

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

pH calibration parameters Lot No.2012201 (BioLector® XT, filter module ID-521)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	70.37	70.28	70.18	70.09	70.00	69.91	69.82
φ max	12.96	12.88	12.80	12.72	12.64	12.56	12.48
dpH	0.79	0.78	0.78	0.78	0.78	0.78	0.78
pH ₀	6.59	6.58	6.57	6.55	6.54	6.53	6.52

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	69.72	69.63	69.54	69.45	69.35	69.26	69.17
φ max	12.40	12.32	12.24	12.16	12.08	12.00	11.92
dpH	0.78	0.78	0.78	0.78	0.78	0.78	0.78
pH ₀	6.51	6.49	6.48	6.47	6.46	6.44	6.43

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	69.08	68.99	68.89	68.80	68.71	68.62	68.53
φ max	11.84	11.76	11.68	11.61	11.53	11.45	11.37
dpH	0.78	0.78	0.78	0.78	0.77	0.77	0.77
pH ₀	6.42	6.41	6.40	6.38	6.37	6.36	6.35

pH sensor properties

Dynamic range	pH 3.95 - 8.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.65 - 5.10 ; ± 0.1 pH at pH 5.10 - 7.45 ; ± 0.25 pH at pH 7.45 - 7.90 (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 LG1-1939-01_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 2.00 ± 0.01 / pH 3.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH_DO_calibration_BOH2 , T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type=Flower Plate (MTP-48-BOH2)
Calibration device	Hardware ID: 03166170
Calibration phase offset	pH -360.34 (pH Ser. 3517, gain 8)
Date of calibration	2021-06-09

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DO calibration parameters Lot No.2012201 (BioLector® XT, filter module ID-528)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
A	-3286	-3187	-3088	-2988	-2889	-2790	-2690
B	25717	24929	24140	23351	22562	21773	20985
C	-23149	-22427	-21705	-20983	-20260	-19538	-18816

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
A	-2591	-2492	-2392	-2293	-2193	-2094	-1995
B	20196	19407	18618	17829	17041	16252	15463
C	-18094	-17372	-16650	-15928	-15205	-14483	-13761

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
A	-1895	-1796	-1697	-1597	-1498	-1399	-1299
B	14674	13885	13097	12308	11519	10730	9941
C	-13039	-12317	-11595	-10873	-10150	-9428	-8706

DO sensor properties

Dynamic range	0 - 100 % oxygen
Resolution	Up to 0.1 % O2 (software)
Accuracy	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O2 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 RF-204150647 (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_BOH2 , T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type=Flower Plate (MTP-48-BOH2)
Calibration device	Hardware ID: 03166170
Calibration phase offset	DO -360.53 (DO Ser.4455, gain 4)
Date of calibration	2021-06-09

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	840289
Date of sterilization	2020-12-17

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