

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

pH calibration parameters Lot No. 2012101 and 2012107 (BioLector® I, filter module ID-102/-302)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	56.55	56.47	56.40	56.32	56.24	56.17	56.09
ϕ max	11.58	11.58	11.59	11.59	11.60	11.60	11.61
pH ₀	6.29	6.28	6.27	6.27	6.26	6.25	6.24
dpH	0.56	0.56	0.56	0.56	0.55	0.55	0.55
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	56.01	55.94	55.86	55.78	55.71	55.63	55.55
ϕ max	11.61	11.62	11.62	11.63	11.64	11.64	11.65
pH ₀	6.23	6.23	6.22	6.21	6.20	6.19	6.19
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	55.48	55.40	55.32	55.25	55.17	55.09	55.02
ϕ max	11.65	11.66	11.66	11.67	11.67	11.68	11.68
pH ₀	6.18	6.17	6.16	6.15	6.15	6.14	6.13
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55

pH sensor properties

Dynamic range	pH 4.35 - 7.70
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.85 - 5.20; ± 0.1 pH at pH 5.20 – 6.90; ± 0.25 pH at pH 6.90 - 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_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 = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: BL092-CX-4A7394
Calibration phase offset	pH 255.9 (pH Ser. 3403, gain 55)
Date of calibration	2021/01/05

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DO calibration parameters Lot No. 2012101 and 2012107 (BioLector® I, filter module ID-103/-303)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	70.69	70.68	70.68	70.67	70.66	70.65	70.65
φ cal100	41.40	41.21	41.01	40.82	40.62	40.43	40.24
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	70.64	70.63	70.63	70.62	70.61	70.61	70.60
φ cal100	40.04	39.85	39.65	39.46	39.26	39.07	38.87
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	70.59	70.59	70.58	70.57	70.56	70.56	70.55
φ cal100	38.68	38.49	38.29	38.10	37.90	37.71	37.51

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 = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: BL092-CX-4A7394
Calibration phase offset	DO 332.5 (DO Ser.3402, gain 70)
Date of calibration	2021/01/05

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	840289
Date of sterilization	2020/12/17

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