

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

pH calibration parameters Lot No. 2009101 (BioLector® I, filter module ID-102/-302)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	57.21	57.13	57.05	56.97	56.89	56.81	56.73
ϕ max	11.80	11.80	11.80	11.80	11.80	11.79	11.79
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.23	6.22	6.22	6.21	6.20	6.20	6.19
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	56.65	56.58	56.50	56.42	56.34	56.26	56.18
ϕ max	11.79	11.79	11.79	11.79	11.79	11.79	11.79
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.18	6.18	6.17	6.17	6.16	6.15	6.15
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	56.10	56.02	55.94	55.87	55.79	55.71	55.63
ϕ max	11.79	11.79	11.79	11.78	11.78	11.78	11.78
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.14	6.13	6.13	6.12	6.12	6.11	6.10

pH sensor properties

Dynamic range	pH 4.25 – 7.80
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.75 - 5.10; ± 0.1 pH at pH 5.10 – 6.95; ± 0.25 pH at pH 6.95 - 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	2020/09/25

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DO calibration parameters Lot No. 2009101 (BioLector® I, filter module ID-103/-303)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	73.00	72.96	72.92	72.87	72.83	72.79	72.75
φ cal100	43.91	43.70	43.49	43.28	43.07	42.86	42.65
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.70	72.66	72.62	72.58	72.53	72.49	72.45
φ cal100	42.44	42.23	42.02	41.81	41.61	41.40	41.19
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	72.41	72.36	72.32	72.28	72.23	72.19	72.15
φ cal100	40.98	40.77	40.56	40.35	40.14	39.93	39.72

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_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 = 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	2020/09/25

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	803678
Date of sterilization	2020/09/16

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