

Model KB 53 | Cooling incubators with compressor technology

BENEFITS

- Safe and reproducible incubation conditions even at high environmental conditions
- Disinfection routine at 100 °C



MAIN FEATURES

- Temperature range: -5 °C to 100 °C
- APT.line™ preheating chamber technology
- Cooling with compressor cooling unit
- Adjustable fan speed
- Controller with time-segment and real-time programming
- Elapsed time indicator
- 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: RS 422

ORDERING INFORMATION

| Interior volume [L] | Voltage | Option model | Version | Art.-No. |
|---------------------|----------------|--------------|--------------|-----------|
| Model KB 53 | | | | |
| 53 | 230 V 1~ 50 Hz | Standard | KB053-230V | 9020-0243 |
| | 120 V 1~ 60 Hz | Standard | KB053UL-120V | 9020-0252 |

TECHNICAL DATA

| Description | KB053-230V | KB053UL-120V |
|--|------------|--------------|
| Article Number | 9020-0243 | 9020-0252 |
| Performance Data Temperature | | |
| Temperature range [°C] | -5...100 | -5...100 |
| Temperature variation at 40 °C [± K] | 0.3 | 0.3 |
| Temperature fluctuation at 40 °C [± K] | 0.1 | 0.1 |
| Heating-up time to 40 °C [min] | 5 | 5 |
| Recovery time after 30 seconds door open 90° aperture angle at 40 °C [min] | 1 | 1 |
| Electrical data | | |
| Rated Voltage [V] | 230 | 120 |
| Power frequency [Hz] | 50 | 60 |
| Nominal power [kW] | 0.46 | 0.46 |

| Description | KB053-230V | KB053UL-120V |
|---------------------------------------|------------|--------------|
| Article Number | 9020-0243 | 9020-0252 |
| Unit fuse [A] | 10 | 12.5 |
| Phase (Nominal voltage) | 1~ | 1~ |
| Measures - Outer dimensions | | |
| Width net [mm] | 635 | 635 |
| Height net [mm] | 835 | 835 |
| Depth net [mm] | 580 | 580 |
| Wall clearance back [mm] | 100 | 100 |
| Wall clearance sidewise [mm] | 100 | 160 |
| Measures - Doors | | |
| Inner doors | 1 | 1 |
| Unit doors | 1 | 1 |
| Measures - Internal Dimensions | | |
| Width [mm] | 400 | 400 |
| Height [mm] | 400 | 400 |
| Depth [mm] | 330 | 330 |
| Measures | | |
| Interior volume [L] | 53 | 53 |
| Net weight of the unit (empty) [kg] | 72 | 72 |
| permitted load [kg] | 40 | 40 |
| Load per rack [kg] | 15 | 15 |
| Environment-specific data | | |
| Energy consumption at 40 °C | 215 Wh/h | 215 Wh/h |
| Sound-pressure level [dB(A)] | 0 | 0 |
| Fixtures | | |
| Number of shelves (standard/maximum) | 2/4 | 2/4 |

OPTIONS AND ACCESSORIES

| Designation | Description | * | Art.-No. |
|--------------------------------------|---|--------|-----------|
| Access port with silicone plug | 10 mm, back | 01 | 8012-0395 |
| | 10 mm, left | 01 | 8012-0393 |
| | 10 mm, right | 01 | 8012-0392 |
| | 10 mm, top | 01 | 8012-0391 |
| | 30 mm, back | 01 | 8012-0397 |
| | 30 mm, left | 01 | 8012-0047 |
| | 30 mm, right | 01 | 8012-0046 |
| | 30 mm, top | 01 | 8012-0045 |
| | 50 mm, back | 01 | 8012-0399 |
| | 50 mm, top | 01 | 8012-0049 |
| | 100 mm, top | 01, 10 | 8012-0053 |
| Analog output, 4 – 20 mA | for temperature values (output not adjustable) | 02 | 8012-0434 |
| Calibration certificate, expanded | each measurement at additional measuring point or testing temperature | – | 8012-0022 |
| | for temperature, measurement in center of chamber at specified temperature | – | 8012-0030 |
| Calibration certificate, temperature | 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

| Designation | Description | * | Art.-No. |
|---|---|----|-----------|
| Class 3.3 independent temperature safety device | with visual alarm (DIN 12880) | | |
| | 120 V option model | - | 8012-0455 |
| | 230 V option model | - | 8012-0450 |
| Data Logger Kit | T 220: temperature logging from -90 °C to 220 °C | 19 | 8012-0715 |
| 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 | - | 8012-0318 |
| 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 |
| Interior lighting | 120 V, 15 W option model | - | 8012-0361 |
| | 230 V, 15 W option model | 02 | 8012-0116 |
| Interior socket | coverable, with associated LEMO connector (nominal voltage, max. 500 W, max. 90 °C, protection class IP67) | 07 | 8012-0077 |
| 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. LEMO connector (3-pin) | - | 8012-0115 |
| Rack | stainless steel | - | 6004-0007 |
| Rack, accessories | set of 4 fasteners for additional security | - | 8012-0531 |
| RS 422 interface | 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 |
| 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 | - | 8012-0287 |
| 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 |
| Zero voltage relay contacts | for controlling 3 relay contacts via program regulators, accessible via 6-pin DIN socket (max. 24 V - 2.5 A) | | |
| | 120 V option model | - | 8012-0474 |
| | 230 V option model | - | 8012-0473 |

* 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 | DL100100 |

* Notes > See last page

| Designation | Description | * | Art.-No. |
|---|---|-------------------|-----------|
| Instruction | unit function instructions for operation and programming of the controller | 18 | DL100500 |
| Preventive maintenance | | | |
| Preventive maintenance | Executive of equipment inspection according to maintenance plan | 14, 18 | DL200300 |
| 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 | 8012-0873 |
| 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 | 8012-0960 |
| Warranty service | | | |
| Extension of the warranty from 2 to 3 years | beginning with the date of delivery, wearing parts are not included | - | DL018041 |
| Extension of the warranty from 2 to 5 years | beginning with the date of delivery, wearing parts are not included | - | DL018042 |

* 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 (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

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