

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

pH calibration parameters Lot No. 1711 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.25	58.17	58.08	58.00	57.92	57.83	57.75
ϕ max	18.38	18.35	18.32	18.29	18.25	18.22	18.19
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
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	57.67	57.59	57.50	57.42	57.34	57.26	57.17
ϕ max	18.15	18.12	18.09	18.05	18.02	17.99	17.95
dpH	0.50	0.50	0.50	0.50	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	57.09	57.01	56.93	56.84	56.76	56.68	56.60
ϕ max	17.92	17.89	17.86	17.82	17.79	17.76	17.72
dpH	0.49	0.49	0.49	0.49	0.49	0.49	0.49
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 – 5.75; ± 0.1 pH at pH 5.75 – 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 45)
Date of calibration	2017/07/31

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DO calibration parameters Lot No. 1711 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.68	72.66	72.65	72.64	72.62	72.61	72.59
φ cal100	45.58	45.31	45.05	44.78	44.52	44.25	43.99
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.58	72.57	72.55	72.54	72.53	72.51	72.50
φ cal100	43.72	43.46	43.19	42.93	42.66	42.40	42.13
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	72.49	72.47	72.46	72.44	72.43	72.42	72.40
φ cal100	41.87	41.60	41.34	41.07	40.81	40.54	40.28

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	2017/07/31

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	394731
Date of sterilization	2017/07/22

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