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

pH calibration parameters Lot No.2112101 (BioLector® XT, filter module ID-502)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	64.26	64.19	64.12	64.06	63.99	63.92	63.86
ϕ max	13.12	13.12	13.11	13.11	13.11	13.10	13.10
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pH_0	6.31	6.30	6.29	6.28	6.27	6.26	6.25

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	63.79	63.72	63.66	63.59	63.53	63.46	63.39
ϕ max	13.10	13.09	13.09	13.09	13.08	13.08	13.08
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pH_0	6.24	6.23	6.22	6.21	6.20	6.19	6.19

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	63.33	63.26	63.19	63.13	63.06	62.99	62.93
ϕ max	13.07	13.07	13.06	13.06	13.06	13.05	13.05
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pH_0	6.18	6.17	6.16	6.15	6.14	6.13	6.12

pH sensor properties

Dynamic range	pH 4.25 - 7.85
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.80 - 5.10 ; ± 0.1 pH at pH 5.10 - 7.05 ; ± 0.25 pH at pH 7.05 - 7.35 (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_4 (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 ± 0.01 / pH 4.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH_DO_calibration_BOH1 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: 03166164
Calibration phase offset	pH -1.81 (pH Ser. 3511, gain 7)
Date of calibration	2021-09-02

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DO calibration parameters Lot No.2112101 (BioLector® XT, filter module ID-503)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
A	-4542	-4455	-4368	-4280	-4193	-4106	-4018
B	35771	35079	34386	33693	33001	32308	31615
C	-32424	-31791	-31158	-30525	-29892	-29259	-28626

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
A	-3931	-3844	-3756	-3669	-3582	-3494	-3407
B	30923	30230	29538	28845	28152	27460	26767
C	-27993	-27360	-26727	-26094	-25461	-24828	-24195

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
A	-3320	-3232	-3145	-3058	-2971	-2883	-2796
B	26074	25382	24689	23996	23304	22611	21918
C	-23562	-22929	-22295	-21662	-21029	-20396	-19763

DO sensor properties

Dynamic range	0 - 100 % oxygen
Resolution	Up to 0.1 % O2 (software)
Accuracy	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O2 per day (sampling interval of 6 min)
Response time (t90)	< 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-1810-01_3 (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_BOH1 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: 03166164
Calibration phase offset	DO -360.63 (DO Ser. 4446, gain 7)
Date of calibration	2021-09-02

Sterilization procedure

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

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