

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

pH calibration parameters Lot No. 2003301 (BioLector® II/Pro, filter module ID-424)

| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| φ min | 69.57 | 69.62 | 69.67 | 69.72 | 69.77 | 69.82 | 69.87 |
| φ max | 17.61 | 17.65 | 17.68 | 17.72 | 17.76 | 17.79 | 17.83 |
| dpH | -0.39 | -0.39 | -0.39 | -0.39 | -0.39 | -0.39 | -0.39 |
| pH ₀ | 5.23 | 5.23 | 5.22 | 5.22 | 5.21 | 5.21 | 5.20 |
| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
| φ min | 69.92 | 69.97 | 70.02 | 70.07 | 70.11 | 70.16 | 70.21 |
| φ max | 17.87 | 17.90 | 17.94 | 17.98 | 18.01 | 18.05 | 18.09 |
| dpH | -0.38 | -0.38 | -0.38 | -0.38 | -0.38 | -0.38 | -0.38 |
| pH ₀ | 5.20 | 5.20 | 5.19 | 5.19 | 5.18 | 5.18 | 5.17 |
| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
| φ min | 70.26 | 70.31 | 70.36 | 70.41 | 70.46 | 70.51 | 70.56 |
| φ max | 18.12 | 18.16 | 18.20 | 18.23 | 18.27 | 18.31 | 18.35 |
| dpH | -0.38 | -0.38 | -0.38 | -0.38 | -0.38 | -0.38 | -0.38 |
| pH ₀ | 5.17 | 5.17 | 5.16 | 5.16 | 5.15 | 5.15 | 5.14 |

pH sensor properties

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|---------------------|---|
| Dynamic range | pH 3.60 - 6.35 |
| Resolution | Up to 0.01 pH (software) |
| Accuracy | ± 0.25 pH at pH 3.90 - 4.10; ± 0.1 pH at pH 4.10 – 5.85; ± 0.25 pH at pH 5.85 - 6.05 (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 | 15 °C to 40 °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); |
| Basic material | pH sensor pH51-192050137 (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 = FlowerPlate (MTP-48-BOH3) |
| Calibration device | Hardware ID: BL-02-000F-0032 |
| Calibration phase offset | pH -360.68 (pH Ser. 3289-RD, gain 6) |
| Date of calibration | 2020/03/31 |

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DO calibration parameters Lot No. 2003301 (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 | 71.04 | 71.02 | 70.99 | 70.97 | 70.95 | 70.93 | 70.91 |
| ϕ cal100 | 42.89 | 42.69 | 42.48 | 42.27 | 42.07 | 41.86 | 41.65 |
| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
| ϕ cal0 | 70.88 | 70.86 | 70.84 | 70.82 | 70.79 | 70.77 | 70.75 |
| ϕ cal100 | 41.44 | 41.24 | 41.03 | 40.82 | 40.62 | 40.41 | 40.20 |
| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
| ϕ cal0 | 70.73 | 70.71 | 70.68 | 70.66 | 70.64 | 70.62 | 70.59 |
| ϕ cal100 | 39.99 | 39.79 | 39.58 | 39.37 | 39.16 | 38.96 | 38.75 |

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 (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-m2p-A 192050140 (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 = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-48-BOH3) |
| Calibration device | Hardware ID: BL-02-000F-0032 |
| Calibration phase offset | DO -360.67 (DO Ser.4170-RD, gain 4) |
| Date of calibration | 2020/03/31 |

Sterilization procedure

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|-----------------------|---------------------------|
| Sterilization | Beta irradiation (20 kGy) |
| BGS-certificate No | 738725 |
| Date of sterilization | 2020/03/10 |

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