

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

pH calibration parameters Lot No. 2011201 and 2011291 (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	68.55	68.48	68.41	68.34	68.26	68.19	68.12
φ max	11.86	11.81	11.75	11.70	11.64	11.59	11.54
dpH	0.75	0.74	0.74	0.74	0.74	0.74	0.74
pH ₀	6.27	6.26	6.25	6.24	6.23	6.22	6.21
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	68.05	67.98	67.91	67.83	67.76	67.69	67.62
φ max	11.48	11.43	11.37	11.32	11.26	11.21	11.15
dpH	0.74	0.74	0.74	0.74	0.74	0.74	0.74
pH ₀	6.20	6.19	6.18	6.17	6.16	6.15	6.14
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	67.55	67.48	67.40	67.33	67.26	67.19	67.12
φ max	11.10	11.05	10.99	10.94	10.88	10.83	10.77
dpH	0.74	0.73	0.73	0.73	0.73	0.73	0.73
pH ₀	6.13	6.12	6.10	6.09	6.08	6.07	6.06

pH sensor properties

Dynamic range	pH 3.75 - 8.20
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.45 - 4.85; ± 0.1 pH at pH 4.85 – 7.10; ± 0.25 pH at pH 7.10 - 7.55 (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_2 (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 -360.15 (pH Ser. 3305, gain 8)
Date of calibration	2020/12/01

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DO calibration parameters Lot No. 2011201 (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	70.32	70.31	70.30	70.28	70.27	70.25	70.24
φ cal100	42.30	42.11	41.91	41.72	41.53	41.33	41.14
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	70.22	70.21	70.19	70.18	70.16	70.15	70.14
φ cal100	40.95	40.75	40.56	40.37	40.17	39.98	39.79
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	70.12	70.11	70.09	70.08	70.06	70.05	70.03
φ cal100	39.59	39.40	39.20	39.01	38.82	38.62	38.43

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 202850573 (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 (MTP-48-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser.4302-RD, gain 4)
Date of calibration	2020/12/01

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	829779
Date of sterilization	2020/11/23

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