

MKT 240 (E3) - Environmental simulation chamber 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.



▶ Performance features and equipment:

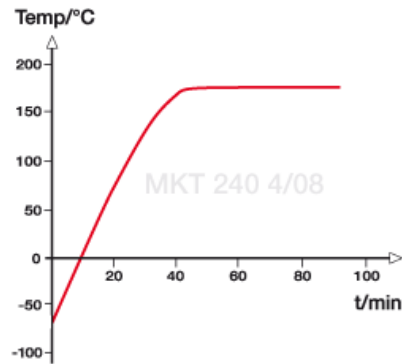
- Electronically controlled APT.line™ preheating chamber assuring temperature accuracy and reproducible results
- Temperature range from -70 °C to 180 °C (-94 °F to 356 °F)
- MCS controller with 25 storable programs of 100 sections each for a maximum of 500 program segments
- Features:
 - User-friendly LCD display
 - Integrated electronic line recorder
 - Different diagram possibilities of process parameters
 - Real time clock
- Heated viewing window with interior illumination
- Programmable condensation protection for test material
- Adjustable ramp functions via program editor
- Environmental friendly refrigerants R 404a and R 23
- Independent adjustable temperature safety device, Class 2 (DIN 12880)
- 230 V power socket on the right-side operating panel
- 4 potential-free relay outputs that can be activated via MCS controller
- Ethernet interface for use with optional GMP/GLP and FDA guideline 21 CFR Part 11 compliant APT-COM™ DataControlSystem software
- Access port, Ø 50 mm (2 inch), left side
- 1 stainless steel rack included
- 4 castors (with 2 brakes)
- BINDER test certificate



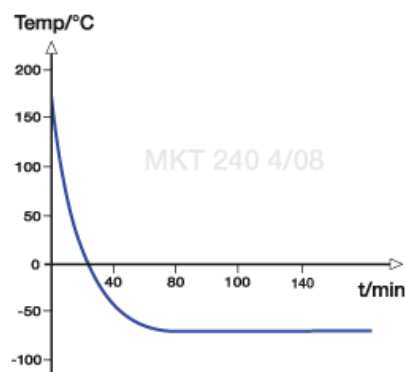
MKT 240 (E3)

Exterior dimensions	
Width (mm/inch)	1130 / 44.5
Height (inclusive feet/casters) (mm/inch)	1938 / 76.3
Depth, excl. 54 mm (2.2 inch) for door handle (mm/inch)	946 / 37.2
Wall clearance rear (mm/inch)	100 / 3.9
Wall clearance side (mm/inch)	160 / 6.3
Viewing window width (mm/inch)	508 / 20
Viewing window height (mm/inch)	300 / 11.8
Number of doors	1
Interior dimensions	
Width (mm/inch)	735 / 28.9
Height (mm/inch)	700 / 27.6
Depth (mm/inch)	443 / 17.4
Interior volume (l/cu.ft.)	228 / 8.1
Racks (number standard/max.)	1 / 6
Load per rack (kg/lbs.)	30 / 66
Permitted total load (kg/lbs.)	70 / 155
Weight (empty) (kg/lbs.)	380 / 839
Temperature data	
Temperature range (°C/°F) 1)	-70 - 180 / -94 - 356
Temperature fluctuation (± K)	0.1 - 1.0
Temperature variation (± K) 2)	0.1 - 0.4
Mean heating rate acc. IEC 60068-3-5 (K/min.)	5.4
Mean cooling rate acc. IEC 60068-3-5 (K/min.)	4.2
Heating up time from -70 °C up to 180 °C (Min.) 3)	45
Cooling down time from 180 °C up to -70 °C (Min.) 3)	95
Max. Heat compensation (W)	2500
Electrical data	
Housing protection acc. to EN 50529	IP 20
Nominal voltage (+10%) 50 Hz (V)	400 3N~
Nominal power (kW)	6.5
Noise level (ca. dB(A))	64

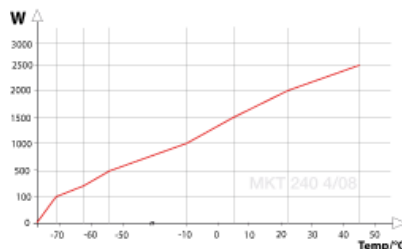
Heating - up rate



Cooling - down rate



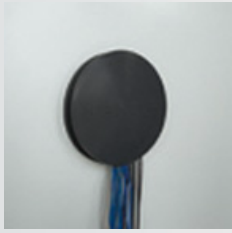
Heat compensation



Energy consumption 4) at 20 °C (68 °F) (W)	1650
--	------

- 1) Lower values are valid at an ambient temperature of max. 25 °C (77 °F)
- 2) Depending on the set-point
- 3) to 98 % of the set value
- 4) These values can be used for dimensioning air condition systems.

All technical data are specified for units with standard equipment at an ambient temperature of 25 °C (77 °F) and a voltage fluctuation of $\pm 10\%$. 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.



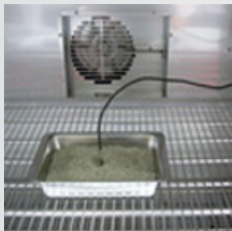
▶ Notch-type access port in door

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.



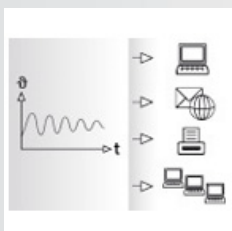
▶ Reinforced rack

To ensure safe and stable storage of heavy test specimens.



▶ 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 Ethernet interface.



▶ APT-COM™ DataControlSystem

Software for easy control, programming, and documentation.


**MKT 240
(E3)**

Securing elements for additional fastening of racks (1 set of 4).	<input type="radio"/>
Access port with silicone plugs, 30 mm (1.18 inch), 50 mm (1.97 inch), 100 mm (3.94 inch), 125 mm (4.72 inch)	<input type="radio"/>
Notch - type access port in the door. For easy loading and unloading of test material, 100 x 35 mm	<input type="radio"/>
Rack, stainless steel	<input type="radio"/>
Reinforced rack, stainless steel, with 1 set of securings (4 pieces)	<input type="radio"/>
Perforated rack, stainless steel	<input type="radio"/>
Lockable door	<input type="radio"/>
Analog outputs 4 to 20 mA for temperature,	<input type="radio"/>
Safety device for over and under temperature	<input type="radio"/>
Temperature measurement acc. to DIN 12880 (27 measuring points) at 150 °C or at specified temperature with measuring protocol and certificate	<input type="radio"/>
Calibration certificate. Measurement in the center at 150 °C or at specified temperature	<input type="radio"/>
Extension for calibration certificate. Measurement at each additional measuring point or temperature	<input type="radio"/>