

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

pH calibration parameters Lot No.2112311 (BioLector® XT, filter module ID-524)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	62.00	62.14	62.27	62.40	62.54	62.67	62.80
φ max	8.43	8.45	8.47	8.49	8.51	8.54	8.56
dpH	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40
pH ₀	5.54	5.54	5.53	5.53	5.52	5.51	5.51

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	62.94	63.07	63.20	63.34	63.47	63.60	63.74
φ max	8.58	8.60	8.62	8.64	8.66	8.68	8.70
dpH	-0.40	-0.40	-0.40	-0.39	-0.39	-0.39	-0.39
pH ₀	5.50	5.50	5.49	5.49	5.48	5.48	5.47

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	63.87	64.00	64.14	64.27	64.41	64.54	64.67
φ max	8.72	8.75	8.77	8.79	8.81	8.83	8.85
dpH	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39
pH ₀	5.46	5.46	5.45	5.45	5.44	5.44	5.43

pH sensor properties

Dynamic range	pH 4.10 - 6.70
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.40 - 4.55 ; ± 0.1 pH at pH 4.55 - 6.25 ; ± 0.25 pH at pH 6.25 - 6.40 (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 pH51-202850550 (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 7.00 ± 0.01 / pH 8.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = MF_pH_DO_calibration_BOH3 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32-BOH3)
Calibration device	Hardware ID: 03166164
Calibration phase offset	pH -360.69 (pH Ser. 3587, gain 6)
Date of calibration	2021-08-31

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DO calibration parameters Lot No.2112311 (BioLector® XT, filter module ID-528)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
A	-1786	-1754	-1721	-1688	-1656	-1623	-1590
B	13698	13444	13191	12938	12685	12432	12179
C	-12040	-11814	-11588	-11362	-11136	-10910	-10684

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
A	-1558	-1525	-1492	-1460	-1427	-1395	-1362
B	11926	11673	11419	11166	10913	10660	10407
C	-10459	-10233	-10007	-9781	-9555	-9329	-9103

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
A	-1329	-1297	-1264	-1231	-1199	-1166	-1133
B	10154	9901	9648	9394	9141	8888	8635
C	-8877	-8651	-8425	-8199	-7973	-7747	-7521

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-21160295 (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_BOH3 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32-BOH3)
Calibration device	Hardware ID: 03166164
Calibration phase offset	DO -360.69 (DO Ser. 4452, gain 4)
Date of calibration	2021-08-31

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	932566
Date of sterilization	2021-08-17

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