Model BF 400 | Standard-Incubators with forced convection

The BINDER incubator of the BF series with mechanical 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

- 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 400

Model 400

IMPORTANT FEATURES

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

ORDERING INFORMATION

Interior volume [L]	Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
Model BF 400					
400	230 V 1~ 50/60 Hz -12,5 A	CEE 7/7	Standard	BF400-230V	9010-0241
	120 V 1~ 60 Hz -12,5 A	NEMA 5-15	Standard	BF400UL-120V	9010-0242

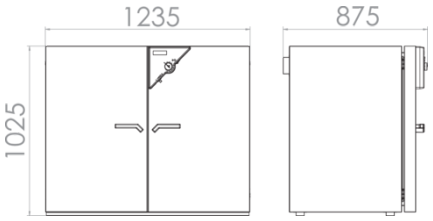
TECHNICAL DATA

Data		
Article Number	9010-0241	9010-0242
Designation	BF400-230V	BF400UL-120V
Option model	Standard	Standard
Performance Data Temperature		
Temperature range	+5 °C above ambient temperature to 100 °C	+5 °C above ambient temperature to 100 °C
Temperature uniformity at 37°C	0.4 ± K	0.4 ± K
Temperature fluctuation at 37°C	0.1 ± K	0.1 ± K
Heating up time to 37°C	12 min	12 min
Recovery time after door was opened for 30 s at 37°C	5 min	5 min
Electrical data		
Rated Voltage	230 V	120 V
Power frequency	50/60 Hz	60 Hz
Nominal power	0,85 kW	0,85 kW
Unit fuse	12,5 A	12,5 A
Phase (Nominal voltage)	1~	1~
Dimensions and weights		
Interior volume	400 L	400 L
Net weight of the unit (empty)	145 kg	145 kg
Load per rack	35 kg	35 kg
Permitted load	90 kg	90 kg
Wall clearance back	160 mm	160 mm
Wall clearance sidewise	100 mm	100 mm
Housing dimensions not incl. fittings and connections		
Width net	1,235 mm	1,235 mm
Height net	1,025 mm	1,025 mm
Depth net	765 mm	765 mm
Internal Dimensions		
Interior width	1,000 mm	1,000 mm
Interior height	800 mm	800 mm

Interior depth	500 mm	500 mm
Unit doors	2	2
Environment-specific data		
Energy consumption at 37°C	56 Wh/h	56 Wh/h
Fixtures		
Number of shelves (std./max.)	2/9	2/9

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 400	*	Art.-No.
Access port with silicone plug	back			
	10 mm	•	01	8012-1281
	30 mm	•	01	8012-1291
	50 mm	•	01	8012-1293
	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

Designation	Description	BF 400	*	Art.-No.
	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			
	120 V option model	•	-	8012-1302
	230 V option model	•	-	8012-1298
Analog output 4-20 mA	for temperature values (output not adjustable)	•	-	8012-0482
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
Door lock	lockable door handle	•	-	8012-1252
Inner chamber, reinforced	including 2 reinforced racks	•	-	8012-1732
Pt 100 temperature sensor	additional flexible Pt 100, interior, with external connection incl. LEMO connector (3-pin)	•	-	8012-1172

ACCESSORIES

Designation	Description	BF 400	*	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
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250

Designation	Description	BF 400	*	Art.-No.
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	chrome plated	•	-	8012-2036
	stainless steel	•	-	8012-2159
Rubber pads	set anti-slip feet	•	-	8012-2030
Shelf, perforated	Stainless steel	•	-	8012-2162
Table on castors	stable cart, casters with locking brakes, dimensions: W 1,300 x D 800 x H 780 mm	•	-	9051-0019

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
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

Designation	Description	*	Art.-No.
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.

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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