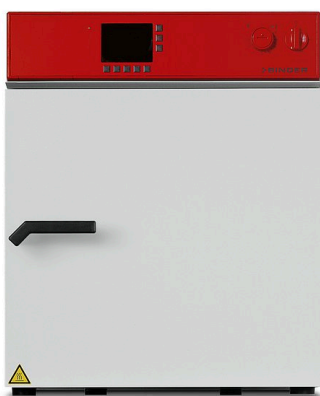


Model M 53 | Drying and heating chambers with forced convection and advanced program functions

With a maximum of 300 °C and various programming options the M series material test chambers are ideal for material and aging tests. With a high air flow, the powerful fans ensure rapid heating.

BENEFITS

- Uniform drying conditions thanks to APT.line™ technology
- Identical test conditions throughout the chamber interior independent of sample size and quantity
- Outstanding thermal insulation saves operation costs
- Advanced programming options



Model 53



Model 53

MAIN FEATURES

- Temperature range: room temperature plus 5 °C to 300 °C
- APT.line™ preheating chamber technology
- Adjustable fan speed
- Program-controlled ventilation flap
- Color LCD controller with time-segment programming
- 2 chrome-plated racks
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- Computer interface: RS 422

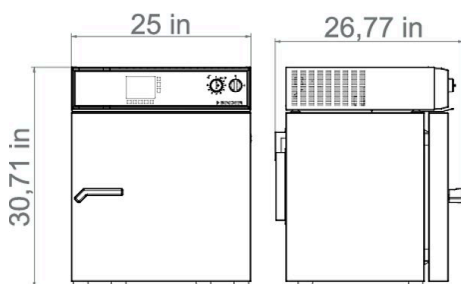
ORDERING INFORMATION

Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
1.9	230 V 1~ 50/60 Hz	Standard	M053-230V	9010-0201

TECHNICAL DATA

Description	M053-230V ¹
Article Number	9010-0201
Performance Data Temperature	
Temperature range +5 °C above ambient temperature to	300 °C
Temperature variation at 150 °C [± K]	1.3
Temperature fluctuation at 150 °C [± K]	0.3
Heating-up time to 150 °C [min]	15
Recovery time after 30 seconds door open at 150 °C [min]	3
Air change data	
Air change (approx.) at 150 °C [x/h]	192
Electrical data	
Rated Voltage [V]	230
Power frequency [Hz]	50/60
Nominal power [kW]	1.2
Phase (Nominal voltage)	1~
Measures	
Interior volume [cu.ft.]	1.9
Net weight of the unit (empty) [lbs]	134
Permitted load [lbs]	88
Load per rack [lbs]	33
Wall clearance back [in]	6.3
Wall clearance sidewise [in]	3.94
Internal Dimensions	
Width [in]	15.76
Height [in]	15.76
Depth [in]	13.4
Housing dimensions not incl. fittings and connections	
Width net [in]	25.02
Height net [in]	30.73
Depth net [in]	22.65
Environment-specific data	
Energy consumption at 150 °C [Wh/h]	300
Fixtures	
Number of shelves (std./max.)	2/5

- 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.
Calibration certificate, temperature	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-1601
	additional flexible Pt 100, interior, for displaying the temperature on the unit display	-	8012-0334
Options/Accessories	back		
	10 mm	01	8012-1287
	30 mm	01	8012-1371
	50 mm	01	8012-1387
	for temperature values (output not adjustable)	-	8012-0480
	for temperature; for extending the measurement in center of chamber to include another test temperature	-	8012-1123
	in accordance with ASTM D5374, definition and protocol according to ambient temperature	-	8012-1199
	Incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or interior lighting option	09	8012-0181
	left		
	10 mm	01	8012-1280
	30 mm	01	8012-1363
	50 mm	01	8012-1379
	100 mm	01, 11	8012-1511
	Lockable controller keyboard with key-operated switch	-	8012-0529
	lockable door handle	-	8012-1251
	made of FKM, silicone-free	03	8012-1307
	Measurement in center of chamber at specified temperature	-	8012-1142
	On fresh air supply for unit; filter classification H14 (acc. to. EN 1822-1:2009, > 99.995% at 0.3 µm)	-	8012-0222
	right		
	10 mm	01	8012-1273
	30 mm	01	8012-1358
	50 mm	01	8012-1375
	100 mm	01, 11	8012-1508
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-1580
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1559
	top		
	10 mm	01	8012-1266
	30 mm	01	8012-1367
50 mm	01	8012-1383	
viewing window in door, 230 x 230 mm, and 15 W interior lighting			
230 V option model	-	8012-0055	
with gas inlet and outlet, Ø 10 mm, incl. additional measures to provide the greatest possible impermeability to gas	-	8012-1545	

* Notes > See last page

ACCESSORIES

Designation	Description	*	Art.-No.
Multi Management Software	Multi Management Software APT-COM™		
	version 4, BASIC edition	19	9053-0039
	version 4, GLP edition	19	9053-0042
	version 4, PROFESSIONAL edition	19	9053-0040

* Notes > See last page

Designation	Description	*	Art.-No.
	chrome plated	-	6004-0002
	Stainless steel	-	6004-0029
	stainless steel	-	6004-0007
	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
	fasteners (1 set of 4) for additional security of racks	-	8012-0531
	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
Options/Accessories	Hard copy inside folder	-	7007-0001
	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
	LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data cable)	19	8012-0821
	set of 4 anti-slip feet, for safe stacking of units	-	8012-1887
	stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm	-	9051-0018
	T 350: For continuous temperature logging from 0 °C to 350 °C; kit includes 1 data logger, Pt 100 sensor with 2 m extension cable and 1 magnetic fixture for mounting to the BINDER unit	19	8012-0714

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Installation services			
Services	Unit function instructions for operation and programming of the controller	18	DL10-0500
	Unpacking and setting up of unit, connecting to existing connections, and checking function	13, 18	DL10-0100
Preventive maintenance			
Services	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0200
Calibration services			
Services	Expansion – including certificate, each additional measuring point in center of chamber at specified test temperature	14, 16, 17, 18	DL30-0102
	including certificate (in accordance with ASTM D5374)	14, 16, 17, 18	DL33-0000
	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
Validation services			
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
Warranty service			
Services	The warranty is extended from 2 to 3 years from the delivery date, wear parts are excluded	-	DL01-0041
	The warranty is extended from 2 to 5 years from the delivery date, wear parts are excluded	-	DL01-0042

* Notes › See last page

NOTES

- 01 Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.
- 02 UL mark is not granted when this option is used.
- 03 Heat resistant only to max. 200 °C.
- 04 Only available on units rated for 230 V.
- 07 The additional heat input may affect the temperature behavior.
- 09 Not in conjunction with the optional access port, door with window and interior lighting.
- 10 Not available on 23-liter units.
- 11 Not available on 23- or 53-liter units.
- 12 Only available on units rated for 230 V or 400 V.
- 13 Installation and connections take place at unit location; transport within the company only upon consultation.
- 14 We recommend a BINDER service contract to cover unit inspections, calibrations and validations.
- 15 OQ according to Yellow Paper = completed factory validation documentation of all OQ checklists.
- 16 Sensor calibration is performed in an accredited calibration laboratory.
- 17 Calibration is performed according to the BINDER factory standard.
- 18 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).
- 19 For additional accessories, refer to the Process documentation chapter.

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