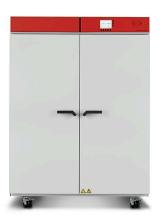


Model M 720 | Drying and heating chambers with forced convection and advanced program functions

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

MAIN FEATURES

- Temperature range: +5 °C above ambient temperature to +300 °C
- APT.line[™] preheating chamber technology
- Adjustable fan speed
- Program-controlled ventilation flap
- Color LCD controller with time-segment programming
- 2 chrome-plated racks
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- Computer interface: RS 422

ORDERING INFORMATION

Interior volume [L]	Voltage	Option model	Version	ArtNo.
720	400 V 3~ ph 50/60 Hz	Standard	M720-400V	9010-0205

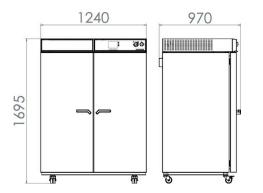


TECHNICAL DATA

Recovery time after 30 seconds door open at 150 °C [min]3Tabelen36Air change (approx.) at 50 °C [x/h]36Eletrical data400Reted Voltage [V]50/60Nominal power [kW]5Phase (Nominal voltage)3~Measures1Interior volume [L]720Newight of the unit (empty) [kg]303Permitted load [kg]120Load per rack [kg]45	Description	M720-400V ¹
Temperature nage - 5 ° c above ambient temperature to [°C]90Temperature fuctuation at 150 °C [K]9.3Temperature fuctuation at 150 °C [K]9.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 c S condo door open at 50 °C [min]3.3Recovery time after 30 °C [min]3.3<	Article Number	9010-0205
Temperature variation at 150 °C [4 K]1.9Temperature fluctuation at 150 °C [4 K]0.3Heating up time to 150 °C [6 k]21Recovery time after 30 seconds door open at 150 °C [min]3Recovery time after 30 seconds door open at 150 °C [min]36Tabellen36Electrical data50/60Rated Voltage [V]600Power frequency [Hz]50/60Nominal power [kW]5Pase (Nominal voltage)3-Pase (Nominal voltage)3-Periver fouguency [Hz]203Periver fouguency [Hg]203Periver fouguency [Kg]203Periver fouguency [Kg]65Pase (Nominal voltage)160Periver fouguency [Kg]160Vall clearance back [mm]160Vall clearance back [mm]100Interior Sume [Li]100Vall clearance sidewise [mm]100Henting Dimensions100Vall clearance sidewise [mm]100Height net [mm]120Periptimal side connections120Vall net [mm]123Houting [mm]123Houting [mm]123Houting [mm]160Houting [mm]123Houting [mm]123Houting [mm]123Houting [mm]123Houting [mm]160Houting [mm]123Houting [mm]123Houting [mm]123Houting [mm]123Houting [mm]123Houting [mm]	Performance Data Temperature	
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Heating-up time to 150 °C [min]21Recovery time after 30 seconds door open at 150 °C [min]3Tabelen5Air change (approx.) at 150 °C [x/h]400Beterical data5Power frequency [Hz]50/60Nominal power [W]5Power frequency [Hz]3-2Nominal voltage)3-Netser Suppower Inspired (Mining)720Net weight of the unit (empty) [kg]203Permited load [kg]120National power frequency [mining)60Wall clearance back [mm]100National power frequency [mining)100Matter Suppower frequency [mining)100Wall clearance back [mm]100National power frequency [mining)100National power frequency [mining)100National power frequency [mining)100National power frequency [mining)100National power frequency [mining]100National power frequency [mining]100Nationa	Temperature variation at 150 °C [± K]	1.9
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Power frequency [Hz]\$0/60Nominal power [kW]\$Phase (Nominal voltage)\$~Measures720Interior volume [L]720Net weight of the unit (empty) [kg]203Permitted load [kg]120Load per rack [kg]45Wall clearance back [mm]160Wall clearance sidewise [mm]1000Internal Dimensions1200Width [mm]1000Height [mm]1200Deptn [mm]610Housing dimensions not incl. fittings and connections1235Width net [mm]1295Height net [mm]669Dept het [mm]669Dept het [mm]669Fittures1490	Electrical data	
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Phase (Nominal voltage)3~Measures720Interior volume [L]720Net weight of the unit (empty) [kg]203Permitted load [kg]120Load per rack [kg]45Wall clearance back [mm]160Wall clearance sidewise [mm]100Internal Dimensions1200With [mm]1200Height [mm]1200Depth [mm]610Husing dimensions not incl. fittings and connectionsWith net [mm]1235Height net [mm]650Epth merged [mm]650FitturesFittures	Power frequency [Hz]	50/60
Measures 720 Interior volume [L] 720 Net weight of the unit (empty) [kg] 203 Permitted load [kg] 120 Load per rack [kg] 45 Wall clearance back [mm] 160 Wall clearance sidewise [mm] 100 Internal Dimensions 1000 Height [mm] 1000 Height [mm] 610 Housing dimensions not incl. fittings and connections 1235 Width net [mm] 1690 Depth net [mm] 660 Depth net [mm] 660 Depth net [mm] 665 Fixtures 1540	Nominal power [kW]	5
Interior volume [L]720Net weight of the unit (empty) [kg]203Permitted load [kg]120Load per rack [kg]45Walt clearance back [mm]160Walt clearance sidewise [mm]100Internal Dimensions100Width [mm]100Height [mm]100Depth [mm]610Housing dimensions not incl. fittings and connections1235Width net [mm]690Depth net [mm]650Enternal Dimensions160Fittures160	Phase (Nominal voltage)	3~
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Permitted load [kg]120Load per rack [kg]45Wall clearance back [mm]160Wall clearance sidewise [mm]100Internal Dimensions1000Width [mm]1000Height [mm]1200Depth [mm]610Housing dimensions not incl. fittings and connectionsWidth net [mm]1235Height net [mm]1690Depth net [mm]65Fixtures	Interior volume [L]	720
Load per rack [kg]45Wall clearance back [mm]160Wall clearance sidewise [mm]100Internal Dimensions1000Width [mm]1000Height [mm]200Depth [mm]610Housing dimensions not incl. fittings and connections1235Width net [mm]1690Depth net [mm]660Depth net [mm]650FixturesFixtures	Net weight of the unit (empty) [kg]	203
Wall clearance back [mm]160Wall clearance sidewise [mm]100Internal Dimensions1000Width [mm]1000Height [mm]1200Depth [mm]610Housing dimensions not incl. fittings and connections1235Width net [mm]1690Depth net [mm]660Depth net [mm]660Fixtures1690	Permitted load [kg]	120
Wall clearance sidewise [mm]100Internal Dimensions1000Width [mm]1000Height [mm]1200Depth [mm]610Housing dimensions not incl. fittings and connections1235Width net [mm]1690Depth net [mm]665FixturesFixtures	Load per rack [kg]	45
Internal Dimensions Width [mm] 1000 Height [mm] 1200 Depth [mm] 610 Housing dimensions not incl. fittings and connections 1235 Width net [mm] 1690 Depth net [mm] 660 Fixtures 1500	Wall clearance back [mm]	160
Width [mm]iooHeight [mm]iooDepth [mm]6ioHousing dimensions not incl. fittings and connectionsiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	Wall clearance sidewise [mm]	100
Height [mm] 1200 Depth [mm] 610 Housing dimensions not incl. fittings and connections 1235 Width net [mm] 1690 Depth net [mm] 865 Fixtures 1211	Internal Dimensions	
Depth [mm] 610 Housing dimensions not incl. fittings and connections 1235 Width net [mm] 1690 Depth net [mm] 865 Fixtures Fixtures	Width [mm]	1000
Housing dimensions not incl. fittings and connections Width net [mm] 1235 Height net [mm] 1690 Depth net [mm] 865 Fixtures Fixtures	Height [mm]	1200
Width net [mm] 1235 Height net [mm] 1690 Depth net [mm] 865 Fixtures Fixtures	Depth [mm]	610
Height net [mm] 1690 Depth net [mm] 865 Fixtures Fixtures	Housing dimensions not incl. fittings and connections	
Depth net [mm] 865 Fixtures	Width net [mm]	1235
Fixtures	Height net [mm]	1690
	Depth net [mm]	865
Number of shelves (std./max.) 2/16	Fixtures	
	Number of shelves (std./max.)	2/16

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 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	*	ArtNo.
	back		
	10 mm	01	8012-1287
	30 mm	01	8012-1371
	50 mm	01	8012-1387
	left		
	10 mm	01	8012-1280
	30 mm	01	8012-1363
	50 mm	01	8012-1379
ccess port with silicone	100 mm	01	8012-1511
ug	right		
	10 mm	01	8012-1273
	30 mm	01	8012-1358
	50 mm	01	8012-1375
	100 mm	01	8012-1508
	top		
	10 mm	01	8012-1266
	30 mm	01	8012-1367
	50 mm	01	8012-1383
nalog output 4-20 mA	for temperature values (output not adjustable)	-	8012-048
alibration certificate, xpanded	for temperature; for extending the measurement in center of chamber to include another test temperature	-	8012-1123
	for temperature, measurement in center of chamber at specified temperature	-	8012-1142
libration certificate,	temperature measurement incl. certificate and 27 measuring points at specified temperature	_	8012-1601
mperature	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-1580
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1559
oor gasket	made of FKM, silicone-free	-	8012-1315
oor lock	lockable door handle	-	8012-1256
EPA air filter	On fresh air supply for unit; filter classification H14 (acc. to. EN 1822-1:2009, > 99.995% at 0.3 μm)	-	8012-022
iner chamber,	including 2 reinforced racks		
einforced	max. total load 250 kg	-	8012-034
ockable controller eyboard	Lockable controller keyboard with key-operated switch	_	8012-0529
leasurement of air xchange rate	in accordance with ASTM D5374, definition and protocol according to ambient temperature	_	8012-1199
t 100 temperature ensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	_	8012-033
iewing window and	viewing window in each door, 290 x 470 mm, and 30 W interior lighting		
nterior lighting	400 V option model	-	8012-006

* Notes > See last page

ACCESSORIES

Designation	Description	*	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
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	-	1002-0016
* Notes > See last page			

Data Sheet Model M 720

BINDER

Designation	Description	*	ArtNo.
	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
Qualification de cumente	Hard copy inside folder	-	7007-0001
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
Rack	chrome plated	-	8012-2037
	stainless steel	-	8012-2082
Rack accessories	fasteners (1 set of 4) for additional security of racks	-	8012-0531
Rack, reinforced	stainless steel, with fasteners (1 set of 4)	-	8012-0374
Shelf, perforated	Stainless steel	-	8012-2081

* Notes > See last page

SERVICES

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) Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05 05	DL10-0100 DL10-0500
check, brief operating instructions. (excl.: unpacking, setup, controller instructions, programming, installation work) Instruction regarding operating principle and basic functions of the unit, operation of the control		
	05	DL10-0500
Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts	05	DL20-0710
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
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	DL20-020
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
Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	03, 04, 05	DL30-0101
Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	03, 04, 05	DL30-0102
including certificate (in accordance with ASTM D5374)	03, 04, 05	DL33-0000
Temperature measurement with 18 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0118
Temperature measurement with 27 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0127
Temperature measurement with 9 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0109
Execution of IQ/OQ in accordance with qualification folder	05	DL41-0200
Execution of IQ/OQ/PQ in accordance with qualification folder	05	DL44-050
The warranty is extended by 1 year from the delivery date, wear parts are excluded	-	DL50-0010
	theck of control response, 20% discount on spare parts Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, theck 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 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 Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, theck of control response, 20% discount on spare parts, testing of all key functions, calibration of one est temperature specified by the user in the center of the usable space, without certificate Calibration of one (1) test temperature specified by the user in center of chamber, including certificate Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate Including certificate (in accordance with ASTM D5374) Femperature measurement with 18 measuring points with a set value specified by the user, including certificate Femperature measurement with 9 measuring points with a set value specified by the user, including certificate Femperature measurement with 9 measuring points with a set value specified by the user, including certificate Execution of IQ/OQ in accordance with qualification folder Execution of IQ/OQ/PQ in accordance with qualification folder	check of control response, 20% discount on spare parts 05 Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, theck 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 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 Maintenance service as contractually agreed, 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 Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, testing of all key functions, calibration of one est temperature specified by the user in the center of the usable space, without certificate 03, 04, 05 Calibration of one (1) test temperature specified by the user in the center of the usable space, including certificate 03, 04, 05 Calibration of one (1) additional test temperature specified by the user, including certificate 03, 04, 05 Including certificate (in accordance with ASTM D5374) 03, 04, 05 Os 03, 04, 05 03, 04, 05 Cemperature measurement with 18 measuring points with a set value specified by

* Notes > See last page



NOTES

- Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge. UL mark is not granted when this option is used. 01
- 02
- Sensor calibration is performed in an accredited calibration laboratory. 03
- Calibration is performed according to the BINDER factory standard. 04
- 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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