

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

pH calibration parameters Lot No. 1910 (BioLector® II/Pro, filter module ID-202/-402)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	63.32	63.28	63.24	63.20	63.16	63.13	63.09
φ max	13.52	13.51	13.51	13.50	13.49	13.49	13.48
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.15	6.14	6.14	6.14	6.13	6.13	6.13
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.05	63.01	62.97	62.94	62.90	62.86	62.82
φ max	13.47	13.47	13.46	13.45	13.45	13.44	13.43
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.12	6.12	6.12	6.11	6.11	6.11	6.10
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.78	62.74	62.71	62.67	62.63	62.59	62.55
φ max	13.43	13.42	13.41	13.41	13.40	13.39	13.39
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.10	6.10	6.09	6.09	6.09	6.08	6.08

pH sensor properties

Dynamic range	pH 3.60 - 8.35
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.05 - 4.55; ± 0.1 pH at pH 4.55 - 7.40; ± 0.25 pH at pH 7.40 - 7.95 (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 (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 COC (MTP-48C-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.40 (pH Ser.3111. gain 7)
Date of calibration	2019/03/05

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DO calibration parameters Lot No. 1910 (BioLector® II/Pro, filter module ID-203/403)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	71.43	71.40	71.36	71.33	71.29	71.26	71.22
φ cal100	43.08	42.98	42.87	42.77	42.66	42.56	42.45
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	71.19	71.15	71.12	71.08	71.05	71.01	70.98
φ cal100	42.35	42.24	42.14	42.03	41.93	41.82	41.72
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	70.94	70.91	70.87	70.84	70.81	70.77	70.74
φ cal100	41.61	41.51	41.40	41.30	41.19	41.09	40.98

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.1 % 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 (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-1742-02 (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 COC (MTP-48C-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.25 (DO Ser.4103, gain 7)
Date of calibration	2019/03/05

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	598020
Date of sterilization	2019/02/21

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