

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

pH calibration parameters Lot No. 1709 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.26	58.17	58.09	58.00	57.91	57.83	57.74
ϕ max	17.68	17.65	17.62	17.59	17.57	17.54	17.51
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.88	6.86	6.85	6.84	6.83	6.82	6.80
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.65	57.57	57.48	57.40	57.31	57.22	57.14
ϕ max	17.48	17.45	17.42	17.39	17.36	17.33	17.31
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.79	6.78	6.77	6.76	6.74	6.73	6.72
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	57.05	56.96	56.88	56.79	56.71	56.62	56.53
ϕ max	17.28	17.25	17.22	17.19	17.16	17.13	17.10
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.71	6.70	6.68	6.67	6.66	6.65	6.63

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 - 5.65; ± 0.1 pH at pH 5.65 - 7.35; ± 0.25 pH at pH 7.35 - 8.20 (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 45)
Date of calibration	2017/06/26

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DO calibration parameters Lot No. 1709 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.91	72.87	72.84	72.80	72.76	72.73	72.69
φ cal100	44.19	43.97	43.75	43.52	43.30	43.08	42.85
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.65	72.62	72.58	72.55	72.51	72.47	72.44
φ cal100	42.63	42.41	42.18	41.96	41.74	41.51	41.29
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	72.40	72.36	72.33	72.29	72.25	72.22	72.18
φ cal100	41.07	40.84	40.62	40.40	40.17	39.95	39.73

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 48)
Date of calibration	2017/06/26

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	380035
Date of sterilization	2017/06/13

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