

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

pH calibration parameters Lot No.2106301 (BioLector® II/Pro, filter module ID-424)

| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min | 69.93 | 70.01 | 70.09 | 70.17 | 70.24 | 70.32 | 70.40 |
| φ max | 14.56 | 14.60 | 14.65 | 14.69 | 14.73 | 14.77 | 14.81 |
| dpH | -0.41 | -0.41 | -0.41 | -0.41 | -0.41 | -0.41 | -0.41 |
| pH ₀ | 5.29 | 5.28 | 5.28 | 5.27 | 5.27 | 5.26 | 5.26 |

| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min | 70.47 | 70.55 | 70.63 | 70.71 | 70.78 | 70.86 | 70.94 |
| φ max | 14.85 | 14.90 | 14.94 | 14.98 | 15.02 | 15.06 | 15.10 |
| dpH | -0.41 | -0.40 | -0.40 | -0.40 | -0.40 | -0.40 | -0.40 |
| pH ₀ | 5.25 | 5.25 | 5.24 | 5.24 | 5.23 | 5.23 | 5.22 |

| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min | 71.02 | 71.09 | 71.17 | 71.25 | 71.32 | 71.40 | 71.48 |
| φ max | 15.15 | 15.19 | 15.23 | 15.27 | 15.31 | 15.35 | 15.40 |
| dpH | -0.40 | -0.40 | -0.40 | -0.40 | -0.39 | -0.39 | -0.39 |
| pH ₀ | 5.22 | 5.21 | 5.21 | 5.20 | 5.20 | 5.19 | 5.18 |

pH sensor properties

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|---------------------|---|
| Dynamic range | pH 3.45 - 6.45 |
| Resolution | Up to 0.01 pH (software) |
| Accuracy | ± 0.25 pH at pH 3.85-4.05; ± 0.1 pH at pH 4.05-5.90; ± 0.25 pH at pH 5.90-6.10 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 pH51-200950174 (at least stable for 7 days with CertiPUR-buffer) pH sensors are light-sensitive; please protect them from direct light! |

pH calibration

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|--------------------------|---|
| Buffer | CertiPUR Reference Material Buffer solutions Set (pH 2.00 ± 0.01 / pH 3.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions) |
| Settings | BioLector protocol = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH3) |
| Calibration device | Hardware ID: BL-09-000F-0032 |
| Calibration phase offset | pH -360.10 (pH Ser. 3288, gain 6) |
| Date of calibration | 2021-06-18 |

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

DO calibration parameters Lot No.2106301 (BioLector® II/Pro, filter module ID-228/-428)

| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| ϕ cal0 | 71.19 | 71.22 | 71.25 | 71.28 | 71.31 | 71.35 | 71.38 |
| ϕ cal100 | 42.88 | 42.71 | 42.54 | 42.37 | 42.20 | 42.04 | 41.87 |

| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| ϕ cal0 | 71.41 | 71.44 | 71.47 | 71.50 | 71.54 | 71.57 | 71.60 |
| ϕ cal100 | 41.70 | 41.53 | 41.36 | 41.20 | 41.03 | 40.86 | 40.69 |

| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| ϕ cal0 | 71.63 | 71.66 | 71.69 | 71.73 | 71.76 | 71.79 | 71.82 |
| ϕ cal100 | 40.52 | 40.36 | 40.19 | 40.02 | 39.85 | 39.68 | 39.52 |

DO sensor properties

| | |
|----------------------------------|---|
| Dynamic range | 0 - 100 % air saturation (a.s.) |
| Resolution | Up to 0.1 % O ₂ (software) |
| Accuracy | ± 5% dissolved oxygen (batch calibration) |
| Drift at 0% oxygen | < 0.5% O ₂ per day (sampling interval of 6 min) |
| Response time (t ₉₀) | < 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 m2p-A 210250001 (at least stable for 7 days with CertiPUR-buffer) DO sensors are light-sensitive; please protect them from direct light! |

DO calibration

| | |
|--------------------------|---|
| Calibration | 0.5 M Sulfite system (Two-point calibration with oxygen-free environment (sodium sulfite) and air-saturated environment) |
| Settings | BioLector protocol = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH3) |
| Calibration device | Hardware ID: BL-09-000F-0032 |
| Calibration phase offset | DO -360.44 (DO Ser. 4302-RD, gain 4) |
| Date of calibration | 2021-06-18 |

Sterilization procedure

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|-----------------------|---------------------------|
| Sterilization | Beta irradiation (20 kGy) |
| BGS-certificate No | 899513 |
| Date of sterilization | 2021-05-26 |

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