

Please enter these **calibration parameters** and the **Lot No.** into the BioLecton software!

### pH calibration parameters Lot No. 2009111 (BioLector® Pro, filter module ID-202/-402)

| Temperature     | 20°C  | 21°C  | 22°C  | 23°C  | 24°C  | 25°C  | 26°C  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min           | 63.39 | 63.32 | 63.26 | 63.19 | 63.12 | 63.05 | 62.98 |
| φ max           | 14.07 | 14.06 | 14.06 | 14.05 | 14.05 | 14.04 | 14.04 |
| dpH             | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  |
| pH <sub>0</sub> | 6.40  | 6.39  | 6.38  | 6.37  | 6.36  | 6.36  | 6.35  |
| Temperature     | 27°C  | 28°C  | 29°C  | 30°C  | 31°C  | 32°C  | 33°C  |
| φ min           | 62.91 | 62.84 | 62.77 | 62.70 | 62.64 | 62.57 | 62.50 |
| φ max           | 14.03 | 14.02 | 14.02 | 14.01 | 14.01 | 14.00 | 14.00 |
| dpH             | 0.55  | 0.54  | 0.54  | 0.54  | 0.54  | 0.54  | 0.54  |
| pH <sub>0</sub> | 6.34  | 6.33  | 6.32  | 6.31  | 6.30  | 6.30  | 6.29  |
| Temperature     | 34°C  | 35°C  | 36°C  | 37°C  | 38°C  | 39°C  | 40°C  |
| φ min           | 62.43 | 62.36 | 62.29 | 62.22 | 62.15 | 62.08 | 62.02 |
| φ max           | 13.99 | 13.98 | 13.98 | 13.97 | 13.97 | 13.96 | 13.96 |
| dpH             | 0.54  | 0.54  | 0.54  | 0.54  | 0.54  | 0.54  | 0.54  |
| pH <sub>0</sub> | 6.28  | 6.27  | 6.26  | 6.25  | 6.25  | 6.24  | 6.23  |

### pH sensor properties

|                     |   |
|---------------------|---|
| Dynamic range       | pH 4.40 – 7.85  |
| Resolution          | Up to 0.01 pH (software)  |
| Accuracy            | ± 0.25 pH at pH 4.90 – 5.20; ± 0.1 pH at pH 5.20 – 7.10; ± 0.25 pH at pH 7.10 – 7.40 (batch calibration)  |
| Response time (t90) | At 25 °C < 30 s   |
| Drift at pH = 7     | < 0.005 pH per day (sampling interval of 6 min)   |
| Temperature range   | 5 °C to 50 °C   |
| Compatibility       | Aqueous solutions, ethanol, methanol (max. 5 % v/v)   |
| Sensor stability    | sensor material can be degraded by some microorganisms  |
| Cross-sensitivity   | Reduced to ionic strength (salinity);<br>high concentration of fluorescent molecules in the visible range can interfere (GFP, (e)YFP);<br>complex media can cause a pH-shift (peptone, yeast extract) |
| Basic material      | pH sensor HP8-1811-01_3 (at least stable for 7 days with CertiPUR-buffer)<br><b>pH sensors are light-sensitive; please protect them from direct light!</b>  |

### pH calibration

|                          |   |
|--------------------------|---|
| Buffer                   | CertiPUR Reference Material Buffer solutions Set<br>(pH 3.00 ± 0.01 / pH 4.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C);<br>150 mM Citrat-Na-Phosphate buffer (16 solutions) |
| Settings                 | BioLector protocol = HP8-PSt3-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well,<br>shaking diameter 3 mm, MTP-type = Microfluidic Round Well Plate (MTP-RMF32-BOH1)                   |
| Calibration device       | Hardware ID: BL-09-000F-0032  |
| Calibration phase offset | pH -1.46 (pH Ser. 3111, gain 7)   |
| Date of calibration      | 2020/09/23  |

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**DO calibration parameters Lot No. 2009111 (BioLector® Pro, filter module ID-203/-403)**

|             |       |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| Temperature | 20°C  | 21°C  | 22°C  | 23°C  | 24°C  | 25°C  | 26°C  |
| φ cal0      | 72.31 | 72.28 | 72.25 | 72.22 | 72.19 | 72.16 | 72.12 |
| φ cal100    | 44.07 | 43.85 | 43.63 | 43.40 | 43.18 | 42.96 | 42.74 |
| Temperature | 27°C  | 28°C  | 29°C  | 30°C  | 31°C  | 32°C  | 33°C  |
| φ cal0      | 72.09 | 72.06 | 72.03 | 72.00 | 71.97 | 71.94 | 71.90 |
| φ cal100    | 42.52 | 42.29 | 42.07 | 41.85 | 41.63 | 41.41 | 41.19 |
| Temperature | 34°C  | 35°C  | 36°C  | 37°C  | 38°C  | 39°C  | 40°C  |
| φ cal0      | 71.87 | 71.84 | 71.81 | 71.78 | 71.75 | 71.72 | 71.69 |
| φ cal100    | 40.96 | 40.74 | 40.52 | 40.30 | 40.08 | 39.85 | 39.63 |

**DO sensor properties**

|                                  |   |
|----------------------------------|---|
| Dynamic range                    | 0 - 100 % air saturation (a.s.)   |
| Resolution                       | Up to 0.1 % O <sub>2</sub> (software)   |
| Accuracy                         | ± 5% dissolved oxygen (batch calibration)   |
| Drift at 0% oxygen               | < 0.5% O <sub>2</sub> per day (sampling interval of 6 min)  |
| Response time (t <sub>90</sub> ) | < 30 s  |
| Temperature range                | 5 – 50°C  |
| Sensor stability                 | sensor material can be degraded by some microorganisms  |
| Cross-sensitivity to             | Organic solvents, such as acetone, toluene, chloroform or methylene chloride, Chlorine gas; high concentration of fluorescent molecules in the visible range can interfere (mCherry, tdTomato, dsRed, Nile red); complex media can cause a DO-shift |
| Basic material                   | Oxygen sensor PSt3-HG-1810-01_2 (at least stable for 7 days with CertiPUR-buffer)<br><b>DO sensors are light-sensitive; please protect them from direct light!</b>  |

**DO calibration**

|                          |  |
|--------------------------|--|
| Calibration              | 0.5 M Sulfite system (Two-point calibration with oxygen-free environment (sodium sulfite) and air-saturated environment)   |
| Settings                 | BioLector protocol = HP8-PSt3-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Round Well Plate (MTP-RMF32-BOH1) |
| Calibration device       | Hardware ID: BL-09-000F-0032   |
| Calibration phase offset | DO -360.26 (DO Ser.4103, gain 7)   |
| Date of calibration      | 2020/09/23   |

**Sterilization procedure**

|                       |                           |
|-----------------------|---------------------------|
| Sterilization         | Beta irradiation (20 kGy) |
| BGS-certificate No    | 803678                    |
| Date of sterilization | 2020/09/16                |

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