

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

pH calibration parameters Lot No. 1608 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.48	58.39	58.30	58.22	58.13	58.04	57.95
ϕ max	18.01	17.98	17.96	17.93	17.90	17.88	17.85
dpH	0.49	0.49	0.49	0.49	0.49	0.49	0.49
pH ₀	6.90	6.89	6.88	6.86	6.85	6.84	6.83
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.87	57.78	57.69	57.61	57.52	57.43	57.34
ϕ max	17.82	17.79	17.77	17.74	17.71	17.69	17.66
dpH	0.49	0.49	0.49	0.49	0.49	0.49	0.49
pH ₀	6.82	6.81	6.79	6.78	6.77	6.76	6.75
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	57.26	57.17	57.08	56.99	56.91	56.82	56.73
ϕ max	17.63	17.61	17.58	17.55	17.52	17.50	17.47
dpH	0.49	0.49	0.49	0.49	0.49	0.49	0.48
pH ₀	6.74	6.72	6.71	6.70	6.69	6.68	6.67

pH sensor properties

Dynamic range	pH 4.15 - 8.80
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.75 - 5.70; ± 0.1 pH at pH 5.70 – 7.35; ± 0.25 pH at pH 7.35 - 8.25 (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_3 (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 32)
Date of calibration	2016/07/27

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DO calibration parameters Lot No. 1608 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	70.86	70.92	70.99	71.06	71.12	71.19	71.25
φ cal100	43.57	43.37	43.17	42.97	42.77	42.57	42.37
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	71.32	71.39	71.45	71.52	71.59	71.65	71.72
φ cal100	42.16	41.96	41.76	41.56	41.36	41.16	40.96
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.78	71.85	71.92	71.98	72.05	72.11	72.18
φ cal100	40.76	40.55	40.35	40.15	39.95	39.75	39.55

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-1426-03_3 (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 42)
Date of calibration	2016/07/27

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	268630
Date of sterilization	2016/07/20

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