

## BD 53 - Incubator with natural convection

BD series incubators are specially designed for long-term and stable continuous operation. Ideal for gentle incubation of organisms, such as on agar plates, and also for conditioning of heat sensitive media.



### ► Performance features and equipment:

- Electronically controlled APT.line™ preheating chamber assuring temperature accuracy and reproducible results
- Temperature range 5 °C (9 °F) above ambient up to 100 °C (212 °F)
- Digital temperature setting with an accuracy of a tenth of a degree
- DS controller with integrated timer 0 to 99 h
- Independent adjustable temperature safety device class 3.1, providing full protection against chamber over-temperature, with visual alarm
- Adjustable ventilation by means of rear exhaust duct, Ø 50 mm (1.97 inch) with ventilation flap and front ventilation slide
- Inner glass door
- RS 422 interface for use with optional GMP/GLP and FDA guideline 21 CFR Part 11 compliant APT-COM™ DataControlSystem software
- Units up to 115 liters are stackable
- 2 chrome-plated racks included
- BINDER test certificate

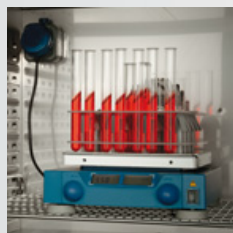


**BD 53**

<b>Exterior dimensions</b>	
Width (mm/inch)	634 / 25.0
Height (inclusive feet) (mm/inch)	617 / 24.3
Depth (mm/inch)	575 / 22.6
plus door handle and exhaust duct (mm/inch)	90 / 3.5
Wall clearance rear (mm/inch)	100 / 3.9
Wall clearance side (mm/inch)	160 / 6.3
Steam space volume (l/cu.ft.)	70 / 2.5
Number of doors	1
<b>Interior dimensions</b>	
Width (mm/inch)	400 / 15.8
Height (mm/inch)	400 / 15.8
Depth (mm/inch)	330 / 13.0
Interior volume (l/cu.ft.)	53 / 1.9
Racks (number standard/max.)	2 / 4
Load per rack (kg/lbs.)	15 / 33
Permitted total load (kg/lbs.)	40 / 88
Weight of the unit (empty) (kg/lbs.)	43 / 95
<b>Temperature data</b>	
Temperature range, 5 °C (9 °F) above ambient up to (°C/°F)	100 / 212.8
Temperature variation	
at 37 °C (98.6 °F) (± °C)	0.5
at 50 °C (122 °F) (± °C)	1.1
Temperature fluctuation (± °C)	
at 37 °C (98.6 °F) (Min.)	0.1
at 50 °C (122 °F) (Min.)	0.1
Heating up time 1)	
to 37 °C (98.6 °F) (Min.)	38
to 50 °C (122 °F) (Min.)	59
Recovery time after door was opened 30 sec. 1)	
at 37 °C (98.6 °F) (Min.)	5
at 50 °C (122 °F) (Min.)	7
<b>Electrical data</b>	
Housing protection acc. to EN 60529	IP 20
Nominal voltage (±10 %) 50 / 60 Hz (V)	230
Nominal power (kW)	0.4
Energy consumption at 37 °C (98.6 °F) (W)	11

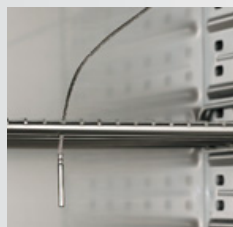
1) up to 98 % of the set value

All technical data are specified for units with standard equipment at an ambient temperature of 25 °C and a voltage fluctuation of ±10 %. The temperature data are determined in accordance to factory standard following DIN 12880 respecting the recommended wall clearances of 10 % of the height, width and depth of the inner chamber. All indications are average values, typical for units produced in series. We reserve the right to alter technical specifications at all times.



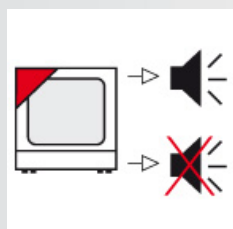
▶ **Waterproof interior power socket in the inner chamber**

Connected to the main switch. To connect ancillary equipment inside the chamber.



▶ **Additional PT 100 temperature sensor**

In situ or flexible installation for exact temperature measurement within the specimen material; connects to a special plug on the back wall of the inner chamber.



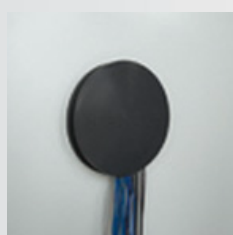
▶ **Audible alarm**

Activates in the event of excess temperature, with adjustable setpoint at the temperature controller. Audible alarm can be switched off.



▶ **Door Lock**

Prevents unauthorized access and interference with processes in the chamber.



▶ **Access ports**

With silicon plugs for inserting external measuring devices into the chamber. Access ports with 10, 30, 50, 100 mm (0.4, 1.2, 2 , 3.9 inch) diameter.

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Access port with silicone plugs, 10 mm (0.39 inch), 30 mm (1.18 inch), 50 mm (1.97 inch), 100 mm (3.94 inch)	<input type="radio"/>
Switchable waterproof interior socket 230 V AC (max. 200 W), IP65 protected, with corresponding plug. Max. allowed operating temperature 50 °C (122 °F)	<input type="radio"/>
Over temperature alarm, audible, can be switched off. Temperature limit can be set at the independent, adjustable temperature safety device	<input type="radio"/>
Additional PT 100 temperature sensor, flexibly installed, with external connection, including LEMO connector (3 - pin)	<input type="radio"/>
Temperature measurement acc. to DIN 12880 (27 measuring points) at 37 °C (98.6 °F) or at specified temperature with measuring protocol and certificate	<input type="radio"/>
Factory calibration certificate. Measurement in center of chamber at 37 °C (98.6 °F) or at specified testing temperature	<input type="radio"/>
Extension to factory calibration certificate. Each additional measurement at an additional measuring point or temperature	<input type="radio"/>
Anti-slip rubber pads for safe stacking (1 set of 4 pieces)	<input type="radio"/>
Data Logger Kit T 220: For the continuous temperature recording of -90 °C (-130 °F) to 220 °C (428 °F). Kit includes 1 data logger, PT 100 sensor with 2 m Teflon extension cable and 1 fixture for the connection at the BINDER unit	<input type="radio"/>
Data Logger Software: Configuration und evaluation software for all BINDER Data Logger Kits, incl. data cable	<input type="radio"/>
Rack, chrome - plated	<input type="radio"/>
Rack, stainless steel	<input type="radio"/>
Shelf, perforated, stainless steel	<input type="radio"/>
Door Lock	<input type="radio"/>