

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

pH calibration parameters Lot No. 2005313 (BioLector® Pro, filter module ID-424)

| | | | | | | | |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
| ϕ min | 68.46 | 68.50 | 68.54 | 68.58 | 68.62 | 68.66 | 68.70 |
| ϕ max | 15.58 | 15.61 | 15.63 | 15.65 | 15.67 | 15.70 | 15.72 |
| dpH | -0.39 | -0.39 | -0.39 | -0.39 | -0.38 | -0.38 | -0.38 |
| pH ₀ | 5.26 | 5.26 | 5.26 | 5.25 | 5.25 | 5.25 | 5.24 |
| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
| ϕ min | 68.74 | 68.78 | 68.82 | 68.86 | 68.90 | 68.94 | 68.98 |
| ϕ max | 15.74 | 15.76 | 15.78 | 15.81 | 15.83 | 15.85 | 15.87 |
| dpH | -0.38 | -0.38 | -0.38 | -0.38 | -0.38 | -0.38 | -0.38 |
| pH ₀ | 5.24 | 5.24 | 5.23 | 5.23 | 5.23 | 5.22 | 5.22 |
| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
| ϕ min | 69.02 | 69.06 | 69.10 | 69.14 | 69.18 | 69.22 | 69.26 |
| ϕ max | 15.90 | 15.92 | 15.94 | 15.96 | 15.99 | 16.01 | 16.03 |
| dpH | -0.38 | -0.38 | -0.38 | -0.38 | -0.38 | -0.38 | -0.37 |
| pH ₀ | 5.22 | 5.21 | 5.21 | 5.21 | 5.20 | 5.20 | 5.19 |

pH sensor properties

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|---------------------|---|
| Dynamic range | pH 3.75 – 6.45 |
| Resolution | Up to 0.01 pH (software) |
| Accuracy | ± 0.25 pH at pH 4.05 – 4.25; ± 0.1 pH at pH 4.25 – 6.00; ± 0.25 pH at pH 6.00 – 6.15 (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 pH51-194150151 (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 7.00 ± 0.01 / pH 8.00 ± 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 = Microfluidic Round Plate (MTP-RMF32-BOH3) |
| Calibration device | Hardware ID: BL-09-000F-0032 |
| Calibration phase offset | pH -360.68 (pH Ser. 3288, gain 6) |
| Date of calibration | 2020/05/12 |

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DO calibration parameters Lot No. 2005313 (BioLector® Pro, filter module ID-228/-428)

| | | | | | | | |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
| φ cal0 | 69.68 | 69.67 | 69.65 | 69.63 | 69.61 | 69.59 | 69.58 |
| φ cal100 | 41.90 | 41.71 | 41.53 | 41.34 | 41.15 | 40.96 | 40.77 |
| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
| φ cal0 | 69.56 | 69.54 | 69.52 | 69.50 | 69.49 | 69.47 | 69.45 |
| φ cal100 | 40.58 | 40.39 | 40.20 | 40.01 | 39.83 | 39.64 | 39.45 |
| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
| φ cal0 | 69.43 | 69.41 | 69.40 | 69.38 | 69.36 | 69.34 | 69.32 |
| φ cal100 | 39.26 | 39.07 | 38.88 | 38.69 | 38.50 | 38.31 | 38.12 |

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 192050162 (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 = Microfluidic Round Plate (MTP-RMF32-BOH3) |
| Calibration device | Hardware ID: BL-09-000F-0032 |
| Calibration phase offset | DO -360.67 (DO Ser.4302-RD, gain 4) |
| Date of calibration | 2020/05/20 |

Sterilization procedure

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|-----------------------|---------------------------|
| Sterilization | Beta irradiation (20 kGy) |
| BGS-certificate No | 754295 |
| Date of sterilization | 2020/04/20 |

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