

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

pH calibration parameters Lot No. 1835 (BioLector® II/Pro, filter module ID-202)

| | | | | | | | |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
| ϕ min | 62.41 | 62.35 | 62.30 | 62.25 | 62.20 | 62.14 | 62.09 |
| ϕ max | 11.75 | 11.76 | 11.76 | 11.77 | 11.77 | 11.77 | 11.78 |
| dpH | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 |
| pH ₀ | 6.32 | 6.32 | 6.31 | 6.30 | 6.29 | 6.29 | 6.28 |
| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
| ϕ min | 62.04 | 61.98 | 61.93 | 61.88 | 61.82 | 61.77 | 61.72 |
| ϕ max | 11.78 | 11.79 | 11.79 | 11.80 | 11.80 | 11.81 | 11.81 |
| dpH | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 |
| pH ₀ | 6.27 | 6.26 | 6.26 | 6.25 | 6.24 | 6.23 | 6.23 |
| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
| ϕ min | 61.67 | 61.61 | 61.56 | 61.51 | 61.45 | 61.40 | 61.35 |
| ϕ max | 11.82 | 11.82 | 11.82 | 11.83 | 11.83 | 11.84 | 11.84 |
| dpH | 0.53 | 0.53 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 |
| pH ₀ | 6.22 | 6.21 | 6.20 | 6.19 | 6.19 | 6.18 | 6.17 |

pH sensor properties

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|---------------------|---|
| Dynamic range | pH 3.75 - 8.40 |
| Resolution | Up to 0.01 pH (software) |
| Accuracy | ± 0.25 pH at pH 4.15 - 4.65; ± 0.1 pH at pH 4.65 - 7.50; ± 0.25 pH at pH 7.50 - 8.00 (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 | 2018/09/19 |

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

DO calibration parameters Lot No. 1835 (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 | 71.58 | 71.54 | 71.51 | 71.47 | 71.43 | 71.40 | 71.36 |
| ϕ cal100 | 43.76 | 43.58 | 43.39 | 43.21 | 43.03 | 42.85 | 42.66 |
| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
| ϕ cal0 | 71.32 | 71.29 | 71.25 | 71.21 | 71.18 | 71.14 | 71.10 |
| ϕ cal100 | 42.48 | 42.30 | 42.12 | 41.93 | 41.75 | 41.57 | 41.39 |
| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
| ϕ cal0 | 71.07 | 71.03 | 70.99 | 70.96 | 70.92 | 70.88 | 70.85 |
| ϕ cal100 | 41.20 | 41.02 | 40.84 | 40.66 | 40.47 | 40.29 | 40.11 |

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 | 2018/09/19 |

Sterilization procedure

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|-----------------------|---------------------------|
| Sterilization | Beta irradiation (20 kGy) |
| BGS-certificate No | 545116 |
| Date of sterilization | 2018/09/17 |

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