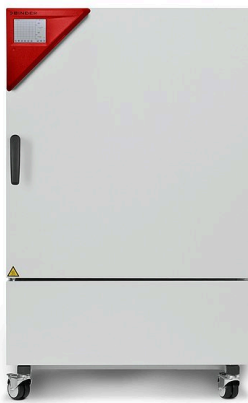


# Model KBF LQC 240 | Humidity test chambers with ICH-compliant light source and light dose control

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



Model 240

## MAIN FEATURES

- Temperature range: 0 °C to +70 °C
- Temperature range with light: +10 °C to +60 °C
- Humidity range: 10 % to 80 % RH
- 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
- 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 [cu.ft.]	Voltage	Option model	Version	Art.-No.
8.7	200...230 V 1~ 50/60 Hz	Standard	KBFLQC240-230V	9020-0332
	200...240 V 1~ 50/60 Hz	Standard	KBFLQC240UL-240V	9020-0333

**TECHNICAL DATA**

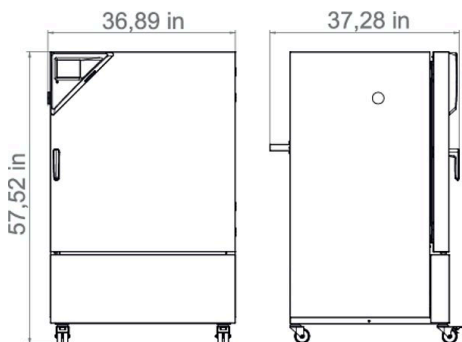
Description	KBFLQC240-230V <sup>1</sup>	KBFLQC240UL-240V <sup>1</sup>
<b>Article Number</b>	<b>9020-0332</b>	<b>9020-0333</b>
<b>Performance Data Temperature</b>		
Temperature range with 100% illumination [°C]	10...60	10...60
Temperature range without illumination cassettes [°C]	0...70	0...70
Max. heat compensation at 40 °C with illumination [W]	400	400
<b>Performance Data Climate</b>		
Temperature range with 100% illumination [°C]	10...60	10...60
Temperature range without illumination cassettes [°C]	10...70	10...70
Temperature variation with illumination at 25 °C and 60 % RH [± K]	0.6	0.6
Temperature variation with illumination at 40 °C and 75 % RH [± K]	0.6	0.6
Temperature fluctuation with illumination at 25 °C and 60 % RH [± K]	0.2	0.2
Temperature fluctuation with illumination at 40 °C and 75 % RH [± K]	0.2	0.2
Humidity range with illumination cassettes, with illumination [% RH]	10...75	10...75
Humidity range without illumination [% RH]	10...80	10...80
Humidity fluctuation with illumination at 25 °C and 60 % RH [± % RH]	1.5	1.5
Humidity fluctuation with illumination at 40 °C and 75 % RH [± % RH]	2	2
Recovery time after 30 seconds door open at 25 °C and 60 % RH with illumination [min]	4	4
Recovery time after 30 seconds door open at 40 °C and 75 % RH with illumination [min]	6	6
<b>Lightdata per Illumination Cassettes</b>		
ICH compliant illumination for photo stability testing [lx] <sup>*2</sup>	7500	7500
ICH compliant illumination for photo stability testing [W/m <sup>2</sup> ] <sup>*2</sup>	1.1	1.1
<b>Electrical data</b>		
Rated Voltage [V]	200...230	200...240
Power frequency [Hz]	50/60	50/60
Nominal power [kW]	2.4	2.4
Unit fuse [A]	16	16
Phase (Nominal voltage)	1~	1~
<b>Measures</b>		
Interior volume [cu.ft.]	8.7	8.7
Net weight of the unit (empty) [lbs]	478	478
Permitted load [lbs]	220	220
Load per rack [lbs]	66	66
Wall clearance back [in]	3.94	3.94
Wall clearance sidewise [in]	3.94	3.94
<b>Internal Dimensions</b>		
Width [in]	25.61	25.61
Height [in]	30.93	30.93
Depth [in]	19.11	19.11
<b>Doors</b>		
Inner doors	1	1
Unit doors	1	1

- 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.
- 2 Average value, measured at 25 °C with a spherical sensor (±10 %) by 12 cm below the light cassette. The values given in W/m<sup>2</sup> refer to global radiation.

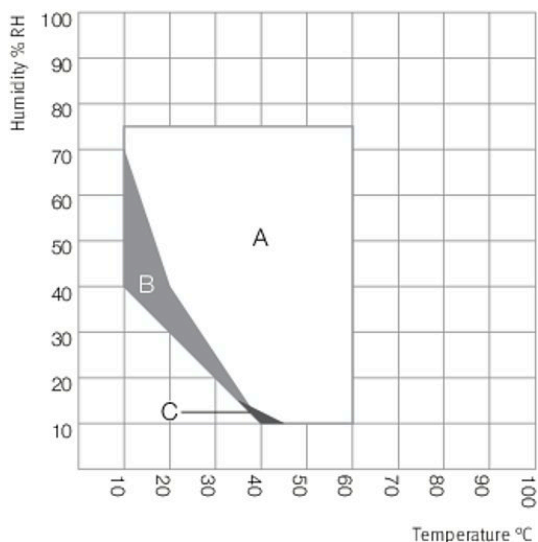
Description	KBFLQC240-230V <sup>1</sup>	KBFLQC240UL-240V <sup>1</sup>
Article Number	9020-0332	9020-0333
Housing dimensions not incl. fittings and connections		
Width net [in]	36.45	36.45
Height net [in]	57.5	57.5
Depth net [in]	31.52	31.52
Environment-specific data		
Energy consumption at 40 °C and 75 % RH [Wh/h]	760	760
Sound-pressure level [dB(A)]	53	53
Fixtures		
Number of shelves (std./max.)	2/7	2/7
Number of illumination cassettes (std./max.)	2/2	2/2

- 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.
- 2 Average value, measured at 25 °C with a spherical sensor (±10 %) by 12 cm below the light cassette. The values given in W/m2 refer to global radiation.

**DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]**



**CHARTS**



- 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	*	Art.-No.
<b>Access port with silicone plug</b>	left		
	30 mm	01	8012-1443
	50 mm	01	8012-1473
	100 mm	01	8012-1340
	right		
	30 mm	01	8012-1437
	50 mm	01	8012-1467
	100 mm	01	8012-1337
	top		
	30 mm	01	8012-1449
50 mm	01	8012-1455	
100 mm	01	8012-1461	
<b>Alarm output, zero-voltage</b>	for temperature ( $\pm 2$ °C) and humidity ( $\pm 5$ % RH), accessible via 6-pin DIN socket (max. 24 V - 2.5 A), with audible signal that can be switched off	-	8012-1759
<b>Analog output 4-20 mA</b>	for temperature and humidity values (output not adjustable)	-	8012-1734
<b>Calibration certificate, expanded</b>	for temperature and humidity; for extending the measurement in center of chamber to include another test value	-	8012-1189
<b>Calibration certificate, temperature</b>	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-1604
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-1584
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1563
<b>Calibration certificate, temperature and humidity</b>	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
<b>Class 3.3 independent temperature safety device</b>	with visual alarm (DIN 12880)	-	8012-1752
<b>Door lock</b>	lockable door handle	-	8012-1658
<b>Light photometry</b>	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
<b>RS 485 interface, 2-wire</b>	Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™	-	8012-1744

\* Notes › See last page

## ACCESSORIES

Designation	Description	*	Art.-No.
<b>BINDER PURE AQUA SERVICE</b>	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
<b>BINDER PURE AQUA SERVICE, accessories</b>	Single-use, replacement cartridge for BINDER PURE AQUA System	-	6011-0165
<b>Converter, voltage</b>	to operate the device at a nominal voltage of 120 V 1 ph 60 Hz		
	240 V option model	-	8009-0821
<b>Multi Management Software</b>	Multi Management Software APT-COM™		
	version 4, BASIC edition	-	9053-0039
	version 4, GLP edition	-	9053-0042
	version 4, PROFESSIONAL edition	-	9053-0040
<b>pH-neutral detergent</b>	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016

\* Notes › See last page

Designation	Description	*	Art.-No.
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, humidity, and light values		
	Digital in PDF format	–	7057-0003
	Hard copy inside folder	–	7007-0003
	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
Rack	stainless steel	–	8012-2050
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
Shelf, perforated	Stainless steel	–	6004-0040
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
WLAN kit	The kit contains a client bridge that establishes a wireless connection between BINDER units and APT-COM4, LIMS, or customer-specific software via an Ethernet interface. It provides an alternative solution in situations where units need to be positioned in locations without an on-site Ethernet connection. In secured networks, installation and configuration must be performed by the customer's IT service.	–	8500-0164

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
<b>Installation services</b>			
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
<b>Maintenance services</b>			
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	05	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	05	DL20-0930
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	05	DL20-0400
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	05	DL20-0820
<b>Calibration services</b>			
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)	03, 04, 05	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	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

\* Notes › See last page

Designation	Description	*	Art.-No.
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
<b>Validation services</b>			
Execution of IQ/OQ incl. light photometry	Execution of IQ/OQ including light photometry in accordance with qualification folder	05	DL43-0400
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	05	DL44-0500
<b>Warranty service</b>			
Warranty extension from 2 to 3 years	The warranty is extended by 1 year from the delivery date, wear parts are excluded	-	DL50-0030

\* 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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