

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

pH calibration parameters Lot No. 1852 (BioLector® II/Pro. filter module ID-202)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	63.58	63.54	63.50	63.46	63.42	63.38	63.34
ϕ max	12.43	12.43	12.43	12.42	12.42	12.42	12.42
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.21	6.21	6.21	6.20	6.20	6.20	6.19
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	63.30	63.26	63.22	63.18	63.14	63.10	63.06
ϕ max	12.42	12.41	12.41	12.41	12.41	12.40	12.40
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.19	6.19	6.19	6.18	6.18	6.18	6.17
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	63.02	62.98	62.94	62.90	62.86	62.82	62.78
ϕ max	12.40	12.40	12.39	12.39	12.39	12.39	12.39
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.17	6.17	6.16	6.16	6.16	6.15	6.15

pH sensor properties

Dynamic range	pH 3.65 - 8.40
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.05 – 4.55; ± 0.1 pH at pH 4.55 – 7.50; ± 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 HP8-1811-01 (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-48-BOH)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.40 (pH Ser.3111. gain 7)
Date of calibration	2019/01/04

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DO calibration parameters Lot No. 1852 (BioLector® II/Pro. filter module ID-203)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.31	72.28	72.25	72.22	72.19	72.16	72.12
φ cal100	42.59	42.50	42.40	42.31	42.21	42.12	42.02
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.09	72.06	72.03	72.00	71.97	71.94	71.91
φ cal100	41.93	41.84	41.74	41.65	41.55	41.46	41.37
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.88	71.84	71.81	71.78	71.75	71.72	71.69
φ cal100	41.27	41.18	41.08	40.99	40.89	40.80	40.71

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-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	2019/01/04

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	575211
Date of sterilization	2018/12/13

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