

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

pH calibration parameters Lot No. 1851 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	56.20	56.13	56.05	55.98	55.90	55.82	55.75
ϕ max	12.54	12.53	12.51	12.50	12.49	12.48	12.47
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.27	6.26	6.25	6.24	6.23	6.22	6.21
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	55.67	55.60	55.52	55.44	55.37	55.29	55.22
ϕ max	12.45	12.44	12.43	12.42	12.40	12.39	12.38
dpH	0.55	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.20	6.19	6.18	6.17	6.16	6.15	6.14
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	55.14	55.06	54.99	54.91	54.84	54.76	54.68
ϕ max	12.37	12.36	12.34	12.33	12.32	12.31	12.30
dpH	0.54	0.54	0.54	0.54	0.54	0.53	0.53
pH ₀	6.14	6.13	6.12	6.11	6.10	6.09	6.08

pH sensor properties

Dynamic range	pH 3.70 - 8.35
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.20 - 4.85; ± 0.1 pH at pH 4.85 - 7.15; ± 0.25 pH at pH 7.15 - 7.85 (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	BioLector CX_110335 (BL092)
Calibration phase offset	pH 255.5 (pH Ser.3083-hc, gain 45)
Date of calibration	2018/11/30

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DO calibration parameters Lot No. 1851 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.69	72.66	72.63	72.60	72.57	72.54	72.51
ϕ cal100	43.14	42.90	42.66	42.41	42.17	41.93	41.69
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.48	72.45	72.42	72.39	72.36	72.33	72.30
ϕ cal100	41.45	41.21	40.97	40.73	40.48	40.24	40.00
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	72.27	72.24	72.21	72.18	72.15	72.12	72.09
ϕ cal100	39.76	39.52	39.28	39.04	38.80	38.55	38.31

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-1742-02 (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	BioLector CX_110335 (BL092)
Calibration phase offset	DO 332.4 (DO Ser.4084-hc, gain 48)
Date of calibration	2018/11/30

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	567029
Date of sterilization	2018/11/22

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