

Model MK 240 | Dynamic climate chambers for rapid temperature changes

The BINDER MK series chamber is suitable for all heat and cold tests between -40 °C and 180 °C. The MK is a clever alternative to complex individual solutions for cyclical temperature tests.

BENEFITS

- Homogeneous climate conditions thanks to APT line™ technology
- · Comprehensive programming and data acquisition
- · Large heated viewing window



Model 240

MAIN FEATURES

- Temperature range: -40 °C to 180 °C
- APT.line[™] preheating chamber technology
- Programmable condensation protection for test material
- Heated viewing window with LED interior lighting
- BINDER Multi Management Software APT-COM™ Basic Edition
- · Troubleshooting system with visual and audible alarms
- 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
- 4 castors, two with brakes



Model 240

- · Computer interface: Ethernet
- · 230 V power socket on the right-side control panel
- · Adjustable ramp function
- · Integrated chart recorder
- · Real-time clock
- · Door heating
- · 1 stainless steel rack
- · Inner chamber made of stainless steel
- CFC-free refrigerant R-452A
- · Cooling with compressor cooling unit

ORDERING INFORMATION

Interior volume [L]	Voltage	Option model	Version	ArtNo.
Model MK 240				
228	400 V 3~ ph 50 Hz	Standard	MK240-400V	9020-0376
	480 V 3~ ph 60 Hz	with voltage and frequency converter	MK240-480V-C	9020-0355



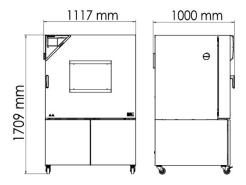
TECHNICAL DATA

Anticle Number 920-03376 9020-03355 Performace Data Temperature Vericance Data Temperature (PCL) 40180 40180 Temperature variation depending on selpoint (£ K) 0.112 0.105 0.105 Coding down time from 180 °C to -40 °C [min] 110 110 110 Average bending or setzoring to EC 80088-3 [K/min] 45 45 Average coding down time according to EC 80088-3 [K/min] 45 45 Average coding down time according to EC 80088-3 [K/min] 45 45 Reservations of State (M) 2000 200 Electrical data 40 40 Reserve (Voltage V) 50 56 60 Power frequency [kt] 50 60 60 Normal power [kV] 50 56 60 Normal voltage (M) 45 49 40 Power frequency [kt] 45 49 40 Unit face [A] 45 49 40 Name [A] 41 43 43 44 Height (min) 40	Description	MK240-400V ¹	MK240-480V-C ¹
Temperature variation depending on selpoint [st N] 40180 40120 Temperature function depending on selpoint [st N] 0105 0105 Average heating-up rate according to IcC 60068-35 [Krim] 10 110 Average heating-up rate according to IcC 60068-35 [Krim] 110 110 Average cooling down time from 180 °C to 40 °C [min] 110 100 Average cooling down time according to IcC 60068-35 [Krim] 200 200 Max. heat compensation at 25 °C [W] 200 200 Bowlet for Usage [V] 400 400 Power frequency [Vs] 56 5 Nominal power [KW] 56 5 Nominal power [KW] 60 6 Nominal power [KW] 40 40 Nominal power [KW] 56 5 Nominal power [KW] 50 6 William [Km] 40 43 Height [Km] 70 70 William [Km] 70 70 William [Km] 70 70 William [Km] 71 115	Article Number	9020-0376	9020-0355
Temperature variation depending on setpoint [± K] 0.12 0.125 0.105 Average heating-up rate according to IEC 60068-3-5 [K/min] 5 5 Cooling down time from 180°C to -40°C [min] 10 10 Average cooling down time according to IEC 60068-3-5 [K/min] 4.5 4.5 Max. heat compensation at 25°C [M] 2000 2000 Electrical data 480 480 Power frequency [t-2] 60 60 Nominal power [kW] 5.6 5.6 Phase (Nominal vottage) 6 6 Phase (Nominal vottage) 443 43 Phase (Nominal vottage) 70 3 Power frequency [t-2] 443 43 Phase (Nominal vottage) 443 43 Phase (Nominal vottage) 70 70 Phase (Nominal vottage) 443 43 Height (Irm] 70 70 Width (Irm] 70 70 Width (Irm] 70 70 Width (Irm] 115 115 Height (Ir	Performance Data Temperature		
Temperature fluctuation depending on setpoint [£ K] 0.10.5 0.10.5 Average heating-up rate according to IEC 60088-3 [K/min] 5 5 Cooling down time from 180° Ct 0-40° (C [min]) 110 10 Max. head compensation at 25° (C [W]) 2000 2000 Blectical data ************************************	Temperature range [°C]	-40180	-40180
Average heating-up rate according to IEC 60084-5 [K/min] 5 10 10 10 10 10 10 10 10 10 10 10 10 10	Temperature variation depending on setpoint [± K]	0.11.2	0.11.2
Cooling down time from 180 °C to -40 °C (min) 110 10 Average cooling down time according to IEC 60068-3-5 [K/min] 4.5 4.5 Max. heat compensation at 25 °C [VI] 2000 2000 Electrical data Rated Voltage [V] 400 480 Power frequency [Hz] 5.6 6.6 Nominal power [kW] 5.6 5.6 Unit fuse [A] 16 16 Phase (Normial voltage) 3- 3- Internal Dimensions 70 Depth [mm] 443 443 Height [mm] 735 735 Housing dimensions not incl. fittings and connections Width [mm] 1115 1115 Height net [mm] 1710 70 Depth net [mm] 26 925 Measures 58 Viewing window width [mm] 508 58 Viewing window width [mm] 300 30 Vall clearance sidewise [mm] 20 20 Unit do	Temperature fluctuation depending on setpoint [± K]	0.10.5	0.10.5
Average cooling down time according to IEC 60088-3 [K/min] 4.5 4.5 Max. heat compensation at 25 °C [M] 2000 2000 Electrical data **** **** Rated Voltage [M] 400 480 Power frequency [Hz] 50 60 Nominal power [kM] 5.6 5.6 Unit fuse [A] 16 3- Phase (Nominal voltage) 3- 3- Internal Dimensions *** 70 Internal [mm] 70 70 Width [mm] 73 73 Housing dimensions not incl. fittings and connections *** Width [mm] 1115 1115 Height net [mm] 1710 1710 Depth net [mm] 95 95 Measures *** Yes (Max Max Max Max Max Max Max Max Max Max	Average heating-up rate according to IEC 60068-3-5 [K/min]	5	5
Max. heat compensation at 25 °C [W] 2000 2000 Electrical date Temper fequency [Hz] 400 480 Nominal power [KW] 5.6 5.6 5.6 Nominal power [KW] 16 16 16 Phase (Nominal voltage) 3- 3- 18 Phase (Nominal voltage) 443 443 445 Height [mm] 700 700 10 Width [mm] 70 70 115 Housing dimensions to incl. fittings and connections 45 115 Width net [mm] 1115 115 115 Height net [mm] 1710 1710 1710 Depth net [mm] 50 56 8 Westing window width [mm] 50 56 8 Westing window width [mm] 300 30 30 Westing window height [mm] 300 30 30 Well clearance sidewise [mm] 20 22 28 Well velagation of the unit (empty) [kg] 30 70 70	Cooling down time from 180 °C to -40 °C [min]	110	110
Electrical data 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- Internal Dimensions W 443 Beight [mm] 700 70 Width [mm] 735 735 Housing dimensions not incl. fittings and connections 735 735 Housing there [mm] 1115 1115 Height [mm] 925 95 Height net [mm] 1710 1710 Depth net [mm] 508 508 Viewing window width [mm] 508 508 Viewing window height [mm] 300 300 Wall clearance back [mm] 300 300 Wall clearance sidewise [mm] 300 300 Wall clearance sidewise [mm] 340 340 Level up of the unit (empty) [kg] 340 300 Level up to the unit (empty) [kg] 30 <td< td=""><td>Average cooling down time according to IEC 60068-3-5 [K/min]</td><td>4.5</td><td>4.5</td></td<>	Average cooling down time according to IEC 60068-3-5 [K/min]	4.5	4.5
Rated Voltage [V] 400 480 Power frequency [Hz] 50 60 Nominal power [kV] 5.6 5.6 Unit fuse [A] 16 6 Phase (Nomial voltage) 3- 3- Internal Dimensions W 43 Height [mm] 403 43 Height [mm] 700 70 Width [mm] 75 70 Housing dimensions not incl. fittings and connections 1115 1115 Height net [mm] 1710 1710 Depth net [mm] 925 95 Wessures 925 95 Viewing window width [mm] 508 508 Viewing window width [mm] 90 90 Viewing window height [mm] 300 300 Viel clearance idewise [mm] 200 200 Natl veight of the unit (empty [kg] 40 30 Net veight of the unit (empty [kg] 30 30 Let veight of the unit (empty [kg] 40 70 Let veight of the unit (em	Max. heat compensation at 25 °C [W]	2000	2000
Power frequency [Hz] 50 60 Nominal power [kW] 5.8 5.8 Unit fuse [A] 16 16 Phase (Nominal voltage) 3- 3- Phase (Nominal voltage) 43 43 Height [mm] 40 70 Phish [mm] 70 70 Width [mm] 115 115 Height [mm] 110 115 Height net [mm] 22 28 Height net [mm] 508 58 Pay and the firm] 508 58 Pey ing window width [mm] 508 58 Viewing window height [mm] 300 300 Wall clearance back [mm] 300 300 Wall clearance sidewise [mm] 228 228 Net weight of the unit (empty) [kg] 34 30 permitted load [kg] 70 30 poor 70 30 Door 70 30 poor 70 30 poor 70	Electrical data		
Nominal power [kV] 5.6 5.6 Unit fuse [A] 16 16 Phase (Nominal voltage) 3- 3- Internal Dimensions	Rated Voltage [V]	400	480
Unit fuse [A] 16 16 Phase (Nominal voltage) 3- 3- Internal Dimensions Width Company 443 443 Height [mm] 700 700 700 Width [mm] 735 35 35 Housing dimensions not incl. fittings and connections Width net [mm] 1115 1115 Height net [mm] 1710 1710 70 Depth net [mm] 925 925 Measures Viewing window width [mm] 508 508 Viewing window height [mm] 300 300 Wall clearance back [mm] 200 20 Interior volume [L] 228 228 Net weight of the unit (empty) [kg] 340 30 permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors Unit doors 1 1 Environment-specific data 5 6 6 Fixtures 4 6 6	Power frequency [Hz]	50	60
Phase (Nominal voltage) 3~ 3~ Internal Dimensions 443 444 443 443 444 443 444 444 444 443 444 443 444 443 444 443 444 443 444 443 444 443 444 443 444 444 443 444 444 444 444 444 444 444	Nominal power [kW]	5.6	5.6
Internal Dimensions Depth [mm] 443 443 Height [mm] 700 700 Width [mm] 735 735 Housing dimensions not incl. fittings and connections ************************************	Unit fuse [A]	16	16
Depth [mm] 443 443 Height [mm] 700 700 Width [mm] 735 735 Housing dimensions not incl. fittings and connections Width net [mm] 1115 1115 Height net [mm] 1710 1710 1710 Depth net [mm] 925 925 Measures Viewing window width [mm] 508 508 Viewing window height [mm] 300 300 Wall clearance back [mm] 300 300 Wall clearance sidewise [mm] 200 228 Net weight of the unit (empty) [kg] 340 340 permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors 70 70 Unit doors 1 1 1 Environment-specific data 2 6 7 Sound-pressure level [dB(A)] 62 6 7	Phase (Nominal voltage)	3~	3~
Height [mm] 700 700 Width [mm] 735 735 Housing dimensions not incl. fittings and connections ************************************	Internal Dimensions		
Width [mm] 735 735 Housing dimensions not incl. fittings and connections 1115 1115 Width net [mm] 1710 1710 Depth net [mm] 925 925 Measures Viewing window width [mm] 508 508 Viewing window height [mm] 300 300 Wall clearance back [mm] 300 300 Wall clearance sidewise [mm] 200 228 Net weight of the unit (empty) [kg] 340 340 permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors Unit doors 1 1 Environment-specific data 5 6 6 Sound-pressure level [dB(A)] 62 6 6	Depth [mm]	443	443
Housing dimensions not incl. fittings and connections Width net [mm] 1115 1116 Height net [mm] 1710 1710 Depth net [mm] 925 925 Measures Viewing window width [mm] 508 508 Viewing window height [mm] 300 300 Wall clearance back [mm] 300 300 Wall clearance sidewise [mm] 200 200 Interior volume [L] 228 228 Net weight of the unit (empty) [kg] 340 340 permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors Unit doors 1 1 Unit doors 62 67 Fixtures	Height [mm]	700	700
Width net [mm] 1115 1115 Height net [mm] 1710 1710 Depth net [mm] 925 925 Measures Viewing window width [mm] 508 508 Viewing window height [mm] 300 300 Wall clearance back [mm] 300 300 Wall clearance sidewise [mm] 200 228 Net weight of the unit (empty) [kg] 340 340 permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors Unit doors 1 1 Environment-specific data 50 67 Fixtures	Width [mm]	735	735
Height net [rmn] 1710 1710 Depth net [rmn] 925 925 Measures Viewing window width [rmn] 508 508 Viewing window height [rmn] 300 300 Wall clearance back [rmn] 300 300 Wall clearance sidewise [rmn] 200 200 Interior volume [L] 228 228 Net weight of the unit (empty) [kg] 340 340 Load per rack [kg] 30 30 Doors Unit doors 1 1 Unit doors 62 67 Fixtures	Housing dimensions not incl. fittings and connections		
Depth net [mm] 925 925 Measures Viewing window width [mm] 508 508 Viewing window height [mm] 300 300 Wall clearance back [mm] 300 300 Wall clearance sidewise [mm] 200 200 Interior volume [L] 228 228 Net weight of the unit (empty) [kg] 340 340 permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors Unit doors 1 1 Environment-specific data 50 67 Fixtures	Width net [mm]	1115	1115
Measures Viewing window width [mm] 508 508 Viewing window height [mm] 300 300 Wall clearance back [mm] 300 300 Wall clearance sidewise [mm] 200 200 Interior volume [L] 228 228 Net weight of the unit (empty) [kg] 340 340 permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors Unit doors 1 1 Environment-specific data 50 67 Sound-pressure level [dB(A)] 62 67 Fixtures	Height net [mm]	1710	1710
Viewing window width [mm] 508 508 Viewing window height [mm] 300 300 Wall clearance back [mm] 200 200 Interior volume [L] 228 228 Net weight of the unit (empty) [kg] 340 340 permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors Unit doors 1 1 Environment-specific data 50 67 Fixtures	Depth net [mm]	925	925
Viewing window height [mm] 300 300 Wall clearance back [mm] 300 300 Wall clearance sidewise [mm] 200 200 Interior volume [L] 228 228 Net weight of the unit (empty) [kg] 340 340 permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors 1 1 Unit doors 1 1 Environment-specific data Sound-pressure level [dB(A)] 62 67 Fixtures	Measures		
Wall clearance back [mm] 300 300 Wall clearance sidewise [mm] 200 200 Interior volume [L] 228 228 Net weight of the unit (empty) [kg] 340 340 permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors 1 1 Unit doors 1 1 Environment-specific data 5 Sound-pressure level [dB(A)] 62 67 Fixtures	Viewing window width [mm]	508	508
Wall clearance sidewise [mm] 200 200 Interior volume [L] 228 228 Net weight of the unit (empty) [kg] 340 340 permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors Unit doors 1 1 Environment-specific data 5 67 Sound-pressure level [dB(A)] 62 67 Fixtures	Viewing window height [mm]	300	300
Interior volume [L] 228 228 Net weight of the unit (empty) [kg] 340 340 permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors Unit doors 1 1 Environment-specific data 5 62 67 Fixtures Fixtures 5 62 67	Wall clearance back [mm]	300	300
Net weight of the unit (empty) [kg] 340 340 permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors Unit doors 1 1 Environment-specific data Sound-pressure level [dB(A)] 62 67 Fixtures	Wall clearance sidewise [mm]	200	200
permitted load [kg] 70 70 Load per rack [kg] 30 30 Doors Unit doors 1 1 Environment-specific data 5 67 Fixtures Fixtures 50 67	Interior volume [L]	228	228
Load per rack [kg] 30 30 Doors Unit doors 1 1 Environment-specific data Sound-pressure level [dB(A)] 62 67 Fixtures	Net weight of the unit (empty) [kg]	340	340
Doors Unit doors 1 1 Environment-specific data 5 67 Fixtures Fixtures 67	permitted load [kg]	70	70
Unit doors 1 1 Environment-specific data 5 67 Fixtures 60 67	Load per rack [kg]	30	30
Environment-specific data Sound-pressure level [dB(A)] 62 67 Fixtures	Doors		
Sound-pressure level [dB(A)] 62 67 Fixtures	Unit doors	1	1
Fixtures	Environment-specific data		
	Sound-pressure level [dB(A)]	62	67
Number of shelves (std./max.) 1/6 1/6	Fixtures		
	Number of shelves (std./max.)	1/6	1/6

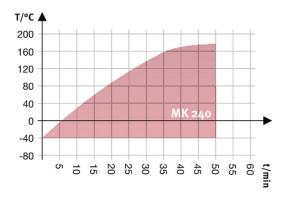
¹ All technical data is specified for unloaded units with standard equipment at an ambient temperature of +22 °C ±3 °C and a power supply voltage fluctuation of ±10 %. The temperature data is determined in accordance to BINDER factory standard following DIN 12880, observing the recommended wall clearances 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.

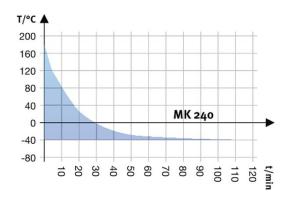


DIMENSIONS incl. fittings and connections [mm]

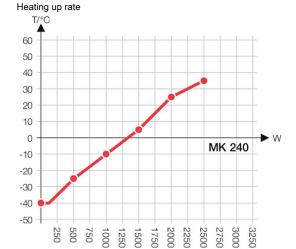


CHARTS





Cooling down rate



Heat compensation chart



OPTIONS AND ACCESSORIES

Designation	Description	*	ArtNo.
Access port	notch-type access port in door, 100 x 35 mm	_	8012-1850
	left		
	30 mm	01	8012-1322
	50 mm	01	8012-1328
	80 mm	01	8012-1334
	100 mm	01, 11	8012-1542
	125 mm	01, 11	8012-135
	right		
Access port with silicone	30 mm	01	8012-1319
olug	50 mm	01	8012-1325
	80 mm	01	8012-133 ⁻
	100 mm	01, 11	8012-1539
	125 mm	01, 11	8012-1348
	top		
	80 mm	01	8012-1536
	100 mm	01, 11	8012-1530
	125 mm	01, 11	8012-1533
Analog output 4-20 mA	for temperature values (output not adjustable)	-	8012-108
APT-COM™ 4 GLP-	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.		00.12.00
Edition	version 4, GLP edition	19	9053-0042
APT-COM™ 4	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.		
PROFESSIONAL- Edition	version 4, PROFESSIONAL edition	19	9053-0040
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	-	8012-114
Calibration certificate,	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-160
emperature	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-158
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1560
Data Logger Kit	T 220: For continuous temperature logging from -90 °C to 220 °C. The kit includes 1 data logger, Pt 100 sensor with 2 m extension cable and 1 magnetic fixture for mounting to the BINDER unit	19	8012-071
Data Logger Software	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	19	8012-082
Door lock	lockable door handle	-	8012-186
Dry-air purge	uncontrolled, incl. connection; for preventing condensation	-	8012-186
Ory-air purge, connection	for the connection to an existing pressurized air network	-	8012-108
H-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	_	1002-0016
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	-	8012-109
Rack	stainless steel	-	6004-009
Rack accessories	fasteners (1 set of 4) for additional security of racks	-	8012-062
Rack, reinforced	stainless steel, with fasteners (1 set of 4)	-	8012-060
	RS 422 cable set and RS 485 / RS 422 interface converter for connection to 10-way plug distributor		
RS 485 / RS 422	115 V option model	_	8012-0599
interface converter	230 V option model	_	8012-0589
RS 485 interface, 2-wire	Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™	_	8012-176
Shelf, perforated	Stainless steel	_	8009-044
Femperature safety	with visual alarm (DIN 12880)	-	8012-1792
Zero voltage relay	for controlling 3 relay contacts via program regulators, accessible via 6-pin DIN socket (max. 24 V - 2.5 A)		8012-109

^{*} Notes > See last page



SERVICES

Designation	Description	*	ArtNo.
Installation services			
Installation	and set up of unit at operating location, connect to existing connections	13, 18	DL10-0300
Instruction	unit function instructions for operation and programming of the controller	18	DL10-0700
Preventive maintenance			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0500
Calibration services			
Calibration temperature incl. certificate	including certificate, one measuring point in center of chamber at specified temperature	14, 16, 17, 18	DL30-0101
Temperature measurement 18 measuring points	including certificate, 18 measuring points at specified temperature	14, 16, 17, 18	DL30-0118
Temperature measurement 27 measuring points	including certificate, 27 measuring points at specified temperature	14, 16, 17, 18	DL30-0127
Temperature measurement 9 measuring points	including certificate, 9 measuring points at specified temperature	14, 16, 17, 18	DL30-0109
Validation services			
Execution of IQ/OQ	in accordance with qualification folder	15, 18, 20	DL41-0200
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL44-0500
Qualification folder IQ/OQ	supporting documents for validation performed by customer, consisting of: IQ/OQ checklists, unit schematics, QM certificate in accordance with ISO 9001	15, 18, 20	8012-0863
Qualification folder IQ/OQ/PQ	supporting documents for validation performed by customer, in accordance with customer's requirement, extension of Qualification folder IQ/OQ by chapter PQ	15, 18	8012-0951
Warranty service			
Extension of the warranty from 2 to 3 years	beginning with the date of delivery, wearing parts are not included	-	DL01-1041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	-	DL01-1042

^{*} Notes > See last page



Wolf Laboratories Limited

www.wolflabs.co.uk

Tel: 01759 301142

Fax:01759 301143

sales@wolflabs.co.uk







Use the above details to contact us if this literature doesn't answer all your questions.

Pricing on any accessories shown can be found by keying the part number into the search box on our website.

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.





