

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

pH calibration parameters Lot No. 1951 (BioLector® I, filter module ID-102/-302)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	56.73	56.66	56.58	56.50	56.43	56.35	56.28
ϕ max	10.99	10.99	10.98	10.98	10.98	10.98	10.98
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.27	6.26	6.26	6.25	6.24	6.23	6.22
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	56.20	56.12	56.05	55.97	55.89	55.82	55.74
ϕ max	10.98	10.98	10.98	10.98	10.98	10.97	10.97
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.21	6.21	6.20	6.19	6.18	6.17	6.17
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	55.66	55.59	55.51	55.43	55.36	55.28	55.20
ϕ max	10.97	10.97	10.97	10.97	10.97	10.97	10.97
dpH	0.53	0.53	0.52	0.52	0.52	0.52	0.52
pH ₀	6.16	6.15	6.14	6.13	6.13	6.12	6.11

pH sensor properties

Dynamic range	pH 4.40 - 7.70
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.85 - 5.15; ± 0.1 pH at pH 5.15 - 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_2 (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 255.9 (pH Ser.3083-hc, gain 45)
Date of calibration	2020/02/12

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DO calibration parameters Lot No. 1951 (BioLector® I, filter module ID-103/303)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.11	72.10	72.09	72.08	72.07	72.06	72.05
ϕ cal100	43.45	43.24	43.04	42.83	42.63	42.42	42.22
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.04	72.03	72.03	72.02	72.01	72.00	71.99
ϕ cal100	42.01	41.81	41.60	41.40	41.19	40.99	40.78
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.98	71.97	71.96	71.95	71.94	71.93	71.93
ϕ cal100	40.58	40.37	40.17	39.96	39.76	39.55	39.35

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_2 (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 332.5 (DO Ser.4084-hc, gain 48)
Date of calibration	2020/02/12

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	716325
Date of sterilization	2020/01/16

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