

Model KBF LQC 720 | Constant climate chambers with ICH-compliant light source and light dose control

BENEFITS

- Homogeneous climate conditions thanks to APT.line™ technology
- Automatic water and wastewater management
- Pressure humidification with fast response times
- Variable position and removable illumination cassettes
- ICH-compliant illumination for long-term stable test conditions
- Precise photometry with 3D ball-type sensors at the sample



Model 720



Model 720

MAIN FEATURES

- Temperature range: 0 °C to 70 °C
- Temperature range with light: 10 °C to 60 °C
- Humidity range: 10 % to 80 % RH
- 3 positionable illumination cassettes with ICH-compliant UV/Vis light source
- Independent light-dose control of UV-A and visible light with spherical sensors
- APT.line™ preheating chamber technology
- Humidity regulation with capacitive humidity sensor and vapor humidification
- Inner chamber made of stainless steel
- Controller with time-segment programming
- Tightly-sealed inner door made of tempered safety glass
- 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

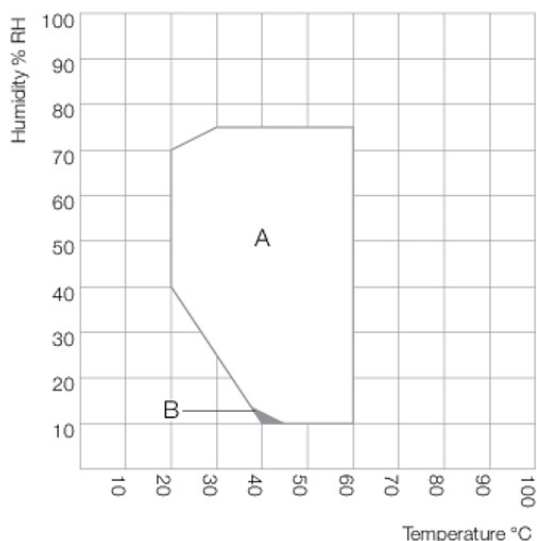
ORDERING INFORMATION

Interior volume [L]	Voltage	Option model	Version	Art.-No.
Model KBF LQC 720				
700	200...230 V 1~ 50 Hz	Standard	KBFLQC720-230V	9020-0279
	200...240 V 1~ 50/60 Hz	Standard	KBFLQC720UL-240V	9020-0280

TECHNICAL DATA

Description	KBFLQC720-230V	KBFLQC720UL-240V
Article Number	9020-0279	9020-0280
Performance Data Temperature		
Temperature range without illumination cassettes [°C]	0...70	0...70
Temperature range with illumination cassettes, with illumination [°C]	10...60	10...60
Max. heat compensation at 40 °C with illumination [W]	1000	1000
Recovery time after 30 seconds door open at 25 °C and 60 % RH with illumination [min]	1	1
Recovery time after 30 seconds door open at 40 °C and 75 % RH with illumination [min]	5	5
Performance Data Climate		
Temperature range without illumination cassettes [°C]	10...70	10...70
Temperature range with illumination cassettes, with illumination [°C]	20...60	20...60
Temperature uniformity with illumination at 25 °C and 60 % RH [± K]	1.2	1.2
Temperature uniformity with illumination at 40 °C and 75 % RH [± K]	1.2	1.2
Temperature fluctuation with illumination at 25 °C and 60 % RH [± K]	0.2	0.2
Temperature fluctuation with illumination at 40 °C and 75 % RH [± K]	0.2	0.2
Humidity range without illumination [% RH]	10...80	10...80
Humidity range with illumination cassettes, with illumination [% RH]	10...75	10...75
Humidity fluctuation with illumination at 25 °C and 60 % RH	2 ± % RH	2 ± % RH
Humidity fluctuation with illumination at 40 °C and 75 % RH	2 ± % RH	2 ± % RH
Lightdata per Illumination Cassettes		
ICH compliant illumination for photo stability testing [lx]	8750	8750
ICH compliant illumination for photo stability testing [W/m²]	1.6	1.6
Electrical data		
Rated Voltage [V]	200...230	200...240
Power frequency [Hz]	50	50/60
Nominal power [kW]	3.5	3.5
Unit fuse [A]	16	16
Phase (Nominal voltage)	1~	1~
Measures - Outer dimensions		
Width net [mm]	1250	1250
Height net [mm]	1925	1925
Depth net [mm]	890	890
Wall clearance back [mm]	100	100
Wall clearance sidewise [mm]	200	200
Measures - Doors		
Inner doors	2	2
Unit doors	2	2
Measures - Internal Dimensions		
Width [mm]	973	973
Height [mm]	1250	1250
Depth [mm]	576	576
Measures		
Interior volume [L]	700	700
Net weight of the unit (empty) [kg]	374	374
Load per rack [kg]	45	45
Environment-specific data		
Energy consumption at 40 °C and 75 % RH	2350 Wh/h	2350 Wh/h
Sound-pressure level [dB(A)]	53	53

CHARTS



A: Guaranteed condensation-free range

B: Deviations of technical data may be possible

Climate chart

OPTIONS AND ACCESSORIES

Designation	Description	*	Art.-No.
Access port with silicone plug	30 mm, left	01	8012-0648
	30 mm, right	01	8012-0647
	30 mm, top	01	8012-0649
	50 mm, left	01	8012-0653
	50 mm, right	01	8012-0652
	50 mm, top	01	8012-0650
	100 mm, left	01	8012-0515
	100 mm, right	01	8012-0514
	100 mm, top	01	8012-0651
Alarm output, zero-voltage	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	-	8012-0670
Analog output, 4 – 20 mA	for temperature and humidity values (output not adjustable)	-	8012-0669
BINDER Pure Aqua Service	system for preparation or complete desalination of tap water, containing single-use cartridge, hoses and measuring device	-	8012-0759
BINDER Pure Aqua Service, accessories	Single-use, replacement cartridge for BINDER Pure Aqua System	-	6011-0165
Calibration certificate, expanded	for temperature and humidity, each additional measurement at additional points or sets of values	-	8012-0155
Calibration certificate, temperature	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-0923
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-0920
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-0917
Calibration certificate, temperature and humidity	for temperature and humidity, measurement in center of chamber at 25 °C / 60 % RH or at specified values	-	8012-0154
	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	-	8012-0924
Class 3.3 independent temperature safety device	with visual alarm (DIN 12880) 200...240 V option model	-	8012-0668

* Notes › See last page

Data Sheet Model KBF LQC 720

Designation	Description	*	Art.-No.
Data Logger Kit	T 220: temperature logging from -90 °C to 220 °C	19	8012-0715
	TH 70/70: temperature and humidity logging from -40 °C to 70 °C and 0 % to 100 % RH and additional combination sensor for recording environmental conditions	19	8012-0717
	TH 70: temperature and humidity logging from -40 °C to 70 °C and 0 % to 100 % RH	19	8012-0716
Data Logger Kit, software	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	19	8012-0821
Door lock	lockable door handle	-	8012-1024
ICH illumination cassette, accessories	replacement fluorescent tubes for one illumination cassette (set of 5)	-	8012-0699
Interface converter	RS 422 cable set and RS 232 / RS 422 interface converter for connection to 10-way plug distributor or for connection to a unit		
	120 V, 60 Hz option model	-	8012-0557
	230 V, 50/60 Hz option model	-	8012-0556
	RS 422 cable set and RS 422 / Ethernet interface converter for connection to 10-way plug distributor or for connection to a unit		
	120 V, 60 Hz option model	-	8012-0405
	230 V, 50/60 Hz option model	-	8012-0380
Interface converter, USB / RS422	RS 422 cable set and RS 422 / USB interface converter for connection to 10-way plug distributor or for connection to a unit (USB-powered converter)	-	8012-0665
Light photometry	including certificate, illumination and irradiance for visible light, 25 measuring points on 3 measurement levels, as well as spectral distribution (385 – 785 nm)	-	8012-0909
Lockable controller keyboard	Lockable controller keyboard with key-operated switch	-	8012-0609
Magnetic Pouch (A4)	insert pouch with magnetic strip	-	1007-0065
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
Pt 100 temperature sensor	additional Pt 100, with flexible cable installed with external connection, incl. 6-pin DIN socket	-	8012-0637
Rack	stainless steel	-	6004-0106
Rack, accessories	set of 4 fasteners for additional security	-	8012-0620
Rack, reinforced	stainless steel, with 1 set of 4 fasteners, max. load 70 kg	-	8012-0674
RS 422 interface	in place of Ethernet, for communication software	-	8012-0641
	modular plug distributor for 10 RS 422 interfaces	-	8012-0295
RS 422 interface, cable (15 m)	RS 422 connection cable (15 m) between plug distributor and RS 422 interface	-	5023-0036
RS 422 interface, cable (50 m)	RS 422 extension cable (50 m) between interface converter and unit or RS 232 / RS 422 plug distributor	-	5023-0117
Shelf, perforated	stainless steel	-	8009-0486
Shelf, reinforced	positioned at bottom level, max. load 67 kg, with additional attachment for operation of shaking device, stirring device or roller bottle system	-	8012-0673
Software	APT-COM™ communications software		
	version 2 to 3, GLP edition	19	9053-0016
	version 3, BASIC edition	19	9053-0014
	version 3, GLP edition	19	9053-0015
	version 3, STANDARD edition	19	9053-0013
	APT-COM™ communications software, price: for free		
	version 3, GLP DEMO Edition	19	9053-0008
Water supply set	external, consisting of fresh- and waste-water containers (20 liters each), cabling and pump	-	8012-0643

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Installation services			
Installation	and set up of unit at operating location, connect to existing connections	13, 18	DL100300
Instruction	unit function instructions for operation and programming of the controller	18	DL100700
Preventive maintenance			
Preventive maintenance	Execution of equipment inspection according to maintenance plan	14, 18	DL200400
Calibration services			
Calibration temperature and humidity	including certificate, one measuring point in center of chamber at 25 °C / 60 % RH or at specified values	14, 16, 17, 18	DL300301
Light photometry	including certificate, 25 measuring points on 3 measurement levels, intensity measurements for visible light and UVA, as well as spectral distribution (qualitative spectral measurements 250 – 785 nm)	14, 16, 17, 18	DL300525
Temperature and humidity measurement according to DIN12880	including certificate (27 temperature measuring points and 1 humidity measuring point, at 25 °C / 60 % RH or at specified values)	14, 16, 17, 18	DL300427
Temperature measurement 18 temperature measuring points and 1 humidity measuring point	including certificate, 18 temperature measuring points and 1 humidity measuring point in center of chamber, at 25 °C / 60 % RH or at specified values	14, 16, 17, 18	DL300318
Temperature measurement 27 temperature measuring points and 1 humidity measuring point	including certificate, 27 temperature measuring points and 1 humidity measuring point in center of chamber, at 25 °C / 60 % RH or at specified values	14, 16, 17, 18	DL300327
Temperature measurement 9 temperature measuring points and 1 humidity measuring point	including certificate, 9 temperature measuring points and 1 humidity measuring point in center of chamber, at 25 °C / 60 % RH or at specified values	14, 16, 17, 18	DL300309
Validation services			
Execution of IQ/OQ, incl. light measurement	including light measurement, in accordance with qualification folder	15, 18, 20	DL430400
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL440500
Qualification folder IQ/OQ	supporting documents for validation performed by customer, consisting of: IQ/OQ checklists, unit schematics, QM certificate in accordance with ISO 9001	15, 18, 20	8012-0869
Qualification folder IQ/OQ/PQ	supporting documents for validation performed by customer, in accordance with customer's requirement, extension of Qualification folder IQ/OQ by chapter PQ	15, 18	8012-0957
Warranty service			
Extension of the warranty from 2 to 3 years	beginning with the date of delivery, wearing parts are not included	–	DL026041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	–	DL026042

* 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.
05 Attention: The pump is delivered separately. The electric connection for the pump (230 V/1~/50 Hz) must be carried out by an authorized electrician.
06 Heating-up time may increase as a result of the lower heat conductivity.
07 The additional heat input may affect the temperature behavior.
08 The pump (packaged separately) is ready for connection.
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 (see the chapter on BINDER Service) 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.
20 When ordering IQ/OQ qualification folders and associated IQ/OQ execution on one order, we offer a 15 % discount for both items.
When ordering IQ/OQ/PQ qualification folders and associated IQ/OQ/PQ execution on one order, we offer a 15 % discount for the item of the IQ/OQ/PQ folder.
21 ATEX conformity:
Pumping chamber (pumped gases): II 2G IIC T3 X
Environment with inert purge gas: II 2G IIB T4 X
Environment without inert purge gas: II 3G IIB T4 X
Motor: II 2G Ex d IIB T4 Gb

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.ru

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