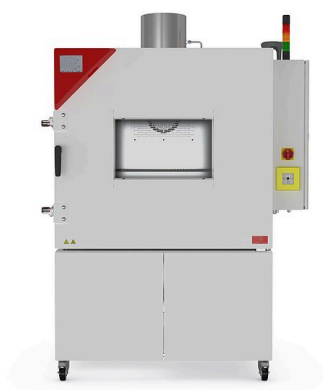


# Model LIT MK 240 | Battery test chambers with safety equipment for rapid temperature changes

Battery test chambers from BINDER are ideal for aging, performance, and stress testing in quality assurance and battery production. To ensure maximum safety, all the chambers in the LIT MK series are fitted with detection and fire suppression equipment as standard.

## BENEFITS

- Safety thanks to extensive protective measures
- Homogeneous climate conditions thanks to APT.line™ preheating chamber
- Extensive programming and data collection
- Excellent overview of the test object thanks to large heated viewing window



Model 240



Model 240

## MAIN FEATURES

- Temperature range: -40 °C to +110 °C
- Class 2 independent temperature safety device when temperature is set to +120 °C
- Reversible stainless steel pressure relief flap installed in the middle on top of the unit
- Enhanced door-locking mechanism with reinforced brackets
- Monitoring of CO, H<sub>2</sub>, O<sub>2</sub>, and temperature in testing area atmosphere
- Inertization equipment
- CO<sub>2</sub> fire suppression
- APT.line™ preheating chamber technology
- Programmable condensation protection for samples
- Heated viewing window with LED interior lighting
- BINDER Multi Management Software APT-COM™ basic edition
- Intuitive touchscreen controller with time-segment and real-time programming
- Internal data logger, measured values can be read out in open format via USB
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- Computer interface: Ethernet
- 230 V power socket on the side control panel on the right
- 1 stainless steel rack, can be freely positioned
- CFC-free refrigerant R-452A
- Cooling with compressor cooling unit

## OPTIONAL EQUIPMENT

- Electromechanical door-locking mechanism
- Additional access ports available in various sizes and locations
- Multi Management Software APT-COM for managing, recording, and documenting unit parameters
- Services – wide range of services to ensure that the unit functions correctly

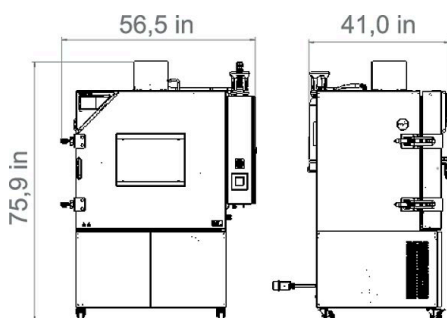
## ORDERING INFORMATION

| Interior volume [cu.ft.] | Voltage        | Option model | Version          | Art.-No.  |
|--------------------------|----------------|--------------|------------------|-----------|
| 8                        | 400 V 3~ 50 Hz | Standard     | LITMK240-400V    | 9020-0402 |
|                          | 480 V 3~ 60 Hz | Standard     | LIT MK240-480V-C | 9020-0404 |

## TECHNICAL DATA

| Description  | LITMK240-400V <sup>1</sup> | LIT MK240-480V-C <sup>1</sup> |
|--|----------------------------|-------------------------------|
| Article Number   | 9020-0402                  | 9020-0404                     |
| <b>Performance Data Temperature</b>                          |                            |                               |
| Temperature range  | -40...110                  | -40...110                     |
| Temperature variation depending on setpoint [± K]            | 0.1...1.2                  | 0.1...1.2                     |
| 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]   | 5                          | 5                             |
| Cooling down time from 110 °C to -40 °C [min]                | 160                        | 160                           |
| Average cooling down time according to IEC 60068-3-5 [K/min] | 3.5                        | 3.5                           |
| Max. heat compensation at 25 °C [W]                          | 3000                       | 3000                          |
| <b>Electrical data</b>                                       |                            |                               |
| Rated Voltage [V]  | 400                        | 480                           |
| Power frequency [Hz]   | 50                         | 60                            |
| Nominal power [kW]   | 5.6                        | 5.6                           |
| Unit fuse [A]  | 16                         | 16                            |
| Phase (Nominal voltage)                                      | 3~                         | 3~                            |
| <b>Measures</b>  |                            |                               |
| Interior volume [cu.ft.]                                     | 8                          | 8                             |
| Net weight of the unit (empty) [lbs]                         | 827                        | 827                           |
| Permitted load [lbs]   | 154                        | 154                           |
| Load per rack [lbs]  | 66                         | 66                            |
| Viewing window width [in]                                    | 20.02                      | 20.02                         |
| Viewing window height [in]                                   | 11.82                      | 11.82                         |
| Wall clearance back [in]                                     | 11.82                      | 11.82                         |
| Wall clearance sidewise [in]                                 | 7.88                       | 7.88                          |
| <b>Internal Dimensions</b>                                   |                            |                               |
| Width [in]   | 28.96                      | 28.96                         |
| Height [in]  | 27.58                      | 27.58                         |
| Depth [in]   | 17.45                      | 17.45                         |
| <b>Doors</b>   |                            |                               |
| Unit doors   | 1                          | 1                             |
| <b>Housing dimensions not incl. fittings and connections</b> |                            |                               |
| Width net [in]   | 52.6                       | 52.6                          |
| Height net [in]  | 76                         | 76                            |
| Depth net [in]   | 36.45                      | 36.45                         |
| <b>Environment-specific data</b>                             |                            |                               |
| Sound-pressure level [dB(A)]                                 | 62                         | 67                            |
| <b>Fixtures</b>  |                            |                               |
| Number of shelves (std./max.)                                | 1/6                        | 1/6                           |

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.

**DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]**

**OPTIONS**

| Designation                                 | Description  | *      | Art.-No.  |
|---|--|--------|-----------|
| <b>Calibration certificate, temperature</b> | temperature measurement incl. certificate and 27 measuring points at specified temperature                   | -      | 8012-1602 |
| <b>Heated access port</b>                   | On left side, including locking latch and silicone plug<br>150 mm diameter                                   | -      | 8012-1999 |
|   | additional flexible Pt 100, interior, for displaying the temperature on the unit display                     | -      | 8012-1093 |
|   | Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™         | -      | 8012-1768 |
|   | Controlled via control contact in time program or manually   | -      | 8012-2011 |
|   | for controlling 3 relay contacts via program regulators, accessible via 6-pin DIN socket (max. 24 V - 2.5 A) | -      | 8012-1095 |
|   | for temperature values (output not adjustable)   | -      | 8012-1084 |
|   | for temperature; for extending the measurement in center of chamber to include another test temperature      | -      | 8012-1124 |
|   | for the connection to an existing pressurized air network  | -      | 8012-1089 |
|   | left   |        |           |
|   | 30 mm  | 01     | 8012-1322 |
|   | 50 mm  | 01     | 8012-1328 |
| <b>Options/Accessories</b>                  | 80 mm  | 01     | 8012-1334 |
|   | 100 mm   | 01, 11 | 8012-1542 |
|   | 125 mm   | 01, 11 | 8012-1351 |
|   | lockable door handle   | -      | 8012-1861 |
|   | Measurement in center of chamber at specified temperature  | -      | 8012-1143 |
|   | notch-type access port in door, 100 x 35 mm  | -      | 8012-1850 |
|   | temperature measurement incl. certificate, 15- 18 measuring points at specified temperature                  | -      | 8012-1581 |
|   | temperature measurement incl. certificate, 9 measuring points at specified temperature                       | -      | 8012-1560 |
|   | top  |        |           |
|   | 80 mm  | 01     | 8012-1536 |

\* Notes › See last page

**ACCESSORIES**

| Designation                      | Description  | *  | Art.-No.  |
|----------------------------------|--|----|-----------|
| <b>Multi Management Software</b> | Multi Management Software APT-COM™<br>version 4, GLP edition | 19 | 9053-0042 |
|                                  | version 4, PROFESSIONAL edition                              | 19 | 9053-0040 |

\* Notes › See last page

| Designation                | Description   | * | Art.-No.  |
|----------------------------|---|---|-----------|
|                            | Stainless steel   | - | 8009-0447 |
|                            | stainless steel   | - | 6004-0097 |
|                            | concentrated, for gentle remove of residual contaminants; 1 kg  | - | 1002-0016 |
|                            | fasteners (1 set of 4) for additional security of racks   | - | 8012-0620 |
|                            | IQ/OQ documents – supporting documents for validation performed by customers, consisting of: IQ/OQ checklists incl. calibration guide and comprehensive unit documentation; parameters: temperature, CO <sub>2</sub> , O <sub>2</sub> , pressure, depending on unit |   |           |
|                            | Digital in PDF format   | - | 7057-0001 |
|                            | Hard copy inside folder   | - | 7007-0001 |
| <b>Options/Accessories</b> | IQ/OQ/PQ documents – supporting documents for validation performed by customers, according to customer requirements, PQ section added to qualification folder IQ/OQ; parameters: temperature, CO <sub>2</sub> , O <sub>2</sub> – or pressure, depending on unit     |   |           |
|                            | Digital in PDF format   | - | 7057-0005 |
|                            | Hard copy inside folder   | - | 7007-0005 |
|                            | RS 422 cable set and RS 485 / RS 422 interface converter for connection to 10-way plug distributor  |   |           |
|                            | 115 V option model  | - | 8012-0599 |
|                            | 230 V option model  | - | 8012-0589 |
|                            | stainless steel, with fasteners (1 set of 4)  | - | 8012-0605 |

\* Notes › See last page

## SERVICES

| Designation                   | Description  | *              | Art.-No.  |
|-------------------------------|--|----------------|-----------|
| <b>Installation services</b>  |  |                |           |
| Services                      | Unit function instructions for operation and programming of the controller   | 18             | DL10-0710 |
|                               | Unpacking and setting up of unit, connecting to existing connections, and checking function                                  | 13, 18         | DL10-0310 |
| <b>Preventive maintenance</b> |  |                |           |
| Services                      | Executive of equipment inspection according to maintenance plan  | 14, 18         | DL20-0510 |
| <b>Calibration services</b>   |  |                |           |
| Services                      | CO <sub>2</sub> calibration at a specified value, measurements are taken with analyzed test gas at 5%, including certificate | 14, 16, 17, 18 | DL30-0403 |
|                               | Expansion – including certificate, each additional measuring point in center of chamber at specified test temperature        | 14, 16, 17, 18 | DL30-0102 |
|                               | Temperature calibration with 1 measuring point in center of chamber at a specified test temperature, including certificate   | 14, 16, 17, 18 | DL30-0101 |
|                               | Temperature measurement with 18 measuring points at a specified test temperature, including certificate                      | 14, 16, 17, 18 | DL30-0118 |
|                               | Temperature measurement with 27 measuring points at a specified test temperature, including certificate                      | 14, 16, 17, 18 | DL30-0127 |
|                               | Temperature measurement with 9 measuring points at a specified test temperature, including certificate                       | 14, 16, 17, 18 | DL30-0109 |
| <b>Validation services</b>    |  |                |           |
| Services                      | Execution of IQ/OQ in accordance with qualification folder   | 15, 18         | DL41-0200 |
|                               | Execution of IQ/OQ/PQ in accordance with qualification folder  | 15, 18         | DL44-0500 |
| <b>Warranty service</b>       |  |                |           |
| Services                      | The warranty is extended from 2 to 3 years from the delivery date, wear parts are excluded                                   | -              | DL01-1041 |
|                               | The warranty is extended from 2 to 5 years from the delivery date, wear parts are excluded                                   | -              | DL01-1042 |

\* Notes › See last page

## NOTES

- 01 Hinweise
- 02 Hinweise
- 03 Hinweise
- 04 Hinweise
- 07 Hinweise
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