

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

pH calibration parameters Lot No.2114121 (BioLector® XT, filter module ID-502)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	63.74	63.68	63.62	63.56	63.50	63.44	63.38
φ max	12.53	12.53	12.53	12.53	12.53	12.52	12.52
dpH	0.58	0.58	0.58	0.58	0.58	0.58	0.58
pH ₀	6.36	6.35	6.34	6.33	6.32	6.31	6.30

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.32	63.25	63.19	63.13	63.07	63.01	62.95
φ max	12.52	12.52	12.52	12.52	12.52	12.51	12.51
dpH	0.58	0.58	0.58	0.58	0.58	0.58	0.58
pH ₀	6.29	6.28	6.27	6.26	6.25	6.23	6.22

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.89	62.83	62.77	62.71	62.65	62.59	62.52
φ max	12.51	12.51	12.51	12.51	12.50	12.50	12.50
dpH	0.58	0.58	0.58	0.58	0.58	0.58	0.58
pH ₀	6.21	6.20	6.19	6.18	6.17	6.16	6.15

pH sensor properties

Dynamic range	pH 4.30 - 7.90
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.80 - 5.15 ; ± 0.1 pH at pH 5.15 - 7.05 ; ± 0.25 pH at pH 7.05 - 7.40 (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 HP8-1811-01_5 (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 ± 0.02 / pH 4.00 ± 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_BOH1 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH1)
Calibration device	Hardware ID: 03166164
Calibration phase offset	pH -1.81 (pH Ser. 3511, gain 7)
Date of calibration	2021-10-14

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DO calibration parameters Lot No.2114121 (BioLector® XT, filter module ID-503)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
A	-3735	-3667	-3600	-3532	-3464	-3396	-3328
B	29369	28832	28294	27756	27219	26681	26144
C	-26570	-26080	-25590	-25100	-24610	-24120	-23631

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
A	-3260	-3192	-3124	-3056	-2988	-2920	-2852
B	25606	25068	24531	23993	23455	22918	22380
C	-23141	-22651	-22161	-21671	-21181	-20691	-20202

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
A	-2784	-2716	-2648	-2580	-2512	-2444	-2376
B	21843	21305	20767	20230	19692	19154	18617
C	-19712	-19222	-18732	-18242	-17752	-17263	-16773

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 Pst3-HG-1921-01_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 = MF_pH_DO_calibration_BOH1 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH1)
Calibration device	Hardware ID: 03166164
Calibration phase offset	DO -1.81 (DO Ser. 4446, gain 7)
Date of calibration	2021-10-14

Sterilization procedure

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

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