

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

pH calibration parameters Lot No.2114211 (BioLector® XT, filter module ID-521)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	69.49	69.40	69.31	69.21	69.12	69.02	68.93
φ max	12.33	12.25	12.17	12.08	12.00	11.91	11.83
dpH	0.75	0.75	0.75	0.75	0.75	0.75	0.75
pH ₀	6.58	6.56	6.55	6.54	6.53	6.52	6.51

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	68.83	68.74	68.65	68.55	68.46	68.36	68.27
φ max	11.74	11.66	11.57	11.49	11.40	11.32	11.23
dpH	0.75	0.75	0.75	0.75	0.75	0.75	0.75
pH ₀	6.50	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	68.18	68.08	67.99	67.89	67.80	67.71	67.61
φ max	11.15	11.06	10.98	10.89	10.81	10.72	10.64
dpH	0.75	0.75	0.75	0.75	0.74	0.74	0.74
pH ₀	6.42	6.41	6.40	6.39	6.38	6.37	6.36

pH sensor properties

Dynamic range	pH 4.00 - 8.55
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.70 - 5.15 ; ± 0.1 pH at pH 5.15 - 7.45 ; ± 0.25 pH at pH 7.45 - 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 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 ± 0.02 / pH 3.00 ± 0.02 / pH 9.00 ± 0.03 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = MF_pH_DO_calibration_BOH2 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32-BOH2)
Calibration device	Hardware ID: 03166164
Calibration phase offset	pH -360.45 (pH Ser. 3513, gain 8)
Date of calibration	2021-10-21

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DO calibration parameters Lot No.2114211 (BioLector® XT, filter module ID-528)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
A	-2345	-2294	-2242	-2191	-2139	-2088	-2036
B	18226	17819	17411	17004	16596	16189	15782
C	-16268	-15897	-15526	-15155	-14783	-14412	-14041

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
A	-1985	-1933	-1882	-1830	-1779	-1727	-1676
B	15374	14967	14559	14152	13745	13337	12930
C	-13669	-13298	-12927	-12556	-12184	-11813	-11442

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
A	-1624	-1573	-1521	-1470	-1418	-1367	-1315
B	12522	12115	11708	11300	10893	10485	10078
C	-11070	-10699	-10328	-9957	-9585	-9214	-8843

DO sensor properties

Dynamic range	0 - 100 % oxygen
Resolution	Up to 0.1 % O ₂ (software)
Accuracy	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O ₂ per day (sampling interval of 6 min)
Response time (t ₉₀)	< 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-21160296 (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 = MF_pH_DO_calibration_BOH2 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32-BOH2)
Calibration device	Hardware ID: 03166164
Calibration phase offset	DO -360.45 (DO Ser. 4452, gain 4)
Date of calibration	2021-10-21

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	952124
Date of sterilization	2021-10-05

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