

## Model KT 53 | Cooling incubators with Peltier technology

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
- Hot air disinfection at 100°C
- Energy efficient, environmentally friendly and secure



Model 53

### IMPORTANT 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] | Power supply - unit fuse        | Plug*     | Version  | Model version | Art.-No.  |
|---------------------|---------------------------------|-----------|----------|---------------|-----------|
| <b>Model KT 53</b>  |                                 |           |          |               |           |
| 53                  | 200...240 V 1~ 50/60 Hz -10,0 A | CEE 7/7   | Standard | KT053-230V    | 9020-0311 |
|                     | 100...120 V 1~ 50/60 Hz -10,0 A | NEMA 5-20 | Standard | KT053UL-120V  | 9020-0312 |

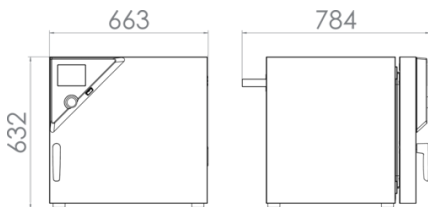
## TECHNICAL DATA

| Data  |             |              |
|---|-------------|--------------|
| Designation   | KT053-230V  | KT053UL-120V |
| Article Number  | 9020-0311   | 9020-0312    |
| Option model  | Standard    | Standard     |
| Performance Data Temperature                          |             |              |
| Temperature range                                     | 4...100 °C  | 4...100 °C   |
| Temperature uniformity at 37°C                        | 0.3 ± K     | 0.3 ± K      |
| Temperature fluctuation at 37°C                       | 0.1 ± K     | 0.1 ± K      |
| Max. heat compensation at 40°C                        | 100 W       | 100 W        |
| Recovery time after door was opened for 30 s at 37°C  | 2 min       | 2 min        |
| Electrical data                                       |             |              |
| Rated Voltage   | 200...240 V | 100...120 V  |
| Power frequency                                       | 50/60 Hz    | 50/60 Hz     |
| Nominal power   | 0,4 kW      | 0,4 kW       |
| Unit fuse   | 10,0 A      | 10,0 A       |
| Phase (Nominal voltage)                               | 1~          | 1~           |
| Dimensions and weights                                |             |              |
| Interior volume                                       | 53 L        | 53 L         |
| Net weight of the unit (empty)                        | 63 kg       | 63 kg        |
| Load per rack   | 15 kg       | 15 kg        |
| Permitted load  | 40 kg       | 40 kg        |
| Wall clearance back                                   | 100 mm      | 100 mm       |
| Wall clearance sidewise                               | 240 mm      | 240 mm       |
| Housing dimensions not incl. fittings and connections |             |              |
| Width net   | 660 mm      | 660 mm       |
| Height net  | 635 mm      | 635 mm       |
| Depth net   | 630 mm      | 630 mm       |
| Internal Dimensions                                   |             |              |
| Interior width  | 400 mm      | 400 mm       |
| Interior height                                       | 400 mm      | 400 mm       |

|                                  |          |          |
|----------------------------------|----------|----------|
| Interior depth                   | 334 mm   | 334 mm   |
| Inner doors                      | 1        | 1        |
| Unit doors                       | 1        | 1        |
| <b>Environment-specific data</b> |          |          |
| Sound-pressure level             | 48 dB(A) | 48 dB(A) |
| Energy consumption at 37°C       | 75 Wh/h  | 75 Wh/h  |
| <b>Fixtures</b>                  |          |          |
| Number of shelves (std./max.)    | 2/5      | 2/5      |

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 | KT 53 | *  | Art.-No.  |
|--------------------------------|-------------|-------|----|-----------|
|                                | 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 |
| Access port with silicone plug |             |       |    |           |

| Designation                          | Description  | KT 53 | *  | Art.-No.  |
|--------------------------------------|--|-------|----|-----------|
|                                      | 100 mm   | •     | 01 | 8012-1168 |
| 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 |
| Calibration certificate, expanded    | for temperature; for extending the measurement in center of chamber to include another test temperature  | •     | -  | 8012-1122 |
|                                      | for temperature, measurement in center of chamber at specified temperature   | •     | -  | 8012-1141 |
| Calibration certificate, temperature | temperature measurement incl. certificate, 9 measuring points at specified temperature   | •     | -  | 8012-1558 |
|                                      | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature  | •     | -  | 8012-1579 |
|                                      | temperature measurement incl. certificate and 27 measuring points at specified temperature   | •     | -  | 8012-1600 |
| Door lock                            | lockable door handle   | •     | -  | 8012-1668 |
| Pt 100 temperature sensor            | additional flexible Pt 100, interior, for displaying the temperature on the unit display   | •     | -  | 8012-0935 |
| Shelf, reinforced                    | positioned at bottom level, max. load 45 kg, with additional attachment for operation of shaking device, stirring device or roller bottle system | •     | -  | 8012-0818 |

## ACCESSORIES

| Designation                     | Description   | KT 53 | * | Art.-No.  |
|---------------------------------|---|-------|---|-----------|
| APT-COM™ 4 BASIC-Edition        | for simple logging and documentation requirements with up to 5 networked units.   |       |   |           |
|                                 | version 4, BASIC edition  | •     | - | 9053-0039 |
| APT-COM™ 4 GLP-Edition          | 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 |
| APT-COM™ 4 PROFESSIONAL-Edition | convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.  |       |   |           |
|                                 | version 4, PROFESSIONAL edition   | •     | - | 9053-0040 |
| 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  | •     | - | 8012-2250 |
| Qualification documents         | 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 |       |   |           |

| Designation       | Description   | KT 53 | * | Art.-No.  |
|-------------------|---|-------|---|-----------|
|                   | Digital in PDF format   | •     | - | 7057-0005 |
|                   | Hard copy inside folder   | •     | - | 7007-0005 |
|                   | 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 |
| Rack              | stainless steel   | •     | - | 8012-2047 |
| Rack, reinforced  | stainless steel, with fasteners (1 set of 4)  | •     | - | 8012-0829 |
| Rack accessories  | fasteners (1 set of 4) for additional security of racks   | •     | - | 8012-2280 |
| Rubber pads       | set anti-slip feet  | •     | - | 8012-2030 |
| Shelf, perforated | Stainless steel   | •     | - | 8012-2083 |
| Table on castors  | stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm  | •     | - | 9051-0018 |

## SERVICES

| Designation                                  | Description  | * | Art.-No.  |
|--|--|---|-----------|
| <b>Calibration services</b>                  |  |   |           |
| Calibration certificate, temperature         | Calibration of one (1) test temperature specified by the user in center of chamber, including certificate  | – | DL30-0135 |
|  | Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate   | – | DL30-0102 |
| Temperature measurement, 9 measuring points  | Temperature measurement with 9 measuring points with a set value specified by the user, including certificate  | – | DL30-0109 |
| Temperature measurement, 18 measuring points | Temperature measurement with 18 measuring points with a set value specified by the user, including certificate   | – | DL30-0118 |
| Temperature measurement, 27 measuring points | Temperature measurement with 27 measuring points with a set value specified by the user, including certificate   | – | DL30-0127 |
| <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) | – | DL10-0100 |
| Unit instructions                            | Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming  | – | DL10-0500 |
| <b>Maintenance contracts</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   | – | DL20-0720 |

| Designation                        | Description   | * | Art.-No.  |
|------------------------------------|---|---|-----------|
| 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 | – | DL20-0945 |
| 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                              | – | DL20-0845 |
| <b>Maintenance services</b>        |   |   |           |
| 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   | – | DL20-0604 |
| <b>Validation services</b>         |   |   |           |
| Execution of IQ/OQ                 | Execution of IQ/OQ in accordance with qualification folder  | – | DL41-0200 |
| Execution of IQ/OQ/PQ              | Execution of IQ/OQ/PQ in accordance with qualification folder   | – | 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

01      Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.

### **BINDER GmbH**

Tuttlingen, Germany  
TEL +49 7462 2005 0  
info@binder-world.com  
www.binder-world.com

### **BINDER Inc.**

Bohemia, NY, USA  
TEL +1 631 224 4340  
usa@binder-world.com  
www.binder-world.us

### **BINDER Environmental Testing Equipment (Shanghai) Co., Ltd.**

Shanghai, P.R. China  
TEL +86 21 685 808 25  
china@binder-world.com  
www.binder-world.com

### **BINDER Asia Pacific (Hong Kong) Ltd.**

Kowloon, Hong Kong, P.R. China  
TEL +852 39070500  
asia@binder-world.com  
www.binder-world.com