

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

pH calibration parameters Lot No. 1843 (BioLector® II/Pro, filter module ID-202)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	62.56	62.51	62.46	62.41	62.35	62.30	62.25
φ max	12.16	12.17	12.17	12.18	12.18	12.18	12.19
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.22	6.21	6.20	6.20	6.19	6.18	6.17
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	62.20	62.15	62.10	62.04	61.99	61.94	61.89
φ max	12.19	12.20	12.20	12.20	12.21	12.21	12.22
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.16	6.15	6.15	6.14	6.13	6.12	6.11
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	61.84	61.79	61.73	61.68	61.63	61.58	61.53
φ max	12.22	12.22	12.23	12.23	12.24	12.24	12.24
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.10	6.10	6.09	6.08	6.07	6.06	6.05

pH sensor properties

Dynamic range	pH 3.65 - 8.35
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.05 - 4.55; ± 0.1 pH at pH 4.55 - 7.40; ± 0.25 pH at pH 7.40 - 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 HP8-1803-01 (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	2018/10/17

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DO calibration parameters Lot No. 1843 (BioLector® II/Pro, filter module ID-203)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	71.83	71.79	71.75	71.71	71.68	71.64	71.60
φ cal100	44.26	44.05	43.84	43.62	43.41	43.19	42.98
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	71.57	71.53	71.49	71.45	71.42	71.38	71.34
φ cal100	42.76	42.55	42.33	42.12	41.90	41.69	41.47
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.31	71.27	71.23	71.19	71.16	71.12	71.08
φ cal100	41.26	41.27	40.83	40.61	40.40	40.19	39.97

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	2018/10/17

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	551699
Date of sterilization	2018/10/08

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