

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

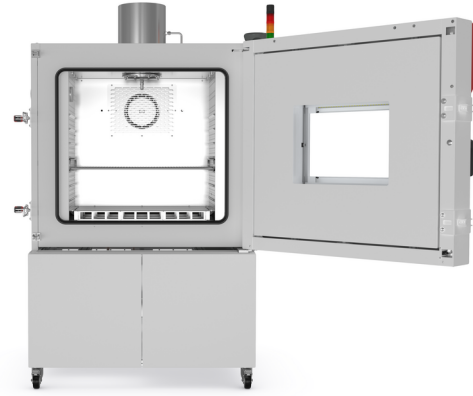
Battery test chambers from BINDER are ideal for aging, performance, and stress testing in quality assurance and battery production. To ensure maximum safety, all the chambers in the LIT MK series are fitted with detection and fire suppression equipment as standard. TÜV SÜD AG has recently confirmed that 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, H₂, O₂, and temperature in testing area atmosphere
- Inertization equipment
- CO₂ 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 [L]	Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
Model LIT MK 240					

Interior volume [L]	Power supply - unit fuse	Plug*	Version	Model version	Art.-No.
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	with voltage and frequency converter	LITMK240-480V-C	9020-0404

TECHNICAL DATA

Data		
Designation	LITMK240-400V	LITMK240-480V-C
Article Number	9020-0402	9020-0404
Option model	Standard	with voltage and frequency converter
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~
Measures		
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
Viewing window width	508 mm	508 mm
Viewing window height	300 mm	300 mm
Unit doors	1	1

Environment-specific data

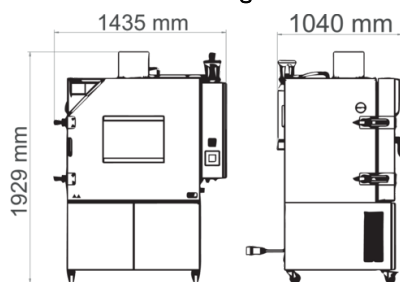
Sound-pressure level	62 dB(A)	67 dB(A)
Energy consumption at 20°C	1,300 Wh/h	1,300 Wh/h

Fixtures

Number of shelves (std./max.)	1/6	1/6
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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

Designation	Description	LIT MK 240	*	Art.-No.
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	-	8012-1124
	for temperature, measurement in center of chamber at specified temperature	•	-	8012-1143
Calibration certificate, temperature	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 GLP-Edition	for working under GLP-compliant conditions. Measured values are documented in a tamper-proof way in line with the requirements of FDA Regulation 21 CFR 11.			
	version 4, GLP edition	•	-	9053-0042

Designation	Description	LIT MK 240	*	Art.-No.
APT-COM™ 4 PROFESSIONAL-Edition	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.			
	version 4, PROFESSIONAL edition	•	-	9053-0040
Qualification documents	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 ₂ , O ₂ – or pressure, depending on unit			
	Digital in PDF format	•	-	7057-0005
	Hard copy inside folder	•	-	7007-0005
	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 ₂ , O ₂ , pressure, depending on unit			
	Digital in PDF format	•	-	7057-0001
	Hard copy inside folder	•	-	7007-0001
RS 485 / RS 422 interface converter	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
WLAN kit	The kit contains a client bridge that establishes a wireless connection between BINDER units and APT-COM4, LIMS, or customer-specific software via an Ethernet interface. It provides an alternative solution in situations where units need to be positioned in locations without an on-site Ethernet connection. In secured networks, installation and configuration must be performed by the customer's IT service.	•	-	8012-2262
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250

SERVICES

Designation	Description	*	Art.-No.
Calibration services			
Calibration certificate, temperature	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	-	DL30-0101
	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	-	DL30-0102
O ₂ , CO ₂ , and H ₂ calibration	O ₂ , CO ₂ , and H ₂ calibration at specified values, measurements are taken with analyzed test gas, including certificate	-	DL30-0403

Designation	Description	*	Art.-No.
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate	-	DL30-0109
Temperature measurement, 18 measuring points	Temperature measurement with 18 measuring points with a set value specified by the user, including certificate	-	DL30-0118
Temperature measurement, 27 measuring points	Temperature measurement with 27 measuring points with a set value specified by the user, including certificate	-	DL30-0127
Installation services			
Unit commissioning	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)	-	DL10-0310
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05	DL10-0710
Maintenance contracts			
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/humidity value, including certificate	-	DL20-0950
SILVER 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, calibration of one test temperature specified by the user in the center of the usable space, without certificate	-	DL20-0840
Maintenance services			
Leakage test	Testing and logging of the leak-tightness of systems containing hydrofluorocarbons in accordance with Regulation EC842/2006, incl. test book	-	DL00-0034
Maintenance	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	-	DL20-0510
Validation services			
Execution of Factory Acceptance Test	The Factory Acceptance Test ensures that the unit works and that the order specifications and all other requirements of the customer are met.	-	DL00-0080
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	-	DL41-0200
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	-	DL44-0500
Execution of Site Acceptance Test	The Site Acceptance Test is used for acceptance of the units at the installation site directly at the customer's premises.	-	DL00-0090

NOTES

- 01 Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.
- 05 Quoted prices do not include travel costs. Please refer to the chapter on BINDER Service for travel costs for your region. Quoted prices for services performed in Switzerland do not include a country-specific added fee (available on request).

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