

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

pH calibration parameters Lot No. 1506

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.13	58.05	57.97	57.89	57.81	57.73	57.65
ϕ max	18.18	18.17	18.16	18.15	18.13	18.12	18.11
dpH	0.54	0.54	0.54	0.54	0.53	0.53	0.53
pH ₀	6.61	6.60	6.59	6.58	6.57	6.56	6.55
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.57	57.49	57.41	57.33	57.25	57.17	57.10
ϕ max	18.10	18.08	18.07	18.06	18.05	18.04	18.02
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.54	6.53	6.52	6.51	6.50	6.49	6.48
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	57.02	56.94	56.86	56.78	56.70	56.62	56.54
ϕ max	18.01	18.00	17.99	17.97	17.96	17.95	17.94
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.52
pH ₀	6.47	6.46	6.45	6.44	6.43	6.42	6.41

pH sensor properties

Dynamic range	pH 3.95 – 8.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.1 pH at pH 4.55 – 5.40; ± 0.02 pH at pH 5.40 – 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_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_11035 (BL092)
Calibration phase offset	pH 255.5 (pH Ser.3083-hc, gain 30)
Date of calibration	2015/05/07

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DO calibration parameters Lot No. 1506

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	63.22	63.46	63.71	63.95	64.20	64.44	64.69
ϕ cal100	41.38	41.17	40.95	40.74	40.52	40.31	40.10
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	64.93	65.18	65.42	65.67	65.91	66.16	66.40
ϕ cal100	39.88	39.67	39.46	39.24	39.03	38.81	38.60
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	66.65	66.89	67.14	67.38	67.63	67.87	68.12
ϕ cal100	38.39	38.17	37.96	37.75	37.53	37.32	37.10

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_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_11035 (BL092)
Calibration phase offset	DO 332.4 (DO Ser.4084-hc, gain 40)
Date of calibration	2015/05/07

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	122225
Date of sterilization	2015/04/30

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