

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

**pH calibration parameters Lot No.2208211 and 2208217 (BioLector II/Pro Microbioreactor, filter module ID-221/421)**

| Temperature     | 20°C  | 21°C  | 22°C  | 23°C  | 24°C  | 25°C  | 26°C  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| $\phi$ min      | 72.03 | 71.94 | 71.85 | 71.76 | 71.67 | 71.58 | 71.49 |
| $\phi$ max      | 23.36 | 23.28 | 23.20 | 23.12 | 23.04 | 22.96 | 22.88 |
| dpH             | 0.71  | 0.71  | 0.71  | 0.71  | 0.71  | 0.71  | 0.71  |
| pH <sub>0</sub> | 6.03  | 6.01  | 6.00  | 5.99  | 5.98  | 5.97  | 5.95  |

| Temperature     | 27°C  | 28°C  | 29°C  | 30°C  | 31°C  | 32°C  | 33°C  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| $\phi$ min      | 71.40 | 71.31 | 71.22 | 71.13 | 71.04 | 70.95 | 70.86 |
| $\phi$ max      | 22.80 | 22.73 | 22.65 | 22.57 | 22.49 | 22.41 | 22.33 |
| dpH             | 0.71  | 0.71  | 0.71  | 0.71  | 0.71  | 0.71  | 0.72  |
| pH <sub>0</sub> | 5.94  | 5.93  | 5.92  | 5.91  | 5.89  | 5.88  | 5.87  |

| Temperature     | 34°C  | 35°C  | 36°C  | 37°C  | 38°C  | 39°C  | 40°C  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| $\phi$ min      | 70.77 | 70.68 | 70.59 | 70.50 | 70.42 | 70.33 | 70.24 |
| $\phi$ max      | 22.25 | 22.17 | 22.09 | 22.01 | 21.93 | 21.85 | 21.77 |
| dpH             | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  |
| pH <sub>0</sub> | 5.86  | 5.85  | 5.84  | 5.82  | 5.81  | 5.80  | 5.79  |

**pH sensor properties**

|                                  |   |
|----------------------------------|---|
| Dynamic range                    | pH 3.60 - 7.95  |
| Resolution                       | Up to 0.01 pH (software)  |
| Accuracy                         | ± 0.25 pH at pH 4.30 - 4.75 ; ± 0.1 pH at pH 4.75 - 6.70 ; ± 0.25 pH at pH 6.70 - 7.20 (batch calibration)  |
| Response time (t <sub>90</sub> ) | 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); high concentration of fluorescent molecules in the visible range can interfere (GFP, (e)YFP); complex media can cause a pH-shift (peptone, yeast extract) |
| Basic material                   | pH sensor LG1-2141-01 (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 (pH 2.00 ± 0.02 / pH 3.00 ± 0.02 / pH 9.00 ± 0.03 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions) |
| Settings                 | BioLector protocol = MF_pH_DO_calibration_BOH2 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32-BOH2)               |
| Calibration device       | Hardware ID: 03166164 (BLXT Pilot 1)   |
| Calibration phase offset | pH -360.63 (pH Ser. 3513, gain 8)  |
| Date of calibration      | 2022-08-09   |

**Contact us**

If you have any questions, contact Beckman Coulter Customer Support Center:

- Worldwide, find out in our website at: [www.beckman.de/support/technical](http://www.beckman.de/support/technical)
- In the USA and Canada, call us at 1-800-369-0333
- Outside the USA and Canada, contact your local Beckman Coulter representative

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**DO calibration parameters Lot No.2208211 and 2208217 (BioLector II/Pro Microbioreactor, filter module ID-228/428)**

| Temperature | 20°C  | 21°C  | 22°C  | 23°C  | 24°C  | 25°C  | 26°C  |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| φ cal0      | 70.65 | 70.63 | 70.61 | 70.59 | 70.57 | 70.55 | 70.53 |
| φ cal100    | 41.70 | 41.52 | 41.34 | 41.16 | 40.98 | 40.80 | 40.62 |

| Temperature | 27°C  | 28°C  | 29°C  | 30°C  | 31°C  | 32°C  | 33°C  |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| φ cal0      | 70.51 | 70.49 | 70.47 | 70.45 | 70.43 | 70.41 | 70.39 |
| φ cal100    | 40.44 | 40.26 | 40.08 | 39.90 | 39.71 | 39.53 | 39.35 |

| Temperature | 34°C  | 35°C  | 36°C  | 37°C  | 38°C  | 39°C  | 40°C  |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| φ cal0      | 70.37 | 70.35 | 70.33 | 70.30 | 70.28 | 70.26 | 70.24 |
| φ cal100    | 39.17 | 38.99 | 38.81 | 38.63 | 38.45 | 38.27 | 38.09 |

**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 RF-221155395 (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              | Two-point calibration at an oxygen-free environment (1.0 M sulfite system) and an air-saturated environment (21% oxygen with QC buffer)                          |
| Settings                 | BioLector protocol = MF_pH_DO_calibration_BOH2 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32-BOH2) |
| Calibration device       | Hardware ID: 03166164 (BLXT Pilot 1)   |
| Calibration phase offset | DO -360.94 (DO Ser. 4452, gain 4)  |
| Date of calibration      | 2022-08-09   |

**Sterilization procedure**

|                       |                           |
|-----------------------|---------------------------|
| Sterilization         | Beta irradiation (20 kGy) |
| BGS-certificate No    | 1064096                   |
| Date of sterilization | 2022-07-28                |

**Contact us**

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