

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

pH calibration parameters Lot No. 2003101 (BioLector® I, filter module ID-102/-302)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	56.57	56.5	56.43	56.37	56.3	56.23	56.16
φ max	11.12	11.12	11.12	11.12	11.12	11.11	11.11
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.22	6.21	6.20	6.20	6.19	6.18	6.17
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	56.09	56.03	55.96	55.89	55.82	55.75	55.69
φ max	11.11	11.11	11.11	11.10	11.10	11.10	11.10
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.16	6.16	6.15	6.14	6.13	6.13	6.12
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	55.62	55.55	55.48	55.41	55.35	55.28	55.21
φ max	11.10	11.10	11.09	11.09	11.09	11.09	11.09
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.11	6.10	6.09	6.09	6.08	6.07	6.06

pH sensor properties

Dynamic range	pH 4.30 - 7.77
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.80 - 5.10; ± 0.1 pH at pH 5.10 - 6.90; ± 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_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 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 = FlowerPlate (MTP-48-BOH1)
Calibration device	BioLector CX_110335 (BL092)
Calibration phase offset	pH 255.9 (pH Ser.3403, gain 55)
Date of calibration	2020/04/08

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DO calibration parameters Lot No. 2003101 (BioLector® I, filter module ID-103/303)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.53	72.49	72.45	72.41	72.37	72.33	72.29
ϕ cal100	43.70	43.49	43.28	43.07	42.85	42.64	42.43
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.25	72.21	72.17	72.13	72.09	72.05	72.01
ϕ cal100	42.22	42.01	41.79	41.58	41.37	41.16	40.94
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.96	71.92	71.88	71.84	71.8	71.76	71.72
ϕ cal100	40.73	40.52	40.31	40.10	39.88	39.67	39.46

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.5 % O ₂ (software)
Precision (CV)	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O ₂ per day (sampling interval of 6 min)
Response time (t90)	< 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 = FlowerPlate (MTP-48-BOH1)
Calibration device	BioLector CX_110335 (BL092)
Calibration phase offset	DO 332.5 (DO Ser.3402, gain 70)
Date of calibration	2020/04/08

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	738725
Date of sterilization	2020/03/10

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