

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

pH calibration parameters Lot No. 1501

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	57.98	57.89	57.81	57.73	57.65	57.57	57.49
ϕ max	18.20	18.18	18.16	18.14	18.12	18.11	18.09
dpH	0.49	0.49	0.49	0.49	0.49	0.49	0.49
pH ₀	6.82	6.81	6.80	6.79	6.78	6.76	6.75
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.41	57.32	57.24	57.16	57.08	57.00	56.92
ϕ max	18.07	18.05	18.03	18.01	17.99	17.97	17.95
dpH	0.49	0.49	0.49	0.49	0.48	0.48	0.48
pH ₀	6.74	6.73	6.71	6.70	6.69	6.68	6.67
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	56.84	56.76	56.67	56.59	56.51	56.43	56.35
ϕ max	17.93	17.92	17.90	17.88	17.86	17.84	17.82
dpH	0.48	0.48	0.48	0.48	0.48	0.48	0.48
pH ₀	6.65	6.64	6.63	6.62	6.61	6.59	6.58

pH sensor properties

Dynamic range	pH 4.10 – 8.70
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.1 pH at pH 4.70 – 5.65; ± 0.02 pH at pH 5.65 – 7.25; ± 0.2 pH at pH 7.25 - 8.15 (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_11035 (BL092)
Calibration phase offset	pH 255.5 (pH Ser.3083-hc, gain 30)
Date of calibration	2015/01/27

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DO calibration parameters Lot No. 1501

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	62.62	62.83	63.04	63.25	63.46	63.66	63.87
ϕ cal100	42.36	42.10	41.85	41.60	41.35	41.09	40.84
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	64.08	64.29	64.50	64.71	64.92	65.12	65.33
ϕ cal100	40.59	40.33	40.08	39.83	39.58	39.32	39.07
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	65.54	65.75	65.96	66.17	66.37	66.58	66.79
ϕ cal100	38.82	38.57	38.31	38.06	37.81	37.56	37.30

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 (t ₉₀)	< 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_11035 (BL092)
Calibration phase offset	DO 332.4 (DO Ser.4084-hc, gain 40)
Date of calibration	2015/01/27

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	88715
Date of sterilization	2015/01/22

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