

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

**pH calibration parameters Lot No.2203121 (BioLector XT Microbioreactor, filter module ID-502)**

| Temperature     | 20°C  | 21°C  | 22°C  | 23°C  | 24°C  | 25°C  | 26°C  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min           | 63.09 | 63.03 | 62.97 | 62.90 | 62.84 | 62.78 | 62.71 |
| φ max           | 14.02 | 14.04 | 14.05 | 14.06 | 14.07 | 14.08 | 14.09 |
| dpH             | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  |
| pH <sub>0</sub> | 6.66  | 6.66  | 6.65  | 6.65  | 6.64  | 6.64  | 6.63  |

| Temperature     | 27°C  | 28°C  | 29°C  | 30°C  | 31°C  | 32°C  | 33°C  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min           | 62.65 | 62.59 | 62.52 | 62.46 | 62.39 | 62.33 | 62.27 |
| φ max           | 14.11 | 14.12 | 14.13 | 14.14 | 14.15 | 14.17 | 14.18 |
| dpH             | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  |
| pH <sub>0</sub> | 6.63  | 6.62  | 6.62  | 6.61  | 6.61  | 6.60  | 6.60  |

| Temperature     | 34°C  | 35°C  | 36°C  | 37°C  | 38°C  | 39°C  | 40°C  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min           | 62.20 | 62.14 | 62.08 | 62.01 | 61.95 | 61.89 | 61.82 |
| φ max           | 14.19 | 14.20 | 14.21 | 14.23 | 14.24 | 14.25 | 14.26 |
| dpH             | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  |
| pH <sub>0</sub> | 6.59  | 6.58  | 6.58  | 6.57  | 6.57  | 6.56  | 6.56  |

**pH sensor properties**

|                     |   |
|---------------------|---|
| Dynamic range       | pH 4.70 - 8.25  |
| Resolution          | Up to 0.01 pH (software)  |
| Accuracy            | ± 0.25 pH at pH 5.20 - 5.50 ; ± 0.1 pH at pH 5.50 - 7.45 ; ± 0.25 pH at pH 7.45 - 7.75 (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 HP8-2148-01 (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 3.00 ± 0.02 / pH 4.00 ± 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_BOH1 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH1)              |
| Calibration device       | Hardware ID: 03166164 (BLXT Pilot 1)   |
| Calibration phase offset | pH -2.32 (pH Ser. 3567, gain 7)  |
| Date of calibration      | 2023-02-06   |

**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.2203121 (BioLector XT Microbioreactor, filter module ID-503)**

| Temperature | 20°C   | 21°C   | 22°C   | 23°C   | 24°C   | 25°C   | 26°C   |
|-------------|--------|--------|--------|--------|--------|--------|--------|
| A           | -3924  | -3866  | -3808  | -3750  | -3692  | -3634  | -3577  |
| B           | 30868  | 30410  | 29952  | 29494  | 29036  | 28578  | 28120  |
| C           | -27940 | -27523 | -27106 | -26689 | -26272 | -25855 | -25438 |

| Temperature | 27°C   | 28°C   | 29°C   | 30°C   | 31°C   | 32°C   | 33°C   |
|-------------|--------|--------|--------|--------|--------|--------|--------|
| A           | -3519  | -3461  | -3403  | -3345  | -3287  | -3229  | -3171  |
| B           | 27661  | 27203  | 26745  | 26287  | 25829  | 25371  | 24913  |
| C           | -25021 | -24604 | -24187 | -23770 | -23353 | -22936 | -22519 |

| Temperature | 34°C   | 35°C   | 36°C   | 37°C   | 38°C   | 39°C   | 40°C   |
|-------------|--------|--------|--------|--------|--------|--------|--------|
| A           | -3113  | -3055  | -2997  | -2939  | -2881  | -2823  | -2765  |
| B           | 24455  | 23996  | 23538  | 23080  | 22622  | 22164  | 21706  |
| C           | -22102 | -21685 | -21268 | -20851 | -20434 | -20017 | -19600 |

**DO sensor properties**

|                                  |   |
|----------------------------------|---|
| Dynamic range                    | 0 - 100 % oxygen  |
| 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-1921-01_5 (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              | 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 = MF_pH_DO_calibration_BOH1 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH1)                        |
| Calibration device       | Hardware ID: 03166164 (BLXT Pilot 1)   |
| Calibration phase offset | DO -360.87 (DO Ser. 4446, gain 7)  |
| Date of calibration      | 2023-02-06   |

**Sterilization procedure**

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

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