

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

pH calibration parameters Lot No. 1817 (BioLector® II/Pro, filter module ID-202)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	64.38	64.31	64.23	64.15	64.07	63.99	63.91
φ max	17.42	17.41	17.40	17.39	17.38	17.36	17.35
dpH	0.52	0.52	0.52	0.52	0.51	0.51	0.51
pH ₀	6.61	6.60	6.59	6.58	6.57	6.56	6.55
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.84	63.76	63.68	63.60	63.52	63.44	63.37
φ max	17.34	17.33	17.32	17.31	17.29	17.28	17.27
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.54	6.54	6.53	6.52	6.51	6.50	6.49
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	63.29	63.21	63.13	63.05	62.98	62.90	62.82
φ max	17.26	17.25	17.24	17.22	17.21	17.20	17.19
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.48	6.47	6.46	6.45	6.45	6.44	6.43

pH sensor properties

Dynamic range	pH 3.95 - 8.55
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.40 - 5.00; ± 0.1 pH at pH 5.00 – 7.55; ± 0.25 pH at pH 7.55 - 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 -1.40 (pH Ser.3111-hc, gain 7)
Date of calibration	2018/06/18

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DO calibration parameters Lot No. 1817 (BioLector® II/Pro, filter module ID-203)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	71.86	71.83	71.79	71.76	71.73	71.69	71.66
φ cal100	44.44	44.24	44.03	43.82	43.62	43.41	43.21
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	71.62	71.59	71.55	71.52	71.48	71.45	71.42
φ cal100	43.00	42.80	42.59	42.39	42.18	41.98	41.77
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.38	71.35	71.31	71.28	71.24	71.21	71.18
φ cal100	41.57	41.36	41.16	40.95	40.75	40.54	40.34

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-02-000F-0032
Calibration phase offset	DO -360.25 (DO Ser.4103-hc, gain 7)
Date of calibration	2018/06/18

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	507478
Date of sterilization	2018/05/31

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