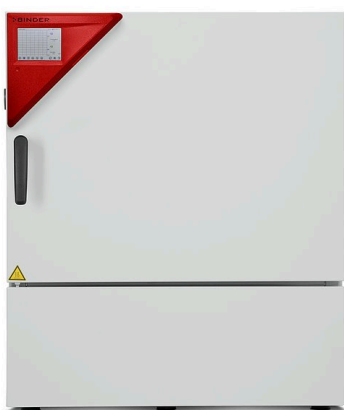


# Model KBF 115 | Humidity test chambers with large temperature / humidity range

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 115

## 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

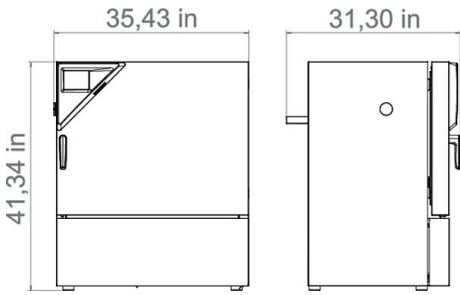
Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
3.6	200...230 V 1~ 50/60 Hz	Standard	KBF115-230V	9020-0320
	200...240 V 1~ 50/60 Hz	Standard	KBF115UL-240V	9020-0321

**TECHNICAL DATA**

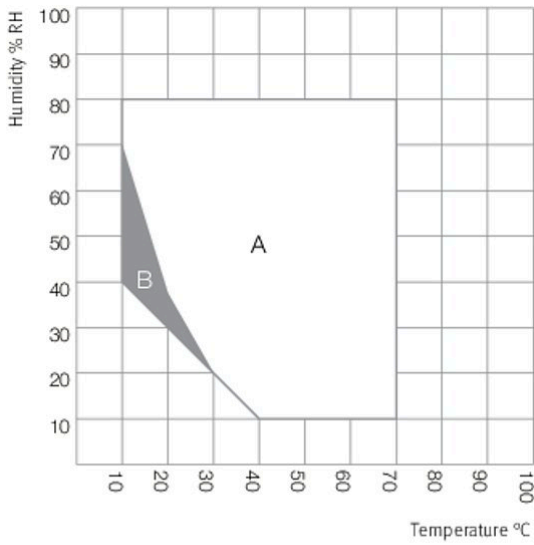
Description	KBF115-230V <sup>1</sup>	KBF115UL-240V <sup>1</sup>
Article Number	9020-0320	9020-0321
<b>Performance Data Temperature</b>		
Temperature range	0...70	0...70
Temperature variation at 40 °C [± K]	0.2	0.2
Temperature fluctuation [± K]	0.1	0.1
Max. heat compensation at 40 °C [W]	200	200
<b>Performance Data Climate</b>		
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	±2 ± % RH	±2 ± % RH
Humidity fluctuation at 40 °C and 75 % RH	±2 ± % RH	±2 ± % RH
Humidity recovery time after 30 s door open at 25 °C and 60 % RH [min]	6	6
Humidity recovery time after 30 s door open at 40 °C and 75 % RH [min]	7	7
<b>Electrical data</b>		
Rated Voltage [V]	200...230	200...240
Power frequency [Hz]	50/60	50/60
Nominal power [kW]	0	0
Unit fuse [A]	16	16
Phase (Nominal voltage)	1~	1~
<b>Measures</b>		
Interior volume [cu.ft.]	3.6	3.6
Net weight of the unit (empty) [lbs]	282	282
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]	23.64	23.64
Height [in]	19.03	19.03
Depth [in]	13.83	13.83
<b>Doors</b>		
Inner doors	1	1
Unit doors	1	1
<b>Housing dimensions not incl. fittings and connections</b>		
Width net [in]	34.67	34.67
Height net [in]	41.4	41.4
Depth net [in]	25.61	25.61
<b>Environment-specific data</b>		
Energy consumption at 40 °C and 75 % RH [Wh/h]	470	470
Sound-pressure level [dB(A)]	52	52
<b>Fixtures</b>		
Number of shelves (std./max.)	2/5	2/5

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]**

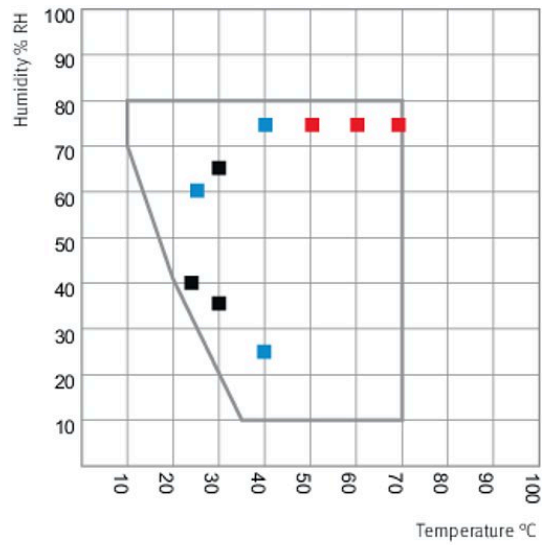


**CHARTS**



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.
<b>Calibration certificate, temperature</b>	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-0923
	additional flexible Pt 100, interior, for displaying the temperature on the unit display	-	8012-1042
<b>Options/Accessories</b>	Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™	-	8012-1066
	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	-	8012-1036
	for temperature and humidity values (output not adjustable)	-	8012-1039
	for temperature and humidity; for extending the measurement in center of chamber to include another test value	-	8012-0155
	left		
	30 mm	01	8012-1442
	50 mm	01	8012-1472
	100 mm	01	8012-0515
	lockable door handle	-	8012-1023
	Measurement in center of chamber at 25 °C / 60% RH or at specified test values	-	8012-0154
	right		
	30 mm	01	8012-1436
	50 mm	01	8012-1466
	100 mm	01	8012-0514
	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
	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
	to operate the device at a nominal voltage of 120 V 1 ph 60 Hz		
	240 V option model	-	8009-0821
	top		
30 mm	01	8012-1448	
50 mm	01	8012-1454	
100 mm	01	8012-1460	
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	
with visual alarm (DIN 12880)	-	8012-1032	

\* Notes › See last page

**ACCESSORIES**

Designation	Description	*	Art.-No.
<b>Multi Management Software</b>	Multi Management Software APT-COM™		
	version 4, BASIC edition	19	9053-0039
	version 4, GLP edition	19	9053-0042
	version 4, PROFESSIONAL edition	19	9053-0040

\* Notes › See last page

Designation	Description	*	Art.-No.
	Stainless steel	-	6004-0115
	stainless steel	-	6004-0112
	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
	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
	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
	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
	fasteners (1 set of 4) for additional security of racks	-	8012-0620
	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
<b>Options/Accessories</b>	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	-	7057-0006
	Hard copy inside folder	-	7007-0006
	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	19	8012-0821
	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
	Single-use, replacement cartridge for BINDER PURE AQUA System	-	6011-0165
	stainless steel, with fasteners (1 set of 4)	-	8012-0700
	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
	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

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
<b>Installation services</b>			
	Unit function instructions for operation and programming of the controller	18	DL10-0700
Services	Unpacking and setting up of unit, connecting to existing connections, and checking function	13, 18	DL10-0300
<b>Preventive maintenance</b>			
Services	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0400

\* Notes › See last page

Designation	Description	*	Art.-No.
<b>Calibration services</b>			
	Expansion – including certificate, each additional measuring point in center of chamber at 25 °C / 60% RH or at specified values	14, 16, 17, 18	DL30-0302
	Temperature and humidity calibration with 1 measuring point in center of chamber with 1 specified pair of values, including certificate	14, 16, 17, 18	DL30-0301
<b>Services</b>	Temperature measurement in accordance with DIN 12880 with 27 temperature measuring points and 1 humidity measuring point in center of chamber at specified values, including certificate	14, 16, 17, 18	DL30-0427
	Temperature measurement with 18 temperature measuring points and 1 humidity measuring point in center of chamber with 1 specified pair of values, including certificate	14, 16, 17, 18	DL30-0318
	Temperature measurement with 27 temperature measuring points and 1 humidity measuring point in center of chamber with 1 specified pair of values, including certificate	14, 16, 17, 18	DL30-0327
	Temperature measurement with 9 temperature measuring points and 1 humidity measuring point in center of chamber at specified values, including certificate	14, 16, 17, 18	DL30-0309
<b>Validation services</b>			
<b>Services</b>	Execution of IQ/OQ in accordance with qualification folder	15, 18	DL42-0300
	Execution of IQ/OQ/PQ in accordance with qualification folder	15, 18	DL44-0500
<b>Warranty service</b>			
<b>Services</b>	The warranty is extended from 2 to 3 years from the delivery date, wear parts are excluded	–	DL01-4041
	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 Heat resistant only to max. 200 °C.
- 04 Only available on units rated for 230 V.
- 07 The additional heat input may affect the temperature behavior.
- 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 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.

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