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

## pH calibration parameters Lot No. 1824 (BioLector® II/Pro, filter module ID-202)

| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
|---|---|---|---|---|---|---|---|
| **ϕ min** | 64.51 | 64.45 | 64.39 | 64.34 | 64.28 | 64.22 | 64.16 |
| **ϕ max** | 17.08 | 17.08 | 17.08 | 17.07 | 17.07 | 17.07 | 17.07 |
| **dpH** | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 |
| **$pH_0$** | 6.55 | 6.54 | 6.54 | 6.53 | 6.52 | 6.51 | 6.50 |
| | | | | | | | |
| Temperature | **27°C** | **28°C** | **29°C** | **30°C** | **31°C** | **32°C** | **33°C** |
| **ϕ min** | 64.10 | 64.05 | 63.99 | 63.93 | 63.87 | 63.81 | 63.75 |
| **ϕ max** | 17.07 | 17.06 | 17.06 | 17.06 | 17.06 | 17.05 | 17.05 |
| **dpH** | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 |
| **$pH_0$** | 6.50 | 6.49 | 6.48 | 6.47 | 6.46 | 6.45 | 6.45 |
| | | | | | | | |
| Temperature | **34°C** | **35°C** | **36°C** | **37°C** | **38°C** | **39°C** | **40°C** |
| **ϕ min** | 63.70 | 63.64 | 63.58 | 63.52 | 63.46 | 63.40 | 63.35 |
| **ϕ max** | 17.05 | 17.05 | 17.04 | 17.04 | 17.04 | 17.04 | 17.03 |
| **dpH** | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 |
| **$pH_0$** | 6.44 | 6.43 | 6.42 | 6.41 | 6.41 | 6.40 | 6.39 |

## pH sensor properties

| | |
|---|---|
| Dynamic range | pH 3.90 - 8.55 |
| Resolution | Up to 0.01 pH (software) |
| Accuracy | ± 0.25 pH at pH 4.35 - 4.95; ± 0.1 pH at pH 4.95 – 7.55; ± 0.25 pH at pH 7.55 - 8.10 (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 HP8-1427-02_4 (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 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-hc, gain 7) |
| Date of calibration | 2018/07/17 |

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

## DO calibration parameters Lot No. 1824 (BioLector® II/Pro, filter module ID-203)

| Temperature | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C |
|---|---|---|---|---|---|---|---|
| **ϕ cal0** | 71.84 | 71.81 | 71.78 | 71.75 | 71.72 | 71.69 | 71.66 |
| **ϕ cal100** | 44.69 | 44.49 | 44.29 | 44.09 | 43.90 | 43.70 | 43.50 |
| Temperature | 27°C | 28°C | 29°C | 30°C | 31°C | 32°C | 33°C |
| **ϕ cal0** | 71.63 | 71.60 | 71.57 | 71.54 | 71.51 | 71.48 | 71.45 |
| **ϕ cal100** | 43.31 | 43.11 | 42.91 | 42.71 | 42.52 | 42.32 | 42.12 |
| Temperature | 34°C | 35°C | 36°C | 37°C | 38°C | 39°C | 40°C |
| **ϕ cal0** | 71.42 | 71.39 | 71.36 | 71.33 | 71.30 | 71.27 | 71.24 |
| **ϕ cal100** | 41.93 | 41.73 | 41.53 | 41.33 | 41.14 | 40.94 | 40.74 |

## 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 PSt3-HG-1742-01 (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 = 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 | 2018/07/17 |

## Sterilization procedure

| | |
|---|---|
| Sterilization | Beta irradiation (20 kGy) |
| BGS-certificate No | 518342 |
| Date of sterilization | 2018/07/01 |

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