

## 9 Appendix

### 9.1 Technical information

| Type              |                       |
|-------------------|-----------------------|
| Vacuum controller | VACUU·SELECT Complete |
| Software version  | V1.07 / V1.00         |

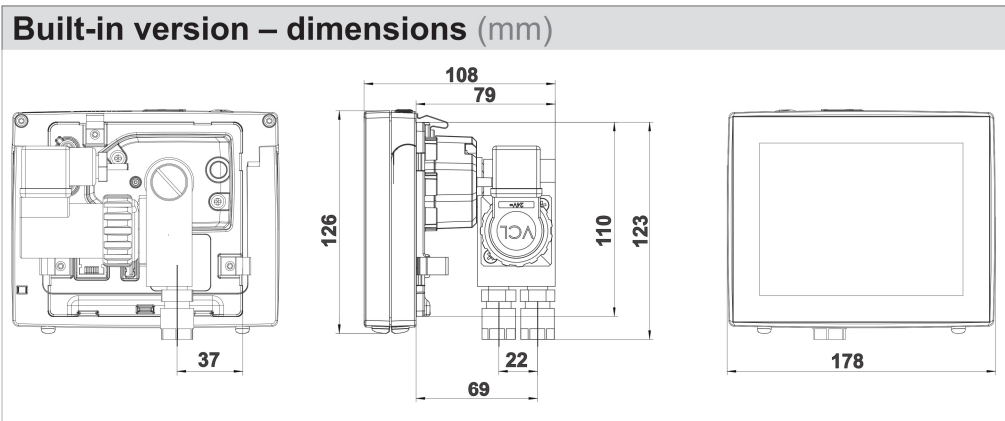
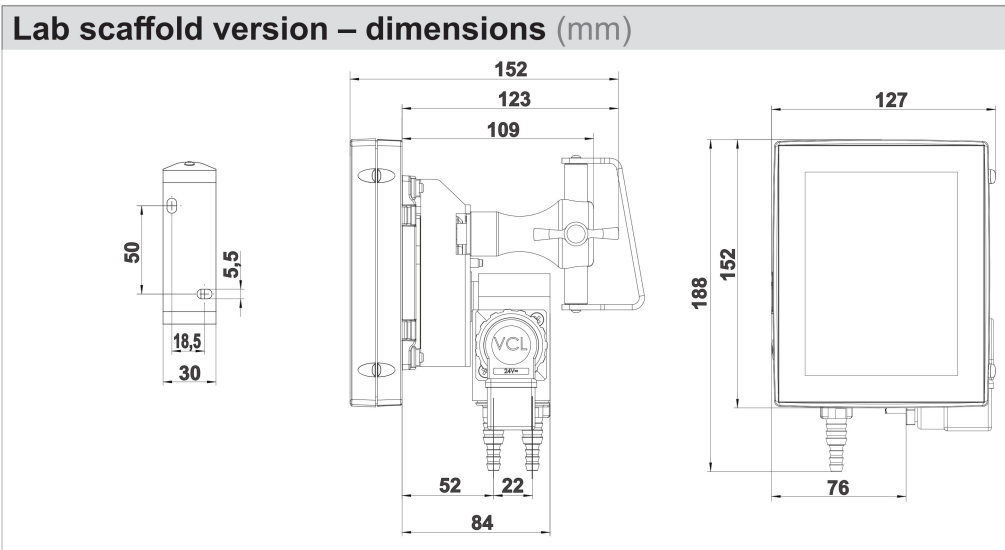
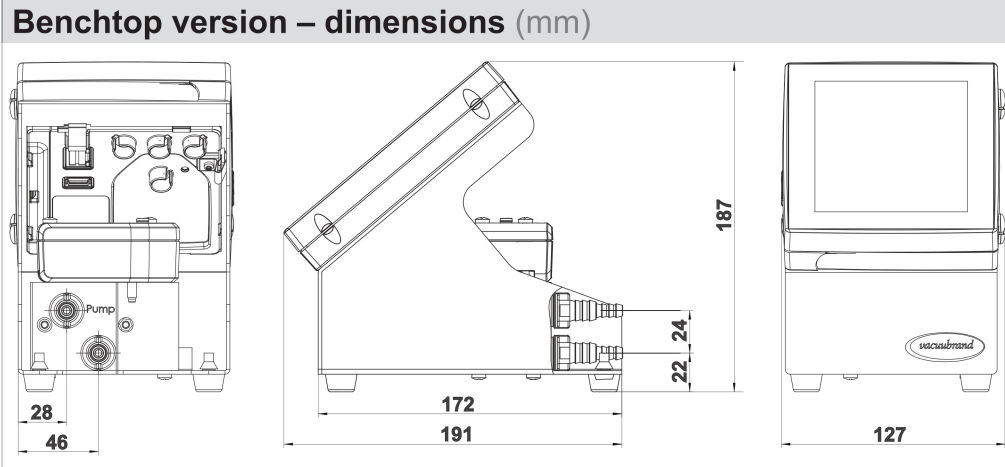
#### 9.1.1 Technical data

| Ambient conditions   |   | (US)                       |
|--|---|----------------------------|
| Working temperature  | 10-40 °C  | 50–104 °F                  |
| Storage/transport temperature                              | -10-60 °C   | 14-140 °F                  |
| Max. altitude  | 2000 m<br>above sea level                             | 6562 ft<br>above sea level |
| Protection class (IEC 60529)                               | IP 40   |                            |
| Protection class (IEC 60529), front                        | IP 41   |                            |
| Protection class (UL 50E)                                  |   | Type 1                     |
| Protection class (UL 50E), front                           |   | Type 2                     |
| Relative humidity  | 30-85 %, non-condensing                               |                            |
| Prevent condensation or contamination from dust or liquids |   |                            |
| Electrical data  |   |                            |
| Nominal voltage  | 24 VDC  |                            |
| Controller output  | 1.2 W   |                            |
| Power supply via   | VACUU·BUS   |                            |
| Device fuse on circuit board                               | Nano fuse 4 A/t                                       |                            |
| Plug-in power supply                                       | 30 W  | 25 W                       |
| Input voltage  | 90–264 VAC  | 100–240 VAC                |
| Frequency  | 50–60 Hz  | 50–60 Hz                   |
| Power consumption, max.                                    | 0,8 A   | 0,7 A                      |
| Output current, max.                                       | 1,25 A  | 1,05 A                     |
| Output voltage, short circuit proof                        | 24 VDC  | 24 VDC                     |
| Cable length, approx.                                      | 2 m   | 79 in.                     |
| Dimensions   | 108 mm x 58 mm x 34 mm<br>4.3 in. x 2.3 in. x 1.4 in. |                            |
| Weight   | 140–300 g   | 0.31–0.66 lb               |
| Power plug   | AC, replaceable: CEE/CH/UK/US/AUS/CN                  |                            |

Technical data

| <b>Chemically resistant in-line solenoid valve</b> (US) |   |            |
|---|---|------------|
| Power supply  | 24 V DC $\pm$ 10 %                      |            |
| Valve connector   | 3-pole on VACUU·BUS                     |            |
| Power consumption, approx.                              | 0.22 A                                  |            |
| Power   | 6 W                                     |            |
| Switching frequency/minute, max.                        | 50                                      |            |
| Switching state   | NO contact                              | NC contact |
| Leak rate   | $1 \cdot 10^{-2}$ mbar l/s              |            |
| Operating pressure                                      | 1.5 bar                                 | 1125 Torr  |
| <b>Controller interfaces</b>                            |   |            |
| Plug-in connector                                       | VACUU·BUS                               |            |
| Ethernet (LAN)  | Patch cable min. cat. 5e RJ45           |            |
| USB port (1.0–2.0)                                      | 2x USB-A 2.0, max. 0.5 A per port       |            |
| <b>Controller connections</b>                           |   |            |
| Benchtop version, lab scaffold version                  | 2x hose nozzles DN 6/10 mm              |            |
| Built-in version  | 2x straight screw-in connectors DN 8/10 |            |
| Venting valve, optional                                 | Hose nozzle DN 4-5 mm                   |            |
| <b>Weights</b> (US)                                     |   |            |
| Benchtop version  | 745 g                                   | 1.64 lb    |
| Lab scaffold version                                    | 590 g                                   | 1.3 lb     |
| Built-in version  |   |            |
| Plug-in power supply                                    | 250 g                                   | 0.55 lb    |
| VACUU·SELECT Sensor                                     | 145 g                                   | 0.3 lb     |
| Chemically resistant in-line solenoid valve             | 210 g                                   | 0.46 lb    |

Dimensions



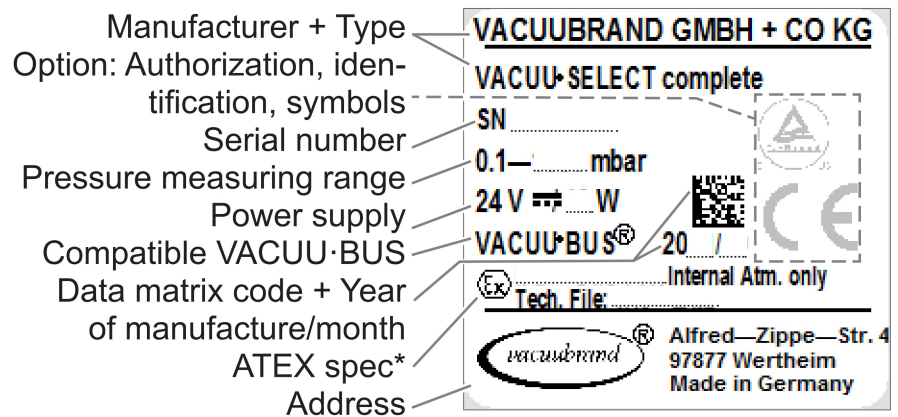
### 9.1.2 Rating plate

**i** ⇒ In the event of an error, make a note of the type and serial number on the rating plate.

⇒ When contacting our Service Department, please provide the type and serial number from the rating plate. This will allow us to provide you with specific support and advice for your device.

### VACUU-SELECT rating plate, general

Data on rating plate



\* Indicating documentation, group and category, marking G (gas), type of protection, explosion group, temperature class (see also: [Approval for ATEX equipment category](#)).

### 9.1.3 Wetted materials


Wetted materials

| Component                                 | Wetted materials                                    |
|---|---|
| Sensor                                    | Aluminum oxide ceramic, gold-coated (if applicable) |
| Measurement chamber                       | PPS   |
| Venting valve seal                        | FFKM  |
| Option: blind plugs without venting valve | Epoxy resin   |
| Seals                                     | Chemically resistant fluoroelastomer, PTFE          |
| Connections to pump/application           | PVDF  |
| Valve block                               | PP  |
| O-rings                                   | FKM   |
| Valve body                                | PVDF  |
| Non-return valve                          | FFKM  |

|   |      |
|---|------|
| Screw-in connector, diaphragm, sealing ring | PTFE |
| Hose nozzle                                 | PP   |

### 9.1.4 Vacuum data

Vacuum data

| Values   | (US)   |                |
|--|--|----------------|
| Measuring range (abs.)   | 1080–0.1 mbar  | 810–0.1 Torr   |
| Accuracy of measurement  | ±1 mbar/hPa/Torr, ±1 digit, with VACUU·SELECT vacuum controller (after adjustment, constant temperature) |                |
| Measuring principle  | Ceramic diaphragm (aluminum oxide, gold-coated), capacitive, gas type independent, absolute pressure     |                |
| Temperature coefficient  | < ±0.15 mbar (hPa)/K   | < ±0.11 Torr/K |
| Maximum admissible pressure, abs.  | 1.5 bar  | 1125 Torr      |
| Maximum admissible media temperature (gas), non-explosive atmosphere:  |  |                |
| Short term (< 5 min)   | 80 °C  | 176 °F         |
| Continuous operation   | 45 °C  | 113 °F         |
| ATEX approval if the ATEX marking is shown on the rating plate<br>Inner part (pumped gases)  | II 3/- G Ex h IIC T4 Gc X<br>Internal Atm. only<br>Tech.File: VAC-EX02                                   |                |
| Maximum admissible media temperature (gas)  atmosphere: |  |                |
| Short term   | 40 °C  | 104 °F         |
| Continuous operation   | 40 °C  | 104 °F         |