

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

pH calibration parameters Lot No. 1811 (BioLector® II/Pro, filter module ID-202)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	64.61	64.53	64.46	64.38	64.30	64.22	64.14
φ max	17.27	17.26	17.25	17.24	17.23	17.22	17.21
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.52	6.52	6.51	6.50	6.49	6.48	6.47
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	64.06	63.99	63.91	63.83	63.75	63.67	63.60
φ max	17.20	17.19	17.18	17.17	17.16	17.15	17.14
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.46	6.45	6.45	6.44	6.43	6.42	6.41
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	63.52	63.44	63.36	63.28	63.20	63.13	63.05
φ max	17.13	17.12	17.11	17.09	17.08	17.07	17.06
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.40	6.39	6.39	6.38	6.37	6.36	6.35

pH sensor properties

Dynamic range	pH 3.90 - 8.50
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.35 - 4.90; ± 0.1 pH at pH 4.90 – 7.50; ± 0.25 pH at pH 7.50 - 8.05 (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 -1.180 (pH Ser.3111-RD, gain 7)
Date of calibration	2018/04/23

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DO calibration parameters Lot No. 1811 (BioLector® II/Pro, filter module ID-203)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.01	71.98	71.94	71.91	71.87	71.83	71.80
ϕ cal100	44.60	44.41	44.21	44.01	43.81	43.61	43.42
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.76	71.73	71.69	71.66	71.62	71.59	71.55
ϕ cal100	43.22	43.02	42.82	42.63	42.43	42.23	42.03
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.52	71.48	71.45	71.41	71.38	71.34	71.30
ϕ cal100	41.83	41.64	41.44	41.24	41.04	40.85	40.65

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 -360.59 (DO Ser.4103-RD, gain 7)
Date of calibration	2018/04/23

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	490804
Date of sterilization	2018/04/16

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