

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

pH calibration parameters Lot No.2114111 (BioLector® XT, filter module ID-502)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	64.50	64.44	64.37	64.31	64.24	64.18	64.11
φ max	13.01	12.98	12.95	12.92	12.89	12.86	12.83
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pH ₀	6.48	6.47	6.46	6.45	6.44	6.43	6.43

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	64.05	63.98	63.92	63.85	63.79	63.72	63.66
φ max	12.80	12.77	12.73	12.70	12.67	12.64	12.61
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pH ₀	6.42	6.41	6.40	6.39	6.38	6.37	6.36

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	63.59	63.53	63.46	63.40	63.33	63.27	63.20
φ max	12.58	12.55	12.52	12.49	12.46	12.43	12.39
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pH ₀	6.35	6.34	6.33	6.32	6.31	6.31	6.30

pH sensor properties

Dynamic range	pH 4.40 - 8.05
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.90 - 5.25 ; ± 0.1 pH at pH 5.25 - 7.25 ; ± 0.25 pH at pH 7.25 - 7.55 (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-MF32-BOH1)
Calibration device	Hardware ID: 03166164
Calibration phase offset	pH -1.81 (pH Ser. 3511, gain 7)
Date of calibration	2021-10-20

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DO calibration parameters Lot No.2114111 (BioLector® XT, filter module ID-503)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
A	-4642	-4552	-4463	-4373	-4283	-4194	-4104
B	36622	35910	35197	34485	33773	33061	32348
C	-33264	-32612	-31960	-31308	-30656	-30005	-29353

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
A	-4014	-3925	-3835	-3745	-3656	-3566	-3476
B	31636	30924	30212	29499	28787	28075	27363
C	-28701	-28049	-27397	-26745	-26094	-25442	-24790

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
A	-3387	-3297	-3207	-3117	-3028	-2938	-2848
B	26650	25938	25226	24514	23801	23089	22377
C	-24138	-23486	-22834	-22182	-21531	-20879	-20227

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-MF32-BOH1)
Calibration device	Hardware ID: 03166164
Calibration phase offset	DO -1.81 (DO Ser. 4446, gain 7)
Date of calibration	2021-10-20

Sterilization procedure

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

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