

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

pH calibration parameters Lot No. 2007101 (BioLector® I, filter module ID-102/-302)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	56.94	56.86	56.78	56.69	56.61	56.53	56.45
φ max	11.38	11.38	11.38	11.38	11.38	11.38	11.38
dpH	0.53	0.53	0.54	0.54	0.54	0.54	0.54
pH ₀	6.24	6.23	6.22	6.22	6.21	6.21	6.20
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	56.37	56.29	56.21	56.12	56.04	55.96	55.88
φ max	11.38	11.38	11.38	11.37	11.37	11.37	11.37
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.19	6.19	6.18	6.18	6.17	6.17	6.16
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	55.80	55.72	55.64	55.55	55.47	55.39	55.31
φ max	11.37	11.37	11.37	11.37	11.37	11.37	11.37
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.15	6.15	6.14	6.14	6.13	6.12	6.12

pH sensor properties

Dynamic range	pH 4.30 – 7.70
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.80 – 5.10; ± 0.1 pH at pH 5.10 – 6.95; ± 0.25 pH at pH 6.95 – 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 HP8-1811-01_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 3.00 ± 0.01 / pH 4.00 ± 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 = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: BL092-CX-4A7394
Calibration phase offset	pH 255.90 (pH Ser. 3403, gain 55)
Date of calibration	2020/08/06

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DO calibration parameters Lot No. 2007101 (BioLector® I, filter module ID-103/-303)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.66	72.63	72.60	72.57	72.54	72.51	72.48
φ cal100	44.07	43.86	43.65	43.45	43.24	43.03	42.82
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.45	72.43	72.40	72.37	72.34	72.31	72.28
φ cal100	42.62	42.41	42.20	41.99	41.78	41.58	41.37
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	72.25	72.22	72.19	72.16	72.13	72.10	72.07
φ cal100	41.16	40.95	40.75	40.54	40.33	40.12	39.91

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.5 % 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 PSt3-HG-1810-01_2 (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 = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: BL092-CX-4A7394
Calibration phase offset	332.50 (DO Ser.3402, gain 70)
Date of calibration	2020/08/06

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	787233
Date of sterilization	2020/07/30

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