

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

pH calibration parameters Lot No. 1936 (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	64.91	64.87	64.84	64.81	64.78	64.74	64.71
ϕ max	6.57	6.55	6.53	6.50	6.48	6.46	6.44
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH ₀	5.87	5.87	5.86	5.86	5.85	5.85	5.84
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	64.68	64.65	64.61	64.58	64.55	64.52	64.48
ϕ max	6.41	6.39	6.37	6.34	6.32	6.30	6.27
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH ₀	5.84	5.84	5.83	5.83	5.82	5.82	5.82
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	64.45	64.42	64.39	64.35	64.32	64.29	64.26
ϕ max	6.25	6.23	6.20	6.18	6.16	6.14	6.11
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH ₀	5.81	5.81	5.80	5.80	5.79	5.79	5.79

pH sensor properties

Dynamic range	pH 3.45 - 7.95
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.10 - 4.50; ± 0.1 pH at pH 4.50 - 6.85; ± 0.25 pH at pH 6.85 - 7.30 (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 LG1-1816-01 (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 FlowerPlate (MTP-MF32-BOH2)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -360.31 (pH Ser.3188-RD, gain 8)
Date of calibration	2019/08/28

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DO calibration parameters Lot No. 1936 (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	68.34	68.32	68.30	68.28	68.26	68.24	68.22
ϕ cal100	42.20	42.09	41.98	41.87	41.76	41.64	41.53
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	68.20	68.18	68.16	68.14	68.12	68.10	68.08
ϕ cal100	41.42	41.31	41.20	41.09	40.98	40.87	40.75
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	68.06	68.04	68.02	68.00	67.98	67.96	67.94
ϕ cal100	40.64	40.53	40.42	40.31	40.20	40.09	39.97

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 = LG1-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic FlowerPlate (MTP-MF32-BOH2)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.39 (DO Ser.4170-RD, gain 4)
Date of calibration	2019/08/28

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	658230
Date of sterilization	2019/08/05

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