

# 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°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
- Stackable
- Class 3.1 integrated independent temperature safety device (DIN 1288o) with visual alarm
- Ergonomic handle design
- · USB port for recording data

#### ORDERING INFORMATION

Interior volume [L]	Power supply - unit fuse	Plug*	Version	Model version	ArtNo.
Model BF 56					
	230 V 1~ 50/60 Hz -6,3 A	CEE 7/7	Standard	BF056-230V	9010-0313
59	120 V 1~ 60 Hz -12,5 A	NEMA 5-15	Standard	BF056UL-120V	9010-0314



## TECHNICAL DATA

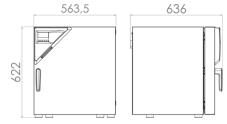
TECHNICAL DATA		
Data		
Designation	BF056-230V	BF056UL-120V
Article Number	9010-0313	9010-0314
Option model	Standard	Standard
Performance Data Temperature		
Temperature range	+7 °C above ambient temperature to 100 °C	+7 °C above ambient temperature to 100 °C
Temperature uniformity at 37°C	0.2 ± K	0.2 ± 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	o,4 kW
Unit fuse	6,3 A	12,5 A
Phase (Nominal voltage)	1~	1~
Dimensions and weights		
Interior volume	59 L	59 L
Net weight of the unit (empty)	39 kg	39 kg
Load per rack	30 kg	30 kg
Permitted load	70 kg	70 kg
Wall clearance back	160 mm	160 mm
Wall clearance sidewise	100 mm	100 mm
Housing dimensions not incl. fittings and connections		
Width net	560 mm	560 mm
Height net	625 mm	625 mm



Depth net	565 mm	565 mm
Internal Dimensions		
Interior width	400 mm	400 mm
Interior height	440 mm	440 mm
Interior depth	340 mm	340 mm
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  $\pm 2^{\circ}$  C  $\pm 3^{\circ}$  C and a power supply voltage fluctuation of  $\pm 10^{\circ}$  %. 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	*	ArtNo.
	left			
	10 mm	•	01	8012-1274
	30 mm	•	01	8012-1156
Access port with silicone plug	50 mm	•	01	8012-1164
	right			
	10 mm	•	01	8012-1267
	30 mm	•	01	8012-1153



Designation	Description	BF 56	*	ArtNo.
	50 mm	•	01	8012-1162
	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, $\emptyset$ 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	*	ArtNo.
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	*	ArtNo.
APT-COM™ 4 PROFESSIONAL-	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.			
Edition	version 4, PROFESSIONAL edition	•	-	9053-0040
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250
	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, $\mathrm{CO_2}$ , $\mathrm{O_2}$ – or pressure, depending on unit			
	Digital in PDF format	•	-	7057-0005
Qualification decuments	Hard copy inside folder	•	-	7007-0005
Qualification documents	IQ/OQ documents – supporting documents for validation performed by customers, consisting of: IQ/OQ checklists incl. calibration guide and comprehensive unit documentation; parameters: temperature, ${\rm CO_2}$ , ${\rm O_2}$ , pressure, depending on unit			
	Digital in PDF format	•	-	7057-0001
	Hard copy inside folder	•	-	7007-0001
	max. load per rack 30 kg			
Rack	chrome plated	•	-	8012-2038
	stainless steel	•	-	8012-2085
Rubber pads	set anti-slip feet	•	-	8012-2030
Chalf parforated	max. load per rack 30 kg			
Shelf, perforated	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	*	ArtNo.
Calibration services			
Calibration partificate temporature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	-	DL30-0120
Calibration certificate, temperature	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	-	DL30-0102
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate	-	DL30-0109
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate	-	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate	-	DL30-0127
Installation services			



Designation	Description	*	ArtNo.
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)	-	DL10-0100
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	-	DL10-0500
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	-	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	-	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	-	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	-	DL20-0602
Validation services			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	-	DL40-0100
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	_	DL44-0500
Warranty service			
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	-	DL50-0010



#### **NOTES**

- O1 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.

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