

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

pH calibration parameters Lot No. 1813 (BioLector® II/Pro, filter module ID-202)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	65.24	65.17	65.09	65.02	64.94	64.86	64.79
ϕ max	16.68	16.68	16.68	16.68	16.68	16.68	16.68
dpH	0.51	0.52	0.52	0.52	0.52	0.52	0.52
pH ₀	6.40	6.39	6.39	6.38	6.38	6.37	6.37
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	64.71	64.63	64.56	64.48	64.40	64.33	64.25
ϕ max	16.68	16.67	16.67	16.67	16.67	16.67	16.67
dpH	0.52	0.52	0.52	0.52	0.52	0.52	0.52
pH ₀	6.36	6.35	6.35	6.34	6.34	6.33	6.33
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	64.17	64.10	64.02	63.85	63.87	63.79	63.72
ϕ max	16.67	16.67	16.66	16.66	16.66	16.66	16.66
dpH	0.52	0.52	0.52	0.52	0.52	0.52	0.52
pH ₀	6.32	6.32	6.31	6.31	6.30	6.29	6.29

pH sensor properties

Dynamic range	pH 3.85-8.45
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.20 - 4.75; ± 0.1 pH at pH 4.75 – 7.50; ± 0.25 pH at pH 7.50 – 8.00 (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-09-000F-0032
Calibration phase offset	pH -1.40 (pH Ser.3111-RD, gain 7)
Date of calibration	2018/05/18

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DO calibration parameters Lot No. 1813 (BioLector® II/Pro, filter module ID-203)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.28	72.23	72.17	72.12	72.07	72.01	71.96
ϕ cal100	44.17	43.98	43.79	43.60	43.41	43.22	43.03
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.91	71.85	71.80	71.75	71.69	71.64	71.59
ϕ cal100	42.84	42.65	42.46	42.27	42.08	41.90	41.71
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.53	71.48	71.43	71.37	71.32	71.27	71.21
ϕ cal100	41.52	41.33	41.14	40.95	40.76	40.57	40.38

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-1742-01 (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-09-000F-0032
Calibration phase offset	DO -360.25 (DO Ser.4103-RD, gain 7)
Date of calibration	2018/05/18

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	499015
Date of sterilization	2018/05/04

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