

## MK series: The classic temperature test chambers for natural simulation

This series covers the classic temperature range between  $-40\text{ °C}$  and  $180\text{ °C}$  for heat and refrigeration tests – with the added benefit of BINDER's unique natural simulation, incorporating preheating chamber technology and the Horizontal Air Flow Design. These features mean that the MK series meets the highest precision and performance requirements, while offering an intelligent alternative to expensive individual solutions for stability or durability testing, along with comprehensive standard features.



### ► Performance features and equipment:

- Electronically controlled APT.line® preheating chamber technology
- Temperature range from  $-40\text{ °C}$  to  $+180\text{ °C}$  ( $-40\text{ °F}$  to  $+356\text{ °F}$ ) (at an ambient temperature of  $25\text{ °C} / 77\text{ °F}$ )
- 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
- Programmable condensation protection for test material
- Forced convection
- Adjustable ramp function via program editor
- Access port,  $\varnothing 80\text{ mm}$  (3.1 inch), top (MK 53), right side (MK 240), and right and left sides (MK 720)
- Heated viewing window with interior lighting
- 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





	MK 53	MK 240	MK 720
<b>▶ Exterior dimensions</b>			
Width (mm/inch)	740 / 29.1	1160 / 44.9	1381 / 52.8
Height (incl. feet/casters) (mm/inch)	1242 / 48.9	1613 / 63.5	1997 / 78.6
Depth, excl. 45 mm (1.8 inch) for door handle (mm/inch)	794 / 29.1	962 / 35.8	1038 / 40.9
Wall clearance (mm/inch)	160 / 6.3	160 / 6.3	160 / 6.3
Viewing window width (mm/inch)	280 / 11.0	500 / 19.7	360 / 14.2
Viewing window height (mm/inch)	280 / 11.0	360 / 14.2	760 / 29.9
Number of doors	1	1	1
<b>▶ Interior dimensions</b>			
Width (mm/inch)	402 / 15.8	800 / 31.5	1000 / 39.4
Height (mm/inch)	402 / 15.8	600 / 23.6	1168 / 46.0
Depth (mm/inch)	330 / 13.0	500 / 19.7	600 / 23.6
Interior volume (l/cu.ft.)	53 / 1.9	240 / 8.6	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	300 / 662	460 / 1015
<b>▶ Temperature data</b>			
Temperature range (°C/°F)	-40* to +180 / -40* to +356	-40* to +180 / -40* to +356	-40* to +180 / -40* to +356
Temperature variation			
-40 °C (± °C)	0.8	1	1
-10 °C (± °C)	0.7	0.8	1
0 °C (± °C)	0.4	0.7	1
+20 °C (± °C)	0.8	1.6	1.9
+70 °C (± °C)	1.2	0.8	1
+150 °C (± °C)	2.0	2.3	2.5
Temperature fluctuation (± °C)	0.3	0.3	0.3
Recovery time after 30 sec door open			
at -10 °C (Min.)	5	8	11
at 70 °C (Min.)	1	2	3
at 150 °C (Min.)	5	7	9
Heating up time from -40 °C up to 180 °C (Min.)	52	60	85
Cooling down time from 180 °C up to -40 °C (Min.)	105	135	180
Mean heating rate acc. IEC 60068-3-5 (K/min.)	5.2	4.2	3
Mean cooling rate acc. IEC 60068-3-5 (K/min.)	5.0	2.5	2.3
<b>▶ Electrical data</b>			
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	4000	6000
Energy consumption <sup>1)</sup> at 20 °C (68 °F) (W)	1020	1750	2100
Noise level (ca. dB(A))	59	62	65
Individually tested in compliance with VDE 0113	✓	✓	✓

<sup>1)</sup> These energy consumption values can be used upon calculation of air conditioning systems

\* Valid at an ambient temperature up to 25 °C (77 °F)

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 DIN 12880, part 2 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.