Model MKT 720 | Dynamic climate chambers for rapid temperature changes with extended low temperature range

BENEFITS

- Homogeneous climate conditions thanks to APT.line™ technology
- Comprehensive programming and data acquisition
- Large heated viewing window



Model 720



Model 720

MAIN FEATURES

- Temperature range: -70 °C to 180 °C
- 4 zero-voltage relay contacts that can be activated via MCS controller
- APT.line™ preheating chamber technology
- Programmable condensation protection for test material
- Heated viewing window with LED interior lighting
- BINDER APT-COM™ 3 Basic Edition communication software
- Troubleshooting system with visual and audible alarms
- Controller with time-segment programming
- 2 access ports with silicone plugs: 80 mm, left and right
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- 4 castors, two with brakes
- Computer interface: Ethernet
- 230 V power socket on the right-side control panel
- Display via color LCD monitor
- Adjustable ramp function
- Integrated chart recorder
- Real-time clock
- Door heating
- 1 stainless steel rack
- BINDER test confirmation
- Inner chamber made of stainless steel
- Pt 100 temperature sensor
- Thermal insulation using PUR foam
- CFC-free refrigerants R-404A and R-23
- Cooling with cascade compressor cooling unit
- Fin evaporator

ORDERING INFORMATION

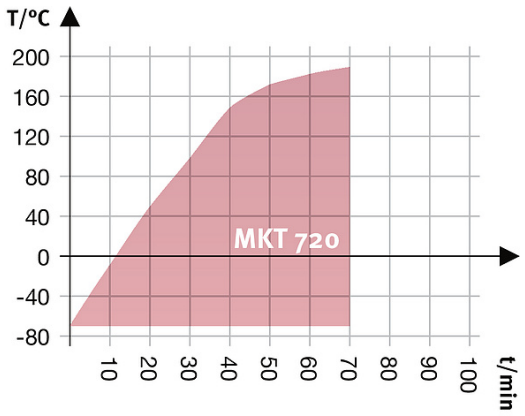
Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
Model MKT 720				
25.9	400 V 3 ph 50 Hz	Standard	MKT720-400V	9020-0082
	480 V 3 ph 60 Hz	with voltage and frequency converter	MKT720-400V-C	9020-0300

TECHNICAL DATA

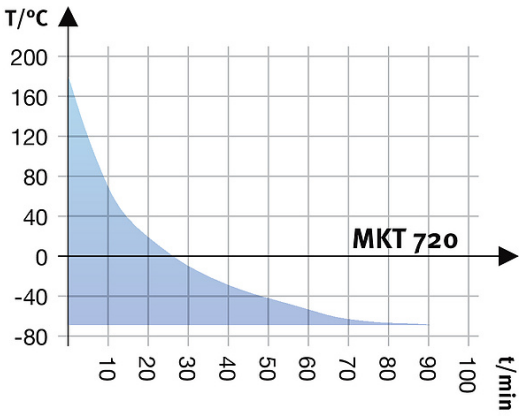
Description	MKT720-400V[1]	MKT720-400V-C[1]
Article Number	9020-0082	9020-0300
Performance Data Temperature		
Temperature range [°C]	-70…180	-70…180
Temperature variation depending on setpoint [± K]	0.3…2	0.3…2
Temperature fluctuation depending on setpoint [± K]	0.1…0.5	0.1…0.5
Average heating-up rate according to IEC 60068-3-5 [K/min]	4.5	4.5
Cooling down time from 180 °C to -40 °C [min]	120	120
Average cooling down time according to IEC 60068-3-5 [K/min]	4.2	4.2
Max. heat compensation at 25 °C [W]	5500	5500
Electrical data		
Rated Voltage [V]	400	480
Power frequency [Hz]	50	60
Nominal power [kW]	13	13
Unit fuse [A]	32	32
Phase (Nominal voltage) [ph]	3	3
Measures - Outer dimensions		
Width net [mm]	1580	1580
Height net [mm]	2005	2005
Depth net [mm]	1140	1140
Wall clearance back [mm]	300	300
Wall clearance sidewise [mm]	300	300
Viewing window width [mm]	508	508
Viewing window height [mm]	300	300
Measures - Doors		
Unit doors	1	1
Measures - Internal Dimensions		
Width [mm]	1200	1200
Height [mm]	1020	1020
Depth [mm]	600	600
Measures		
Interior volume [L]	734	734
Net weight of the unit (empty) [kg]	610	610
permitted load [kg]	160	160
Load per rack [kg]	40	40
Environment-specific data		
Sound-pressure level [dB(A)]	65	67
Fixtures		
Number of shelves (std./max.)	1/11	1/11

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.

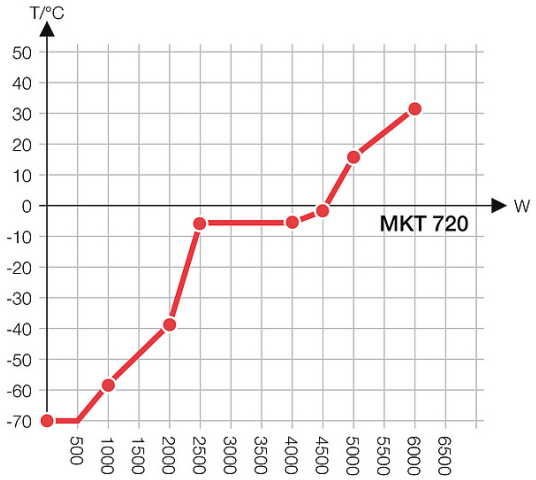
CHARTS



Heating up rate



Cooling down rate



Heat compensation chart

OPTIONS AND ACCESSORIES

Designation	Description	*	Art.-No.
Access port	notch-type access port in door, 100 x 35 mm	–	8012-0683
Access port with silicone plug	30 mm, left	01	8012-0509
	30 mm, right	01	8012-0508
	50 mm, left	01	8012-0511
	50 mm, right	01	8012-0510
	80 mm, left	01	8012-0513
	80 mm, right	01	8012-0512
	80 mm, top	01	8012-0834
	100 mm, left	01, 11	8012-0836
	100 mm, right	01, 11	8012-0835
	100 mm, top	01, 11	8012-0832
	125 mm, left	01, 11	8012-0533
	125 mm, right	01, 11	8012-0532
	125 mm, top	01, 11	8012-0833
Analog output, 4 – 20 mA	for temperature values (output not adjustable)	–	8012-0517

* Notes › See last page

Designation	Description	*	Art.-No.
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	–	8012-0022
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	–	8012-0030
	temperature measurement incl. certificate and 27 measuring points at specified temperature	–	8012-0921
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	–	8012-0918
	temperature measurement incl. certificate, 9 measuring points at specified temperature	–	8012-0915
Converter, voltage and frequency	to operate the device at a nominal voltage of 480 V 3 ph 60 Hz, 32 A	–	8009-0807
Data Logger Kit	T 220: For continuous temperature logging from -90 °C to 220 °C. The kit includes 1 data logger, Pt 100 sensor with 2 m extension cable and 1 magnetic fixture for mounting to the BINDER unit	19	8012-0715
Data Logger Software	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	19	8012-0821
Door lock	lockable door handle	–	8012-0606
Dry-air purge	uncontrolled, incl. connection; for preventing condensation	–	8012-0914
Dry-air purge, connection	for the connection to an existing pressurized air network	–	8012-0936
Interface converter	RS 422 cable set and RS 232 / RS 422 interface converter for connection to 10-way plug distributor or for connection to a unit		
	120 V, 60 Hz option model	–	8012-0557
	230 V, 50/60 Hz option model	–	8012-0556
	RS 422 cable set and RS 422 / Ethernet interface converter for connection to 10-way plug distributor or for connection to a unit		
	120 V, 60 Hz option model	–	8012-0405
	230 V, 50/60 Hz option model	–	8012-0380
Interface converter, USB / RS422	RS 422 cable set and RS 422 / USB interface converter for connection to 10-way plug distributor or for connection to a unit (USB-powered converter)	–	8012-0665
Lockable controller keyboard	Lockable controller keyboard with key-operated switch	–	8012-0530
Magnetic Pouch (A4)	insert pouch with magnetic strip	–	1007-0065
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	–	1002-0016
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	–	8012-0447
Rack	stainless steel	–	6004-0102
Rack accessories	Rack accessories – fasteners (1 set of 4) for additional security of racks	–	8012-0620
Rack, reinforced	stainless steel, with 1 set of 4 fasteners, max. load 70 kg	–	8012-0684
RS 422 interface	in place of Ethernet, for communication software	–	8012-0788
	modular plug distributor for 10 RS 422 interfaces	–	8012-0295
RS 422 interface, cable (15 m)	RS 422 connection cable (15 m) between plug distributor and RS 422 interface	–	5023-0036
RS 422 interface, cable (50 m)	RS 422 extension cable (50 m) between interface converter and unit or RS 232 / RS 422 plug distributor	–	5023-0117
Shelf, perforated	stainless steel	–	8009-0511
Software	APT-COM™ communications software		
	version 2 to 3, GLP edition	19	9053-0016
	version 3, BASIC edition	19	9053-0014
	version 3, GLP edition	19	9053-0015
	version 3, STANDARD edition	19	9053-0013
	APT-COM™ communications software, price: for free		
	version 3, GLP DEMO Edition	19	9053-0008
Temperature safety device	for over- and under-temperature, Class 2 - with visual alarm (DIN 12880)	–	8012-0310

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Installation services			
Data Logger Kit installation service	unit function instructions for operation and programming of the controller	18	DL100600
Installation	and set up of unit at operating location, connect to existing connections	13, 18	DL100100
Preventive maintenance			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL200500
Calibration services			
Data Logger Kit calibration service	including certificate, one measuring point in center of chamber at specified temperature	14, 16, 17, 18	DL300101
Temperature measurement 18 measuring points	including certificate, 18 measuring points at specified temperature	14, 16, 17, 18	DL300118
Temperature measurement 27 measuring points	including certificate, 27 measuring points at specified temperature	14, 16, 17, 18	DL300127
Temperature measurement 9 measuring points	including certificate, 9 measuring points at specified temperature	14, 16, 17, 18	DL300109
Validation services			
Data Logger Kit validation service	in accordance with qualification folder	15, 18, 20	DL410200
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL440500
Qualification folder IQ/OQ	supporting documents for validation performed by customer, consisting of: IQ/OQ checklists, unit schematics, QM certificate in accordance with ISO 9001	15, 18, 20	8012-0864
Qualification folder IQ/OQ/PQ	supporting documents for validation performed by customer, in accordance with customer's requirement, extension of Qualification folder IQ/OQ by chapter PQ	15, 18	8012-0952
Warranty service			
Extension of the warranty from 2 to 3 years	beginning with the date of delivery, wearing parts are not included	–	DL012041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	–	DL012042

* Notes › See last page

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.
03 Heat resistant only to max. 200 °C.
04 Only available on units rated for 230 V.
06 Heating-up time may increase as a result of the lower heat conductivity.
07 The additional heat input may affect the temperature behavior.
09 Not in conjunction with the optional access port, door with window and interior lighting.
10 Not available on 23-liter units.
11 Not available on 23- or 53-liter units.
12 Only available on units rated for 230 V or 400 V.
13 Installation and connections take place at unit location; transport within the company only upon consultation.
14 We recommend a BINDER service contract (see the chapter on BINDER Service) to cover unit inspections, calibrations and validations.
15 OQ according to Yellow Paper = completed factory validation documentation of all OQ checklists.
16 Sensor calibration is performed in an accredited calibration laboratory.
17 Calibration is performed according to the BINDER factory standard.
18 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).
19 For additional accessories, refer to the Process documentation chapter.
20 When ordering IQ/OQ qualification folders and associated IQ/OQ execution on one order, we offer a 15 % discount for both items.
When ordering IQ/OQ/PQ qualification folders and associated IQ/OQ/PQ execution on one order, we offer a 15 % discount for the item of the IQ/OQ/PQ folder.