

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

pH calibration parameters Lot No. 1516

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	57.99	57.90	57.82	57.73	57.64	57.55	57.47
ϕ max	19.21	19.16	19.12	19.08	19.03	18.99	18.95
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.74	6.73	6.72	6.71	6.70	6.69	6.68
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.38	57.29	57.20	57.11	57.03	56.94	56.85
ϕ max	18.90	18.86	18.82	18.77	18.73	18.69	18.64
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.67	6.66	6.65	6.64	6.63	6.62	6.61
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	56.76	56.68	56.59	56.50	56.41	56.32	56.24
ϕ max	18.60	18.56	18.51	18.47	18.43	18.38	18.34
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.60	6.59	6.58	6.57	6.56	6.55	6.54

pH sensor properties

Dynamic range	pH 4.05 – 8.70
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.1 pH at pH 4.70 - 5.70; ± 0.02 pH at pH 5.70 – 7.15; ± 0.2 pH at pH 7.15 – 8.10 (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_2 (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	2015/09/14

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DO calibration parameters Lot No. 1516

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	63.27	63.47	63.67	63.87	64.07	64.27	64.47
φ cal100	42.29	42.08	41.86	41.64	41.43	41.21	40.99
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	64.66	64.86	65.06	65.26	65.46	65.66	65.86
φ cal100	40.78	40.56	40.34	40.13	39.91	39.69	39.48
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	66.06	66.25	66.45	66.65	66.85	67.05	67.25
φ cal100	39.26	39.04	38.83	38.61	38.39	38.18	37.96

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.1 % 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_2 (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	2015/09/14

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	163769
Date of sterilization	2015/09/09

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