

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

pH calibration parameters Lot No. 1313

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	57.13	57.06	56.99	56.91	56.84	56.77	56.70
ϕ max	16.75	16.73	16.71	16.70	16.68	16.67	16.65
dpH	0.52	0.52	0.52	0.52	0.52	0.52	0.52
pH ₀	6.71	6.70	6.69	6.68	6.67	6.66	6.65
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	56.62	56.55	56.48	56.41	56.33	56.26	56.19
ϕ max	16.64	16.62	16.61	16.59	16.58	16.56	16.55
dpH	0.52	0.52	0.52	0.52	0.52	0.52	0.52
pH ₀	6.63	6.62	6.61	6.60	6.59	6.58	6.57
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	56.12	56.04	55.97	55.90	55.83	55.75	55.68
ϕ max	16.53	16.51	16.50	16.48	16.47	16.45	16.44
dpH	0.52	0.52	0.52	0.52	0.52	0.52	0.52
pH ₀	6.56	6.54	6.53	6.52	6.51	6.50	6.49

pH sensor properties

Dynamic range	pH 4.05 - 8.65
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.1 pH at pH 4.60 - 5.50; ± 0.02 pH at pH 5.50 - 7.20; ± 0.2 pH at pH 7.20 - 8.05 (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 HP8-1329-01 (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_12D651 (BL091)
Calibration phase offset	pH 255.7 (pH Ser.3079-hc, gain 32)
Date of calibration	2013/12/03

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DO calibration parameters Lot No. 1313

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	68.96	69.14	69.32	69.50	69.68	69.86	70.04
ϕ cal100	45.19	44.93	44.67	44.42	44.16	43.90	43.64
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	70.22	70.40	70.59	70.77	70.95	71.13	71.31
ϕ cal100	43.38	43.13	42.87	42.61	42.35	42.09	41.84
Temperature	34°C	345C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.49	71.67	71.85	72.03	72.21	72.39	72.57
ϕ cal100	41.58	41.32	41.06	40.80	40.55	40.29	40.03

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.1 % O ₂ (software)
Accuracy	± 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-1326-02 (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_020305 (BL004)
Calibration phase offset	DO 332.5 (DO Ser.4079-hc, gain 45)
Date of calibration	2013/12/03

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	33116669
Date of sterilization	2013/11/25

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