Model VD 56 | Vacuum drying chambers for non-flammable solvents

BINDER's VD series vacuum drying chambers deliver impressive performance through their precise temperature control and gentle drying. The patented expansion rack technology from BINDER also optimizes heat transfer. The shelves can be repositioned for flexible placement and the interior of the chamber is easy to clean.

BENEFITS

- Fast, gentle drying
- Optimum heat transfer through large thermal conducting plates
- Safe work thanks to proven safety concept
- Also option of modular complete system with vacuum pump and pump chamber

Model 56

MAIN FEATURES

- Temperature range: ambient temperature +9 °C to +220 °C
- Controller with digital display of pressure and temperature
- Program-controlled drying monitoring with automatic ventilation at end of process
- Internal data logger, measured values can be read out in open format via USB
- 1 aluminum expansion rack, can be custom-positioned
- Inert gas connection
- Shatterproof, spring-mounted safety glass panel
- Large viewing window with option of interior lighting
- Computer interface: Ethernet
- 2 relay outputs, 24 V DC (max. 0.4 A)

OPTIONALE AUSSTATTUNG

- Touchscreen Controller - Graphical display of main process parameter
- Expansion racks - Choice of aluminum or stainless steel racks depending on the application requirements
- Analogue output for temperature and pressure signals - for external monitoring and evaluation of the process parameters, integration into in-house systems is possible
- Universal ventilation - Selection of different ventilation by air or inert gas
- Universal access port DN 40 - for the introduction of external measuring devices
- Multi Management Software APT-COM - Manage, record and document device parameters
- Services - extensive services ensure correct device function

ORDERING INFORMATION

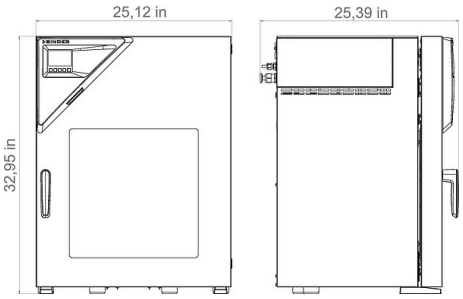
Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
1.9	200…230 V 1~ 50/60 Hz	Standard	VD056-230V	9630-0002
	100…120 V 1~ 50/60 Hz	Standard	VD056UL-120V	9630-0006

TECHNICAL DATA

Description	VD056-230V[1]	VD056UL-120V[1]
Article Number	9630-0002	9630-0006
Performance Data Temperature		
Temperature range +9 °C above ambient temperature to [°C]	220	220
Temperature variation at 100 °C [± K]	1.5	1.5
Temperature fluctuation [± K]	0.1	0.1
Heating-up time to 100 °C [min]	80	80
Vacuum Data		
Leak rate [bar/h]	0.01	0.01
Electrical data		
Rated Voltage [V]	200…230	100…120
Power frequency [Hz]	50/60	50/60
Nominal power [kW]	1.4	1.4
Unit fuse [A]	8	16
Phase (Nominal voltage)	1~	1~
Connections		
Vacuum connection with small flange [DN mm]	16	16
Measuring access port with small flange [DN mm]	16	16
Universalanschluss für Luft / Inertgas, mit Durchflussbegrenzer (RP")	3/8	3/8
Compressed air connection for pressure-encapsulation	5 NW	5 NW
Measures		
Interior volume [cu.ft.]	1.9	1.9
Net weight of the unit (empty) [lbs]	209	223
Permitted load [lbs]	132	132
Load per rack [lbs]	44	44
Viewing window width [in]	16.55	16.55
Viewing window height [in]	16.55	16.55
Wall clearance back [in]	3.94	3.94
Wall clearance sidewise [in]	2.76	2.76
Internal Dimensions		
Width [in]	15.76	15.76
Height [in]	15.76	15.76
Depth [in]	13.51	13.51
Doors		
Unit doors	1	1
Housing dimensions not incl. fittings and connections		
Width net [in]	25.14	25.14
Height net [in]	32.11	32.11
Depth net [in]	18.16	18.16
Environment-specific data		
Sound-pressure level [dB(A)]	40	40
Fixtures		
Number of shelves (std./max.)	1/5	1/5

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. 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.
Additional universal ventilation	Additional universal connection for ventilation with ambient air or inert gas. Flow limiter thread (RP"), and connection with 3/8" male thread.	–	8612-0001
Analog output 4-20 mA	for temperature and pressure values (output not adjustable)	–	8612-0004
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	–	8012-1127
Calibration certificate, pressure	for digital pressure display, measurement at 100 mbar or at specified pressure (range 20 – 900 mbar)	–	8012-0440
Calibration certificate, temperature	for temperature, measurement in center of chamber at specified temperature	–	8012-1145
	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	–	8012-0919
	temperature measurement incl. certificate, 9 measuring points at specified temperature	–	8012-0916
Door gasket	made of FKM, silicone-free	03	8612-0008
Door lock	lockable door handle	–	8612-0002
Expansion racks	stainless steel expansion rack instead of standard aluminum expansion rack, incl. calibration	–	8612-0012
Interior lighting	LED light strips on the left and right in the door	–	8612-0005
Temperature measurement of the specimen	with flexible Pt 100 sensor and digital specimen temperature display	–	8612-0006
Touchscreen controller	Large display panel with intuitive operation, actual and set values of main process parameters are shown simultaneously on the display. In addition, the graphic chronological evaluation of process parameters is displayed.	–	8612-0015
Universal access port	Additional DN 40 small flange universal access port with blind flange, for positioning sensors or supply lines in the chamber.	–	8612-0003

* Notes › See last page

ACCESSORIES

Designation	Description	*	Art.-No.
APT-COM™ 4 BASIC-Edition	for simple logging and documentation requirements with up to 5 networked units.		
	version 4, BASIC edition	19	9053-0039
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	19	9053-0042
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	19	9053-0040
Expansion racks	stainless steel	–	8009-1092
	aluminum	–	8009-1030
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	–	1002-0016

* Notes › See last page

Designation	Description	*	Art.-No.
Qualification documents	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
	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
Vacuum module with vacuum pump VAP 1	Pump chamber for vacuum pumps, with switchable power socket. Chemical membrane pump with a nominal air flow of 2.0 m³/hour, final pressure 7 mbar, including all necessary parts for vacuum connection		
	120 V / 50-60 Hz option model	–	8012-1962
	230 V / 50-60 Hz option model	–	8012-1959
Vacuum module with vacuum pump VAP 2	Pump chamber for vacuum pumps, with switchable power socket. Chemical membrane pump with a nominal air flow of 4.0 m³/hour, final pressure 1,8 mbar, including all necessary parts for vacuum connection		
	120 V / 50–60 Hz option model	–	8012-1968
	230 V / 50-60 Hz option model	–	8012-1965
Vacuum pump connection kit	for vacuum pump VAP1 and VAP2; consisting of aluminum clamping ring, universal centering ring, small flange with hose nozzle, (2.5 m) rubber hose and 2 hose clamps	–	8012-1995
Vacuum pump VAP 1	Chemical membrane pump with a nominal air flow of 2.0 m³/hour, final pressure 7 mbar, including all necessary parts for vacuum connection		
	120 V / 50-60 Hz option model	–	5013-0223
	230 V / 50-60 Hz option model	–	5013-0217
Vacuum pump VAP 2	Chemical membrane pump with a nominal air flow of 4.0 m³/hour, final pressure 1,8 mbar, including all necessary parts for vacuum connection		
	120 V / 50-60 Hz option model	–	5013-0219
	230 V / 50-60 Hz option model	–	5013-0218

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Installation services			
Unit installation	Unpacking and setting up of unit, connecting to existing connections, and checking function	13, 18	DL10-0100
Unit instructions	Unit function instructions for operation and programming of the controller	18	DL10-0500
Preventive maintenance			
Maintenance	Functional testing of all electrical and mechanical components, short calibration, documentation in the maintenance schedule	14, 18	DL20-0400
Calibration services			
Pressure calibration	Digital pressure display calibration at a specified test pressure of 20–900 mbar, including certificate	14, 16, 17, 18	DL32-0000
Temperature calibration	Expansion – including certificate, each additional measuring point in center of chamber at specified test temperature	14, 16, 17, 18	DL30-0102
	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, 15 measuring points	Temperature measurement with 15 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0218
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points at a specified test temperature, including certificate	14, 16, 17, 18	DL30-0109
Validation services			
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	15, 18	DL42-0300
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	15, 18	DL44-0500
Warranty service			
Warranty extension from 2 to 3 years	The warranty is extended from 2 to 3 years from the delivery date, wear parts are excluded	–	DL00-8041
Warranty extension from 2 to 5 years	The warranty is extended from 2 to 5 years from the delivery date, wear parts are excluded	–	DL00-8042

* 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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