

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

pH calibration parameters Lot No. 1901 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	56.79	56.72	56.65	56.58	56.51	56.43	56.36
ϕ max	12.08	12.08	12.08	12.08	12.08	12.07	12.07
dpH	0.55	0.55	0.55	0.54	0.54	0.54	0.54
pH ₀	6.25	6.24	6.23	6.23	6.22	6.21	6.20
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	56.29	56.22	56.15	56.07	56.00	55.93	55.86
ϕ max	12.07	12.07	12.07	12.07	12.07	12.07	12.07
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.19	6.18	6.18	6.17	6.16	6.15	6.14
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	55.79	55.71	55.64	55.57	55.50	55.43	55.35
ϕ max	12.06	12.06	12.06	12.06	12.06	12.06	12.06
dpH	0.54	0.54	0.54	0.54	0.53	0.53	0.53
pH ₀	6.13	6.13	6.12	6.11	6.10	6.09	6.08

pH sensor properties

Dynamic range	pH 4.30 - 7.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.80 - 5.15; ± 0.1 pH at pH 5.15 - 6.90; ± 0.25 pH at pH 6.90 - 7.20 (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-BOH)
Calibration device	BioLector CX_110335 (BL092)
Calibration phase offset	pH 255.5 (pH Ser.3083-hc. gain 45)
Date of calibration	2019/02/20

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DO calibration parameters Lot No. 1901 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.08	72.08	72.08	72.08	72.08	72.08	72.08
ϕ cal100	45.40	45.12	44.84	44.55	44.27	43.99	43.70
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.08	72.08	72.08	72.08	72.08	72.08	72.08
ϕ cal100	43.42	43.14	42.85	42.57	42.29	42.00	41.72
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	72.08	72.08	72.08	72.08	72.08	72.08	72.08
ϕ cal100	41.44	41.15	40.87	40.59	40.30	40.02	39.73

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-1742-02 (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 (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 48)
Date of calibration	2019/02/20

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	589719
Date of sterilization	2019/01/31

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