

# 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 [L]	Voltage	Option model	Version	Art.-No.
53	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

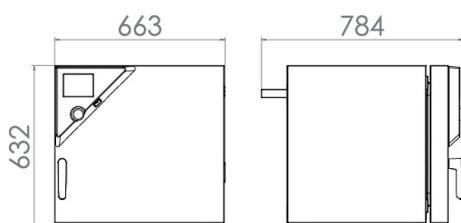
Description	KT053-230V <sup>1</sup>	KT053UL-120V <sup>1</sup>
<b>Article Number</b>	<b>9020-0311</b>	<b>9020-0312</b>
<b>Performance Data Temperature</b>		
Temperature range	4...100	4...100
Temperature variation at 37 °C [± K]	0.3	0.3
Temperature fluctuation [± K]	0.1	0.1
Max. heat compensation at 37 °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 <sup>1</sup>	KT053UL-120V <sup>1</sup>
Article Number	9020-0311	9020-0312
<b>Electrical data</b>		
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)	1~	1~
<b>Measures</b>		
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
Wall clearance back [mm]	100	100
Wall clearance sidewise [mm]	240	240
<b>Internal Dimensions</b>		
Width [mm]	400	400
Height [mm]	400	400
Depth [mm]	334	334
<b>Doors</b>		
Inner doors	1	1
Unit doors	1	1
<b>Housing dimensions not incl. fittings and connections</b>		
Width net [mm]	660	660
Height net [mm]	635	635
Depth net [mm]	630	630
<b>Environment-specific data</b>		
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
<b>Fixtures</b>		
Number of shelves (std./max.)	2/5	2/5

<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 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

Designation	Description	*	Art.-No.
<b>Access port with silicone plug</b>	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	8012-1168	
<b>Alarm output, zero-voltage</b>	for temperature ( $\pm 2$ °C), accessible via 6-pin DIN socket (max. 24 V - 2.5 A), with audible signal that can be switched off	-	8012-0982
<b>Calibration certificate, expanded</b>	for temperature; for extending the measurement in center of chamber to include another test temperature	-	8012-1122
<b>Calibration certificate, temperature</b>	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
<b>Class 3.3 independent temperature safety device</b>	with visual alarm (DIN 12880)	-	8012-0978
<b>Door lock</b>	lockable door handle	-	8012-1668
<b>Interior socket</b>	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)	-	8012-0984
<b>Pt 100 temperature sensor</b>	additional flexible Pt 100, interior, for displaying the temperature on the unit display	-	8012-0935
<b>Shelf, reinforced</b>	positioned at bottom level, max. load 45 kg, with additional attachment for operation of shaking device, stirring device or roller bottle system	-	8012-0818

\* Notes › See last page

## ACCESSORIES

Designation	Description	*	Art.-No.
<b>APT-COM™ 4 BASIC-Edition</b>	for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition	-	9053-0039
<b>APT-COM™ 4 GLP-Edition</b>	for working under GLP-compliant conditions. Measured values are documented in a tamper-proof way in line with the requirements of FDA Regulation 21 CFR 11. version 4, GLP edition	-	9053-0042
<b>APT-COM™ 4 PROFESSIONAL-Edition</b>	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units. version 4, PROFESSIONAL edition	-	9053-0040
<b>Data Logger Kit</b>	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	-	8012-0715
<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
<b>LED light bars</b>	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
<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, CO <sub>2</sub> , O <sub>2</sub> , pressure, depending on unit		
	Digital in PDF format	–	7057-0001
	Hard copy inside folder	–	7007-0001
	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, CO <sub>2</sub> , O <sub>2</sub> – or pressure, depending on unit		
	Digital in PDF format	–	7057-0005
	Hard copy inside folder	–	7007-0005
<b>Rack</b>	stainless steel	–	6004-0007
<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)	–	8012-0829
<b>Rubber pads</b>	set anti-slip feet	–	8012-1887
<b>Shelf, perforated</b>	Stainless steel	–	6004-0029
<b>Table on castors</b>	stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	–	9051-0018

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
<b>Installation services</b>			
Unit commissioning	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	DL10-0100
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05	DL10-0500
<b>Maintenance contracts</b>			
<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 test temperature specified by the user in the center of the usable space, including certificate	05	DL20-0910
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	DL20-0200
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	DL20-0810
<b>Calibration services</b>			
Calibration certificate, temperature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	03, 04, 05	DL30-0101
	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	03, 04, 05	DL30-0102
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0127
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0109
<b>Validation services</b>			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	05	DL41-0200
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	05	DL44-0500
<b>Warranty service</b>			
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	–	DL50-0010

\* 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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