

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

pH calibration parameters Lot No.2111307 (BioLector® II/Pro, filter module ID-424)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	66.82	66.92	67.02	67.12	67.22	67.32	67.41
φ max	15.32	15.36	15.41	15.45	15.50	15.54	15.59
dpH	-0.43	-0.43	-0.43	-0.43	-0.42	-0.42	-0.42
pH ₀	5.25	5.24	5.24	5.23	5.23	5.22	5.22

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	67.51	67.61	67.71	67.81	67.91	68.00	68.10
φ max	15.64	15.68	15.73	15.77	15.82	15.86	15.91
dpH	-0.42	-0.42	-0.42	-0.42	-0.42	-0.42	-0.41
pH ₀	5.21	5.20	5.20	5.19	5.19	5.18	5.18

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	68.20	68.30	68.40	68.50	68.60	68.69	68.79
φ max	15.96	16.00	16.05	16.09	16.14	16.18	16.23
dpH	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41
pH ₀	5.17	5.16	5.16	5.15	5.15	5.14	5.13

pH sensor properties

Dynamic range	pH 3.60 - 6.55
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 3.95-4.15; ± 0.1 pH at pH 4.15-6.05; ± 0.25 pH at pH 6.05-6.25 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 pH51-202850552 (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 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Round Well Plate (MTP-R48-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.10 (pH Ser. 3288, gain 6)
Date of calibration	2021-08-18

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DO calibration parameters Lot No.2111307 (BioLector® II/Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.31	72.30	72.29	72.28	72.27	72.26	72.25
ϕ cal100	42.93	42.75	42.57	42.39	42.20	42.02	41.84

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.23	72.22	72.21	72.20	72.19	72.18	72.17
ϕ cal100	41.66	41.48	41.30	41.12	40.94	40.76	40.58

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	72.16	72.15	72.14	72.13	72.12	72.11	72.10
ϕ cal100	40.40	40.22	40.04	39.85	39.67	39.49	39.31

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
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-210250003 (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 = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Round Well Plate (MTP-R48-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-08-18

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	928111
Date of sterilization	2021-08-05

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