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

## pH calibration parameters Lot No.2301201 (BioLector XT Microbioreactor, filter module ID-521)

| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
|---|---|---|---|---|---|---|---|
| ϕ min | 70.06 | 69.97 | 69.88 | 69.79 | 69.70 | 69.61 | 69.52 |
| ϕ max | 21.40 | 21.34 | 21.27 | 21.20 | 21.14 | 21.07 | 21.00 |
| dpH | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 |
| $pH_0$ | 5.90 | 5.89 | 5.87 | 5.86 | 5.85 | 5.83 | 5.82 |

| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
|---|---|---|---|---|---|---|---|
| ϕ min | 69.43 | 69.34 | 69.25 | 69.16 | 69.07 | 68.98 | 68.89 |
| ϕ max | 20.93 | 20.87 | 20.80 | 20.73 | 20.67 | 20.60 | 20.53 |
| dpH | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 |
| $pH_0$ | 5.81 | 5.79 | 5.78 | 5.77 | 5.75 | 5.74 | 5.73 |

| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
|---|---|---|---|---|---|---|---|
| ϕ min | 68.79 | 68.70 | 68.61 | 68.52 | 68.43 | 68.34 | 68.25 |
| ϕ max | 20.46 | 20.40 | 20.33 | 20.26 | 20.19 | 20.13 | 20.06 |
| dpH | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 |
| $pH_0$ | 5.71 | 5.70 | 5.69 | 5.67 | 5.66 | 5.65 | 5.63 |

### pH sensor properties

| | |
|---|---|
| Dynamic range | pH 3.45 - 7.80 |
| Resolution | Up to 0.01 pH (software) |
| Accuracy | ± 0.25 pH at pH 4.20 - 4.70 ; ± 0.1 pH at pH 4.70 - 6.50 ; ± 0.25 pH at pH 6.50 - 7.05 (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); 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 LG1-2212-01 (at least stable for 7 days with CertiPUR-buffer) |
| | **pH sensors are light-sensitive;please protect them from direct light!** |

### 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 = pH_DO_calibration_BOH2 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH2) |
| Calibration device | Hardware ID: 03166164 (BLXT Pilot 1) |
| Calibration phase offset | pH -360.75 (pH Ser. 3513, gain 8) |
| Date of calibration | 2023-02-02 |

**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

· In the USA and Canada, call us at 1-800-369-0333

· Outside the USA and Canada, contact your local Beckman Coulter representative

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

**DO calibration parameters Lot No.2301201 (BioLector XT Microbioreactor, filter module ID-528)**

| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
|---|---|---|---|---|---|---|---|
| A | -3750 | -3640 | -3530 | -3419 | -3309 | -3199 | -3089 |
| B | 29354 | 28481 | 27607 | 26734 | 25861 | 24988 | 24114 |
| C | -26439 | -25641 | -24843 | -24045 | -23247 | -22449 | -21651 |

| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
|---|---|---|---|---|---|---|---|
| A | -2979 | -2869 | -2759 | -2648 | -2538 | -2428 | -2318 |
| B | 23241 | 22368 | 21495 | 20622 | 19748 | 18875 | 18002 |
| C | -20853 | -20055 | -19257 | -18459 | -17661 | -16863 | -16065 |

| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
|---|---|---|---|---|---|---|---|
| A | -2208 | -2098 | -1987 | -1877 | -1767 | -1657 | -1547 |
| B | 17129 | 16255 | 15382 | 14509 | 13636 | 12762 | 11889 |
| C | -15267 | -14469 | -13671 | -12873 | -12075 | -11277 | -10479 |

## DO sensor properties

| | |
|---|---|
| Dynamic range | 0 - 100 % oxygen |
| Resolution | Up to 0.1 % O2 (software) |
| Accuracy | ± 5% dissolved oxygen (batch calibration) |
| Drift at 0% oxygen | < 0.5% O2 per day (sampling interval of 6 min) |
| Response time (t90) | < 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-224858176 (at least stable for 7 days with CertiPUR-buffer) |
| | **DO sensors are light-sensitive;please protect them from direct light!** |

## DO calibration

| | |
|---|---|
| Calibration | Three-point calibration at an oxygen-free environment (1.0 M sulfite system), an air-saturated environment (21% oxygen) and a pure (100%) oxygen environment (latter two with QC buffer) |
| Settings | BioLector protocol = pH_DO_calibration_BOH2 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH2) |
| Calibration device | Hardware ID: 03166164 (BLXT Pilot 1) |
| Calibration phase offset | DO -360.81 (DO Ser. 4452, gain 4) |
| Date of calibration | 2023-02-02 |

## Sterilization procedure

| | |
|---|---|
| Sterilization | Beta irradiation (20 kGy) |
| Steris Process Run ID | 2324-3310 |
| Date of sterilization | 2023-01-26 |

**Contact us**

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