

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

pH calibration parameters Lot No. 1848 (BioLector® II/Pro, filter module ID-202)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	62.97	62.94	62.91	62.87	62.84	62.81	62.78
ϕ max	11.98	11.97	11.97	11.96	11.96	11.95	11.94
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.19	6.18	6.18	6.17	6.17	6.16	6.16
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	62.75	62.72	62.69	62.66	62.63	62.60	62.57
ϕ max	11.94	11.93	11.93	11.92	11.91	11.91	11.90
dpH	0.54	0.54	0.54	0.53	0.53	0.53	0.53
pH ₀	6.15	6.15	6.14	6.14	6.13	6.13	6.12
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	62.54	62.51	62.48	62.45	62.42	62.39	62.36
ϕ max	11.90	11.89	11.88	11.88	11.87	11.87	11.86
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.12	6.11	6.11	6.11	6.10	6.10	6.09

pH sensor properties

Dynamic range	pH 3.60 - 8.40
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.00 - 4.50; ± 0.1 pH at pH 4.50 - 7.45; ± 0.25 pH at pH 7.45 - 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 (MTP-MF32-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.40 (pH Ser.3111, gain 7)
Date of calibration	2018/12/03

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DO calibration parameters Lot No. 1848 (BioLector® II/Pro, filter module ID-203)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.51	71.49	71.46	71.43	71.41	71.38	71.35
ϕ cal100	43.44	43.30	43.16	43.02	42.88	42.74	42.60
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.33	71.30	71.27	71.25	71.22	71.19	71.17
ϕ cal100	42.46	42.32	42.18	42.05	41.91	41.77	41.63
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.14	71.11	71.09	71.06	71.03	71.01	70.98
ϕ cal100	41.49	41.35	41.21	41.07	40.93	40.79	40.65

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-MF32-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.25 (DO Ser.4103-hc, gain 7)
Date of calibration	2018/12/03

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	567029
Date of sterilization	2018/11/22

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