

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

pH calibration parameters Lot No. 1837 (BioLector® II/Pro, filter module ID-221)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	69.04	68.92	68.80	68.67	68.55	68.43	68.31
φ max	12.11	12.01	11.91	11.80	11.70	11.60	11.50
dpH	0.74	0.74	0.74	0.74	0.74	0.74	0.74
pH ₀	6.26	6.25	6.25	6.24	6.23	6.22	6.22
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	68.19	68.07	67.95	67.83	67.71	67.59	67.46
φ max	11.39	11.29	11.19	11.09	10.98	10.88	10.78
dpH	0.74	0.74	0.74	0.74	0.74	0.74	0.74
pH ₀	6.21	6.20	6.19	6.18	6.18	6.17	6.16
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	67.34	67.22	67.10	66.98	66.86	66.74	66.62
φ max	10.68	10.58	10.47	10.37	10.27	10.17	10.06
dpH	0.74	0.74	0.74	0.74	0.74	0.74	0.74
pH ₀	6.15	6.14	6.14	6.13	6.12	6.11	6.10

pH sensor properties

Dynamic range	pH 2.10 - 8.80
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 3.30 - 4.70; ± 0.1 pH at pH 4.70 - 6.75; ± 0.25 pH at pH 6.75 - 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 LG1-1737-01 (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 = RoundWellPlate (MTP-R48-BOH2)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -360.31 (pH Ser.3188-RD, gain 8)
Date of calibration	2018/09/27

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DO calibration parameters Lot No. 1837 (BioLector® II/Pro, filter module ID-228)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	68.27	68.25	68.23	68.21	68.19	68.17	68.15
ϕ cal100	42.61	42.40	42.20	42.00	41.80	41.60	41.39
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	68.13	68.11	68.09	68.07	68.05	68.03	68.01
ϕ cal100	41.19	40.99	40.79	40.59	40.38	40.18	39.98
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	67.99	67.97	67.95	67.93	67.91	67.89	67.87
ϕ cal100	39.78	39.58	39.37	39.17	38.97	38.77	38.57

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 = RoundWellPlate (MTP-R48-BOH2)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.39 (DO Ser.4170-RD, gain 4)
Date of calibration	2018/09/27

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	545116
Date of sterilization	2018/09/17

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