



Constant climate testing

KBF series

Proven superior: Constant climate chambers

- ▶ Proven precision
 - ▶ Double-sided horizontal air flow for maximum parameter uniformity
 - ▶ Automatic water and wastewater management
 - ▶ Responsive vapor pressure humidification
 - ▶ Powerful cooling system for safe operation up to 32 °C ambient temperature
 - ▶ Stability tests according to ICH guideline Q1A(R2)
- ▶ Proven documentation
 - ▶ Documentation in support of GMP/GLP compliance
 - ▶ FDA-compliant software APT-COM™
 - ▶ IQ, OQ, PQ validation documentation

The long-term constant temperature and humidity values of BINDER constant climate chambers are impressive. The KBF series is ideal for norm-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.



Basic research



Pharmaceutical industry



Cosmetic industry

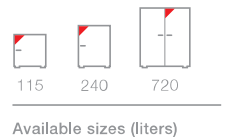
Constant climate chambers

KBF Series

The KBF is the specialist for reliable stability testing and precise maintenance of constant climatic conditions. From programming to documentation, it meets all important guidelines such as ICH, FDA, GMP and GLP. With its high capacity reserves, automatic water and wastewater management and many options, the BINDER KBF is well prepared for the future.



► KBF 240 model



► EQUIPMENT

- Temperature range from 0 °C to 70 °C (without humidity)
- Humidity range: 10 % to 80 % r. H.
- MCS controller which can store 25 programs of 100 sections each for a maximum of 500 program segments
- User-friendly LCD color screen
- Easy-to-read menu guidance
- Integrated electronic chart recorder
- Variety of options for the graphic display of process parameters
- Real-time clock
- Electronically controlled humidification and dehumidification system with capacitive humidity sensor
- Suitable for stability tests according to ICH guideline Q1A(R2)
- Inner glass door with seal
- Independent temperature safety device class 3,1 (DIN 12880) with visual and audible alarm
- Access port with silicone plug Ø 30 mm, left side
- Complete safety connection kit for water supply and drainage, up to 1 m high
- Ethernet interface for communication software APT-COM™ DataControlSystem
- Two shelves, stainless steel



► KBF SERIES | BEST TEST RESULTS:



Precise climate conditions

- APT.line™ preheating chamber
 - Constant and gentle circulation of air through large-surface side walls even under a full load
 - Homogeneous climate conditions throughout test specimens



Flexible water management

- Sewage pump for discharges up to 1 m high
- Solutions independent of installation sight
- Water treatment with BINDER PURE AQUA SERVICE
- External water supply



Fast and precise humidification

- Vapor pressure humidification with fast response times
- Drift-free, capacitive humidity sensor
- Short recovery times after door opening
- Finely adjustable humidity control



Comprehensive additional services

- Data Logger Kits
- Years of experience with recognized validation materials and documents
- Customer-specific modifications



Norm-compliant work

- Meets all ICH-relevant requirements in accordance with ICH Q1A(R2)
- Documentation and software FDA compliant

► OPTIONS

- Access ports of various diameters with silicone plug
- Shelves, stainless steel
- Perforated shelf, stainless steel
- Reinforced rack, stainless steel
- Lockable controller keyboard
- Interior lighting
- Waterproof interior socket 230 V AC
- Additional PT 100 temperature sensor
- RS 422 interface
- External water supply set
- BINDER PURE AQUA SERVICE
- Calibration certificate and extension to calibration certificate
- Measurement of temperature accuracy according to DIN 12880
- Data Logger Kit and software
- Independent temperature safety device class 3,3 (DIN 12880)
- Analog outputs 4 – 20 mA for temperature and humidity measurements
- Isolated alarm outputs for temperature and humidity
- Door lock



Data Logger Kits



BINDER PURE AQUA SERVICE water treatment system



External water supply



Climate chamber with full-view glass door and manual access ports

► BINDER
INDIVIDUAL
More information
on page 133

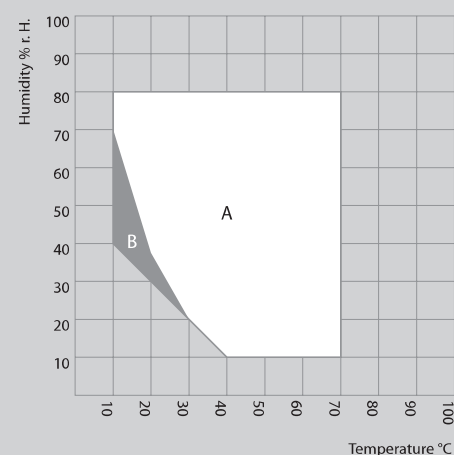
Technical data for your planning and installation

KBF series



	KBF 115	KBF 240	KBF 720
Exterior dimensions			
Width (mm/inch)	885 / 34.84	930 / 36.61	1255 / 49.41
Height (including feet/casters) (mm/inch)	1050 / 41.34	1460 / 57.48	1925 / 75.79
Depth (mm/inch)	650 / 25.59	800 / 31.50	890 / 35.04
including door handle, I-triangle, connection (mm/inch)	730 / 28.74	880 / 34.65	970 / 38.19
Quantity of doors / Quantity of inner glass doors	1 / 1	1 / 1	2 / 2
Interior dimensions			
Width (mm/inch)	600 / 23.62	650 / 25.59	973 / 38.31
Height (mm/inch)	483 / 19.02	785 / 30.91	1250 / 49.21
Depth (mm/inch)	351 / 13.82	485 / 19.09	576 / 22.68
Interior volume (l/cu.ft.)	102 / 3.60	247 / 8.73	700 / 24.73
Quantity of racks (standard/max.)	2 / 5	2 / 9	2 / 15
Load per rack (kg/lbs.)	30 / 66	30 / 66	45 / 99
Permitted total load (kg/lbs.)	100 / 221	100 / 221	150 / 331
Weight (empty) (kg/lbs.)	129 / 285	184 / 406	309 / 682
Temperature data			
Temperature range ¹⁾ (°C/°F)	0 – 70 / 32 – 158	0 – 70 / 32 – 158	0 – 70 / 32 – 158
Temperature uniformity at 25 °C / 77 °F (±K)	0,2	0,2	0,2
Temperature fluctuation (±K)	0,1	0,1	0,1
Max. heat compensation up to 40 °C / 104 °F (W)	200	300	600
Climatic data			
Temperature range ¹⁾ (°C/°F)	10 – 70 / 50 – 158	10 – 70 / 50 – 158	10 – 70 / 50 – 158
Temperature uniformity at 25 °C / 77 °F and 60 % r. H. (±K)	0,2	0,3	0,2
Temperature fluctuation at 25 °C / 77 °F and 60 % r. H. (±K)	0,1	0,1	0,1
Humidity range (% r. H.)	10 – 80	10 – 80	10 – 80
Humidity fluctuation at 25 °C / 77 °F and 60 % r. H. (±% r. H.)	≤ 2	1,5	1,5
Recovery time after doors were open for 30 sec ²⁾ at 25 °C / 77 °F and 60 % r. H.	15	4	2
Electrical data			
Housing protection acc. to EN 60529	IP 20	IP 20	IP 20
Nominal voltage (±10 %) 50/60 Hz (V)	200 – 240 1N~	200 – 240 1N~	200 – 240 1N~
Nominal power at 240 V (kW)	2,0	2,1	3,1
Energy consumption ³⁾ at 40 °C / 104 °F / 75 % r. H. (Wh/h)	470	650	620
Model no.	9020-0139	9020-0150	9020-0108

► TEMPERATURE-HUMIDITY CHART



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

¹⁾ Lower values are valid up to an ambient temperature of max. 25 °C / 77 °F // ²⁾ to 98 % of the set value // ³⁾ Use this value for dimensioning air conditioning systems. /// All technical data are specified for units with standard equipment at an ambient temperature of 25 °C and a voltage fluctuation of ±10 %. The temperature data are determined in accordance with factory standard following DIN 12880 respecting 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.

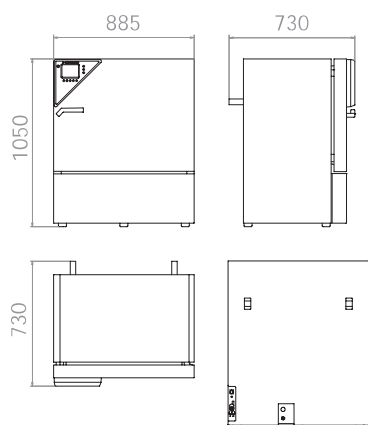


Current information and values are available at:
www.binder-world.com

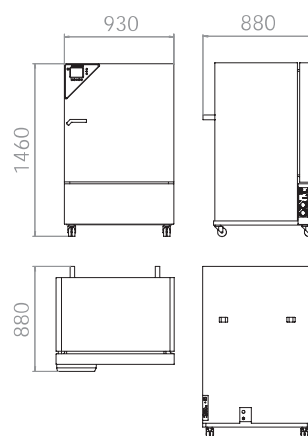


► DIMENSIONS

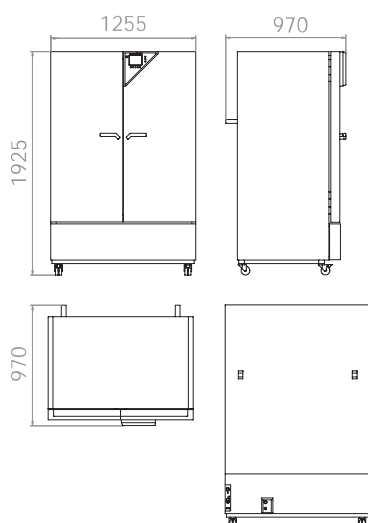
KBF 115



KBF 240



KBF 720



► INSTALLATION REQUIREMENTS

	KBF 115	KBF 240	KBF 720
Nominal voltage ($\pm 10\%$) 50/60 Hz (V)	200 – 240 1N~	200 – 240 1N~	200 – 240 1N~
Nominal power at 240 V (kW)	2,0	2,1	3,1