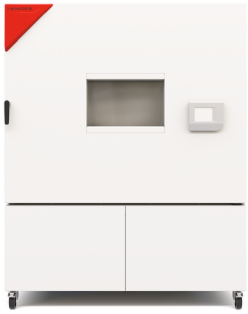
Model MK 720 CO_2 | Dynamic climate chambers for rapid temperature changes

The BINDER MK series chamber is suitable for all heat and cold tests between -40 °C and 180 °C. The MK is a clever alternative to complex individual solutions for cyclical temperature tests.

BENEFITS

- More performance for your budget and long-term investment security
- Easy to integrate, intuitive to use, and flexible to network
- Reliable protection for samples, data, and processes
- Reproducible results and long-term operational stability



Model 720



Model 720

IMPORTANT FEATURES

- Temperature range: -48 °C to +180 °C
- APT.line™ preheating chamber technology
- Cooling with climate-neutral R-744 refrigerant
- Intuitive touchscreen controller with time-segment and real-time programming
- Ergonomically adjustable operating terminal
- Signal triangle with light-up status display
- Internal data logger, measured values can be read out in open format via USB
- BINDER Multi Management Software APT-COM™ basic edition
- Programmable condensation protection for samples
- Troubleshooting system with visual and acoustic alarms
- Stainless-steel inner chamber
- 1 stainless steel rack
- 2 access ports with silicone plugs, 80 mm, left and right
- Heated viewing window with LED interior lighting
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- 4 sturdy twin casters with brakes at the front
- Data interfaces: Ethernet, USB
- Adjustable ramp function
- Integrated line recorder
- Real-time clock
- Door heating to prevent condensation

OPTIONAL EQUIPMENT

- APT-COM Multi Management Software – for managing, recording, and documenting unit parameters
- Racks – option of stainless steel racks, depending on test requirements
- Compressed air supply system
- Services – wide range of services to ensure that the unit functions correctly

ORDERING INFORMATION

Interior volume		Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
[cu.ft.]	[L]					
Model MK 720 CO_2						
26	734	400 V 3~/N/PE 50 Hz -16,0 A	CEE 16 / 6 H plug 5-pin	Standard	MK720CO2-400V	9020-0522

Interior volume		Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
[cu.ft.]	[L]					
		480 V 3~/N/PE 60 Hz -16,0 A	–	Standard	MK720CO2-480V	9020-0524

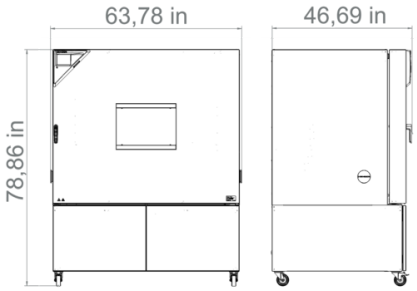
TECHNICAL DATA

Data		
Article Number	9020-0522	9020-0524
Designation	MK720CO2-400V	MK720CO2-480V
Option model	Standard	Standard
Performance Data Temperature		
Temperature range	-48...180 °C	-48...180 °C
Temperature uniformity dependent on set value	0.1...1.0 ± K	0.1...1.0 ± K
Temperature fluctuation dependent on set value	0.1...0.2 ± K	0.1...0.2 ± K
Average heating-up rate according to IEC 60068-3-5 between -40°C and 180°C	4.5 K/min	4.5 K/min
Average cooling down time according to IEC 60068-3-5 between 180°C and -40°C	5.7 K/min	5.7 K/min
Cooling down time from 180°C to -40°C	60 min	60 min
Electrical data		
Rated Voltage	400 V	480 V
Power frequency	50 Hz	60 Hz
Nominal power	8,7 kW	8,7 kW
Unit fuse	16,0 A	16,0 A
Phase (Nominal voltage)	3~/N/PE	3~/N/PE
Dimensions and weights		
Interior volume	26 cu.ft.	26 cu.ft.
Net weight of the unit (empty)	1,091 lbs	1,091 lbs
Load per rack	88 lbs	88 lbs
Permitted load	353 lbs	353 lbs
Wall clearance back	11,81 in	11,81 in
Wall clearance sidewise	7,87 in	7,87 in
Housing dimensions not incl. fittings and connections		
Width net	62.2 in	62.2 in
Height net	78.94 in	78.94 in
Depth net	44.88 in	44.88 in
Internal Dimensions		

Interior width	47.24 in	47.24 in
Interior height	40.16 in	40.16 in
Interior depth	23.62 in	23.62 in
Unit doors	1	1
Environment-specific data		
Sound-pressure level	63 dB(A)	63 dB(A)
Energy consumption at 25°C	2,200 Wh/h	2,200 Wh/h
Fixtures		
Number of shelves (std./max.)	1/11	1/11

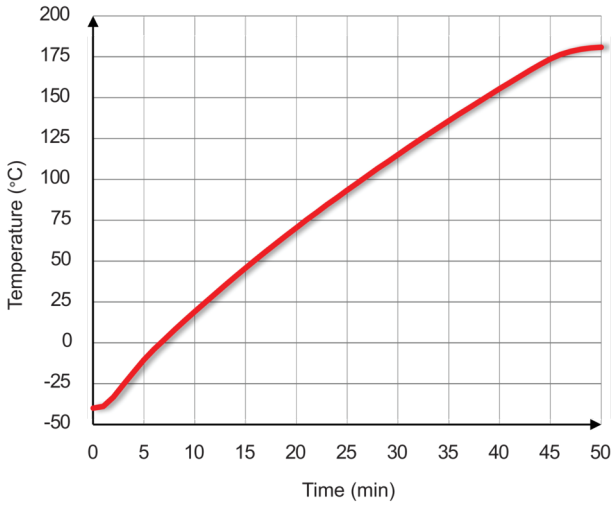
All technical data is specified for unloaded units with standard equipment at an ambient temperature of +22 °C ±3 °C and a power supply voltage fluctuation of ±10 %. The temperature data is determined in accordance to BINDER factory standard following DIN 12880, observing the recommended wall clearances 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]



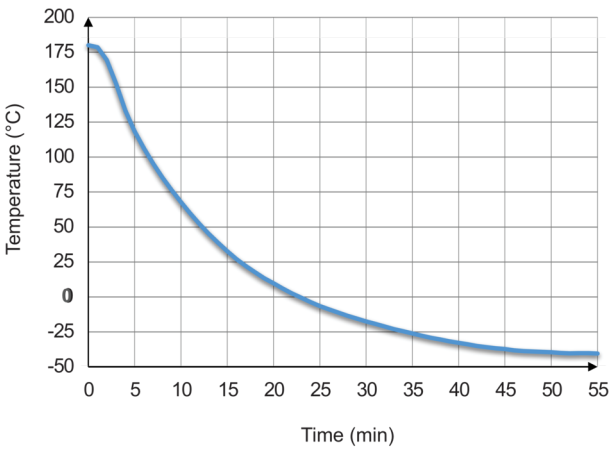
DIAGRAMS

Heating curve: MK 720 CO_2



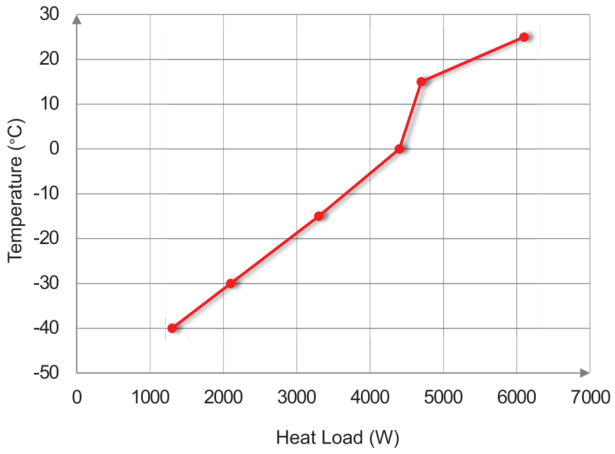
Heating up rate

Cooling curve: MK 720 CO_2



Cooling down rate

Heat compensation: MK 720 CO_2



Heat compensation chart

OPTIONS

Designation	Description	MK CO_2 720	*	Art.-No.
Access port with silicone plug	left			
	30 mm	•	01	8012-2649
	50 mm	•	01	8012-2651
	80 mm	•	01	8012-2653
	100 mm	•	01	8012-2643
	125 mm	•	01	8012-2646
	right			
	30 mm	•	01	8012-2650

Designation	Description	MK CO_2 720	*	Art.-No.
	50 mm	•	01	8012-2652
	80 mm	•	01	8012-2655
	100 mm	•	01	8012-2645
	125 mm	•	01	8012-2648
	top			
	80 mm	•	01	8012-2654
	100 mm	•	01	8012-2644
	125 mm	•	01	8012-2647
Analog output 4-20 mA	for temperature values (output not adjustable)	•	-	8012-2634
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	-	8012-2660
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	•	-	8012-2656
	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	-	8012-2659
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	-	8012-2657
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	-	8012-2658
Door lock	lockable door handle	•	-	8012-2669
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	•	-	8012-2667
RS 485 interface, 2-wire	Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™	•	-	8012-2665
Zero voltage relay contacts	for controlling 3 relay contacts via program regulators, accessible via 6-pin DIN socket (max. 24 V - 2.5 A)	•	-	8012-2664

ACCESSORIES

Designation	Description	MK CO_2 720	*	Art.-No.
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	MK CO_2 720	*	Art.-No.
Qualification documents IQ/ OQ	IQ/OQ documents digital in PDF format – supporting documents for validation consisting of: IQ/OQ checklists, comprehensive unit documentation covering: temperature. Excluded: Document execution is separate			
	temperature. Excluded: Document execution is separate	•	-	7057-0010
Qualification documents IQ/ OQ/PQ	IQ/OQ/PQ documents digital in PDF format – supporting documents for validation customizied to customer requirements, PQ section added to the qualification folder IQ/OQ; supporting documents for validation consisting of: IQ/OQ checklists, comprehensive unit documentation covering: temperature values. Excluded: Document execution is separate			
	temperature values. Excluded: Document execution is separate	•	-	7057-0016
Rack	stainless steel	•	-	8012-2054
Rack, reinforced	stainless steel, with fasteners (1 set of 4)	•	-	8012-0684
Rack accessories	fasteners (1 set of 4) for additional security of racks	•	-	8012-2280
Shelf, perforated	Stainless steel	•	-	8012-2253

SERVICES

Designation	Description	*	Art.-No.
Calibration services			
Temperature calibration	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate Travel to be quoted separate.	05	DL30-0130
	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate Travel to be quoted separate.	05	DL30-0102
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required.	05	DL30-0109
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 2 shelves are required.	05	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required.	05	DL30-0127
Installation services			
Unit installation	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) Travel to be quoted as separate.	05	DL10-0170
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming. Travel to be quoted as separate Limited to 3 hours.	05	DL10-0560
Maintenance services			

Designation	Description	*	Art.-No.
BRONZE 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate. 10% Discount on Spare Parts and Labor for any additional Services needed Wear + tear parts to be purchased or billed to customer. Travel to be quoted as separate.	05	DL20-0710
GOLD 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate of Temperature, Humidity and pressure value. 25% Discount on Spare Parts and Labor for any additional Services needed. One additional courtesy visit per year can be used for service visit or operator. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate.	05	DL20-0930
Preventive maintenance	One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Checking a test temperature specified by the user in center of usable space without certificate. Wear + tear parts need to be purchased or billed to customer. Travel to be quoted as separate.	05	DL20-0607
SILVER 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate 15% Discount on Spare Parts and Labor for any additional Services needed One additional courtesy visit per year can be used for service visit or operator training. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate.	05	DL20-0830
Validation services			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder. Travel to be quoted separate.	05	DL41-0200
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder. Travel to be quoted separate.	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	DL50-0040

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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