

MDL series

Safety drying ovens with first class safety features and an expanded temperature range

The MDL series operates at temperatures up to 350 °C at an airflow of 400l/min, ideal conditions for high temperature testing, e.g. in coil coating applications. The preheating chamber with its special Airflow Design permits homogenous baking processes to be performed with maximum occupational safety in extremely short time, safeguarded by electronic monitoring of fresh air. Individual programming options provide maximum flexibility for completing your jobs.

**Leistungsmerkmale/Ausstattung:**

- Electronically controlled APT.line™ preheating chamber technology
- Temperature range of 5 °C (9 °F) above ambient temperature up to 350 °C (662 °F)
- MCS controller with 25 storable programs of 100 sections each for a maximum of 500 program segments
 - User-friendly LCD screen
 - Easy-to-read menu guide
 - Integrated electronic chart recorder
 - Variety of options for the graphic display of process parameters
 - Real-time clock
- Heat output: 9.0 kW
- Silicone door gasket, resistant to high operating temperatures
- Adjustable ramp function via program editor
- Rear exhaust duct Ø 100 mm (3.9 inch)
- Replaceable fresh-air filter cartridge, Class F6 (EU6 fine-particle filter for particle sizes between 1 µm and 10 µm)
- Independent adjustable temperatur safety device, Class 2 (DIN 12880) with optical and acoustic alarm
- Fresh-air monitoring with acoustic alarm and automatic shut-off of heating
- RS 422 interface for communication software APT-COM™ DataControlSystem
- 2 chrome-plated shelves
- BINDER test certificate

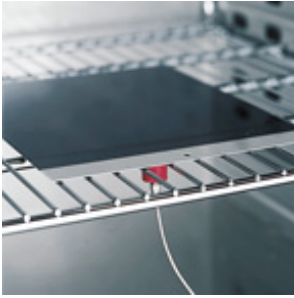
	MDL 115
Exterior dimensions	
Width (mm/inch)	834 / 32.8
Height (inclusive feet/castors) (mm/inch)	800 / 31.5
Depth (mm/inch)	685 / 27.0
Plus door handle (mm/inch)	50 / 2.0
Wall clearance (mm/inch)	100 / 3.9
Wandabstand bei geöffneter Tür (mm)	160 / 6.3
Exhaust duct outer- Ø (mm/inch)	100 / 3.9
Steam space volume (l/cu.ft.)	156 / 5.5
Interior dimensions	
Width (mm/inch)	600 / 23.6
Height (mm/inch)	435 / 17.1
Depth (mm/inch)	435 / 17.1
Interior volume (l/cu.ft.)	115 / 4.1
Racks, chrome-plated (number standard/max.)	2/5
Load per rack (kg/lbs.)	20 / 44
Permitted total load (kg/lbs.)	50 / 110
Weight of the unit (empty) (kg/lbs.)	90 / 199
Temperature data	
Temperature range, 5°C (9°F) above ambient up to (°C/°F)	350
Temperature variation	
at 70 °C (158 °F) (± °C)	2
at 150 °C (302 °F) (± °C)	3,4
at 300 °C (572 °F) (± °C)	7
Temperature variation with door flap	
at 70 °C (158 °F) (± °C)	2
at 150 °C (302 °F) (± °C)	3
at 300 °C (572 °F) (± °C)	8
Temperature fluctuation (± °C)	0,5
Heating-up time 2)	
to 70 °C (158 °F) (Min.)	3,5
to 150 °C (302 °F) (Min.)	6
to 300 °C (Min.)	10
Recov. time after door was opened for 30 sec.2)	
at 70 °C (158 °F) (Min.)	0,5
at 150 °C (302 °F) (Min.)	2
at 300 °C (572 °F) (Min.)	4
Recov. time after door was opened for 30 sec.2)	
at 70 °C (158 °F) (Min.)	0,5
at 150 °C (302 °F) (Min.)	1
at 300 °C (572 °F) (Min.)	2
Air change (approx. x/min.)	3
Air circulation (approx. x/min.)	40
Exhaust air volume flow (approx. L/min. / m3/h)	400 / 24.0
Air flow velocity (m/sec)	0,8-1,2
Highest permitted solvent quantity (g) (at T-180 °C, M-100 g/mol, U-40 g/m3, K = 0.5)	6,65
Electrical data	
Housing protection acc. to EN 60529	IP 33

Nominal voltage ($\pm 10\%$) 50/60 Hz (V)	(400 3/N)
Nominal power (W)	9000
Energy consumption	
at 70 °C (W)	400
at 150 °C (W)	1130
at 300 °C (W)	2083

- 1) value without window
- 2) up to 98 % of the set value

All specified technical data apply for standard equipment operating at an ambient temperature of + 25 °C (77 °F), with line voltage fluctuations of $\pm 10\%$. These typical average values for series equipment were determined in accordance with the BINDER factory standard. They are based upon the recommended distances from the inner chamber walls, namely 10% of height, width and depth. Differing ambient temperatures or variances in the design of individual equipment may produce different performance data.

We therefore recommend that equipment be calibrated and/or validated on a case-by-case basis when working at the extremes of the permissible ambient temperature range.



Specimen temperature measurement

Additional PT 100 temperature sensor for exact temperature measurement of the specimen with digital temperature display. Recording of measured data acquisition possible via RS 422 interface.

Lockable door

Prevents unauthorized access and interference with processes in the chamber.



Drawer for coil coating applications

Split-second loading through the drawer in the door for coil coating/hot air short cycle applications.



Calibration certificates and validation

BINDER can significantly reduce the workload for equipment qualification. We draw on unparalleled knowledge of our equipment applications and years of experience in certification.

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Preparations for installation in inflammable areas (electrical areas according to protection class IP 54)	-
Rack, chrome-plated or stainless steel	O
Shelf, perforated, stainless steel	O
Door with viewing window and condensation protection	-
Door flap for coil-coating tests	O
Digital specimen temperature display with temperature sensor (clip or magnetic)* and analogue output 4 to 20 mA** via 6 pole DIN bushing	O*
Fresh air replacement filter (class F6/EU6 – dust filter for particles 1 to 10 µm)	O
Lockable door	O
Locking of controller keyboard	O
Silicone door gasket resistant to high temperatures > 200 °C (392 °F)	-
Calibration certificate, measurement in the center	-
Extension for calibration certificate (additional values)	-
Rubber pads for safe stacking	-

O Option - not available

Technical specifications subject to change