

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

pH calibration parameters Lot No. 1845 (BioLector® II/Pro, filter module ID-202)

| | | | | | | | |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
| ϕ min | 62.78 | 62.75 | 62.71 | 62.68 | 62.64 | 62.61 | 62.57 |
| ϕ max | 12.00 | 12.00 | 11.99 | 11.98 | 11.98 | 11.97 | 11.96 |
| dpH | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 |
| pH ₀ | 6.17 | 6.16 | 6.16 | 6.16 | 6.15 | 6.15 | 6.15 |
| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
| ϕ min | 62.53 | 62.50 | 62.46 | 62.43 | 62.39 | 62.35 | 62.32 |
| ϕ max | 11.96 | 11.95 | 11.94 | 11.94 | 11.93 | 11.92 | 11.92 |
| dpH | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 |
| pH ₀ | 6.14 | 6.14 | 6.13 | 6.13 | 6.13 | 6.12 | 6.12 |
| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
| ϕ min | 62.28 | 62.25 | 62.21 | 62.18 | 62.14 | 62.10 | 62.07 |
| ϕ max | 11.91 | 11.90 | 11.90 | 11.89 | 11.88 | 11.88 | 11.87 |
| dpH | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 |
| pH ₀ | 6.12 | 6.11 | 6.11 | 6.11 | 6.10 | 6.10 | 6.10 |

pH sensor properties

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|---------------------|---|
| Dynamic range | pH 3.60 - 8.35 |
| Resolution | Up to 0.01 pH (software) |
| Accuracy | ± 0.25 pH at pH 4.00 - 4.50; ± 0.1 pH at pH 4.50 - 7.45; ± 0.25 pH at pH 7.45 - 7.95 (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 HP8-1803-01 (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 = FlowerPlate (MTP-48-BOH) |
| Calibration device | Hardware ID: BL-02-000F-0032 |
| Calibration phase offset | pH -1.40 (pH Ser.3111, gain 7) |
| Date of calibration | 2018/11/05 |

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

DO calibration parameters Lot No. 1845 (BioLector® II/Pro, filter module ID-203)

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|-------------|-------|-------|-------|-------|-------|-------|-------|
| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
| φ cal0 | 71.66 | 71.62 | 71.59 | 71.55 | 71.52 | 71.48 | 71.45 |
| φ cal100 | 43.37 | 43.26 | 43.16 | 43.05 | 42.95 | 42.84 | 42.73 |
| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
| φ cal0 | 71.41 | 71.38 | 71.34 | 71.31 | 71.27 | 71.24 | 71.20 |
| φ cal100 | 42.63 | 42.52 | 42.42 | 42.31 | 42.20 | 42.10 | 41.99 |
| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
| φ cal0 | 71.17 | 71.14 | 71.10 | 71.07 | 71.03 | 71.00 | 70.96 |
| φ cal100 | 41.89 | 41.78 | 41.67 | 41.57 | 41.46 | 41.36 | 41.25 |

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 Pst3-HG-1742-02 (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-48-BOH) |
| Calibration device | Hardware ID: BL-02-000F-0032 |
| Calibration phase offset | DO -360.25 (DO Ser.4103-hc, gain 7) |
| Date of calibration | 2018/11/05 |

Sterilization procedure

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|-----------------------|---------------------------|
| Sterilization | Beta irradiation (20 kGy) |
| BGS-certificate No | 558875 |
| Date of sterilization | 2018/10/29 |

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