

Model KT 53 | Cooling incubators with thermoelectric cooling

The KT series combines outstanding performance with impressive energy efficiency and environmental friendliness. The cooled incubators of the KT series are state-of-the-art in application and protect the samples.

BENEFITS

- Safe and reproducible incubation conditions even at high environmental conditions
- Disinfection routine at 100 °C
- Energy efficient, environmentally friendly and secure



Model 53

MAIN FEATURES

- Temperature range: 4 °C to 100 °C
- APT.line™ preheating chamber technology
- Adjustable fan speed
- Electric cooling with Peltier module
- Controller with time-segment and real-time programming
- Display via LCD monitor
- Input via pushbutton/rotary knob
- Inner door made of tempered safety glass
- 2 stainless steel racks
- Stackable
- Class 3.1 independent temperature safety device (DIN 12880) with visual and audible temperature alarm
- Computer interface: Ethernet
- Data recording and USB interface

ORDERING INFORMATION

Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
Model KT 53				
1.9	200...240 V 1 ph 50/60 Hz	Standard	KT053-230V	9020-0311
	100...120 V 1 ph 50/60 Hz	Standard	KT053UL-120V	9020-0312

TECHNICAL DATA

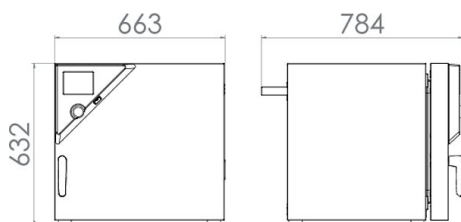
Description	KT053-230V ¹	KT053UL-120V ¹
Article Number	9020-0311	9020-0312
Performance Data Temperature		
Temperature range [°C]	4...100	4...100
Temperature variation at 37 °C [± K]	0.3	0.3
Temperature fluctuation [± K]	0.1	0.1
Max. heat compensation at 37 °C [W]	100	100
Recovery time after 30 seconds door open at 37 °C [min]	2	2

¹ 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.

Description	KT053-230V ¹	KT053UL-120V ¹
Article Number	9020-0311	9020-0312
Electrical data		
Rated Voltage [V]	200...240	100...120
Power frequency [Hz]	50/60	50/60
Nominal power [kW]	0.4	0.4
Unit fuse [A]	10	10
Phase (Nominal voltage) [ph]	1	1
Outer dimensions		
Width net [mm]	660	660
Height net [mm]	635	635
Depth net [mm]	630	630
Wall clearance back [mm]	100	100
Wall clearance sidewise [mm]	240	240
Doors		
Inner doors	1	1
Unit doors	1	1
Internal Dimensions		
Width [mm]	400	400
Height [mm]	400	400
Depth [mm]	334	334
Measures		
Interior volume [L]	53	53
Net weight of the unit (empty) [kg]	63	63
permitted load [kg]	40	40
Load per rack [kg]	15	15
Environment-specific data		
Energy consumption at 25 °C [Wh/h]	75	75
Energy consumption at 37 °C [Wh/h]	75	75
Sound-pressure level [dB(A)]	48	48
Fixtures		
Number of shelves (std./max.)	2/5	2/5

¹ 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.

DIMENSIONS incl. fittings and connections [mm]



OPTIONS AND ACCESSORIES

Designation	Description	*	Art.-No.
Access port with silicone plug	left		
	10 mm	01	8012-1290
	30 mm	01	8012-1158
	50 mm	01	8012-1165
	right		
	10 mm	01	8012-1289
	30 mm	01	8012-1155
	50 mm	01	8012-1163
	top		
	10 mm	01	8012-1288
	30 mm	01	8012-1152
	50 mm	01	8012-1161
100 mm	01, 10	8012-1168	
Alarm output, zero-voltage	for temperature (± 2 °C), accessible via 6-pin DIN socket (max. 24 V - 2.5 A), with audible signal that can be switched off	-	8012-0982
Analog output 4-20 mA	for temperature values (output not adjustable)	02	8012-0974
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	-	8012-1122
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	-	8012-1141
	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-1600
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-1579
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1558
Cart	Cart – stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	-	9051-0018
Class 3.3 independent temperature safety device	with visual alarm (DIN 12880)	-	8012-0978
Data Logger Kit	T 220: For continuous temperature logging from -90 °C to 220 °C. The kit includes 1 data logger, Pt 100 sensor with 2 m extension cable and 1 magnetic fixture for mounting to the BINDER unit	19	8012-0715
Data Logger Software	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	19	8012-0821
Door heating	120 V option model	-	8012-0930
	230 V option model	-	8012-0931
Door lock	lockable door handle	-	8012-1668
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		
Interface converter, USB / RS422	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
Interior lighting	with 15 W light bulb		
	120 V option model	-	8012-0932
	230 V option model	-	8012-0933
Interior socket	Waterproof, switched flush-mounting box (CA3GD) for nominal voltage in unit interior, with cover and corresponding plug (nominal voltage; max. 500 W; max. 90 °C; protection class IP67)	07	8012-0984
LED light bars	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
	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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016

* Notes › See last page

Designation	Description	*	Art.-No.
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	-	8012-0935
Rack accessories	Rack accessories – fasteners (1 set of 4) for additional security of racks	-	8012-0620
Rack, reinforced	stainless steel, with fasteners (1 set of 4), max. load 70 kg	-	8012-0829
Racks	stainless steel	-	6004-0007
RS 422 interface	in place of Ethernet, for communication software	-	8012-0983
RS 422 interface, accessories	modular plug distributor for 10 RS 422 interfaces	-	8012-0295
	RS 422 connection cable (15 m) between plug distributor and RS 422 interface	-	5023-0036
	RS 422 extension cable (50 m) between interface converter and unit or RS 232 / RS 422 plug distributor	-	5023-0117
Rubber pads	set of 4 anti-slip feet, for safe stacking of unit	10	8012-0001
Shelf, perforated	Stainless steel	-	6004-0029
Shelf, reinforced	positioned at bottom level, max. load 67 kg, with additional attachment for operation of shaking device, stirring device or roller bottle system	-	8012-0818
	APT-COM™ communications software		
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
Zero voltage relay contacts	for controlling 3 relay contacts via program regulators, accessible via 6-pin DIN socket (max. 24 V - 2.5 A)	-	8012-0976

* 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	DL10-0300
Instruction	unit function instructions for operation and programming of the controller	18	DL10-0700
Preventive maintenance			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0400
Calibration services			
Calibration temperature incl. certificate	including certificate, one measuring point in center of chamber at specified temperature	14, 16, 17, 18	DL30-0101
Temperature measurement 18 measuring points	including certificate, 18 measuring points at specified temperature	14, 16, 17, 18	DL30-0118
Temperature measurement 27 measuring points	including certificate, 27 measuring points at specified temperature	14, 16, 17, 18	DL30-0127
Temperature measurement 9 measuring points	including certificate, 9 measuring points at specified temperature	14, 16, 17, 18	DL30-0109
Validation services			
Execution of IQ/OQ	in accordance with qualification folder	15, 18, 20	DL41-0200
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL44-0500
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	8012-0874
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	8012-0961
Warranty service			
Extension of the warranty from 2 to 3 years	beginning with the date of delivery, wearing parts are not included	-	DL03-0041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	-	DL03-0042

* 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.
- 06 Heating-up time may increase as a result of the lower heat conductivity.
- 07 The additional heat input may affect the temperature behavior.
- 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 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 the item of the IQ/OQ folder.
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.