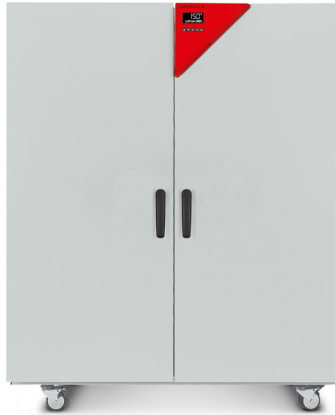


# Model FED 720 | Drying and heating chambers with forced convection and enhanced timer functions

BINDER heating chambers of the FED Avantgarde.Line series provide almost unlimited capacity and are particularly adaptable. With advanced timing functions and a controllable fan, temperature and convection conditions are easily controlled.

## BENEFITS

- Best energy efficiency on the market
- Excellent temporal and spatial temperature accuracy
- USB connection for recording data
- Temperature range up to 300 °C



Model 720

## IMPORTANT FEATURES

- Temperature range: +12°C above ambient temperature to +300 °C
- Up to 30% lower energy consumption compared to conventional units on the market
- High temperature accuracy thanks to APT.line™ technology
- Adjustable fan speed
- Controller with LCD display and enhanced time functions
- Electromechanical control of the exhaust air flap
- 2 chrome-plated racks
- Class 2 integrated independent adjustable temperature safety device (DIN 12880) with visual alarm
- Ergonomic handle design
- Ethernet interface
- USB port for recording data

## ORDERING INFORMATION

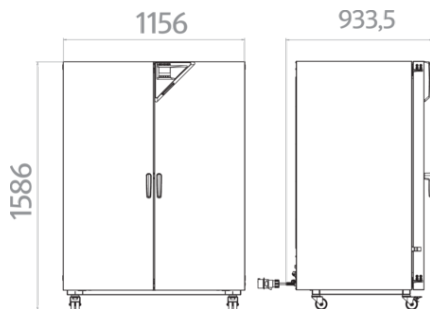
Designation	Option model	Interior volume	Rated Voltage	Power frequency	Article Number
FED720-400V	Standard	741 L	400 V	50/60 Hz	9010-0301
FED720UL-208V	Standard	741 L	208 V	60 Hz	9010-0302

## TECHNICAL DATA

Data		
Designation	FED720-400V	FED720UL-208V
Article Number	9010-0301	9010-0302
Option model	Standard	Standard
Performance Data Temperature		
Temperature range	+12 °C above ambient temperature to 300 °C	+12 °C above ambient temperature to 300 °C
Temperature uniformity at 150°C	2 ± K	2 ± K
Temperature fluctuation at 150°C	0.6 ± K	0.6 ± K
Heating up time to 150°C	25 min	25 min
Recovery time after door was opened for 30 s at 150°C	6 min	6 min
Air change data		
Air change rate at 100°C	5 x/h	5 x/h
Electrical data		
Rated Voltage	400 V	208 V
Power frequency	50/60 Hz	60 Hz
Nominal power	4,5 kW	4,5 kW
Unit fuse	16,0 A	16,0 A
Phase (Nominal voltage)	3~	3~
Measures		
Interior volume	741 L	741 L
Net weight of the unit (empty)	166 kg	166 kg
Load per rack	45 kg	45 kg
Permitted load	315 kg	315 kg
Wall clearance back	160 mm	160 mm
Wall clearance sidewise	100 mm	100 mm
Housing dimensions not incl. fittings and connections		
Width net	1,165 mm	1,165 mm
Height net	1,590 mm	1,590 mm
Depth net	870 mm	870 mm
Internal Dimensions		
Interior width	1,000 mm	1,000 mm
Interior height	1,300 mm	1,300 mm
Interior depth	570 mm	570 mm
Unit doors	2	2
Environment-specific data		
Sound-pressure level	43 dB(A)	43 dB(A)
Energy consumption at 100°C	480 Wh/h	480 Wh/h
Energy consumption at 150°C	800 Wh/h	800 Wh/h
Fixtures		
Number of shelves (std./max.)	2/16	2/16

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	Option model	*	Article Number
Access port with silicone plug	left	10 mm		8012-1278
		30 mm		8012-1655
		50 mm		8012-1657
		100 mm		8012-1669
	right	10 mm		8012-1271
		30 mm	01	8012-1654
		50 mm		8012-1656
		100 mm		8012-1670
	top	10 mm		8012-1264
		30 mm		8012-1365
50 mm			8012-1381	
100 mm			8012-1672	
Alarm function for overheating	Switchable acoustic alarm, with adjustable limit value on the independent temperature safety device		0	8012-1637
Analog output 4-20 mA	for temperature values (output not adjustable)		02	8012-1625
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature			8012-1118
	for temperature, measurement in center of chamber at specified temperature			8012-1137
	temperature measurement incl. certificate, 9 measuring points at specified temperature			8012-1554
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature			8012-1575
Calibration certificate, temperature	temperature measurement incl. certificate and 27 measuring points at specified temperature			8012-1596
Class 3.1 independent temperature safety device	with visual alarm (DIN 12880)			8012-1644
Clock	battery-backed		0	8012-1642
Door gasket	made of FKM, silicone-free			8012-1834
Door lock	lockable door handle			8012-1819
HEPA air filter	On fresh air supply for unit; filter classification H14 (acc. to EN 1822-1:2009, > 99.995% at 0.3 µm); not in conjunction with reinforced heating output, reinforced fan			8012-1835
Inner chamber, reinforced	max. total load 350 kg			8012-1822
Measurement of air exchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature			8012-1197
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display			8012-1621
Viewing window and interior lighting	viewing window (triple insulating glass) in door, 300 x 480 mm, and 30 W interior lighting	208/400 V option model		8012-1832

## ACCESSORIES

Designation	Description	Option model	* Article Number
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
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 <sub>2</sub> , O <sub>2</sub> – 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 <sub>2</sub> , O <sub>2</sub> , pressure, depending on unit	Digital in PDF format	7057-0001
		Hard copy inside folder	0 7007-0001
Rack		chrome plated	8012-2044
		stainless steel	6004-0155
Rack, heavy load	Stainless steel, max. load per rack 70 kg		8012-2170
			6004-0204
Shelf, perforated		Stainless steel	8012-2185
			6004-0187
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg		8012-2178
			1002-0016
			8012-2250

## SERVICES

Designation	Description	* Article Number
1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	DL50-0010
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	DL20-0710
Calibration certificate, temperature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	DL30-0101
	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	DL30-0102
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
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
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	0 DL20-0200
Measurement of air exchange rate	including certificate (in accordance with ASTM D5374)	DL33-0000
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
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
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

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Designation	Description	* Article Number
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05 DL10-0500

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**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.
- 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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