

MKT series

Environmental simulation chambers for complex temperature profiles in the low temperature range

The MKT test chambers meet all requirements for testing under extreme temperature conditions between -70 °C (-94°F) and 180 °C (356°F). The outstanding heating and cooling speeds permit even faster temperature changes and more complex test cycles to be performed.



Leistungsmerkmale/Ausstattung:

- Temperature range from -70 °C to 180 °C (-94 °F to 356 °F) (at an ambient temperature of 25 °C / 77 °F)
- MCS controller with 25 storable programs of 100 sections each for a maximum of 500 program segments
 - User-friendly LCD color screen
 - Easy-to-read menu guide
 - Integrated electronic chart recorder
 - Variety of options for the graphic display of process parameters
 - Real-time clock
- Heated viewing window with interior lighting
- Variable adjustable high-performance fan
- Programmable condensation protection for test material
- Adjustable ramp functions via program editor
- Environmentally friendly refrigerants R 404a and R 23
- Independent adjustable temperature safety device, Class 2 (DIN 12880) with optical and acoustic temperature alarm
- 230 V power socket on the right-side operating panel
- Potential-free relay outputs that can be activated via MCS controller
- RS 422 interface for communication software APT-COM™ DataControlSystem
- Access port, Ø 80 mm (3.1 inch), right side
- 2 stainless steel racks
- BINDER test certificate

	MKT 240
Exterior dimensions	
Width (mm/inch)	1160 / 45.7
Height (inclusive feet/castors) (mm/inch)	1868 / 73.5
Depth, excl. 55 mm (2.2 inch) for door handle (mm/inch)	927 / 36.5
Wall clearance rear (mm/inch)	100 / 3.9
Wall clearance side (mm/inch)	160 / 6.3
Viewing window width (mm/inch)	500 / 19.7
Viewing window height (mm/inch)	360 / 14.2
Number of doors	1
Interior dimensions	
Width (mm/inch)	800 / 31.5
Height (mm/inch)	600 / 23.6
Depth (mm/inch)	500 / 19.7
Interior volume (l/cu.ft.)	240 / 8.6
Racks (number standard/max.)	2 / 6
Load per rack (kg/lbs.)	30 / 66
Permitted total load (kg/lbs.)	70 / 155
Weight (empty) (kg/lbs.)	360 / 795
Temperature data	
Temperature range (°C/°F)	-70* to 180 / -94* to 356
Temperature fluctuation (± °C)	0.1 to 0.4
Temperature variation (± °C)	0.5 to 2.0
Mean heating rate acc. IEC 60068-3-5 (K/min.)	6.6
Mean cooling rate acc. IEC 60068-3-5 (K/min.)	3.8
Heating up time from -70 °C up to 180 °C (Min.) 1)	56
Cooling down time from 180 °C up to -70 °C (Min.) 1)	149
Heat compensation max. (W)	1500
Electrical data	
Housing protection acc. to EN 50529	IP 20
Nominal voltage (± 10%) 50/60 Hz (V)	400 (3N)
Nominal power (W)	4800
Noise level (ca. dB(A))	62
Individually tested in compliance with VDE 0113	true

1) up to 98% of set value

All technical data are specified for units with standard equipment at an ambient temperature of 25 °C (77 °F) and a voltage fluctuation of ± 10 %. The temperature data are determined in accordance to factory standard following DIN 12880, respecting the recommended wall clearances of 10 % of the height, width and depth of the inner chamber. All indications are average values, typical for units produced in series. We reserve the right to alter technical specifications at all times.

**Access port**

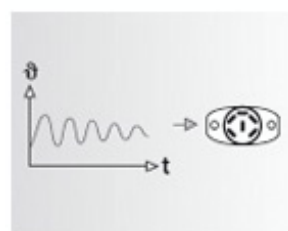
With silicon plugs for inserting external measuring devices into the chamber. Access ports with 30, 50, 80, 100 and 125 mm (1.2, 2, 3.1, 4 and 4.9 inches) diameter.

**Notch-type access port in door**

Provide easy connection of cables to test specimens and facilitate loading and unloading of the chamber. Doors have access ports measuring 100 x 35 mm (4 x 1.4 inches), which can be sealed with the included silicon plugs.

**Reinforced shelf**

To ensure safe and stable storage of heavy test specimens.

**Analogue output**

Analogue output for temperature or temperature and humidity 4 to 20 mA with DIN bushing 6 poles (Output not adjustable).

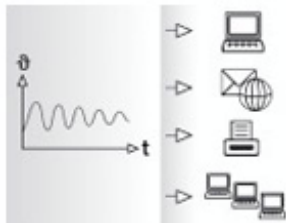
**Specimen temperature measurement**

Additional flexible PT 100 temperature sensor for precise temperature measurement of the specimen with digital temperature display. Recording of measured data possible via RS 422 interface.



Calibration certificates and validation

Measurement in the center at specified values. Additional measuring points or test values according to your specification.



APT-COM™ DataControlSystem STANDARD Edition

Software for easy control, programming, and documentation.

	MKT 240
Access port with silicone plug	O
Notch-type access port in the door, 100 x 35 mm (3.9 x 1.4 inch)	O
Vertically adjustable castors	O
Safety kit for water connection. Pre-mounted assembly of reflux prevention device and horse burst refecton device	O
Rack, stainless steel	O
Shelf, perforated, stainless steel	O
Reinforced shelf, stainless steel, with 1 set of shelf securings (4 pieces) (Max. load 70 kg / 154 lbs.)	O
One set of shelf secures (4 pieces) for additional fixation of the perforated shelves	O
Locking of controller keyboard	O
Lockable door	O
Safety device for over and under temperature	O*
Analog outputs 4 to 20 mA for temp. 1) and humidity 2) (actual and set values) with two DIN bushing 6 poles	O*
Additional measuring channel for specimen temperature display with flexible PT 100 sensor. Documentation of measuring data through Ethernet / interface RS 422	O
Temperature measurement acc. to DIN 12880-2 and 9 point humidity measurement/factory standard with measuring protocol and certificate at 25 °C/60% r.H. 1) or at 150 °C 2) or at specified values	O**
Qualification folder. Supporting documents for the validation at customer's site, consisting of: IQ/OQ check list, unit wiring and refrigeration circuit diagrams, QM certificate acc. to ISO 9001, maintenance recommendation	O
Calibration certificate for temperature and humidity.	O**
Extension for calibration certificate (additional values)	O

O Option - not available

Technical specifications subject to change

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