MK series:
Environmental simulation chambers for complex temperature profiles

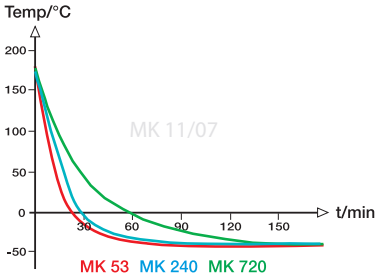
This series covers the classic temperature range between -40 °C (-40°F) and 180 °C (356°F) for heat and refrigeration tests – with the added benefit of natural simulation by means of preheating chamber technology and the Horizontal Air Flow Design. Unique technology, developed by BINDER. With these features, the MK series thus meets the highest precision and performance requirements for cyclic temperature tests and presents an intelligent alternative to expensive individual solutions.

► **Performance features and equipment:**

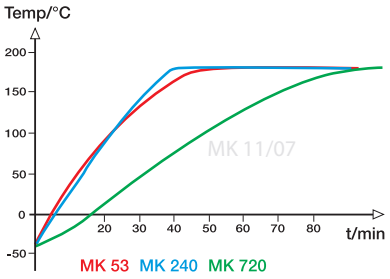
- Electronically controlled APT.line™ preheating chamber technology
- Temperature range from -40 °C to 180 °C (-40 °F to 356 °F) (at an ambient temperature of 25 °C / 77 °F)
- MCS controller with 25 storable programs of 100 sections each for a maximum of 500 program segments
  - User-friendly LCD screen
  - 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 (MK 53, 720)
- Programmable condensation protection for test material
- Adjustable ramp function via program editor
- Independent adjustable temperature safety device, Class 2 (DIN 12880), with optical and acoustic temperature alarm
- Environmentally friendly refrigerant R 404a
- RS 422 interface for communication software APT-COM™ DataControlSystem
- Access port, Ø 80 mm (3.1 inch), top (MK 53), right side (MK 240), and right and left sides (MK 720)
- 2 stainless steel shelves
- BINDER test certificate

	MK 53	MK 240	MK 720
▶ **Exterior dimensions**			
Width (mm/inch)	740 / 29.1	1130 / 44.5	1381 / 54.4
Height (incl. feet/castors) (mm/inch)	1242 / 48.9	1713 / 67.4	1997 / 78.6
Depth, excl. 55 mm (2.2 inch) for door handle (mm/inch)	794 / 31.3	946 / 37.2	1038 / 40.9
Wall clearance (mm/inch)	160 / 6.3	160 / 6.3	160 / 6.3
Viewing window width (mm/inch)	280 / 11.0	508 / 20.0	360 / 14.2
Viewing window height (mm/inch)	280 / 11.0	300 / 11.8	760 / 29.9
Number of doors	1	1	1
▶ **Interior dimensions**			
Width (mm/inch)	402 / 15.8	735 / 28.9	1000 / 39.4
Height (mm/inch)	402 / 15.8	700 / 27.6	1168 / 46.0
Depth (mm/inch)	330 / 13.0	443 / 17.4	600 / 23.6
Interior volume (l/cu.ft.)	53 / 1.9	228 / 8.1	700 / 25.1
Shelves (number standard/max.)	2/5	2/6	2/14
Load per shelf (kg/lbs.)	15 / 33	30 / 66	40 / 88
Permitted total load (kg/lbs.)	40 / 88	70 / 155	120 / 265
Weight (empty) (kg/lbs.)	150 / 331	340 / 772	460 / 1015
▶ **Temperature data**			
Temperature range (°C/°F)	-40[1] to 180 / -40[1] to 356	-40[1] to 180 / -40[1] to 356	-40[1] to 180 / -40[1] to 356
Temperature variation			
-40 °C (-40 °F) (± °C)	0.8	0.9	1
-10 °C (14 °F) (± °C)	0.7	0.8	1
0 °C (32 °F) (± °C)	0.4	0.7	1
20 °C (68 °F) (± °C)	0.8	1.0	1.9
70 °C (158 °F) (± °C)	1.2	0.9	1
150 °C (302 °F) (± °C)	2.0	1.0	2.5
Temperature fluctuation (± °C) [2]	0.1 - 0.5	0.1 - 0.5	0.1 - 0.5
Recovery time after 30 sec door open			
at -10 °C (14 °F) (Min.)	5	8	11
at 70 °C (158 °F) (Min.)	1	2	3
at 150 °C (302 °F) (Min.)	5	7	9
Mean heating rate acc. IEC 60068-3-5 (K/min.)	5.2	5	3
Mean cooling rate acc. IEC 60068-3-5 (K/min.)	5.0	5	2.3
Heating up time from -40 °C up to 180 °C (Min.)[3]	52	45	85
Cooling down time from 180 °C up to -40 °C (Min)[3]	105	98	180
▶ **Electrical data**			
Housing protection acc. to EN 50529	IP 20	IP 20	IP 20
Nominal voltage (±10 %) 50/60 Hz (V)	230 (1N)	400 (3N)	400 (3N)
Nominal power (W)	2600	6000	6000
Energy consumption [4] at 20 °C (68 °F) (W)	1020	1750	2100
Noise level (ca. dB(A))	59	62	65
Individually tested in compliance with VDE 0113	√	√	√

Cooling-down rate MK 53/240/720



Heating-up rate MK 53/240/720



1) Valid at an ambient temperature up to 25 °C (77 °F)
2) dependend upon set value
3) up to 98% of the set value
4) These energy consumption values can be used upon calculation of air conditioning 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 ± 10 %. The temperature data are determinated 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.

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