



**Bringing Test Innovation to you** 

# Datasheet

This product datasheet has been provided by John Godrich & SJ Electronics in Partnership with BINDER



Best conditions for your success

www.johngodrich.co.uk

www.sjelectronics.co.uk



## Model VD 23 | Vacuum drying chambers for non-flammable solvents

A BINDER vacuum drying oven VD series gently dries materials with homogeneous temperature distribution. The patented expansion shelf technology from BINDER ensures optimal heat transfer. The shelves are easy to position where required and the inner chamber of the vacuum drying oven is easy to clean.

#### BENEFITS

- · Fast and gentle drying
- · Direct heat transfer through large thermal conducting plates
- · Safe work with one-of-a-kind safety concept
- · Coordinated, modular system with vacuum pump and vacuum module





Model 23

Model 23

MAIN FEATURES

- Temperature range: room temperature plus 15 °C to 200 °C
- APT.line<sup>™</sup> preheating chamber technology
- · Controller with time-segment and real-time programming
- · 2 aluminum expansion racks
- · Inert gas connection
- · Shatterproof, spring-mounted safety glass panel
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm
- Computer interface: RS 422
- 2 relay outputs, 24 V DC (max. 0.4 A)

#### ORDERING INFORMATION

Interior volume [cu.ft.]	Voltage	Option model	Version	ArtNo.
Model VD 23				
0.8	230 V 1 ph 50/60 Hz	Standard	VD023-230V	9030-0029
	120 V 1 ph 60 Hz	Standard	VD023UL-120V	9030-0035



#### TECHNICAL DATA

Performance Data TemperatureUTemperature range 15 °C alove andiant temperature to (°C)200200Temperature variation at 100 °C (± K)1.51.5Temperature functuation (± K)0.10.1Healing up time to 100 °C (min)6565Vacuum Data0.010.01Permitted end vacuum (mbar)0.010.01Leak rate (burh)0.010.01Leak rate (burh)0.010.01Electrical data20060Moninal power (kM)0.860Nominal power (kM)0.80.8Unit fues (A)1012.5Phase (hournal voltage) (ph)1012.5Phase (hournal voltage) (ph)1010Unit fues (A)1616Meanue (hournal voltage) (ph)1616Moninal power (kM)0.80.8Unit fues (A)1616Meanue (hournal voltage) (ph)1616Meanue (hournal thang (DN rm))1616Meanue (hournal voltage) (ph)1010Und redsense back (min)515515Meanue (hournal fuenter (RP)2020Voltar dimensione200200Unit dues (hournal fuence)201201Unit dues (hournal fuence)201201Unit dues (hournal fuence)202202Unit dues (hournal fuence)203202Unit dues (hournal fuence)203202Unit dues (hournal fuence)205202<	Description	VD023-230V1	VD023UL-120V <sup>1</sup>	
Temparature range 15 °C above ambient temparature to 1°C [200200Temparature variation at 100 °C [tk]1.51.5Temparature variation at 100 °C [tk]0.10.1Heath-you fitte to 100 °C [th]0.010.01Leath-you fitte to 100 °C [th]0.010.01Leath-you fitte to 100 °C [th]0.010.01Leath-you fitte to 100 °C [th]0.010.01Leak rate [ta/h]0.010.01Leak rate [ta/h]0.010.01Electrad data	Article Number	9030-0029	9030-0035	
Temperature variation at 100 °C (k K)     1.5     1.5       Temperature fuctuation (x K)     0.1     0.1       Heating-up time to 100 °C (m)     65     65       Vacuum Dati     0.01     0.01       Uscum Dati     0.01     0.01       Leak rate [bark]     0.01     0.01       Leak rate [bark]     0.01     0.01       Externation of the set [bark]     0.01     0.01       Device frequency [rk]     5050     60       Normial power [kM]     0.8     0.8       Unif fuee [A]     10     1.2       Phase (Nominal voltage [ph]     1     1       Convection     1     1       Vacuum concetion with small flange [DN mm]     16     6       Measuring access port with small flange [DN mm]     16     6       Measuring access port with small flange [DN mm]     16     6       Unit dimerations     515     515       Weat dimerations with flow limitler (RP')     38     38       Outer dimerations     100     100       Weat dimerations discuss [mm]     135	Performance Data Temperature			
Temperature fluctuation [± K]     0.1     0.1       Healing-up time to 100 °C [min]     65     65       Vacuum Data     0.01     0.01       Eventitie der divacuum (mbar]     0.01     0.01       Leak rate [barrh]     0.01     0.01       Electrical data	Temperature range 15 °C above ambient temperature to [°C]	200	200	
Heating-up time to 100 °C [min]6565Vacuum [mbar]0.010.01Permitted end vacuum [mbar]0.010.01Electrical dataElectrical data120Power frequency [Hz]0.06060Normial power [KW]0.80.8Unit fase [A]1012.5Phase (Kormial voltage [ph]112.5Concentions16Unit fase [A]1616Intert gas connection with small flange [DN mm]1616Intert gas connection with small flange [DN mm]1616Under dimensions3636Wald earance back [mm]615615Deptn net [mm]605665Deptn net [mm]500500Wald earance back [mm]135135Viewing window with [mm]250250Urewing window with film250250Urewing window with [mm]251250Doos1Unit doos11Unit doos1250Doos250250Unit doos250250Depting [mm]250250Depting [mm]251251Height [mm]252252Doos250Unit doos250250Unit doos250250Depting [mm]251251Height [mm]251251Unit doos252252 <t< td=""><td>Temperature variation at 100 °C [± K]</td><td>1.5</td><td>1.5</td><td></td></t<>	Temperature variation at 100 °C [± K]	1.5	1.5	
Vacum Data     0.01     0.01       Permited end vacum [mbar]     0.01     0.01       Leak rate [barh]     0.01     0.01       Electrical data	Temperature fluctuation [± K]	0.1	0.1	-
Pennited end vacuum [mbari]0.010.01Lak rat [barh]0.010.01Electrical stata20Power frequency [H2]508060Nominal power [kV]0.80.8Nominal power [kV]0.80.8Phase (Moninal voltage) [ph]1012.5Phase (Moninal voltage) [ph]1616Connection1616Measuring access port with small flange [DN mm]1636Inst qae connection with forwinter (RP")3036Outer dimensions515515With Ing [Ing IDN mm]665605Degith net [mm]600601Wald clearance sidewise [mm]13535Weind wolder [mm]260202Weind wolder [mm]260202Weind wolder [mm]285285Uniter Jacometics100100Weind wolder [mm]285285Degith net [mm]285285Degith net [mm]285285Degith net [mm]281285Degith net [mm]281281Degith net [mm]281	Heating-up time to 100 °C [min]	65	65	
Leak rate (bar/h)0.010.01Electrical data	Vacuum Data			
Electrical data       Rated Voltage [V]     230     120       Power frequency [H2]     5060     60       Nominal power [kW]     0.8     0.8       Unit fuse [A]     10     12.5       Phase (Nominal voltage) [ph]     1     1       Connections	Permitted end vacuum [mbar]	0.01	0.01	
Rated Voltage [V]20010Power frequency [Hz]50/6060Nominal power [kV]0.80.8Unit tase [A]1012.5Poses (Nominal voltage) [ph]11Onnections11Vacuum connection with small flange [DN mm]1616Meass port with small flange [DN mm]1616Inert gas connection with flow limiter (RP")2836Outer dimensions515515With net [mm]655655Depth net [mm]50060Wall clearance back [mm]100100Wall clearance back [mm]290290Viewing window width [mm]290290Viewing window width [mm]280290Viewing window width [mm]285285Down1285285Down1285285Internal Dimensions295285Weight [mm]286285Depth [mm]280285Depth [mm]281285Depth [mm]285285Height [mm]285285Height [mm]285285Height [mm]285285Height [mm]285285Height [mm]285285Height [mm]285285Height [mm]285285Height [mm]285285Height [mm]286285Height [mm]286285Height [mm]286<	Leak rate [bar/h]	0.01	0.01	
Power frequency [Hz]     50/60     60       Nominal power [kW]     0.8     0.8       Unit Use [A]     10     12.5       Phase (Nominal voltage) [ph]     1     1       Connections	Electrical data			
Nominal power (W)0.80.8Unit fuse (A)1012.5Phase (Nominal voltage) (ph)11Connections1Vacuum connection with small flange (DN mm)1616Measuring access port with small flange (DN mm)1616Inert gas connection with small flange (DN mm)1616Metage connection with small flange (DN mm)1616Metage connection with flow limiter (RP")3/83/8Outer dimensions515515Width net (mm)605605605Dept net (mm)500500600Wall clearance back (mm)100100100Wall clearance sidewise [mm]250250250Viewing window width (mm)207207207Ure dimensions11Unit doors111Internal Dimensions285285285Unit doors295295295Midth [mm]296295295Measures212323Internal Dimensions2323Metheight [rmn]285285285Dept (mm)232323Metheight [L]232323Metheight [L]232323Metheight [L]232323Dept (mm]63636363Dept (mm]23232424Metheight [L] <t< td=""><td>Rated Voltage [V]</td><td>230</td><td>120</td><td></td></t<>	Rated Voltage [V]	230	120	
Unit russ (A)1012.5Phase (Nominal voltage) [ph]11ConnectionsVacuum connection with small flange [DN mm]1616Measuring access port with small flange [DN mm]1616Inert gas connection with flow limiter (RP")3/83/8Outer dimensions3/8515Width net [mm]515515Height net [mm]665665Deptn net [mm]600600Wall clearance back [mm]100100Wall clearance back [mm]135135Viewing window width [mm]250250Viewing window height [mm]207207DorsUU207Widt [mm]285285Height Inm]285285Deptn [mm]296295MeasuresU23Netweight of the unit (empt) [kg]6363Deptn [mm]2323MeasuresU23Linterad DimensionsU23Viewing window height [mg]295285Deptn [mm]2323MeasuresU2323MeasuresU2323MeasuresU2323Linterad Dimensions3535Deptn [mm]636363Deptn [mm]636363Deptn [mm]636363Deptn [mm]232324MeasuresU2424<	Power frequency [Hz]	50/60	60	
Phase (Nomial voltage) (ph)     1       Connections     1       Vacuum connection with small flange [DN mm]     16     16       Measuring access port with small flange [DN mm]     16     16       Inert gas connection with small flange [DN mm]     16     16       Inert gas connection with small flange [DN mm]     16     16       Under dimensions     37     37       With net [mm]     515     655       Dept net [mm]     605     650       Dept net [mm]     500     500       Valid learance sidewise [mm]     100     100       Valid learance sidewise [mm]     250     250       Viewing window width [mm]     260     250       Viewing window height [mm]     267     260       Viewing window height [mm]     285     285       Doors     285     285       Uit dors     285     285       Dept firm]     285     285       Dept firm]     23     23       Not weight of the unit (emptly [kg]     63     63       permitted load [kg]	Nominal power [kW]	0.8	0.8	
Connections       Vacuum connection with small flange [DN mm]     16       Measuring access port with small flange [DN mm]     16       Inert gas connection with flow limiter (RP')     3/8       Outer dimensions     3/8       Outer dimensions     515       Width net [mm]     665     665       Depth net [mm]     600     600       Wall clearance back [mm]     100     100       Wall clearance sidewise [mm]     135     135       Viewing window width [mm]     250     250       Viewing window height [mm]     250     200       Doors     U     100     100       Uit doors     1     1     1       Internal Dimensions     U     207     207       Widt [mm]     285     285     285       Depth [mm]     285     285     285       Depth [mm]     23     23     23       Net weight of the unit (empty) [kg]     63     63     63       permitted load [kg]     20     20     20	Unit fuse [A]	10	12.5	
Vacuum connection with small flange [DN mm]1616Measuring access port with small flange [DN mm]163/8Inert gas connection with flow limiter (RP")3/83/8Outer dimensions515515Height net [mm]665665Depth net [mm]500500Build clearance back [mm]100100Wall clearance back [mm]100200Wall clearance sidewise [mm]250250Viewing window width [mm]250207Doors11Unit doors11Internal Dimensions285285Widt [mm]285285Depth [mm]285285Depth [mm]285285Internal Dimensions285285Widt [mm]293285Depth [mm]293285Depth [mm]293285Depth [mm]293285Depth [mm]293294Netwight of the unit (emptly [kg]6363Interior volume [L]293294Netwight of the unit (emptly [kg]294294Load per rack [kg]2020Fitures2020	Phase (Nominal voltage) [ph]	1	1	
Measuring access port with small fange [DN mm]     16     16       Inert gas connection with flow limiter (RP")     3/8     3/8       Outer dimensions     515     515       Width net [mm]     665     665       Depth net [mm]     500     500       Wall clearance back [mm]     100     100       Wall clearance sidewise [mm]     135     135       Viewing window width [mm]     207     207       Viewing window width [mm]     207     207       Doors     1     1       Viewing window width [mm]     285     285       Depth [mm]     285     285       Net doors     1     285       Depth [mm]     295     295       Measures     1     1       Iterior volume [L]     23     23       Net weight of the unit (empty) [kg]     63     63       permitted load [kg]     20     20       Iterior volume [L]     23     24       Net weight of the unit (empty) [kg]     63     63       Load per rack [kg]     2	Connections			
Inter gas connection with flow limiter (RP*)     3/8     3/8       Outer dimensions     515     515       Width net [mm]     515     665       Depth net [mm]     600     500       Wall clearance back [mm]     100     100       Wall clearance sidewise [mm]     135     135       Viewing window width [mm]     250     250       Viewing window height [mm]     207     207       Doors     U     100     100       Unit doors     1     1     1       Internal Dimensions     285     285     285       Depth [mm]     295     295     295       Measures     295     295     295       Measures     1     63     63       Interior volume [L]     23     23     23       Net weight of the unit (empty) [kg]     63     63     35       Load per rack [kg]     20     20     20	Vacuum connection with small flange [DN mm]	16	16	
Outer dimensions       Width net [mm]     515     515       Height net [mm]     665     665       Depth net [mm]     500     500       Widt clearance back [mm]     100     100       Wall clearance back [mm]     135     135       Viewing window width [mm]     250     250       Viewing window height [mm]     207     207       Doors     U     100     100       Unit doors     1     1     1       Internal Dimensions     285     285     285       Height [mm]     285     285     285       Depth [mm]     295     295     295       Measures     U     140     201     201       Interior volume [L]     23     23     23     23       Net weight of the unit (empty) [kg]     63     63     35     24     24     24     24     24     24     24     24     24     24     24     24     24     24     24     24     24     24	Measuring access port with small flange [DN mm]	16	16	
Width net [mm]515515Height net [mm]665665Depth net [mm]500500Wall clearance back [mm]100100Wall clearance sidewise [mm]250250Viewing window height [mm]207207Doors11Unit doors11Internal Dimensions285285Height [mm]285285Depth [mm]295295Measures295295Measures295295Measures2123Interior volume [L]2323Net weight of the unit (empty) [kg]6363permitted load [kg]2020Load per rack [kg]2020Fixtures2020	Inert gas connection with flow limiter (RP")	3/8	3/8	
Height net [mm]     665     665       Depth net [mm]     500     500       Wall clearance back [mm]     100     100       Wall clearance sidewise [mm]     135     135       Viewing window width [mm]     250     250       Viewing window height [mm]     207     207       Doors     1     1       Unit doors     1     1       Internal Dimensions     285     285       Height [mm]     285     285       Doeth [mm]     295     295       Measures     1     1       Interior volume [L]     23     23       Net weight of the unit (empty) [kg]     63     63       permitted load [kg]     35     35       Load per rack [kg]     20     20	Outer dimensions			
Depth net     500     500       Wall clearance back [mm]     100     100       Wall clearance sidewise [mm]     135     135       Viewing window width [mm]     250     250       Viewing window width [mm]     207     207       Doors     207     207       Unit doors     1     1       Internal Dimensions     285     285       Peth [mm]     285     285       Depth [mm]     295     295       Measures     295     295       Interior volume [L]     23     23       Net weight of the unit (empty) [kg]     63     63       permitted load [kg]     35     35       Load per rack [kg]     20     20	Width net [mm]	515	515	
Wall clearance back [mm]     100     100       Wall clearance sidewise [mm]     135     135       Viewing window width [mm]     250     250       Viewing window height [mm]     207     207       Doors     207     207       Unit doors     1     1       Internal Dimensions     285     285       Height [mm]     285     285       Depth [mm]     295     285       Depth [mm]     295     295       Measures     211     211       Interior volume [L]     23     23       Net weight of the unit (empty) [kg]     63     63       permitted load [kg]     25     20       Load per rack [kg]     20     20	Height net [mm]	665	665	
Mail clearance sidewise [mm]     135     135       Viewing window width [mm]     250     250       Viewing window height [mm]     207     207       Doors     207     207       Doors     1     1       Internal Dimensions     285     285       Viewing Mindow height [mm]     285     285       Dopth [mm]     285     285       Depth [mm]     295     285       Net weight of the unit (empty) [kg]     23     23       Net weight of the unit (empty) [kg]     35     35       Load per rack [kg]     20     20	Depth net [mm]	500	500	
Viewing window width [mm]     250     250       Viewing window height [mm]     207     207       Doors     1     1       Doors     1     1       Internal Dimensions     285     285       Height [mm]     285     285       Dopth [mm]     295     295       Measures     1     1       Interior volume [L]     23     23       Net weight of the unit (empty) [kg]     63     63       permitted load [kg]     20     20       Fixtures     20     20	Wall clearance back [mm]	100	100	
Viewing window height [mm]     207       Doors     1       Unit doors     1       Internal Dimensions     285       Width [mm]     285       Height [mm]     285       Dopth [mm]     295       Measures     295       Interior volume [L]     23       Net weight of the unit (empty) [kg]     63       permitted load [kg]     35       Load per rack [kg]     20	Wall clearance sidewise [mm]	135	135	
DoorsUnit doors1Internal DimensionsWidth [mm]285Peight [mm]285Depth [mm]295Depth [mm]295MeasuresInterior volume [L]23Net weight of the unit (empty) [kg]63permitted load [kg]35Load per rack [kg]20Extreme	Viewing window width [mm]	250	250	
Unit doors11Internal DimensionsWidth [mm]285285Height [mm]285285Depth [mm]295295Measures121Interior volume [L]2323Net weight of the unit (empty) [kg]6363permitted load [kg]3535Load per rack [kg]2020	Viewing window height [mm]	207	207	
Internal DimensionsWidth [mm]285285Height [mm]285285Depth [mm]295295Measures295Interior volume [L]2323Net weight of the unit (empty) [kg]6363permitted load [kg]3535Load per rack [kg]2020	Doors			
Width [mm]     285     285       Heigh [mm]     285     285       Depth [mm]     295     295       Measures     1     23       Interior volume [L]     23     23       Net weight of the unit (empty) [kg]     63     63       permitted load [kg]     35     35       Load per rack [kg]     20     20	Unit doors	1	1	
Height [mm]   285   285     Depth [mm]   295   295     Measures   1   1     Interior volume [L]   23   23     Net weight of the unit (empty) [kg]   63   63     permitted load [kg]   35   35     Load per rack [kg]   20   20	Internal Dimensions			
Depth [mm]     295     295       Measures     1     23     23       Interior volume [L]     23     63     63       Net weight of the unit (empty) [kg]     63     63     63       permitted load [kg]     35     35     20       Load per rack [kg]     20     20     20	Width [mm]	285	285	
Measures   23   23     Interior volume [L]   23   63     Net weight of the unit (empty) [kg]   63   63     permitted load [kg]   35   35     Load per rack [kg]   20   20	Height [mm]	285	285	
Interior volume [L]     23     23       Net weight of the unit (empty) [kg]     63     63       permitted load [kg]     35     35       Load per rack [kg]     20     20	Depth [mm]	295	295	
Net weight of the unit (empty) [kg] 63 63   permitted load [kg] 35 35   Load per rack [kg] 20 20	Measures			
permitted load [kg] 35 35 Load per rack [kg] 20 20 Fixtures	Interior volume [L]	23	23	
Load per rack [kg] 20 20 Fixtures	Net weight of the unit (empty) [kg]	63	63	
Fixtures	permitted load [kg]	35	35	
	Load per rack [kg]	20	20	
Number of shelves (std./max.) 2/4 2/4	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.



#### OPTIONS AND ACCESSORIES

Designation	Description	*	ArtNo.
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 30 – 900 mbar)	-	8012-0440
	for temperature, measurement in center of chamber at specified temperature	-	8012-1145
Calibration certificate,	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	-	8012-091
temperature	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-091
Digital pressure display	Measuring range from 1 mbar to atmospheric pressure, display accuracy 1 mbar	-	8012-080
Door gasket	made of FKM, silicone-free	03	8012-050
Electric access port	9-pin, vacuum-tight access port for transmitting electrical currents, voltages, or signals (max. 50 V / 2 A per pin; vacuum connection DN 16 ISO-KF)	-	8012-0262
	aluminum	-	8009-0370
Expansion rack	stainless steel 1.4571 (V4A)	06	8009-010
		_	8012-061
	RS 422 cable set and RS 232 / RS 422 interface converter for connection to 10-way plug distributor or for connection to a unit		
	120 V, 60 Hz option model	-	8012-055
	230 V, 50/60 Hz option model	-	8012-055
Interface converter	RS 422 cable set and RS 422 / Ethernet interface converter for connection to 10-way plug distributor or for connection to a unit		
	120 V, 60 Hz option model	-	8012-040
	230 V, 50/60 Hz option model	-	8012-038
Interface converter, USB / RS422	RS 422 cable set and RS 422 / USB interface converter for connection to 10-way plug distributor or for connection to a unit (USB-powered converter)	-	8012-066
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-001
RS 422 interface	modular plug distributor for 10 RS 422 interfaces	-	8012-029
RS 422 interface, cable (15 m)	RS 422 connection cable (15 m) between plug distributor and RS 422 interface	-	5023-003
RS 422 interface, cable (50 m)	RS 422 extension cable (50 m) between interface converter and unit or RS 232 / RS 422 plug distributor	-	5023-011
	APT-COM™ communications software		
	version 2 to 3, GLP edition	19	9053-001
	version 3, BASIC edition	19	9053-001
Software	version 3, GLP edition	19	9053-001
	version 3, STANDARD edition	19	9053-001
	APT-COM <sup>™</sup> communications software, price: for free		
	version 3, GLP DEMO Edition	19	9053-000
Temperature measurement of the specimen	with flexible Pt 100 sensor and digital specimen temperature display	-	8012-055
	to receive vacuum pumps, with switchable power socket		
Vacuum module	120 V, 13 A option model	-	8012-027
	230 V, 16 A option model	-	8012-013
Vacuum module with chemical membrane pump VP 1.1	nominal pumping speed 2.0 m³/h, final pressure 7 mbar, including all necessary parts for vacuum connection, ATEX conformity: II 3G IIC T3 X (only for inner chamber, areas coming in contact with media)		
	120 V option model	-	8012-072
	230 V option model	-	8012-072
Vacuum module with chemical membrane pump VP 2.1	nominal pumping speed 3.4 m³/h, final pressure 1.5 mbar,		
	120 V option model	-	8012-072
	230 V option model		8012-072

\* Notes > See last page

Data Sheet Model VD 23

### BINDER

Designation	Description	*	ArtNo.
Vacuum module with speed-controlled chemical membrane pump VP 3.1	nominal pumping speed 4.6 m³/h, final pressure 1.5 mbar, including all necessary parts for vacuum connection, digital vacuum controller (accurate to ≤1 mbar), ATEX conformity: II 3G IIC T3 X (only for inner chamber, areas coming in contact with media)		
	120 V option model	-	8012-0728
	230 V option model	-	8012-0725
Vacuum pump connection kit	for vacuum pump VP 1.1, VP 2.1, VP 3.1; consisting of aluminum clamping ring, universal centering ring, small flange with hose nozzle, (2.5 m) rubber hose and 2 hose clamps	-	8012-0146
Vacuum pump VP 1.1	Chemical membrane pump with nominal pumping speed 2.0 m <sup>3</sup> /h, final pressure 7 mbar, ATEX conformity: II 3G IIC T3 X (only for interior, areas coming in contact with media)		
	120 V option model	-	5013-0118
	230 V option model	-	5013-0117
Vacuum pump VP 2.1	chemical membrane pump with nominal pumping speed 3.4 m³/h, final pressure 1.5 mbar, ATEX conformity: II 3G IIC T3 X (only for inner chamber, areas coming in contact with media)		
	120 V option model	-	5013-0120
	230 V option model	-	5013-0119
Vacuum pump VP 3.1	Speed-controlled chemical membrane pump with nominal pumping speed 4.6 m <sup>3</sup> /h, final pressure 1.5 mbar, ATEX conformity: II 3G IIC T3 X (only for interior, areas coming in contact with media)		
	120 V option model	-	5013-0122
	230 V option model	-	5013-0121

#### SERVICES

Designation	Description	*	ArtNo.
Installation services			
	and set up of unit at operating location, connect to existing connections	13, 18	DL100200
Data Logger Kit installation service	unit function instructions for operation and programming of the controller	18	DL100500
Preventive maintenance			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL200500
Calibration services			
Calibration digital pressure display	including certificate, measurement at specified pressure, range 20 – 900 mbar	14, 16, 17, 18	DL320000
Data Logger Kit calibration service	including certificate, one measuring point in center of chamber at specified temperature	14, 16, 17, 18	DL300201
Femperature measurement 15 neasuring points	including certificate, 15 measuring points at specified temperature	14, 16, 17, 18	DL300218
Temperature measurement 9 measuring points	including certificate, 9 measuring points at specified temperature	14, 16, 17, 18	DL300209
Validation services			
Data Logger Kit validation service	in accordance with qualification folder	15, 18, 20	DL420300
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL440500
Qualification folder IQ/OQ	supporting documents for validation performed by customer, consisting of: IQ/OQ checklists, unit schematics, QM certificate in accordance with ISO 9001	15, 18, 20	8012-0859
Qualification folder IQ/OQ/PQ	supporting documents for validation performed by customer, in accordance with customer's requirement, extension of Qualification folder IQ/OQ by chapter PQ	15, 18	8012-0948
Narranty service			
Extension of the warranty from 2 to 3 years	beginning with the date of delivery, wearing parts are not included	-	DL008041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	-	DL008042
· · · · · · · · · · · · · · · · · · ·			

\* Notes > See last page



#### NOTES

- Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge. 01 02
- UL mark is not granted when this option is used. Heat resistant only to max. 200 °C.
- 03
- Only available on units rated for 230 V. 04
- 06 Heating-up time may increase as a result of the lower heat conductivity. 07 The additional heat input may affect the temperature behavior.
- Not in conjunction with the optional access port, door with window and interior lighting. 09
- 10 11 12 Not available on 23-liter units.
- Not available on 23- or 53-liter units.
- 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 (see the chapter on BINDER Service) to cover unit inspections, calibrations and validations
- 15 OQ according to Yellow Paper = completed factory validation documentation of all OQ checklists.
- Sensor calibration is performed in an accredited calibration laboratory. 16
- 17
- Calibration is performed according to the BINDER factory standard. 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 18 include a country-specific added fee (available on request).
- For additional accessories, refer to the Process documentation chapter. 19
- 20 When ordering IQ/OQ qualification folders and associated IQ/OQ execution on one order, we offer a 15 % discount for both items.
- When ordering IQ/OQ/PQ qualification folders and associated IQ/OQ/PQ execution on one order, we offer a 15 % discount for the item of the IQ/OQ/PQ folder.





**Bringing Test Innovation to you** 

# Datasheet

This product datasheet has been provided by John Godrich & SJ Electronics in Partnership with BINDER



Best conditions for your success

www.johngodrich.co.uk

www.sjelectronics.co.uk