

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

pH calibration parameters Lot No. 1714 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.76	58.66	58.57	58.47	58.38	58.28	58.18
ϕ max	18.76	18.73	18.70	18.67	18.64	18.61	18.58
dpH	0.49	0.49	0.49	0.49	0.49	0.49	0.49
pH ₀	6.70	6.70	6.69	6.69	6.68	6.67	6.67
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	58.09	57.99	57.89	57.80	57.70	57.61	57.51
ϕ max	18.55	18.52	18.49	18.46	18.43	18.40	18.37
dpH	0.49	0.49	0.49	0.49	0.49	0.49	0.49
pH ₀	6.66	6.66	6.65	6.65	6.64	6.64	6.63
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	57.41	57.32	57.22	57.12	57.03	56.93	56.83
ϕ max	18.34	18.30	18.27	18.24	18.21	18.18	18.15
dpH	0.49	0.49	0.49	0.49	0.49	0.49	0.49
pH ₀	6.63	6.62	6.62	6.61	6.61	6.60	6.60

pH sensor properties

Dynamic range	pH 4.10 - 8.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.65 - 5.60; ± 0.1 pH at pH 5.60 - 7.25; ± 0.25 pH at pH 7.25 - 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	2017/09/18

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DO calibration parameters Lot No. 1714 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.86	72.82	72.79	72.75	72.71	72.67	72.64
φ cal100	44.32	44.12	43.92	43.73	43.53	43.33	43.14
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.60	72.56	72.53	72.49	72.45	72.42	72.38
φ cal100	42.94	42.74	42.55	42.35	42.15	41.95	41.76
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	72.34	72.30	72.27	72.23	72.19	72.16	72.12
φ cal100	41.56	41.36	41.17	40.97	40.77	40.58	40.38

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	2017/09/18

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	408502
Date of sterilization	2017/08/30

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