

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

**pH calibration parameters Lot No.2404221+227 (BioLector XT Microbioreactor, filter module ID-521)**

| Temperature     | 20°C  | 21°C  | 22°C  | 23°C  | 24°C  | 25°C  | 26°C  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min           | 70.25 | 70.16 | 70.08 | 69.99 | 69.91 | 69.82 | 69.73 |
| φ max           | 23.93 | 23.84 | 23.75 | 23.66 | 23.57 | 23.48 | 23.39 |
| dpH             | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  |
| pH <sub>0</sub> | 6.01  | 6.00  | 5.99  | 5.97  | 5.96  | 5.95  | 5.93  |

| Temperature     | 27°C  | 28°C  | 29°C  | 30°C  | 31°C  | 32°C  | 33°C  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min           | 69.65 | 69.56 | 69.48 | 69.39 | 69.31 | 69.22 | 69.13 |
| φ max           | 23.30 | 23.21 | 23.12 | 23.03 | 22.94 | 22.85 | 22.76 |
| dpH             | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  |
| pH <sub>0</sub> | 5.92  | 5.90  | 5.89  | 5.88  | 5.86  | 5.85  | 5.83  |

| Temperature     | 34°C  | 35°C  | 36°C  | 37°C  | 38°C  | 39°C  | 40°C  |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min           | 69.05 | 68.96 | 68.88 | 68.79 | 68.71 | 68.62 | 68.53 |
| φ max           | 22.67 | 22.58 | 22.49 | 22.40 | 22.31 | 22.22 | 22.13 |
| dpH             | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  |
| pH <sub>0</sub> | 5.82  | 5.81  | 5.79  | 5.78  | 5.77  | 5.75  | 5.74  |

#### pH sensor properties

|                     |                                                                                                                                                                                                 |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dynamic range       | pH 3.65 - 7.90                                                                                                                                                                                  |
| Resolution          | Up to 0.01 pH (software)                                                                                                                                                                        |
| Accuracy            | ± 0.25 pH at pH 4.35 - 4.85 ; ± 0.1 pH at pH 4.85 - 6.65 ; ± 0.25 pH at pH 6.65 - 7.15 (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 LG1-2239-01 (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 ± 0.02, 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-MF32C-BOH2)             |
| Calibration device       | Hardware ID: 03166168 BLXT0067                                                                                                                                                 |
| Calibration phase offset | pH -360.53 (pH Ser. 3513, gain 8)                                                                                                                                              |
| Date of calibration      | 2024-05-07                                                                                                                                                                     |

#### 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.2404221+227 (BioLector XT Microbioreactor, filter module ID-528)**

| Temperature | 20°C   | 21°C   | 22°C   | 23°C   | 24°C   | 25°C   | 26°C   |
|-------------|--------|--------|--------|--------|--------|--------|--------|
| A           | -1770  | -1740  | -1709  | -1679  | -1648  | -1618  | -1587  |
| B           | 13602  | 13364  | 13126  | 12888  | 12650  | 12411  | 12173  |
| C           | -11975 | -11761 | -11547 | -11333 | -11118 | -10904 | -10690 |

| Temperature | 27°C   | 28°C   | 29°C   | 30°C  | 31°C  | 32°C  | 33°C  |
|-------------|--------|--------|--------|-------|-------|-------|-------|
| A           | -1557  | -1527  | -1496  | -1466 | -1435 | -1405 | -1374 |
| B           | 11935  | 11697  | 11459  | 11221 | 10983 | 10745 | 10507 |
| C           | -10476 | -10262 | -10048 | -9834 | -9620 | -9406 | -9192 |

| Temperature | 34°C  | 35°C  | 36°C  | 37°C  | 38°C  | 39°C  | 40°C  |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| A           | -1344 | -1313 | -1283 | -1253 | -1222 | -1192 | -1161 |
| B           | 10269 | 10031 | 9793  | 9555  | 9316  | 9078  | 8840  |
| C           | -8978 | -8764 | -8549 | -8335 | -8121 | -7907 | -7693 |

#### 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 RF-232551425 (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_BOH2 , T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH2)                       |
| Calibration device       | Hardware ID: 03166168 BLXT0067                                                                                                                                                           |
| Calibration phase offset | DO -360.66 (DO Ser. 4452, gain 4)                                                                                                                                                        |
| Date of calibration      | 2024-05-07                                                                                                                                                                               |

#### Sterilization procedure

|                       |                           |
|-----------------------|---------------------------|
| Sterilization         | Beta irradiation (20 kGy) |
| Steris Process Run ID | 2324-5227                 |
| Date of sterilization | 2024-04-17                |

#### Contact us

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