

# Model KT 53 | Cooling incubators with thermoelectric cooling

## 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.
Model KT 53				
53	200...240 V 1~ 50/60 Hz	Standard	KT053-230V	9020-0311
	100...120 V 1~ 50/60 Hz	Standard	KT053UL-120V	9020-0312

## TECHNICAL DATA

Description	KT053-230V	KT053UL-120V
Article Number	9020-0311	9020-0312
Performance Data Temperature		
Temperature range [°C]	4...100	4...100
Temperature uniformity 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 90° aperture angle at 37 °C [min]	2	2
Electrical data		
Rated Voltage [V]	200...240	100...120
Power frequency [Hz]	50/60	50/60

## Data Sheet Model KT 53

Description	KT053-230V	KT053UL-120V
Article Number	9020-0311	9020-0312
Nominal power [kW]	0.4	0.4
Unit fuse [A]	10	10
Phase (Nominal voltage)	1~	1~
Measures - 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
Measures - Doors		
Inner doors	1	1
Unit doors	1	1
Measures - 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
Load per rack [kg]	15	15
Environment-specific data		
Energy consumption at 37 °C	75 Wh/h	75 Wh/h
Energy consumption at 25 °C	75 Wh/h	75 Wh/h
Sound-pressure level [dB(A)]	48	48

## OPTIONS AND ACCESSORIES

Designation	Description	*	Art.-No.
Access port with silicone plug	10 mm, left	01	8012-0393
	10 mm, right	01	8012-0392
	10 mm, top	01	8012-0391
	30 mm, left	01	8012-0047
	30 mm, right	01	8012-0046
	30 mm, top	01	8012-0045
	50 mm, left	01	8012-0051
	50 mm, right	01	8012-0050
	50 mm, top	01	8012-0049
	100 mm, top	01, 10	8012-0053
Alarm output, zero-voltage	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
Analog output, 4 – 20 mA	for temperature values (output not adjustable)	02	8012-0974
Calibration certificate, expanded	each measurement at additional measuring point or testing temperature	–	8012-0022
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	–	8012-0030
	temperature measurement incl. Certificate and 27 measuring points at specified temperature	–	8012-0921
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	–	8012-0918
	temperature measurement incl. certificate, 9 measuring points at specified temperature	–	8012-0915
Cart	stable cart, casters with locking brakes	–	9051-0018

\* Notes › See last page

## Data Sheet Model KT 53

Designation	Description	*	Art.-No.
<b>Class 3.3 independent temperature safety device</b>	with visual alarm (DIN 12880)	–	8012-0978
<b>Data Logger Kit</b>	T 220: temperature logging from -90 °C to 220 °C	19	8012-0715
<b>Data Logger Kit, software</b>	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	19	8012-0821
<b>Door heating</b>	120 V option model	–	8012-0930
	230 V option model	–	8012-0931
<b>Door lock</b>	lockable door handle	–	8012-1025
<b>Interface converter, RS232/RS422 - 115V</b>	RS 422 cable set and RS 232 / RS 422 interface converter for connection to 10-way plug distributor or for connection to a unit	–	8012-0557
	120 V, 60 Hz option model		
<b>Interface converter, RS232/RS422 - 230V</b>	RS 422 cable set and RS 232 / RS 422 interface converter for connection to 10-way plug distributor or for connection to a unit	–	8012-0556
	230 V, 50/60 Hz option model		
<b>Interface converter, RS422 - 115V</b>	RS 422 cable set and RS 422 / Ethernet interface converter for connection to 10-way plug distributor or for connection to a unit	–	8012-0405
	120 V, 60 Hz option model		
<b>Interface converter, RS422 - 230V</b>	RS 422 cable set and RS 422 / Ethernet interface converter for connection to 10-way plug distributor or for connection to a unit	–	8012-0380
	230 V, 50/60 Hz option model		
<b>Interface converter, USB / RS422</b>	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
<b>Interior lighting</b>	120 V, 15 W option model	–	8012-0932
	230 V, 15 W option model	–	8012-0933
<b>Interior socket</b>	coverable, with associated LEMO connector (nominal voltage, max. 500 W, max. 90 °C, protection class IP67)	07	8012-0984
<b>Magnetic Pouch (A4)</b>	insert pouch with magnetic strip	–	1007-0065
<b>pH-neutral detergent</b>	concentrated, for gentle remove of residual contaminants; 1 kg	–	1002-0016
<b>Rack</b>	stainless steel	–	6004-0007
<b>Rack, accessories</b>	set of 4 fasteners for additional security	–	8012-0620
<b>Rack, reinforced</b>	stainless steel, with 1 set of 4 fasteners, max. load 70 kg	–	8012-0829
<b>RS 422 interface</b>	in place of Ethernet, for communication software	–	8012-0983
	modular plug distributor for 10 RS 422 interfaces	–	8012-0295
<b>RS 422 interface, cable (15 m)</b>	RS 422 connection cable (15 m) between plug distributor and RS 422 interface	–	5023-0036
<b>RS 422 interface, cable (50 m)</b>	RS 422 extension cable (50 m) between interface converter and unit or RS 232 / RS 422 plug distributor	–	5023-0117
<b>Rubber pads</b>	set of 4 anti-slip feet, for safe stacking of unit	10	8012-0001
<b>Shelf, perforated</b>	stainless steel	–	6004-0029
<b>Shelf, reinforced</b>	positioned at bottom level, max. load 67 kg, with additional attachment for operation of shaking device, stirring device or roller bottle system	–	8012-0818
<b>Software</b>	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
<b>Specimen temperature display</b>	with flexible Pt 100 sensor and digital specimen temperature display	–	8012-0935
<b>Zero voltage relay contacts</b>	for controlling 3 relay contacts via program-pin DIN socket (max. 24 V regulators, accessible via 6 - 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	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	including certificate, one measuring point in center of chamber at specified temperature	14, 16, 17, 18	DL300101
Temperature measurement 18 measuring points	including certificate, 18 measuring points at specified temperature	14, 16, 17, 18	DL300118
Temperature measurement 27 measuring points	including certificate, 27 measuring points at specified temperature	14, 16, 17, 18	DL300127
Temperature measurement 9 measuring points	including certificate, 9 measuring points at specified temperature	14, 16, 17, 18	DL300109
Validation services			
Execution of IQ/OQ	in accordance with qualification folder	15, 18, 20	DL410200
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	8012-0874
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	–	DL030041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	–	DL030042

\* 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

