

# Model KBF-S ECO 1020 | Humidity test 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.

## 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.



Model



Model

## MAIN FEATURES

- Temperature range: 0 °C to +70 °C (max. 24 °C under ambient temperature)
- 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

## ORDERING INFORMATION

Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
36	200...230 V 1~ 50/60 Hz	Standard	KBFSECO1020-230V	9020-0419
	100...120 V 1~ 50/60 Hz	Standard	KBFSECO1020UL-120V	9020-0422

**TECHNICAL DATA**

Description	KBFSECO1020-230V <sup>1</sup>	KBFSECO1020UL-120V <sup>1</sup>
Article Number	9020-0419	9020-0422
<b>Performance Data Temperature</b>		
Temperature range (max. 24 °C under ambient temperature) [°C]	0...70	0...70
Temperature variation at 40 °C [± K]	0.5	0.5
Temperature fluctuation at 40 °C [± K]	0.1	0.1
Max. heat compensation at 40 °C [W]	400	400
<b>Performance Data Climate</b>		
Temperature range (max. 24 °C under ambient temperature) [°C]	5...70	5...70
Temperature variation at 25 °C and 60 % RH [± K]	0.1	0.1
Temperature variation at 40 °C and 75 % RH [± K]	0.5	0.5
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	0,4 % RH	0,4 % RH
Humidity fluctuation at 40 °C and 75 % RH	0,4 % RH	0,4 % RH
Recovery time after 30 seconds door open at 25 °C and 60 % RH [min]	5	5
Recovery time after 30 seconds door open at 40 °C and 75 % RH [min]	15	15
<b>Electrical data</b>		
Rated Voltage [V]	200...230	100...120
Power frequency [Hz]	50/60	50/60
Nominal power [kW]	1.2	1.2
Unit fuse [A]	16	16
Phase (Nominal voltage)	1~	1~
<b>Measures</b>		
Interior volume [cu.ft.]	36	36
Net weight of the unit (empty) [lbs]	710	710
Permitted load [lbs]	331	331
Load per rack [lbs]	99	99
Wall clearance back [in]	3.94	3.94
Wall clearance sidewise [in]	7.09	7.09
<b>Internal Dimensions</b>		
Width [in]	38.34	38.34
Height [in]	49.3	49.3
Depth [in]	32.94	32.94
<b>Doors</b>		
Unit doors	2	2
<b>Housing dimensions not incl. fittings and connections</b>		
Width net [in]	49.3	49.3
Height net [in]	75.8	75.8
Depth net [in]	45.3	45.3
<b>Environment-specific data</b>		
Energy consumption at 40 °C and 75 % RH [Wh/h]	135	135
Sound-pressure level [dB(A)]	49	49

<sup>1</sup> 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.

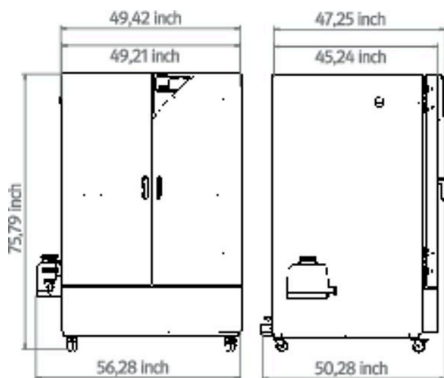
Description	KBFSECO1020-230V <sup>1</sup>	KBFSECO1020UL-120V <sup>1</sup>
Article Number	9020-0419	9020-0422
Fixtures		
Number of shelves (std./max.)	2/15	2/15

<sup>1</sup> 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.

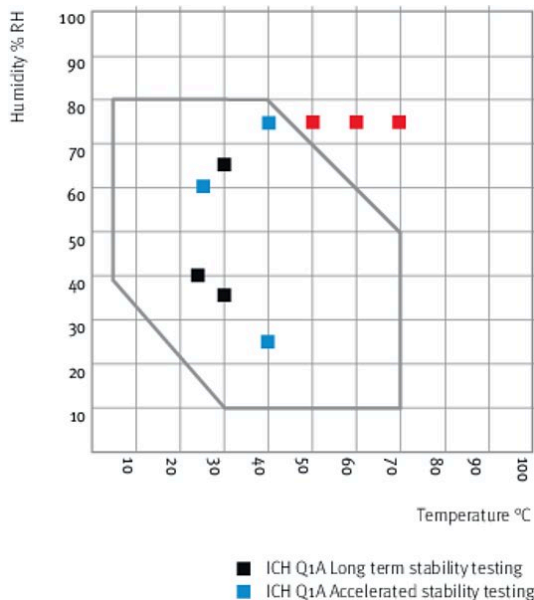
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### DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]



### CHARTS



Climate chart

**OPTIONS**

Designation	Description	*	Art.-No.
	left		
	30 mm	01	8012-2072
	50 mm	01	8012-2079
	100 mm	01	8012-2077
	right		
<b>Access port with silicone plug</b>	30 mm	01	8012-2071
	50 mm	01	8012-2078
	100 mm	01	8012-2076
	top		
	30 mm	01	8012-2073
	50 mm	01	8012-2074
	100 mm	01	8012-2075
<b>Calibration certificate, expanded</b>	for temperature and humidity; for extending the measurement in center of chamber to include another test value	-	8012-2066
	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-2069
<b>Calibration certificate, temperature</b>	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-2068
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-2067
<b>Calibration certificate, temperature and humidity</b>	Measurement in center of chamber at 25 °C / 60% RH or at specified test values	-	8012-2065
	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	-	8012-2070
<b>Door lock</b>	lockable door handle	-	8012-2087

\* Notes › See last page

**ACCESSORIES**

Designation	Description	*	Art.-No.
<b>BINDER PURE AQUA SERVICE</b>	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
<b>BINDER PURE AQUA SERVICE, accessories</b>	Single-use, replacement cartridge for BINDER PURE AQUA System	-	6011-0165
<b>Convenient water supply</b>	Flexible positioning of the water container with magnetic holder, hose adapter for water container with practical quick coupling, and water stop function		
	External, with magnetic holder	-	8012-1847
<b>Data Logger Kit</b>	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	-	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	-	8012-0716
<b>Data Logger Software</b>	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	-	8012-0821
	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
	Basic set 900, length 90 cm	-	8012-1109
<b>LED light bars</b>	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
	Expansion set 900, length 90 cm	-	8012-1718
	Multi Management Software APT-COM™		
<b>Multi Management Software</b>	version 4, BASIC edition	-	9053-0039
	version 4, GLP edition	-	9053-0042
	version 4, PROFESSIONAL edition	-	9053-0040
<b>pH-neutral detergent</b>	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016

\* Notes › See last page

Designation	Description	*	Art.-No.
<b>Qualification documents</b>	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
	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
<b>Rack</b>	stainless steel	–	8012-2052
<b>Rack accessories</b>	fasteners (1 set of 4) for additional security of racks	–	8012-0620
<b>Rack, reinforced</b>	stainless steel, with fasteners (1 set of 4)	–	8012-0968
<b>Shelf, perforated</b>	Stainless steel	–	8009-0792
<b>WLAN kit</b>	The kit contains a client bridge that establishes a wireless connection between BINDER units and APT-COM4, LIMS, or customer-specific software via an Ethernet interface. It provides an alternative solution in situations where units need to be positioned in locations without an on-site Ethernet connection. In secured networks, installation and configuration must be performed by the customer's IT service.	–	8500-0164

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
<b>Installation services</b>			
Unit installation	Connect the unit to the customer-side connections (electricity, water, wastewater, gas), basic functions check, brief operating instructions. (excl.: unpacking, setup, controller instructions, programming, installation work)	05	DL10-0300
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05	DL10-0700
<b>Maintenance services</b>			
BRONZE 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts	05	DL20-0710
GOLD 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature/humidity value, including certificate	05	DL20-0920
Maintenance	One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Calibration of a test temperature specified by the user in center of usable space without certificate	05	DL20-0400
SILVER 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate	05	DL20-0820
<b>Calibration services</b>			
Temperature and humidity calibration	Expansion –Temperature and humidity calibration with 1 measuring point in center of chamber with 1 specified pair of values, including certificate	03, 04, 05	DL30-0302
	Temperature and humidity calibration with 1 measuring point in center of chamber with 1 specified pair of values, including certificate	03, 04, 05	DL30-0301
Temperature and humidity measurement according to DIN12880	Temperature measurement in accordance with DIN 12880 with 27 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate	03, 04, 05	DL30-0427
Temperature measurement, 18 temperature measuring points and 1 humidity measuring point	Temperature measurement with 18 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate	03, 04, 05	DL30-0318
Temperature measurement, 27 temperature measuring points and 1 humidity measuring point	Temperature measurement with 27 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate	03, 04, 05	DL30-0327
Temperature measurement, 9 temperature measuring points and 1 humidity measuring point	Temperature measurement with 9 temperature measuring points and 1 humidity measuring point in center of chamber with a pair of values specified by the user, including certificate	03, 04, 05	DL30-0309

\* Notes › See last page

Designation	Description	*	Art.-No.
<b>Validation services</b>			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	05	DL42-0300
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	05	DL44-0500
<b>Warranty service</b>			
Warranty extension from 2 to 3 years	The warranty is extended by 1 year from the delivery date, wear parts are excluded	-	DL50-0030

\* 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 Sensor calibration is performed in an accredited calibration laboratory.
- 04 Calibration is performed according to the BINDER factory standard.
- 05 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).

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