

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

pH calibration parameters Lot No. 1708 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.02	57.94	57.86	57.78	57.70	57.62	57.54
ϕ max	17.36	17.35	17.33	17.32	17.31	17.30	17.28
dpH	0.52	0.52	0.52	0.51	0.51	0.51	0.51
pH ₀	6.79	6.78	6.77	6.76	6.74	6.73	6.72
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.46	57.38	57.30	57.22	57.14	57.06	56.98
ϕ max	17.27	17.26	17.25	17.24	17.22	17.21	17.20
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.71	6.69	6.68	6.67	6.66	6.65	6.63
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	56.90	56.82	56.74	56.66	56.58	56.50	56.42
ϕ max	17.19	17.17	17.16	17.15	17.14	17.12	17.11
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.62	6.61	6.60	6.59	6.57	6.56	6.55

pH sensor properties

Dynamic range	pH 4.05 - 8.70
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.65 – 5.40; ± 0.1 pH at pH 5.40 – 7.25; ± 0.25 pH at pH 7.25 - 8.10 (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	2017/05/15

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DO calibration parameters Lot No. 1708 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.46	72.47	72.48	72.48	72.49	72.50	72.51
φ cal100	43.14	42.93	42.71	42.49	42.27	42.05	41.84
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.51	72.52	72.53	72.54	72.54	72.55	72.56
φ cal100	41.62	41.40	41.18	40.96	40.75	40.53	40.31
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	72.57	72.57	72.58	72.59	72.60	72.60	72.61
φ cal100	40.09	39.87	39.66	39.44	39.22	39.00	38.78

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	2017/05/15

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	367465
Date of sterilization	2017/05/09

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