

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

pH calibration parameters Lot No. 2006201 (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	68.65	68.60	68.54	68.49	68.43	68.38	68.33
ϕ max	10.69	10.64	10.58	10.53	10.47	10.42	10.37
dpH	0.66	0.66	0.66	0.66	0.66	0.66	0.66
pH ₀	6.13	6.12	6.11	6.10	6.09	6.07	6.06
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	68.27	68.22	68.17	68.11	68.06	68.01	67.95
ϕ max	10.31	10.26	10.20	10.15	10.09	10.04	9.99
dpH	0.66	0.66	0.66	0.66	0.66	0.66	0.66
pH ₀	6.05	6.04	6.03	6.02	6.01	6.00	5.99
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	67.90	67.85	67.79	67.74	67.69	67.63	67.58
ϕ max	9.93	9.88	9.82	9.77	9.71	9.66	9.61
dpH	0.66	0.66	0.66	0.66	0.66	0.66	0.66
pH ₀	5.98	5.97	5.96	5.95	5.94	5.93	5.92

pH sensor properties

Dynamic range	pH 3.85 – 7.95
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.40 – 4.80; ± 0.1 pH at pH 4.80 – 7.00; ± 0.25 pH at pH 7.00 – 7.35 (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 LG1-1840-01 (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 2.00 ± 0.01 / pH 3.00 ± 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 = Flower Plate (MTP-48-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.20 (pH Ser. 3305, gain 8)
Date of calibration	2020/06/08

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DO calibration parameters Lot No. 2006201 (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	71.14	71.12	71.11	71.10	71.08	71.07	71.06
ϕ cal100	43.39	43.19	43.00	42.80	42.60	42.41	42.21
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.04	71.03	71.01	71.00	70.99	70.97	70.96
ϕ cal100	42.02	41.82	41.63	41.43	41.23	41.04	40.84
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	70.94	70.93	70.92	70.90	70.89	70.88	70.86
ϕ cal100	40.65	40.45	40.26	40.06	39.87	39.67	39.47

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 (t ₉₀)	< 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-m2p-A 194150163 (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 = Flower Plate (MTP-48-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.50 (DO Ser.4302-RD, gain 4)
Date of calibration	2020/06/08

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	766620
Date of sterilization	2020/05/25

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