

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

pH calibration parameters Lot No. 1901 (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	63.73	63.70	63.67	63.64	63.61	63.58	63.55
φ max	12.77	12.77	12.78	12.78	12.79	12.79	12.80
dpH	0.52	0.52	0.52	0.52	0.52	0.52	0.52
pH ₀	6.17	6.17	6.17	6.16	6.16	6.16	6.15
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.52	63.49	63.45	63.42	63.39	63.36	63.33
φ max	12.80	12.80	12.81	12.81	12.82	12.82	12.83
dpH	0.52	0.52	0.52	0.52	0.52	0.52	0.52
pH ₀	6.15	6.15	6.14	6.14	6.14	6.13	6.13
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	63.30	63.27	63.24	63.21	63.18	63.14	63.11
φ max	12.83	12.83	12.84	12.84	12.85	12.85	12.86
dpH	0.52	0.52	0.52	0.52	0.52	0.52	0.52
pH ₀	6.13	6.12	6.12	6.12	6.11	6.11	6.11

pH sensor properties

Dynamic range	pH 4.25 - 7.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.70 - 5.00; ± 0.1 pH at pH 5.00 - 7.00; ± 0.25 pH at pH 7.00 - 7.30 (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 (MTP-48-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.40 (pH Ser.3111. gain 7)
Date of calibration	2019/02/21

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DO calibration parameters Lot No. 1901 (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	71.33	71.31	71.30	71.28	71.27	71.25	71.24
ϕ cal100	43.38	43.28	43.18	43.08	42.98	42.88	42.78
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.22	71.21	71.19	71.17	71.16	71.14	71.13
ϕ cal100	42.68	42.58	42.48	42.38	42.28	42.18	42.07
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.11	71.10	71.08	71.07	71.05	71.04	71.02
ϕ cal100	41.97	41.87	41.77	41.67	41.57	41.47	41.37

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 (MTP-48-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.25 (DO Ser.4103. gain 7)
Date of calibration	2019/02/21

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	589719
Date of sterilization	2019/01/31

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