

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

pH calibration parameters Lot No. 1410

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.25	58.17	58.09	58.01	57.93	57.85	57.77
ϕ max	17.75	17.74	17.73	17.73	17.72	17.72	17.71
dpH	0.55	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.64	6.63	6.62	6.61	6.60	6.59	6.58
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.69	57.61	57.53	57.45	57.37	57.29	57.21
ϕ max	17.71	17.70	17.69	17.69	17.68	17.68	17.67
dpH	0.54	0.54	0.54	0.53	0.53	0.53	0.53
pH ₀	6.56	6.55	6.54	6.53	6.52	6.51	6.50
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	57.13	57.05	56.97	56.89	56.81	56.74	56.66
ϕ max	17.66	17.66	17.65	17.65	17.64	17.63	17.63
dpH	0.53	0.53	0.53	0.53	0.52	0.52	0.52
pH ₀	6.49	6.48	6.47	6.46	6.44	6.43	6.42

pH sensor properties

Dynamic range	pH 4.05 - 8.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.1 pH at pH 4.60 – 5.30; ± 0.02 pH at pH 5.30 – 7.15 ± 0.2 pH at pH 7.15 - 8.00 (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. 5 % 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 HP8-1427-02 (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 30)
Date of calibration	2014/11/20

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DO calibration parameters Lot No. 1410

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	67.28	67.31	67.34	67.37	67.40	67.42	67.45
ϕ cal100	42.62	42.39	42.17	41.94	41.71	41.48	41.25
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	67.48	67.51	67.54	67.57	67.60	67.62	67.65
ϕ cal100	41.03	40.80	40.57	40.34	40.12	39.89	39.66
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	67.68	67.71	67.74	67.77	67.80	67.83	67.85
ϕ cal100	39.43	39.20	38.98	38.75	38.52	38.29	38.06

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	< 0.03% 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-1426-03 (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_110335 (BL092)
Calibration phase offset	DO 332.4 (DO Ser.4084-hc, gain 40)
Date of calibration	2014/11/20

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	69897
Date of sterilization	2014/11/16

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