

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

pH calibration parameters Lot No. 1721 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.33	58.24	58.15	58.06	57.97	57.88	57.79
ϕ max	18.84	18.82	18.79	18.76	18.73	18.70	18.68
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.74	6.73	6.72	6.72	6.71	6.71	6.70
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.70	57.61	57.52	57.43	57.34	57.25	57.16
ϕ max	18.65	18.62	18.59	18.57	18.54	18.51	18.48
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.69	6.69	6.68	6.68	6.67	6.66	6.66
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	57.07	56.98	56.89	56.80	56.71	56.62	56.53
ϕ max	18.46	18.43	18.40	18.37	18.35	18.32	18.29
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.65	6.65	6.64	6.63	6.63	6.62	6.62

pH sensor properties

Dynamic range	pH 4.05 – 8.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.65 - 5.55; ± 0.1 pH at pH 5.55 – 7.20; ± 0.25 pH at pH 7.20 - 8.15 (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	2017/11/14

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DO calibration parameters Lot No. 1721 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.13	72.10	72.07	72.03	72.00	71.97	71.94
φ cal100	43.61	43.39	43.17	42.95	42.73	42.51	42.30
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	71.91	71.87	71.84	71.81	71.78	71.75	71.72
φ cal100	42.08	41.86	41.64	41.42	41.20	40.98	40.76
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.68	71.65	71.62	71.59	71.56	71.53	71.49
φ cal100	40.54	40.32	40.10	39.88	39.66	39.44	39.22

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	2017/11/14

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	433178
Date of sterilization	2017/11/08

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