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

## pH calibration parameters Lot No. 1942 (BioLector® II/Pro, filter module ID-424)

| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
|---|---|---|---|---|---|---|---|
| **ϕ min** | 68.17 | 68.19 | 68.21 | 68.23 | 68.25 | 68.27 | 68.29 |
| **ϕ max** | 19.90 | 19.91 | 19.92 | 19.93 | 19.93 | 19.94 | 19.95 |
| **dpH** | -0.42 | -0.42 | -0.42 | -0.42 | -0.42 | -0.42 | -0.42 |
| **$pH_0$** | 5.16 | 5.16 | 5.16 | 5.16 | 5.16 | 5.16 | 5.16 |
| | | | | | | | |
| Temperature | **27°C** | **28°C** | **29°C** | **30°C** | **31°C** | **32°C** | **33°C** |
| **ϕ min** | 68.31 | 68.33 | 68.35 | 68.37 | 68.38 | 68.40 | 68.42 |
| **ϕ max** | 19.96 | 19.97 | 19.97 | 19.98 | 19.99 | 20.00 | 20.01 |
| **dpH** | -0.42 | -0.42 | -0.42 | -0.42 | -0.42 | -0.42 | -0.42 |
| **$pH_0$** | 5.16 | 5.16 | 5.15 | 5.15 | 5.15 | 5.15 | 5.15 |
| | | | | | | | |
| Temperature | **34°C** | **35°C** | **36°C** | **37°C** | **38°C** | **39°C** | **40°C** |
| **ϕ min** | 68.44 | 68.46 | 68.48 | 68.50 | 68.52 | 68.54 | 68.56 |
| **ϕ max** | 20.02 | 20.02 | 20.03 | 20.04 | 20.05 | 20.06 | 20.06 |
| **dpH** | -0.42 | -0.42 | -0.42 | -0.42 | -0.42 | -0.42 | -0.42 |
| **$pH_0$** | 5.15 | 5.15 | 5.15 | 5.14 | 5.14 | 5.14 | 5.14 |

## pH sensor properties

| | |
|---|---|
| Dynamic range | pH 3.40 - 6.45 |
| Resolution | Up to 0.01 pH (software) |
| Accuracy | ± 0.25 pH at pH 3.75 - 4.00; ± 0.1 pH at pH 4.00 – 5.85; ± 0.25 pH at pH 5.85 - 6.05 (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 pH51-192050130 (at least stable for 7 days with CertiPUR-buffer) **pH sensors are light-sensitive; please protect them from direct light!** |

## pH calibration

| | |
|---|---|
| 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 = FlowerPlate (MTP-48-BOH3) |
| Calibration device | Hardware ID: BL-02-000F-0032 |
| Calibration phase offset | pH -360.68 (pH Ser. 3289-RD, gain 6) |
| Date of calibration | 2019/10/17 |

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

## DO calibration parameters Lot No. 1942 (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** | 68.03 | 68.01 | 68.00 | 67.98 | 67.96 | 67.94 | 67.93 |
| **ϕ cal100** | 42.77 | 42.64 | 42.51 | 42.38 | 42.25 | 42.12 | 41.99 |
| Temperature | **27°C** | **28°C** | **29°C** | **30°C** | **31°C** | **32°C** | **33°C** |
| **ϕ cal0** | 67.91 | 67.89 | 67.87 | 67.86 | 67.84 | 67.82 | 67.80 |
| **ϕ cal100** | 41.87 | 41.74 | 41.61 | 41.48 | 41.35 | 41.22 | 41.09 |
| Temperature | **34°C** | **35°C** | **36°C** | **37°C** | **38°C** | **39°C** | **40°C** |
| **ϕ cal0** | 67.79 | 67.77 | 67.75 | 67.73 | 67.72 | 67.70 | 67.68 |
| **ϕ cal100** | 40.97 | 40.84 | 40.71 | 40.58 | 40.45 | 40.32 | 40.19 |

## 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-12/2018 (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 = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-48-BOH3) |
| Calibration device | Hardware ID: BL-02-000F-0032 |
| Calibration phase offset | DO -360.39 (DO Ser.4170-RD, gain 4) |
| Date of calibration | 2019/10/17 |

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## Sterilization procedure

| | |
|---|---|
| Sterilization | Beta irradiation (20 kGy) |
| BGS-certificate No | 671293 |
| Date of sterilization | 2019/09/10 |

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