

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

pH calibration parameters Lot No. 1833 (BioLector® II/Pro, filter module ID-202)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	63.22	63.15	63.08	63.02	62.95	62.89	62.82
ϕ max	12.37	12.37	12.36	12.36	12.35	12.35	12.35
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.29	6.28	6.27	6.26	6.25	6.25	6.24
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	62.76	62.69	62.63	62.56	62.49	62.43	62.36
ϕ max	12.34	12.34	12.33	12.33	12.32	12.32	12.31
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.23	6.22	6.21	6.21	6.20	6.19	6.18
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	62.30	62.23	62.17	62.10	62.04	61.97	61.90
ϕ max	12.31	12.30	12.30	12.29	12.29	12.28	12.28
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.17	6.16	6.16	6.15	6.14	6.13	6.12

pH sensor properties

Dynamic range	pH 3.70 - 8.40
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.10 - 4.60; ± 0.1 pH at pH 4.60 - 7.45; ± 0.25 pH at pH 7.45 - 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 = MTP-type = Microfluidic FlowerPlate (MTP-MF32-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.40 (pH Ser.3111-hc, gain 7)
Date of calibration	2018/08/31

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DO calibration parameters Lot No. 1833 (BioLector® II/Pro, filter module ID-203)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.64	71.61	71.57	71.54	71.51	71.47	71.44
ϕ cal100	44.35	44.15	43.95	43.75	43.56	43.36	43.16
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.41	71.37	71.34	71.30	71.27	71.24	71.20
ϕ cal100	42.96	42.76	42.56	42.36	42.17	41.97	41.77
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.17	71.14	71.10	71.07	71.03	71.00	70.97
ϕ cal100	41.57	41.37	41.17	40.97	40.77	40.58	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 = MTP-type = Microfluidic FlowerPlate (MTP-MF32-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.40 (pH Ser.3111-hc, gain 7)
Date of calibration	2018/08/31

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	535493
Date of sterilization	2018/08/17

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