

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

pH calibration parameters Lot No. 1841 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	55.84	55.76	55.69	55.61	55.53	55.46	55.38
ϕ max	11.83	11.82	11.81	11.81	11.80	11.79	11.78
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.25	6.24	6.23	6.22	6.21	6.21	6.20
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	55.31	55.23	55.16	55.08	55.01	54.93	54.86
ϕ max	11.78	11.77	11.76	11.76	11.75	11.74	11.73
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.19	6.18	6.17	6.16	6.15	6.14	6.13
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	54.78	54.70	54.63	54.55	54.48	54.40	54.33
ϕ max	11.73	11.72	11.71	11.71	11.70	11.69	11.68
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.12	6.12	6.11	6.10	6.09	6.08	6.07

pH sensor properties

Dynamic range	pH 3.70 - 8.35
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.20 - 4.85; ± 0.1 pH at pH 4.85 - 7.15; ± 0.25 pH at pH 7.15 - 7.85 (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 HP8-1803-01 (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	2018/10/15

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DO calibration parameters Lot No. 1841 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.42	72.40	72.38	72.37	72.35	72.33	72.32
ϕ cal100	43.48	43.25	43.02	42.79	42.55	42.32	42.09
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.30	72.28	72.27	72.25	72.23	72.21	72.20
ϕ cal100	41.86	41.63	41.40	41.17	40.94	40.71	40.48
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	72.18	72.16	72.15	72.13	72.11	72.10	72.08
ϕ cal100	40.25	40.01	39.78	39.55	39.32	39.09	38.86

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	2018/10/15

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	551699
Date of sterilization	2018/10/08

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