

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

pH calibration parameters Lot No. 1819 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.01	57.90	57.79	57.68	57.57	57.46	57.35
ϕ max	16.64	16.61	16.59	16.57	16.54	16.52	16.49
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.48	6.47	6.47	6.46	6.46	6.45	6.44
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.24	57.13	57.02	56.91	56.80	56.69	56.58
ϕ max	16.47	16.45	16.42	16.40	16.37	16.35	16.33
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.44	6.43	6.43	6.42	6.41	6.41	6.40
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	56.47	56.36	56.25	56.14	56.03	55.92	55.81
ϕ max	16.30	16.28	16.25	16.23	16.21	16.18	16.16
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.40	6.39	6.38	6.38	6.37	6.37	6.36

pH sensor properties

Dynamic range	pH 3.90 - 8.50
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.40 - 5.10; ± 0.1 pH at pH 5.10 – 7.20; ± 0.25 pH at pH 7.20 - 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 HP8-1427-02_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	BioLector CX_110335 (BL092)
Calibration phase offset	pH 255.5 (pH Ser.3083-hc, gain xx)
Date of calibration	2018/06/14

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DO calibration parameters Lot No. 1819 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.73	72.70	72.68	72.65	72.63	72.61	72.58
φ cal100	43.11	42.85	42.58	42.32	42.05	41.79	41.52
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.56	72.54	72.51	72.49	72.47	72.44	72.42
φ cal100	41.26	40.99	40.73	40.46	40.20	39.94	39.67
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	72.40	72.37	72.35	72.32	72.30	72.28	72.25
φ cal100	39.41	39.14	38.88	38.61	38.35	38.08	37.82

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.5 % O ₂ (software)
Precision (CV)	± 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	BioLector CX_110335 (BL092)
Calibration phase offset	DO 332.4 (DO Ser.4084-hc, gain xx)
Date of calibration	2018/06/14

Sterilization procedure

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

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