

Model BD 23 | Standard-Incubators with gravity convection

The BINDER incubator of the BD series with gravity convection is the specialist in long-term and stable continuous operation. This incubator is specially designed for gentle incubation of organisms, as well as conditioning of heat-sensitive media or microbiological heating.

BENEFITS

- Safe and reproducible incubation even under high batch throughputs in long-term operation
- Disinfection routine at 100 °C
- Stable atmosphere by inner glass door



Model 23

MAIN FEATURES

- Temperature range: room temperature plus 5 °C to 100 °C
- APT.line™ preheating chamber technology
- gravity convection
- Adjustable exhaust air flap
- Controller with timer functions
- Inner door made of tempered safety glass
- 2 chrome-plated racks
- Stackable
- Class 3.1 independent temperature safety device (DIN 12880) with visual temperature alarm
- Computer interface: RS 422

ORDERING INFORMATION

Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
0.7	230 V 1~ 50/60 Hz	Standard	BD023-230V	9010-0187
	120 V 1~ 60 Hz	Standard	BD023UL-120V	9010-0189

TECHNICAL DATA

Description	BD023-230V ¹	BD023UL-120V ¹
Article Number	9010-0187	9010-0189
Performance Data Temperature		
Temperature range +5 °C above ambient temperature to	100 °C	100 °C
Temperature variation at 37 °C [± K]	0.5	0.5
Temperature fluctuation at 37 °C [± K]	0.2	0.2
Heating-up time to 37 °C [min]	59	59
Recovery time after 30 seconds door open at 37 °C [min]	20	20

1 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. All indications are average values, typical for units produced in series. We reserve the right to change technical specifications at any time.

Description	BD023-230V ¹	BD023UL-120V ¹
Article Number	9010-0187	9010-0189
Electrical data		
Rated Voltage [V]	230	120
Power frequency [Hz]	50/60	60
Nominal power [kW]	0.2	0.2
Unit fuse [A]	12.5	12.5
Phase (Nominal voltage)	1~	1~
Measures		
Interior volume [cu.ft.]	0.7	0.7
Net weight of the unit (empty) [lbs]	60	60
Permitted load [lbs]	55	55
Load per rack [lbs]	26	26
Wall clearance back [in]	6.3	6.3
Wall clearance sidewise [in]	3.94	3.94
Internal Dimensions		
Width [in]	8.75	8.75
Height [in]	13	13
Depth [in]	10.91	10.91
Doors		
Unit doors	1	1
Housing dimensions not incl. fittings and connections		
Width net [in]	17.14	17.14
Height net [in]	19.5	19.5
Depth net [in]	20.49	20.49
Environment-specific data		
Energy consumption at 37 °C [Wh/h]	11	11
Fixtures		
Number of shelves (std./max.)	2/4	2/4

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DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]



OPTIONS

Designation	Description	*	Art.-No.
Calibration certificate, temperature	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-0921
	additional flexible Pt 100, interior, with external connection incl. LEMO connector (3-pin)	-	8012-0115
Options/Accessories	back		
	10 mm	01	8012-0390
	30 mm	01	8012-0397
	50 mm	01	8012-0399
	for temperature values (output not adjustable)	-	8012-0432
	for temperature; for extending the measurement in center of chamber to include another test temperature	-	8012-1110
	left		
	10 mm	01	8012-0388
	30 mm	01	8012-0047
	50 mm	01	8012-0051
	lockable door handle	-	8012-0318
	Measurement in center of chamber at specified temperature	-	8012-1129
	right		
	10 mm	01	8012-0387
	30 mm	01	8012-0046
	50 mm	01	8012-0050
	Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device		
	120 V option model	-	8012-0470
	120/208 V option model	-	8012-0469
	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	
top			
10 mm	01	8012-0386	
30 mm	01	8012-0045	
50 mm	01	8012-0049	
100 mm	01, 10	8012-0053	
Waterproof, switched flush-mounting box (CA3GD) for nominal voltage in unit interior, with cover and corresponding plug (nominal voltage; max. 500 W; max. 90 °C; protection class IP67)	07	8012-0077	

* Notes › See last page

ACCESSORIES

Designation	Description	*	Art.-No.
Multi Management Software	Multi Management Software APT-COM™		
	version 4, BASIC edition	19	9053-0039
	version 4, GLP edition	19	9053-0042
	version 4, PROFESSIONAL edition	19	9053-0040

* Notes › See last page

Designation	Description	*	Art.-No.
	chrome plated	-	6004-0050
	Stainless steel	-	6004-0052
	stainless steel	-	6004-0051
	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
	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
Options/Accessories	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
	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	19	8012-0821
	set of 4 anti-slip feet, for safe stacking of units	-	8012-1887
	stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	-	9051-0018
	T 220: For continuous temperature logging from -90 °C to 220 °C. The kit includes 1 data logger, Pt 100 sensor with 2 m extension cable and 1 magnetic fixture for mounting to the BINDER unit	19	8012-0715

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Installation services			
Services	Unit function instructions for operation and programming of the controller	18	DL10-0500
	Unpacking and setting up of unit, connecting to existing connections, and checking function	13, 18	DL10-0100
Preventive maintenance			
Services	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0200
Calibration services			
Services	Expansion – including certificate, each additional measuring point in center of chamber at specified test temperature	14, 16, 17, 18	DL30-0102
	Temperature calibration with 1 measuring point in center of chamber at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0101
	Temperature measurement with 18 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0118
	Temperature measurement with 27 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0127
	Temperature measurement with 9 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0109
Validation services			
Services	Execution of IQ/OQ in accordance with qualification folder	15, 18	DL40-0100
	Execution of IQ/OQ/PQ in accordance with qualification folder	15, 18	DL44-0500
Warranty service			
Services	The warranty is extended from 2 to 3 years from the delivery date, wear parts are excluded	-	DL01-6041
	The warranty is extended from 2 to 5 years from the delivery date, wear parts are excluded	-	DL01-6042

* 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.
- 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 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.

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