

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

pH calibration parameters Lot No.2114101+2114181 (BioLector® II/Pro, filter module ID-202/-402)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	63.60	63.53	63.47	63.40	63.33	63.27	63.20
φ max	12.68	12.67	12.66	12.66	12.65	12.64	12.63
dpH	0.58	0.58	0.58	0.58	0.58	0.58	0.58
pH ₀	6.28	6.27	6.27	6.26	6.25	6.24	6.24

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.13	63.07	63.00	62.93	62.87	62.80	62.73
φ max	12.63	12.62	12.61	12.61	12.60	12.59	12.59
dpH	0.58	0.58	0.58	0.58	0.58	0.58	0.58
pH ₀	6.23	6.22	6.21	6.21	6.20	6.19	6.18

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.67	62.60	62.54	62.47	62.40	62.34	62.27
φ max	12.58	12.57	12.57	12.56	12.55	12.55	12.54
dpH	0.58	0.58	0.58	0.58	0.58	0.58	0.58
pH ₀	6.17	6.17	6.16	6.15	6.14	6.14	6.13

pH sensor properties

Dynamic range	pH 4.20 - 7.95
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.75-5.05; ± 0.1 pH at pH 5.05-7.05; ± 0.25 pH at pH 7.05-7.40 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_5 (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 ± 0.02 / pH 4.00 ± 0.02 / pH 9.00 ± 0.03 / pH 10.00 ± 0.03, 20 °C); 150 mM 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	2021-10-12

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DO calibration parameters Lot No.2114101+2114181 (BioLector® II/Pro, filter module ID-203/-403)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	73.13	73.07	73.01	72.95	72.89	72.83	72.77
φ cal100	42.93	42.72	42.51	42.30	42.09	41.88	41.67

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.71	72.65	72.59	72.53	72.47	72.41	72.35
φ cal100	41.46	41.25	41.04	40.83	40.62	40.41	40.20

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	72.29	72.23	72.17	72.11	72.05	71.99	71.93
φ cal100	39.99	39.78	39.57	39.36	39.15	38.94	38.73

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 (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-1921-01_2 (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	2021-10-12

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	952124
Date of sterilization	2021-10-05

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