# Model BF 720 | 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 720

## IMPORTANT FEATURES

- Temperature range: +10°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
- 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 [L] | Power supply - unit fuse | Plug* | Version | Model version | Art.-No. |
|---|---|---|---|---|---|
| **Model BF 720** | | | | | |
| 734 | 230 V 1~ 50/60 Hz - | CEE 7/7 | Standard | BF720-230V | 9010-0321 |
| | 240 V 1~ 60 Hz - | NEMA 6-20 | Standard | BF720UL-240V | 9010-0322 |

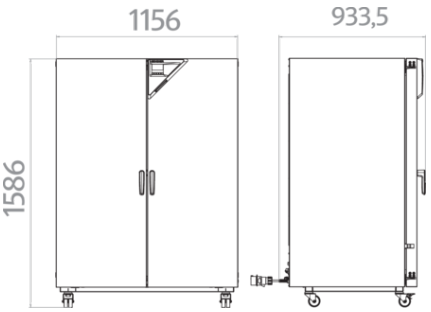
## TECHNICAL DATA

| | | |
|---|---|---|
| **Data** | | |
| Article Number | 9010-0321 | 9010-0322 |
| Designation | BF720-230V | BF720UL-240V |
| Option model | Standard | Standard |
| **Performance Data Temperature** | | |
| Temperature range | +10 °C above ambient temperature to 100 °C | +10 °C above ambient temperature to 100 °C |
| Temperature uniformity at 37°C | 0.3 ± K | 0.3 ± K |
| Temperature uniformity at 100°C | 1.6 ± K | 1.6 ± 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 | 45 min | 45 min |
| Heating up time to 37°C | 15 min | 15 min |
| Recovery time after door was opened for 30 s at 37°C | 4 min | 4 min |
| **Electrical data** | | |
| Rated Voltage | 230 V | 240 V |
| Power frequency | 50/60 Hz | 60 Hz |
| Nominal power | 1,75 kW | 1,85 kW |
| Phase (Nominal voltage) | 1~ | 1~ |
| **Dimensions and weights** | | |
| Interior volume | 734 L | 734 L |
| Net weight of the unit (empty) | 166 kg | 166 kg |
| Load per rack | 45 kg | 45 kg |
| Permitted load | 315 kg | 315 kg |
| Wall clearance back | 160 mm | 160 mm |
| Wall clearance sidewise | 100 mm | 100 mm |
| **Housing dimensions not incl. fittings and connections** | | |
| Width net | 1,165 mm | 1,165 mm |
| Height net | 1,590 mm | 1,590 mm |
| Depth net | 870 mm | 870 mm |
| **Internal Dimensions** | | |

| | | |
|---|---|---|
| Interior width | 1,000 mm | 1,000 mm |
| Interior height | 1,300 mm | 1,300 mm |
| Interior depth | 565 mm | 565 mm |
| Inner doors | 2 | 2 |
| Unit doors | 2 | 2 |
| **Environment-specific data** | | |
| Sound-pressure level | 43 dB(A) | 43 dB(A) |
| Energy consumption at 100°C | 580 Wh/h | 580 Wh/h |
| Energy consumption at 37°C | 130 Wh/h | 130 Wh/h |
| **Fixtures** | | |
| Number of shelves (std./max.) | 2/16 | 2/16 |

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 720 | * | 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 720 | * | 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 | • | - | 8012-1816 |
| Ethernet interface | for Multi Management Software APT-COM™ | • | - | 8012-0991 |
| Inner chamber, reinforced | max. total load 350 kg | • | - | 8012-1829 |
| Pt 100 temperature sensor | additional flexible Pt 100, interior, for displaying the temperature on the unit display | • | - | 8012-1618 |

## ACCESSORIES

| Designation | Description | BF 720 | * | 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 |

| Designation | Description | BF 720 | * | Art.-No. |
|---|---|---|---|---|
| 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, $CO_2$, $O_2$ – or pressure, depending on unit | | | |
| | 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, $CO_2$, $O_2$, pressure, depending on unit | | | |
| | Digital in PDF format | • | - | 7057-0001 |
| | Hard copy inside folder | • | - | 7007-0001 |
| Rack | max. load per rack 45 kg | | | |
| | chrome plated | • | - | 8012-2044 |
| | stainless steel | • | - | 8012-2170 |
| Rack, heavy load | max. load per rack 70 kg | | | |
| | Stainless steel | • | - | 8012-2185 |
| Shelf, perforated | max. load per rack 40 kg | | | |
| | Stainless steel | • | - | 8012-2178 |

## SERVICES

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| **Calibration services** | | | |
| Calibration certificate, temperature | Calibration of one (1) test temperature specified by the user in center of chamber, including certificate | 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 | 05 | DL30-0102 |
| Temperature measurement, 9 measuring points | Temperature measurement with 9 measuring points with a set value specified by the user, including certificate | 05 | DL30-0109 |
| Temperature measurement, 18 measuring points | Temperature measurement with 18 measuring points with a set value specified by the user, including certificate | 05 | DL30-0118 |
| Temperature measurement, 27 measuring points | Temperature measurement with 27 measuring points with a set value specified by the user, including certificate | 05 | DL30-0127 |
| **Installation services** | | | |
| 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 | DL10-0160 |

| Designation | Description | * | Art.-No. |
|---|---|---|---|
| Unit instructions | Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming | 05 | DL10-0540 |
| **Maintenance contracts** | | | |
| 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 | DL20-0720 |
| 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 |
| 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 |
| **Maintenance services** | | | |
| 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 | DL20-0602 |
| **Validation services** | | | |
| Execution of IQ/OQ | Execution of IQ/OQ in accordance with qualification folder | 05 | DL40-0100 |
| Execution of IQ/OQ/PQ | Execution of IQ/OQ/PQ in accordance with qualification folder | 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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