

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

pH calibration parameters Lot No.2106101 (BioLector® I, filter module ID-102/-302)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	57.00	56.91	56.83	56.74	56.66	56.57	56.49
φ max	11.33	11.33	11.33	11.33	11.33	11.33	11.33
dpH	0.56	0.56	0.56	0.56	0.56	0.56	0.56
pH ₀	6.09	6.09	6.08	6.07	6.07	6.06	6.06

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	56.40	56.31	56.23	56.14	56.06	55.97	55.89
φ max	11.33	11.33	11.33	11.33	11.33	11.33	11.33
dpH	0.56	0.57	0.57	0.57	0.57	0.57	0.57
pH ₀	6.05	6.04	6.04	6.03	6.03	6.02	6.01

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	55.80	55.72	55.63	55.55	55.46	55.38	55.29
φ max	11.33	11.33	11.33	11.33	11.33	11.33	11.33
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pH ₀	6.01	6.00	6.00	5.99	5.98	5.98	5.97

pH sensor properties

Dynamic range	pH 4.10 - 7.65
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.65-4.95; ± 0.1 pH at pH 4.95-6.80; ± 0.25 pH at pH 6.80-7.15 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	2021-06-10

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DO calibration parameters Lot No.2106101 (BioLector® I, filter module ID-103/-303)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.00	71.94	71.88	71.82	71.77	71.71	71.65
ϕ cal100	41.56	41.32	41.08	40.84	40.60	40.36	40.12

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.59	71.53	71.47	71.41	71.35	71.30	71.24
ϕ cal100	39.88	39.65	39.41	39.17	38.93	38.69	38.45

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.18	71.12	71.06	71.00	70.94	70.88	70.82
ϕ cal100	38.21	37.97	37.73	37.49	37.25	37.01	36.77

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	2021-06-10

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	899513
Date of sterilization	2021-05-26

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