

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

pH calibration parameters Lot No. 1830 (BioLector® II/Pro, filter module ID-221)

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|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
| ϕ min | 68.17 | 68.05 | 67.94 | 67.82 | 67.71 | 67.59 | 67.48 |
| ϕ max | 13.39 | 13.29 | 13.19 | 13.09 | 12.98 | 12.88 | 12.78 |
| dpH | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.75 | 0.75 |
| pH ₀ | 6.35 | 6.34 | 6.33 | 6.32 | 6.32 | 6.31 | 6.30 |
| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
| ϕ min | 67.36 | 67.25 | 67.13 | 67.02 | 66.90 | 66.79 | 66.67 |
| ϕ max | 12.67 | 12.57 | 12.47 | 12.37 | 12.26 | 12.16 | 12.06 |
| dpH | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 |
| pH ₀ | 6.29 | 6.28 | 6.27 | 6.27 | 6.26 | 6.25 | 6.24 |
| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
| ϕ min | 66.56 | 66.44 | 66.33 | 66.21 | 66.10 | 65.98 | 65.87 |
| ϕ max | 11.96 | 11.85 | 11.75 | 11.65 | 11.55 | 11.44 | 11.34 |
| dpH | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 |
| pH ₀ | 6.23 | 6.23 | 6.22 | 6.21 | 6.20 | 6.19 | 6.18 |

pH sensor properties

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|---------------------|---|
| Dynamic range | pH 3.10 – 8.9 |
| Resolution | Up to 0.01 pH (software) |
| Accuracy | ± 0.25 pH at pH 3.85 – 4.80; ± 0.1 pH at pH 4.80 – 7.15; ± 0.25 pH at pH 7.15 – 8.10 (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 LG1-1737-01 (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 3.00 ± 0.01 / pH 4.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Na-Phosphate buffer (16 solutions) |
| Settings | BioLector protocol = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic FlowerPlate (MTP-MF32-BOH2) |
| Calibration device | Hardware ID: BL-09-000F-0032 |
| Calibration phase offset | pH -360.31 (pH Ser.3188-RD, gain 8) |
| Date of calibration | 2018/08/14 |

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

DO calibration parameters Lot No. 1830 (BioLector® II/Pro, filter module ID-228)

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|-------------|-------|-------|-------|-------|-------|-------|-------|
| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
| ϕ cal0 | 67.87 | 67.84 | 67.81 | 67.79 | 67.76 | 67.73 | 67.71 |
| ϕ cal100 | 43.60 | 43.39 | 43.18 | 42.97 | 42.76 | 42.56 | 42.35 |
| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
| ϕ cal0 | 67.68 | 67.65 | 67.62 | 67.60 | 67.57 | 67.54 | 67.51 |
| ϕ cal100 | 42.14 | 41.93 | 41.72 | 41.51 | 41.30 | 41.09 | 40.88 |
| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
| ϕ cal0 | 67.49 | 67.46 | 67.43 | 67.41 | 67.38 | 67.35 | 67.32 |
| ϕ cal100 | 40.67 | 40.46 | 40.25 | 40.04 | 39.84 | 39.63 | 39.42 |

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 Redflash-03/2018 (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 = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-MF32-BOH2) |
| Calibration device | Hardware ID: BL-0-000F-0032 |
| Calibration phase offset | DO -360.39 (DO Ser.4170-RD, gain 4) |
| Date of calibration | 2018/08/14 |

Sterilization procedure

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|-----------------------|---------------------------|
| Sterilization | Beta irradiation (20 kGy) |
| BGS-certificate No | 530657 |
| Date of sterilization | 2018/08/03 |

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