

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

pH calibration parameters Lot No.2102211 and 2102217 (BioLector® Pro, filter module ID-221/-421)

| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min | 68.92 | 68.84 | 68.75 | 68.67 | 68.59 | 68.51 | 68.43 |
| φ max | 14.04 | 13.98 | 13.93 | 13.88 | 13.83 | 13.78 | 13.73 |
| dpH | 0.85 | 0.85 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| pH ₀ | 6.59 | 6.58 | 6.57 | 6.56 | 6.55 | 6.54 | 6.52 |

| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min | 68.34 | 68.26 | 68.18 | 68.10 | 68.02 | 67.93 | 67.85 |
| φ max | 13.68 | 13.63 | 13.57 | 13.52 | 13.47 | 13.42 | 13.37 |
| dpH | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.82 | 0.82 |
| pH ₀ | 6.51 | 6.50 | 6.49 | 6.48 | 6.47 | 6.46 | 6.45 |

| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min | 67.77 | 67.69 | 67.61 | 67.52 | 67.44 | 67.36 | 67.28 |
| φ max | 13.32 | 13.27 | 13.22 | 13.16 | 13.11 | 13.06 | 13.01 |
| dpH | 0.82 | 0.82 | 0.82 | 0.82 | 0.81 | 0.81 | 0.81 |
| pH ₀ | 6.44 | 6.43 | 6.42 | 6.40 | 6.39 | 6.38 | 6.37 |

pH sensor properties

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|---------------------|---|
| Dynamic range | pH 3.80 - 8.70 |
| Resolution | Up to 0.01 pH (software) |
| Accuracy | ± 0.25 pH at pH 4.65-5.20; ± 0.1 pH at pH 5.20-7.35; ± 0.25 pH at pH 7.35-7.90 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 1939-01_2 (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 = LG1-RF-calibration, 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: BL-09-000F-0032 |
| Calibration phase offset | pH -360.15 (pH Ser. 3305, gain 8) |
| Date of calibration | 2021-03-16 |

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DO calibration parameters Lot No.2102211 and 2102217 (BioLector® Pro, filter module ID-228/-428)

| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| ϕ cal0 | 71.61 | 71.59 | 71.58 | 71.56 | 71.55 | 71.53 | 71.51 |
| ϕ cal100 | 42.25 | 42.05 | 41.84 | 41.64 | 41.43 | 41.22 | 41.02 |

| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| ϕ cal0 | 71.50 | 71.48 | 71.47 | 71.45 | 71.44 | 71.42 | 71.40 |
| ϕ cal100 | 40.81 | 40.61 | 40.40 | 40.19 | 39.99 | 39.78 | 39.58 |

| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| ϕ cal0 | 71.39 | 71.37 | 71.36 | 71.34 | 71.33 | 71.31 | 71.30 |
| ϕ cal100 | 39.37 | 39.17 | 38.96 | 38.75 | 38.55 | 38.34 | 38.14 |

DO sensor properties

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|----------------------------------|---|
| 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 RF-204150648 (at least stable for 7 days with CertiPUR-buffer) DO sensors are light-sensitive; please protect them from direct light! |

DO calibration

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|--------------------------|---|
| Calibration | 0.5 M Sulfite system (Two-point calibration with oxygen-free environment (sodium sulfite) and air-saturated environment) |
| Settings | BioLector protocol = LG1-RF-calibration, 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: BL-09-000F-0032 |
| Calibration phase offset | DO -360.44 (DO Ser. 4302-RD, gain 4) |
| Date of calibration | 2021-03-16 |

Sterilization procedure

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|-----------------------|---------------------------|
| Sterilization | Beta irradiation (20 kGy) |
| BGS-certificate No | 867189 |
| Date of sterilization | 2021-03-03 |

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