

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

pH calibration parameters Lot No. 1929 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	57.07	56.97	56.88	56.78	56.69	56.59	56.49
ϕ max	13.77	13.76	13.75	13.73	13.72	13.71	13.70
dpH	0.55	0.55	0.55	0.55	0.55	0.54	0.54
pH ₀	6.29	6.29	6.28	6.28	6.27	6.26	6.26
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	56.40	56.30	56.21	56.11	56.02	55.92	55.83
ϕ max	13.68	13.67	13.66	13.65	13.63	13.62	13.61
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.25	6.24	6.24	6.23	6.23	6.22	6.21
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	55.73	55.64	55.54	55.44	55.35	55.25	55.16
ϕ max	13.60	13.58	13.57	13.56	13.54	13.53	13.52
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.21	6.20	6.19	6.19	6.18	6.18	6.17

pH sensor properties

Dynamic range	pH 4.40 - 7.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.90 - 5.20; ± 0.1 pH at pH 5.20 - 6.95; ± 0.25 pH at pH 6.95 - 7.25 (batch calibration)
Response time (t90)	At 25 °C < 30 s
Drift at pH = 7	< 0.005 pH per day (sampling interval of 6 min)
Temperature range	5 °C to 50 °C
Compatibility	Aqueous solutions, ethanol, methanol (max. 5 % v/v)
Sensor stability	sensor material can be degraded 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 HP8-1811-01 (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-BOH1)
Calibration device	BioLector CX_110335 (BL092)
Calibration phase offset	pH 255.5 (pH Ser.3083-hc, gain 45)
Date of calibration	2019/06/12

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DO calibration parameters Lot No. 1929 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.65	72.56	72.46	72.37	72.27	72.17	72.08
ϕ cal100	42.00	41.80	41.60	41.40	41.20	41.01	40.81
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.98	71.89	71.79	71.70	71.60	71.50	71.41
ϕ cal100	40.61	40.41	40.21	40.01	39.81	39.61	39.42
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.31	71.22	71.12	71.03	70.93	70.83	70.74
ϕ cal100	39.22	39.02	38.82	38.62	38.42	38.22	38.02

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	< 0.5% O ₂ per day (sampling interval of 6 min)
Response time (t90)	< 30 s
Temperature range	5 – 50°C
Sensor stability	sensor material can be degraded 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-1810-01 (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 (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-BOH1)
Calibration device	BioLector CX_110335 (BL092)
Calibration phase offset	DO 332.4 (DO Ser.4084-hc, gain 48)
Date of calibration	2019/06/12

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	634165
Date of sterilization	2019/05/29

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