# Model BF 56 | Standard-Incubators with forced convection

**The BINDER incubator of the BF Avantgarde.Line series with forced convection is suitable for all gentle incubation applications, particularly under a full load and large batch throughputs. This incubator is extremely homogeneous and has quick recovery times.**

## BENEFITS

- Excellent temporal and spatial temperature accuracy
- High process reliability
- 100°C disinfection routine



Model 56



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## IMPORTANT FEATURES

- Temperature range: +7-8°C above ambient temperature to +100°C
- High temperature accuracy thanks to APT.line™ technology
- Forced convection
- Controller with LCD display
- Electromechanical control of the exhaust air flap
- Inner door made of tempered safety glass
- 2 chrome-plated racks
- Units up to 115 L are stackable
- 4 stable castors, two with brakes, from 720 liters
- Class 3.1 integrated independent temperature safety device (DIN 12880) with visual alarm
- Ergonomic handle design
- USB port for recording data

## ORDERING INFORMATION

| Interior volume | | Power supply - unit fuse | Plug* | Version | Model version | Art.-No. |
|---|---|---|---|---|---|---|
| [cu.ft.] | [L] | | | | | |
| **Model BF 56** | | | | | | |
| 2 | 59 | 230 V 1~ 50/60 Hz -6,3 A | CEE 7/7 | Standard | BF056-230V | 9010-0313 |
| | | 120 V 1~ 60 Hz -12,5 A | NEMA 5-15 | Standard | BF056UL-120V | 9010-0314 |

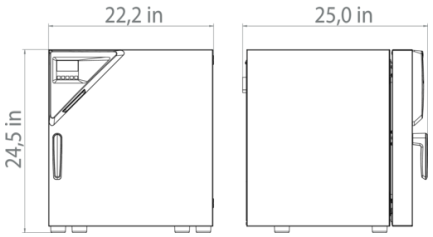
## TECHNICAL DATA

| | | |
|---|---|---|
| **Data** | | |
| Article Number | 9010-0313 | 9010-0314 |
| Designation | BF056-230V | BF056UL-120V |
| Option model | Standard | Standard |
| **Performance Data Temperature** | | |
| Temperature range | +7 °C above ambient temperature to 100 °C | +7 °C above ambient temperature to 100 °C |
| Temperature uniformity at 37°C | 0.2 ± K | 0.2 ± K |
| Temperature uniformity at 100°C | 1.0 ± K | 1.0 ± K |
| Temperature fluctuation at 37°C | 0.1 ± K | 0.1 ± K |
| Temperature fluctuation at 100°C | 0.2 ± K | 0.2 ± K |
| Heating up time to 100°C | 35 min | 35 min |
| Heating up time to 37°C | 6 min | 6 min |
| Recovery time after door was opened for 30 s at 37°C | 3 min | 3 min |
| **Electrical data** | | |
| Rated Voltage | 230 V | 120 V |
| Power frequency | 50/60 Hz | 60 Hz |
| Nominal power | 0,4 kW | 0,4 kW |
| Unit fuse | 6,3 A | 12,5 A |
| Phase (Nominal voltage) | 1~ | 1~ |
| **Dimensions and weights** | | |
| Interior volume | 2 cu.ft. | 2 cu.ft. |
| Net weight of the unit (empty) | 86 lbs | 86 lbs |
| Load per rack | 66 lbs | 66 lbs |
| Permitted load | 154 lbs | 154 lbs |
| Wall clearance back | 6,3 in | 6,3 in |
| Wall clearance sidewise | 3,94 in | 3,94 in |
| **Housing dimensions not incl. fittings and connections** | | |
| Width net | 22.05 in | 22.05 in |
| Height net | 24.61 in | 24.61 in |
| Depth net | 22.24 in | 22.24 in |

| | | |
|---|---|---|
| **Internal Dimensions** | | |
| Interior width | 15.75 in | 15.75 in |
| Interior height | 17.32 in | 17.32 in |
| Interior depth | 13.39 in | 13.39 in |
| Inner doors | 1 | 1 |
| Unit doors | 1 | 1 |
| **Environment-specific data** | | |
| Sound-pressure level | 43 dB(A) | 43 dB(A) |
| Energy consumption at 100°C | 190 Wh/h | 190 Wh/h |
| Energy consumption at 37°C | 55 Wh/h | 55 Wh/h |
| **Fixtures** | | |
| Number of shelves (std./max.) | 2/4 | 2/4 |

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 | BF 56 | * | Art.-No. |
|---|---|---|---|---|
| Access port with silicone plug | left | | | |
| | 10 mm | • | 01 | 8012-1274 |
| | 30 mm | • | 01 | 8012-1156 |
| | 50 mm | • | 01 | 8012-1164 |
| | right | | | |
| | 10 mm | • | 01 | 8012-1267 |
| | 30 mm | • | 01 | 8012-1153 |
| | 50 mm | • | 01 | 8012-1162 |

| Designation | Description | BF 56 | * | Art.-No. |
|---|---|---|---|---|
| | top | | | |
| | 10 mm | • | 01 | 8012-1261 |
| | 30 mm | • | 01 | 8012-1150 |
| | 50 mm | • | 01 | 8012-1159 |
| | 100 mm | • | 01 | 8012-1166 |
| Alarm function for overheating | Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device | • | - | 8012-1634 |
| Analog output 4-20 mA | for temperature values (output not adjustable) | • | 02 | 8012-1622 |
| Calibration certificate, expanded | for temperature; for extending the measurement in center of chamber to include another test temperature | • | - | 8012-1111 |
| Calibration certificate, temperature | for temperature, measurement in center of chamber at specified temperature | • | - | 8012-1130 |
| | temperature measurement incl. certificate, 9 measuring points at specified temperature | • | - | 8012-1548 |
| | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature | • | - | 8012-1569 |
| | temperature measurement incl. certificate and 27 measuring points at specified temperature | • | - | 8012-1590 |
| Clock | battery-backed | • | - | 8012-1639 |
| Door lock | lockable door handle | • | - | 8012-1663 |
| Ethernet interface | for Multi Management Software APT-COM™ | • | - | 8012-0990 |
| Gas-tight option model | Incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option | • | - | 8012-1044 |
| Inert gas connection | With gas inlet and outlet, Ø 10 mm, incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option | • | - | 8012-1047 |
| Pt 100 temperature sensor | additional flexible Pt 100, interior, for displaying the temperature on the unit display | • | - | 8012-1618 |

## ACCESSORIES

| Designation | Description | BF 56 | * | 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 |

| Designation | Description | BF 56 | * | Art.-No. |
|---|---|---|---|---|
| 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 |
| pH-neutral detergent | concentrated, for gentle remove of residual contaminants; 1 kg | • | - | 8012-2250 |
| Qualification documents IQ/OQ | IQ/OQ documents digital in PDF format – supporting documents for validation consisting of: IQ/OQ checklists, comprehensive unit documentation covering: temperature. Excluded: Document execution is separate | | | |
| | temperature. Excluded: Document execution is separate | • | - | 7057-0010 |
| Qualification documents IQ/OQ/PQ | IQ/OQ/PQ documents digital in PDF format – supporting documents for validation customizied to customer requirements, PQ section added to the qualification folder IQ/OQ; supporting documents for validation consisting of: IQ/OQ checklists, comprehensive unit documentation covering: temperature values. Excluded: Document execution is separate | | | |
| | temperature values. Excluded: Document execution is separate | • | - | 7057-0016 |
| Rack | max. load per rack 30 kg | | | |
| | chrome plated | • | - | 8012-2038 |
| | stainless steel | • | - | 8012-2085 |
| Rubber pads | set anti-slip feet | • | - | 8012-2030 |
| Shelf, perforated | max. load per rack 30 kg | | | |
| | Stainless steel | • | - | 8012-2175 |
| 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. |
|---|---|---|---|
| **Calibration services** | | | |
| Temperature calibration | Calibration of one (1) test temperature specified by the user in center of chamber, including certificate Travel to be quoted separate. | 05 | DL30-0120 |
| | Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate Travel to be quoted separate. | 05 | DL30-0102 |
| Temperature measurement, 9 measuring points | Temperature measurement with 9 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required. | 05 | DL30-0109 |
| Temperature measurement, 18 measuring points | Temperature measurement with 18 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 2 shelves are required. | 05 | DL30-0118 |
| Temperature measurement, 27 measuring points | Temperature measurement with 27 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required. | 05 | DL30-0127 |

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| **Installation services** | | | |
| Unit installation | 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) Travel to be quoted as separate. | 05 | DL10-0160 |
| Unit instructions | Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming. Travel to be quoted as separate Limited to 3 hours. | 05 | DL10-0540 |
| **Maintenance services** | | | |
| BRONZE 3-year maintenance contract | Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate. 10% Discount on Spare Parts and Labor for any additional Services needed Wear + tear parts to be purchased or billed to customer. Travel to be quoted as separate. | 05 | DL20-0720 |
| GOLD 3-year maintenance contract | Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate of Temperature. 25% Discount on Spare Parts and Labor for any additional Services needed. One additional courtesy visit per year can be used for service visit or operator. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate. | 05 | DL20-0910 |
| Preventive maintenance | One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Checking a test temperature specified by the user in center of usable space without certificate. Wear + tear parts need to be purchased or billed to customer. Travel to be quoted as separate. | 05 | DL20-0602 |
| SILVER 3-year maintenance contract | Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate 15% Discount on Spare Parts and Labor for any additional Services needed One additional courtesy visit per year can be used for service visit or operator training. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate. | 05 | DL20-0810 |
| **Validation services** | | | |
| Execution of IQ/OQ | Execution of IQ/OQ in accordance with qualification folder. Travel to be quoted separate. | 05 | DL40-0100 |
| Execution of IQ/OQ/PQ | Execution of IQ/OQ/PQ in accordance with qualification folder. Travel to be quoted separate. | 05 | DL44-0500 |
| **Warranty service** | | | |
| 1-year warranty extension | The warranty is extended by 1 year from the delivery date, wear parts are excluded | 05 | 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.

02 UL mark is not granted when this option is used.

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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