

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

pH calibration parameters Lot No. 1408

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	44.98	44.88	44.78	44.69	44.59	44.49	44.40
ϕ max	14.54	14.56	14.57	14.58	14.60	14.61	14.62
dpH	0.55	0.55	0.54	0.54	0.54	0.53	0.53
pH ₀	4.23	4.22	4.22	4.21	4.20	4.19	4.19
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	44.30	44.21	44.11	44.01	43.92	43.82	43.73
ϕ max	14.63	14.65	14.66	14.67	14.69	14.70	14.71
dpH	0.53	0.53	0.52	0.52	0.52	0.52	0.51
pH ₀	4.18	4.17	4.16	4.15	4.15	4.14	4.13
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	43.63	43.53	43.44	43.34	43.25	43.15	43.05
ϕ max	14.73	14.74	14.75	14.76	14.78	14.79	14.80
dpH	0.51	0.51	0.50	0.50	0.50	0.50	0.49
pH ₀	4.12	4.12	4.11	4.10	4.09	4.09	4.08

pH sensor properties

Dynamic range	pH 2.00- 5.95
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.1 pH at pH 2.55 - 3.05; ± 0.02 pH at pH 3.05 – 4.80; ± 0.2 pH at pH 4.80 – 5.35 (batch calibration)
Response time (t90)	At 25 °C < 30 s
Drift at pH = 5.0	-0.03 pH per day (sampling interval of 15 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 low-pH-10_blau (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 1.00 ± 0.01 / pH 2.00 ± 0.01 / pH 7.00 ± 0.01 / pH 8.00 ± 0.01, 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	2014/11/14

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DO calibration parameters Lot No. 1408

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	66.51	66.53	66.54	66.56	66.58	66.59	66.61
φ cal100	40.81	40.62	40.44	40.26	40.08	39.90	39.72
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	66.63	66.64	66.66	66.67	66.69	66.71	66.72
φ cal100	39.53	39.35	39.17	38.99	38.81	38.63	38.45
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	66.74	66.76	66.77	66.79	66.81	66.82	66.84
φ cal100	38.26	38.08	37.90	37.72	37.54	37.36	37.17

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	2014/11/14

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	66580
Date of sterilization	2014/11/06

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