

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

pH calibration parameters Lot No. 1704 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.19	58.11	58.03	57.95	57.87	57.79	57.70
ϕ max	17.92	17.91	17.89	17.88	17.87	17.85	17.84
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.89	6.88	6.87	6.86	6.84	6.83	6.82
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.62	57.54	57.46	57.38	57.30	57.22	57.14
ϕ max	17.83	17.81	17.80	17.79	17.77	17.76	17.75
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.81	6.79	6.78	6.77	6.76	6.74	6.73
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	57.05	56.97	56.89	56.81	56.73	56.65	56.57
ϕ max	17.73	17.72	17.71	17.70	17.68	17.67	17.66
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.72	6.71	6.69	6.68	6.67	6.66	6.64

pH sensor properties

Dynamic range	pH 4.15 - 8.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.75 – 5.70; ± 0.1 pH at pH 5.70 – 7.30; ± 0.25 pH at pH 7.30 - 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	2017/04/04

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DO calibration parameters Lot No. 1704 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.61	72.60	72.59	72.59	72.58	72.57	72.56
φ cal100	44.40	44.14	43.88	43.62	43.35	43.09	42.83
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.56	72.55	72.54	72.53	72.53	72.52	72.51
φ cal100	42.57	42.30	42.04	41.78	41.52	41.25	40.99
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	72.51	72.50	72.49	72.48	72.48	72.47	72.46
φ cal100	40.73	40.47	40.21	39.94	39.68	39.42	39.16

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	2017/04/04

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	353634
Date of sterilization	2017/03/26

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