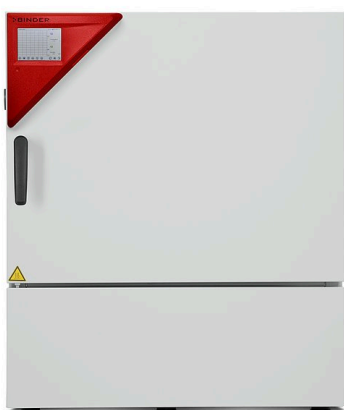


Model KMF 115 | Humidity test chambers with expanded temperature / humidity range

The BINDER KMF ensures absolutely constant test conditions throughout the testing area. A big advantage of this humidity test chamber is its low space requirement and flexibility in terms of water supply. The wide temperature and humidity range make this humidity test chamber ideally suited for stress testing series.

BENEFITS

- Homogeneous climate conditions thanks to APT.line™ technology
- Automatic water and wastewater management
- Humidification with fast response times
- Wide humidity range up to 98 % RH
- Long-term stress testing, e.g. at 85 °C / 85 % RH



Model 115

MAIN FEATURES

- Temperature range: -10 °C to 100 °C
- Humidity range: 10 % RH to 98 % RH
- 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
- 1 stainless steel rack
- Access port with silicone plug, 30 mm, left
- Class 3.1 independent temperature safety device (DIN 12880) with visual and audible temperature alarm
- Computer interface: Ethernet
- Door heating

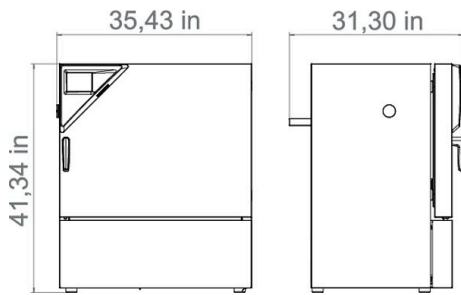
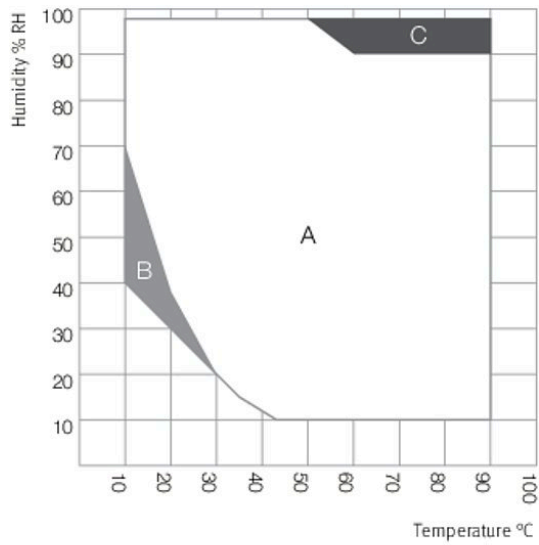
ORDERING INFORMATION

Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
3.6	200...230 V 1~ 50/60 Hz	Standard	KMF115-230V	9020-0341
	200...240 V 1~ 50/60 Hz	Standard	KMF115-240V	9020-0342

TECHNICAL DATA

Description	KMF115-230V ¹	KMF115-240V ¹
Article Number	9020-0341	9020-0342
Performance Data Temperature		
Temperature range	-10...100	-10...100
Average heating-up rate according to IEC 60068-3-5 [K/min]	1.3	1.3
Average cooling down time according to IEC 60068-3-5 [K/min]	0.5	0.5
Max. heat compensation at 25 °C [W]	150	150
Performance Data Climate		
Temperature range [°C]	10...90	10...90
Temperature variation depending on setpoint [± K]	0.2...1	0.2...1
Temperature fluctuation depending on setpoint [± K]	0.1...0.3	0.1...0.3
Humidity range [% RH]	10...98	10...98
Humidity fluctuation depending on setpoint	≤2,5 ± % RH	≤2,5 ± % RH
Dew point temperature range [°C]	50...90	50...90
Electrical data		
Rated Voltage [V]	200...230	200...240
Power frequency [Hz]	50/60	50/60
Nominal power [kW]	2	2
Unit fuse [A]	16	16
Phase (Nominal voltage)	1~	1~
Measures		
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
Internal Dimensions		
Width [in]	23.64	23.64
Height [in]	19.03	19.03
Depth [in]	13.83	13.83
Doors		
Inner doors	1	1
Unit doors	1	1
Housing dimensions not incl. fittings and connections		
Width net [in]	34.67	34.67
Height net [in]	41.4	41.4
Depth net [in]	25.61	25.61
Environment-specific data		
Energy consumption at 85 °C and 85 % RH [Wh/h]	570	570
Sound-pressure level [dB(A)]	52	52
Fixtures		
Number of shelves (std./max.)	1/5	1/5

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 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)
- C: Condensation in the inner chamber may be possible

Climate chart

OPTIONS

Designation	Description	*	Art.-No.
Calibration certificate, temperature	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-1606
	additional flexible Pt 100, interior, for displaying the temperature on the unit display	-	8012-1682
	Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™	-	8012-1712
	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	-	8012-1676
	for temperature and humidity values (output not adjustable)	-	8012-1679
	for temperature and humidity; for extending the measurement in center of chamber to include another test value	-	8012-1191
	left		
	30 mm	01	8012-1446
	50 mm	01	8012-1476
	100 mm	01	8012-1342
	lockable door handle	-	8012-1660
	Measurement in center of chamber at 25 °C / 60% RH or at specified test values	-	8012-1185
	Options/Accessories	right	
30 mm		01	8012-1440
50 mm		01	8012-1470
100 mm		01	8012-1339
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		-	8012-1612
temperature measurement incl. certificate, 15- 18 measuring points at specified temperature		-	8012-1586
temperature measurement incl. certificate, 9 measuring points at specified temperature		-	8012-1565
top			
30 mm		01	8012-1452
50 mm		01	8012-1458
100 mm		01	8012-1464
with visual alarm (DIN 12880)		-	8012-1673

* Notes › See last page

ACCESSORIES

Designation	Description	*	Art.-No.
Multi Management Software	Multi Management Software APT-COM™		
	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
Options/Accessories	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 100/70: For continuous temperature and humidity logging from -40 °C to 100 °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	8012-1838
	TH 100: For continuous temperature and humidity logging from -50 °C to 100 °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	8012-1837

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Installation services			
	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
Preventive maintenance			
Services	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0400

* Notes › See last page

Designation	Description	*	Art.-No.
Calibration services			
	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
	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
Services	Temperature measurement with 15 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0218
	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
Validation services			
Services	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
Warranty service			
Services	The warranty is extended from 2 to 3 years from the delivery date, wear parts are excluded	–	DL02-4041
	The warranty is extended from 2 to 5 years from the delivery date, wear parts are excluded	–	DL02-4042

* 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.

BINDER GmbH

Tuttlingen, Germany
TEL +49 7462 2005 0
FAX +49 7462 2005 100
info@binder-world.com
www.binder-world.com

BINDER Asia Pacific (Hong Kong) Ltd.

Kowloon, Hong Kong, P.R. China
TEL +852 39070500
FAX +852 39070507
asia@binder-world.com
www.binder-world.com

Representative Office for CIS

Moscow, Russia
TEL +7 495 988 15 16
FAX +7 495 988 15 17
russia@binder-world.com
www.binder-world.com

**BINDER Environmental Testing
Equipment (Shanghai) Co., Ltd.**

Shanghai, P.R. China
TEL +86 21 685 808 25
FAX +86 21 685 808 29
china@binder-world.com
www.binder-world.com

BINDER Inc.

Bohemia, NY, USA
TEL +1 631 224 4340
FAX +1 631 224 4354
usa@binder-world.com
www.binder-world.us