Model VD 115 | Vacuum drying chambers for non-flammable solvents

BINDER's VD series vacuum drying chambers while deliver impressive performance through their precise temperature control and gentle drying. The patented expansion rack technology from BINDER also ensures optimal heat transfer. The shelves provide flexible placement and are easy to dry in the interior of the chamber.

BENEFITS

- Fast, gentle drying
- Direct 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 115



Model 115

MAIN FEATURES

- Temperature range: ambient temperature +10 °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)

OPTIONAL EQUIPMENT

- Touchscreen Controller - Graphical display of main process parameter
- USB port - Data readable in open format
- 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

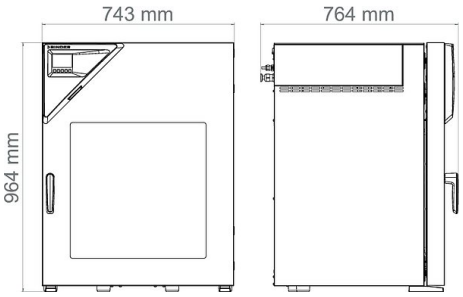
Interior volume [L]	Voltage	Option model	Version	Art.-No.
119	200…230 V 1~ ph 50/60 Hz	Standard	VD115-230V	9630-0003
	100…120 V 1~ ph 50/60 Hz	Standard	VD115UL-120V	9630-0007

TECHNICAL DATA

Description	VD115-230V[1]	VD115UL-120V[1]
Article Number	9630-0003	9630-0007
Performance Data Temperature		
Temperature range 10 °C above ambient temperature to [°C]	220	220
Temperature variation at 100 °C [± K]	2.9	2.9
Temperature fluctuation [± K]	0.1	0.1
Heating-up time to 100 °C [min]	130	130
Vacuum Data		
Permitted end vacuum [mbar]		
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]	1.6	1.6
Unit fuse [A]	10	20
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 [L]	119	119
Net weight of the unit (empty) [kg]	146	146
Permitted load [kg]	70	70
Load per rack [kg]	20	20
Viewing window width [mm]	525	525
Viewing window height [mm]	468	468
Wall clearance back [mm]	100	100
Wall clearance sidewise [mm]	135	135
Internal Dimensions		
Width [mm]	506	506
Height [mm]	506	506
Depth [mm]	460	460
Doors		
Unit doors	1	1
Housing dimensions not incl. fittings and connections		
Width net [mm]	743	743
Height net [mm]	942	942
Depth net [mm]	581	581
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. 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	Inlet for ambient air or inert gas with adapter. 8 mm hose and fine dosing valve for ventilation	–	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	8612-0009
Door lock	lockable door handle	–	8612-0002
Expansion racks	stainless steel expansion rack instead of standard aluminum expansion rack, incl. calibration	–	8612-0013
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 with intuitive operation; actual and set values of key process parameters are shown on the display at the same time. It is also possible to perform graphical time-based evaluation of process parameters.	–	8612-0015
Universal access port	Additional universal DN 40 access port, 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	–	8009-1091
	aluminum	–	8009-1029
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	Chemical membrane pump with nominal pumping speed of 2.0 m³/h, final pressure 7 mbar, ATEX conformity: II 3G IIC T3 X (only for interior, areas coming in contact with media), including all necessary parts for vacuum connection		
	120 V / 50-60 Hz option model	–	8012-1963
	230 V / 50-60 Hz option model	–	8012-1960
Vacuum module with vacuum pump VAP 2	Chemical membrane pump with nominal pumping speed of 4.0 m³/h, final pressure 1.8 mbar, ATEX conformity: II 3G IIC T3 X (only for interior, areas coming in contact with media)		
	120 V / 50–60 Hz option model	–	8012-1969
	230 V / 50-60 Hz option model	–	8012-1966
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 nominal pumping speed 2.0 m³/h, final pressure 7 mbar, ATEX conformity: II 3G IIC T3 X (only for interior, areas coming in contact with media)		
	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 nominal pumping speed 4,0 m³/h, final pressure 1.8 mbar, ATEX conformity: II 3G IIC T3 X (only for interior, areas coming in contact with media)		
	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.

BINDER GmbH
Tuttlingen, Germany
TEL +49 7462 2005 0
FAX +49 7462 2005 100
info@binder-world.com
www.binder-world.com

BINDER Asia Pacific (Hong Kong) Ltd.
Kowloon, Hong Kong, P.R. China
TEL +852 39070500
FAX +852 39070507
asia@binder-world.com
www.binder-world.com

Representative Office for CIS
Moscow, Russia
TEL +7 495 988 15 16
FAX +7 495 988 15 17
russia@binder-world.com
www.binder-world.com

BINDER Environmental Testing
Equipment (Shanghai) Co., Ltd.
Shanghai, P.R. China
TEL +86 21 685 808 25
FAX +86 21 685 808 29
china@binder-world.com
www.binder-world.com

BINDER Inc.
Bohemia, NY, USA
TEL +1 631 224 4340
FAX +1 631 224 4354
usa@binder-world.com
www.binder-world.us