

Constant climate chambers



Always the right climate
KBF | KBF P | KBF LQC | KMF series



TABLE OF CONTENTS

Advantages	4
Constant climate chambers with large temperature / humidity range – KBF	6
Constant climate chambers	
with ICH-compliant light source and light dose control – KBF P, KBF LQC	8
Constant climate chambers with expanded temperature / humidity range – KMF	10



PRECISE CLIMATE CONDITIONS



FRESH WATER AND CONDENSATION MANAGEMENT



FAST AND PRECISE HUMIDIFICATION



HOMOGENEOUS LIGHT DISTRIBUTION

**MADE IN
GERMANY**

Always the right climate

Research and quality assurance is solely focused on the optimization and monitoring of the performance standards as well as the functions and service life of materials, products and systems. A climate chamber is expected to simulate the effects of temperature, humidity, and light on the chemical and physical behavior of the test material in a reproducible manner.

With these specific requirements in mind, BINDER offers a range of constant climate chambers providing innovative technical solutions and comprehensive equipment options for testing specimens both safely and reliably. For special technical requirements, users can also rely on the individually tailored solutions from BINDER INDIVIDUAL.

The one-stop solution

Constant climate chambers from BINDER

NO RISK OF ELECTROCHEMICAL CORROSION

- The inner chamber and all fixtures are made entirely from stainless steel



FLEXIBLE FRESH WATER AND CONDENSATION MANAGEMENT

- Standard connection to the domestic water supply
- Optional external water supply set
- Sewage pump integrated as standard for discharges of up to 1 m in height
- Connection option for the BINDER Pure Aqua Service in order to provide the required water quality

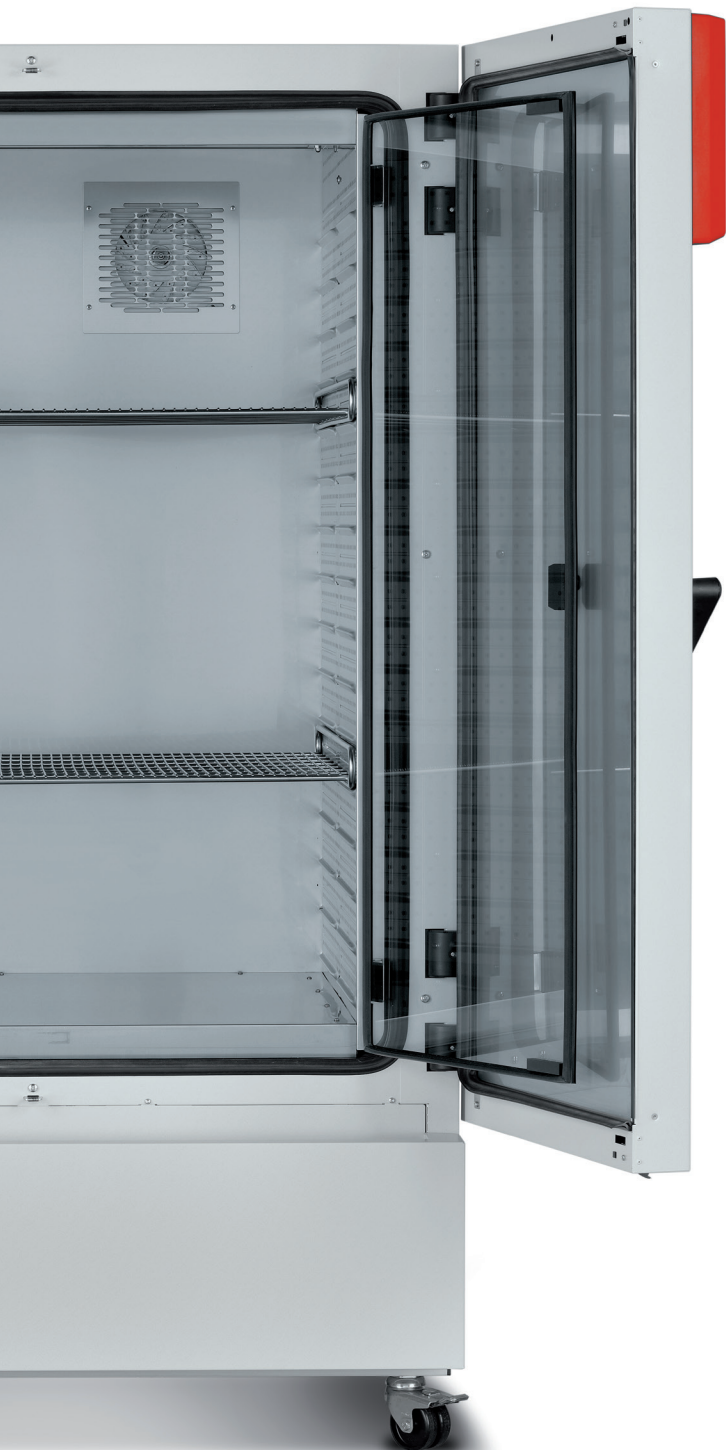


EXCEPTIONAL AMBIENT TEMPERATURE DISTRIBUTION

- BINDER APT.line™ preheating chamber technology
- Homogeneous climate conditions throughout test specimens



KBF 1020



ACCURATE HUMIDITY CONTROL

- Capacitive humidity sensor
- Fast-reacting, hot-steam humidification with long-life steam humidification system
- Patented humidification system
- Self-cleaning (KBF P, KBF LQC)



CONDENSATION-FREE OPERATION

- Even at high temperatures and humidity levels thanks to an extended climate range of up to 98 % RH. (KMF)

HOMOGENEOUS LIGHT DISTRIBUTION OVER THE ENTIRE USABLE SPACE (KBF P, KBF LQC)

- ICH-Q1 B Option 2 compliant light spectrum with BINDER Synergy Light™
- Variable positionable and removable illumination cassettes



PRECISE LIGHT MEASUREMENT WITH LQC LIGHT QUANTUM CONTROL™ (KBF LQC)

- Ball-type sensors capture the light quantity
- Can be flexibly placed next to the test material
- Automatically switches off after reaching the required light dosage



KBF series

The long-term, constant climate conditions of BINDER constant climate chambers are impressive. The KBF series is ideal for standard-compliant work according to ICH guidelines. As an inexpensive alternative to using multiple types of climate chambers, the BINDER constant climate chambers can be used for a number of applications.



KBF 240

STANDARD FEATURES

- Temperature range: 0 to 70 °C
- Humidity range: 10 to 80 % RH
- APT.line™ preheating chamber technology
- Humidity regulation with capacitive humidity sensor and steam humidification
- 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 KBF 240
- Class 3.1 independent temperature safety device (DIN 12880) with visual and audible temperature alarm
- Computer interface: Ethernet
- Door heating

ONLINE DATA SHEETS

Model KBF 115

› go2binder.com/en-KBF115

Model KBF 240

› go2binder.com/en-KBF240

Model KBF 720

› go2binder.com/en-KBF720

Model KBF 1020

› go2binder.com/en-KBF1020

EXCERPT FROM OPTIONS AND ACCESSORIES



Data Logger Kits
Various different systems for recording temperature and humidity values.



BINDER Pure Aqua Service
System for preparation or complete desalination of tap water, containing single-use cartridge, hoses, and measuring device.



External water supply set
Consisting of fresh water and waste water containers (20 liters each), cabling, and pump.



IQ/OQ qualification folder
Supporting documents for validation performed by customer, consisting of: IQ/OQ checklists, unit schematics, and QM certificate in accordance with ISO 9001

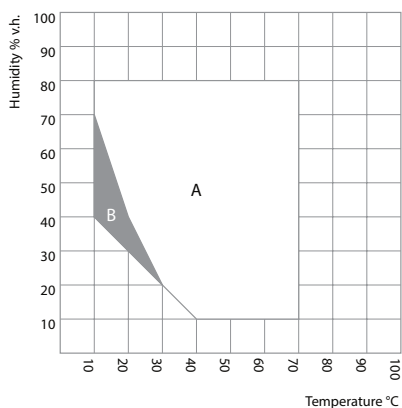
For comprehensive information on the series, visit: www.binder-world.com

TECHNICAL DATA KBF SERIES

Description	KBF 115	KBF 240	KBF 720	KBF 1020
Basic data				
Interior volume [L]	102	247	700	1020
Net weight of the unit (empty) [kg]	129	184	309	365
permitted load [kg]	100	100	150	150
Load per rack [kg]	30	30	45	45
Housing dimensions - W x H x D [mm]	880 x 1.050 x 650	925 x 1.460 x 800	1.250 x 1.925 x 890	1.250 x 1.925 x 1.145
Internal Dimensions - W x H x D [mm]	600 x 483 x 351	650 x 785 x 485	973 x 1250 x 576	976 x 1250 x 836
Technical data: Temperature				
Temperature range [°C]	0...70	0...70	0...70	0...70
Temperature variation at 40 °C [± K]	0,2	0,3	0,2	0,2
Temperature fluctuation [± K]	0,1	0,1	0,1	0,5
Recovery time after door was opened for 30 sec. at 40 °C and 75 % RH [min]	8	5	6	12
Technical data: Climate				
Temperature range [°C]	10...70	10...70	10...70	10...70
Temperature variation at 40 °C and 75 % RH [± K]	0,2	0,3	0,2	0,2
Temperature fluctuation at 40 °C and 75 % RH [± K]	0,1	0,1	0,1	0,1
Humidity range [% RH]	10...80	10...80	10...80	10...80
Humidity fluctuation at 40 °C and 75 % RH [± % r.F.]	≤2	1,5	1,5	1,5
Electrical data				
Rated Voltage [V]	200...230	200...300	200...300	200...230
Power frequency [Hz]	50/60	50/60	50/60	50/60
Nominal power [kW]	2	2,1	3,1	3,1
Phase (Nominal voltage)	1 ~	1 ~	1 ~	1 ~
Fixtures				
Number of shelves (standard/maximum)	2/5	2/9	2/15	2/15

We reserve the right to alter technical specifications at any time.

TEMPERATURE-HUMIDITY CHART KBF SERIES



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

KBF P | KBF LQC series

BINDER's constant climate chambers with ICH-compliant illumination provide impressive long-term constant climate and illumination values. With the patented Light Quantum Control™ (LQC), they offer a complete and reliable solution for photostability testing in one chamber.



KBF LQC 240

STANDARD FEATURES

- Temperature range with light: 10 to 60 °C
- Humidity range: 10 to 75 % RH
- APT.line™ preheating chamber technology
- Model 240/720: 2/3 positionable illumination cassettes with ICH-compliant UVA/visible light
- Independent light-dose control of UV-A and visible light with spherical sensors (KBF LQC)
- Humidity regulation with capacitive humidity sensor and steam humidification
- Controller with time-segment programming
- Tightly sealed inner door made of tempered safety glass
- 2/3 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

ONLINE DATA SHEETS

Model KBF P 240

› go2binder.com/en-KBFP240

Model KBF P 720

› go2binder.com/en-KBFP720

Model KBF LQC 240

› go2binder.com/en-KBFLQC240

Model KBF LQC 720

› go2binder.com/en-KBFLQC720

EXCERPT FROM OPTIONS AND ACCESSORIES



Data Logger Kits
Various different systems for recording temperature and humidity values.



BINDER Pure Aqua Service
System for preparation or complete desalination of tap water, containing single-use cartridge, hoses, and measuring device.



External water supply set
Consisting of fresh water and waste water containers (20 liters each), cabling, and pump.



IQ/OQ qualification folder
Supporting documents for validation performed by customer, consisting of: IQ/OQ checklists, unit schematics, and QM certificate in accordance with ISO 9001



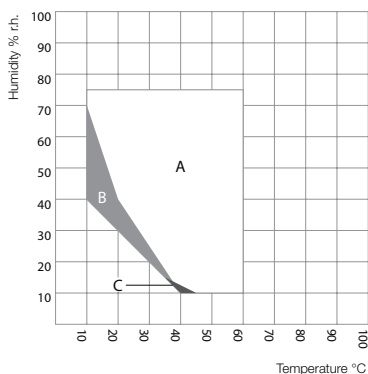
For comprehensive information on the series, visit: www.binder-world.com

TECHNICAL DATA KBF P, KBF LQC SERIES

Description	KBF P 240	KBF P 720	KBF LQC 240	KBF LQC 720
Basic data				
Interior volume [L]	247	700	247	700
Net weight of the unit (empty) [kg]	213	374	213	374
permitted load [kg]	100	150	100	150
Load per rack [kg]	30	45	30	45
Housing dimensions - W x H x D [mm]	925 x 1.460 x 800	1.250 x 1.925 x 890	925 x 1.460 x 800	1.250 x 1.925 x 890
Internal Dimensions - W x H x D [mm]	650 x 785 x 485	973 x 1250 x 576	650 x 785 x 485	973 x 1250 x 576
Technical data: Temperature				
Temperature range without illumination cassettes [°C]	0...70	0...70	0...70	0...70
Temperature range with illumination cassettes with illumination [°C]	10...60	10...60	10...60	10...60
Recovery time after door was opened for 30 sec. at 40 °C and 75 % RH with illumination [min]	4	5	4	5
Technical data: Climate				
Temperature range without illumination cassettes [°C]	10...70	10...70	10...70	10...70
Temperature range with illumination cassettes with illumination [°C]	10...60	20...60	10...60	20...60
Temperature variation with illumination at 40 °C and 75 % RH [± K]	0,6	1,2	0,6	1,2
Temperature fluctuation with illumination at 40 °C and 75 % RH [± K]	0,2	0,2	0,2	0,2
Humidity range without illumination cassettes [% RH]	10...80	10...80	10...80	10...80
Humidity range with illumination cassettes, with illumination [% RH]	10...75	10...75	10...75	10...75
Humidity fluctuation with illumination at 40 °C and 75 % RH [±% RH]	2	2	2	2
Illumination data per illumination cassette				
ICH-compliant illumination (visible light) [lx]	7.500	8.750	7.500	8.750
ICH-compliant illumination (UVA) [W/m²]	1,1	1,6	1,1	1,6
Electrical data				
Rated Voltage [V]	200...230	200...230	200...230	200...230
Power frequency [Hz]	50	50	50	50
Nominal power [kW]	2.4	3.5	2.4	3.5
Phase (Nominal voltage)	1~	1~	1~	1~
Fixtures				
Number of shelves (standard/maximum)	2/7	3/12	2/7	3/12
Number of illumination cassettes (standard/maximum)	2/2	3/3	2/2	3/3

We reserve the right to alter technical specifications at any time.

KBF P / LQC 240 TEMPERATURE-HUMIDITY CHART (WITH LIGHT)

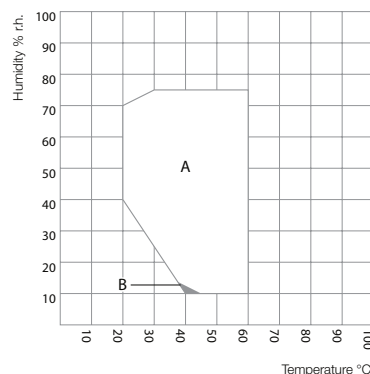


A: Guaranteed condensation-free range

B: Time-limited operation (max. 24 hours)

C: Area where deviations in the technical data may be possible

KBF P / LQC 720 TEMPERATURE-HUMIDITY CHART (WITH LIGHT)



A: Guaranteed condensation-free range

B: Time-limited operation (max. 24 hours)

KMF series

BINDER's constant climate chambers with expanded temperature / humidity range ensure absolutely constant test conditions throughout the testing area during stress tests. In addition to the exceptionally broad temperature range of -10 to 100 °C, the KMF series features enormous power reserves in the humidity range of up to 98% RH. Ideal for meeting the test standards of the electronics industry as well as many other areas of application.



KMF 240

STANDARD FEATURES

- Temperature range: -10 to 100 °C
- Extended humidity range: 10 to 98% RH
- APT.line™ preheating chamber technology
- Humidity regulation with capacitive humidity sensor and steam humidification
- Inner chamber made of stainless steel
- Controller with time-segment programming
- Tightly sealed inner door made of tempered safety glass
- 1 stainless steel racks
- 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

ONLINE DATA SHEETS

Model KMF 115

› go2binder.com/en-KMF115

Model KMF 240

› go2binder.com/en-KMF240

Model KMF 720

› go2binder.com/en-KMF720

EXCERPT FROM OPTIONS AND ACCESSORIES



Data Logger Kits

Various different systems for recording temperature and humidity values.



BINDER Pure Aqua Service

System for preparation or complete desalination of tap water, containing single-use cartridge, hoses, and measuring device.



External water supply set

Consisting of fresh water and waste water containers (20 liters each), cabling, and pump.



IQ/OQ qualification folder

Supporting documents for validation performed by customer, consisting of: IQ/OQ checklists, unit schematics, and QM certificate in accordance with ISO 9001



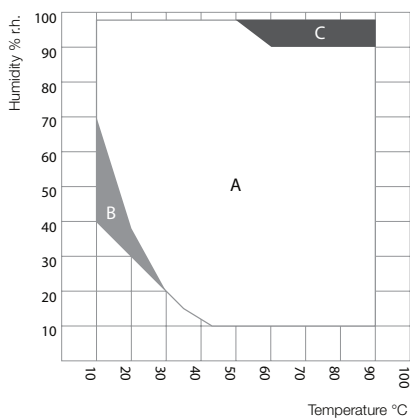
For comprehensive information on the series, visit: www.binder-world.com

TECHNICAL DATA KMF SERIES

Description	KMF 115	KMF 240	KMF 720
Basic data			
Interior volume [L]	102	247	700
Net weight of the unit (empty) [kg]	127	179	295
permitted load [kg]	100	100	150
Load per rack [kg]	30	30	45
Housing dimensions - W x H x D [mm]	880 x 1.050 x 650	930 x 1.465 x 800	1.250 x 1.925 x 890
Internal Dimensions - W x H x D [mm]	600 x 483 x 351	650 x 785 x 485	973 x 1250 x 576
Technical data: Temperature			
Temperature range [°C]	-10...100	-10...100	-10...100
Mean warm-up rate acc. to IEC 60068-3-5 [K/min]	1,3	0,8	1
Mean cooling rate acc. to IEC 60068-3-5 [K/min]	0,5	0,4	0,4
Technical data: Climate			
Temperature range [°C]	10...90	10...90	10...90
Temperature variation [± K]	0,2...1	0,1...1	0,2...1
Temperature fluctuation [± K]	0,1...0,3	0,1...0,3	0,1...0,5
Humidity range [% RH]	10...98	10...98	10...98
Humidity fluctuation [± % RH]	≤2,5	≤2	≤2
Electrical data			
Rated Voltage [V]	200...230	200...230	200...230
Power frequency [Hz]	50/60	50/60	50/60
Nominal power [kW]	2	2.1	3.1
Phase (Nominal voltage)	1~	1~	1~
Fixtures			
Number of shelves (standard/maximum)	1/5	1/9	1/15

We reserve the right to alter technical specifications at any time.

KMF SERIES TEMPERATURE-HUMIDITY CHART



A: Control range of temperature and relative humidity

B: Discontinuous area (no continuous operation)

C: Area where condensation in the inner chamber may be possible



BINDER GmbH
Tuttlingen, Germany

Tel +49 7462 2005 0
Fax +49 7462 2005 100
info@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.ru

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

BINDER Inc.
Bohemia, NY, USA

Tel +1 631 224 4340
Fax +1 631 224 4354
usa@binder-world.com
www.binder-world.us

**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