

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

pH calibration parameters Lot No. 2012101 and 2012107 (BioLector® II, filter module ID-202/-402)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	63.77	63.69	63.62	63.54	63.47	63.39	63.31
ϕ max	14.28	14.29	14.29	14.29	14.29	14.30	14.30
dpH	0.53	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.32	6.31	6.31	6.30	6.29	6.29	6.28
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	63.24	63.16	63.09	63.01	62.93	62.86	62.78
ϕ max	14.30	14.30	14.31	14.31	14.31	14.31	14.32
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.28	6.27	6.26	6.26	6.25	6.24	6.24
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	62.71	62.63	62.55	62.48	62.40	62.33	62.25
ϕ max	14.32	14.32	14.32	14.33	14.33	14.33	14.33
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.23	6.23	6.22	6.21	6.21	6.20	6.19

pH sensor properties

Dynamic range	pH 4.40 - 7.80
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.85 - 5.15; ± 0.1 pH at pH 5.15 - 7.05; ± 0.25 pH at pH 7.05 - 7.35 (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_3 (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 Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = HP8-Pst3-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -1.46 (pH Ser. 3111, gain 7)
Date of calibration	2021/01/05

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DO calibration parameters Lot No. 2012101 and 2012107 (BioLector® II, filter module ID-203/-403)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.40	72.35	72.29	72.24	72.18	72.13	72.07
φ cal100	44.02	43.80	43.57	43.35	43.12	42.90	42.67
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.02	71.96	71.91	71.85	71.80	71.74	71.69
φ cal100	42.45	42.22	42.00	41.77	41.55	41.32	41.10
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.63	71.58	71.52	71.47	71.41	71.36	71.30
φ cal100	40.87	40.65	40.43	40.20	39.98	39.75	39.53

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.5 % 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 (t ₉₀)	< 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-1810-01_3 (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 = HP8-PSt3-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.26 (DO Ser.4103, gain 7)
Date of calibration	2021/01/05

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	840289
Date of sterilization	2020/12/17

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