Model VDL 23 | Vacuum drying chambers for flammable solvents

BINDER VDL series safety vacuum drying chambers ensure maximum safety when drying organic solvents. Explosion-protected unit with classification according to ATEX directive 2014/34/EU: EX II 2/3/- G IIB T3 Gb/Gc/- X.

BENEFITS

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



Model



Model

MAIN FEATURES

- Temperature range: +9 °C above ambient temperature to +110 °C
- ATEX conformity for units: EX II 2/3/- G IIB T3 Gb/Gc/- X
- Intuitive touchscreen controller with graphical pressure and temperature display
- 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
- Pressure control device for heating activated from < 100 mbar
- 2 aluminum expansion racks, can be custom-positioned
- Universal connection for ventilation with ambient air or inert gas
- Universal access port DN 16 - for the introduction of external measuring devices
- Shatterproof, spring-mounted safety glass panel
- Large viewing window
- Computer interface: Ethernet

OPTIONAL EQUIPMENT

- 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

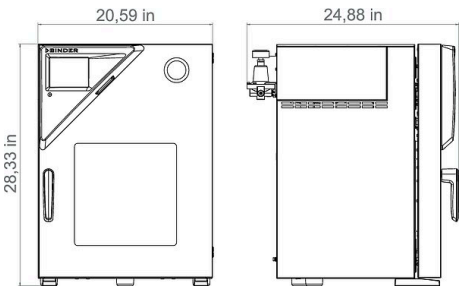
Interior volume [cu.ft.]	Voltage	Option model	Version	Art.-No.
0.8	200...230 V 1~ 50/60 Hz	Standard	VDL023-230V	9630-0009
	100...120 V 1~ 50/60 Hz	Standard	VDL023-120V	9630-0013

TECHNICAL DATA

Description	**VDL023-230V[1]**	**VDL023-120V[1]**
Article Number	**9630-0009**	**9630-0013**
Performance Data Temperature		
Temperature range +9 °C above ambient temperature to [°C]	110	110
Temperature variation at 100 °C [± K]	1.0	1.0
Temperature fluctuation at 100 °C [± K]	0.1	0.1
Heating-up time to 100 °C [min]	110	110
Vacuum Data		
Leak rate [bar/h]	0.01	0.01
Electrical data		
Nominal Voltage [V]	200...230	100...120
Power frequency [Hz]	50/60	50/60
Nominal power [kW]	0.9	0.9
Unit fuse [A]	6.3	10
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
Universal connection for air / inert gas with flow limiter thread (RP") 3/8	3/8	3/8
Measures		
Interior volume [cu.ft.]	0.8	0.8
Net weight of the unit (empty) [lbs]	159	159
permitted load [lbs]	110	110
Load per rack [lbs]	44	44
Viewing window width [in]	12.02	12.02
Viewing window height [in]	12.02	12.02
Wall clearance back [in]	3.94	3.94
Wall clearance sidewise [in]	2.76	2.76
Internal Dimensions		
Interior width [in]	11.23	11.23
Interior height [in]	11.23	11.23
Interior depth [in]	11.62	11.62
Doors		
Unit doors	1	1
Housing dimensions not incl. fittings and connections		
Width net [in]	20.61	20.61
Height net [in]	27.5	27.5
Depth net [in]	16.27	16.27
Environment-specific data		
Sound-pressure level [dB(A)]	40	40
Fixtures		
Number of shelves (std./max.)	2/4	2/4

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	Calibration of the pressure display to a specified value, including certificate	–	8012-2022
			8012-2021
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	–	8612-0007
Door lock	lockable door handle	–	8612-0002
Expansion racks	stainless steel expansion rack instead of standard aluminum expansion rack, incl. calibration	–	8612-0011
Temperature measurement of the specimen	with flexible Pt 100 sensor and digital specimen temperature display	–	8612-0006
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	Multi Management Software APT-COM™		
	version 4, GLP edition	–	9053-0042
	version 4, PROFESSIONAL edition	–	9053-0040
APT-COM™ 4 BASIC-Edition	Multi Management Software APT-COM™		
	version 4, BASIC edition	–	9053-0039
Expansion racks	stainless steel	–	8012-2259
	aluminum	–	8012-2055
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	–	8012-2250
Pump chamber with vacuum pump VAP 5	Pump chamber for mounting vacuum pumps including chemical membrane pump VAP 5 with nominal air flow 3.9 m³/ hour, final pressure 3 mbar, with separator and emission condenser, suitable for flammable solvents and vacuum pump connection kit (ATEX).		
	120 V / 60 Hz option model	–	8012-2060
	230 V / 50-60 Hz option model	–	8012-2059

* 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 pump connection kit (ATEX)	For vacuum pump VAP 5, consisting of 1.5 m metal hose, clamping ring, internal centering ring and protective covers	–	8012-2029
Vacuum pump VAP 5	Chemical membrane pump with nominal pumping speed 3.9 m³/h, final pressure 3 mbar, with separator and emission condenser		
	120 V / 60 Hz option model	–	5013-0221
	230 V / 50 Hz option model	–	5013-0220
WLAN kit	The kit contains a client bridge that establishes a wireless connection between BINDER units and APT-COM4, LIMS, or customer-specific software via an Ethernet interface. It provides an alternative solution in situations where units need to be positioned in locations without an on-site Ethernet connection. In secured networks, installation and configuration must be performed by the customer's IT service.	–	8012-2262

* Notes › See last page

SERVICES

Designation	Description	*	Art.-No.
Maintenance services			
Installation services			
Calibration services			
Validation services			
Warranty service			
BRONZE 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts	05	DL20-0710
Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	05	DL42-0300
Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	05	DL44-0500
GOLD 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature/humidity/pressure value, including certificate	05	DL20-0930
Maintenance	One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Calibration of a test temperature specified by the user in center of usable space without certificate	05	DL20-0500
Pressure calibration	Digital pressure display calibration at a specified test pressure of 20–900 mbar, including certificate	03, 04, 05	DL30-0410
			DL30-0411
Preventive maintenance	One-off maintenance service in accordance with maintenance schedule. Visual inspection of mechanical and electrical components, testing of all key functions. Calibration of a test temperature specified by the user in center of usable space without certificate	05	DL34-0000
SILVER 3-year maintenance contract	Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate	05	DL20-0820
Temperature calibration	Calibration of one (1) test temperature specified by the user in center of chamber, including certificate	03, 04, 05	DL30-0101
	Extension of calibration of one (1) additional test temperature specified by the user in the center of the usable space, including certificate	03, 04, 05	DL30-0102
Temperature measurement, 15 measuring points	Temperature measurement with 15 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0218
Temperature measurement, 9 measuring points	Temperature measurement with 9 measuring points with a set value specified by the user, including certificate	03, 04, 05	DL30-0109

* Notes › See last page

Designation	Description	*	Art.-No.
Unit installation	Connect the unit to the customer-side connections (electricity, water, wastewater, gas), basic functions check, brief operating instructions. (excl.: unpacking, setup, controller instructions, programming, installation work)	05	DL10-0100
Unit instructions	Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming	05	DL10-0500
VAP 5 vacuum pump maintenance	Maintenance service of the VAP 5 vacuum pump according to the maintenance schedule, visual inspection, replacement of the diaphragms, O-rings and seals, (Service Kit 8500-0160 included in the scope of services) as well as final functional test.	05	DL20-0430
Warranty extension from 2 to 3 years	The warranty is extended by 1 year from the delivery date, wear parts are excluded	–	DL50-0020

* 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 Sensor calibration is performed in an accredited calibration laboratory.
04 Calibration is performed according to the BINDER factory standard.
05 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).

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