

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

pH calibration parameters Lot No.2114301 and 2114307 (BioLector® XT, filter module ID-524)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	61.20	61.42	61.63	61.85	62.06	62.28	62.49
φ max	11.78	11.80	11.83	11.86	11.89	11.92	11.95
dpH	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41
pH ₀	5.45	5.44	5.43	5.43	5.42	5.42	5.41

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	62.71	62.92	63.14	63.35	63.57	63.79	64.00
φ max	11.98	12.01	12.04	12.07	12.10	12.13	12.16
dpH	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41
pH ₀	5.40	5.40	5.39	5.38	5.38	5.37	5.37

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	64.22	64.43	64.65	64.86	65.08	65.29	65.51
φ max	12.19	12.22	12.25	12.28	12.31	12.34	12.37
dpH	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41
pH ₀	5.36	5.35	5.35	5.34	5.34	5.33	5.32

pH sensor properties

Dynamic range	pH 4.00 - 6.65
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.30 - 4.50 ; ± 0.1 pH at pH 4.50 - 6.10 ; ± 0.25 pH at pH 6.10 - 6.30 (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 pH51-211650282 (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 7.00 ± 0.02 / pH 8.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH_DO_calibration_BOH3 , T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH3)
Calibration device	Hardware ID: 03166164
Calibration phase offset	pH -360.69 (pH Ser. 3587, gain 6)
Date of calibration	2021-10-12

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DO calibration parameters Lot No.2114301 and 2114307 (BioLector® XT, filter module ID-528)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
A	-1890	-1848	-1805	-1762	-1720	-1677	-1634
B	14608	14271	13935	13598	13262	12926	12589
C	-12949	-12643	-12337	-12032	-11726	-11420	-11114

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
A	-1592	-1549	-1506	-1464	-1421	-1379	-1336
B	12253	11916	11580	11243	10907	10570	10234
C	-10809	-10503	-10197	-9891	-9585	-9280	-8974

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
A	-1293	-1251	-1208	-1165	-1123	-1080	-1037
B	9897	9561	9224	8888	8551	8215	7878
C	-8668	-8362	-8056	-7751	-7445	-7139	-6833

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 = pH_DO_calibration_BOH3 , T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH3)
Calibration device	Hardware ID: 03166164
Calibration phase offset	DO -360.67 (DO Ser. 4452, gain 4)
Date of calibration	2021-10-12

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	365952124
Date of sterilization	2021-10-05

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