

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

pH calibration parameters Lot No. 2014107 (BioLector® I, filter module ID-102/-302)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	56.40	56.33	56.27	56.20	56.13	56.07	56.00
φ max	11.18	11.18	11.18	11.19	11.19	11.19	11.19
pH ₀	6.23	6.23	6.22	6.21	6.20	6.19	6.18
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.53
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	55.94	55.87	55.80	55.74	55.67	55.61	55.54
φ max	11.19	11.20	11.20	11.20	11.20	11.20	11.21
pH ₀	6.18	6.17	6.16	6.15	6.14	6.13	6.12
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	55.47	55.41	55.34	55.28	55.21	55.14	55.08
φ max	11.21	11.21	11.21	11.21	11.22	11.22	11.22
pH ₀	6.12	6.11	6.10	6.09	6.08	6.07	6.07
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53

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 - 5.15; ± 0.1 pH at pH 5.15 – 6.90; ± 0.25 pH at pH 6.90 - 7.20 (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_3 (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 = Round Plate (MTP-R48-BOH1)
Calibration device	Hardware ID: BL092-CX-4A7394
Calibration phase offset	pH 255.9 (pH Ser. 3403, gain 55)
Date of calibration	2021/01/19

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DO calibration parameters Lot No. 2014107 (BioLector® I, filter module ID-103/-303)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.48	72.45	72.42	72.39	72.36	72.33	72.30
φ cal100	43.56	43.33	43.10	42.88	42.65	42.42	42.19
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.27	72.24	72.21	72.18	72.15	72.12	72.09
φ cal100	41.96	41.73	41.51	41.28	41.05	40.82	40.59
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	72.06	72.03	72.00	71.97	71.94	71.91	71.88
φ cal100	40.37	40.14	39.91	39.68	39.45	39.22	39.00

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_3 (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 = Round Plate (MTP-R48-BOH1)
Calibration device	Hardware ID: BL092-CX-4A7394
Calibration phase offset	DO 332.5 (DO Ser.3402, gain 70)
Date of calibration	2021/01/19

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	845636
Date of sterilization	2021/01/11

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