

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

pH calibration parameters Lot No.2112101 (BioLector® I, filter module ID-102/-302)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	57.17	57.08	57.00	56.91	56.83	56.74	56.66
φ max	11.47	11.47	11.46	11.46	11.46	11.46	11.46
dpH	0.56	0.56	0.56	0.57	0.57	0.57	0.57
pH ₀	6.17	6.17	6.16	6.15	6.15	6.14	6.14

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	56.57	56.49	56.40	56.32	56.23	56.15	56.06
φ max	11.46	11.45	11.45	11.45	11.45	11.45	11.45
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pH ₀	6.13	6.13	6.12	6.11	6.11	6.10	6.10

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	55.98	55.89	55.81	55.72	55.64	55.55	55.47
φ max	11.44	11.44	11.44	11.44	11.44	11.44	11.43
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pH ₀	6.09	6.08	6.08	6.07	6.07	6.06	6.06

pH sensor properties

Dynamic range	pH 4.20 - 7.80
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.70-5.05; ± 0.1 pH at pH 5.05-6.90; ± 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_4 (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 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	2021-09-06

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DO calibration parameters Lot No.2112101 (BioLector® I, filter module ID-103/-303)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	73.26	73.21	73.17	73.12	73.07	73.03	72.98
ϕ cal100	43.80	43.58	43.36	43.14	42.92	42.70	42.48

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.93	72.89	72.84	72.79	72.74	72.70	72.65
ϕ cal100	42.27	42.05	41.83	41.61	41.39	41.17	40.96

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	72.60	72.56	72.51	72.46	72.42	72.37	72.32
ϕ cal100	40.74	40.52	40.30	40.08	39.86	39.64	39.43

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 332.50 (DO Ser. 3402, gain 70)
Date of calibration	2021-09-06

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	932566
Date of sterilization	2021-08-17

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