

Vacuum drying chambers



VD | VDL series





Vacuum drying chambers

Series VD

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Series VDL

Page 11

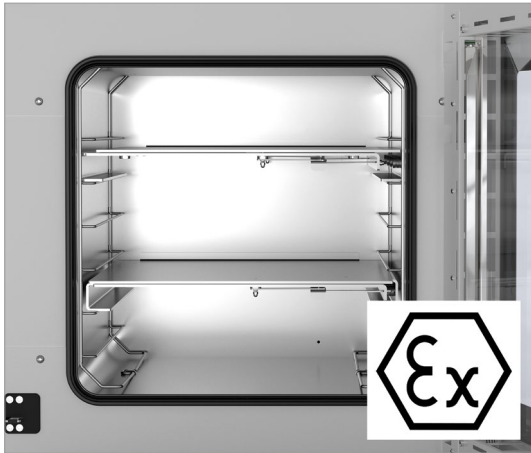
Both BINDER vacuum drying chamber models enable effective drying without residue or damaging the material being dried. With their proven technological features, they excellently address the strict requirements of industrial and scientific laboratories. Samples and similar materials incorporating flammable and non-flammable solvents can be dried, depending on the individual use. The chambers use a unique safety design that, together with accustomed outstanding performance, sets the bar in terms of quality and safety.

PRODUCT SELECTION VACUUM DRYING CHAMBERS

| Features | Series VD <small>› Page 6</small> | Series VDL <small>› Page 11</small> |
|---|--------------------------------------|--|
| Model | | |
| Model 23 | • | • |
| Model 56 | • | • |
| Model 115 | • | • |
| General data | | |
| Temperature range +9 °C above ambient temperature to [°C] | 220 | 110 |
| For flammable solvents (ATEX) | – | • |
| Ethernet interface | • | • |
| Controller and timer functions | | |
| Controller display | LCD | TFT Touch |
| Ramp function | • | • |
| Time delayed OFF | • | • |
| Time delayed ON | • | • |
| Temperature dependent delayed OFF | • | • |
| Programming option | • | • |
| Weekly program function | • | • |
| Real-time clock | • | • |
| Temperature alarm, visual | • | • |

•Standard equipment

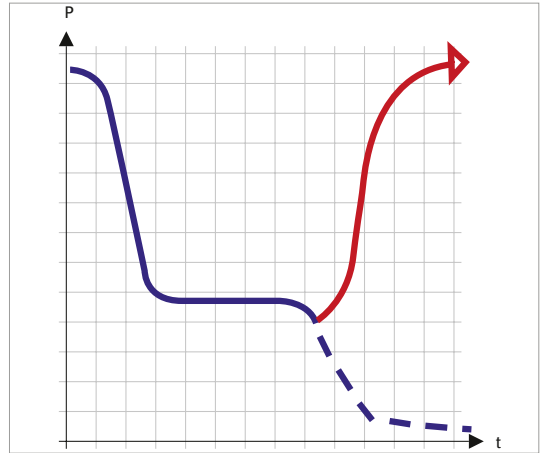
ADVANTAGES AT A GLANCE



EXPLOSION-PROTECTED INTERIOR

Series VDL

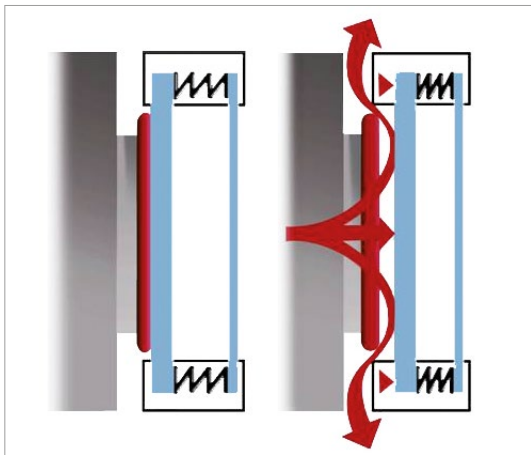
thanks to the ATEX-compliant unit concept with pressure control device for heating activation at a vacuum of < 100 mbar. The unit conforms to ATEX category EX II 2/3/- G IIB T3 Gb/Gc/- X.



AUTOMATIC DRYING DETECTION

Series VD, VDL

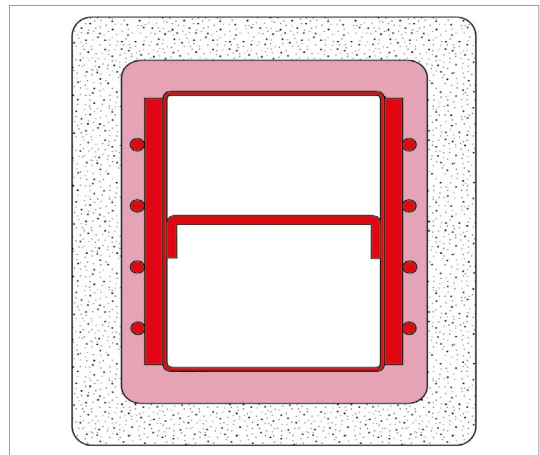
Thanks to the program control, the second pressure drop that typically takes place at the end of drying is detected and the interior is automatically ventilated.



TESTED SAFETY

Series VD, VDL

thanks to the shatterproof, spring-mounted safety glass panel, inert gas connection for interior flushing, and electronic components decoupled from the interior.



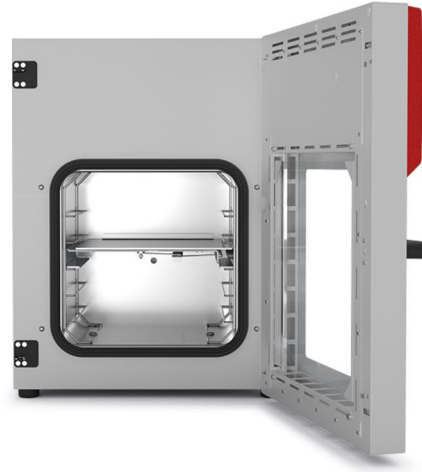
JACKET HEATING

Series VD, VDL

optimum heat transfer thanks to patented expansion racks providing flexible placement for precise temperature control.

Series VD | 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.



VD 56 model

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

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)

AVAILABLE SIZES

| Model | Interior volume [cu. ft.] | Online data sheets |
|--------|---------------------------|---|
| VD 23 | 0.8 | > go2binder.com/us-VD23 |
| VD 56 | 1.9 | > go2binder.com/us-VD56 |
| VD 115 | 4.2 | > go2binder.com/us-VD115 |








i TIPS & TRICKS

Benefit from our many years of experience, as demonstrated in our technical papers:

Tips & Tricks: > go2binder.com/us-tips-tricks

Case Studies: > go2binder.com/us-case-studies

ADDITIONAL OPTIONS AND ACCESSORIES

| | | |
|---|--|---|
| Touchscreen controller | Large display field with intuitive operation, actual and target values of main process parameters are shown on the display at the same time. In addition, the graphic temporal evaluation of process parameters can be displayed. |  |
| Expansion racks | The expansion racks ensure maximum heat transfer to the items to be dried. You can choose between aluminum and stainless steel racks. |  |
| Analogue output for temperature and pressure | For external monitoring and evaluation of process parameters, option of integration into on-site systems. | |
| Universal ventilation | For the convenient selection of different ventilation types, with air or inert gas. The valves can be actuated in a targeted manner via the controller or the APT-COM Multi Management Software. | |
| Universal access port DN 40 | For inserting and positioning sensors or supply lines in the vacuum chamber. | |
| Pump module with vacuum pump | The pump module lifts your vacuum oven to the optimum working height, it also significantly reduces the noise of the vacuum pump and protects the pump and glass material from mechanical damage. The pump in the module can be switched on and off using a switchable socket via the control of the vacuum furnace. |  |
| Vacuum pumps | Our range of membrane pumps, chemistry membrane pumps, or speed-controlled chemistry membrane pumps is perfectly matched to the BINDER vacuum chambers in question. When connected to the pump chamber, the vacuum pump and flask are protected against mechanical damage. |  |
| Multi Management Software APT-COM | Software for managing, recording and documenting device parameters is available in three versions: Basic, Professional and GLP. |  |
| Services | You can access our installation, maintenance, calibration, validation, or warranty services by taking out a Maintenance Service Agreement or by simply getting in touch when you need us. More information is available in the accessories and services chapter. |  |
| BINDER INDIVIDUAL | Using a BINDER series production product as a basis, we develop individual solutions as a single unit or in small batches. All products are tested, certified, and supplied with a full functional guarantee and warranty. More information is available in the accessories and services chapter. |  |

► All extras online go2binder.com/us-options

TECHNICAL DATA

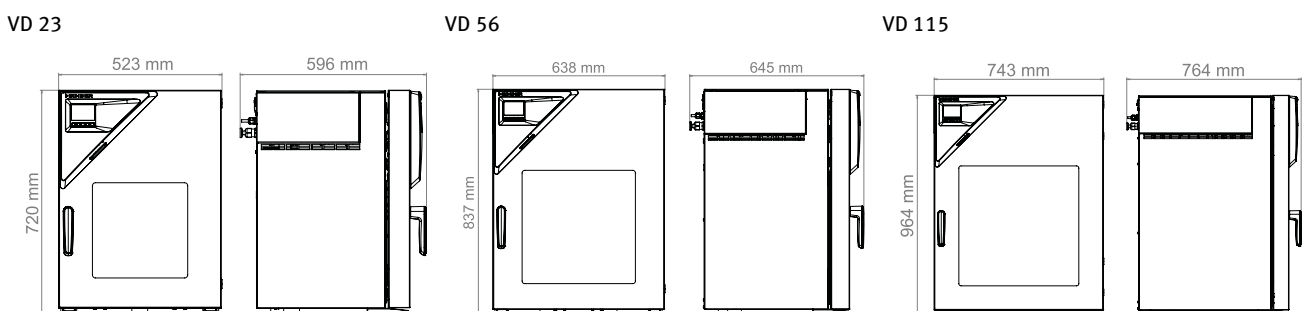
| Description | VD 23 | VD 56 | VD 115 |
|--|-------|-------|--------|
| Measures | | | |
| Interior volume [cu.ft.] | 0.8 | 1.9 | 4.2 |
| Net weight of the unit (empty) [lbs] | 150 | 223 | 322 |
| Permitted load [lbs] | 110 | 132 | 154 |
| Load per rack [lbs] | 44 | 44 | 44 |
| Wall clearance back [in] | 3.94 | 3.94 | 3.94 |
| Wall clearance sidewise [in] | 2.76 | 2.76 | 2.76 |
| Internal Dimensions | | | |
| Width [in] | 11.23 | 15.76 | 19.94 |
| Height [in] | 11.23 | 15.76 | 19.94 |
| Depth [in] | 11.62 | 13.51 | 18.12 |
| Housing dimensions not incl. fittings and connections | | | |
| Width net [in] | 20.61 | 25.14 | 29.27 |
| Height net [in] | 27.5 | 32.11 | 37.11 |
| Depth net [in] | 16.27 | 18.16 | 22.89 |
| Performance Data Temperature | | | |
| Temperature range +9 °C above ambient temperature to [°C] | 220 | 220 | 220 |
| Temperature variation at 100 °C [± K] | 1 | 1.5 | 2.9 |
| Temperature fluctuation [± K] | 0.1 | 0.1 | 0.1 |
| Heating-up time to 100 °C [min] | 80 | 80 | 130 |
| Electrical data | | | |
| Nominal power (version 120 V) [kW] | 0.9 | 1.4 | 1.6 |
| Nominal power (version 230 V) [kW] | 0.9 | 1.4 | 1.6 |
| Fixtures | | | |
| Number of shelves (std./max.) | 1/4 | 1/5 | 1/6 |

ORDERING INFORMATION [Art. No.]

Further details: Go to www.binder-world.com > Search > Enter Article Number

| Voltage | Option model | VD 23 | VD 56 | VD 115 |
|-------------------------|--------------|-----------|-----------|-----------|
| 200...230 V 1~ 50/60 Hz | Standard | 9630-0001 | 9630-0002 | 9630-0003 |
| 100...120 V 1~ 50/60 Hz | Standard | 9630-0005 | 9630-0006 | 9630-0007 |

DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]



ORDERING INFORMATION OPTIONS

| Bezeichnung | Beschreibung | VD 23 | VD 56 | VD 115 | Art.-Nr. |
|--|--|-------|-------|--------|-----------|
| 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 | • | – | – | 8612-0007 |
| | | – | • | – | 8612-0008 |
| | | – | – | • | 8612-0009 |
| Door lock | lockable door handle | • | • | • | 8612-0002 |
| Expansion racks | stainless steel expansion rack instead of standard aluminum expansion rack, incl. calibration | • | – | – | 8612-0011 |
| | | – | • | – | 8612-0012 |
| | | – | – | • | 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 DN 40 small flange universal access port with blind flange, for positioning sensors or supply lines in the chamber. | • | • | • | 8612-0003 |

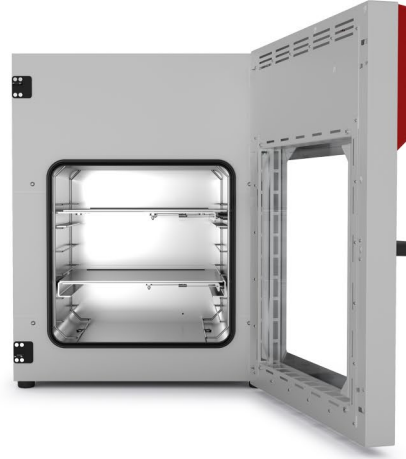
ORDERING INFORMATION ACCESSORIES

| Bezeichnung | Beschreibung | VD 23 | VD 56 | VD 115 | Art.-Nr. |
|--|---|-------|-------|--------|-----------|
| APT-COM™ 4 BASIC-Edition | for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition | • | • | • | 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 | • | • | • | 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 | • | • | • | 9053-0040 |
| Expansion racks | stainless steel | • | – | – | 8009-1093 |
| | | – | • | – | 8009-1092 |
| | | – | – | • | 8009-1091 |
| | aluminum | • | – | – | 8009-1031 |
| | | – | • | – | 8009-1030 |
| | | – | – | • | 8009-1029 |
| pH-neutral detergent | concentrated, for gentle remove of residual contaminants; 1 kg | • | • | • | 1002-0016 |

| Bezeichnung | Beschreibung | VD 23 | VD 56 | VD 115 | Art.-Nr. |
|---|---|----------|----------|-----------|-----------|
| 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 m ³ /hour, final pressure 7 mbar, including all necessary parts for vacuum connection | | | | |
| | 120 V / 50-60 Hz option model | • | – | – | 8012-1961 |
| | | – | • | – | 8012-1962 |
| | | – | – | • | 8012-1963 |
| | | • | – | – | 8012-1958 |
| | 230 V / 50-60 Hz option model | – | • | – | 8012-1959 |
| | – | – | • | 8012-1960 | |
| 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 m ³ /hour, final pressure 1,8 mbar, including all necessary parts for vacuum connection | | | | |
| | 120 V / 50–60 Hz option model | • | – | – | 8012-1967 |
| | | – | • | – | 8012-1968 |
| | | – | – | • | 8012-1969 |
| | | • | – | – | 8012-1964 |
| | 230 V / 50-60 Hz option model | – | • | – | 8012-1965 |
| | – | – | • | 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 a nominal air flow of 2.0 m ³ /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 m ³ /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 |

Series VDL | 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.



VDL 115 model

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

MAIN FEATURES

- Temperature range: Ambient temperature +9 °C 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
- DN 16 universal access port with small flange and blind flange, for positioning sensors or supply lines in the chamber
- Shatterproof, spring-mounted safety glass panel

AVAILABLE SIZES

| Model | Interior volume [cu. ft.] | Online data sheets |
|---------|---------------------------|---|
| VDL 23 | 0.8 | go2binder.com/us-VDL23 |
| VDL 56 | 1.9 | go2binder.com/us-VDL56 |
| VDL 115 | 4.2 | go2binder.com/us-VDL115 |



TIPS & TRICKS







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Tips & Tricks: go2binder.com/us-tips-tricks
 Case Studies: go2binder.com/us-case-studies



Find all details online: go2binder.com/us-VDL

ADDITIONAL OPTIONS AND ACCESSORIES

| | | |
|---|--|---|
| Expansion racks | The expansion racks ensure maximum heat transfer to the items to be dried. You can choose between aluminum and stainless steel racks. |  |
| Analogue output for temperature and pressure | For external monitoring and evaluation of process parameters, option of integration into on-site systems. | |
| Universal ventilation | For the convenient selection of different ventilation types, with air or inert gas. The valves can be actuated in a targeted manner via the controller or the APT-COM Multi Management Software. | |
| Universal access port DN 40 | For inserting and positioning sensors or supply lines in the vacuum chamber. | |
| Pump module with vacuum pump | The pump module lifts your vacuum oven to the optimum working height, it also significantly reduces the noise of the vacuum pump and protects the pump and glass material from mechanical damage. The pump in the module can be switched on and off using a switchable socket via the control of the vacuum furnace. |  |
| Vacuum pumps | Our range of membrane pumps, chemistry membrane pumps, or speed-controlled chemistry membrane pumps is perfectly matched to the BINDER vacuum chambers in question. When connected to the pump chamber, the vacuum pump and flask are protected against mechanical damage. |  |
| Multi Management Software APT-COM | Software for managing, recording and documenting device parameters is available in three versions: Basic, Professional and GLP. |  |
| Services | You can access our installation, maintenance, calibration, validation, or warranty services by taking out a Maintenance Service Agreement or by simply getting in touch when you need us. More information is available in the accessories and services chapter. |  |
| BINDER INDIVIDUAL | Using a BINDER series production product as a basis, we develop individual solutions as a single unit or in small batches. All products are tested, certified, and supplied with a full functional guarantee and warranty. More information is available in the accessories and services chapter. |  |

► All extras online go2binder.com/us-options

TECHNICAL DATA

| Description | VDL 23 | VDL 56 | VDL 115 |
|--|--------|--------|---------|
| Measures | | | |
| Interior volume [cu.ft.] | 0.8 | 1.9 | 4.2 |
| Net weight of the unit (empty) [lbs] | 159 | 229 | 348 |
| Permitted load [lbs] | 110 | 132 | 154 |
| Load per rack [lbs] | 44 | 44 | 44 |
| Wall clearance back [in] | 3.94 | 3.94 | 3.94 |
| Wall clearance sidewise [in] | 2.76 | 2.76 | 2.76 |
| Internal Dimensions | | | |
| Width [in] | 11.23 | 15.76 | 19.94 |
| Height [in] | 11.23 | 15.76 | 19.94 |
| Depth [in] | 11.62 | 13.51 | 18.12 |
| Housing dimensions not incl. fittings and connections | | | |
| Width net [in] | 20.61 | 25.14 | 29.27 |
| Height net [in] | 27.5 | 32.11 | 37.11 |
| Depth net [in] | 16.27 | 18.16 | 22.89 |
| Performance Data Temperature | | | |
| Temperature range +9 °C above ambient temperature to [°C] | 110 | 110 | 110 |
| Temperature variation at 100 °C [± K] | 1 | 1.5 | 2.9 |
| Temperature fluctuation [± K] | 0.1 | 0.1 | 0.1 |
| Heating-up time to 100 °C [min] | 150 | 140 | 170 |
| Electrical data | | | |
| Nominal power (version 120 V) [kW] | 0.9 | 1.4 | 1.6 |
| Nominal power (version 230 V) [kW] | 0.9 | 1.4 | 1.6 |
| Fixtures | | | |
| Number of shelves (std./max.) | 2/4 | 2/5 | 2/6 |

ORDERING INFORMATION [Art. No.]

Further details: Go to www.binder-world.com > Search > Enter Article Number

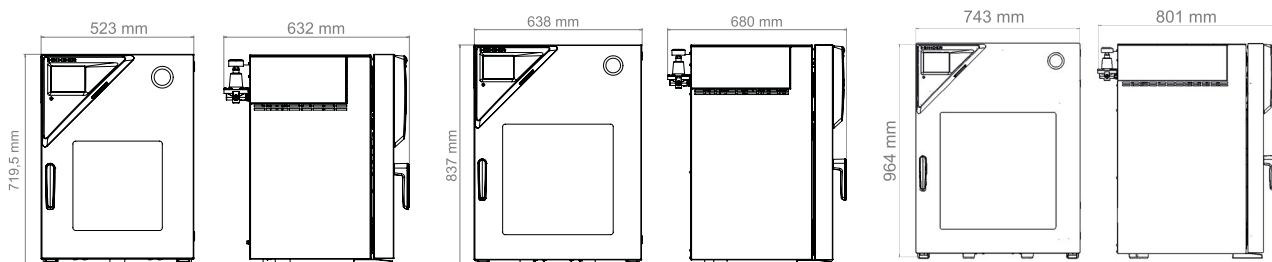
| Voltage | Option model | VDL 23 | VDL 56 | VDL 115 |
|-------------------------|--------------|-----------|-----------|-----------|
| 200...230 V 1~ 50/60 Hz | Standard | 9630-0009 | 9630-0010 | 9630-0011 |
| 100...120 V 1~ 50/60 Hz | Standard | 9630-0013 | - | 9630-0015 |
| 100...230 V 1~ 50/60 Hz | Standard | - | 9630-0014 | - |

DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

VDL 23

VDL 56

VDL 115



ORDERING INFORMATION OPTIONS

| Bezeichnung | Beschreibung | VDL 23 | VDL 56 | VDL 115 | Art.-Nr. |
|--|---|-----------|-----------|------------|-----------|
| 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 | • | – | – | 8612-0007 |
| | | – | • | – | 8612-0008 |
| | | – | – | • | 8612-0009 |
| Door lock | lockable door handle | • | • | • | 8612-0002 |
| Expansion racks | stainless steel expansion rack instead of standard aluminum expansion rack, incl. calibration | • | – | – | 8612-0011 |
| | | – | • | – | 8612-0012 |
| | | – | – | • | 8612-0013 |
| 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 |

ORDERING INFORMATION ACCESSORIES

| Bezeichnung | Beschreibung | VDL 23 | VDL 56 | VDL 115 | Art.-Nr. |
|--|---|-----------|-----------|------------|-----------|
| APT-COM™ 4 BASIC-Edition | for simple logging and documentation requirements with up to 5 networked units. version 4, BASIC edition | • | • | • | 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 | • | • | • | 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 | • | • | • | 9053-0040 |
| Expansion racks | stainless steel | • | – | – | 8009-1093 |
| | | – | • | – | 8009-1092 |
| | | – | – | • | 8009-1091 |
| | | • | – | – | 8009-1031 |
| | | – | • | – | 8009-1030 |
| Expansion racks | aluminum | – | – | • | 8009-1029 |
| | | • | • | • | 1002-0016 |

| Bezeichnung | Beschreibung | VDL 23 | VDL 56 | VDL 115 | Art.-Nr. |
|-------------------------------------|--|-----------|-----------|------------|-----------|
| 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 VP 4 | Chemical membrane pump with nominal pumping speed 1.9 m ³ /h, final pressure 12 mbar, with separator and emission condenser, ATEX conformity: suction chamber (pumped gases): II 2G IIC T3 X, exterior with inert-gas flushing: II 2G IIB T4 X, exterior without inert-gas flushing: II 3G IIB T4 X, motor: II 2G Ex d IIB T4 Gb, including all necessary parts for vacuum connection | • | – | – | 8012-1970 |
| | 230 V / 50 Hz option model | – | • | – | 8012-1971 |
| | | – | – | • | 8012-1972 |
| | | • | • | • | 8012-0621 |
| Vacuum pump connection kit (ATEX) | for vacuum pump VP 4; consisting of clamping rings, universal centering rings, transition piece, anti-static vacuum hose, union nut, and elbow | • | • | • | 8012-0621 |
| Vacuum pump VP 4 | Chemical membrane pump with nominal pumping speed 1.9 m ³ /h, final pressure 12 mbar, with separator and emission condenser, ATEX conformity: Suction chamber (pumped gases): II 2G IIC T3 X, exterior with inert-gas flushing: II 2G IIB T4 X, exterior without inert-gas flushing: II 3G IIB T4 X, motor: II 2G Ex d IIB T4 Gb | | | | |
| | 230 V / 50 Hz option model | • | • | • | 5013-0049 |

BINDER products

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Incubators

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Ultralow temperature freezers

Drying and heating chambers

Safety drying chambers

Vacuum drying chambers

Humidity test chambers

Dynamic climate chambers

Battery test chambers

Multi Management Software



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