

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

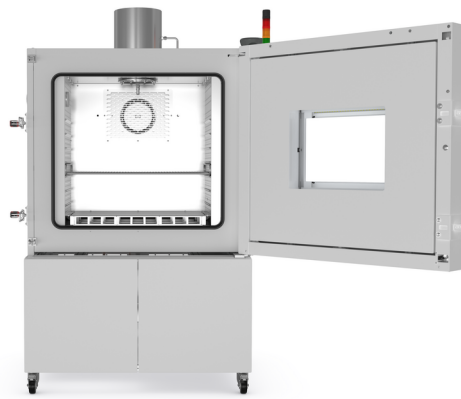
Battery test chambers from BINDER are ideal for aging, performance, and stress testing in quality assurance and battery production. To ensure maximum safety, all the chambers in the LIT MK series are fitted with detection and fire suppression equipment as standard. TÜV SÜD AG has recently confirmed that the LIT MK 240 and LIT MK 720 battery test chambers are suitable for EUCAR LEVEL 6.

## 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

## IMPORTANT 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
- Access port with silicone plug, 50 mm, left
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- Computer interface: Ethernet
- 1 stainless steel rack, can be freely positioned
- CFC-free refrigerant R-452A
- Cooling with compressor cooling unit
- TÜV SÜD confirms that the LIT MK 240 and LIT MK 720 chambers are suitable for EUCAR level 6

## 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	Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
[L]	[L]				
<b>Model LIT MK 240</b>					

Interior volume		Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
[L]	[L]					
228	228	400 V 3~ 50 Hz -16,0 A	CEE 16 / 6 H plug 5-pin	Standard	LITMK240-400V	9020-0402
		480 V 3~ 60 Hz -16,0 A	CEE 16 / 6 H plug 5-pin	Standard	LIT MK240-480V-C	9020-0404

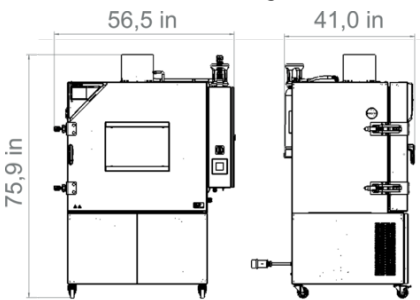
## TECHNICAL DATA

Data		
Designation	LITMK240-400V	LIT MK240-480V-C
Article Number	9020-0402	9020-0404
Option model	Standard	Standard
Performance Data Temperature		
Temperature range	-40...110 °C	-40...110 °C
Temperature uniformity dependent on set value	0.1...0.5 ± K	0.1...0.5 ± K
Temperature fluctuation dependent on set value	0.1...0.5 ± K	0.1...0.5 ± K
Average heating-up rate according to IEC 60068-3-5	5,0 K/min	5,0 K/min
Cooling down time from 110°C to -40°C	160 min	160 min
Average cooling down time according to IEC 60068-3-5	3,5 K/min	3,5 K/min
Electrical data		
Rated Voltage	400 V	480 V
Power frequency	50 Hz	60 Hz
Nominal power	5,6 kW	5,6 kW
Unit fuse	16,0 A	16,0 A
Phase (Nominal voltage)	3~	3~
Dimensions and weights		
Interior volume	228 L	228 L
Net weight of the unit (empty)	375 kg	375 kg
Load per rack	30 kg	30 kg
Permitted load	70 kg	70 kg
Wall clearance back	300 mm	300 mm
Wall clearance sidewise	200 mm	200 mm
Housing dimensions not incl. fittings and connections		
Width net	1,335 mm	1,335 mm
Height net	1,929 mm	1,929 mm
Depth net	925 mm	925 mm
Internal Dimensions		
Interior width	735 mm	735 mm

Interior height	700 mm	700 mm
Interior depth	443 mm	443 mm
Unit doors	1	1
<b>Environment-specific data</b>		
Sound-pressure level	62 dB(A)	67 dB(A)
Energy consumption at 20°C	1,300 Wh/h	1,300 Wh/h
<b>Fixtures</b>		
Number of shelves (std./max.)	1/6	1/6

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	LIT MK 240	*	Art.-No.
	left			
	30 mm	•	01	8012-1322
	50 mm	•	01	8012-1328
	80 mm	•	01	8012-1334
Access port with silicone plug	100 mm	•	01	8012-1542
	125 mm	•	01	8012-1351
	top			
	80 mm	•	01	8012-1536
Analog output 4-20 mA	for temperature values (output not adjustable)	•	-	8012-1084
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	-	8012-1124

Designation	Description	LIT MK 240	*	Art.-No.
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	•	-	8012-1143
	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	-	8012-1560
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	-	8012-1581
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	-	8012-1602
Compressed air connection	for the connection to an existing pressurized air network	•	-	8012-1089
Door lock	lockable door handle	•	-	8012-1861
Electromechanical door-locking mechanism	Controlled via control contact in time program or manually	•	-	8012-2011
Heated access port	On left side, including locking latch and silicone plug			
	150 mm diameter	•	-	8012-1999
Locking latch for access port plug	For securing the silicone plug of an access port			
	30 mm diameter	•	-	8012-2012
	50 mm diameter	•	-	8012-2013
	80 mm diameter	•	-	8012-2014
	100 mm diameter	•	-	8012-2015
	125 mm diameter	•	-	8012-2016
Notch-type access port	notch-type access port in door, 100 x 35 mm	•	-	8012-1850
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	•	-	8012-1093
RS 485 interface, 2-wire	Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™	•	-	8012-1768
Reinforced boiler base	for increasing the load capacity of the interior base			
	to 200 kg	•	-	8012-2009
Zero voltage relay contacts	for controlling 3 relay contacts via program regulators, accessible via 6-pin DIN socket (max. 24 V - 2.5 A)	•	-	8012-1095

## ACCESSORIES

Designation	Description	LIT MK 240	*	Art.-No.
APT-COM™ 4	Multi Management Software APT-COM™			
	version 4, GLP edition	•	-	9053-0042
	version 4, PROFESSIONAL edition	•	-	9053-0040

Designation	Description	LIT MK 240	*	Art.-No.
Qualification documents	<p>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</p>			
	Digital in PDF format	•	-	7057-0005
	Hard copy inside folder	•	-	7007-0005
	<p>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</p>			
RS 485 / RS 422 interface converter	Digital in PDF format	•	-	7057-0001
	Hard copy inside folder	•	-	7007-0001
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
Rack	stainless steel	•	-	8012-2053
Rack, reinforced	stainless steel, with fasteners (1 set of 4)	•	-	8012-0605
Rack accessories	fasteners (1 set of 4) for additional security of racks	•	-	8012-2280
Shelf, perforated	Stainless steel	•	-	8012-2251
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250

## SERVICES

Designation	Description	*	Art.-No.
<b>Calibration services</b>			
CO <sub>2</sub> calibration	O <sub>2</sub> , CO <sub>2</sub> , and H <sub>2</sub> calibration at specified values, measurements are taken with analyzed test gas, including certificate. Travel to be quoted separate.	–	DL30-0403
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required.	–	DL30-0109
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 2 shelves are required.	–	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate. Travel to be quoted separate. A total of 3 shelves are required.	–	DL30-0127
<b>Installation services</b>			
Unit installation	Connect the unit to the customer-side connections (electricity, water, wastewater, gas), basic functions check, brief operating instructions. (excl.: unpacking, setup, controller instructions, programming, installation work) Travel to be quoted as separate.	–	DL10-0310

Designation	Description	*	Art.-No.
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming. Travel to be quoted as separate limited to 3 hours.	–	DL10-0710
<b>Maintenance services</b>			
GOLD 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature and CO <sub>2</sub> value, including certificate	–	DL20-0940
Leakage test	One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Calibration of a test temperature specified by the user in center of usable space without certificate	–	DL00-0034
SILVER 3-year maintenance contract	Annual Device Inspection Includes Preventive Maintenance with Calibration Certificate 15% Discount on Spare Parts and Labor for any additional Services needed One additional courtesy visit per year can be used for service visit or operator training. Wear + tear parts to be purchased or billed to customer. Travel to be quoted separate.	–	DL20-0840
<b>Validation services</b>			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder. Travel to be quoted separate.	–	DL41-0200
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder. Travel to be quoted separate.	–	DL44-0500

## NOTES

01      Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.

### **BINDER GmbH**

Tuttlingen, Germany  
TEL +49 7462 2005 0  
FAX +49 7462 2005 100  
info@binder-world.com  
www.binder-world.com

### **BINDER Inc.**

Bohemia, NY, USA  
TEL +1 631 224 4340  
FAX +1 631 224 4354  
usa@binder-world.com  
www.binder-world.us

### **BINDER Environmental Testing Equipment (Shanghai) Co., Ltd.**

Shanghai, P.R. China  
TEL +86 21 685 808 25  
FAX +86 21 685 808 29  
china@binder-world.com  
www.binder-world.com

### **BINDER Asia Pacific (Hong Kong) Ltd.**

Kowloon, Hong Kong, P.R. China  
TEL +852 39070500  
FAX +852 39070507  
asia@binder-world.com  
www.binder-world.com