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

## pH calibration parameters Lot No. 1905 (BioLector® II/Pro. filter module ID-221/421)

| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
|---|---|---|---|---|---|---|---|
| **ϕ min** | 64.83 | 64.82 | 64.81 | 64.79 | 64.78 | 64.77 | 64.75 |
| **ϕ max** | 6.71 | 6.70 | 6.68 | 6.67 | 6.65 | 6.63 | 6.62 |
| **dpH** | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 |
| **$pH_0$** | 5.80 | 5.80 | 5.79 | 5.79 | 5.79 | 5.78 | 5.78 |
| | | | | | | | |
| Temperature | **27°C** | **28°C** | **29°C** | **30°C** | **31°C** | **32°C** | **33°C** |
| **ϕ min** | 64.74 | 64.73 | 64.71 | 64.70 | 64.69 | 64.67 | 64.66 |
| **ϕ max** | 6.60 | 6.59 | 6.57 | 6.56 | 6.54 | 6.52 | 6.51 |
| **dpH** | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 |
| **$pH_0$** | 5.77 | 5.77 | 5.77 | 5.76 | 5.76 | 5.76 | 5.75 |
| | | | | | | | |
| Temperature | **34°C** | **35°C** | **36°C** | **37°C** | **38°C** | **39°C** | **40°C** |
| **ϕ min** | 64.65 | 64.63 | 64.62 | 64.61 | 64.59 | 64.58 | 64.56 |
| **ϕ max** | 6.49 | 6.48 | 6.46 | 6.45 | 6.43 | 6.41 | 6.40 |
| **dpH** | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 |
| **$pH_0$** | 5.75 | 5.75 | 5.74 | 5.74 | 5.74 | 5.73 | 5.73 |

## pH sensor properties

| | |
|---|---|
| Dynamic range | pH 3.10 - 7.95 |
| Resolution | Up to 0.01 pH (software) |
| Accuracy | ± 0.25 pH at pH 3.80 - 4.25; ± 0.1 pH at pH 4.25 – 6.80; ± 0.25 pH at pH 6.80 - 7.25 (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);<br>high concentration of fluorescent molecules in the visible range can interfere (GFP. (e)YFP);<br>complex media can cause a pH-shift (peptone. yeast extract) |
| Basic material | pH sensor LG1-v1-1816-01 (at least stable for 7 days with CertiPUR-buffer)<br>**pH sensors are light-sensitive; please protect them from direct light!** |

## pH calibration

| | |
|---|---|
| Buffer | CertiPUR Reference Material Buffer solutions Set<br>(pH 1.00 ± 0.01 / pH 2.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03. 20 °C);<br>150 mM Citrat-Na-Phosphate buffer (16 solutions) |
| Settings | BioLector protocol = LG1-RF-calibration. T = 20-40 °C. 800 rpm. 1000 µL/well.<br>shaking diameter 3 mm. MTP-type = Microfluidic FlowerPlate (MTP-RMF32-BOH2) |
| Calibration device | Hardware ID: BL-02-000F-0032 |
| Calibration phase offset | pH -360.31 (pH Ser.3188-RD. gain 8) |
| Date of calibration | 2019/02/18 |

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

## DO calibration parameters Lot No. 1905 (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** | 68.22 | 68.21 | 68.19 | 68.18 | 68.17 | 68.16 | 68.15 |
| **ϕ cal100** | 42.08 | 41.98 | 41.88 | 41.78 | 41.67 | 41.57 | 41.47 |
| Temperature | **27°C** | **28°C** | **29°C** | **30°C** | **31°C** | **32°C** | **33°C** |
| **ϕ cal0** | 68.14 | 68.12 | 68.11 | 68.10 | 68.09 | 68.08 | 68.06 |
| **ϕ cal100** | 41.37 | 41.27 | 41.16 | 41.06 | 40.96 | 40.86 | 40.75 |
| Temperature | **34°C** | **35°C** | **36°C** | **37°C** | **38°C** | **39°C** | **40°C** |
| **ϕ cal0** | 68.05 | 68.04 | 68.03 | 68.02 | 68.00 | 67.99 | 67.98 |
| **ϕ cal100** | 40.65 | 40.55 | 40.45 | 40.35 | 40.24 | 40.14 | 40.04 |

## DO sensor properties

| | |
|---|---|
| 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- 07/2018(at least stable for 7 days with CertiPUR-buffer) |
| | **DO sensors are light-sensitive; please protect them from direct light!** |

## DO calibration

| | |
|---|---|
| Calibration | 0.5 M Sulfite system (Two-point calibration with oxygen-free environment (sodium sulfite) and air-saturated environment) |
| Settings | BioLector protocol = LG1-RF-calibration. T = 20-40 °C. 800 rpm. 1000 µL/well. shaking diameter 3 mm. MTP-type = Microfluidic FlowerPlate (MTP-RMF32-BOH2) |
| Calibration device | Hardware ID: BL-02-000F-0032 |
| Calibration phase offset | DO -360.39 (DO Ser.4170-RD. gain 4) |
| Date of calibration | 2019/02/18 |

## Sterilization procedure

| | |
|---|---|
| Sterilization | Beta irradiation (20 kGy) |
| BGS-certificate No | 58719 |
| Date of sterilization | 2019/01/31 |

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