

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

pH calibration parameters Lot No. 1412

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.32	58.24	58.17	58.09	58.02	57.94	57.87
ϕ max	18.44	18.43	18.42	18.42	18.41	18.40	18.39
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.67	6.66	6.65	6.64	6.63	6.62	6.61
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.79	57.72	57.64	57.57	57.49	57.42	57.34
ϕ max	18.38	18.37	18.37	18.36	18.35	18.34	18.33
dpH	0.54	0.54	0.53	0.53	0.53	0.53	0.53
pH ₀	6.59	6.58	6.57	6.56	6.55	6.54	6.53
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	57.27	57.19	57.12	57.04	56.97	56.89	56.82
ϕ max	18.33	18.32	18.31	18.30	18.29	18.29	18.28
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.52	6.51	6.50	6.48	6.47	6.46	6.45

pH sensor properties

Dynamic range	pH 4.0 - 8.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.1 pH at pH 4.60 - 5.55; ± 0.02 pH at pH 5.55 - 7.10; ± 0.2 pH at pH 7.10 - 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	2014/12/05

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DO calibration parameters Lot No. 1412

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	67.35	67.50	67.64	67.78	67.93	68.07	68.22
φ cal100	43.78	43.51	43.24	42.98	42.71	42.45	42.18
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	68.36	68.51	68.65	68.80	68.94	69.09	69.23
φ cal100	41.91	41.65	41.38	41.12	40.85	40.58	40.32
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	69.37	69.52	69.66	69.81	69.95	70.10	70.24
φ cal100	40.05	39.79	39.52	39.25	38.99	38.72	38.46

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	2014/12/05

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	75377
Date of sterilization	2014/12/02

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