

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

pH calibration parameters Lot No. 1310

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.09	58.01	57.93	57.85	57.77	57.69	57.61
ϕ max	15.98	15.97	15.96	15.94	15.93	15.92	15.91
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.80	6.79	6.78	6.77	6.76	6.75	6.74
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.53	57.45	57.37	57.29	57.21	57.13	57.05
ϕ max	15.90	15.89	15.87	15.86	15.85	15.84	15.83
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.73	6.72	6.71	6.69	6.68	6.67	6.66
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	56.96	56.88	56.80	56.72	56.64	56.56	56.48
ϕ max	15.81	15.80	15.79	15.78	15.77	15.75	15.74
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.65	6.64	6.63	6.62	6.61	6.60	6.59

pH sensor properties

Dynamic range	pH 4.00 - 8.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.1 pH at pH 4.55 - 5.45; ± 0.02 pH at pH 5.45 - 7.40; ± 0.2 pH at pH 7.40 - 8.20 (batch calibration)
Response time (t90)	At 25 °C < 30 s
Drift at pH = 7	< 0.005 pH per day (sampling interval of 1 min)
Temperature range	5 °C to 50 °C
Compatibility	Aqueous solutions, ethanol, methanol (max. 10 % v/v)
Sensor stability	sensor material can be destructed 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 HP8-1332-02D (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_020305 (BL004)
Calibration phase offset	pH 255.3 (pH Ser.3020-hc, gain 25)
Date of calibration	2013/09/25

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DO calibration parameters Lot No. 1310

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	68.89	69.01	69.13	69.25	69.37	69.49	69.61
ϕ cal100	46.90	46.62	46.35	46.08	45.80	45.53	45.26
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	69.73	69.85	69.96	70.08	70.20	70.32	70.44
ϕ cal100	44.99	44.71	44.44	44.17	43.89	43.62	43.35
Temperature	34°C	345C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	70.56	70.68	70.80	70.92	71.04	71.16	71.28
ϕ cal100	43.07	42.80	42.53	42.26	41.98	41.71	41.44

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.1 % O ₂ (software)
Accuracy	± 2 % dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.03% O ₂ within 30 days (sampling interval of 1 min)
Response time (t90)	< 30 s
Temperature range	0 – 50°C
Sensor stability	sensor material can be destructed 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-1326-02 (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 (nitrogen, 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_020305 (BL004)
Calibration phase offset	DO 332.2 (DO Ser.4020-hc, gain 55)
Date of calibration	2013/09/25

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	33113329
Date of sterilization	2013/09/18

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