

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

pH calibration parameters Lot No. 1810 (BioLector® II/Pro, filter module ID-202)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	64.75	64.67	64.59	64.51	64.42	64.34	64.26
ϕ max	17.29	17.29	17.28	17.27	17.26	17.25	17.24
dpH	0.52	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.55	6.54	6.53	6.52	6.51	6.51	6.50
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	64.18	64.10	64.02	63.94	63.86	63.78	63.70
ϕ max	17.23	17.22	17.21	17.20	17.19	17.19	17.18
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.49	6.48	6.47	6.46	6.46	6.45	6.44
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	63.62	63.54	63.46	63.37	63.29	63.21	63.13
ϕ max	17.17	17.16	17.15	17.14	17.13	17.12	17.11
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.43	6.42	6.41	6.41	6.40	6.39	6.38

pH sensor properties

Dynamic range	pH 3.90 - 8.55
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.35 - 4.90; ± 0.1 pH at pH 4.90 – 7.50; ± 0.25 pH at pH 7.50 - 8.10 (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 HP8-1427-02_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 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-BOH)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.180 (pH Ser.3111-RD, gain 7)
Date of calibration	2018/04/19

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DO calibration parameters Lot No. 1810 (BioLector® II/Pro, filter module ID-203)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.73	71.70	71.66	71.63	71.59	71.56	71.52
ϕ cal100	44.66	44.46	44.26	44.06	43.86	43.66	43.46
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.49	71.45	71.42	71.38	71.35	71.31	71.28
ϕ cal100	43.26	43.06	42.85	42.65	42.45	42.25	42.05
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.24	71.21	71.17	71.14	71.10	71.07	71.03
ϕ cal100	41.85	41.65	41.45	41.25	41.05	40.85	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-48-BOH)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.59 (DO Ser.4103-RD, gain 7)
Date of calibration	2018/04/19

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	490804
Date of sterilization	2018/04/16

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