

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

pH calibration parameters Lot No. 1724 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.29	58.20	58.10	58.01	57.91	57.81	57.72
ϕ max	18.17	18.15	18.12	18.10	18.08	18.06	18.03
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.66	6.65	6.65	6.64	6.63	6.63	6.62
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.62	57.53	57.43	57.33	57.24	57.14	57.05
ϕ max	18.01	17.99	17.96	17.94	17.92	17.90	17.87
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.62	6.61	6.61	6.60	6.59	6.59	6.58
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	56.95	56.85	56.76	56.66	56.57	56.47	56.38
ϕ max	17.85	17.83	17.80	17.78	17.76	17.74	17.71
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.58	6.57	6.57	6.56	6.55	6.55	6.54

pH sensor properties

Dynamic range	pH 4.00 - 8.65
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.55 - 5.40; ± 0.1 pH at pH 5.40 – 7.25; ± 0.25 pH at pH 7.25 - 8.05 (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	2017/12/12

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DO calibration parameters Lot No. 1724 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	73.09	73.05	73.02	72.98	72.94	72.91	72.87
φ cal100	43.26	43.03	42.80	42.57	42.35	42.12	41.89
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.83	72.80	72.76	72.72	72.69	72.65	72.61
φ cal100	41.66	41.43	41.21	40.98	40.75	40.52	40.30
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	72.58	72.54	72.50	72.47	72.43	72.39	72.36
φ cal100	40.07	39.84	39.61	39.38	39.16	38.93	38.70

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	2017/12/12

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	442942
Date of sterilization	2017/12/04

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