

# Model M 720 | Drying and heating chambers with forced convection and advanced program functions

With a maximum of +300 °C and various programming options the M series material test chambers are ideal for material and aging tests. With a high air flow, the powerful fans ensure rapid heating.

## BENEFITS

- Uniform drying conditions thanks to APT.line™ technology
- Identical test conditions throughout the chamber interior independent of sample size and quantity
- Outstanding thermal insulation saves operation costs
- Advanced programming options



Model 720



Model 720

## IMPORTANT FEATURES

- Temperature range: +14°C above ambient temperature up to +300°C
- High temperature accuracy thanks to APT.line™ technology with increased heating output
- Reinforced fan with adjustable speed
- Electromechanical control of the exhaust air flap
- Intuitive touchscreen controller with time-segment and real-time programming
- 2 chrome-plated racks
- Class 2 independent adjustable temperature safety device (DIN 12880) and class 3.1 independent temperature safety device (DIN 12880) with visual/ acoustic alarm available for selection on the controller
- Failsafe function – backup sensor Pt 100
- Computer interface: Ethernet
- Internal data logger, measured values can be read out in open format via USB

## ORDERING INFORMATION

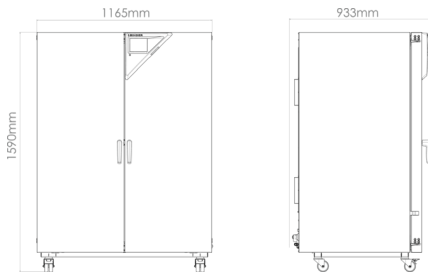
Designation	Option model	Interior volume	Rated Voltage	Power frequency	Article Number
M720-400V	Standard	735 L	400 V	50/60 Hz	9010-0374

## TECHNICAL DATA

Data	
Designation	M720-400V
Article Number	9010-0374
Option model	Standard
Performance Data Temperature	
Temperature range	+14 °C above ambient temperature to 300 °C
Temperature uniformity at 150°C	2 ± K
Temperature fluctuation at 150°C	0.6 ± K
Heating up time to 150°C	14 min
Recovery time after door was opened for 30 s at 150°C	6 min
Air change data	
Air change rate at 100°C	40 x/h
Electrical data	
Rated Voltage	400 V
Power frequency	50/60 Hz
Nominal power	6 kW
Unit fuse	16,0 A
Phase (Nominal voltage)	3~
Measures	
Interior volume	735 L
Net weight of the unit (empty)	170 kg
Load per rack	45 kg
Permitted load	315 kg
Wall clearance back	160 mm
Wall clearance sidewise	100 mm
Housing dimensions not incl. fittings and connections	
Width net	1160 mm
Height net	1590 mm
Depth net	816 mm
Internal Dimensions	
Interior width	1000 mm
Interior height	1300 mm
Interior depth	565 mm
Unit doors	2
Environment-specific data	
Sound-pressure level	53 dB(A)
Energy consumption at 100°C	625 Wh/h
Energy consumption at 150°C	1025 Wh/h
Fixtures	
Number of shelves (std./max.)	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	8012-2296
		30 mm	8012-2302
		50 mm	8012-2305
		100 mm	8012-2299
	right	10 mm	8012-2298
		30 mm	8012-2304
		50 mm	8012-2307
		100 mm	8012-2301
	top	10 mm	8012-2297
		30 mm	8012-2303
		50 mm	8012-2306
		100 mm	8012-2300
Analog output 4-20 mA	for temperature values (output not adjustable)		2 8012-2295
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature		8012-2328
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature		8012-2324
	temperature measurement incl. certificate, 9 measuring points at specified temperature		8012-2327
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature		8012-2325
	temperature measurement incl. certificate and 27 measuring points at specified temperature		8012-2326
Door lock	lockable door handle		8012-2336
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		8012-2314
Inner chamber, reinforced	max. total load 350 kg		8012-2323
Measurement of air exchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature		8012-2329
Pt 100 temperature sensor	Additional flexible Pt 100, interior, for displaying the temperature on the unit display. (Not combined with specimen temperature control option)		8012-2330
Specimen temperature control	With additional specimen temperature sensor. Standard function 2 zero-voltage relay contacts not applicable.		8012-2343

## 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

Designation	Description	Option model	Article Number
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	7007-0001
Rack		chrome plated	8012-2044
		stainless steel	8012-2170
Rack, heavy load	Stainless steel, max. load per rack 70 kg		8012-2185
Shelf, perforated		Stainless steel	8012-2178
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg		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	DL41-0200
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	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
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	5 DL10-0500

**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).

**BINDER GmbH**

Tuttlingen, Germany  
TEL +49 7462 2005 0  
FAX +49 7462 2005 100  
info@binder-world.com  
www.binder-world.com

**BINDER Inc.**

Bohemia, NY, USA  
TEL +1 631 224 4340  
FAX +1 631 224 4354  
usa@binder-world.com  
www.binder-world.us

**BINDER Environmental Testing  
Equipment (Shanghai) Co., Ltd.**

Shanghai, P.R. China  
TEL +86 21 685 808 25  
FAX +86 21 685 808 29  
china@binder-world.com  
www.binder-world.com

**BINDER Asia Pacific (Hong Kong)  
Ltd.**

Kowloon, Hong Kong, P.R. China  
TEL +852 39070500  
FAX +852 39070507  
asia@binder-world.com  
www.binder-world.com



Helago-CZ s.r.o.  
Kladská 1082  
500 03 Hradec Králové  
Tel.: 495 220 229, 495 220 394  
Fax: 495 220 154  
<http://www.helago-cz.cz>  
E-mail: info@helago-cz.cz