

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

pH calibration parameters Lot No. 1311

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.25	58.16	58.08	57.99	57.91	57.82	57.74
ϕ max	17.62	17.61	17.60	17.59	17.58	17.58	17.57
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.82	6.80	6.79	6.78	6.77	6.76	6.74
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.65	57.57	57.49	57.40	57.32	57.23	57.15
ϕ max	17.56	17.55	17.54	17.54	17.53	17.52	17.51
dpH	0.51	0.51	0.50	0.50	0.50	0.50	0.50
pH ₀	6.73	6.72	6.71	6.70	6.68	6.67	6.66
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	57.06	56.98	56.89	56.81	56.72	56.64	56.56
ϕ max	17.50	17.50	17.49	17.48	17.47	17.46	17.45
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.65	6.64	6.62	6.61	6.60	6.59	6.57

pH sensor properties

Dynamic range	pH 4.10 - 8.70
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.1 pH at pH 4.70 - 5.60; ± 0.02 pH at pH 5.60 - 7.25; ± 0.2 pH at pH 7.25 - 8.15 (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 HP8-1329-01 (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_05B838 (BL007)
Calibration phase offset	pH 256.3 (pH Ser.3010-hc, gain 25)
Date of calibration	2013/10/11

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DO calibration parameters Lot No. 1311

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	68.30	68.43	68.55	68.68	68.81	68.94	69.06
ϕ cal100	46.70	46.42	46.14	45.86	45.58	45.30	45.02
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	69.19	69.23	69.45	69.58	69.70	69.83	69.96
ϕ cal100	44.74	44.46	44.18	43.90	43.62	43.34	43.06
Temperature	34°C	345C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	70.09	70.21	70.34	70.47	70.60	70.73	70.85
ϕ cal100	42.78	42.50	42.22	41.94	41.66	41.38	41.10

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_05B838 (BL007)
Calibration phase offset	DO 332.5 (DO Ser.4010-hc, gain 50)
Date of calibration	2013/10/11

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	33114254
Date of sterilization	2013/10/08

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