CONSTANT CLIMATE CHAMBERS

Series KBF: Constant climate chambers with large temperature / humidity range

The KBF is the specialist for unconditionally reliable stability testing and precise maintenance of constant climate conditions. From programming to documentation, this constant climate chamber meets all critical requirements.

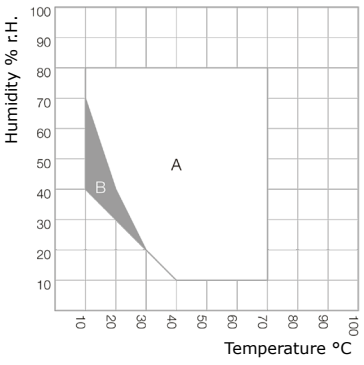
Features:

- 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
- Multi-Management Software APT-COMTM Basic Edition
- Inner chamber made of stainless steel
- Internal data logger, measured values can be read out in open format via USB
- Unit self-test for comprehensive status analysis
- Tightly-sealed inner door made of tempered safety glass
- 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

KBF 115

KBF 240

Temperature-humidity chart



A: Standard Climate range
B: Discontinuous range

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Technical data:

	KBF115	KBF240	KBF720
	230V *	230V *	230V *
Article Number	9020-0320	9020-0322	9020-0324
Performance Data Temperature			
Temperature range [°C]	0...70	0...70	0...70
Temperature variation at 40 °C [± K]	0,2	0,3	0,2
Temperature fluctuation [± K]	0,1	0,1	0,1
Max. heat compensation at 40 °C [W]	200	300	600
Performance Data Climate			
Temperature range [°C]	10...70	10...70	10...70
Temperature variation at 25 °C and 60 % RH [± K]	0,2	0,3	0,2
Temperature variation at 40 °C and 75 % RH [± K]	0,2	0,3	0,2
Temperature fluctuation at 25 °C and 60 % RH [± K]	0,1	0,1	0,1
Temperature fluctuation at 40 °C and 75 % RH [± K]	0,1	0,1	0,1
Humidity range [% RH]	10...80	10...80	10...80
Humidity fluctuation at 25 °C and 60 % RH	≤2 ± % r.F.	1,5 ± % r.F.	1,5 ± % r.F.
Humidity fluctuation at 40 °C and 75 % RH	≤2 ± % r.F.	1,5 ± % r.F.	1,5 ± % r.F.
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
Unit fuse [A]	16	16	16
Phase (Nominal voltage) [ph]	1~	1~	1~
Outer dimensions			
Width net [mm]	880	925	1250
Height net [mm]	1050	1460	1925
Depth net [mm]	650	800	890
Wall clearance back [mm]	100	100	100
Wall clearance sidewise [mm]	100	100	300
Doors			
Inner doors	1	1	2
Unit doors	1	1	2
Internal Dimensions			
Width [mm]	600	650	973
Height [mm]	483	785	1250
Depth [mm]	351	485	576
Further Dimension			
Interior volume [L]	102	247	700
Net weight of the unit (empty) [kg]	128	189	312
permitted load [kg]	100	100	150
Load per rack [kg]	30	30	45
Environment-specific data			
Energy consumption at 40 °C and 75 % RH [Wh/h]	470	650	620
Sound-pressure level [dB(A)]	52	52	53
Fixtures			
Number of shelves (std./max.)	2/5	2/9	2/15

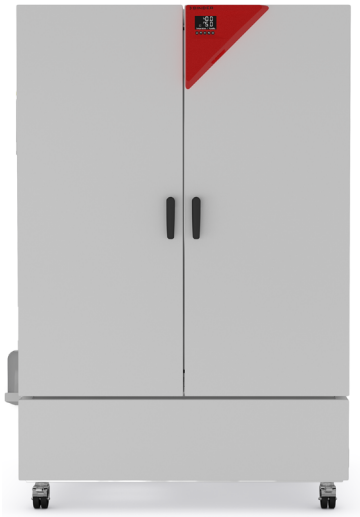
* All technical data is specified for unloaded units with standard equipment at an ambient temperature of +22 °C ±3 °C and a power supply voltage fluctuation of ±10 %. The temperature data is determined in accordance to BINDER factory standard following DIN 12880, observing the recommended wall clearances 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.

Series KBF-S ECO Solid Line: Constant climatic chambers with Peltier technology

Thanks to thermoelectric cooling technology with patented heat dissipation, the new KBF-S ECO climatic chamber is one of the most energy-efficient constant climate chambers on the market. The thermoelectric cooling technology means the KBF-S ECO series is also very quiet during operation.

Features:

- Temperature range: 0 °C to +70 °C
- Humidity range: 10% to 80% RH
- APT.line™ preheating chamber technology
- Independent water supply via tank
- LCD to display temperature and humidity along with additional information and alarms
- Internal data logger, measured values can be read out in open format via USB
- Unit self-test for comprehensive status analysis
- Inner chamber made completely of stainless steel
- 2 stainless steel racks, including shelf carrier
- Access port with silicone plug Ø 30 mm, left



KBF S-ECO 720

Benefits:

- Safe thanks to standard-compliant testing according to the ICH Q1A guideline, even with full load.
- Reliable thanks to failsafe operation without compromise.
- Smart, as a wide range of accessories makes it highly compatible for adaptation to specific customer requirements.
- Economical, as energy consumption is minimal thanks to optimized thermoelectric cooling.

KBF S-ECO 1020

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Technical data:

	KBF-S ECO 240	KBF-S ECO 400	KBF-S ECO 720	KBF-S ECO 1020
	230V *	230V *	230V *	230V *
Article Number	9020-0416	9020-0463	9020-0418	9020-0419
Performance Data Temperature				
Temperature range (max. 24 °C below ambient temperature) [°C]			0…70	0…70
Temperature range (max. 26 °C below ambient temperature) [°C]		0…70		
Temperature range (max. 28 °C below ambient temperature) [°C]	0…70			
Temperature variation at 40 °C [± K]	0,2	0,5	0,3	0,5
Temperature fluctuation [± K]	0,1	0,1	0,1	0,1
Performance Data Climate				
Temperature range (max. 24 °C below ambient temperature) [°C]			5…70	5…70
Temperature range (max. 26 °C below ambient temperature) [°C]		5…70		
Temperature range (max. 28 °C below ambient temperature) [°C]	5…70			
Temperature variation at 40 °C and 75 % RH [± K]	0,2	0,5	0,3	0,5
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.H.]	0,3	0,3	0,3	0,4
Electrical data				
Rated Voltage [V]	200…230	200…230	200…230	200…230
Power frequency [Hz]	50/60	50/60	50/60	50/60
Nominal power [kW]	0,8	1,1	1,2	1,2
Unit fuse [A]	16	16	16	16
Phase (Nominal voltage) [ph]	1~	1~	1~	1~
Outer dimensions without attachments and connections				
Width net [mm]	932	925	1254	1254
Height net [mm]	1461	1946	1925	1925
Depth net [mm]	796	796	885	1146
Wall clearance back [mm]	100	100	100	100
Wall clearance sidewise [mm]	180	180	180	180
Doors				
Unit doors	1	1	2	2
Internal Dimensions				
Width [mm]	650	650	973	973
Height [mm]	785	1200	1250	1250
Depth [mm]	485	390	576	836
Further Dimension				
Interior volume [L]	247	400	700	1020
Net weight of the unit (empty) [kg]	146	192	267	322
permitted load [kg]	100	120	150	150
Load per rack [kg]	30	30	45	45
Environment-specific data				
Energy consumption at 40 °C and 75 % RH [Wh/h]	85	70	130	135
Sound-pressure level [dB(A)]	46	45	48	49
Fixtures				
Number of shelves (std./max.)	2/9	2/15	2/15	2/15

* 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.For model KBF-S ECO 240, temperature differences are possible up to 28 °C below ambient temperature; for models KBF-S ECO 720 and KBF-S ECO 1020, temperature differences are possible up to 24 °C below ambient temperature.The lowest operating temperature for all units is 0 °C irrespective of the ambient temperature.

Series KMF: Constant climate chambers with expanded temperature / humidity range

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

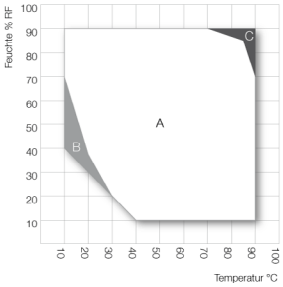
Features:

- 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
- APT-COM™ Basic Edition communication software
- 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
- Tightly-sealed inner door made of tempered 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

KMF 115

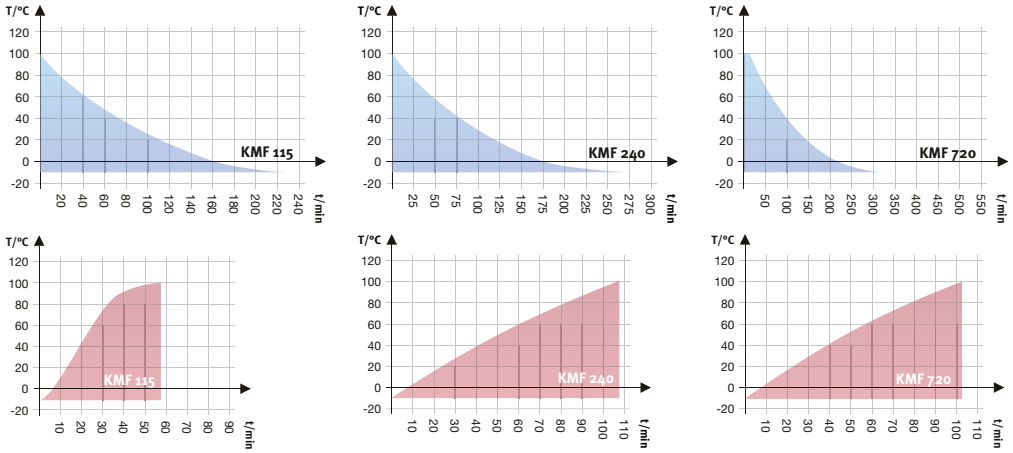
KMF 240

Temperature-humidity chart



A: Standard Climate range
B: Discontinuous range
C: In this range, condensation in the inner chamber is possible

Heating up / Cooling down times:



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Technical data:

	KMF115	KMF240	KMF720
	230V *	230V *	230V *
Article Number	9020-0341	9020-0343	9020-0345
Performance Data Temperature			
Temperature range [°C]	-10…100	-10…100	-10…100
Average heating-up rate according to IEC 60068-3-5 [K/min]	1,3	0,8	0,7
Average cooling down time according to IEC 60068-3-5 [K/min]	0,5	0,4	0,4
Max. heat compensation at 25 °C [W]	150	200	450
Performance Data Climate			
Temperature range [°C]	10…90	10…90	10…90
Temperature variation depending on setpoint [± K]	0,2…1	0,1…1	0,1…1
Temperature fluctuation depending on setpoint [± K]	0,1…0,3	0,1…0,3	0,1…0,5
Humidity range [% RH]	10…98	10…98	10…98
Humidity fluctuation depending on setpoint	≤2,5 ± % r.F.	≤2 ± % r.F.	≤2 ± % r.F.
Dew point temperature range [°C]	5…90	5…90	5…90
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
Unit fuse [A]	16	16	16
Phase (Nominal voltage) [ph]	1~	1~	1~
Outer dimensions			
Width net [mm]	880	930	1250
Height net [mm]	1050	1465	1925
Depth net [mm]	650	800	890
Wall clearance back [mm]	100	100	100
Wall clearance sidewise [mm]	100	100	100
Doors			
Inner doors	1	1	2
Unit doors	1	1	2
Internal Dimensions			
Width [mm]	600	650	973
Height [mm]	483	785	1250
Depth [mm]	351	485	576
Further Dimension			
Interior volume [L]	102	247	700
Net weight of the unit (empty) [kg]	128	189	306
permitted load [kg]	100	100	150
Load per rack [kg]	30	30	45
Environment-specific data			
Energy consumption at 85 °C and 85 % RH [Wh/h]	570	570	900
Sound-pressure level [dB(A)]	52	52	56
Fixtures			
Number of shelves (std./max.)	1/5	1/9	1/15

* 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.