

## 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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### MAIN FEATURES

- Temperature range: ambient temperature plus 7 °C 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
- Stackable
- Class 3.1 integrated independent temperature safety device (DIN 12880) with visual alarm
- Ergonomic handle design
- USB port for recording data

### ORDERING INFORMATION

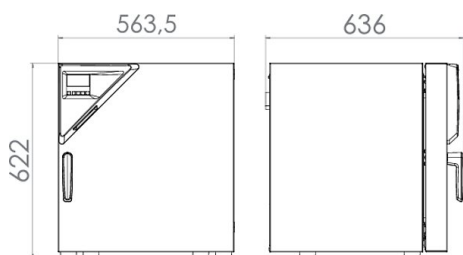
Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
<b>Model BF 56</b>				
2.1	230 V 1~ 50/60 Hz	Standard	BF056-230V	9010-0313
	120 V 1~ 60 Hz	Standard	BF056UL-120V	9010-0314

## TECHNICAL DATA

Description	BF056-230V <sup>1</sup>	BF056UL-120V <sup>1</sup>
Article Number	9010-0313	9010-0314
<b>Performance Data Temperature</b>		
Temperature range 7 °C above ambient temperature to [°C]	100	100
Temperature variation at 37 °C [± K]	0.2	0.2
Temperature fluctuation at 37 °C [± K]	0.1	0.1
Heating-up time to 37 °C [min]	6	6
Recovery time after 30 seconds door open at 37 °C [min]	3	3
<b>Electrical data</b>		
Rated Voltage [V]	230	120
Power frequency [Hz]	50/60	60
Nominal power [kW]	0.4	0.4
Unit fuse [A]	6.3	12.5
Phase (Nominal voltage)	1~	1~
<b>Outer dimensions</b>		
Width net [in]	22.06	22.06
Height net [in]	24.63	24.63
Depth net [in]	22.26	22.26
Wall clearance back [in]	6.3	6.3
Wall clearance sidewise [in]	3.94	3.94
<b>Doors</b>		
Unit doors	1	1
<b>Internal Dimensions</b>		
Width [in]	15.76	15.76
Height [in]	17.34	17.34
Depth [in]	13.4	13.4
<b>Measures</b>		
Interior volume [cu.ft.]	2.1	2.1
Net weight of the unit (empty) [lbs]	84	84
permitted load [lbs]	154	154
Load per rack [lbs]	66	66
<b>Environment-specific data</b>		
Energy consumption at 37 °C [Wh/h]	55	55
Sound-pressure level [dB(A)]	43	43
<b>Fixtures</b>		
Number of shelves (std./max.)	2/4	2/4

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 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.

## DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]



## OPTIONS AND ACCESSORIES

Designation	Description	*	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
	top		
	10 mm	01	8012-1261
	30 mm	01	8012-1150
	50 mm	01	8012-1159
100 mm	01, 10	8012-1166	
Analog output 4-20 mA	for temperature values (output not adjustable)	02	8012-1622
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition	19	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	19	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	19	9053-0040
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 and 27 measuring points at specified temperature	-	8012-1590
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-1569
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1548
Clock	battery-backed	-	8012-1639
Data Logger Kit	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
Data Logger 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	-	8012-1663
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	09	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
Interior lighting	with 15 W light bulb		
	120 V option model	-	8012-0971
	230 V option model	-	8012-1626
Interior socket	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	8012-1638
Overheating alarm	audible, can be switched off, adjustable limit on the independent temperature safety device	-	8012-1634
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	-	8012-1618
Rack	chrome plated	-	6004-0166
	stainless steel	-	6004-0150

\* Notes › See last page

Designation	Description	*	Art.-No.
Rack, heavy load	Stainless steel, max. load per rack 50 kg	-	6004-0198
Rubber pads	set anti-slip feet	-	8012-1887
Shelf, perforated	Stainless steel	-	6004-0182
Table on castors	stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	-	9051-0018

\* Notes › See last page

## SERVICES

Designation	Description	*	Art.-No.
<b>Installation services</b>			
Installation	and set up of unit at operating location, connect to existing connections	13, 18	DL10-0100
Instruction	unit function instructions for operation and programming of the controller	18	DL10-0500
<b>Preventive maintenance</b>			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0200
<b>Calibration services</b>			
Calibration temperature incl. certificate	including certificate, one measuring point in center of chamber at specified temperature	14, 16, 17, 18	DL30-0101
Temperature measurement 18 measuring points	including certificate, 18 measuring points at specified temperature	14, 16, 17, 18	DL30-0118
Temperature measurement 27 measuring points	including certificate, 27 measuring points at specified temperature	14, 16, 17, 18	DL30-0127
Temperature measurement 9 measuring points	including certificate, 9 measuring points at specified temperature	14, 16, 17, 18	DL30-0109
<b>Validation services</b>			
Execution of IQ/OQ	in accordance with qualification folder	15, 18, 20	DL40-0100
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL44-0500
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	8012-0871
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	8012-0959
<b>Warranty service</b>			
Extension of the warranty from 2 to 3 years	beginning with the date of delivery, wearing parts are not included	-	DL01-7041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	-	DL01-7042

\* 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 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 the item of the IQ/OQ folder.  
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.

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