Option model	Standard	Standard
Performance Data Temperature		
Temperature range	0...70 °C	0...70 °C
Temperature range without illumination cassettes	0...70 °C	0...70 °C
Temperature range with 100% illumination	10...60 °C	10...60 °C
Max. heat compensation at 40°C with illumination	400 W	400 W
Performance Data Climate		
Temperature range with humidity and without illumination cassettes	10...70 °C	10...70 °C
Temperature range with humidity and 100% illumination	10...60 °C	10...60 °C
Humidity range without illumination cassettes	10...70 % RH	10...70 % RH
Humidity range with 100% illumination	...60 % RH	...60 % RH
Temperature fluctuation with illumination at 25°C and 60% RH	0.2 ± K	0.2 ± K
Humidity fluctuation with illumination at 25°C and 60% RH	1.5 % RH	1.5 % RH
Recovery time after door was opened for 30 s with illumination at 25°C and 60% RH	4 min	4 min
Recovery time after door was opened for 30 s with illumination at 40°C and 75% RH	6 min	6 min
Lightdata per Illumination Cassettes		
ICH compliant illumination for photo stability testing	7500 lx	7500 lx
ICH compliant illumination for photo stability testing	1,1 W/m ²	1,1 W/m ²
Electrical data		
Rated Voltage	200...230 V	200...240 V
Power frequency	50/60 Hz	50/60 Hz
Nominal power	2,4 kW	2,4 kW
Unit fuse	16,0 A	16,0 A
Phase (Nominal voltage)	1~	1~
Dimensions and weights		

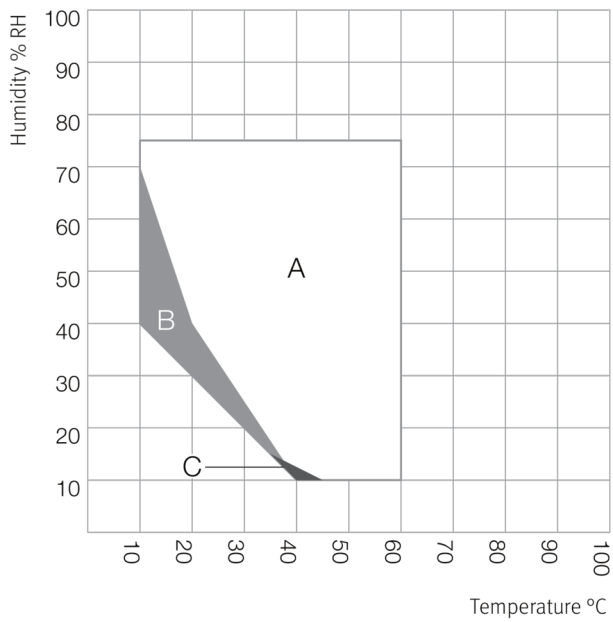
Interior volume	247 L	247 L
Net weight of the unit (empty)	217 kg	217 kg
Load per rack	30 kg	30 kg
Permitted load	100 kg	100 kg
Wall clearance back	100 mm	100 mm
Wall clearance sidewise	100 mm	100 mm
Housing dimensions not incl. fittings and connections		
Width net	925 mm	925 mm
Height net	1,460 mm	1,460 mm
Depth net	800 mm	800 mm
Internal Dimensions		
Interior width	650 mm	650 mm
Interior height	785 mm	785 mm
Interior depth	485 mm	485 mm
Inner doors	1	1
Unit doors	1	1
Environment-specific data		
Sound-pressure level	53 dB(A)	53 dB(A)
Energy consumption at 40°C and 75% RH	760 Wh/h	760 Wh/h
Fixtures		
Number of shelves (std./max.)	2/7	2/7
Number of illumination cassettes (std./max.)	2/2	2/2

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]



DIAGRAMS



- A: Guaranteed condensation-free range
- B: Time-limited operation (max. 24 hours)
- C: Deviations of technical data may be possible

Climate chart

OPTIONS

Designation	Description	KBF LQC 240	*	Art.-No.
	left			
	30 mm	•	01	8012-1443
	50 mm	•	01	8012-1473
	100 mm	•	01	8012-1340
Access port with silicone plug	right			
	30 mm	•	01	8012-1437
	50 mm	•	01	8012-1467
	100 mm	•	01	8012-1337

Designation	Description	KBF LQC 240	*	Art.-No.
	top			
	30 mm	•	01	8012-1449
	50 mm	•	01	8012-1455
	100 mm	•	01	8012-1461
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	•	-	8012-1759
Analog output 4-20 mA	for temperature and humidity values (output not adjustable)	•	-	8012-1734
Calibration certificate, expanded	for temperature and humidity; for extending the measurement in center of chamber to include another test value	•	-	8012-1189
Calibration certificate, temperature	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	-	8012-1563
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	-	8012-1584
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	-	8012-1604
Calibration certificate, temperature and humidity	Measurement in center of chamber at 25°C / 60% RH or at specified test values	•	-	8012-1183
	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	•	-	8012-1610
Class 3.3 independent temperature safety device	with visual alarm (DIN 12880)	•	-	8012-1752
Door lock	lockable door handle	•	-	8012-1658
Light photometry	including certificate, illumination and irradiance for visible light, 25 measuring points on 3 measurement levels, as well as spectral distribution (385 – 785 nm)	•	-	8012-0909
RS 485 interface, 2-wire	Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™	•	-	8012-1744

ACCESSORIES

Designation	Description	KBF LQC 240	*	Art.-No.
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units.			
	version 4, BASIC edition	•	–	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	•	–	9053-0042
APT-COM™ 4 PROFESSIONAL-Edition	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.			

Designation	Description	KBF LQC 240	*	Art.-No.
	version 4, PROFESSIONAL edition	•	-	9053-0040
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
Converter, voltage	to operate the device at a nominal voltage of 120 V 1 ph 60 Hz			
	240 V option model	•	-	8009-0821
Qualification documents	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, humidity, and light values			
	Digital in PDF format	•	-	7057-0007
	Hard copy inside folder	•	-	7007-0007
	IQ/OQ documents – supporting documents for validation performed by customers, consisting of: IQ/OQ checklists incl. calibration guide and comprehensive unit documentation; parameters: temperature, humidity, and light values			
	Digital in PDF format	•	-	7057-0003
	Hard copy inside folder	•	-	7007-0003
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
Rack	stainless steel	•	-	8012-2050
Rack, reinforced	stainless steel, with fasteners (1 set of 4)	•	-	8012-0638
Rack accessories	fasteners (1 set of 4) for additional security of racks	•	-	8012-2280
Shelf, perforated	Stainless steel	•	-	8012-2163
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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250

SERVICES

Designation	Description	*	Art.-No.
Calibration services			

Designation	Description	*	Art.-No.
Light photometry	including certificate, 25 measuring points on 3 measurement levels, intensity measurements for visible light and UVA, as well as spectral distribution (qualitative spectral measurements 250 – 785 nm)	–	DL30-0525
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	–	DL30-0302
	Temperature and humidity calibration with 1 measuring point in center of chamber with 1 specified pair of values, including certificate	–	DL30-0301
Temperature and humidity measurement, 9-1 measuring points	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	–	DL30-0309
Temperature and humidity measurement, 18-1 measuring points	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	–	DL30-0318
Temperature and humidity measurement, 27-1 measuring points	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	–	DL30-0327
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	–	DL30-0427
Installation services			
Unit commissioning	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)	–	DL10-0300
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	–	DL10-0700
Maintenance contracts			
BRONZE 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts	–	DL20-0710
GOLD 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature/humidity/pressure value, including certificate	–	DL20-0930
SILVER 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate	–	DL20-0820
Maintenance services			
Maintenance	One-off 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 usable space without certificate	–	DL20-0400
Validation services			
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	–	DL44-0500
Execution of IQ/OQ incl. light photometry	Execution of IQ/OQ including light photometry in accordance with qualification folder	–	DL43-0400
Warranty service			
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	–	DL50-0030

NOTES

01 Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.

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