

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

pH calibration parameters Lot No. 1914 (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	65.14	65.10	65.05	65.01	64.96	64.92	64.87
ϕ max	7.20	7.17	7.14	7.11	7.08	7.05	7.02
dpH	0.71	0.71	0.71	0.71	0.71	0.71	0.71
pH ₀	5.83	5.83	5.83	5.82	5.82	5.81	5.81
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	64.83	64.79	64.74	64.70	64.65	64.61	64.57
ϕ max	6.99	6.96	6.93	6.90	6.87	6.84	6.81
dpH	0.71	0.71	0.71	0.71	0.71	0.71	0.71
pH ₀	5.81	5.80	5.80	5.80	5.79	5.79	5.79
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	64.52	64.48	64.43	64.39	64.34	64.30	64.26
ϕ max	6.78	6.75	6.72	6.69	6.66	6.63	6.60
dpH	0.71	0.71	0.71	0.71	0.71	0.71	0.71
pH ₀	5.78	5.78	5.78	5.77	5.77	5.77	5.76

pH sensor properties

Dynamic range	pH 3.20 - 7.90
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 3.90 - 4.30; ± 0.1 pH at pH 4.30 - 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); 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 LG1-v1-1816-01 (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 1.00 ± 0.01 / pH 2.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = LG1-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Round Well Plate (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	2019/03/14

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DO calibration parameters Lot No. 1914 (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	67.91	67.90	67.88	67.87	67.86	67.85	67.83
φ cal100	42.46	42.34	42.22	42.10	41.98	41.86	41.74
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	67.82	67.81	67.79	67.78	67.77	67.75	67.74
φ cal100	41.62	41.50	41.38	41.26	41.14	41.02	40.90
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	67.73	67.71	67.70	67.69	67.68	67.66	67.65
φ cal100	40.78	40.66	40.54	40.42	40.30	40.18	40.06

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 Round Well Plate (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	2019/03/14

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	598020
Date of sterilization	2019/02/21

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